

The Capital Asset Pricing Model: Theory and Evidence

Eugene F. Fama and Kenneth R. French

The capital asset pricing model (CAPM) of William Sharpe (1964) and John Lintner (1965) marks the birth of asset pricing theory (resulting in a Nobel Prize for Sharpe in 1990). Four decades later, the CAPM is still widely used in applications, such as estimating the cost of capital for firms and evaluating the performance of managed portfolios. It is the centerpiece of MBA investment courses. Indeed, it is often the only asset pricing model taught in these courses.¹

The attraction of the CAPM is that it offers powerful and intuitively pleasing predictions about how to measure risk and the relation between expected return and risk. Unfortunately, the empirical record of the model is poor—poor enough to invalidate the way it is used in applications. The CAPM’s empirical problems may reflect theoretical failings, the result of many simplifying assumptions. But they may also be caused by difficulties in implementing valid tests of the model. For example, the CAPM says that the risk of a stock should be measured relative to a comprehensive “market portfolio” that in principle can include not just traded financial assets, but also consumer durables, real estate and human capital. Even if we take a narrow view of the model and limit its purview to traded financial assets, is it

¹ Although every asset pricing model is a capital asset pricing model, the finance profession reserves the acronym CAPM for the specific model of Sharpe (1964), Lintner (1965) and Black (1972) discussed here. Thus, throughout the paper we refer to the Sharpe-Lintner-Black model as the CAPM.

■ *Eugene F. Fama is Robert R. McCormick Distinguished Service Professor of Finance, Graduate School of Business, University of Chicago, Chicago, Illinois. Kenneth R. French is Carl E. and Catherine M. Heidt Professor of Finance, Tuck School of Business, Dartmouth College, Hanover, New Hampshire. Their e-mail addresses are <eugene.fama@gsb.uchicago.edu> and <kfrench@dartmouth.edu>, respectively.*

legitimate to limit further the market portfolio to U.S. common stocks (a typical choice), or should the market be expanded to include bonds, and other financial assets, perhaps around the world? In the end, we argue that whether the model's problems reflect weaknesses in the theory or in its empirical implementation, the failure of the CAPM in empirical tests implies that most applications of the model are invalid.

We begin by outlining the logic of the CAPM, focusing on its predictions about risk and expected return. We then review the history of empirical work and what it says about shortcomings of the CAPM that pose challenges to be explained by alternative models.

The Logic of the CAPM

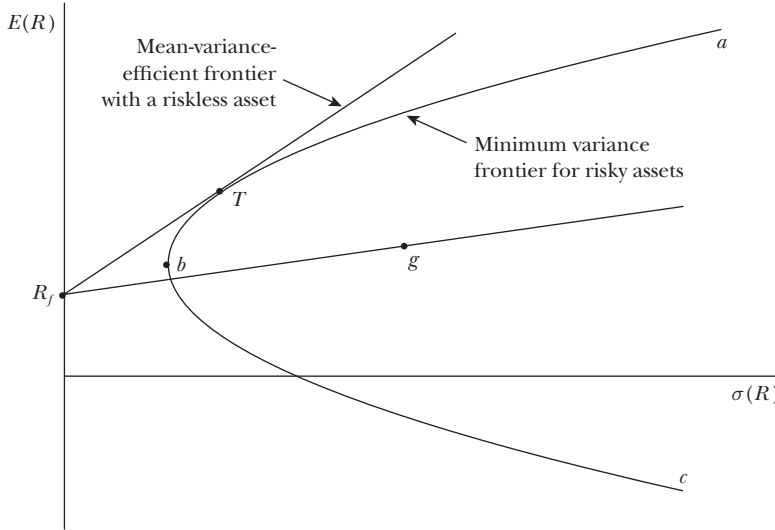
The CAPM builds on the model of portfolio choice developed by Harry Markowitz (1959). In Markowitz's model, an investor selects a portfolio at time $t - 1$ that produces a stochastic return at t . The model assumes investors are risk averse and, when choosing among portfolios, they care only about the mean and variance of their one-period investment return. As a result, investors choose "mean-variance-efficient" portfolios, in the sense that the portfolios 1) minimize the variance of portfolio return, given expected return, and 2) maximize expected return, given variance. Thus, the Markowitz approach is often called a "mean-variance model."

The portfolio model provides an algebraic condition on asset weights in mean-variance-efficient portfolios. The CAPM turns this algebraic statement into a testable prediction about the relation between risk and expected return by identifying a portfolio that must be efficient if asset prices are to clear the market of all assets.

Sharpe (1964) and Lintner (1965) add two key assumptions to the Markowitz model to identify a portfolio that must be mean-variance-efficient. The first assumption is *complete agreement*: given market clearing asset prices at $t - 1$, investors agree on the joint distribution of asset returns from $t - 1$ to t . And this distribution is the true one—that is, it is the distribution from which the returns we use to test the model are drawn. The second assumption is that there is *borrowing and lending at a risk-free rate*, which is the same for all investors and does not depend on the amount borrowed or lent.

Figure 1 describes portfolio opportunities and tells the CAPM story. The horizontal axis shows portfolio risk, measured by the standard deviation of portfolio return; the vertical axis shows expected return. The curve *abc*, which is called the minimum variance frontier, traces combinations of expected return and risk for portfolios of risky assets that minimize return variance at different levels of expected return. (These portfolios do not include risk-free borrowing and lending.) The tradeoff between risk and expected return for minimum variance portfolios is apparent. For example, an investor who wants a high expected return, perhaps at point *a*, must accept high volatility. At point *T*, the investor can have an interme-

Figure 1

Investment Opportunities

diate expected return with lower volatility. If there is no risk-free borrowing or lending, only portfolios above b along abc are mean-variance-efficient, since these portfolios also maximize expected return, given their return variances.

Adding risk-free borrowing and lending turns the efficient set into a straight line. Consider a portfolio that invests the proportion x of portfolio funds in a risk-free security and $1 - x$ in some portfolio g . If all funds are invested in the risk-free security—that is, they are loaned at the risk-free rate of interest—the result is the point R_f in Figure 1, a portfolio with zero variance and a risk-free rate of return. Combinations of risk-free lending and positive investment in g plot on the straight line between R_f and g . Points to the right of g on the line represent borrowing at the risk-free rate, with the proceeds from the borrowing used to increase investment in portfolio g . In short, portfolios that combine risk-free lending or borrowing with some risky portfolio g plot along a straight line from R_f through g in Figure 1.²

² Formally, the return, expected return and standard deviation of return on portfolios of the risk-free asset f and a risky portfolio g vary with x , the proportion of portfolio funds invested in f , as

$$R_p = xR_f + (1 - x)R_g,$$

$$E(R_p) = xR_f + (1 - x)E(R_g),$$

$$\sigma(R_p) = (1 - x)\sigma(R_g), \quad x \leq 1.0,$$

which together imply that the portfolios plot along the line from R_f through g in Figure 1.

To obtain the mean-variance-efficient portfolios available with risk-free borrowing and lending, one swings a line from R_f in Figure 1 up and to the left as far as possible, to the tangency portfolio T . We can then see that all efficient portfolios are combinations of the risk-free asset (either risk-free borrowing or lending) and a single risky tangency portfolio, T . This key result is Tobin's (1958) "separation theorem."

The punch line of the CAPM is now straightforward. With complete agreement about distributions of returns, all investors see the same opportunity set (Figure 1), and they combine the same risky tangency portfolio T with risk-free lending or borrowing. Since all investors hold the same portfolio T of risky assets, it must be the value-weight market portfolio of risky assets. Specifically, each risky asset's weight in the tangency portfolio, which we now call M (for the "market"), must be the total market value of all outstanding units of the asset divided by the total market value of all risky assets. In addition, the risk-free rate must be set (along with the prices of risky assets) to clear the market for risk-free borrowing and lending.

In short, the CAPM assumptions imply that the market portfolio M must be on the minimum variance frontier if the asset market is to clear. This means that the algebraic relation that holds for any minimum variance portfolio must hold for the market portfolio. Specifically, if there are N risky assets,

$$\begin{aligned} \text{(Minimum Variance Condition for } M) \quad E(R_i) &= E(R_{ZM}) \\ &+ [E(R_M) - E(R_{ZM})]\beta_{iM}, \quad i = 1, \dots, N. \end{aligned}$$

In this equation, $E(R_i)$ is the expected return on asset i , and β_{iM} , the market beta of asset i , is the covariance of its return with the market return divided by the variance of the market return,

$$\text{(Market Beta)} \quad \beta_{iM} = \frac{\text{cov}(R_i, R_M)}{\sigma^2(R_M)}.$$

The first term on the right-hand side of the minimum variance condition, $E(R_{ZM})$, is the expected return on assets that have market betas equal to zero, which means their returns are uncorrelated with the market return. The second term is a risk premium—the market beta of asset i , β_{iM} , times the premium per unit of beta, which is the expected market return, $E(R_M)$, minus $E(R_{ZM})$.

Since the market beta of asset i is also the slope in the regression of its return on the market return, a common (and correct) interpretation of beta is that it measures the sensitivity of the asset's return to variation in the market return. But there is another interpretation of beta more in line with the spirit of the portfolio model that underlies the CAPM. The risk of the market portfolio, as measured by the variance of its return (the denominator of β_{iM}), is a weighted average of the covariance risks of the assets in M (the numerators of β_{iM} for different assets).

Thus, β_{iM} is the covariance risk of asset i in M measured relative to the average covariance risk of assets, which is just the variance of the market return.³ In economic terms, β_{iM} is proportional to the risk each dollar invested in asset i contributes to the market portfolio.

The last step in the development of the Sharpe-Lintner model is to use the assumption of risk-free borrowing and lending to nail down $E(R_{ZM})$, the expected return on zero-beta assets. A risky asset's return is uncorrelated with the market return—its beta is zero—when the average of the asset's covariances with the returns on other assets just offsets the variance of the asset's return. Such a risky asset is riskless in the market portfolio in the sense that it contributes nothing to the variance of the market return.

When there is risk-free borrowing and lending, the expected return on assets that are uncorrelated with the market return, $E(R_{ZM})$, must equal the risk-free rate, R_f . The relation between expected return and beta then becomes the familiar Sharpe-Lintner CAPM equation,

$$(\text{Sharpe-Lintner CAPM}) \quad E(R_i) = R_f + [E(R_M) - R_f]\beta_{iM}, \quad i = 1, \dots, N.$$

In words, the expected return on any asset i is the risk-free interest rate, R_f , plus a risk premium, which is the asset's market beta, β_{iM} , times the premium per unit of beta risk, $E(R_M) - R_f$.

Unrestricted risk-free borrowing and lending is an unrealistic assumption. Fischer Black (1972) develops a version of the CAPM without risk-free borrowing or lending. He shows that the CAPM's key result—that the market portfolio is mean-variance-efficient—can be obtained by instead allowing unrestricted short sales of risky assets. In brief, back in Figure 1, if there is no risk-free asset, investors select portfolios from along the mean-variance-efficient frontier from a to b . Market clearing prices imply that when one weights the efficient portfolios chosen by investors by their (positive) shares of aggregate invested wealth, the resulting portfolio is the market portfolio. The market portfolio is thus a portfolio of the efficient portfolios chosen by investors. With unrestricted short selling of risky assets, portfolios made up of efficient portfolios are themselves efficient. Thus, the market portfolio is efficient, which means that the minimum variance condition for M given above holds, and it is the expected return-risk relation of the Black CAPM.

The relations between expected return and market beta of the Black and Sharpe-Lintner versions of the CAPM differ only in terms of what each says about $E(R_{ZM})$, the expected return on assets uncorrelated with the market. The Black version says only that $E(R_{ZM})$ must be less than the expected market return, so the

³ Formally, if x_{iM} is the weight of asset i in the market portfolio, then the variance of the portfolio's return is

$$\sigma^2(R_M) = \text{Cov}(R_M, R_M) = \text{Cov}\left(\sum_{i=1}^N x_{iM} R_i, R_M\right) = \sum_{i=1}^N x_{iM} \text{Cov}(R_i, R_M).$$

premium for beta is positive. In contrast, in the Sharpe-Lintner version of the model, $E(R_{ZM})$ must be the risk-free interest rate, R_f , and the premium per unit of beta risk is $E(R_M) - R_f$.

The assumption that short selling is unrestricted is as unrealistic as unrestricted risk-free borrowing and lending. If there is no risk-free asset and short sales of risky assets are not allowed, mean-variance investors still choose efficient portfolios—points above b on the abc curve in Figure 1. But when there is no short selling of risky assets and no risk-free asset, the algebra of portfolio efficiency says that portfolios made up of efficient portfolios are not typically efficient. This means that the market portfolio, which is a portfolio of the efficient portfolios chosen by investors, is not typically efficient. And the CAPM relation between expected return and market beta is lost. This does not rule out predictions about expected return and betas with respect to other efficient portfolios—if theory can specify portfolios that must be efficient if the market is to clear. But so far this has proven impossible.

In short, the familiar CAPM equation relating expected asset returns to their market betas is just an application to the market portfolio of the relation between expected return and portfolio beta that holds in any mean-variance-efficient portfolio. The efficiency of the market portfolio is based on many unrealistic assumptions, including complete agreement and either unrestricted risk-free borrowing and lending or unrestricted short selling of risky assets. But all interesting models involve unrealistic simplifications, which is why they must be tested against data.

Early Empirical Tests

Tests of the CAPM are based on three implications of the relation between expected return and market beta implied by the model. First, expected returns on all assets are linearly related to their betas, and no other variable has marginal explanatory power. Second, the beta premium is positive, meaning that the expected return on the market portfolio exceeds the expected return on assets whose returns are uncorrelated with the market return. Third, in the Sharpe-Lintner version of the model, assets uncorrelated with the market have expected returns equal to the risk-free interest rate, and the beta premium is the expected market return minus the risk-free rate. Most tests of these predictions use either cross-section or time-series regressions. Both approaches date to early tests of the model.

Tests on Risk Premiums

The early cross-section regression tests focus on the Sharpe-Lintner model's predictions about the intercept and slope in the relation between expected return and market beta. The approach is to regress a cross-section of average asset returns on estimates of asset betas. The model predicts that the intercept in these regressions is the risk-free interest rate, R_f , and the coefficient on beta is the expected return on the market in excess of the risk-free rate, $E(R_M) - R_f$.

Two problems in these tests quickly became apparent. First, estimates of beta

for individual assets are imprecise, creating a measurement error problem when they are used to explain average returns. Second, the regression residuals have common sources of variation, such as industry effects in average returns. Positive correlation in the residuals produces downward bias in the usual ordinary least squares estimates of the standard errors of the cross-section regression slopes.

To improve the precision of estimated betas, researchers such as Blume (1970), Friend and Blume (1970) and Black, Jensen and Scholes (1972) work with portfolios, rather than individual securities. Since expected returns and market betas combine in the same way in portfolios, if the CAPM explains security returns it also explains portfolio returns.⁴ Estimates of beta for diversified portfolios are more precise than estimates for individual securities. Thus, using portfolios in cross-section regressions of average returns on betas reduces the critical errors in variables problem. Grouping, however, shrinks the range of betas and reduces statistical power. To mitigate this problem, researchers sort securities on beta when forming portfolios; the first portfolio contains securities with the lowest betas, and so on, up to the last portfolio with the highest beta assets. This sorting procedure is now standard in empirical tests.

Fama and MacBeth (1973) propose a method for addressing the inference problem caused by correlation of the residuals in cross-section regressions. Instead of estimating a single cross-section regression of average monthly returns on betas, they estimate month-by-month cross-section regressions of monthly returns on betas. The times-series means of the monthly slopes and intercepts, along with the standard errors of the means, are then used to test whether the average premium for beta is positive and whether the average return on assets uncorrelated with the market is equal to the average risk-free interest rate. In this approach, the standard errors of the average intercept and slope are determined by the month-to-month variation in the regression coefficients, which fully captures the effects of residual correlation on variation in the regression coefficients, but sidesteps the problem of actually estimating the correlations. The residual correlations are, in effect, captured via repeated sampling of the regression coefficients. This approach also becomes standard in the literature.

Jensen (1968) was the first to note that the Sharpe-Lintner version of the

⁴ Formally, if x_{ip} , $i = 1, \dots, N$, are the weights for assets in some portfolio p , the expected return and market beta for the portfolio are related to the expected returns and betas of assets as

$$E(R_p) = \sum_{i=1}^N x_{ip} E(R_i), \text{ and } \beta_{pM} = \sum_{i=1}^N x_{ip} \beta_{iM}.$$

Thus, the CAPM relation between expected return and beta,

$$E(R_i) = E(R_f) + [E(R_M) - E(R_f)]\beta_{iM},$$

holds when asset i is a portfolio, as well as when i is an individual security.

relation between expected return and market beta also implies a time-series regression test. The Sharpe-Lintner CAPM says that the expected value of an asset's excess return (the asset's return minus the risk-free interest rate, $R_{it} - R_{ft}$) is completely explained by its expected CAPM risk premium (its beta times the expected value of $R_{Mt} - R_{ft}$). This implies that "Jensen's alpha," the intercept term in the time-series regression,

$$(\text{Time-Series Regression}) \quad R_{it} - R_{ft} = \alpha_i + \beta_{iM}(R_{Mt} - R_{ft}) + \varepsilon_{it},$$

is zero for each asset.

The early tests firmly reject the Sharpe-Lintner version of the CAPM. There is a positive relation between beta and average return, but it is too "flat." Recall that, in cross-section regressions, the Sharpe-Lintner model predicts that the intercept is the risk-free rate and the coefficient on beta is the expected market return in excess of the risk-free rate, $E(R_M) - R_f$. The regressions consistently find that the intercept is greater than the average risk-free rate (typically proxied as the return on a one-month Treasury bill), and the coefficient on beta is less than the average excess market return (proxied as the average return on a portfolio of U.S. common stocks minus the Treasury bill rate). This is true in the early tests, such as Douglas (1968), Black, Jensen and Scholes (1972), Miller and Scholes (1972), Blume and Friend (1973) and Fama and MacBeth (1973), as well as in more recent cross-section regression tests, like Fama and French (1992).

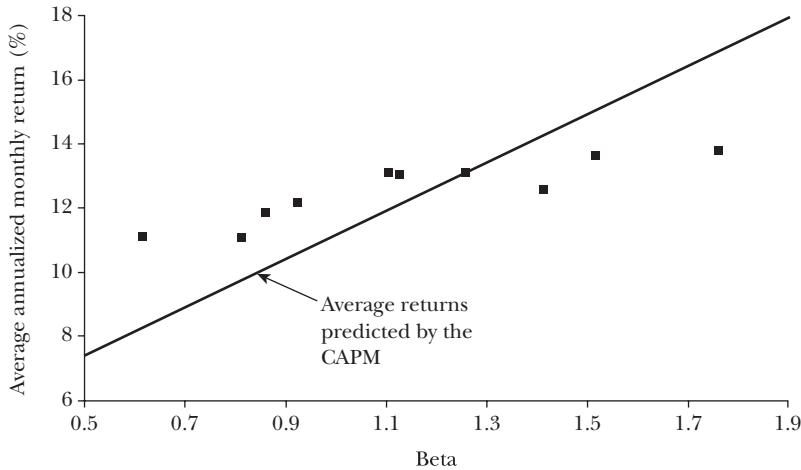
The evidence that the relation between beta and average return is too flat is confirmed in time-series tests, such as Friend and Blume (1970), Black, Jensen and Scholes (1972) and Stambaugh (1982). The intercepts in time-series regressions of excess asset returns on the excess market return are positive for assets with low betas and negative for assets with high betas.

Figure 2 provides an updated example of the evidence. In December of each year, we estimate a preranking beta for every NYSE (1928–2003), AMEX (1963–2003) and NASDAQ (1972–2003) stock in the CRSP (Center for Research in Security Prices of the University of Chicago) database, using two to five years (as available) of prior monthly returns.⁵ We then form ten value-weight portfolios based on these preranking betas and compute their returns for the next twelve months. We repeat this process for each year from 1928 to 2003. The result is 912 monthly returns on ten beta-sorted portfolios. Figure 2 plots each portfolio's average return against its postranking beta, estimated by regressing its monthly returns for 1928–2003 on the return on the CRSP value-weight portfolio of U.S. common stocks.

The Sharpe-Lintner CAPM predicts that the portfolios plot along a straight

⁵ To be included in the sample for year t , a security must have market equity data (price times shares outstanding) for December of $t - 1$, and CRSP must classify it as ordinary common equity. Thus, we exclude securities such as American Depositary Receipts (ADRs) and Real Estate Investment Trusts (REITs).

Figure 2

Average Annualized Monthly Return versus Beta for Value Weight Portfolios Formed on Prior Beta, 1928–2003

line, with an intercept equal to the risk-free rate, R_f , and a slope equal to the expected excess return on the market, $E(R_M) - R_f$. We use the average one-month Treasury bill rate and the average excess CRSP market return for 1928–2003 to estimate the predicted line in Figure 2. Confirming earlier evidence, the relation between beta and average return for the ten portfolios is much flatter than the Sharpe-Lintner CAPM predicts. The returns on the low beta portfolios are too high, and the returns on the high beta portfolios are too low. For example, the predicted return on the portfolio with the lowest beta is 8.3 percent per year; the actual return is 11.1 percent. The predicted return on the portfolio with the highest beta is 16.8 percent per year; the actual is 13.7 percent.

Although the observed premium per unit of beta is lower than the Sharpe-Lintner model predicts, the relation between average return and beta in Figure 2 is roughly linear. This is consistent with the Black version of the CAPM, which predicts only that the beta premium is positive. Even this less restrictive model, however, eventually succumbs to the data.

Testing Whether Market Betas Explain Expected Returns

The Sharpe-Lintner and Black versions of the CAPM share the prediction that the market portfolio is mean-variance-efficient. This implies that differences in expected return across securities and portfolios are entirely explained by differences in market beta; other variables should add nothing to the explanation of expected return. This prediction plays a prominent role in tests of the CAPM. In the early work, the weapon of choice is cross-section regressions.

In the framework of Fama and MacBeth (1973), one simply adds predetermined explanatory variables to the month-by-month cross-section regressions of

returns on beta. If all differences in expected return are explained by beta, the average slopes on the additional variables should not be reliably different from zero. Clearly, the trick in the cross-section regression approach is to choose specific additional variables likely to expose any problems of the CAPM prediction that, because the market portfolio is efficient, market betas suffice to explain expected asset returns.

For example, in Fama and MacBeth (1973) the additional variables are squared market betas (to test the prediction that the relation between expected return and beta is linear) and residual variances from regressions of returns on the market return (to test the prediction that market beta is the only measure of risk needed to explain expected returns). These variables do not add to the explanation of average returns provided by beta. Thus, the results of Fama and MacBeth (1973) are consistent with the hypothesis that their market proxy—an equal-weight portfolio of NYSE stocks—is on the minimum variance frontier.

The hypothesis that market betas completely explain expected returns can also be tested using time-series regressions. In the time-series regression described above (the excess return on asset i regressed on the excess market return), the intercept is the difference between the asset's average excess return and the excess return predicted by the Sharpe-Lintner model, that is, beta times the average excess market return. If the model holds, there is no way to group assets into portfolios whose intercepts are reliably different from zero. For example, the intercepts for a portfolio of stocks with high ratios of earnings to price and a portfolio of stocks with low earning-price ratios should both be zero. Thus, to test the hypothesis that market betas suffice to explain expected returns, one estimates the time-series regression for a set of assets (or portfolios) and then jointly tests the vector of regression intercepts against zero. The trick in this approach is to choose the left-hand-side assets (or portfolios) in a way likely to expose any shortcoming of the CAPM prediction that market betas suffice to explain expected asset returns.

In early applications, researchers use a variety of tests to determine whether the intercepts in a set of time-series regressions are all zero. The tests have the same asymptotic properties, but there is controversy about which has the best small sample properties. Gibbons, Ross and Shanken (1989) settle the debate by providing an F -test on the intercepts that has exact small-sample properties. They also show that the test has a simple economic interpretation. In effect, the test constructs a candidate for the tangency portfolio T in Figure 1 by optimally combining the market proxy and the left-hand-side assets of the time-series regressions. The estimator then tests whether the efficient set provided by the combination of this tangency portfolio and the risk-free asset is reliably superior to the one obtained by combining the risk-free asset with the market proxy alone. In other words, the Gibbons, Ross and Shanken statistic tests whether the market proxy is the tangency portfolio in the set of portfolios that can be constructed by combining the market portfolio with the specific assets used as dependent variables in the time-series regressions.

Enlightened by this insight of Gibbons, Ross and Shanken (1989), one can see

a similar interpretation of the cross-section regression test of whether market betas suffice to explain expected returns. In this case, the test is whether the additional explanatory variables in a cross-section regression identify patterns in the returns on the left-hand-side assets that are not explained by the assets' market betas. This amounts to testing whether the market proxy is on the minimum variance frontier that can be constructed using the market proxy and the left-hand-side assets included in the tests.

An important lesson from this discussion is that time-series and cross-section regressions do not, strictly speaking, test the CAPM. What is literally tested is whether a specific proxy for the market portfolio (typically a portfolio of U.S. common stocks) is efficient in the set of portfolios that can be constructed from it and the left-hand-side assets used in the test. One might conclude from this that the CAPM has never been tested, and prospects for testing it are not good because 1) the set of left-hand-side assets does not include all marketable assets, and 2) data for the true market portfolio of all assets are likely beyond reach (Roll, 1977; more on this later). But this criticism can be leveled at tests of any economic model when the tests are less than exhaustive or when they use proxies for the variables called for by the model.

The bottom line from the early cross-section regression tests of the CAPM, such as Fama and MacBeth (1973), and the early time-series regression tests, like Gibbons (1982) and Stambaugh (1982), is that standard market proxies seem to be on the minimum variance frontier. That is, the central predictions of the Black version of the CAPM, that market betas suffice to explain expected returns and that the risk premium for beta is positive, seem to hold. But the more specific prediction of the Sharpe-Lintner CAPM that the premium per unit of beta is the expected market return minus the risk-free interest rate is consistently rejected.

The success of the Black version of the CAPM in early tests produced a consensus that the model is a good description of expected returns. These early results, coupled with the model's simplicity and intuitive appeal, pushed the CAPM to the forefront of finance.

Recent Tests

Starting in the late 1970s, empirical work appears that challenges even the Black version of the CAPM. Specifically, evidence mounts that much of the variation in expected return is unrelated to market beta.

The first blow is Basu's (1977) evidence that when common stocks are sorted on earnings-price ratios, future returns on high E/P stocks are higher than predicted by the CAPM. Banz (1981) documents a size effect: when stocks are sorted on market capitalization (price times shares outstanding), average returns on small stocks are higher than predicted by the CAPM. Bhandari (1988) finds that high debt-equity ratios (book value of debt over the market value of equity, a measure of leverage) are associated with returns that are too high relative to their market betas.

Finally, Statman (1980) and Rosenberg, Reid and Lanstein (1985) document that stocks with high book-to-market equity ratios (B/M , the ratio of the book value of a common stock to its market value) have high average returns that are not captured by their betas.

There is a theme in the contradictions of the CAPM summarized above. Ratios involving stock prices have information about expected returns missed by market betas. On reflection, this is not surprising. A stock's price depends not only on the expected cash flows it will provide, but also on the expected returns that discount expected cash flows back to the present. Thus, in principle, the cross-section of prices has information about the cross-section of expected returns. (A high expected return implies a high discount rate and a low price.) The cross-section of stock prices is, however, arbitrarily affected by differences in scale (or units). But with a judicious choice of scaling variable X , the ratio X/P can reveal differences in the cross-section of expected stock returns. Such ratios are thus prime candidates to expose shortcomings of asset pricing models—in the case of the CAPM, shortcomings of the prediction that market betas suffice to explain expected returns (Ball, 1978). The contradictions of the CAPM summarized above suggest that earnings-price, debt-equity and book-to-market ratios indeed play this role.

Fama and French (1992) update and synthesize the evidence on the empirical failures of the CAPM. Using the cross-section regression approach, they confirm that size, earnings-price, debt-equity and book-to-market ratios add to the explanation of expected stock returns provided by market beta. Fama and French (1996) reach the same conclusion using the time-series regression approach applied to portfolios of stocks sorted on price ratios. They also find that different price ratios have much the same information about expected returns. This is not surprising given that price is the common driving force in the price ratios, and the numerators are just scaling variables used to extract the information in price about expected returns.

Fama and French (1992) also confirm the evidence (Reinganum, 1981; Stambaugh, 1982; Lakonishok and Shapiro, 1986) that the relation between average return and beta for common stocks is even flatter after the sample periods used in the early empirical work on the CAPM. The estimate of the beta premium is, however, clouded by statistical uncertainty (a large standard error). Kothari, Shanken and Sloan (1995) try to resuscitate the Sharpe-Lintner CAPM by arguing that the weak relation between average return and beta is just a chance result. But the strong evidence that other variables capture variation in expected return missed by beta makes this argument irrelevant. If betas do not suffice to explain expected returns, the market portfolio is not efficient, and the CAPM is dead in its tracks. Evidence on the size of the market premium can neither save the model nor further doom it.

The synthesis of the evidence on the empirical problems of the CAPM provided by Fama and French (1992) serves as a catalyst, marking the point when it is generally acknowledged that the CAPM has potentially fatal problems. Research then turns to explanations.

One possibility is that the CAPM's problems are spurious, the result of data dredging—publication-hungry researchers scouring the data and unearthing contradictions that occur in specific samples as a result of chance. A standard response to this concern is to test for similar findings in other samples. Chan, Hamao and Lakonishok (1991) find a strong relation between book-to-market equity (B/M) and average return for Japanese stocks. Capaul, Rowley and Sharpe (1993) observe a similar B/M effect in four European stock markets and in Japan. Fama and French (1998) find that the price ratios that produce problems for the CAPM in U.S. data show up in the same way in the stock returns of twelve non-U.S. major markets, and they are present in emerging market returns. This evidence suggests that the contradictions of the CAPM associated with price ratios are not sample specific.

Explanations: Irrational Pricing or Risk

Among those who conclude that the empirical failures of the CAPM are fatal, two stories emerge. On one side are the behavioralists. Their view is based on evidence that stocks with high ratios of book value to market price are typically firms that have fallen on bad times, while low B/M is associated with growth firms (Lakonishok, Shleifer and Vishny, 1994; Fama and French, 1995). The behavioralists argue that sorting firms on book-to-market ratios exposes investor overreaction to good and bad times. Investors overextrapolate past performance, resulting in stock prices that are too high for growth (low B/M) firms and too low for distressed (high B/M, so-called value) firms. When the overreaction is eventually corrected, the result is high returns for value stocks and low returns for growth stocks. Proponents of this view include DeBondt and Thaler (1987), Lakonishok, Shleifer and Vishny (1994) and Haugen (1995).

The second story for explaining the empirical contradictions of the CAPM is that they point to the need for a more complicated asset pricing model. The CAPM is based on many unrealistic assumptions. For example, the assumption that investors care only about the mean and variance of one-period portfolio returns is extreme. It is reasonable that investors also care about how their portfolio return covaries with labor income and future investment opportunities, so a portfolio's return variance misses important dimensions of risk. If so, market beta is not a complete description of an asset's risk, and we should not be surprised to find that differences in expected return are not completely explained by differences in beta. In this view, the search should turn to asset pricing models that do a better job explaining average returns.

Merton's (1973) intertemporal capital asset pricing model (ICAPM) is a natural extension of the CAPM. The ICAPM begins with a different assumption about investor objectives. In the CAPM, investors care only about the wealth their portfolio produces at the end of the current period. In the ICAPM, investors are concerned not only with their end-of-period payoff, but also with the opportunities

they will have to consume or invest the payoff. Thus, when choosing a portfolio at time $t - 1$, ICAPM investors consider how their wealth at t might vary with future *state variables*, including labor income, the prices of consumption goods and the nature of portfolio opportunities at t , and expectations about the labor income, consumption and investment opportunities to be available after t .

Like CAPM investors, ICAPM investors prefer high expected return and low return variance. But ICAPM investors are also concerned with the covariances of portfolio returns with state variables. As a result, optimal portfolios are “multifactor efficient,” which means they have the largest possible expected returns, given their return variances and the covariances of their returns with the relevant state variables.

Fama (1996) shows that the ICAPM generalizes the logic of the CAPM. That is, if there is risk-free borrowing and lending or if short sales of risky assets are allowed, market clearing prices imply that the market portfolio is multifactor efficient. Moreover, multifactor efficiency implies a relation between expected return and beta risks, but it requires additional betas, along with a market beta, to explain expected returns.

An ideal implementation of the ICAPM would specify the state variables that affect expected returns. Fama and French (1993) take a more indirect approach, perhaps more in the spirit of Ross’s (1976) arbitrage pricing theory. They argue that though size and book-to-market equity are not themselves state variables, the higher average returns on small stocks and high book-to-market stocks reflect unidentified state variables that produce undiversifiable risks (covariances) in returns that are not captured by the market return and are priced separately from market betas. In support of this claim, they show that the returns on the stocks of small firms covary more with one another than with returns on the stocks of large firms, and returns on high book-to-market (value) stocks covary more with one another than with returns on low book-to-market (growth) stocks. Fama and French (1995) show that there are similar size and book-to-market patterns in the covariation of fundamentals like earnings and sales.

Based on this evidence, Fama and French (1993, 1996) propose a three-factor model for expected returns,

$$\begin{aligned} \text{(Three-Factor Model)} \quad E(R_{it}) - R_{ft} &= \beta_{iM}[E(R_{Mt}) - R_{ft}] \\ &+ \beta_{is}E(SMB_t) + \beta_{ih}E(HML_t). \end{aligned}$$

In this equation, SMB_t (small minus big) is the difference between the returns on diversified portfolios of small and big stocks, HML_t (high minus low) is the difference between the returns on diversified portfolios of high and low B/M stocks, and the betas are slopes in the multiple regression of $R_{it} - R_{ft}$ on $R_{Mt} - R_{ft}$, SMB_t and HML_t .

For perspective, the average value of the market premium $R_{Mt} - R_{ft}$ for 1927–2003 is 8.3 percent per year, which is 3.5 standard errors from zero. The

average values of SMB_t and HML_t are 3.6 percent and 5.0 percent per year, and they are 2.1 and 3.1 standard errors from zero. All three premiums are volatile, with annual standard deviations of 21.0 percent ($R_{Mt} - R_{ft}$), 14.6 percent (SMB_t) and 14.2 percent (HML_t) per year. Although the average values of the premiums are large, high volatility implies substantial uncertainty about the true expected premiums.

One implication of the expected return equation of the three-factor model is that the intercept α_i in the time-series regression,

$$R_{it} - R_{ft} = \alpha_i + \beta_{iM}(R_{Mt} - R_{ft}) + \beta_{iS}SMB_t + \beta_{iH}HML_t + \varepsilon_{it},$$

is zero for all assets i . Using this criterion, Fama and French (1993, 1996) find that the model captures much of the variation in average return for portfolios formed on size, book-to-market equity and other price ratios that cause problems for the CAPM. Fama and French (1998) show that an international version of the model performs better than an international CAPM in describing average returns on portfolios formed on scaled price variables for stocks in 13 major markets.

The three-factor model is now widely used in empirical research that requires a model of expected returns. Estimates of α_i from the time-series regression above are used to calibrate how rapidly stock prices respond to new information (for example, Loughran and Ritter, 1995; Mitchell and Stafford, 2000). They are also used to measure the special information of portfolio managers, for example, in Carhart's (1997) study of mutual fund performance. Among practitioners like Ibbotson Associates, the model is offered as an alternative to the CAPM for estimating the cost of equity capital.

From a theoretical perspective, the main shortcoming of the three-factor model is its empirical motivation. The small-minus-big (SMB) and high-minus-low (HML) explanatory returns are not motivated by predictions about state variables of concern to investors. Instead they are brute force constructs meant to capture the patterns uncovered by previous work on how average stock returns vary with size and the book-to-market equity ratio.

But this concern is not fatal. The ICAPM does not require that the additional portfolios used along with the market portfolio to explain expected returns "mimic" the relevant state variables. In both the ICAPM and the arbitrage pricing theory, it suffices that the additional portfolios are well diversified (in the terminology of Fama, 1996, they are multifactor minimum variance) and that they are sufficiently different from the market portfolio to capture covariation in returns and variation in expected returns missed by the market portfolio. Thus, adding diversified portfolios that capture covariation in returns and variation in average returns left unexplained by the market is in the spirit of both the ICAPM and the Ross's arbitrage pricing theory.

The behavioralists are not impressed by the evidence for a risk-based explanation of the failures of the CAPM. They typically concede that the three-factor model captures covariation in returns missed by the market return and that it picks

up much of the size and value effects in average returns left unexplained by the CAPM. But their view is that the average return premium associated with the model's book-to-market factor—which does the heavy lifting in the improvements to the CAPM—is itself the result of investor overreaction that happens to be correlated across firms in a way that just looks like a risk story. In short, in the behavioral view, the market tries to set CAPM prices, and violations of the CAPM are due to mispricing.

The conflict between the behavioral irrational pricing story and the rational risk story for the empirical failures of the CAPM leaves us at a timeworn impasse. Fama (1970) emphasizes that the hypothesis that prices properly reflect available information must be tested in the context of a model of expected returns, like the CAPM. Intuitively, to test whether prices are rational, one must take a stand on what the market is trying to do in setting prices—that is, what is risk and what is the relation between expected return and risk? When tests reject the CAPM, one cannot say whether the problem is its assumption that prices are rational (the behavioral view) or violations of other assumptions that are also necessary to produce the CAPM (our position).

Fortunately, for some applications, the way one uses the three-factor model does not depend on one's view about whether its average return premiums are the rational result of underlying state variable risks, the result of irrational investor behavior or sample specific results of chance. For example, when measuring the response of stock prices to new information or when evaluating the performance of managed portfolios, one wants to account for known patterns in returns and average returns for the period examined, whatever their source. Similarly, when estimating the cost of equity capital, one might be unconcerned with whether expected return premiums are rational or irrational since they are in either case part of the opportunity cost of equity capital (Stein, 1996). But the cost of capital is forward looking, so if the premiums are sample specific they are irrelevant.

The three-factor model is hardly a panacea. Its most serious problem is the momentum effect of Jegadeesh and Titman (1993). Stocks that do well relative to the market over the last three to twelve months tend to continue to do well for the next few months, and stocks that do poorly continue to do poorly. This momentum effect is distinct from the value effect captured by book-to-market equity and other price ratios. Moreover, the momentum effect is left unexplained by the three-factor model, as well as by the CAPM. Following Carhart (1997), one response is to add a momentum factor (the difference between the returns on diversified portfolios of short-term winners and losers) to the three-factor model. This step is again legitimate in applications where the goal is to abstract from known patterns in average returns to uncover information-specific or manager-specific effects. But since the momentum effect is short-lived, it is largely irrelevant for estimates of the cost of equity capital.

Another strand of research points to problems in both the three-factor model and the CAPM. Frankel and Lee (1998), Dechow, Hutton and Sloan (1999), Piotroski (2000) and others show that in portfolios formed on price ratios like

book-to-market equity, stocks with higher expected cash flows have higher average returns that are not captured by the three-factor model or the CAPM. The authors interpret their results as evidence that stock prices are irrational, in the sense that they do not reflect available information about expected profitability.

In truth, however, one can't tell whether the problem is bad pricing or a bad asset pricing model. A stock's price can always be expressed as the present value of expected future cash flows discounted at the expected return on the stock (Campbell and Shiller, 1989; Vuolteenaho, 2002). It follows that if two stocks have the same price, the one with higher expected cash flows must have a higher expected return. This holds true whether pricing is rational or irrational. Thus, when one observes a positive relation between expected cash flows and expected returns that is left unexplained by the CAPM or the three-factor model, one can't tell whether it is the result of irrational pricing or a misspecified asset pricing model.

The Market Proxy Problem

Roll (1977) argues that the CAPM has never been tested and probably never will be. The problem is that the market portfolio at the heart of the model is theoretically and empirically elusive. It is not theoretically clear which assets (for example, human capital) can legitimately be excluded from the market portfolio, and data availability substantially limits the assets that are included. As a result, tests of the CAPM are forced to use proxies for the market portfolio, in effect testing whether the proxies are on the minimum variance frontier. Roll argues that because the tests use proxies, not the true market portfolio, we learn nothing about the CAPM.

We are more pragmatic. The relation between expected return and market beta of the CAPM is just the minimum variance condition that holds in any efficient portfolio, applied to the market portfolio. Thus, if we can find a market proxy that is on the minimum variance frontier, it can be used to describe differences in expected returns, and we would be happy to use it for this purpose. The strong rejections of the CAPM described above, however, say that researchers have not uncovered a reasonable market proxy that is close to the minimum variance frontier. If researchers are constrained to reasonable proxies, we doubt they ever will.

Our pessimism is fueled by several empirical results. Stambaugh (1982) tests the CAPM using a range of market portfolios that include, in addition to U.S. common stocks, corporate and government bonds, preferred stocks, real estate and other consumer durables. He finds that tests of the CAPM are not sensitive to expanding the market proxy beyond common stocks, basically because the volatility of expanded market returns is dominated by the volatility of stock returns.

One need not be convinced by Stambaugh's (1982) results since his market proxies are limited to U.S. assets. If international capital markets are open and asset prices conform to an international version of the CAPM, the market portfolio

should include international assets. Fama and French (1998) find, however, that betas for a global stock market portfolio cannot explain the high average returns observed around the world on stocks with high book-to-market or high earnings-price ratios.

A major problem for the CAPM is that portfolios formed by sorting stocks on price ratios produce a wide range of average returns, but the average returns are not positively related to market betas (Lakonishok, Shleifer and Vishny, 1994; Fama and French, 1996, 1998). The problem is illustrated in Figure 3, which shows average returns and betas (calculated with respect to the CRSP value-weight portfolio of NYSE, AMEX and NASDAQ stocks) for July 1963 to December 2003 for ten portfolios of U.S. stocks formed annually on sorted values of the book-to-market equity ratio (B/M).⁶

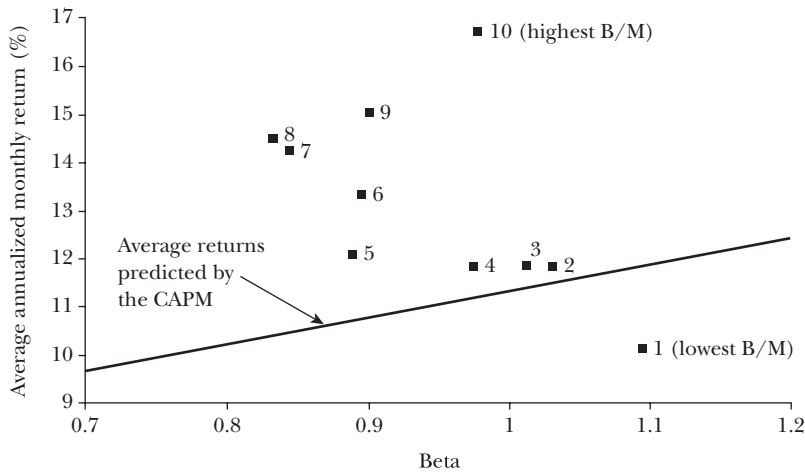
Average returns on the B/M portfolios increase almost monotonically, from 10.1 percent per year for the lowest B/M group (portfolio 1) to an impressive 16.7 percent for the highest (portfolio 10). But the positive relation between beta and average return predicted by the CAPM is notably absent. For example, the portfolio with the lowest book-to-market ratio has the highest beta but the lowest average return. The estimated beta for the portfolio with the highest book-to-market ratio and the highest average return is only 0.98. With an average annualized value of the riskfree interest rate, R_f , of 5.8 percent and an average annualized market premium, $R_M - R_f$, of 11.3 percent, the Sharpe-Lintner CAPM predicts an average return of 11.8 percent for the lowest B/M portfolio and 11.2 percent for the highest, far from the observed values, 10.1 and 16.7 percent. For the Sharpe-Lintner model to “work” on these portfolios, their market betas must change dramatically, from 1.09 to 0.78 for the lowest B/M portfolio and from 0.98 to 1.98 for the highest. We judge it unlikely that alternative proxies for the market portfolio will produce betas and a market premium that can explain the average returns on these portfolios.

It is always possible that researchers will redeem the CAPM by finding a reasonable proxy for the market portfolio that is on the minimum variance frontier. We emphasize, however, that this possibility cannot be used to justify the way the CAPM is currently applied. The problem is that applications typically use the same

⁶ Stock return data are from CRSP, and book equity data are from Compustat and the Moody's Industrials, Transportation, Utilities and Financials manuals. Stocks are allocated to ten portfolios at the end of June of each year t (1963 to 2003) using the ratio of book equity for the fiscal year ending in calendar year $t - 1$, divided by market equity at the end of December of $t - 1$. Book equity is the book value of stockholders' equity, plus balance sheet deferred taxes and investment tax credit (if available), minus the book value of preferred stock. Depending on availability, we use the redemption, liquidation or par value (in that order) to estimate the book value of preferred stock. Stockholders' equity is the value reported by Moody's or Compustat, if it is available. If not, we measure stockholders' equity as the book value of common equity plus the par value of preferred stock or the book value of assets minus total liabilities (in that order). The portfolios for year t include NYSE (1963–2003), AMEX (1963–2003) and NASDAQ (1972–2003) stocks with positive book equity in $t - 1$ and market equity (from CRSP) for December of $t - 1$ and June of t . The portfolios exclude securities CRSP does not classify as ordinary common equity. The breakpoints for year t use only securities that are on the NYSE in June of year t .

Figure 3

Average Annualized Monthly Return versus Beta for Value Weight Portfolios Formed on B/M, 1963–2003



market proxies, like the value-weight portfolio of U.S. stocks, that lead to rejections of the model in empirical tests. The contradictions of the CAPM observed when such proxies are used in tests of the model show up as bad estimates of expected returns in applications; for example, estimates of the cost of equity capital that are too low (relative to historical average returns) for small stocks and for stocks with high book-to-market equity ratios. In short, if a market proxy does not work in tests of the CAPM, it does not work in applications.

Conclusions

The version of the CAPM developed by Sharpe (1964) and Lintner (1965) has never been an empirical success. In the early empirical work, the Black (1972) version of the model, which can accommodate a flatter tradeoff of average return for market beta, has some success. But in the late 1970s, research begins to uncover variables like size, various price ratios and momentum that add to the explanation of average returns provided by beta. The problems are serious enough to invalidate most applications of the CAPM.

For example, finance textbooks often recommend using the Sharpe-Lintner CAPM risk-return relation to estimate the cost of equity capital. The prescription is to estimate a stock's market beta and combine it with the risk-free interest rate and the average market risk premium to produce an estimate of the cost of equity. The typical market portfolio in these exercises includes just U.S. common stocks. But empirical work, old and new, tells us that the relation between beta and average return is flatter than predicted by the Sharpe-Lintner version of the CAPM. As a

result, CAPM estimates of the cost of equity for high beta stocks are too high (relative to historical average returns) and estimates for low beta stocks are too low (Friend and Blume, 1970). Similarly, if the high average returns on value stocks (with high book-to-market ratios) imply high expected returns, CAPM cost of equity estimates for such stocks are too low.⁷

The CAPM is also often used to measure the performance of mutual funds and other managed portfolios. The approach, dating to Jensen (1968), is to estimate the CAPM time-series regression for a portfolio and use the intercept (Jensen's alpha) to measure abnormal performance. The problem is that, because of the empirical failings of the CAPM, even passively managed stock portfolios produce abnormal returns if their investment strategies involve tilts toward CAPM problems (Elton, Gruber, Das and Hlavka, 1993). For example, funds that concentrate on low beta stocks, small stocks or value stocks will tend to produce positive abnormal returns relative to the predictions of the Sharpe-Lintner CAPM, even when the fund managers have no special talent for picking winners.

The CAPM, like Markowitz's (1952, 1959) portfolio model on which it is built, is nevertheless a theoretical tour de force. We continue to teach the CAPM as an introduction to the fundamental concepts of portfolio theory and asset pricing, to be built on by more complicated models like Merton's (1973) ICAPM. But we also warn students that despite its seductive simplicity, the CAPM's empirical problems probably invalidate its use in applications.

■ *We gratefully acknowledge the comments of John Cochrane, George Constantinides, Richard Leftwich, Andrei Shleifer, René Stulz and Timothy Taylor.*

⁷ The problems are compounded by the large standard errors of estimates of the market premium and of betas for individual stocks, which probably suffice to make CAPM estimates of the cost of equity rather meaningless, even if the CAPM holds (Fama and French, 1997; Pastor and Stambaugh, 1999). For example, using the U.S. Treasury bill rate as the risk-free interest rate and the CRSP value-weight portfolio of publicly traded U.S. common stocks, the average value of the equity premium $R_{Mt} - R_{ft}$ for 1927–2003 is 8.3 percent per year, with a standard error of 2.4 percent. The two standard error range thus runs from 3.5 percent to 13.1 percent, which is sufficient to make most projects appear either profitable or unprofitable. This problem is, however, hardly special to the CAPM. For example, expected returns in all versions of Merton's (1973) ICAPM include a market beta and the expected market premium. Also, as noted earlier the expected values of the size and book-to-market premiums in the Fama-French three-factor model are also estimated with substantial error.

References

- Ball, Ray.** 1978. "Anomalies in Relationships Between Securities' Yields and Yield-Surrogates." *Journal of Financial Economics*. 6:2, pp. 103–26.
- Banz, Rolf W.** 1981. "The Relationship Between Return and Market Value of Common Stocks." *Journal of Financial Economics*. 9:1, pp. 3–18.
- Basu, Sanjay.** 1977. "Investment Performance of Common Stocks in Relation to Their Price-Earnings Ratios: A Test of the Efficient Market Hypothesis." *Journal of Finance*. 12:3, pp. 129–56.
- Bhandari, Laxmi Chand.** 1988. "Debt/Equity Ratio and Expected Common Stock Returns: Empirical Evidence." *Journal of Finance*. 43:2, pp. 507–28.
- Black, Fischer.** 1972. "Capital Market Equilibrium with Restricted Borrowing." *Journal of Business*. 45:3, pp. 444–54.
- Black, Fischer, Michael C. Jensen and Myron Scholes.** 1972. "The Capital Asset Pricing Model: Some Empirical Tests," in *Studies in the Theory of Capital Markets*. Michael C. Jensen, ed. New York: Praeger, pp. 79–121.
- Blume, Marshall.** 1970. "Portfolio Theory: A Step Towards its Practical Application." *Journal of Business*. 43:2, pp. 152–74.
- Blume, Marshall and Irwin Friend.** 1973. "A New Look at the Capital Asset Pricing Model." *Journal of Finance*. 28:1, pp. 19–33.
- Campbell, John Y. and Robert J. Shiller.** 1989. "The Dividend-Price Ratio and Expectations of Future Dividends and Discount Factors." *Review of Financial Studies*. 1:3, pp. 195–228.
- Capaul, Carlo, Ian Rowley and William F. Sharpe.** 1993. "International Value and Growth Stock Returns." *Financial Analysts Journal*. January/February, 49, pp. 27–36.
- Carhart, Mark M.** 1997. "On Persistence in Mutual Fund Performance." *Journal of Finance*. 52:1, pp. 57–82.
- Chan, Louis K.C., Yasushi Hamao and Josef Lakonishok.** 1991. "Fundamentals and Stock Returns in Japan." *Journal of Finance*. 46:5, pp. 1739–789.
- DeBondt, Werner F. M. and Richard H. Thaler.** 1987. "Further Evidence on Investor Overreaction and Stock Market Seasonality." *Journal of Finance*. 42:3, pp. 557–81.
- Dechow, Patricia M., Amy P. Hutton and Richard G. Sloan.** 1999. "An Empirical Assessment of the Residual Income Valuation Model." *Journal of Accounting and Economics*. 26:1, pp. 1–34.
- Douglas, George W.** 1968. *Risk in the Equity Markets: An Empirical Appraisal of Market Efficiency*. Ann Arbor, Michigan: University Microfilms, Inc.
- Elton, Edwin J., Martin J. Gruber, Sanjiv Das and Matt Hlavka.** 1993. "Efficiency with Costly Information: A Reinterpretation of Evidence from Managed Portfolios." *Review of Financial Studies*. 6:1, pp. 1–22.
- Fama, Eugene F.** 1970. "Efficient Capital Markets: A Review of Theory and Empirical Work." *Journal of Finance*. 25:2, pp. 383–417.
- Fama, Eugene F.** 1996. "Multifactor Portfolio Efficiency and Multifactor Asset Pricing." *Journal of Financial and Quantitative Analysis*. 31:4, pp. 441–65.
- Fama, Eugene F. and Kenneth R. French.** 1992. "The Cross-Section of Expected Stock Returns." *Journal of Finance*. 47:2, pp. 427–65.
- Fama, Eugene F. and Kenneth R. French.** 1993. "Common Risk Factors in the Returns on Stocks and Bonds." *Journal of Financial Economics*. 33:1, pp. 3–56.
- Fama, Eugene F. and Kenneth R. French.** 1995. "Size and Book-to-Market Factors in Earnings and Returns." *Journal of Finance*. 50:1, pp. 131–55.
- Fama, Eugene F. and Kenneth R. French.** 1996. "Multifactor Explanations of Asset Pricing Anomalies." *Journal of Finance*. 51:1, pp. 55–84.
- Fama, Eugene F. and Kenneth R. French.** 1997. "Industry Costs of Equity." *Journal of Financial Economics*. 43:2 pp. 153–93.
- Fama, Eugene F. and Kenneth R. French.** 1998. "Value Versus Growth: The International Evidence." *Journal of Finance*. 53:6, pp. 1975–999.
- Fama, Eugene F. and James D. MacBeth.** 1973. "Risk, Return, and Equilibrium: Empirical Tests." *Journal of Political Economy*. 81:3, pp. 607–36.
- Frankel, Richard and Charles M.C. Lee.** 1998. "Accounting Valuation, Market Expectation, and Cross-Sectional Stock Returns." *Journal of Accounting and Economics*. 25:3 pp. 283–319.
- Friend, Irwin and Marshall Blume.** 1970. "Measurement of Portfolio Performance under Uncertainty." *American Economic Review*. 60:4, pp. 607–36.
- Gibbons, Michael R.** 1982. "Multivariate Tests of Financial Models: A New Approach." *Journal of Financial Economics*. 10:1, pp. 3–27.
- Gibbons, Michael R., Stephen A. Ross and Jay Shanken.** 1989. "A Test of the Efficiency of a Given Portfolio." *Econometrica*. 57:5, pp. 1121–152.
- Haugen, Robert.** 1995. *The New Finance: The*

Case against Efficient Markets. Englewood Cliffs, N.J.: Prentice Hall.

Jegadeesh, Narasimhan and Sheridan Titman. 1993. "Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency." *Journal of Finance*. 48:1, pp. 65–91.

Jensen, Michael C. 1968. "The Performance of Mutual Funds in the Period 1945–1964." *Journal of Finance*. 23:2, pp. 389–416.

Kothari, S. P., Jay Shanken and Richard G. Sloan. 1995. "Another Look at the Cross-Section of Expected Stock Returns." *Journal of Finance*. 50:1, pp. 185–224.

Lakonishok, Josef and Alan C. Shapiro. 1986. Systematic Risk, Total Risk, and Size as Determinants of Stock Market Returns." *Journal of Banking and Finance*. 10:1, pp. 115–32.

Lakonishok, Josef, Andrei Shleifer and Robert W. Vishny. 1994. "Contrarian Investment, Extrapolation, and Risk." *Journal of Finance*. 49:5, pp. 1541–578.

Lintner, John. 1965. "The Valuation of Risk Assets and the Selection of Risky Investments in Stock Portfolios and Capital Budgets." *Review of Economics and Statistics*. 47:1, pp. 13–37.

Loughran, Tim and Jay. R. Ritter. 1995. "The New Issues Puzzle." *Journal of Finance*. 50:1, pp. 23–51.

Markowitz, Harry. 1952. "Portfolio Selection." *Journal of Finance*. 7:1, pp. 77–99.

Markowitz, Harry. 1959. *Portfolio Selection: Efficient Diversification of Investments*. Cowles Foundation Monograph No. 16. New York: John Wiley & Sons, Inc.

Merton, Robert C. 1973. "An Intertemporal Capital Asset Pricing Model." *Econometrica*. 41:5, pp. 867–87.

Miller, Merton and Myron Scholes. 1972. "Rates of Return in Relation to Risk: A Reexamination of Some Recent Findings," in *Studies in the Theory of Capital Markets*. Michael C. Jensen, ed. New York: Praeger, pp. 47–78.

Mitchell, Mark L. and Erik Stafford. 2000. "Managerial Decisions and Long-Term Stock

Price Performance." *Journal of Business*. 73:3, pp. 287–329.

Pastor, Lubos and Robert F. Stambaugh. 1999. "Costs of Equity Capital and Model Mispricing." *Journal of Finance*. 54:1, pp. 67–121.

Piotroski, Joseph D. 2000. "Value Investing: The Use of Historical Financial Statement Information to Separate Winners from Losers." *Journal of Accounting Research*. 38:Supplement, pp. 1–51.

Reinganum, Marc R. 1981. "A New Empirical Perspective on the CAPM." *Journal of Financial and Quantitative Analysis*. 16:4, pp. 439–62.

Roll, Richard. 1977. "A Critique of the Asset Pricing Theory's Tests' Part I: On Past and Potential Testability of the Theory." *Journal of Financial Economics*. 4:2, pp. 129–76.

Rosenberg, Barr, Kenneth Reid and Ronald Lanstein. 1985. "Persuasive Evidence of Market Inefficiency." *Journal of Portfolio Management*. Spring, 11, pp. 9–17.

Ross, Stephen A. 1976. "The Arbitrage Theory of Capital Asset Pricing." *Journal of Economic Theory*. 13:3, pp. 341–60.

Sharpe, William F. 1964. "Capital Asset Prices: A Theory of Market Equilibrium under Conditions of Risk." *Journal of Finance*. 19:3, pp. 425–42.

Stambaugh, Robert F. 1982. "On The Exclusion of Assets from Tests of the Two-Parameter Model: A Sensitivity Analysis." *Journal of Financial Economics*. 10:3, pp. 237–68.

Stattman, Dennis. 1980. "Book Values and Stock Returns." *The Chicago MBA: A Journal of Selected Papers*. 4, pp. 25–45.

Stein, Jeremy. 1996. "Rational Capital Budgeting in an Irrational World." *Journal of Business*. 69:4, pp. 429–55.

Tobin, James. 1958. "Liquidity Preference as Behavior Toward Risk." *Review of Economic Studies*. 25:2, pp. 65–86.

Vuolteenaho, Tuomo. 2002. "What Drives Firm Level Stock Returns?" *Journal of Finance*. 57:1, pp. 233–64.

This article has been cited by:

1. Haidar Alqadhib, Nada Kulendran, Lalith Seelanatha. 2022. Impact of COVID-19 on mutual fund performance in Saudi Arabia. *Cogent Economics & Finance* **10**:1. . [[Crossref](#)]
2. Si Ying Zhang. 2022. Are investors sensitive to climate-related transition and physical risks? Evidence from global stock markets. *Research in International Business and Finance* **62**, 101710. [[Crossref](#)]
3. Daniel Broby. 2022. The use of predictive analytics in finance. *The Journal of Finance and Data Science* **8**, 145-161. [[Crossref](#)]
4. Irene Fafaliou, Maria Giaka, Dimitrios Konstantios, Michael Polemis. 2022. Firms' ESG reputational risk and market longevity: A firm-level analysis for the United States. *Journal of Business Research* **149**, 161-177. [[Crossref](#)]
5. Harald Pühr, Jakob Müllner. 2022. Foreign to all but fluent in many: The effect of multinationality on shock resilience. *Journal of World Business* **57**:6, 101370. [[Crossref](#)]
6. Marco Lazzarino, Jenny Berrill, Aleksandar Šević. 2022. The importance of distinguishing between precious and industrial metals when investing in mining stocks. *Resources Policy* **78**, 102802. [[Crossref](#)]
7. Joseph Falzon, Elaine Bonnici. 2022. Does it pay to be a faithful investor? A risk-based approach performance analysis of Islamic funds vs UCITS schemes. *Islamic Economic Studies* **29**:2, 100-118. [[Crossref](#)]
8. Francesco Bravo. 2022. Misspecified semiparametric model selection with weakly dependent observations. *Journal of Time Series Analysis* **43**:4, 558-586. [[Crossref](#)]
9. Ron Alquist, Benjamin R. Chabot, Ram Yamarthy. 2022. The price of property rights: Institutions, finance, and economic growth. *Journal of International Economics* **137**, 103594. [[Crossref](#)]
10. Giovanni Catello Landi, Francesca Iandolo, Antonio Renzi, Andrea Rey. 2022. Embedding sustainability in risk management: The impact of environmental, social, and governance ratings on corporate financial risk. *Corporate Social Responsibility and Environmental Management* **29**:4, 1096-1107. [[Crossref](#)]
11. Kwamie Dunbar, Johnson Owusu-Amoako. 2022. Cryptocurrency returns under empirical asset pricing. *International Review of Financial Analysis* **82**, 102216. [[Crossref](#)]
12. Olivier Mesly. 2022. Irrational exuberance and deception — Why markets spin out of control. *Journal of Behavioral and Experimental Finance* **24**, 100707. [[Crossref](#)]
13. Ludovic Calès, Apostolos Chalkis, Ioannis Z. Emiris, Vissarion Fisikopoulos. 2022. Practical volume approximation of high-dimensional convex bodies, applied to modeling portfolio dependencies and financial crises. *Computational Geometry* 101916. [[Crossref](#)]
14. James W. Kolari, Jianhua Z. Huang, Hilal Anwar Butt, Huiling Liao. 2022. International tests of the ZCAPM asset pricing model. *Journal of International Financial Markets, Institutions and Money* **79**, 101607. [[Crossref](#)]
15. Aidan Vining, Mark Moore, Claude Laurin. 2022. Listed public-private enterprises: stock market information, agency costs and productive efficiency outcomes. *International Journal of Public Sector Management* **35**:4, 388-409. [[Crossref](#)]
16. Jessie Y. Zhu, Wally Smieliauskas. 2022. Evidence on the Economic Consequences of Marriage Equality and LGBT Human Rights. *Journal of Business Ethics* **178**:1, 57-70. [[Crossref](#)]
17. Kam Fong Chan, Terry Marsh. 2022. Asset pricing on earnings announcement days. *Journal of Financial Economics* **144**:3, 1022-1042. [[Crossref](#)]
18. Jian Zhang, Jie Li. 2022. Factorized estimation of high-dimensional nonparametric covariance models. *Scandinavian Journal of Statistics* **49**:2, 542-567. [[Crossref](#)]

19. Muhammad Suhail Rizwan, Ghufraan Ahmad, Dawood Ashraf. 2022. Systemic risk, Islamic banks, and the COVID-19 pandemic: An empirical investigation. *Emerging Markets Review* **51**, 100890. [[Crossref](#)]
20. Lorne N. Switzer, Nabil El Meslmani, Xinkai Zhai. 2022. IPO Performance and the Size Effect: Evidence for the US and Canada. *The North American Journal of Economics and Finance* 101744. [[Crossref](#)]
21. Asgar Ali, Hajam Abid Bashir. 2022. Bibliometric study on asset pricing. *Qualitative Research in Financial Markets* **14**:3, 433-460. [[Crossref](#)]
22. Ruhana Zareen Gofran, Andros Gregoriou, Lawrence Haar. 2022. Impact of Coronavirus on liquidity in financial markets. *Journal of International Financial Markets, Institutions and Money* **78**, 101561. [[Crossref](#)]
23. Mabekebeke Segojane, Godfrey Ndlovu. 2022. An Investigation of the Beta Anomaly in Emerging Markets: A South African Case. *Journal of Risk and Financial Management* **15**:5, 214. [[Crossref](#)]
24. James Chong. 2022. A trading strategy with dual-beta estimates. *Managerial Finance* **48**:5, 720-732. [[Crossref](#)]
25. Pin-Te Lin. 2022. Intertemporal Risk-Return Relationship in Housing Markets. *Journal of Real Estate Research* **100**, 1-24. [[Crossref](#)]
26. Christian-Oliver Ewald, Erik Haugom, Leslie Kanthan, Gudbrand Lien, Pariya Salehi, Ståle Størdal. 2022. Salmon futures and the Fish Pool market in the context of the CAPM and a three-factor model. *Aquaculture Economics & Management* **26**:2, 171-191. [[Crossref](#)]
27. Alessandra Insana. 2022. Does systematic risk change when markets close? An analysis using stocks' beta. *Economic Modelling* **109**, 105782. [[Crossref](#)]
28. Danny Zhao-Xiang Huang. 2022. Environmental, social and governance factors and assessing firm value: valuation, signalling and stakeholder perspectives. *Accounting & Finance* **62**:S1, 1983-2010. [[Crossref](#)]
29. Elena Shakina, Iuliia Naidenova, Angel Barajas. 2022. Shadow prices for intangible resources. *Journal of Intellectual Capital* **23**:3, 666-686. [[Crossref](#)]
30. Michael Hasler, Charles Martineau. 2022. Explaining the Failure of the Unconditional CAPM with the Conditional CAPM. *Management Science* **120**. . [[Crossref](#)]
31. Daitri Tiwary, Khanindra Ch. Das, Jagdish Shettigar, Pooja Misra. 2022. Exchange Rate Volatility and Financial Stress: Evidence from Developing Asia. *Journal of Emerging Market Finance* **418**, 097265272210786. [[Crossref](#)]
32. Rodrigo Gonçalves Novais, Peter Wanke, Jorge Antunes, Yong Tan. 2022. Portfolio Optimization with a Mean-Entropy-Mutual Information Model. *Entropy* **24**:3, 369. [[Crossref](#)]
33. Jolanta Bijańska, Krzysztof Wodarski, Aneta Aleksander. 2022. Analysis of the Financing Options for Pro-Ecological Projects. *Energies* **15**:6, 2143. [[Crossref](#)]
34. James W. Kolari, Jianhua Z. Huang, Wei Liu, Huiling Liao. 2022. Further Tests of the ZCAPM Asset Pricing Model. *Journal of Risk and Financial Management* **15**:3, 137. [[Crossref](#)]
35. Florin Cornel Dumiter, Florin Marius Turcaş. 2022. Theoretical and empirical underpinnings regarding stock market forecasts and predictions. *Studia Universitatis „Vasile Goldis” Arad – Economics Series* **32**:1, 1-19. [[Crossref](#)]
36. Afees A. Salisu, Rangan Gupta, Qiang Ji. 2022. Forecasting oil prices over 150 years: The role of tail risks. *Resources Policy* **75**, 102508. [[Crossref](#)]
37. Luis R. Gómez-Mejía, Francesco Chirico, Geoffrey Martin, Massimo Baù. 2022. Best Among the Worst or Worst Among the Best ? Socioemotional Wealth and Risk-Performance Returns for Family and Non-family Firms Under Financial Distress. *Entrepreneurship Theory and Practice* **21**, 104225872110574. [[Crossref](#)]

38. Mutaju Isaack Marobhe, Pastory Dickson. 2022. Bearish conditions and volatility persistence during COVID-19 can microchip stocks weather the storm?. *Review of Behavioral Finance* **38**. . [\[Crossref\]](#)
39. Alida Monaco. 2022. Divestment and greenhouse gas emissions: an event-study analysis of university fossil fuel divestment announcements. *Journal of Sustainable Finance & Investment* **72**, 1-29. [\[Crossref\]](#)
40. Faruk Balli, Md Iftekhar Hasan Chowdhury, Anne de Bruin. 2022. Transition to Islamic equities: Systematic risk and Shari'ah compliance. *Global Finance Journal* **51**, 100552. [\[Crossref\]](#)
41. Francisco Vergara-Solana, Daniel Peñalosa-Martinell, Daniel Skerritt, Annie Mejaes, German Ponce-Diaz, Fernando Aranceta-Garza, Fernando González-Laxe, Juan Carlos Seijo, U. Rashid Sumaila. 2022. Volatility and vulnerability in Mexican fisheries and aquaculture: Enhancing resilience via public policy. *Marine Policy* **136**, 104888. [\[Crossref\]](#)
42. Wen Zhang, Shaoshan Yan, Jian Li, Xin Tian, Taketoshi Yoshida. 2022. Credit risk prediction of SMEs in supply chain finance by fusing demographic and behavioral data. *Transportation Research Part E: Logistics and Transportation Review* **158**, 102611. [\[Crossref\]](#)
43. Lehlohonolo Letho, Grieve Chelwa, Abdul Latif Alhassan. 2022. Cryptocurrencies and portfolio diversification in an emerging market. *China Finance Review International* **12**:1, 20-50. [\[Crossref\]](#)
44. Vanita Tripathi, Ritu Sapra, Rishabh Gupta. 2022. Are Fama–French Factors Relevant? A Sub-Sectorial Analysis. *IIMS Journal of Management Science* **13**:1, 89-111. [\[Crossref\]](#)
45. Dandan Zheng, Shusheng Ding, Tianxiang Cui, Huan Jin. 2022. Real Economy Effects on Consumption-Based CAPM. *Mathematics* **10**:3, 360. [\[Crossref\]](#)
46. Mazhar Farid Chishti, Rizwana Bashir, Tanja Mancinelli, Rana Tanveer Hussain. 2022. Humanoid psychological sentiments and enigma of investment. *Journal of Economic and Administrative Sciences* **53**. . [\[Crossref\]](#)
47. Pi-Chun Hsu, Tsai-Jung Tsai, Tsai-yi Wang. Dynamic Financial Analysis for Performance Evaluation in the Property Insurance Industry 560-566. [\[Crossref\]](#)
48. Gerson de Souza Raimundo Júnior, Rafael Baptista Palazzi, Ricardo de Souza Tavares, Marcelo Cabus Klotzle. 2022. Market Stress and Herding: A New Approach to the Cryptocurrency Market. *Journal of Behavioral Finance* **23**:1, 43-57. [\[Crossref\]](#)
49. Steven D. Silver, Marko Raseta, Alina Bazarova. 2022. Dynamics of Phase Transitions in Expectations for Financial Markets: An Agent-Based, Multicomponent Model. *Journal of Behavioral Finance* **23**:1, 92-105. [\[Crossref\]](#)
50. Samuel G. B. Johnson, David Tuckett. 2022. Narrative expectations in financial forecasting. *Journal of Behavioral Decision Making* **35**:1. . [\[Crossref\]](#)
51. Steve Keen. Economic Failures of the IPCC Process 161-182. [\[Crossref\]](#)
52. Karolina Siemaszkiewicz. Investment in the Polish Real Estate Market – Housing “Beta” Coefficient 213-224. [\[Crossref\]](#)
53. Tobias Glas. An Asset Pricer’s Toolkit 7-24. [\[Crossref\]](#)
54. Konstantin B. Kostin, Philippe Runge, Michel Charifzadeh. 2022. An Analysis and Comparison of Multi-Factor Asset Pricing Model Performance during Pandemic Situations in Developed and Emerging Markets. *Mathematics* **10**:1, 142. [\[Crossref\]](#)
55. Jinhui Wei, Qingzhen Xu, Chengying He. 2022. Deep learning of predicting closing price through historical adjustment closing price. *Procedia Computer Science* **202**, 379-384. [\[Crossref\]](#)
56. Abhijeet Ghadge, Sarat Kumar Jena, Sachin Kamble, Dheeraj Misra, Manoj Kumar Tiwari. 2021. Impact of financial risk on supply chains: a manufacturer–supplier relational perspective. *International Journal of Production Research* **59**:23, 7090-7105. [\[Crossref\]](#)

57. James Ming Chen. 2021. This Is the Way the World Ends, Not With a Bang but Bonds and Bullets. *Frontiers in Climate* 3. . [[Crossref](#)]
58. Ali Habibnia, Esfandiar Maasoumi. 2021. Forecasting in Big Data Environments: An Adaptable and Automated Shrinkage Estimation of Neural Networks (AAShNet). *Journal of Quantitative Economics* 19:S1, 363-381. [[Crossref](#)]
59. Xingchen Wan, Jie Yang, Slavi Marinov, Jan-Peter Calliess, Stefan Zohren, Xiaowen Dong. 2021. Sentiment correlation in financial news networks and associated market movements. *Scientific Reports* 11:1. . [[Crossref](#)]
60. Gabriel Augusto de Carvalho, Hudson Fernandes Amaral, Juliano Lima Pinheiro, Laíse Ferraz Correia. 2021. The pricing of anomalies using factor models: a test in Latin American markets. *Revista Contabilidade & Finanças* 32:87, 492-509. [[Crossref](#)]
61. Mounir Sarraj, Anouar Ben Mabrouk. 2021. The Systematic Risk at the Crisis—A Multifractal Non-Uniform Wavelet Systematic Risk Estimation. *Fractal and Fractional* 5:4, 135. [[Crossref](#)]
62. Olivier Mesly. 2021. Buy Now and Pay (Dearly) Later: Unraveling Consumer Financial Spinning. *International Journal of Financial Studies* 9:4, 55. [[Crossref](#)]
63. Rim Zouari-Hadiji, Yamina Chouaibi. 2021. Corporate ethical behavior and the cost of equity capital: evidence from the world's most ethical companies. *Journal of Financial Reporting and Accounting* 19:5, 939-964. [[Crossref](#)]
64. Mao Guan, Xiao-Yang Liu. Explainable deep reinforcement learning for portfolio management 1-9. [[Crossref](#)]
65. Qingyuan Han, Steve Keen. 2021. Aggregate excess demand on wall street. *Heliyon* 7:11, e08355. [[Crossref](#)]
66. Mikuláš Pýcha. 2021. Fair Insurance Cover for Export Credit Under OECD Pricing Framework. *Prague Economic Papers* 30:5, 509-528. [[Crossref](#)]
67. Robin Maximilian Stetzka, Stefan Winter. 2021. How rational is gambling?. *Journal of Economic Surveys* 1. . [[Crossref](#)]
68. Indranil Ghosh, Tamal Datta Chaudhuri, Esteban Alfaro-Cortés, Matías Gámez Martínez, Noelia García Rubio. 2021. Estimating the relative effects of raw material prices, sectoral outlook and market sentiment on stock prices. *Resources Policy* 73, 102158. [[Crossref](#)]
69. Nebat Galo Mugenda, Tobias Olweny, Joshua M. Wepukhulu. 2021. Value Risk Premium and Stock Returns in Kenya: Exploring the Moderating Effect of Investor Sentiment. *Journal of Accounting and Finance in Emerging Economies* 7:3, 777-787. [[Crossref](#)]
70. Emie Famieza Zainudin, Hafiza Aishah Hashim, Shahnaz Ismail. 2021. The effect of the imposition of a public reprimand on the stock price of companies in Malaysia. *Journal of Financial Crime* 28:4, 1232-1243. [[Crossref](#)]
71. Daniel O Cajueiro, Saulo B Bastos, Camila C Pereira, Roberto F S Andrade. 2021. A model of indirect contagion based on a news similarity network. *Journal of Complex Networks* 9:5. . [[Crossref](#)]
72. J E Woods. 2021. The safety of speculation *Cambridge Journal of Economics* 45:5, 1069-1097. [[Crossref](#)]
73. Marcello Basili, Carlo Zappia. 2021. Financial markets and Keynes's long-term expectations. *Cambridge Journal of Economics* 45:5, 1047-1067. [[Crossref](#)]
74. Joseph Emmanuel Tetteh, Christopher Boachie. 2021. Are the saving decision patterns of bank customers also clouded by psychological biases? Evidence from Ghana. *Review of Behavioral Finance* 33. . [[Crossref](#)]
75. Brandon Flores, Blessing Ofori-Atta, Andrey Sarantsev. 2021. A stock market model based on CAPM and market size. *Annals of Finance* 17:3, 405-424. [[Crossref](#)]

76. Glen Lehman, Chris Mortensen. 2021. Finance, Nature and Ontology. *Topoi* 40:4, 715-724. [[Crossref](#)]
77. Gregory Price, Warren Whatley. 2021. Did profitable slave trading enable the expansion of empire?: The Asiento de Negros, the South Sea Company and the financial revolution in Great Britain. *Cliometrica* 15:3, 675-718. [[Crossref](#)]
78. Jamshid Karimov, Faruk Balli, Hatice Ozer-Balli, Anne Bruin. 2021. Firm-level political risk and Shari'ah compliance: equity capital cost and payouts policy. *Accounting & Finance* 61:3, 4639-4667. [[Crossref](#)]
79. James Ming Chen. 2021. The Capital Asset Pricing Model. *Encyclopedia* 1:3, 915-933. [[Crossref](#)]
80. Hardeep Singh Mundi. 2021. Risk neutral variances to compute expected returns using data from S&P BSE 100 firms—a replication study. *Management Review Quarterly* 69. . [[Crossref](#)]
81. Seong K. Byun, Zhilu Lin, Siqi Wei. 2021. Are U.S. firms using more short-term debt?. *Journal of Corporate Finance* 69, 102012. [[Crossref](#)]
82. Alibey KUDAR. 2021. 0000-0002-4214-7321. *Finansal Araştırmalar ve Çalışmalar Dergisi* 637-648. [[Crossref](#)]
83. Suman Saha, Junbin Gao, Richard Gerlach. Stock Movement Prediction on Ex-Dividend Day Using Event Specific Features and Machine Learning Techniques 1-10. [[Crossref](#)]
84. Dafydd Mali, Hyoung-Joo Lim. 2021. Does relative (absolute) efficiency affect capital costs?. *Annals of Operations Research* 35. . [[Crossref](#)]
85. Kam Fong Chan, Terry Marsh. 2021. Asset prices, midterm elections, and political uncertainty. *Journal of Financial Economics* 141:1, 276-296. [[Crossref](#)]
86. Jordan Bowes, Marcel Ausloos. 2021. Financial Risk and Better Returns through Smart Beta Exchange-Traded Funds?. *Journal of Risk and Financial Management* 14:7, 283. [[Crossref](#)]
87. Tong Zhao. An Empirical Study of China's Broad ESG Partial Equity Hybrid Fund 51-57. [[Crossref](#)]
88. Joel M. Vanden. 2021. Equilibrium asset pricing and the cross section of expected returns. *Annals of Finance* 17:2, 153-186. [[Crossref](#)]
89. Abdul Qoyum, Rizqi Umar Al Hashfi, Alyta Shabrina Zusryn, Hadri Kusuma, Ibnu Qizam. 2021. Does an Islamic-SRI portfolio really matter? Empirical application of valuation models in Indonesia. *Borsa Istanbul Review* 21:2, 105-124. [[Crossref](#)]
90. Christoph Merkle, Christoph J. Sextroh. 2021. Value and momentum from investors' perspective: Evidence from professionals' risk-ratings. *Journal of Empirical Finance* 62, 159-178. [[Crossref](#)]
91. Shaoping Wang, Lu Yu, Qing Zhao. 2021. Do factor models explain stock returns when prices behave explosively? Evidence from China. *Pacific-Basin Finance Journal* 67, 101535. [[Crossref](#)]
92. Xuanwu Yue, Qiao Gu, Deyun Wang, Huamin Qu, Yong Wang. 2021. iQUANT: Interactive Quantitative Investment Using Sparse Regression Factors. *Computer Graphics Forum* 40:3, 189-200. [[Crossref](#)]
93. Semen Yu. BOGATYREV. 2021. Simulation of emotional differences in the structured query language for databases of financial markets. *Financial Analytics: Science and Experience* 14:2, 156-173. [[Crossref](#)]
94. Yiannis Karavias, Stella Spilioti, Elias Tzavalis. 2021. Investor sentiment effects on share price deviations from their intrinsic values based on accounting fundamentals. *Review of Quantitative Finance and Accounting* 56:4, 1593-1621. [[Crossref](#)]
95. Catalin Dragomirescu-Gaina, Dionisis Philippas, Mike G. Tsionas. 2021. Trading off accuracy for speed: Hedge funds' decision-making under uncertainty. *International Review of Financial Analysis* 75, 101728. [[Crossref](#)]

96. Emanuel Kohlscheen, Előd Takáts. 2021. What can commercial property performance reveal about bank valuations?. *Journal of International Money and Finance* **113**, 102350. [[Crossref](#)]
97. Sergei Yu. BOGATYREV. 2021. Looking into bubbles in financial markets and the emotional side of corporate forecast completion through modeling in the structured query language of financial databases. *Finance and Credit* **27**:4, 833-850. [[Crossref](#)]
98. Muhammad Imran, Mengyun Wu, Linrong Zhang, Yun Zhao, Noor Jehan, Hee Cheol Moon. 2021. Market Premium and Macroeconomic Factors as Determinants of Industry Premium: Evidence from Emerging Economies. *Complexity* **2021**, 1-11. [[Crossref](#)]
99. Vu Tuan Chu, Trang Hanh Lam Pham. 2021. Zero leverage and product market competition. *SN Business & Economics* **1**:4. . [[Crossref](#)]
100. MICHAEL UNGEHEUER, MARTIN WEBER. 2021. The Perception of Dependence, Investment Decisions, and Stock Prices. *The Journal of Finance* **76**:2, 797-844. [[Crossref](#)]
101. Thorsten Hens, Fatemeh Naebi. 2021. Behavioural heterogeneity in the capital asset pricing model with an application to the low-beta anomaly. *Applied Economics Letters* **28**:6, 501-507. [[Crossref](#)]
102. Sergei Yu. BOGATYREV. 2021. The sentiment analysis method in finance: The psychological-financial index. *Finance and Credit* **27**:3, 561-584. [[Crossref](#)]
103. . Bibliography 264-272. [[Crossref](#)]
104. Ade Imam Muslim, Doddy Setiawan. 2021. Information Asymmetry, Ownership Structure and Cost of Equity Capital: The Formation for Open Innovation. *Journal of Open Innovation: Technology, Market, and Complexity* **7**:1, 48. [[Crossref](#)]
105. Karl-Heinz Tödter, Gerhard Ziebarth. 2021. Lifetime Cost of Living and Effective Prices: Theory and Evidence for Germany. *Jahrbücher für Nationalökonomie und Statistik* **241**:1, 29-69. [[Crossref](#)]
106. Chaochao Jia, Weimin Pan, Lixian Li. Two Branch Risk Factors Model for Stock Prediction 361-366. [[Crossref](#)]
107. Nadia Anjum, Suresh Kumar Oad Rajput. 2021. Forecasting Islamic equity indices alpha. *International Journal of Islamic and Middle Eastern Finance and Management* **14**:1, 183-203. [[Crossref](#)]
108. Xiang Lin, Martin Thomas Falk. 2021. Nordic stock market performance of the travel and leisure industry during the first wave of Covid-19 pandemic. *Tourism Economics* **45**:4, 135481662199093. [[Crossref](#)]
109. Ze Zhang, Zilai Tang. 2021. Examination and Interpretation of the Quantitative Validity in China's Corporate-based Urban Network Analysis. *Chinese Geographical Science* **31**:1, 41-53. [[Crossref](#)]
110. Brittany Tarufelli, Brian Snyder, David Dismukes. 2021. The Potential Impact of the U.S. Carbon Capture and Storage Tax Credit Expansion on the Economic Feasibility of Industrial Carbon Capture and Storage. *Energy Policy* **149**, 112064. [[Crossref](#)]
111. Alfonso A. Rojo-Ramírez. 2021. Rendimiento mínimo del inversor-propietario. El caso de la empresa pyme familiar. *Small Business International Review* **5**:1, e287. [[Crossref](#)]
112. Mario Situm. 2021. Determination of expected cost of equity with the CAPM: Theoretical extension using the law of error propagation. *Managerial and Decision Economics* **42**:1, 77-84. [[Crossref](#)]
113. İbrahim Ethem Güney, Abdullah Kazdal, Doruk Küçüksaraç, Muhammed Hasan Yılmaz. Exchange Rate Sensitivity of Firm Value: Evidence from Nonfinancial Firms Listed on Borsa Istanbul 141-165. [[Crossref](#)]
114. Marcel Aloy, Floris Laly, Sébastien Laurent, Christelle Lecourt. Modeling Time-Varying Conditional Betas. A Comparison of Methods with Application for REITs 229-264. [[Crossref](#)]
115. Volker Ziemann. Portfolio Theory and CAPM 15-28. [[Crossref](#)]

116. James W. Kolari, Wei Liu, Jianhua Z. Huang. Synopsis of Asset Pricing and the ZCAPM 261-285. [[Crossref](#)]
117. James W. Kolari, Wei Liu, Jianhua Z. Huang. Capital Asset Pricing Models 25-52. [[Crossref](#)]
118. James W. Kolari, Wei Liu, Jianhua Z. Huang. Cross-Sectional Tests of the ZCAPM 159-195. [[Crossref](#)]
119. Steve Keen. Burying Samuelson's Multiplier-Accelerator and Resurrecting Goodwin's Growth Cycle in Minsky 495-519. [[Crossref](#)]
120. Giuseppe Galloppo. Performance 43-150. [[Crossref](#)]
121. Harold L. Vogel. Rationality Rules 317-379. [[Crossref](#)]
122. Olivier Dessaint, Jacques Olivier, Clemens A Otto, David Thesmar. 2021. CAPM-Based Company (Mis)valuations. *The Review of Financial Studies* **34**:1, 1-66. [[Crossref](#)]
123. Suman Saha, Junbin Gao, Richard Gerlach. 2021. Stock Ranking Prediction Using List-Wise Approach and Node Embedding Technique. *IEEE Access* **9**, 88981-88996. [[Crossref](#)]
124. Maurizio Montone, Remco C.J. Zwinkels. 2021. Risk, return, and sentiment in a virtual asset market. *SSRN Electronic Journal* **25**. . [[Crossref](#)]
125. James Ming Chen. 2021. The Capital Asset Pricing Model. *SSRN Electronic Journal* **23**. . [[Crossref](#)]
126. Sergio Copiello. 2021. Economic viability of building energy efficiency measures: a review on the discount rate. *AIMS Energy* **9**:2, 257-285. [[Crossref](#)]
127. Jhumur Sengupta. Application of Econometrics in Business Research 137-159. [[Crossref](#)]
128. Konstantin Kostin, Philippe Runge, Ronald Adams. 2021. Investment strategies in pandemic situations: An analysis and comparison of prospective returns between developed and emerging markets. *Strategic Management* **26**:1, 34-52. [[Crossref](#)]
129. Rai Imtiaz Hussain, Shahid Bashir, Shahbaz Hussain. 2020. Financial Sustainability and Corporate Social Responsibility Under Mediating Effect of Operational Self-Sustainability. *Frontiers in Psychology* **11**. . [[Crossref](#)]
130. Fabio B. Gaertner, Asad Kausar, Logan B. Steele. 2020. Negative accounting earnings and gross domestic product. *Review of Accounting Studies* **25**:4, 1382-1409. [[Crossref](#)]
131. Terrence Hendershott, Dmitry Livdan, Dominik Rösch. 2020. Asset pricing: A tale of night and day. *Journal of Financial Economics* **138**:3, 635-662. [[Crossref](#)]
132. Augustin Landier, David Thesmar. 2020. Earnings Expectations during the COVID-19 Crisis*. *The Review of Asset Pricing Studies* **10**:4, 598-617. [[Crossref](#)]
133. Matthew Wang, Yi-Hong Lin, Ilya Mikhelson. 2020. Regime-Switching Factor Investing with Hidden Markov Models. *Journal of Risk and Financial Management* **13**:12, 311. [[Crossref](#)]
134. Yuan Hu, Abootaleb Shirvani, W. Brent Lindquist, Frank J. Fabozzi, Svetlozar T. Rachev. 2020. Option Pricing Incorporating Factor Dynamics in Complete Markets. *Journal of Risk and Financial Management* **13**:12, 321. [[Crossref](#)]
135. Balázs Csillag, Gábor Neszveda. 2020. A gazdasági várakozások hatása a tőzsdei momentumstratégiára. *Közgazdasági Szemle* **67**:11, 1093-1111. [[Crossref](#)]
136. Ganggang Guo, Yulei Rao, Feida Zhu, Fang Xu. 2020. Innovative deep matching algorithm for stock portfolio selection using deep stock profiles. *PLOS ONE* **15**:11, e0241573. [[Crossref](#)]
137. Jonas Puck, Igor Filatotchev. 2020. Finance and the multinational company: Building bridges between finance and global strategy research. *Global Strategy Journal* **10**:4, 655-675. [[Crossref](#)]
138. Chariton Chalvatzis, Dimitrios Hristu-Varsakelis. 2020. High-performance stock index trading via neural networks and trees. *Applied Soft Computing* **96**, 106567. [[Crossref](#)]

139. Chinh Duc Pham, Le Tan Phuoc. 2020. An augmented capital asset pricing model using new macroeconomic determinants. *Heliyon* 6:10, e05185. [[Crossref](#)]
140. Saad Faysal, Mahdi Salehi, Mahdi Moradi. 2020. The impact of ownership structure on the cost of equity in emerging markets. *Management Research Review* 43:10, 1221-1239. [[Crossref](#)]
141. Lin Chen, Junbo Wang, Chunchi Wu, Hongquan Zhu. Divergent Opinion, Trading Information, and Stock Price Co-movements 1-21. [[Crossref](#)]
142. Michael Curran, Adnan Velic. 2020. The CAPM, National Stock Market Betas, and Macroeconomic Covariates: a Global Analysis. *Open Economies Review* 31:4, 787-820. [[Crossref](#)]
143. Jamshid Karimov, Faruk Balli, Hatice Ozer Balli, Anne de Bruin. 2020. Shari'ah compliance requirements and the cost of equity capital. *Pacific-Basin Finance Journal* 62, 101349. [[Crossref](#)]
144. Ali Boloorforoosh, Peter Christoffersen, Mathieu Fournier, Christian Gouriéroux. 2020. Beta Risk in the Cross-Section of Equities. *The Review of Financial Studies* 33:9, 4318-4366. [[Crossref](#)]
145. Vanita Tripathi, Priti Aggarwal. 2020. Is value premium sector-specific? Evidence from India. *Managerial Finance* 46:12, 1605-1628. [[Crossref](#)]
146. Tong Zhang. Stock Picking Strategy Based on Exploration of Chip Distribution Indicators 276-282. [[Crossref](#)]
147. Lerzan Aksoy, Sabine Benoit, Shreekant G. Joag, Jay Kandampully, Timothy Lee Keiningham, An L. Yan. 2020. Enterprise feedback management (EFM): what lies beyond the hype?. *Journal of Service Management* 32:1, 53-69. [[Crossref](#)]
148. Patricia Sepúlveda Orejuela, María Dolores Guerrero-Baena, José A. Gómez-Limón. 2020. Desempeño económico-financiero de los distintos modelos empresariales en el sector del aceite de oliva en España. *Revista de Estudios Empresariales. Segunda Época* :1, 227-248. [[Crossref](#)]
149. Chinh Duc Pham, Le Tan Phuoc. 2020. Is estimating the Capital Asset Pricing Model using monthly and short-horizon data a good choice?. *Heliyon* 6:7, e04339. [[Crossref](#)]
150. Myrthe van Dieijen, Abhishek Borah, Gerard J. Tellis, Philip Hans Franses. 2020. Big Data Analysis of Volatility Spillovers of Brands across Social Media and Stock Markets. *Industrial Marketing Management* 88, 465-484. [[Crossref](#)]
151. Yingyi Hu, Tiao Zhao, Lin Zhang. 2020. Noise trading, institutional trading, and opinion divergence: Evidence on intraday data in the Chinese stock market. *International Review of Economics & Finance* 68, 74-89. [[Crossref](#)]
152. Wei Kang Loo. 2020. Predictability of HK-REITs returns using artificial neural network. *Journal of Property Investment & Finance* 38:4, 291-307. [[Crossref](#)]
153. A. S. Shaghikyan, H. N. Hayrapetyan. 2020. Equity Crowdfunding in the Eurasian Economic Union (EAEU). *Finance: Theory and Practice* 24:3, 45-59. [[Crossref](#)]
154. Philippe Dupuy, Michel Albouy, Christophe Bonnet, Safwan Mchawrab. 2020. Cash Holdings and the Selection Effect in the Eurozone. *Finance* Vol. 41:2, 53-106. [[Crossref](#)]
155. Naji Massad, Jørgen Vitting Andersen. 2020. Defining an intrinsic "stickiness" parameter of stock price returns. *Physica A: Statistical Mechanics and its Applications* 547, 124464. [[Crossref](#)]
156. Seong Mi Bae, Hyoung-Tae An, Jong Dae Kim. 2020. Mediators Linking Information Quality and the Cost of Equity Capital*. *Asia-Pacific Journal of Financial Studies* 49:3, 410-437. [[Crossref](#)]
157. Nisa Vinodkumar, Hadeel Khalid AlJasser. 2020. Financial evaluation of Tadawul All Share Index (TASI) listed stocks using Capital Asset Pricing Model. *Investment Management and Financial Innovations* 17:2, 69-75. [[Crossref](#)]
158. Jie Qin. 2020. Regret-based capital asset pricing model. *Journal of Banking & Finance* 114, 105784. [[Crossref](#)]

159. Hoang Thanh Hanh, Le Thi Viet Nga, Dinh Tran Ngoc Huy, Luong Minh Lan, Pham Minh Dat. 2020. The Quantified Analysis of Causes of Market Risk Fluctuations in the Group of Construction, Real Estate and Construction Material Companies in Vietnam During and After the Global Crisis 2007-2011. *WSEAS TRANSACTIONS ON ENVIRONMENT AND DEVELOPMENT* **16**, 189-197. [[Crossref](#)]
160. Saejoon Kim, Soong Kim. 2020. Index tracking through deep latent representation learning. *Quantitative Finance* **20**:4, 639-652. [[Crossref](#)]
161. Benjamin Pfister, Manfred Schwaiger, Tobias Morath. 2020. Corporate reputation and the future cost of equity. *Business Research* **13**:1, 343-384. [[Crossref](#)]
162. Panagiotis Anastasiadis, Efthimios Katsaros, Anastasios-Taxiarchis Koutsoukis, Athanasios Pandazis. 2020. Performance-Risk Nexus of Global Low-Rated ETFs During the QE-Tapering Period. *Studies in Business and Economics* **15**:1, 194-211. [[Crossref](#)]
163. Yehui Wang, Jianxu Liu, Yuxuan Tang, Songsak Sriboonchitta. 2020. Housing Risk and Its Influence on House Price: An Expected Utility Approach. *Mathematical Problems in Engineering* **2020**, 1-16. [[Crossref](#)]
164. Anastasia Simmet, Winfried Pohlmeier. 2020. The CAPM with Measurement Error: 'There's life in the old dog yet!'. *Jahrbücher für Nationalökonomie und Statistik* **240**:4, 417-453. [[Crossref](#)]
165. O. E. Medvedeva, A. I. Artemenkov. 2020. THEORETICAL BASES OF ECONOMIC MEASUREMENT OF VALUE IN THE CONDITIONS OF GLOBAL TECHNOLOGICAL SHIFTS AND CRISES. NEWEST METHODOLOGICAL BASE (PART 2). *Vestnik Universiteta* :1, 114-120. [[Crossref](#)]
166. Damian Shaw-Williams, Connie Susilawati. 2020. A techno-economic evaluation of Virtual Net Metering for the Australian community housing sector. *Applied Energy* **261**, 114271. [[Crossref](#)]
167. Semra Bank, Evrim Erdogan Yazar, Ugur Sivri. 2020. The portfolios with strong brand value: More returns? Lower risk?. *Borsa Istanbul Review* **20**:1, 64-79. [[Crossref](#)]
168. Prince Worzie. 2020. FACTORS AFFECTING INVESTMENT DECISIONS AMONG LISTED FIRMS IN THE NAIROBI SECURITIES EXCHANGE. *International Journal of Engineering Technologies and Management Research* **7**:2, 124-142. [[Crossref](#)]
169. Mehmet Levent ERDAŞ. 2020. Belirli Kısıtlar Altında Doğrusal Programlamaya Dayalı Bir Portföy Optimizasyonu Modelinin Geliştirilmesi: Borsa İstanbul 30 Endeksi Üzerine Bir Uygulama. *TESAM Akademi Dergisi* 115-141. [[Crossref](#)]
170. Filippo Vitolla, Antonio Salvi, Nicola Raimo, Felice Petruzzella, Michele Rubino. 2020. The impact on the cost of equity capital in the effects of integrated reporting quality. *Business Strategy and the Environment* **29**:2, 519-529. [[Crossref](#)]
171. Fenghua Wen, Nan Wu, Xu Gong. 2020. China's carbon emissions trading and stock returns. *Energy Economics* **86**, 104627. [[Crossref](#)]
172. Le Tan Phuoc, Chinh Duc Pham. 2020. The systematic risk estimation models: A different perspective. *Heliyon* **6**:2, e03371. [[Crossref](#)]
173. Shea D. Chen, Andrew E. B. Lim. 2020. A Generalized Black-Litterman Model. *Operations Research* **18**. . [[Crossref](#)]
174. Andres F. Cantillo. 2020. Production commitments and the financial foundations of specialized economies. *Journal of Post Keynesian Economics* **43**:1, 90-111. [[Crossref](#)]
175. Oussama Tilfani, Paulo Ferreira, My Youssef El Boukfaoui. 2020. Multiscale optimal portfolios using CAPM fractal regression: estimation for emerging stock markets. *Post-Communist Economies* **32**:1, 77-112. [[Crossref](#)]
176. Sandra Andraszewicz. Stock Markets, Market Crashes, and Market Bubbles 205-231. [[Crossref](#)]

177. Duane W Rockerbie, Stephen T. Easton. Contract Options for Buyers and Sellers of Talent 53-67. [\[Crossref\]](#)
178. Stefan Behringer. Die Entwicklung der angelsächsischen Unternehmensbewertung – kapitalmarktorientierter Ansatz 79-102. [\[Crossref\]](#)
179. Nguyen Huu Anh, Nguyen La Soa, Ha Hong Hanh. 2020. Environmental accounting practices and cost of capital of enterprises in Vietnam. *Cogent Economics & Finance* 8:1, 1790964. [\[Crossref\]](#)
180. Kam Fong Chan, Terry Marsh. 2020. Asset Pricing around Earnings Announcement Days. *SSRN Electronic Journal* 62. . [\[Crossref\]](#)
181. Hasan A Fallahgoul, Vincentius Franstianto. 2020. Towards Explaining Deep Learning: Significance Tests for Multi-Layer Perceptrons. *SSRN Electronic Journal* 12. . [\[Crossref\]](#)
182. Augustin Landier, David Thesmar. 2020. Earnings Expectations in the COVID Crisis. *SSRN Electronic Journal* 24. . [\[Crossref\]](#)
183. Anne M. Tucker, Yusen Xia, Susan Smelcer. 2020. It Ain't Just What Funds Disclose (It's The Way That They Do It). *SSRN Electronic Journal* 35. . [\[Crossref\]](#)
184. Majeed Simaan. 2020. Working with CRSP/COMPUSTAT in R: Reproducible Empirical Asset Pricing. *SSRN Electronic Journal* 1. . [\[Crossref\]](#)
185. Emanuel Kohlscheen, Előd Takáts. 2020. What Can Commercial Property Performance Reveal about Bank Valuations?. *SSRN Electronic Journal* 32. . [\[Crossref\]](#)
186. Phuong Duong, Jinghui Liu, Ian Eddie. 2020. New financial regulatory philosophy: A paradigm shift in securities market supervision. *Corporate Ownership and Control* 17:4, 8-17. [\[Crossref\]](#)
187. Tolulope Latunde, Lukman Shina Akinola, Damilola Deborah Dare. 2020. Analysis of capital asset pricing model on Deutsche bank energy commodity. *Green Finance* 2:1, 20-34. [\[Crossref\]](#)
188. 2020. Wavelet-based systematic risk estimation: application on GCC stock markets: the Saudi Arabia case. *Quantitative Finance and Economics* 4:4, 542-595. [\[Crossref\]](#)
189. Tarana Azimova. Challenges in Estimation of Beta 79-98. [\[Crossref\]](#)
190. Luis Javier Sanchez-Barrios, Benedicto Kulwizira Lukanima, Natalia Hernandez-Vargas, Luis Ricardo Almanza Herazo. Estimating the CAPM Beta for Public and Private Firms 99-125. [\[Crossref\]](#)
191. Ahmad Aref Almazari. Valuation of Banking Sector 175-200. [\[Crossref\]](#)
192. Jakob Thomä, Michael Hayne, Nikolaus Hagedorn, Clare Murray, Rebecca Grattage. 2019. The alignment of global equity and corporate bonds markets with the Paris Agreement. *Journal of Applied Accounting Research* 20:4, 439-457. [\[Crossref\]](#)
193. Marc Schaffer. 2019. The role of competition, innovation, and regulation on financial intermediary risk. *Managerial Finance* 45:12, 1580-1600. [\[Crossref\]](#)
194. Marília Cordeiro Pinheiro, André Luiz Marques Serrano. 2019. Analysis of the impact of Fies on the stock returns from the higher education sector. *Revista Contabilidade & Finanças* 30:81, 368-380. [\[Crossref\]](#)
195. Tomislav Gelo, Željko Vrban, Dalibor Pudić. 2019. Allowed Revenue of Network System Operators in the Croatian Energy Sector and Interest Rate Changes on the Croatian Capital Market. *Zagreb International Review of Economics and Business* 22:s2, 73-91. [\[Crossref\]](#)
196. Saurabh Gupta, Saumitra N. Bhaduri. 2019. Skin in the game – investor behavior in asset pricing, the Indian context. *Review of Behavioral Finance* 11:4, 373-392. [\[Crossref\]](#)
197. Babak Jafarizadeh, Reidar B. Bratvold. 2019. Exploration economics: taking opportunities and the risk of double-counting risk. *Mineral Economics* 32:3, 323-335. [\[Crossref\]](#)
198. Liping Liu. 2019. The reducibility of matrix sweeping operations: A computational issue in linear belief functions. *International Journal of Approximate Reasoning* 114, 226-247. [\[Crossref\]](#)

199. Sabine Elmiger. 2019. CAPM-anomalies: quantitative puzzles. *Economic Theory* **68**:3, 643-667. [[Crossref](#)]
200. Levan Efremidze, Darrol J. Stanley, Abraham Park, Nikolai Wasilewski. 2019. Empirical implementation of entropy risk factor model: A test on Chilean peso. *Physica A: Statistical Mechanics and its Applications* **532**, 121836. [[Crossref](#)]
201. Joanne Hamet, Frantz Maurer. 2019. Valeur intrinsèque et valeur temps de la recherche en sciences de gestion. *Revue Française de Gestion* **45**:284, 103-123. [[Crossref](#)]
202. Natalia Bailey, George Kapetanios, M. Hashem Pesaran. 2019. Exponent of Cross-sectional Dependence for Residuals. *Sankhya B* **81**:S1, 46-102. [[Crossref](#)]
203. Tzu-Lun Huang. 2019. Is the Fama and French five-factor model robust in the Chinese stock market?. *Asia Pacific Management Review* **24**:3, 278-289. [[Crossref](#)]
204. Yang, Nguyen. 2019. Skewness Preference and Asset Pricing: Evidence from the Japanese Stock Market. *Journal of Risk and Financial Management* **12**:3, 149. [[Crossref](#)]
205. Nesrin Özkan. 2019. q-Faktör Modelinin Borsa İstanbul'da Geçerliliğinin Test Edilmesi. *Eskişehir Osmangazi Üniversitesi İktisadi ve İdari Bilimler Dergisi* **14**:2, 441-456. [[Crossref](#)]
206. Anwar Hasan Abdullah Othman, Syed Musa Alhabshi, Razali Haron. 2019. The effect of symmetric and asymmetric information on volatility structure of crypto-currency markets. *Journal of Financial Economic Policy* **11**:3, 432-450. [[Crossref](#)]
207. Shaun Cox, James Britten. 2019. The Fama-French five-factor model: Evidence from the Johannesburg Stock Exchange. *Investment Analysts Journal* **48**:3, 240-261. [[Crossref](#)]
208. Richard A. Michelfelder, Pauline Ahern, Dylan D'Ascendis. 2019. Decoupling impact and public utility conservation investment. *Energy Policy* **130**, 311-319. [[Crossref](#)]
209. Johan Knif, James W. Kolari, Gregory Koutmos, Seppo Pynnönen. 2019. Measuring the relative return contribution of risk factors. *Journal of Asset Management* **20**:4, 263-272. [[Crossref](#)]
210. Jana Šimáková, Daniel Stavárek, Tomáš Pražák, Marie Ligocká. 2019. Macroeconomic factors and stock prices in the food and drink industry. *British Food Journal* **121**:7, 1627-1641. [[Crossref](#)]
211. Shijun Wang, Baocheng Zhu, Lintao Ma, Yuan Qi. A Riemannian Primal-dual Algorithm Based on Proximal Operator and its Application in Metric Learning 1-8. [[Crossref](#)]
212. Ricardo Méndez Romero, Hernán Rocha Pavés. 2019. ANÁLISIS DE LOS FONDOS DE PENSIONES EN CHILE: PERIODO 2011-2018. *Multidisciplinary Business Review* **12**:1, 1-9. [[Crossref](#)]
213. Thomas Gramespacher, Armin Bänziger. 2019. The Bias in Two-Pass Regression Tests of Asset-Pricing Models in Presence of Idiosyncratic Errors with Cross-Sectional Dependence. *Review of Pacific Basin Financial Markets and Policies* **22**:02, 1950012. [[Crossref](#)]
214. Muhammad Adnan Arshad, Saira Munir, Bashir Ahmad, Muhammad Waseem. 2019. Do factors matter for predicting high-risk stock returns? Comparison of single-, three- and five-factor CAPM. *International Journal of Financial Engineering* **06**:02, 1950015. [[Crossref](#)]
215. Qianwei Ying, Tahir Yousaf, Qurat ul Ain, Yasmeen Akhtar, Muhammad Shahid Rasheed. 2019. Stock Investment and Excess Returns: A Critical Review in the Light of the Efficient Market Hypothesis. *Journal of Risk and Financial Management* **12**:2, 97. [[Crossref](#)]
216. Semra Bank, Evrim Erdogan Yazar, Ugur Sivri. 2019. Can social media marketing lead to abnormal portfolio returns?. *European Research on Management and Business Economics* **25**:2, 54-62. [[Crossref](#)]
217. Roberto Savona, Cesare Orsini. 2019. Taking the right course navigating the ERC universe. *Journal of Asset Management* **20**:3, 157-174. [[Crossref](#)]

218. Defeng Yang, Zhanqing Wang, Fangmin Lu. 2019. The Influence of Corporate Governance and Operating Characteristics on Corporate Environmental Investment: Evidence from China. *Sustainability* 11:10, 2737. [[Crossref](#)]
219. Salman Ahmed Shaikh, Mohd Adib Ismail, Abdul Ghafar Ismail, Shahida Shahimi, Muhammad Hakimi Mohd. Shafiai. 2019. Cross section of stock returns on Shari'ah -compliant stocks: evidence from Pakistan. *International Journal of Islamic and Middle Eastern Finance and Management* 12:2, 282-302. [[Crossref](#)]
220. Nilanjana Chakraborty, Mohammed M Elgammal, David McMillan. 2019. Rational functions: an alternative approach to asset pricing. *Applied Economics* 51:20, 2091-2119. [[Crossref](#)]
221. Khaled Elkhail. 2019. Business uncertainty and financial leverage: should the firm double up on risk?. *Managerial Finance* 45:4, 536-544. [[Crossref](#)]
222. Malik Shahzad Shabbir, Iftikhar Muhammad. 2019. The dynamic impact of foreign portfolio investment on stock prices in Pakistan. *Transnational Corporations Review* 11:2, 166-178. [[Crossref](#)]
223. Nordine Abidi, Burcu Hacibedel, Mwanza Nkusu. 2019. Frontier and Emerging Markets: A Perspective from Portfolio Flows and Financial Integration. *Journal of Banking and Financial Economics* 1/2019:11, 19-45. [[Crossref](#)]
224. Benjamin R. Auer, Tobias Hiller. 2019. Can cooperative game theory solve the low-risk puzzle?. *International Journal of Finance & Economics* 24:2, 884-889. [[Crossref](#)]
225. Sergio Bravo. 2019. The Corporate Life Cycle and the Cost of Equity. *Journal of Business Valuation and Economic Loss Analysis* 14:1. . [[Crossref](#)]
226. Yang Ning, Liu Chun Wah, Luo Erdan. 2019. Stock price prediction based on error correction model and Granger causality test. *Cluster Computing* 22:S2, 4849-4858. [[Crossref](#)]
227. Marisa Basten, Antonio Sánchez Serrano. 2019. European banks after the global financial crisis: a new landscape. *Journal of Banking Regulation* 20:1, 51-73. [[Crossref](#)]
228. Moting Su, Zongyi Zhang, Ye Zhu, Donglan Zha. 2019. Data-Driven Natural Gas Spot Price Forecasting with Least Squares Regression Boosting Algorithm. *Energies* 12:6, 1094. [[Crossref](#)]
229. Henry Leung, Jeffrey Tse, P. Joakim Westerholm. 2019. CEO traders and corporate acquisitions. *Journal of Corporate Finance* 54, 107-127. [[Crossref](#)]
230. José Roberto Ferreira Savoia, José Roberto Securato, Daniel Reed Bergmann, Fabiana Lopes da Silva. 2019. Comparing results of the implied cost of capital and capital asset pricing models for infrastructure firms in Brazil. *Utilities Policy* 56, 149-158. [[Crossref](#)]
231. Jaromír Antoch, Jan Hanousek, Marie Hušková, Jiří Trešl. 2019. Detection of Changes in Panel Data: Change in Fama-French Model Parameters for Selected European Stocks During the Financial Crisis. *Politická ekonomie* 67:1, 3-19. [[Crossref](#)]
232. Octávio Valente Campos, Ana Carolina Vasconcelos Colares, Renata Turola Takamatsu, José Roberto de Souza Francisco. 2019. Precificação de ativos: análise do fator book-to-market após o deemed cost. *Revista Catarinense da Ciência Contábil* 18, 1-16. [[Crossref](#)]
233. Mukail Aremu Akinde, Eriki Peter, Ochei Ailemen Ikpefan. 2019. Growth versus value investing: a case of Nigerian Stock Market. *Investment Management and Financial Innovations* 16:1, 30-45. [[Crossref](#)]
234. Lanh Tran. How Annualized Wavelet Trading “Beats” the Market 124-137. [[Crossref](#)]
235. Dorota Witkowska. Is the Three-Factor Better Than Single-Factor Capital Asset Pricing Model? Case of Polish Capital Market 225-238. [[Crossref](#)]
236. Alessandro Vercelli. The Emergence of Modern Financial Economics 61-91. [[Crossref](#)]
237. Susann Ihlau, Hendrik Dusch. Grundlagen der Unternehmensbewertung 17-115. [[Crossref](#)]

238. Manfred Gilli, Dietmar Maringer, Enrico Schumann. Optimization problems in finance 219-228. [\[Crossref\]](#)
239. . Bibliography 599-608. [\[Crossref\]](#)
240. Anh Phong Nguyen, Hoang Anh Nguyen, Thi Hong Minh Ho, Phu Thanh Ngo. 2019. Risk and returns of different foreign ownership portfolios: Evidence from Vietnam stock market. *Cogent Economics & Finance* 7:1, 1589412. [\[Crossref\]](#)
241. Babak Mahdavi-Damghani. 2019. Data-Driven Models & Mathematical Finance: Opposition or Apposition?. *SSRN Electronic Journal* 89. . [\[Crossref\]](#)
242. Sassan Zaker. 2019. How Wealth Management Lost Clients in Translation. *SSRN Electronic Journal* 65. . [\[Crossref\]](#)
243. Anne M. Tucker, Yusen Xia. 2019. Investing in the Dark: Investment Company Disclosure Qualities, Content & Compliance. *SSRN Electronic Journal* 70. . [\[Crossref\]](#)
244. Michael Thicke. 2018. Market epistemology. *Synthese* 195:12, 5571-5594. [\[Crossref\]](#)
245. Sabri Boubaker, Taher Hamza, Javier Vidal-García. 2018. Financial distress and equity returns: A leverage-augmented three-factor model. *Research in International Business and Finance* 46, 1-15. [\[Crossref\]](#)
246. Madhavi Latha Challa, Venkataramanaiah Malepati, Siva Nageswara Rao Kolusu. 2018. Forecasting risk using auto regressive integrated moving average approach: an evidence from S&P BSE Sensex. *Financial Innovation* 4:1. . [\[Crossref\]](#)
247. Patrick O'Sullivan. 2018. The Capital Asset Pricing Model and the Efficient Markets Hypothesis: The Compelling Fairy Tale of Contemporary Financial Economics. *International Journal of Political Economy* 47:3-4, 225-252. [\[Crossref\]](#)
248. Keshav Sahadev, Michael Ward, Chris Muller. 2018. The impact of reference-day risk on beta estimation and a proposed solution. *Investment Analysts Journal* 47:4, 327-342. [\[Crossref\]](#)
249. JONGSEOK LIM. 2018. A Study on the Estimation of the Cost of Equity Capital and Performance for Listed Logistics Service Providers based on CAPM. *Korean Journal of Logistics* 26:3, 17-32. [\[Crossref\]](#)
250. Fang Zhang, Hong Fang, Xu Wang. 2018. Impact of Carbon Prices on Corporate Value: The Case of China's Thermal Listed Enterprises. *Sustainability* 10:9, 3328. [\[Crossref\]](#)
251. Marta Olivia Rovedder de Oliveira, Aline Armanini Stefanan, Mauri Leodir Lobler. 2018. Brand equity, risk and return in Latin America. *Journal of Product & Brand Management* 27:5, 557-572. [\[Crossref\]](#)
252. John L. Glascock, Ran Lu-Andrews. 2018. The Asymmetric Conditional Beta-Return Relations of REITs. *The Journal of Real Estate Finance and Economics* 57:2, 231-245. [\[Crossref\]](#)
253. I. Ferguson. 2018. Discount rates for corporate forest valuations. *Australian Forestry* 81:3, 142-147. [\[Crossref\]](#)
254. Alfonso A. Rojo Ramírez, Maria J. Martínez Romero. 2018. Required and obtained equity returns in privately held businesses: the impact of family nature—evidence before and after the global economic crisis. *Review of Managerial Science* 12:3, 771-801. [\[Crossref\]](#)
255. Matevž Škočir, Igor Lončarski. 2018. Multi-factor asset pricing models: Factor construction choices and the revisit of pricing factors. *Journal of International Financial Markets, Institutions and Money* 55, 65-80. [\[Crossref\]](#)
256. Serge Darolles, Christian Francq, Sébastien Laurent. 2018. Asymptotics of Cholesky GARCH models and time-varying conditional betas. *Journal of Econometrics* 204:2, 223-247. [\[Crossref\]](#)
257. Tomer Shushi. 2018. Stein's lemma for truncated elliptical random vectors. *Statistics & Probability Letters* 137, 297-303. [\[Crossref\]](#)

258. Masato Sasaki, Anas Laamrani, Mitsuo Yamashiro. 2018. An interactive genetic algorithm for portfolio optimization considering the decision maker's preference. *Journal of Information and Optimization Sciences* **39**:4, 989-1008. [[Crossref](#)]
259. Lucas Bretschger, Filippo Lechthaler. 2018. Stock performance and economic growth: lessons from the Japanese case. *Macroeconomics and Finance in Emerging Market Economies* **11**:2, 195-217. [[Crossref](#)]
260. Geeta Lakshmi. 2018. Gekko and black swans: Finance theory in UK undergraduate curricula. *Critical Perspectives on Accounting* **52**, 35-47. [[Crossref](#)]
261. Christophe Schinckus. 2018. Pataphysics of finance: An essay of visual epistemology. *Critical Perspectives on Accounting* **52**, 57-68. [[Crossref](#)]
262. C. Janse van Rensburg, J.D. Krige. 2018. Paying the High Price of Active Management: A New Look at Unit Trust Fees. *Studies in Economics and Econometrics* **42**:1, 23-40. [[Crossref](#)]
263. Milica Radović, Snežana Radukić, Vladimir Njegomir. 2018. The Application of the Markowitz's Model in Efficient Portfolio Forming on the Capital Market in the Republic of Serbia. *Economic Themes* **56**:1, 17-34. [[Crossref](#)]
264. Huu T. Huynh, Yi Su, Gunnar Lucko, Richard C. Thompson. Beta Index and Complexity in Schedule Performance Measurement 471-480. [[Crossref](#)]
265. Pablo Koch-Medina, Jan Wenzelburger. 2018. Equilibria in the CAPM with non-tradeable endowments. *Journal of Mathematical Economics* **75**, 93-107. [[Crossref](#)]
266. Jae Wook Song, Bonggyun Ko, Woojin Chang. 2018. Analyzing systemic risk using non-linear marginal expected shortfall and its minimum spanning tree. *Physica A: Statistical Mechanics and its Applications* **491**, 289-304. [[Crossref](#)]
267. Harold L. Vogel. Rationality Rules 219-269. [[Crossref](#)]
268. Toan Luu Duc Huynh, Sang Phu Nguyen, Duy Duong. Pricing Assets with Higher Co-moments and Value-at-Risk by Quantile Regression Approach: Evidence from Vietnam Stock Market 953-986. [[Crossref](#)]
269. Stefan Behringer. Kennzahlen im Konzerncontrolling 89-133. [[Crossref](#)]
270. Fengmin Xu, Meihua Wang, Yu-Hong Dai, Dachuan Xu. 2018. A sparse enhanced indexation model with chance and cardinality constraints. *Journal of Global Optimization* **70**:1, 5-25. [[Crossref](#)]
271. Massimo Guidolin, Manuela Pedio. Multivariate GARCH and Conditional Correlation Models 229-266. [[Crossref](#)]
272. Bruce D. McNevin, Joan Nix. 2018. The beta heuristic from a time/frequency perspective: A wavelet analysis of the market risk of sectors. *Economic Modelling* **68**, 570-585. [[Crossref](#)]
273. Muhammad Hafidz Anuwar, Maheran Mohd Jaffar. The standardized credit rating grade for Malaysian listed companies in Bursa Malaysia 020060. [[Crossref](#)]
274. Ross Kingwell, Quenten Thomas, David Feldman, Imma Farré, Brad Plunkett. 2018. Traditional farm expansion versus joint venture remote partnerships. *Australian Journal of Agricultural and Resource Economics* **62**:1, 21-44. [[Crossref](#)]
275. Fred Sporta. 2018. The Distressing Effect of Non-Performing Assets to Asset Quality for Commercial Banks in Kenya. *INTERNATIONAL JOURNAL OF INNOVATION AND ECONOMIC DEVELOPMENT* **3**:6, 71-83. [[Crossref](#)]
276. Wei Liu, James W. Kolari, Seppo Pynnonen. 2018. CAPM Beta Lives for Expected Returns. *SSRN Electronic Journal* **14**. . [[Crossref](#)]
277. Deng-Ta Chen. 2018. : CAPM (Security Prices in Mean-Variance Equilibrium: A Further Study on CAPM). *SSRN Electronic Journal* **447**. . [[Crossref](#)]

278. Jessie Y. Zhu, Wally Smieliauskas. 2018. Evidence on the Economic Consequences of Marriage Equality and LGBT Human Rights. *SSRN Electronic Journal* 5. . [[Crossref](#)]
279. Alex R. Horenstein. 2018. Leverage and Performance Metrics in Asset Pricing. *SSRN Electronic Journal* 53. . [[Crossref](#)]
280. Kesh Sahadev, Mike Ward, Chris Muller. 2018. A Volume-Weighted-Average-Price (VWAP) Method for Estimating Beta in the Context of Reference-Day Risk. *SSRN Electronic Journal* 22. . [[Crossref](#)]
281. Malcolm McLelland. 2018. CAPM Failure in Private Equity Valuation and the Alternative APT Method. *SSRN Electronic Journal* 73. . [[Crossref](#)]
282. Malcolm McLelland. 2018. International Cost of Capital Estimation: The No-Arbitrage Method. *SSRN Electronic Journal* 73. . [[Crossref](#)]
283. Keshav Sahadev, Mike Ward, Chris Muller. 2018. A Volume-Weighted-Average-Price (VWAP) Method for Estimating Beta in the Context of Reference-Day Risk. *SSRN Electronic Journal* 22. . [[Crossref](#)]
284. Zhichuan Frank Li, Dylan Minor, Jun Wang, Chong Yu. 2018. A Learning Curve of the Market: Chasing Alpha of Socially Responsible Firms. *SSRN Electronic Journal* 134. . [[Crossref](#)]
285. Natalia Bailey, George Kapetanios, M. Hashem Pesaran. 2018. Exponent of Cross-Sectional Dependence for Residuals. *SSRN Electronic Journal* 31. . [[Crossref](#)]
286. Gonul Colak, Dimitrios Gounopoulos, Panagiotis Loukopoulos, Georgios Loukopoulos. 2018. Local Policy Risk and IPO Performance. *SSRN Electronic Journal* 51. . [[Crossref](#)]
287. Lisa R. Goldberg, Alex Papanicolaou, Alexander Shkolnik. 2018. Better Betas. *SSRN Electronic Journal* 9. . [[Crossref](#)]
288. Weihao Han. 2018. Persistence and Performance of Chinese Mutual Funds. *SSRN Electronic Journal* 8. . [[Crossref](#)]
289. Todd D. Gerarden, Richard G. Newell, Robert N. Stavins. 2017. Assessing the Energy-Efficiency Gap. *Journal of Economic Literature* 55:4, 1486-1525. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]
290. Serdar Neslihanoglu, Vasilios Sogiakas, John H. McColl, Duncan Lee. 2017. Nonlinearities in the CAPM: Evidence from Developed and Emerging Markets. *Journal of Forecasting* 36:8, 867-897. [[Crossref](#)]
291. Bogdan Negrea, Mihai Toma. 2017. Dynamic CAPM under ambiguity—An experimental approach. *Journal of Behavioral and Experimental Finance* 16, 22-32. [[Crossref](#)]
292. José María Díez-Esteban, Conrado Diego García-Gómez, Félix Javier López-Iturriaga, Marcos Santamaría-Mariscal. 2017. Corporate risk-taking, returns and the nature of major shareholders: Evidence from prospect theory. *Research in International Business and Finance* 42, 900-911. [[Crossref](#)]
293. Yinqiao Li, Renée Spigt, Laurens Swinkels. 2017. The impact of FinTech start-ups on incumbent retail banks' share prices. *Financial Innovation* 3:1. . [[Crossref](#)]
294. Diego Broz, Gastón Milanesi, Daniel Alejandro Rossit, Diego Gabriel Rossit, Fernando Tohmé. 2017. Forest management decision making based on a real options approach: An application to a case in northeastern Argentina. *Forestry Studies* 67:1, 97-108. [[Crossref](#)]
295. Hung-Chi Li, Syouching Lai, James A. Conover, Frederick Wu, Bin Li. Stock Returns and Financial Distress Risk: Evidence from the Asian-Pacific Markets 123-158. [[Crossref](#)]
296. Marc K. Chan, Simon Kwok. 2017. Risk-sharing, market imperfections, asset prices: Evidence from China's stock market liberalization. *Journal of Banking & Finance* 84, 166-187. [[Crossref](#)]
297. Márcio André Veras Machado, Robert Faff, Suelle Cariele de Souza e Silva. 2017. Applicability of Investment and Profitability Effects in Asset Pricing Models. *Revista de Administração Contemporânea* 21:6, 851-874. [[Crossref](#)]

298. Turan G. Bali, Robert F. Engle, Yi Tang. 2017. Dynamic Conditional Beta Is Alive and Well in the Cross Section of Daily Stock Returns. *Management Science* **63**:11, 3760-3779. [[Crossref](#)]
299. David G. Carmichael. 2017. Adjustments within discount rates to cater for uncertainty—Guidelines. *The Engineering Economist* **62**:4, 322-335. [[Crossref](#)]
300. Gastón Silverio Milanesi. 2017. Valuación de empresas: enfoque integral para mercados emergentes e inflacionarios. *Estudios Gerenciales* **33**:145, 377-390. [[Crossref](#)]
301. Júlio Lobão, Cristiano Pereira. 2017. Psychological barriers in stock market indices: Evidence from four southern European countries. *Cuadernos de Economía* **40**:114, 268-278. [[Crossref](#)]
302. Matheus Duarte Valente Vieira, Vinicius Mothé Maia, Marcelo Cabús Klotzle, Antonio Carlos Figueiredo. 2017. Modelo de Cinco Fatores de Risco: precificando carteiras setoriais no mercado acionário brasileiro. *Revista Catarinense da Ciência Contábil* **16**:48. . [[Crossref](#)]
303. Ikrame Ben Slimane, Makram Bellalah, Hatem Rjiba. 2017. Time-varying beta during the 2008 financial crisis – evidence from North America and Western Europe. *The Journal of Risk Finance* **18**:4, 398-431. [[Crossref](#)]
304. Karen Paul. 2017. The effect of business cycle, market return and momentum on financial performance of socially responsible investing mutual funds. *Social Responsibility Journal* **13**:3, 513-528. [[Crossref](#)]
305. Sara Aghakhani, Reda Alhajj, Jon Rokne, Philip Chang. An Effective LmRMR for Financial Variable Selection and its Applications 535-543. [[Crossref](#)]
306. Diana Milena Carmona Muñoz, Marcos Vera Leyton. 2017. Evaluación de los factores de riesgo en los activos de renta variable que conforman el índice S&P MILA 40 : aplicación del modelo de tres factores de Fama y French en el periodo 2009-2013. *Revista Finanzas y Política Económica* **9**:2, 301-317. [[Crossref](#)]
307. Daniel Botero Guzman, Jhon Alexis Díaz Contreras. 2017. Análisis de la relación rentabilidad-riesgo en el mercado accionario internacional para un mundo parcialmente integrado. *Ensayos de Economía* **27**:51, 109-124. [[Crossref](#)]
308. Christoph Kaserer, Matthias X. Hanauer. 2017. 25 Jahre Fama-French-Modell: Erklärungsgehalt, Anomalien und praktische Implikationen. *Perspektiven der Wirtschaftspolitik* **18**:2, 98-116. [[Crossref](#)]
309. Abel Rodríguez, Ziwei Wang, Athanasios Kottas. 2017. Assessing systematic risk in the S&P500 index between 2000 and 2011: A Bayesian nonparametric approach. *The Annals of Applied Statistics* **11**:2. . [[Crossref](#)]
310. Jill A. Brown, Anne Anderson, Jesus M. Salas, Andrew J. Ward. 2017. Do Investors Care About Director Tenure? Insights from Executive Cognition and Social Capital Theories. *Organization Science* **28**:3, 471-494. [[Crossref](#)]
311. Chandana Shahi, Sherrill Shaffer. 2017. CAPM and the changing distribution of historical returns. *Applied Economics Letters* **24**:9, 639-642. [[Crossref](#)]
312. Kwanglim Seo, Ellen Eun Kyoo Kim, Amit Sharma. 2017. Examining the determinants of long-term debt in the US restaurant industry. *International Journal of Contemporary Hospitality Management* **29**:5, 1501-1520. [[Crossref](#)]
313. Joseph Nyangon, John Byrne, Job Taminiau. 2017. An assessment of price convergence between natural gas and solar photovoltaic in the U.S. electricity market. *WIREs Energy and Environment* **6**:3. . [[Crossref](#)]
314. Kevin E. Dow, Marcia Weidenmier Watson, Vincent J. Shea. 2017. Riding the waves of technology through the decades: The relation between industry-level information technology intensity and the cost of equity capital. *International Journal of Accounting Information Systems* **25**, 18-28. [[Crossref](#)]

315. Xiao-Ping Steven Zhang, Fang Wang. 2017. Signal Processing for Finance, Economics, and Marketing: Concepts, framework, and big data applications. *IEEE Signal Processing Magazine* **34**:3, 14-35. [[Crossref](#)]
316. Federico Etro, Elena Stepanova. 2017. Art Auctions and Art Investment in the Golden Age of British Painting. *Scottish Journal of Political Economy* **64**:2, 191-225. [[Crossref](#)]
317. Devi Lusyana, Mohamed Sherif. 2017. Shariah -compliant investments and stock returns: evidence from the Indonesian stock market. *Journal of Islamic Accounting and Business Research* **8**:2, 143-160. [[Crossref](#)]
318. Vance Lesseig, Janet D. Payne. 2017. The precision of asset beta estimates. *International Journal of Managerial Finance* **13**:2, 213-224. [[Crossref](#)]
319. Guillaume Coqueret. 2017. Empirical properties of a heterogeneous agent model in large dimensions. *Journal of Economic Dynamics and Control* **77**, 180-201. [[Crossref](#)]
320. Zarah Puspitaningtyas. 2017. Estimating systematic risk for the best investment decisions on manufacturing company in Indonesia. *Investment Management and Financial Innovations* **14**:1, 46-54. [[Crossref](#)]
321. Vijay Gondhalekar, Kevin Lehnert. Financial Performance and the Competitive Effects of Corporate Social Responsibility 1-21. [[Crossref](#)]
322. Danielle Claire Sanderson, Steven Devaney. 2017. Occupier satisfaction and its impact on investment returns from UK commercial real estate. *Journal of Property Investment & Finance* **35**:2, 135-159. [[Crossref](#)]
323. Ching-Ping Wang, Hung-Hsi Huang, Jin-Sheng Hu. 2017. Reverse-Engineering and Real Options-Adjusted CAPM in the Taiwan Stock Market. *Emerging Markets Finance and Trade* **53**:3, 670-687. [[Crossref](#)]
324. Supriya Maheshwari, Raj Singh Dhankar. 2017. Momentum anomaly: evidence from the Indian stock market. *Journal of Advances in Management Research* **14**:1, 3-22. [[Crossref](#)]
325. Bin Mei. 2017. Investment returns of US commercial timberland: insights into index construction methods and results. *Canadian Journal of Forest Research* **47**:2, 226-233. [[Crossref](#)]
326. Shaista Arshad. Investigating the Integration 85-118. [[Crossref](#)]
327. Raquel J. Fonseca. Capital Asset Pricing Model—A Structured Robust Approach 385-392. [[Crossref](#)]
328. Efundem Agboraw, Aled Jones. Finance and Natural Resource Constraints 41-91. [[Crossref](#)]
329. Imad A. Moosa, Vikash Ramiah. The Rise and Fall of Neoclassical Finance 1-25. [[Crossref](#)]
330. M^a José Martínez Romero, Alfonso A. Rojo Ramírez. 2017. Socioemotional wealth's implications in the calculus of the minimum rate of return required by family businesses' owners. *Review of Managerial Science* **11**:1, 95-118. [[Crossref](#)]
331. . Bibliography 315-328. [[Crossref](#)]
332. Numan Ülkü. 2017. Monday effect in Fama–French's RMW factor. *Economics Letters* **150**, 44-47. [[Crossref](#)]
333. Richard C. Thompson, Yi Su, Gunnar Lucko. 2017. Measuring Project Performance Inspired by Stock Index. *Procedia Engineering* **196**, 706-713. [[Crossref](#)]
334. Steven R. Ratner. 2017. Compensation for Expropriations in a World of Investment Treaties: Beyond the Lawful/Unlawful Distinction. *American Journal of International Law* **111**:1, 7-56. [[Crossref](#)]
335. Ricardo G. Barcelona. Doing the Managerial Flexibility Maths 455-472. [[Crossref](#)]
336. Arun Muralidhar, Robert Savickas, Tzu-Jui Mao. 2017. Asset Pricing Anomalies: Two Hedge Factors with Negative Risk Premia Embedded in Portfolios!. *SSRN Electronic Journal* **12**. . [[Crossref](#)]

337. Pablo Fernandez. 2017. Finanzas y Economía Financiera (Finance and Financial Economics). *SSRN Electronic Journal* 32. . [[Crossref](#)]
338. Pablo Fernandez. 2017. Finance and Financial Economics: A Debate About Common Sense and Illogical Models. *SSRN Electronic Journal* 32. . [[Crossref](#)]
339. Kulab Jamar. 2017. Property Funds and REITs in Thailand: A CAPM Investigation. *SSRN Electronic Journal* 2. . [[Crossref](#)]
340. Daniel Andrei, Julien Cujean, Mungo Ivor Wilson. 2017. The Lost Capital Asset Pricing Model. *SSRN Electronic Journal* 53. . [[Crossref](#)]
341. Ming Li Chew, Sahil Puri. 2017. Using Natural Language Processing Techniques for Stock Return Predictions. *SSRN Electronic Journal* 5. . [[Crossref](#)]
342. Seung C. Ahn, Alex R. Horenstein. 2017. Asset Pricing and Excess Returns Over the Market Return. *SSRN Electronic Journal* 81. . [[Crossref](#)]
343. Gevorg Hunanyan. 2017. The Systematic Risk of Short-Sale Restrictions. *SSRN Electronic Journal* 45. . [[Crossref](#)]
344. Mike Ward, Chris Muller, Pravin Semnarayan. 2017. Negative Investment Returns in a Developing Market Context. *SSRN Electronic Journal* 69. . [[Crossref](#)]
345. Eben Otuteye. 2017. Re-Evaluating the Value of Modern Portfolio Theory and Asset Pricing Models Based on Behavioral Insights from Benjamin Graham's Value Investing Paradigm. *SSRN Electronic Journal* 38. . [[Crossref](#)]
346. Min Deng. 2017. Death of the Capital Asset Pricing Model. *SSRN Electronic Journal* 6. . [[Crossref](#)]
347. Eben Otuteye, Mohammad Siddiquee. 2017. A Critique of Modern Portfolio Theory and Asset Pricing Models Based on Behavioral Insights from Benjamin Graham's Value Investing Paradigm. *SSRN Electronic Journal* 38. . [[Crossref](#)]
348. Jose Maria Diez Esteban, Conrado Diego Garccá-Gómez, Félix J. López-Iturriaga, Marcos Santamarra-Mariscal. 2017. Corporate Risk-Taking, Returns and the Nature of Major Shareholders: Evidence from Prospect Theory. *SSRN Electronic Journal* 34. . [[Crossref](#)]
349. Samuel Johnson, David Tuckett. 2017. Narrative Decision-Making in Investment Choices: How Investors Use News About Company Performance. *SSRN Electronic Journal* 8. . [[Crossref](#)]
350. Johnny Kang, Tom B. Parker, Scott Radell, Ralph Smith. 2017. Reach for Safety. *SSRN Electronic Journal* 51. . [[Crossref](#)]
351. Arun Muralidhar. 2017. A Very Simple Goals - and Risk-Based Asset Pricing Model (or Asset Pricing with Heterogeneous Investors). *SSRN Electronic Journal* 80. . [[Crossref](#)]
352. Eben Otuteye, Mohammad Siddiquee. 2017. Buffett's Alpha: Further Explanations from Behavioral Value Investing Perspective. *SSRN Electronic Journal* 42. . [[Crossref](#)]
353. Imran Riaz Malik, Attaullah Shah. 2017. Single Stock Futures and Their Impact on Risk Characteristics of the Underlying Stocks: A Dynamic CAPM Approach. *SSRN Electronic Journal* 59. . [[Crossref](#)]
354. James Ming Chen. 2017. Baryonic Beta Dynamics: An Econophysical Model of Systematic Risk. *SSRN Electronic Journal* 9. . [[Crossref](#)]
355. Antonio Amendola, Dennis Marco Montagna, Mario Maggi. 2017. Analysis of Equity β Principal Components in Low Risk Framework: New Results and Prospectives. *SSRN Electronic Journal* 77. . [[Crossref](#)]
356. Yehuda (Yud) Izhakian. 2017. Knight Meets Sharpe: Capital Asset Pricing under Ambiguity. *SSRN Electronic Journal* 77. . [[Crossref](#)]

357. Pieter Klaassen, Idzard van Eeghen. 2017. Bank Capital Allocation and Performance Management under Multiple Capital Constraints. *SSRN Electronic Journal* 4. . [\[Crossref\]](#)
358. Jessie Y. Zhu, Wally Smieliauskas. 2017. Evidence on the Economic Consequences of Marriage Equality and LGBT Human Rights. *SSRN Electronic Journal* 5. . [\[Crossref\]](#)
359. Wei Liu, James W. Kolari. 2017. Do Multi-Factors Proxy More Efficient Market Indexes?. *SSRN Electronic Journal* 77. . [\[Crossref\]](#)
360. Gastón Silverio Milanesi. 2017. DESCUENTO DE FLUJO DE FONDOS E INFLACIÓN PARA LA VALORACIÓN DE EMPRESAS EN DOS MONEDAS. *Semestre Económico* 20:44, 189-218. [\[Crossref\]](#)
361. Prashant Das, Gabrielle Bodenmann. Minimizing the Cost of Capital in Hotel Investments 191-207. [\[Crossref\]](#)
362. Emon Kalyan Chowdhury. 2017. Functioning of Fama-French Three-Factor Model in Emerging Stock Markets: An Empirical Study on Chittagong Stock Exchange, Bangladesh. *Journal of Financial Risk Management* 06:04, 352-363. [\[Crossref\]](#)
363. José Carlos de Souza Santos, Elias Cavalcante Filho. 2017. Investing on the CAPM Pricing Error. *Technology and Investment* 08:01, 67-82. [\[Crossref\]](#)
364. David J. Moore. 2016. A look at the actual cost of capital of US firms. *Cogent Economics & Finance* 4:1, 1233628. [\[Crossref\]](#)
365. Igor Deplano, Giovanni Squillero, Alberto Tonda. 2016. Anatomy of a portfolio optimizer under a limited budget constraint. *Evolutionary Intelligence* 9:4, 125-136. [\[Crossref\]](#)
366. Eric Le Fur, Hachmi Ben Ameer, Benoit Faye. 2016. Time-Varying Risk Premiums in the Framework of Wine Investment. *Journal of Wine Economics* 11:3, 355-378. [\[Crossref\]](#)
367. Mareike Hornung, Robert Luther, Peter Schuster. 2016. Retrievability bias in explaining the hurdle rate premium puzzle. *Journal of Applied Accounting Research* 17:4, 440-455. [\[Crossref\]](#)
368. Remmer Sassen, Anne-Kathrin Hinze, Inga Hardeck. 2016. Impact of ESG factors on firm risk in Europe. *Journal of Business Economics* 86:8, 867-904. [\[Crossref\]](#)
369. Marie-Claude Beaulieu, Marie-Hélène Gagnon, Lynda Khalaf. 2016. Less is more: Testing financial integration using identification-robust asset pricing models. *Journal of International Financial Markets, Institutions and Money* 45, 171-190. [\[Crossref\]](#)
370. Te-Feng Chen, San-Lin Chung, Wei-Che Tsai. 2016. Option-Implied Equity Risk and the Cross Section of Stock Returns. *Financial Analysts Journal* 72:6, 42-55. [\[Crossref\]](#)
371. W. D. Chen, H. C. Li. 2016. Wavelet decomposition of heterogeneous investment horizon. *Journal of Economics and Finance* 40:4, 714-734. [\[Crossref\]](#)
372. Brad M. Barber, Xing Huang, Terrance Odean. 2016. Which Factors Matter to Investors? Evidence from Mutual Fund Flows. *Review of Financial Studies* 29:10, 2600-2642. [\[Crossref\]](#)
373. Nicholas G. Hall. Research and Teaching Opportunities in Project Management 329-388. [\[Crossref\]](#)
374. Thomas Lindner, Jakob Muellner, Jonas Puck. 2016. Cost of Capital in an International Context: Institutional Distance, Quality, and Dynamics. *Journal of International Management* 22:3, 234-248. [\[Crossref\]](#)
375. Richard J. Agnello. 2016. Do U.S. paintings follow the CAPM? Findings disaggregated by subject, artist, and value of the work. *Research in Economics* 70:3, 403-411. [\[Crossref\]](#)
376. Celine Gimet, Sandra Montchaud. 2016. What Drives European Football Clubs' Stock Returns and Volatility?. *International Journal of the Economics of Business* 23:3, 351-390. [\[Crossref\]](#)
377. Robert F. Engle. 2016. Dynamic Conditional Beta. *Journal of Financial Econometrics* 14:4, 643-667. [\[Crossref\]](#)

378. Rajesh H Acharya, Anver C Sadath. 2016. On the interaction between energy price and firm size in Indian economy. *OPEC Energy Review* 40:3, 300-315. [[Crossref](#)]
379. Claes Fornell, Forrest V. Morgeson, G. Tomas M. Hult. 2016. Stock Returns on Customer Satisfaction Do Beat the Market: Gauging the Effect of a Marketing Intangible. *Journal of Marketing* 80:5, 92-107. [[Crossref](#)]
380. Paul Windolf. 2016. Riding the Bubble: Financial Market Crises in Twenty-Two OECD Countries. *Journal of Economic Issues* 50:3, 788-813. [[Crossref](#)]
381. Won Kang, Jungsoon Shin. 2016. Derivation of Corporate Debt Pricing Model and Its Empirical Implications. *Asia-Pacific Journal of Financial Studies* 45:3, 439-462. [[Crossref](#)]
382. SWARN CHATTERJEE, AMY HUBBLE. 2016. DAY-OF-THE-WEEK EFFECT IN US BIOTECHNOLOGY STOCKS — DO POLICY CHANGES AND ECONOMIC CYCLES MATTER?. *Annals of Financial Economics* 11:02, 1650008. [[Crossref](#)]
383. Syed Jawad Hussain Shahzad, Saniya Khalid, Saba Ameer. 2016. CAPM estimates: Can data frequency and time period lend a hand?. *International Journal of Financial Engineering* 03:02, 1650018. [[Crossref](#)]
384. Mohammad Iftekhar Khan, Amit Banerji. 2016. Corporate Governance and Foreign Investment in India. *Indian Journal of Corporate Governance* 9:1, 19-43. [[Crossref](#)]
385. Robert East. 2016. Bias in the evaluation of research methods. *Marketing Theory* 16:2, 219-231. [[Crossref](#)]
386. ##, ###. 2016. Why Do Some Asset Pricing Models Perform Poorly? Evidence from Irrationality, Transaction Costs, and Missing Factors. *Seoul Journal of Business* 22:1, 1-64. [[Crossref](#)]
387. Carmine De Franco, Bruno Monnier, Ksenya Rulik. 2016. Factor Exposure of Alternative Beta Strategies across Market Regimes. *The Journal of Index Investing* 7:1, 78-91. [[Crossref](#)]
388. . Index 331-338. [[Crossref](#)]
389. . References 319-322. [[Crossref](#)]
390. Amabile Millani Rebeschini, Ricardo P. C. Leal. 2016. Stock Fund Returns and Macroeconomic Variables in Brazil. *Latin American Business Review* 17:2, 139-161. [[Crossref](#)]
391. Christian Fieberg, Armin Varmaz, Thorsten Poddig. 2016. Covariances vs. characteristics: what does explain the cross section of the German stock market returns?. *Business Research* 9:1, 27-50. [[Crossref](#)]
392. Mathijs Cosemans, Rik Frehen, Peter C. Schotman, Rob Bauer. 2016. Estimating Security Betas Using Prior Information Based on Firm Fundamentals. *Review of Financial Studies* 29:4, 1072-1112. [[Crossref](#)]
393. Iman Mirzadeh, Bjorn Birgisson. 2016. Evaluation of Highway Projects under Government Support Mechanisms Based on an Option-Pricing Framework. *Journal of Construction Engineering and Management* 142:4. . [[Crossref](#)]
394. Hakan Bilir. 2016. Finansal Varlıklar? Fiyatlama Modelinin Analizi. *International Journal of Finance & Banking Studies (2147-4486)* 5:2, 58-72. [[Crossref](#)]
395. Dawood Ashraf. 2016. Does Shari'ah Screening Cause Abnormal Returns? Empirical Evidence from Islamic Equity Indices. *Journal of Business Ethics* 134:2, 209-228. [[Crossref](#)]
396. Marshall L. Stocker. 2016. The price of freedom: A Fama–French freedom factor. *Emerging Markets Review* 26, 1-19. [[Crossref](#)]
397. . References 549-561. [[Crossref](#)]
398. Ton van den Bremer, Frederick van der Ploeg, Samuel Wills. 2016. The Elephant In The Ground: Managing Oil And Sovereign Wealth. *European Economic Review* 82, 113-131. [[Crossref](#)]
399. Ran Leshem, Lisa R. Goldberg, Alan Cummings. 2016. Optimizing Value. *The Journal of Portfolio Management* 42:2, 77-89. [[Crossref](#)]

400. Ran Leshem, Lisa R Goldberg, Alan Cummings. 2016. Optimizing Value. *The Journal of Portfolio Management* . [[Crossref](#)]
401. Pertti Lahdenperä. 2016. Preparing a framework for two-stage target-cost arrangement formulation. *International Journal of Managing Projects in Business* 9:1, 123-146. [[Crossref](#)]
402. Nikodem Szumilo, Pascal Gantenbein, Werner Gleißner, Thomas Wiegmann. 2016. Predicting uncertainty: the impact of risk measurement on value of real estate portfolios. *Journal of Property Research* 33:1, 1-17. [[Crossref](#)]
403. Jean-Luc Besson, Michel M. Dacorogna, Paolo de Martin, Michael Kastenholz, Michael Moller. How Much Capital Does a Reinsurance Need? 235-253. [[Crossref](#)]
404. Arlie O. Petters, Xiaoying Dong. Capital Market Theory and Portfolio Risk Measures 151-208. [[Crossref](#)]
405. Julius Hemminki, Vesa Puttonen. Fundamental Indexation in Europe 323-330. [[Crossref](#)]
406. Les Coleman. Current Paradigm: Neoclassical Investment Theory 15-28. [[Crossref](#)]
407. Mihály Ormos, Dusan Timotity. 2016. Generalized asset pricing: Expected Downside Risk-based equilibrium modeling. *Economic Modelling* 52, 967-980. [[Crossref](#)]
408. Peter C. Dawson. 2016. Is Opportunity Cost Synonymous with Cost of Capital and Required Rate of Return?: Untangling the Present Value Discount Rate. *SSRN Electronic Journal* 63. . [[Crossref](#)]
409. Elena N. Asparouhova, Peter Bossaerts. 2016. Competitive Off-Equilibrium: Theory and Experiment. *SSRN Electronic Journal* 115. . [[Crossref](#)]
410. Somayeh Moazeni. 2016. Risk-Averse Dynamic Arbitrage in Illiquid Markets. *SSRN Electronic Journal* 1. . [[Crossref](#)]
411. John L. Glascock. 2016. The Asymmetric Conditional Beta-Return Relations of REITs. *SSRN Electronic Journal* 63. . [[Crossref](#)]
412. Gregory Gadzinski, Markus Schuller, Andrea Vacchino. 2016. The Global Capital Stock. A Proxy for the Unobservable Global Market Portfolio. *SSRN Electronic Journal* 44. . [[Crossref](#)]
413. James Ming Chen. 2016. Baryonic Beta Dynamics: Splitting the Atom of Systematic Risk. *SSRN Electronic Journal* 587. . [[Crossref](#)]
414. Paul Schneider, Christian Wagner, Josef Zechner. 2016. Low Risk Anomalies?. *SSRN Electronic Journal* 98. . [[Crossref](#)]
415. Stefano Dova. 2016. From the CAPM to Fama-French: A Road Paved with Leverage. *SSRN Electronic Journal* 43. . [[Crossref](#)]
416. Nadiyah Amatul Haq, Alvina Syafira Fauzia, Anggun Puspita Khoirunnisa. 2016. Promoting Sustainable Financial System in Indonesia Towards SRI-KEHATI Index. *SSRN Electronic Journal* 18. . [[Crossref](#)]
417. Sabin Bikram Panta, Niranjana Phuyal, Rajesh Sharma, Gautam Vora. 2016. The Cross-Section of Stock Returns: An Application of Fama-French Approach to Nepal. *Modern Economy* 07:02, 223-231. [[Crossref](#)]
418. Nordine Abidi, Burcu Hacibedel, Mwanza Nkusu. 2016. Changing Times for Frontier Markets: A Perspective from Portfolio Investment Flows and Financial Integration. *IMF Working Papers* 16:177, 1. [[Crossref](#)]
419. Iman MIRZADEH, Bjorn BIRGISSON. 2015. ACCOMMODATING ENERGY PRICE VOLATILITY IN LIFE CYCLE COST ANALYSIS OF ASPHALT PAVEMENTS. *JOURNAL OF CIVIL ENGINEERING AND MANAGEMENT* 22:8, 1001-1008. [[Crossref](#)]
420. David Geltner. 2015. Real Estate Price Indices and Price Dynamics: An Overview from an Investments Perspective. *Annual Review of Financial Economics* 7:1, 615-633. [[Crossref](#)]

421. F. Echterling, B. Eierle, S. Ketterer. 2015. A review of the literature on methods of computing the implied cost of capital. *International Review of Financial Analysis* **42**, 235-252. [[Crossref](#)]
422. G. van Vuuren, R. Yacumakis. 2015. Hedge Fund Performance Evaluation Using the Kalman Filter. *Studies in Economics and Econometrics* **39**:3, 1-24. [[Crossref](#)]
423. Aris Spanos, Deborah G. Mayo. 2015. Error statistical modeling and inference: Where methodology meets ontology. *Synthese* **192**:11, 3533-3555. [[Crossref](#)]
424. Ozan Kocadağlı, Rıdvan Keskin. 2015. A novel portfolio selection model based on fuzzy goal programming with different importance and priorities. *Expert Systems with Applications* **42**:20, 6898-6912. [[Crossref](#)]
425. Gustavo A. Marrero, Luis A. Puch, Francisco J. Ramos-Real. 2015. Mean-variance portfolio methods for energy policy risk management. *International Review of Economics & Finance* **40**, 246-264. [[Crossref](#)]
426. Fabian T. Lutzenberger. 2015. Multifactor Models and their Consistency with the ICAPM: Evidence from the European Stock Market. *European Financial Management* **21**:5, 1014-1052. [[Crossref](#)]
427. C. A. Valle, N. Meade, J. E. Beasley. 2015. Factor neutral portfolios. *OR Spectrum* **37**:4, 843-867. [[Crossref](#)]
428. F. Echterling, B. Eierle. 2015. Mean reversion adjusted betas used in business valuation practice: a research note. *Journal of Business Economics* **85**:7, 759-792. [[Crossref](#)]
429. Marcelo Sandoval, Santiago Grijalva. Future grid business model innovation: A prosumer-based cost-benefit framework for valuation of Distributed Energy Resources 450-455. [[Crossref](#)]
430. . Bibliography 273-276. [[Crossref](#)]
431. . Bibliography 443-445. [[Crossref](#)]
432. Nazeeruddin Mohammad, Dawood Ashraf. 2015. The market timing ability and return performance of Islamic equities: An empirical study. *Pacific-Basin Finance Journal* **34**, 169-183. [[Crossref](#)]
433. Yasser Alhenawi. 2015. On the interaction between momentum effect and size effect. *Review of Financial Economics* **26**, 36-46. [[Crossref](#)]
434. Martin Širůček, Lukáš Křen. 2015. Application of Markowitz Portfolio Theory by Building Optimal Portfolio on the US Stock Market. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis* **63**:4, 1375-1386. [[Crossref](#)]
435. Harry S. Marmer. 2015. Fire! Fire! Is U.S. Low Volatility a Crowded Trade?. *The Journal of Investing* **24**:3, 17-37. [[Crossref](#)]
436. . References 321-329. [[Crossref](#)]
437. Yannick Malevergne, Didier Sornette. Multi-moment Method for Portfolio Management: Generalised Capital Asset Pricing Model in Homogeneous and Heterogeneous Markets 166-193. [[Crossref](#)]
438. K. J. Barnard, M. B. Bunting. 2015. Value and size investment strategies during the global financial crisis: evidence from the South African equity market. *South African Journal of Accounting Research* **29**:2, 177-196. [[Crossref](#)]
439. Richard A. Michelfelder. 2015. Empirical analysis of the generalized consumption asset pricing model: Estimating the cost of capital. *Journal of Economics and Business* **80**, 37-50. [[Crossref](#)]
440. Ruggiero Cavallo, R. Preston McAfee, Sergei Vassilvitskii. 2015. Display Advertising Auctions with Arbitrage. *ACM Transactions on Economics and Computation* **3**:3, 1-23. [[Crossref](#)]
441. Seungho Baek, John F.O. Bilson. 2015. Size and value risk in financial firms. *Journal of Banking & Finance* **55**, 295-326. [[Crossref](#)]
442. Yuntaek Pae, Navid Sabbaghi. 2015. Equally weighted portfolios vs value weighted portfolios: Reasons for differing betas. *Journal of Financial Stability* **18**, 203-207. [[Crossref](#)]

443. Shweta Bajpai, Anil K. Sharma. 2015. An Empirical Testing of Capital Asset Pricing Model in India. *Procedia - Social and Behavioral Sciences* **189**, 259-265. [[Crossref](#)]
444. Roger Buckland, Julian Williams, Janice Beecher. 2015. Risk and regulation in water utilities: a cross-country comparison of evidence from the CAPM. *Journal of Regulatory Economics* **47**:2, 117-145. [[Crossref](#)]
445. Lin Chen, Lu Qin, Hongquan Zhu. 2015. Opinion divergence, unexpected trading volume and stock returns: Evidence from China. *International Review of Economics & Finance* **36**, 119-127. [[Crossref](#)]
446. Philippe Bertrand, Vincent Lapointe. 2015. How performance of risk-based strategies is modified by socially responsible investment universe?. *International Review of Financial Analysis* **38**, 175-190. [[Crossref](#)]
447. Hersh Shefrin. 2015. Investors' Judgments, Asset Pricing Factors and Sentiment. *European Financial Management* **21**:2, 205-227. [[Crossref](#)]
448. Jan Bastin. 2015. Volatility Effect: An Application on the German Stock Market. *Český finanční a účetní časopis* **2015**:1, 36-54. [[Crossref](#)]
449. Peter C. Dawson. 2015. The capital asset pricing model in economic perspective. *Applied Economics* **47**:6, 569-598. [[Crossref](#)]
450. Jan Dopegieter. The Capital Asset Pricing Model 1-4. [[Crossref](#)]
451. Virginie Coudert, Karine Hervé, Pierre Mabilie. 2015. Internationalization Versus Regionalization in the Emerging Stock Markets. *International Journal of Finance & Economics* **20**:1, 16-27. [[Crossref](#)]
452. Dennis Schlegel. Background: Cost-of-Capital in the Finance Literature 9-70. [[Crossref](#)]
453. Marcus Schulmerich, Yves-Michel Leporcher, Ching-Hwa Eu. Modern Portfolio Theory and Its Problems 101-173. [[Crossref](#)]
454. Cherry Muijsson, Ed Fishwick, Steve Satchell. The Low Beta Anomaly and Interest Rates 305-328. [[Crossref](#)]
455. Maurício Vasconcellos Leão Lyrio, Wladimir Prates, Marcus Vinícius Andrade de Lima, Rogério João Lunkes. 2015. Análise da implementação de uma estratégia de investimento em ações baseada em um instrumento de apoio à decisão. *Contaduría y Administración* **60**:1, 113-143. [[Crossref](#)]
456. Usman Ayub, Syed Zulfiqar Ali Shah, Qaisar Abbas. 2015. Robust analysis for downside risk in portfolio management for a volatile stock market. *Economic Modelling* **44**, 86-96. [[Crossref](#)]
457. Josanco Floreani, Maurizio Polato, Andrea Paltrinieri, Flavio Pichler. Credit Quality, Bank Provisioning and Systematic Risk in Banking Business 1-34. [[Crossref](#)]
458. Federico Beltrame, Daniele Previtali, Luca Grasseti. The Estimation of Banks' Cost of Capital through the Capital at Risk Model: An Empirical Investigation across European Banks 35-65. [[Crossref](#)]
459. Nuraini Ismail, Mohd Tahir Ismail, Samsul Ariffin Abdul Karim, Firdaus Mohamad Hamzah. Modeling and forecasting the volatility of Islamic unit trust in Malaysia using GARCH model 050009. [[Crossref](#)]
460. Michael Olbrich, Tobias Quill, David J. Rapp. 2015. Business Valuation Inspired by the Austrian School. *Journal of Business Valuation and Economic Loss Analysis* **10**:1, 1-43. [[Crossref](#)]
461. Sven Carlin. 2015. A Real Value Risk Estimation Model for an Emerging Market. *SSRN Electronic Journal* **56**. . [[Crossref](#)]
462. Todd Gerarden, Richard G. Newell, Robert N. Stavins. 2015. Assessing the Energy-Efficiency Gap. *SSRN Electronic Journal* **101**. . [[Crossref](#)]
463. Christian-Oliver Ewald, Pariya Salehi. 2015. Salmon Futures and the Fish Pool Market in the Context of the CAPM and the Fama & French Three-Factor Model. *SSRN Electronic Journal* **8**. . [[Crossref](#)]

464. John Griffin. 2015. Risk Premia and Knightian Uncertainty in an Experimental Market Featuring a Long-Lived Asset. *SSRN Electronic Journal* 4. . [[Crossref](#)]
465. Danilo Tilloca. 2015. A Risk-Neutral Approach for the Evaluation of Commercial Loans. *SSRN Electronic Journal* 44. . [[Crossref](#)]
466. Todd Gerarden, Richard G. Newell, Robert N. Stavins. 2015. Assessing the Energy-Efficiency Gap. *SSRN Electronic Journal* 101. . [[Crossref](#)]
467. Ran Leshem, Lisa R. Goldberg, Alan Cummings. 2015. Optimizing Value. *SSRN Electronic Journal* 39. . [[Crossref](#)]
468. Daniel Felix Ahelegbey. 2015. The Econometrics of Networks: A Review. *SSRN Electronic Journal* 105. . [[Crossref](#)]
469. Piotr Wisniewski. 2015. The Valuation of Social Media Public Companies: There Is a Method to This Madness!. *SSRN Electronic Journal* 18. . [[Crossref](#)]
470. MMrio Correia Fernandes. 2015. An Application of Risk-Return Metrics on Public-Private Partnerships: The Case of Portuguese Road Sector. *SSRN Electronic Journal* 29. . [[Crossref](#)]
471. Marc K. Chan, Simon Kwok. 2015. The Effect of Risk Sharing on Asset Prices: Natural Experiment from the Chinese Stock Market Liberalization. *SSRN Electronic Journal* 55. . [[Crossref](#)]
472. Christoph Becker, Wolfgang M. Schmidt. 2015. Value, Size, Momentum and the Average Correlation of Stock Returns. *SSRN Electronic Journal* 31. . [[Crossref](#)]
473. Brandes Institute. 2015. Redefining Risk and Return in Common Stock Investment. *SSRN Electronic Journal* 14. . [[Crossref](#)]
474. Pablo Fernandez. 2015. CAPM: An Absurd Model. *Business Valuation Review* 34:1, 4-23. [[Crossref](#)]
475. Marie-Claude Beaulieu, Jean-Marie Dufour, Lynda Khalaf. 2015. Identification-Robust Factor Pricing: Canadian Evidence. *L'Actualité économique* 91:1-2, 235-252. [[Crossref](#)]
476. Petros Messis, Achilleas Zapranis. 2014. Asset pricing with time-varying betas for stocks traded on S&P 500. *Applied Economics* 46:36, 4508-4518. [[Crossref](#)]
477. Myuran Rajaratnam, Bala Rajaratnam, Kanshukan Rajaratnam. 2014. A novel equity valuation and capital allocation model for use by long-term value-investors. *Journal of Banking & Finance* 49, 483-494. [[Crossref](#)]
478. Petros Messis, Achilleas Zapranis. 2014. Herding towards higher moment CAPM, contagion of herding and macroeconomic shocks: Evidence from five major developed markets. *Journal of Behavioral and Experimental Finance* 4, 1-13. [[Crossref](#)]
479. Claudio Morana. 2014. Insights on the global macro-finance interface: Structural sources of risk factor fluctuations and the cross-section of expected stock returns. *Journal of Empirical Finance* 29, 64-79. [[Crossref](#)]
480. Robin Zorzi, Bettina Friedl. 2014. The Optimal Hedge Ratio — An Analytical Decision Model Considering Periodical Accounting Constraints. *Review of Pacific Basin Financial Markets and Policies* 17:04, 1450024. [[Crossref](#)]
481. Aidan Parkinson, Peter Guthrie. 2014. Evaluating the energy performance of buildings within a value at risk framework with demonstration on UK offices. *Applied Energy* 133, 40-55. [[Crossref](#)]
482. Janick Christian Mollet, Andreas Ziegler. 2014. Socially responsible investing and stock performance: New empirical evidence for the US and European stock markets. *Review of Financial Economics* 23:4, 208-216. [[Crossref](#)]
483. Marek Kolodziej, Robert K. Kaufmann, Nalin Kulatilaka, David Bicchetti, Nicolas Maystre. 2014. Crude oil: Commodity or financial asset?. *Energy Economics* 46, 216-223. [[Crossref](#)]

484. Sangwon Suh, Wonho Song, Bong-Soo Lee. 2014. A new method for forming asset pricing factors from firm characteristics. *Applied Economics* **46**:28, 3463-3482. [[Crossref](#)]
485. Pei-Tha Gan. 2014. The precise form of financial integration: Empirical evidence for selected Asian countries. *Economic Modelling* **42**, 208-219. [[Crossref](#)]
486. Mario Filiasi, Giacomo Livan, Matteo Marsili, Maria Peressi, Erik Vesselli, Elia Zarinelli. 2014. On the concentration of large deviations for fat tailed distributions, with application to financial data. *Journal of Statistical Mechanics: Theory and Experiment* **2014**:9, P09030. [[Crossref](#)]
487. Mary E. Barth, Eric C. So. 2014. Non-Diversifiable Volatility Risk and Risk Premiums at Earnings Announcements. *The Accounting Review* **89**:5, 1579-1607. [[Crossref](#)]
488. Terry Benzschawel,, Liang Fu,, Austin Murphy. 2014. An Empirical Analysis of Segmented Pricing of Bond Systematic Risk. *Credit and Capital Markets – Kredit und Kapital* **47**:3, 439-464. [[Crossref](#)]
489. Carolin Fritzsche,, Lars Vandre. 2014. Keiner will sie haben – Theoretische Ursachen für Immobilienleerstand. *Credit and Capital Markets – Kredit und Kapital* **47**:3, 465-483. [[Crossref](#)]
490. Richard A. Michelfelder. 2014. Asset characteristics of solar renewable energy certificates: market solution to encourage environmental sustainability. *Journal of Sustainable Finance & Investment* **4**:3, 280-296. [[Crossref](#)]
491. J. Augusto Felício, Irina Ivashkovskaya, Ricardo Rodrigues, Anastasia Stepanova. 2014. Corporate governance and performance in the largest European listed banks during the financial crisis. *Innovar* **24**:53, 83-98. [[Crossref](#)]
492. Duc Hung Tran. 2014. Multiple corporate governance attributes and the cost of capital – Evidence from Germany. *The British Accounting Review* **46**:2, 179-197. [[Crossref](#)]
493. Urs von Arx, Andreas Ziegler. 2014. The effect of corporate social responsibility on stock performance: new evidence for the USA and Europe. *Quantitative Finance* **14**:6, 977-991. [[Crossref](#)]
494. Austin Murphy, Liang Fu, Terry Benzschawel. 2014. An Empirical Examination of Ex Ante Estimates of the Market Risk Premium. *The Journal of Investing* **23**:2, 51-58. [[Crossref](#)]
495. Debasish Majumder. 2014. Asset pricing for inefficient markets: Evidence from China and India. *The Quarterly Review of Economics and Finance* **54**:2, 282-291. [[Crossref](#)]
496. . Bibliography 1213-1238. [[Crossref](#)]
497. Yi-Cheng Shih, Sheng-Syan Chen, Cheng-Few Lee, Po-Jung Chen. 2014. The evolution of capital asset pricing models. *Review of Quantitative Finance and Accounting* **42**:3, 415-448. [[Crossref](#)]
498. Kao-Yi Shen, Min-Ren Yan, Gwo-Hshiung Tzeng. 2014. Combining VIKOR-DANP model for glamor stock selection and stock performance improvement. *Knowledge-Based Systems* **58**, 86-97. [[Crossref](#)]
499. Madhu Acharyya, Chris Brady. 2014. Designing an Enterprise Risk Management Curriculum for Business Studies: Insights From a Pilot Program. *Risk Management and Insurance Review* **17**:1, 113-136. [[Crossref](#)]
500. Christoph Schwarzbach, Frederik Kunze, Norman Rudschuck, Torsten Windels. 2014. Stock investments for German life insurers in the current low interest environment: more homework to do. *Zeitschrift für die gesamte Versicherungswissenschaft* **103**:1, 45-63. [[Crossref](#)]
501. Ekaterina Svetlova. 2014. Modelling Beyond Application: Epistemic and Non-epistemic Values in Modern Science. *International Studies in the Philosophy of Science* **28**:1, 79-98. [[Crossref](#)]
502. Katsiaryna Salavei Bardos, Dev Mishra. 2014. Financial restatements, litigation and implied cost of equity. *Applied Financial Economics* **24**:1, 51-71. [[Crossref](#)]
503. René Aid. A Review of Optimal Investment Rules in Electricity Generation 3-40. [[Crossref](#)]
504. Stefan Behringer. Kennzahlen im Konzerncontrolling 89-132. [[Crossref](#)]

505. Nicholas Apergis, James E. Payne. 2014. Resurrecting the size effect: Evidence from a panel nonlinear cointegration model for the G7 stock markets. *Review of Financial Economics* 23:1, 46-53. [[Crossref](#)]
506. Hersh Shefrin. Distinguishing Rationality and Bias in Prices: Implications from Judgments of Risk and Expected Return 7-49. [[Crossref](#)]
507. Alfonso A. Rojo-Ramírez. 2014. Privately Held Company Valuation and Cost of Capital. *Journal of Business Valuation and Economic Loss Analysis* 9:1, 1-21. [[Crossref](#)]
508. Pablo Koch-Medina, Jan Wenzelburger. 2014. Equilibria in the CAPM with Nontradeable Endowments. *SSRN Electronic Journal* 59. . [[Crossref](#)]
509. Arun Muralidhar, Kazuhiko Ohashi, Sung Hwan Shin. 2014. The Relative Asset Pricing Model: The Third Dimension. *SSRN Electronic Journal* 67. . [[Crossref](#)]
510. Robert F. Engle. 2014. Dynamic Conditional Beta. *SSRN Electronic Journal* 102. . [[Crossref](#)]
511. Ian Kaplan. 2014. Value Factors Do Not Forecast Returns for S&P 500 Stocks. *SSRN Electronic Journal* 68. . [[Crossref](#)]
512. Marcio Andre Veras Machado, MMrcia Reis Machado. 2014. Liquidity and Asset Pricing: Evidence from the Brazilian Market. *SSRN Electronic Journal* 20. . [[Crossref](#)]
513. Myuran Rajaratnam, Christo J. Auret, Robert William Vivian. 2014. Bashing Barmy Banks: Rethinking Bank Valuation Models Post the Global Financial Crisis (GFC). *SSRN Electronic Journal* 14. . [[Crossref](#)]
514. Abel Rodriguez, Ziwei Wang, Athanasios Kottas. 2014. Assessing Systematic Risk in the S&P500 Index between 2000 and 2011: A Bayesian Nonparametric Approach. *SSRN Electronic Journal* 1. . [[Crossref](#)]
515. Roberto Savona, Cesare Orsini. 2014. Taking the Right Course Navigating the ERC Universe. *SSRN Electronic Journal* 91. . [[Crossref](#)]
516. William R. Pratt, Gokce Soydemir, Elena Bastida. 2014. Global Convergence of Health Care Financing in OECD Countries: An Equilibrium Based Asset Pricing Approach. *SSRN Electronic Journal* 22. . [[Crossref](#)]
517. Arun Muralidhar. 2014. Modern Prospect Theory: The Missing Link Between Modern Portfolio Theory and Prospect Theory. *SSRN Electronic Journal* 27. . [[Crossref](#)]
518. ZZlia Cazalet, Thierry Roncalli. 2014. Facts and Fantasies About Factor Investing. *SSRN Electronic Journal* 77. . [[Crossref](#)]
519. Yasser Alhenawi. 2014. On the Interaction between Momentum Effect and Size Effect. *SSRN Electronic Journal* 9. . [[Crossref](#)]
520. Paola De Santis, Carlo Drago. 2014. Systematic Risk Asymmetry of the American Real Estate Securities: Some New Econometric Evidences. *SSRN Electronic Journal* 117. . [[Crossref](#)]
521. David Geltner. 2014. Real Estate Price Indices and Price Dynamics: An Overview from an Investments Perspective. *SSRN Electronic Journal* 19. . [[Crossref](#)]
522. Siti Hajar Nadrah Mohamad Ghouse, Noryati Ahmad. 2014. Conceptual Paper of the Trading Strategy: Dogs of the Dow Theory (Dod). *SSRN Electronic Journal* 25. . [[Crossref](#)]
523. Lynda Khalaf. 2014. L'économétrie et l'évidence fallacieuse : erreurs et avancées. *L'Actualité économique* 90:1, 5. [[Crossref](#)]
524. Stefan Lutz, Daniel Kleinfeldt. 2013. Risk as Determinant of Income and Cross-border Pricing of Multinational Enterprises. *Studies in Microeconomics* 1:2, 185-212. [[Crossref](#)]
525. Andrew Walsh. 2013. Core-Satellite Strategies: Combining Stability and Opportunity in an ETF Portfolio. *The Journal of Index Investing* 4:3, 50-53. [[Crossref](#)]

526. Andrés Mauricio Gómez Sánchez, José Gabriel Astaiza Gómez. 2013. Ciclo económico y prima por riesgo en el mercado accionario colombiano. *Ecos de Economía* 17:37, 109-124. [[Crossref](#)]
527. Antonina Waszczuk. 2013. Do local or global risk factors explain the size, value and momentum trading pay-offs on the Warsaw Stock Exchange?. *Applied Financial Economics* 23:19, 1497-1508. [[Crossref](#)]
528. Shima Lashgari, Jurgita Antuchevičienė, Alireza Delavari, Omid Kheirkhah. 2013. BEYOND CAPM: AN INNOVATIVE FACTOR MODEL TO OPTIMIZE THE RISK AND RETURN TRADE-OFF. *Journal of Business Economics and Management* 15:4, 615-630. [[Crossref](#)]
529. Andreas Ehrenmann, Yves Smeers. 2013. Risk adjusted discounted cash flows in capacity expansion models. *Mathematical Programming* 140:2, 267-293. [[Crossref](#)]
530. Bastiaan Pluijmers, Imke Hollander, Ramon Tol, Dimitris Melas. 2013. On the Commonality of Characteristics of Managed Volatility Portfolios. *The Journal of Investing* 22:3, 86-98. [[Crossref](#)]
531. Stefan Lutz. 2013. Risk premia in multi-national enterprises. *The North American Journal of Economics and Finance* 25, 293-305. [[Crossref](#)]
532. Markus Ampenberger, Thomas Schmid, Ann-Kristin Achleitner, Christoph Kaserer. 2013. Capital structure decisions in family firms: empirical evidence from a bank-based economy. *Review of Managerial Science* 7:3, 247-275. [[Crossref](#)]
533. YongHee Kim, MinChung Kim, John W. O'Neill. 2013. Advertising and Firm Risk: A Study of the Restaurant Industry. *Journal of Travel & Tourism Marketing* 30:5, 455-470. [[Crossref](#)]
534. M.-C. Beaulieu, J.-M. Dufour, L. Khalaf. 2013. Identification-Robust Estimation and Testing of the Zero-Beta CAPM. *The Review of Economic Studies* 80:3, 892-924. [[Crossref](#)]
535. Paulo Augusto P. Britto, Carlos Henrique Rocha. 2013. Determinação do valor da tarifa-leilão do serviço de transporte de passageiros por ônibus: um modelo alternativo. *Journal of Transport Literature* 7:3, 177-191. [[Crossref](#)]
536. Will Gans, Beat Hintermann. 2013. Market Effects of Voluntary Climate Action by Firms: Evidence from the Chicago Climate Exchange. *Environmental and Resource Economics* 55:2, 291-308. [[Crossref](#)]
537. Jaspal Singh, Kiranpreet Kaur. 2013. Testing the Performance of Graham's Net Current Asset Value Strategy in Indian Stock Market. *Asia-Pacific Journal of Management Research and Innovation* 9:2, 171-179. [[Crossref](#)]
538. John H. Hall, Wim Westerman. Basic Risk Adjustment Techniques in Capital Budgeting 215-239. [[Crossref](#)]
539. Robert B. Durand, Rick Newby, Leila Peggs, Michelle Siekierka. 2013. Personality. *Journal of Behavioral Finance* 14:2, 116-133. [[Crossref](#)]
540. Pertti Lahdenperä. 2013. Determining 'the most economically advantageous tender' based on capability and fee-percentage criteria. *Journal of Public Procurement* 13:4, 409-446. [[Crossref](#)]
541. Nicholas C. Barberis. 2013. Thirty Years of Prospect Theory in Economics: A Review and Assessment. *Journal of Economic Perspectives* 27:1, 173-196. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]
542. L. Peter Jennergren. 2013. Firm Valuation with Bankruptcy Risk. *Journal of Business Valuation and Economic Loss Analysis* 8:1. . [[Crossref](#)]
543. Jian Zhou. 2013. Conditional market beta for REITs: A comparison of modeling techniques. *Economic Modelling* 30, 196-204. [[Crossref](#)]
544. Nicolai Striewe, Nico Rottke, Joachim Zietz. 2013. The Impact of Institutional Ownership on REIT Performance. *Journal of Real Estate Portfolio Management* 19:1, 17-30. [[Crossref](#)]
545. Imad A. Moosa. 2013. The Capital Asset Pricing Model (CAPM): The History of a Failed Revolutionary Idea in Finance? Comments and Extensions. *Abacus* 49, 62-68. [[Crossref](#)]

546. Arun Muralidhar, Kazuhiko Ohashi, Sung Hwan Shin. 2013. LDI: Does it Turn CAPM into RAPM?. *SSRN Electronic Journal* 19. . [\[Crossref\]](#)
547. Marcio Andre Veras Machado, Otavio Ribeiro de Medeiros. 2013. Does the Liquidity Effect Exist in the Brazilian Stock Market?. *SSRN Electronic Journal* 20. . [\[Crossref\]](#)
548. Argiro Svingou. 2013. Cross-Sectional Analysis of Stock Returns in Athens Stock Exchange for the Period 2004-2011. *SSRN Electronic Journal* 9. . [\[Crossref\]](#)
549. Issam S. Strub. 2013. Tail Hedging Strategies. *SSRN Electronic Journal* 62. . [\[Crossref\]](#)
550. Gueorgui I. Kolev. 2013. Two Gold Return Puzzles. *SSRN Electronic Journal* 52. . [\[Crossref\]](#)
551. Philippe Bertrand, Vincent Lapointe. 2013. Socially Responsible Investment Performance: Impacts of Weighting by Capitalization. *SSRN Electronic Journal* 17. . [\[Crossref\]](#)
552. Peter C. Dawson. 2013. An Economic Analysis of the Competitive Risk-Return Paradigm. *SSRN Electronic Journal* 39. . [\[Crossref\]](#)
553. Eben Otuteye, Mohammad Siddiquee. 2013. Redefining Risk: Propositions to Motivate a Re-Examination of the Standard Risk vs. Return Relationship in Common Stock and Bond Portfolio Management. *SSRN Electronic Journal* 14. . [\[Crossref\]](#)
554. Sabine Elmiger. 2013. Can CRRA Preferences Explain CAPM-Anomalies in the Cross-Section of Stock Returns?. *SSRN Electronic Journal* 9. . [\[Crossref\]](#)
555. Deling Chen. 2013. Empirical Analysis of Stock Returns of Banks in China's A-Share Markets. *SSRN Electronic Journal* 2. . [\[Crossref\]](#)
556. Muthucattu Thomas Paul, Fosuhene Akua Asarebea. 2013. Validity of the Capital Assets Pricing Model: Evidence from the Indian Companies The NSE India. *SSRN Electronic Journal* 7. . [\[Crossref\]](#)
557. Jialiu Lu. 2013. The CAPM: A Reformulation. *SSRN Electronic Journal* 31. . [\[Crossref\]](#)
558. Kevin Kurt Robinson. 2013. Technical Analysis: Does Recent Market Data Substantiate the Efficient Market Hypothesis?. *SSRN Electronic Journal* 27. . [\[Crossref\]](#)
559. Dinh Tran Ngoc Huy. 2013. The risk level of Vietnam non-banking investment and financial services industry under financial leverage during and after the global crisis 2007-2011. *Risk Governance and Control: Financial Markets and Institutions* 3:3, 48-55. [\[Crossref\]](#)
560. Joseph A. Cerniglia, Petter N. Kolm, Frank J. Fabozzi. Cross-Sectional Factor-Based Models and Trading Strategies . [\[Crossref\]](#)
561. Hans Marius Eikseth, Snorre Lindset. 2012. Are taxes sufficient for CAPM rejection?. *Applied Economics Letters* 19:18, 1813-1816. [\[Crossref\]](#)
562. Michael McKenzie, Ólan T. Henry. 2012. The determinants of short selling: evidence from the Hong Kong equity market. *Accounting & Finance* 52, 183-216. [\[Crossref\]](#)
563. Mohamed El Hedi Aroui, Duc Khuong Nguyen, Kuntara Pukthuanthong. 2012. An international CAPM for partially integrated markets: Theory and empirical evidence. *Journal of Banking & Finance* 36:9, 2473-2493. [\[Crossref\]](#)
564. Moshe Levy. 2012. On the Spurious Correlation Between Sample Betas and Mean Returns. *Applied Mathematical Finance* 19:4, 341-360. [\[Crossref\]](#)
565. Feng-jun Liu. An examination of CAPM based on data from Shenzhen Stock Exchange 1560-1566. [\[Crossref\]](#)
566. S. Maier, A. Street. Model for the economic feasibility of energy recovery from municipal solid waste in Brazil 1-10. [\[Crossref\]](#)
567. Saumya Ranjan Dash, Jitendra Mahakud. 2012. Investor sentiment, risk factors and stock return: evidence from Indian non-financial companies. *Journal of Indian Business Research* 4:3, 194-218. [\[Crossref\]](#)

568. Tony Chieh-Tse Hou. 2012. Return persistence and investment timing decisions in Taiwanese domestic equity mutual funds. *Managerial Finance* **38**:9, 873-891. [[Crossref](#)]
569. Iftekhar Hasan, Heiko Schmiedel, Liang Song. 2012. Returns to Retail Banking and Payments. *Journal of Financial Services Research* **41**:3, 163-195. [[Crossref](#)]
570. Raul Leote de Carvalho, Xiao Lu, Pierre Moulin. 2012. Demystifying Equity Risk-Based Strategies: A Simple Alpha plus Beta Description. *The Journal of Portfolio Management* **38**:3, 56-70. [[Crossref](#)]
571. Xiao Lu, Pierre Moulin. 2012. Demystifying Equity Risk-Based Strategies: A Simple Alpha plus Beta Description. *The Journal of Portfolio Management* 120308233706009. [[Crossref](#)]
572. Manfred Gilli, Enrico Schumann. 2012. Heuristic optimisation in financial modelling. *Annals of Operations Research* **193**:1, 129-158. [[Crossref](#)]
573. Amit Goyal. 2012. Empirical cross-sectional asset pricing: a survey. *Financial Markets and Portfolio Management* **26**:1, 3-38. [[Crossref](#)]
574. Mohamed El Hedi Arouri, Philippe Foulquier. 2012. Financial market integration: Theory and empirical results. *Economic Modelling* **29**:2, 382-394. [[Crossref](#)]
575. Alexandros Kostakis, Kashif Muhammad, Antonios Siganos. 2012. Higher co-moments and asset pricing on London Stock Exchange. *Journal of Banking & Finance* **36**:3, 913-922. [[Crossref](#)]
576. Melih Madanoglu, Murat Kizildag, Ersem Karadag. 2012. Estimating Cost of Equity in the Restaurant Industry: What IS Your Required Rate of Return?. *The Journal of Hospitality Financial Management* **20**:1, 57-74. [[Crossref](#)]
577. Roger Dayala. 2012. The Capital Asset Pricing Model: A Fundamental Critique. *Business Valuation Review* **31**:1, 23-34. [[Crossref](#)]
578. Konstantinos A. Chrysafis. 2012. Corporate investment appraisal with possibilistic CAPM. *Mathematical and Computer Modelling* **55**:3-4, 1041-1050. [[Crossref](#)]
579. Zhi Da, Re-Jin Guo, Ravi Jagannathan. 2012. CAPM for estimating the cost of equity capital: Interpreting the empirical evidence. *Journal of Financial Economics* **103**:1, 204-220. [[Crossref](#)]
580. Woraphon Wattanatorn, Termkiat Kanchanapoom. 2012. Oil Prices and Profitability Performance: Sector Analysis. *Procedia - Social and Behavioral Sciences* **40**, 763-767. [[Crossref](#)]
581. Fernando Gómez-Bezares, Luis Ferruz, María Vargas. 2012. Can we beat the market with beta? An intuitive test of the CAPM. *Spanish Journal of Finance and Accounting / Revista Española de Financiación y Contabilidad* **41**:155, 333-352. [[Crossref](#)]
582. Mary E. Barth, Eric C. So. 2012. Non-Diversifiable Volatility Risk and Risk Premiums at Earnings Announcements. *SSRN Electronic Journal* **44**. . [[Crossref](#)]
583. Giuseppe Marzo. 2012. A Theory-of-The-Firm Perspective on Discount Rates Formulation in Investment Valuation. *SSRN Electronic Journal* **9**. . [[Crossref](#)]
584. Jun Yuan, Leonard MacLean, Kuan Xu, Yonggan Zhao. 2012. How Do Local Markets Respond to Global Risk Factor Differently in Various Market Regimes? A Study of Country Exchange Traded Funds. *SSRN Electronic Journal* **61**. . [[Crossref](#)]
585. Matthias Xaver Hanauer, Christoph Kaserer, Marc Steffen Rapp. 2012. Risikofaktoren und Multifaktormodelle für den Deutschen Aktienmarkt (Risk Factors and Multi-Factor Models for the German Stock Market). *SSRN Electronic Journal* **45**. . [[Crossref](#)]
586. Min Bai. 2012. Short-Selling Status and Asset-Pricing Models. *SSRN Electronic Journal* **9**. . [[Crossref](#)]
587. Mike Ward, Chris Muller. 2012. Empirical Testing of the CAPM on the Johannesburg Stock Exchange. *SSRN Electronic Journal* **61**. . [[Crossref](#)]

588. M. Hashem Pesaran, Takashi Yamagata. 2012. Testing CAPM with a Large Number of Assets. *SSRN Electronic Journal* 44. . [\[Crossref\]](#)
589. Zvika Afik, Yaron Lahav. 2012. Risk Transfer Valuation in Advance Pricing Agreements between Multinational Enterprises and Tax Authorities. *SSRN Electronic Journal* 26. . [\[Crossref\]](#)
590. Lord Mensah, R. K. Avuglah, Vincent Dedu. 2012. Asset Allocation on the Ghana Stock Exchange. *SSRN Electronic Journal* 18. . [\[Crossref\]](#)
591. Gohar G. Stepanyan. 2012. Revisiting Firm Life Cycle Theory for New Directions in Finance. *SSRN Electronic Journal* 81. . [\[Crossref\]](#)
592. Myuran Rajaratnam, Balakanapathy Rajaratnam, Kanshukan Rajaratnam. 2012. Mauling Mr. Market: Valuing Equity Capital of Businesses by Long-Term Value-Investors. *SSRN Electronic Journal* 33. . [\[Crossref\]](#)
593. David Nanigian. 2012. Capitalizing on the Greatest Anomaly in Finance with Mutual Funds. *SSRN Electronic Journal* 67. . [\[Crossref\]](#)
594. Saumya Ranjan Dash. 2012. Does Sentiment Risk Persist as Priced Risk Factor? A Multifactor Approach for Stock Return. *SSRN Electronic Journal* 5. . [\[Crossref\]](#)
595. Stefan Lutz. 2012. Risk Premia in Multi-National Enterprises. *SSRN Electronic Journal* 18. . [\[Crossref\]](#)
596. Arun Muralidhar, Sung Hwan Shin. 2012. The Relative Asset Pricing Model Incorporating Liabilities and Delegation to CIOs: Version 0.1. *SSRN Electronic Journal* `jou_vol[1].xmlText`. . [\[Crossref\]](#)
597. Thierry Roncalli, Guillaume Weisang. 2012. Risk Parity Portfolios with Risk Factors. *SSRN Electronic Journal* 52. . [\[Crossref\]](#)
598. Roman Brückner, Patrick Lehmann, Richard Stehle. 2012. In Germany the CAPM is Alive and Well. *SSRN Electronic Journal* 44. . [\[Crossref\]](#)
599. Nicholas Barberis. 2012. Thirty Years of Prospect Theory in Economics: A Review and Assessment. *SSRN Electronic Journal* 46. . [\[Crossref\]](#)
600. Fabian Echterling, Brigitte Eierle. 2012. Implied Cost of Capital Under Heterogeneous Expectations. *SSRN Electronic Journal* 18. . [\[Crossref\]](#)
601. javed bin kamal. 2012. Optimal Portfolio Selection in Ex Ante Stock Price Bubble and Furthermore Bubble Burst Scenario from Dhaka Stock Exchange with Relevance to Sharpe's Single Index Model. *SSRN Electronic Journal* 31. . [\[Crossref\]](#)
602. Juan Mascareñas. 2012. Gestión De Carteras Ii: Modelo De Valoración De Activos (Portfolio Management II: Capital Asset Pricing Model). *SSRN Electronic Journal* 47. . [\[Crossref\]](#)
603. Wilson N. Sy. 2012. Scale and Competition in Australian Superannuation. *SSRN Electronic Journal* 3. . [\[Crossref\]](#)
604. Yi-Jang Yu. 2012. The Asset Pricing System. *Modern Economy* 03:05, 473-480. [\[Crossref\]](#)
605. Pauline M. Ahern, Frank J. Hanley, Richard A. Michelfelder. 2011. New approach to estimating the cost of common equity capital for public utilities. *Journal of Regulatory Economics* 40:3, 261-278. [\[Crossref\]](#)
606. Steve Keen. 2011. Debunking Macroeconomics. *Economic Analysis and Policy* 41:3, 147-167. [\[Crossref\]](#)
607. Akhilesh Chandra, Alan Reinstein. 2011. Investment appeal of small growth stocks. *Advances in Accounting* 27:2, 308-317. [\[Crossref\]](#)
608. Mathijs A. van Dijk. 2011. Is size dead? A review of the size effect in equity returns. *Journal of Banking & Finance* 35:12, 3263-3274. [\[Crossref\]](#)
609. A Charteris, B Strydom. 2011. An Examination of the Volatility of South African Risk-Free Rate Proxies: A Component Garch Analysis. *Studies in Economics and Econometrics* 35:3, 49-64. [\[Crossref\]](#)

610. Andreas Ziegler, Timo Busch, Volker H. Hoffmann. 2011. Disclosed corporate responses to climate change and stock performance: An international empirical analysis. *Energy Economics* 33:6, 1283-1294. [[Crossref](#)]
611. Ajit Dayanandan, Han Donker. 2011. Oil prices and accounting profits of oil and gas companies. *International Review of Financial Analysis* 20:5, 252-257. [[Crossref](#)]
612. Fengjun Liu. Can the Industry Index Become Another Market Variable? Empirical Evidence from the Listed Banks in Shanghai Stock Exchange 315-319. [[Crossref](#)]
613. S. Paulo. 2011. The South African Companies Act of 2008 (SACA2008), and the Sarbanes-Oxley Act of 2002. *International Journal of Law and Management* 53:5, 340-354. [[Crossref](#)]
614. Gerald Spindler. 2011. Behavioural Finance and Investor Protection Regulations. *Journal of Consumer Policy* 34:3, 315-336. [[Crossref](#)]
615. Liu Feng-jun, Li Fei. Empirical study of investment performance on listed banks from Shanghai Stock Exchange based on one-quarter holding period 932-937. [[Crossref](#)]
616. Norliza Muhamad Yusof, Maheran Mohd. Jaffar. Predicting the credit risk through Merton model 162-166. [[Crossref](#)]
617. TAEJUN DAVID LEE, ERIC HALEY, TAI WOONG YUN, WONJUN CHUNG. 2011. US Retirement Financial Services Advertising's Financial Information Provisions, Communication Strategies and Judgmental Heuristic Cues. *Journal of Consumer Affairs* 45:3, 391-418. [[Crossref](#)]
618. Baibing Li, Xiangkang Yin. 2011. Information and capital asset pricing. *The European Journal of Finance* 17:7, 505-523. [[Crossref](#)]
619. Cristian Diego Albuja, Fabio Gallo Garcia, Luiz Maurício Franco Moreiras, Elmo Tambosi Filho. 2011. Onde investir nos BRICS? Uma análise sob o prisma da organização industrial. *Revista de Administração de Empresas* 51:4, 349-369. [[Crossref](#)]
620. Mohamed El Hedi Arouri. 2011. Does crude oil move stock markets in Europe? A sector investigation. *Economic Modelling* 28:4, 1716-1725. [[Crossref](#)]
621. Konstantinos Kassimatis. 2011. Risk Aversion with Local Risk Seeking and Stock Returns: Evidence from the UK Market. *Journal of Business Finance & Accounting* 38:5-6, 713-739. [[Crossref](#)]
622. Duc Hung Tran. 2011. Corporate Governance und Eigenkapitalkosten - Bestandsaufnahme des Schrifttums unter besonderer Berücksichtigung des Informationsaspektes und Forschungsperspektiven. *Zeitschrift für Betriebswirtschaft* 81:5, 551-585. [[Crossref](#)]
623. Tanja Hribernik, Uroš Vek. 2011. Mutual Fund Performance in Slovenia: An Analysis of Mutual Funds with Investment Policies in Europe and the Energy Sector. *South East European Journal of Economics and Business* 6:1, 61-69. [[Crossref](#)]
624. Simon Huston, Clive Warren, Peter Elliott. 2011. Elixir or delusion. *Journal of Property Investment & Finance* 29:1, 49-58. [[Crossref](#)]
625. . Bibliography 563-576. [[Crossref](#)]
626. Robert B. Durand, Yihui Lan, Andrew Ng. 2011. Conditional beta: Evidence from Asian emerging markets. *Global Finance Journal* 22:2, 130-153. [[Crossref](#)]
627. Amir Amel-Zadeh. 2011. The Return of the Size Anomaly: Evidence from the German Stock Market. *European Financial Management* 17:1, 145-182. [[Crossref](#)]
628. Michael A. Crain. 2011. A Literature Review of the Size Effect. *SSRN Electronic Journal* 5. . [[Crossref](#)]
629. Marie-Claude Beaulieu, Jean-Marie Dufour, Lynda Khalaf. 2011. Identification-Robust Estimation and Testing of the Zero-Beta CAPM. *SSRN Electronic Journal* 14. . [[Crossref](#)]
630. Mohammad Ali Tareq, Saburo Horimoto. 2011. Can We Use Historical Mean Returns?. *SSRN Electronic Journal* 28. . [[Crossref](#)]

631. Alfonso A. Rojo Rojo-Ramirez, Salvador Cruz-Rambaud Cruz-Rambaud, Juana Alonso Canadas. 2011. A Note on the Operating Return of a Company Under Modigliani-Miller Assumptions. *SSRN Electronic Journal* **60**. . [[Crossref](#)]
632. Lammertjan Dam, Pim Heijnen. 2011. Asset Pricing with Fixed Asset Supply. *SSRN Electronic Journal* **45**. . [[Crossref](#)]
633. Maria de Lourdes Trevino. 2011. Time Varying Arbitrage Pricing Factors in the Mexican Stock Market. *SSRN Electronic Journal* **5**. . [[Crossref](#)]
634. Baitshapi Tebogo. 2011. Valuing Securities and Managing Portfolios Under Uncertainty: A Reminder of the Underlying Assumptions. *SSRN Electronic Journal* **25**. . [[Crossref](#)]
635. Myuran Rajaratnam, Balakanapathy Rajaratnam, Kanshukan Rajaratnam. 2011. Murdering Mr. Market: An Equity Valuation and Capital Allocation Model for Long-Term Value-Investors. *SSRN Electronic Journal* **81**. . [[Crossref](#)]
636. Linda H. Chen, Lucia Silva Gao. 2011. The Pricing of Climate Risk. *SSRN Electronic Journal* **47**. . [[Crossref](#)]
637. Stefan Lutz. 2011. Simultaneous Determination of Market Value and Risk Premium in the Valuation of Firms. *SSRN Electronic Journal* **5**. . [[Crossref](#)]
638. Muhammad Hanif, Abubakar Javaid Dar. 2011. Comparative Testing of Capital Asset Pricing Model (CAPM) and Shari'a Compliant Asset Pricing Model (SCAPM): Evidence from Karachi Stock Exchange - Pakistan. *SSRN Electronic Journal* **18**. . [[Crossref](#)]
639. Tony Berrada, Reda Jürg Messikh, Gianluca Oderda, Olivier V. Pictet. 2011. Beta-Arbitrage Strategies: When Do They Work, and Why?. *SSRN Electronic Journal* **9**. . [[Crossref](#)]
640. Alfonso A. Rojo Rojo-Ramirez, Juana Alonso Canadas, Salvador Cruz-Rambaud Cruz-Rambaud. 2011. Discount Rate and Cost of Capital: Some More about the Puzzle. *SSRN Electronic Journal* **46**. . [[Crossref](#)]
641. Nagendra Marisetty. 2011. An Empirical Study on CAPM with Respect to NSE NIFTY Stocks. *SSRN Electronic Journal* **18**. . [[Crossref](#)]
642. Martin Grandes, Demian T. Panigo, Ricardo A. Pasquini. 2010. On the estimation of the cost of equity in Latin America. *Emerging Markets Review* **11**:4, 373-389. [[Crossref](#)]
643. Young-Soon Hwang, Hong-Ghi Min, Judith A. McDonald, Hwagyun Kim, Bong-Han Kim. 2010. Using the credit spread as an option-risk factor: Size and value effects in CAPM. *Journal of Banking & Finance* **34**:12, 2995-3009. [[Crossref](#)]
644. Ravi Jagannathan, Ernst Schaumburg, Guofu Zhou. 2010. Cross-Sectional Asset Pricing Tests. *Annual Review of Financial Economics* **2**:1, 49-74. [[Crossref](#)]
645. Maria Elena De Giuli, Mario Alessandro Maggi, Claudia Tarantola. 2010. Bayesian outlier detection in Capital Asset Pricing Model. *Statistical Modelling* **10**:4, 375-390. [[Crossref](#)]
646. Yash Pal Taneja. 2010. Revisiting Fama French Three-Factor Model in Indian Stock Market. *Vision: The Journal of Business Perspective* **14**:4, 267-274. [[Crossref](#)]
647. Marie-Claude Beaulieu, Jean-Marie Dufour, Lynda Khalaf. 2010. Asset-pricing anomalies and spanning: Multivariate and multifactor tests with heavy-tailed distributions. *Journal of Empirical Finance* **17**:4, 763-782. [[Crossref](#)]
648. Olivier Brandouy, Walter Briec, Kristiaan Kerstens, Ignace Van de Woestyne. 2010. Portfolio performance gauging in discrete time using a Luenberger productivity indicator. *Journal of Banking & Finance* **34**:8, 1899-1910. [[Crossref](#)]
649. S. Paulo. 2010. The United Kingdom's Companies Act of 2006 and the capital asset pricing model. *International Journal of Law and Management* **52**:4, 253-264. [[Crossref](#)]

650. Chen Jianbao, Xu Yanping, Cheng Tingting. Quantile Regression Analysis of Cross-Section Returns in Chinese Stock Market 169-172. [[Crossref](#)]
651. Christophe Schinckus. 2010. Semiotics of Financial Marketplace. *Journal of Interdisciplinary Economics* 22:4, 317-333. [[Crossref](#)]
652. Erlend Kvaal. 2010. The Discount Rate of IAS 36 – A Comment. *Accounting in Europe* 7:1, 87-95. [[Crossref](#)]
653. Shinn-Shyr Wang, Kyle W. Stiegert, Tirtha P. Dhar. 2010. Strategic Pricing Behavior under Asset Value Maximization. *Canadian Journal of Agricultural Economics/Revue canadienne d'agroeconomie* 58:2, 151-170. [[Crossref](#)]
654. S. Paulo. 2010. The UK Companies Act of 2006 and the Sarbanes-Oxley Act of 2002. *International Journal of Law and Management* 52:3, 173-181. [[Crossref](#)]
655. Kurt Niquidet. 2010. Equity pricing in the forest sector: evidence from North American stock markets. *Canadian Journal of Forest Research* 40:5, 943-952. [[Crossref](#)]
656. Michail Koubouros, Dimitrios Malliaropulos, Ekaterini Panopoulou. 2010. Long-run cash flow and discount-rate risks in the cross-section of US returns. *The European Journal of Finance* 16:3, 227-244. [[Crossref](#)]
657. JEFFREY A. BUSSE, AMIT GOYAL, SUNIL WAHAL. 2010. Performance and Persistence in Institutional Investment Management. *The Journal of Finance* 65:2, 765-790. [[Crossref](#)]
658. . References 159-165. [[Crossref](#)]
659. S. Paulo. 2010. Hamada's equation, the Sarbanes-Oxley Act of 2002 and the UK Companies Act of 2006. *International Journal of Law and Management* 52:1, 54-63. [[Crossref](#)]
660. Caroline Fohlin, Steffen Reinhold. 2010. Common stock returns in the pre-WWI Berlin Stock Exchange. *Cliometrika* 4:1, 75-96. [[Crossref](#)]
661. Frank Sortino. The Big Picture 1-12. [[Crossref](#)]
662. Cherif Guermat, Mark C. Freeman. 2010. A net beta test of asset pricing models. *International Review of Financial Analysis* 19:1, 1-9. [[Crossref](#)]
663. Knut Sandberg Eriksen, Sverre Jensen. 2010. The cost of second best pricing and the value of risk premium. *Research in Transportation Economics* 30:1, 29-37. [[Crossref](#)]
664. Herbert Kalthoff, Uwe Vormbusch. Representing and Modelling: The Case of Portfolio Management 174-188. [[Crossref](#)]
665. Syou-Ching Lai, Hung-Chih Li, James A. Conover, Frederick Wu. O-score financial distress risk asset pricing 51-94. [[Crossref](#)]
666. Haim Levy. 2010. The CAPM is Alive and Well: A Review and Synthesis. *European Financial Management* 16:1, 43-71. [[Crossref](#)]
667. Mathijs Cosemans, Rik G. P. Frehen, Peter C. Schotman, Rob Bauer. 2010. Estimating Security Betas Using Prior Information Based on Firm Fundamentals. *SSRN Electronic Journal* 95. . [[Crossref](#)]
668. Reda Jürg Messikh, Gianluca Oderda. 2010. A Proof of the Outperformance of Beta Arbitrage Strategies. *SSRN Electronic Journal* 19. . [[Crossref](#)]
669. Kenneth Monroe Norton, MBA, DBA, Pan G. Yatrakis. 2010. The Effects of Cultural Differences on Knowledge Assets and U.S. MNCS' Firms Value: A Three-Valuation Model Approach. *SSRN Electronic Journal* 226. . [[Crossref](#)]
670. Matthias Thomas, Daniel Piazzolo, Sebastian Michael Gläsner. 2010. Analyzing the Changing Risk and Return Structure of German Open-Ended Funds Using Semivariance Based Performance Measures. *SSRN Electronic Journal* 13. . [[Crossref](#)]

671. Zhi Da, Re J. Guo, Ravi Jagannathan. 2010. CAPM for Estimating the Cost of Equity Capital: Interpreting the Empirical Evidence. *SSRN Electronic Journal* 61. . [[Crossref](#)]
672. George Bragues. 2010. The Politics of Financial Markets: An Introductory Discussion. *SSRN Electronic Journal* 17. . [[Crossref](#)]
673. Pierre Hereil, Philippe Mitaine, Nicolas Moussavi, Thierry Roncalli. 2010. Mutual Fund Ratings and Performance Persistence. *SSRN Electronic Journal* 25. . [[Crossref](#)]
674. S. Trevis Certo, Tim R. Holcomb, R. Michael Holmes. 2009. IPO Research in Management and Entrepreneurship: Moving the Agenda Forward. *Journal of Management* 35:6, 1340-1378. [[Crossref](#)]
675. Bartley J. Madden. Applying a Systems Mindset to Stock Valuation 43-66. [[Crossref](#)]
676. Christophe Schinckus. 2009. Economic uncertainty and econophysics. *Physica A: Statistical Mechanics and its Applications* 388:20, 4415-4423. [[Crossref](#)]
677. Claes Fornell, Sunil Mithas, Forrest V. Morgeson. 2009. Commentary —The Economic and Statistical Significance of Stock Returns on Customer Satisfaction. *Marketing Science* 28:5, 820-825. [[Crossref](#)]
678. Stefan Veith, Jörg R. Werner, Jochen Zimmermann. 2009. Capital market response to emission rights returns: Evidence from the European power sector. *Energy Economics* 31:4, 605-613. [[Crossref](#)]
679. Moawia Alghalith. 2009. Alternative theory of asset pricing. *Journal of Asset Management* 10:2, 73-74. [[Crossref](#)]
680. Marie-Claude Beaulieu, Jean-Marie Dufour, Lynda Khalaf. 2009. Finite sample multivariate tests of asset pricing models with coskewness. *Computational Statistics & Data Analysis* 53:6, 2008-2021. [[Crossref](#)]
681. Jean-Luc Besson, Michel M Dacorogna, Paolo de Martin, Michael Kastenholtz, Michael Moller. 2009. How Much Capital Does a Reinsurance Need?. *The Geneva Papers on Risk and Insurance - Issues and Practice* 34:2, 159-174. [[Crossref](#)]
682. Ric Thomas, Robert Shapiro. 2009. Managed Volatility: A New Approach to Equity Investing. *The Journal of Investing* 18:1, 15-23. [[Crossref](#)]
683. C. Emre Alper, Oya Pinar Ardic, Salih Fendoglu. 2009. THE ECONOMICS OF THE UNCOVERED INTEREST PARITY CONDITION FOR EMERGING MARKETS. *Journal of Economic Surveys* 23:1, 115-138. [[Crossref](#)]
684. Stuart Hyde, Mohamed Sherif. 2009. Tests of the conditional asset pricing model: further evidence from the cross-section of stock returns. *International Journal of Finance & Economics* 5, n/a-n/a. [[Crossref](#)]
685. Ekaterina Svetlova. Theoretical Models as Creative Resources in Financial Markets 121-135. [[Crossref](#)]
686. Andreas Ziegler, Timo Busch, Volker H. Hoffmann. 2009. Corporate Responses to Climate Change and Financial Performance: The Impact of Climate Policy. *SSRN Electronic Journal* 22. . [[Crossref](#)]
687. Haim Levy. 2009. Behavioral Economics and Asset Pricing. *SSRN Electronic Journal* 21. . [[Crossref](#)]
688. Markus Ampenberger, Thomas Schmid, Ann-Kristin Achleitner, Christoph Kaserer. 2009. Capital Structure Decisions in Family Firms - Empirical Evidence from a Bank-Based Economy. *SSRN Electronic Journal* 18. . [[Crossref](#)]
689. Pablo Fernandez. 2009. Betas Used by Professors: A Survey with 2,500 Answers. *SSRN Electronic Journal* 24. . [[Crossref](#)]
690. Pablo Fernandez, Vicente J. Bermejo. 2009. Betas Used by Companies and Professors in Europe: A Survey. *SSRN Electronic Journal* 29. . [[Crossref](#)]
691. Marius Bausys. 2009. The Performance of Minimum Variance Portfolios in the Baltic Equity Markets. *SSRN Electronic Journal* 27. . [[Crossref](#)]

692. Rafał Wolski. 2009. The Influence of Negative Beta Assets on the Empirical SML in the Polish Capital Market. *Folia Oeconomica Stetinensia* 8:1, 140-153. [[Crossref](#)]
693. Sudipta Basu. 2008. Panel on Big Unanswered Questions in Accounting—Synopsis. *Accounting Horizons* 22:4, 449-451. [[Crossref](#)]
694. Brian J. Jacobsen, Xiaochun Liu. 2008. China's segmented stock market: An application of the conditional international capital asset pricing model. *Emerging Markets Review* 9:3, 153-173. [[Crossref](#)]
695. Andy Lockett, Rory P. O'Shea, Mike Wright. 2008. The Development of the Resource-based View: Reflections from Birger Wernerfelt 1. *Organization Studies* 29:8-9, 1125-1141. [[Crossref](#)]
696. Chyi Lin Lee, Jon Robinson, Richard Reed. 2008. Listed property trusts and downside systematic risk sensitivity. *Journal of Property Investment & Finance* 26:4, 304-328. [[Crossref](#)]
697. Lerzan Aksoy, Bruce Cooil, Christopher Groening, Timothy L. Keiningham, Atakan Yalçın. 2008. The Long-Term Stock Market Valuation of Customer Satisfaction. *Journal of Marketing* 72:4, 105-122. [[Crossref](#)]
698. D. Sornette, V.F. Pisarenko. 2008. Properties of a simple bilinear stochastic model: Estimation and predictability. *Physica D: Nonlinear Phenomena* 237:4, 429-445. [[Crossref](#)]
699. Anusha Chari, Peter Blair Henry. 2008. Firm-specific information and the efficiency of investment. *Journal of Financial Economics* 87:3, 636-655. [[Crossref](#)]
700. Fernando de Holanda Barbosa. 2008. Banco Nacional: jogo de Ponzi, PROER e FCVS. *Revista de Economia Política* 28:1, 97-115. [[Crossref](#)]
701. Dimo Dimov, Gordon Murray. 2008. Determinants of the Incidence and Scale of Seed Capital Investments by Venture Capital Firms. *Small Business Economics* 30:2, 127-152. [[Crossref](#)]
702. Julius Hemminki, Vesa Puttonen. 2008. Fundamental indexation in Europe. *Journal of Asset Management* 8:6, 401-405. [[Crossref](#)]
703. Chyi Lee, Jon Robinson, Richard Reed. 2008. Downside Beta and the Cross-sectional Determinants of Listed Property Trust Returns. *Journal of Real Estate Portfolio Management* 14:1, 49-62. [[Crossref](#)]
704. Herbert Kimura, Leonardo Cruz Basso, Eduardo Kazuo Kayo. 2008. The Interplay between Strategy and Finance. *SSRN Electronic Journal* 29. . [[Crossref](#)]
705. Hendri Adriaens, Bas Donkers, Bertrand Melenberg. 2008. The CAPM with Endogenous Beliefs. *SSRN Electronic Journal* 86. . [[Crossref](#)]
706. Vanita Tripathi. 2008. Company Fundamentals and Equity Returns in India. *SSRN Electronic Journal* 30. . [[Crossref](#)]
707. Bartley J. Madden. 2008. Applying a Systems Mindset to Stock Valuation. *SSRN Electronic Journal* 44. . [[Crossref](#)]
708. Vanita Tripathi. 2008. Company Fundamentals and Equity Returns in India. *SSRN Electronic Journal* 30. . [[Crossref](#)]
709. Najah Attig, Omrane Guedhami, Dev R. Mishra. 2008. Multiple Large Shareholders, Control Contests, and Implied Cost of Equity. *SSRN Electronic Journal* 16. . [[Crossref](#)]
710. Peter Christoffersen, Kris Jacobs, Gregory Vainberg. 2008. Forward-Looking Betas. *SSRN Electronic Journal* jou_vol[1].xmlText. . [[Crossref](#)]
711. Ron Bird, Lorenzo Casavecchia. 2007. Sentiment and Financial Health Indicators for Value and Growth Stocks: The European Experience. *The European Journal of Finance* 13:8, 769-793. [[Crossref](#)]
712. Michael J. Mauboussin. 2007. The Wisdom and Whims of the Collective. *CFA Institute Conference Proceedings Quarterly* 24:4, 1-8. [[Crossref](#)]

713. Peter Blair Henry. 2007. Capital Account Liberalization: Theory, Evidence, and Speculation. *Journal of Economic Literature* 45:4, 887-935. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]
714. Moshe Levy. 2007. Conditions for a CAPM equilibrium with positive prices. *Journal of Economic Theory* 137:1, 404-415. [[Crossref](#)]
715. Gerhard Kristandl, Nick Bontis. 2007. The impact of voluntary disclosure on cost of equity capital estimates in a temporal setting. *Journal of Intellectual Capital* 8:4, 577-594. [[Crossref](#)]
716. Sven Husmann, Andreas Stephan. 2007. On estimating an asset's implicit beta. *Journal of Futures Markets* 27:10, 961-979. [[Crossref](#)]
717. Marie-Claude Beaulieu, Jean-Marie Dufour, Lynda Khalaf. 2007. Multivariate Tests of Mean-Variance Efficiency With Possibly Non-Gaussian Errors. *Journal of Business & Economic Statistics* 25:4, 398-410. [[Crossref](#)]
718. Arvind Pai, David Geltner. 2007. Stocks Are from Mars, Real Estate Is from Venus. *The Journal of Portfolio Management* 33:5, 134-144. [[Crossref](#)]
719. Maik Eisenbeiss, Göran Kauermann, Willi Semmler. 2007. Estimating Beta-Coefficients of German Stock Data: A Non-Parametric Approach. *The European Journal of Finance* 13:6, 503-522. [[Crossref](#)]
720. Michael E. Drew, Alastair Marsden, Madhu Veeraraghavan. 2007. Does Idiosyncratic Volatility Matter? New Zealand Evidence. *Review of Pacific Basin Financial Markets and Policies* 10:03, 289-308. [[Crossref](#)]
721. Y. Malevergne, D. Sornette. 2007. Self-consistent asset pricing models. *Physica A: Statistical Mechanics and its Applications* 382:1, 149-171. [[Crossref](#)]
722. Richard Saito, Rodrigo de Losso da Silveira Bueno. 2007. Fundamentos teóricos e empíricos de apreçamento de ativos. *Revista de Administração de Empresas* 47:2, 81-85. [[Crossref](#)]
723. Robert R. Prechter, Wayne D. Parker. 2007. The Financial/Economic Dichotomy in Social Behavioral Dynamics: The Socionomic Perspective. *Journal of Behavioral Finance* 8:2, 84-108. [[Crossref](#)]
724. Michail Koubouros, Ekaterini Panopoulou. 2007. Intertemporal Market Risks and the Cross-Section of Greek Average Returns. *Journal of Emerging Market Finance* 6:2, 203-227. [[Crossref](#)]
725. Malcolm Baker, Jeffrey Wurgler. 2007. Investor Sentiment in the Stock Market. *Journal of Economic Perspectives* 21:2, 129-151. [[Abstract](#)] [[View PDF article](#)] [[PDF with links](#)]
726. Beverly J. Hirtle, Kevin J. Stiroh. 2007. The return to retail and the performance of US banks. *Journal of Banking & Finance* 31:4, 1101-1133. [[Crossref](#)]
727. Graham Bornholt. 2007. Extending the capital asset pricing model: the reward beta approach. *Accounting & Finance* 47:1, 69-83. [[Crossref](#)]
728. Najet Rhaïem ., Saloua Ben Ammou ., Anouar Ben Mabrouk .. 2007. Estimation of Capital Asset Pricing Model at Different Time Scales Application to French Stock Market. *The International Journal of Applied Economics and Finance* 1:2, 79-87. [[Crossref](#)]
729. Roland Burgman, Göran Roos. 2007. The importance of intellectual capital reporting: evidence and implications. *Journal of Intellectual Capital* 8:1, 7-51. [[Crossref](#)]
730. Madhusudan Karmakar. 2007. Asymmetric Volatility and Risk-return Relationship in the Indian Stock Market. *South Asia Economic Journal* 8:1, 99-116. [[Crossref](#)]
731. Yu Xiao. 2007. Chinese Stock Market Systematic Risk#An Empirical Study. *SSRN Electronic Journal* 1981. . [[Crossref](#)]
732. Magdalena Morgese Borys. 2007. Testing Multi-Factor Asset Pricing Models in the Visegrad Countries. *SSRN Electronic Journal* 12. . [[Crossref](#)]
733. Peter Christoffersen, Kris Jacobs, Gregory Vainberg. 2007. Forward-Looking Betas. *SSRN Electronic Journal* jou_vol[1].xmlText. . [[Crossref](#)]

734. Peter Blair Henry. 2007. Capital Account Liberalization: Theory, Evidence, and Speculation. *SSRN Electronic Journal* 46. . [[Crossref](#)]
735. Joon Chae, Cheol Won Yang. 2007. Why an Asset Pricing Model Fails to Explain the Cross Section of Stock Returns in the Korean Market'. *SSRN Electronic Journal* 77. . [[Crossref](#)]
736. Malcolm P. Baker, Jeffrey A. Wurgler. 2007. Investor Sentiment in the Stock Market. *SSRN Electronic Journal* 7. . [[Crossref](#)]
737. Martin Grandes. 2007. The Cost of Equity Beyond Capm: Evidence from Latin American Stocks (1986-2004). *SSRN Electronic Journal* 17. . [[Crossref](#)]
738. Baibing Li, Xiangkang Yin. 2007. Information and Capital Asset Pricing. *SSRN Electronic Journal* 53. . [[Crossref](#)]
739. Kevin J. Stiroh. 2006. New Evidence on the Determinants of Bank Risk. *Journal of Financial Services Research* 30:3, 237-263. [[Crossref](#)]
740. Christine A. Botosan. 2006. Disclosure and the cost of capital: what do we know?. *Accounting and Business Research* 36:sup1, 31-40. [[Crossref](#)]
741. Holger Daske, Günther Gebhardt. 2006. Zukunftsorientierte Bestimmung von Risikoprämien und Eigenkapitalkosten für die Unternehmensbewertung. *Schmalenbachs Zeitschrift für betriebswirtschaftliche Forschung* 58:4, 530-551. [[Crossref](#)]
742. Michelle L. Barnes, Jose A. Lopez. 2006. Alternative measures of the Federal Reserve Banks' cost of equity capital. *Journal of Banking & Finance* 30:6, 1687-1711. [[Crossref](#)]
743. Holger Daske. 2006. Economic Benefits of Adopting IFRS or US-GAAP - Have the Expected Cost of Equity Capital Really Decreased?. *Journal of Business Finance & Accounting*, ahead of print060428035417008. [[Crossref](#)]
744. Holger Daske. 2006. Economic Benefits of Adopting IFRS or US-GAAP - Have the Expected Cost of Equity Capital Really Decreased?. *Journal of Business Finance & Accounting* 33:3-4, 329-373. [[Crossref](#)]
745. Holger Daske, Günther Gebhardt, Stefan Klein. 2006. Estimating the Expected Cost of Equity Capital Using Analysts' Consensus Forecasts. *Schmalenbach Business Review* 58:1, 2-36. [[Crossref](#)]
746. Graham N. Bornholt. 2006. Extending the CAPM: The Reward Beta Approach. *SSRN Electronic Journal* 5. . [[Crossref](#)]
747. Graham N. Bornholt. 2006. Expected Utility and Mean-Risk Asset Pricing Models. *SSRN Electronic Journal* 5. . [[Crossref](#)]
748. Peter L. Bernstein. 2005. Capital Ideas: From the Past to the Future. *Financial Analysts Journal* 61:6, 55-59. [[Crossref](#)]
749. Sudipta Basu. 2005. Discussion—The Effect of Risk on Price Responses to Unexpected Earnings. *Journal of Accounting, Auditing & Finance* 20:4, 483-494. [[Crossref](#)]
750. Ho-Chuan (River) Huang *, Pei-Shan Wu. 2005. Tests of the CAPM with structural instability and asymmetry. *Applied Financial Economics Letters* 1:5, 321-327. [[Crossref](#)]
751. Michelle L. Barnes, Jose A. Lopez. 2005. Alternative Measures of the Federal Reserve Banks' Cost of Equity Capital. *SSRN Electronic Journal* 39. . [[Crossref](#)]
752. Michelle L. Barnes, Jose A. Lopez. 2005. Alternative Measures of the Federal Reserve Banks' Cost of Equity Capital. *SSRN Electronic Journal* 76. . [[Crossref](#)]
753. Vijay Gondhalekar, C.R. Narayanaswamy, Sridhar Sundaram. The Long-Term Risk Effects of the Gramm-Leach-Bliley Act (GLBA) on the Financial Services Industry 361-377. [[Crossref](#)]