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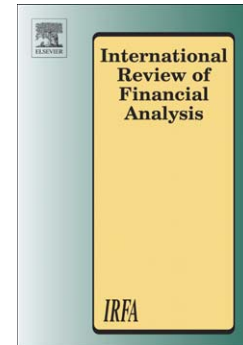
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Please cite this article as: Cotter, J., Eyiah-Donkor, E. & Potì, V., Predictability and diversification benefits of investing in commodity and currency futures, *International Review of Financial Analysis* (2017), doi: 10.1016/j.irfa.2016.12.009

# Predictability and Diversification Benefits of Investing in Commodity and Currency Futures

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**Abstract**

We re-examine diversification benefits of investing in commodities and currencies by considering a risk-averse investor with mean-variance preferences who exploits the possibility of predictable time variation in asset return means, variances, and covariances. We implement unconditional and conditional efficient portfolio strategies designed to exploit this predictability, together with more traditional and/or ad hoc ones yet hitherto relatively unexplored in this context (including the equally weighted, fixed weight, volatility timing, and reward-to-risk timing strategies). We find that, for all portfolio strategies, commodities and currencies do not improve the investment opportunity set of the investor with an existing portfolio of stocks, bonds and T-bills, and an investment horizon of one-month. Our findings, which reverse the conclusions of previous studies that focus on static portfolio strategies, are robust across several performance metrics.

*Keywords:* Commodity and currency futures, Spanning tests, Predictability, Portfolio strategies, Out-of-sample performance

*JEL classification:* C53, G10, G11, G17

## 1. Introduction

We revisit whether a risk-averse investor with mean-variance preferences, access to conditioning information,[1] and an existing portfolio consisting of stocks, bonds, and T-bills (traditional asset classes) can improve her risk-return profile by expanding the investment opportunity set to include commodities and currencies. Our investor allocates funds across the five asset classes, and her objective is to minimize the unconditional variance of the portfolio excess return for each target unconditional expected excess return. Allowing for monthly rebalancing, the solution to the investor's portfolio choice problem is a dynamic trading strategy that specifies the optimal portfolio weights as a function of time, with weights driven by changes in the conditional mean and conditional covariance matrix of excess returns.

Much of prior research document the diversification potential of commodities based on their historically

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[1]Conditioning information is interpreted to mean any predetermined information about asset returns that the investor can access and considers as possessing power to forecast the future distribution of returns.