Accepted Manuscript


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PII: S0261-5606(17)30185-7
DOI: https://doi.org/10.1016/j.jimonfin.2017.09.007
Reference: JIMF 1840

To appear in: *Journal of International Money and Finance*

Please cite this article as: R.D.F. Harris, J. Shen, The Intrinsic Value of Gold: An Exchange Rate-Free Price Index, *Journal of International Money and Finance* (2017), doi: https://doi.org/10.1016/j.jimonfin.2017.09.007

# The Intrinsic Value of Gold: An Exchange Rate-Free Price Index

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July 2017

## Abstract

In this paper, we propose a gold price index that enables market participants to separate the change in the 'intrinsic' value of gold from changes in global exchange rates. The index is a geometrically weighted average of the price of gold denominated in different currencies, with weights that are proportional to the market power of each country in the global gold market. Market power is defined as the impact that a change in a country's exchange rate has on the price of gold expressed in other currencies. We use principal components analysis to reduce the set of global exchange rates to four currency 'blocs' representing the U.S. dollar, the euro, the commodity currencies and the Asian currencies, respectively. We estimate the weight of each currency bloc in the index in an error correction framework using a broad set of variables to control for the unobserved intrinsic value. We show that the resulting index is less volatile than the USD price of gold and, in contrast with the USD price of gold, has a strong negative relationship with global equities and a strong positive relationship with the VIX index, both of which underline the role of gold as a safe haven asset.

Keywords: Gold price index; Commodities; Exchange rates; Cointegration; Error correction mechanism.

JEL codes: G12, G15, C58



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