

An empirical comparison of quoted and implied bid–ask spreads on futures contracts

Owain ap Gwilym *, Stephen Thomas

School of Management, University of Southampton, Highfield, Southampton SO17 1BJ, UK

Received 31 January 2000; accepted 22 February 2001

Abstract

This paper investigates the performance of a range of alternative measures of quoted and implied bid–ask spreads on futures contracts, using a complete record of all quotes and trades. Accurate calibration of bid–ask spreads is important for many applications, including tests of market efficiency and assessment of market microstructure models. The results show that the transactions based spread measures are biased estimates of quoted and effective spreads, which illustrates the need for considered implementation of such measures. Similar intraday behaviour is shown by the different measures, with wide spreads at the open and narrow spreads at the close under a competing market maker environment. © 2002 Elsevier Science B.V. All rights reserved.

JEL classification: G12

Keywords: Bid–ask spreads; Trading costs; Market microstructure

1. Introduction

Using a comprehensive database, this paper examines alternative measures of bid–ask spreads on the FTSE100 stock index futures contract at the London International Financial Futures and Options Exchange (LIFFE). We compare various measures of quoted and implied spreads on an intraday basis using a complete dataset of quotes and trades. Whereas most studies of bid–ask spreads (especially in futures markets) use one or two measures which are often chosen

* Corresponding author. Tel.: +44-23-8059-2685; fax: +44-23-8059-3844.

E-mail address: oag@socsci.soton.ac.uk (O. ap Gwilym).

based on data availability, this paper is able to test a range of methods and gauge the impact of data restrictions on the accuracy of estimated spreads.

Petersen and Fialkowski (1994) discuss the wide importance of accurately measuring transaction costs for applications such as tests of market efficiency, asset pricing models and theories of spread behaviour. Smith and Whaley (1994) note the importance of understanding and measuring trading costs in the context of business and regulatory decisions regarding market operations, with the primary trading cost for most market participants being the cost of immediate exchange. If estimates of the spread are not closely related to the effective spread, then the use of such measures will produce misleading inferences.

Studies of bid–ask spreads in US futures markets are unable to directly examine quoted and effective spreads since the time and sales data available (e.g. from the Chicago Mercantile Exchange (CME)) typically only contains infrequent observations of bid and ask quotes. Also, these datasets only include transactions involving a change in price. In contrast, the dataset used in this paper contains a complete record of trades and quotes, thus bid–ask spreads can be estimated using quotes data as well as implied from transactions data. An important finding in the current study is that transactions based measures are found to be biased estimates of quoted and effective spreads.

The paper is organised as follows. Section 2 considers the theoretical literature on the intraday behaviour of bid–ask spreads. Section 3 discusses previous literature on the estimation of bid–ask spreads and describes the methods used here. Section 4 describes the market structure and the dataset used. Section 5 presents the results and Section 6 concludes.

2. Theories of intraday bid–ask spread behaviour

The literature considers three main approaches to explaining the behaviour of bid–ask spreads: market structure, inventory control, and information asymmetry. A clear distinction exists between the intraday behaviour of bid–ask spreads in markets occupied by a monopolistic specialist versus those with competing market makers. In Brock and Kleidon's (1992) model, a single specialist has monopolistic power and is faced with a fairly inelastic transactions demand at the open and close of trading due to the overnight accumulation of information prior to opening and the non-trading period after the close. The specialist can price discriminate during these periods, which implies wide spreads near the open and close. Brock and Kleidon (1992), McInish and Wood (1992) and others provide supporting evidence from the New York Stock Exchange (NYSE). Contrasting behaviour may be expected with the presence of competing market makers, and bid–ask spreads at Nasdaq, the London Stock Exchange and the Chicago Board Options Exchange (CBOE) are found to be wide at the open but narrow at the close by Chan et al. (1995a), Kleidon and Werner (1993), Chan et al. (1995b), respectively.

Amihud and Mendelson (1980) develop a model for specialists whereby spreads are widened as inventory imbalances accumulate. Lee et al. (1993) find evidence

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات