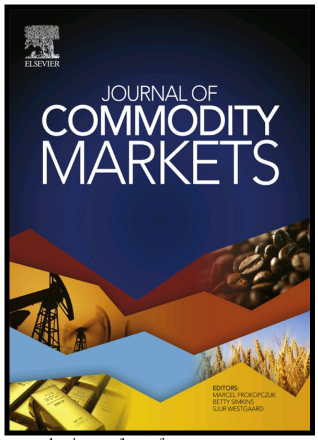
Author’s Accepted Manuscript



www.elsevier.com/locate/jcomm

Portfolio Investment: Are Commodities Useful?

Lei Yan, Philip Garcia

PII: S2405-8513(16)30049-6
DOI: https://doi.org/10.1016/j.jcomm.2017.10.002
Reference: JCOMM42

To appear in: *Journal of Commodity Markets*

Received date: 24 May 2016
Revised date: 12 October 2017
Accepted date: 13 October 2017

Cite this article as: Lei Yan and Philip Garcia, Portfolio Investment: Are Commodities Useful?, *Journal of Commodity Markets,* https://doi.org/10.1016/j.jcomm.2017.10.002

Portfolio Investment: Are Commodities Useful?

Abstract

This paper examines the usefulness of commodities in an investor's portfolio. Using data on three generations of commodity indices and 15 individual commodity futures for 1991–2015, we find that incorporating most commodity products does little to improve the portfolio's Sharpe ratio especially in an out-of-sample context. The only exception is the third-generation commodity index that is based on a momentum strategy and can substantially enhance portfolio performance. When estimation errors are reduced using a shrinkage estimator, the resulting optimal portfolios are more diversified and stable over time, and importantly, commodities play a much smaller role in terms of risk reduction in portfolios.

Keywords: Commodity index, Portfolio diversification, Estimation error

JEL classification: G11, G12, G13

1. Introduction

Investment in commodities has grown substantially since the early 2000s, reflecting an increasing participation of financial investors such as pension funds and endowment funds (Tang & Xiong, 2012). Typically, financial investors pursue investment in commodity futures markets through exchange-traded funds (ETFs), exchange-traded notes (ETNs), and swaps, whose returns are tied to an index of commodity futures prices. According to the *Index Investment Data* (IID) released by the U.S. *Commodity Futures Trading Commission* (CFTC), the total value of commodity index investment was about $160 billion by June