

Applied Financial Economics >

Volume 14, 2004 - [Issue 13](#)

69 Views | 11 CrossRef citations to date | 0 Altmetric

Original Articles

# Efficient estimation and testing of oil futures contracts in a mutual offset system

M. McAleer & J. M. Sequeira \*

Pages 953-962 | Published online: 02 Feb 2007

🗨️ Cite this article 🔗 <https://doi.org/10.1080/0960310042000284687>

Sample our  
Economics, Finance,  
Business & Industry Journals  
>> **Sign in here** to start your access  
to the latest two volumes for 14 days

- 📄 Full Article
- 📊 Figures & data
- 📖 References
- 🗨️ Citations
- 📊 Metrics
- 📄 Reprints & Permissions
- [Read this article](#)
- [Share](#)

## Abstract

With the globalization of financial and commodity markets, it is becoming increasingly important to recognize price linkages between markets beyond national boundaries. Models of futures pricing that incorporate such price linkages into the information set can be expected to be superior empirically. Test results obtained in the paper support this proposition strongly in the case of Brent crude oil futures contracts traded in a mutual offset system between the Singapore International Monetary Exchange (SIMEX) and the International Petroleum Exchange (IPE). Augmented models of SIMEX Brent futures contracts are obtained by incorporating the previous day's IPE Brent futures price into the equation system for the unbiased expectations and the cost-of-carry hypotheses, whereas augmented models of IPE Brent futures contracts are obtained by incorporating the same day's SIMEX Brent futures price in the system for the two hypotheses. On the basis of tests of zero restrictions, the system for the augmented

unbiased expectations hypothesis is found to be superior empirically to the system for the standard Unbiased Expectations hypothesis, and the augmented cost-of-carry system is also found to be superior empirically to the standard cost-of-carry system for both SIMEX Brent futures and IPE Brent futures contracts.

---

---

## Acknowledgements

The first author also wishes to acknowledge the financial support of the Australian Research Council, the Osaka School of International Public Policy at Osaka University, and the Japan Society for the Promotion of Science; and the second author gratefully acknowledges the NUS Business School at the National University of Singapore for an Academic Research Grant.

---

## Notes

Cointegration has been well explored in the literature, with a comprehensive coverage of the literature given in Engle and Granger ([1991](#)) and Banerjee et al. ([1993](#)). The basic insight into cointegration analysis is that, although many economic time series are non-stationary, groups of such non-stationary variables may move together in the long run.

Many financial time series, such as those examined in this paper, contain stochastic trends, and are denoted as  $I(1)$  in the time series literature (a scalar time series,  $y_t$ , has a stochastic trend if its first difference,  $y_t - y_{t-1}$ , has a stationary invertible ARMA representation plus a deterministic component).

Hakkio ([1981](#)) applied the certainty equivalence theory of the term structure of interest rates and the hypothesis of interest rate parity to obtain a simple expression relating the six-month forward premium to the expected future one-month forward premium. His proposed theory, however, imposes non-linear cross-equation restrictions on the parameters of the model. Clark ([1973](#)), on the other hand, constructed a continuous time series of prices and volumes, and defined a contract that matured a fixed distance into the future. This fixed distance was taken to be the average time to maturity of all futures in the market. To define an average future, Clark constructed a weight function

$W(\tau)$ , where  $\tau$  is the time distance between the current period and the maturity of existing contracts.

## Related research

Recommended articles

Cited by  
11

[Oracally efficient estimation and specification testing of partially linear additive spatial autoregressive models >](#)

Shiyuan Chen et al.

Econometric Reviews

Published online: 10 Apr 2025

[A new method of testing mutual independence >](#)

Xiangyu Guo et al.

Communications in Statistics - Theory and Methods

Published online: 3 Aug 2023

[Measuring the Regime-Dependent Spillover Between China's Crude Oil Futures and International Crude Oil Futures with Portfolio Strategy Inference >](#)

Wensheng Lin et al.

Emerging Markets Finance and Trade

Published online: 13 Jan 2026

[View more](#)

## Information for

[Authors](#)

[R&D professionals](#)

[Editors](#)

[Librarians](#)

[Societies](#)

## Opportunities

[Reprints and e-prints](#)

[Advertising solutions](#)

[Accelerated publication](#)

[Corporate access solutions](#)

## Open access

[Overview](#)

[Open journals](#)

[Open Select](#)

[Dove Medical Press](#)

[F1000Research](#)

## Help and information

[Help and contact](#)

[Newsroom](#)

[All journals](#)

[Books](#)

## Keep up to date

Register to receive personalised research and resources by email



Sign me up



Copyright © 2026 Informa UK Limited [Privacy policy](#)

[Cookies](#) [Terms & conditions](#) [Accessibility](#)

Registered in England & Wales No. 01072954  
5 Howick Place | London | SW1P 1WG



**Taylor & Francis**  
by informa