Early Grade Teacher’s Experience in the Use of Technology for Teaching and Learning

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Abstract

The aim of this study was to investigate the experiences of early grade teachers’ use of technology to improve teaching and learning. Technology is expanding rapidly across the social and economic sectors internationally (Can-Yasar, Inal, Özgün & Kandir, 2012). In the South African education system, technology has weaved its way into the classroom. The Department of Basic Education, is supporting schools with digital technology to strengthen teaching and learning. Educational technology and its implementation has opened up a new world for learners and teachers. Teachers need to adapt and develop their teaching methods to accommodate this evolution in learning. Research has shown that learners are constantly engaging in the use of technology on a daily basis. Teachers need to understand the novel ways in which learners can harness developing technologies in their efforts to enhance their learning. For these reasons, it is imperative for teachers to accommodate modern thinking and to facilitate learner development.

This paper focuses on teachers’ experiences in the use of digital technology to support teaching and learning. The Technological Pedagogical and Content Knowledge (TPACK) model developed by (Koehler & Mishra, 2006) provided the theoretical framework. A qualitative study was undertaken to investigate early grade teachers experience in the use of technology as a resource in their Grades 1-3 classes.

The findings suggest that early grade teachers are in favour of the use of digital technologies in their classrooms to support teaching and learning. However, due to various factors, it is not used and implemented successfully. It is recommended that to improve the use of digital technologies, teachers must be fully trained and provided with appropriate resources. Furthermore, continuous support from departmental officials will strengthen the use of digital technologies and improve learner performance and the quality of teaching and learning in schools.

Key Words: technology teaching learning early grades
1. Introduction

Derivative securities such as futures and options are being traded in developed markets for a long period of time. A special type of futures contract, financial futures, is a recent innovation. There are financial futures on stock market indices, government debt securities, Eurodollar Time Deposits etc.

2. Literature Review

One of the pioneering studies on stock index futures was conducted by Edwards (1988a). He examined data on the S&P 500 index, the Value Line Index, T-Bills, and Eurodollar 90-day Time Deposits during the time period 1973 to 1987.

3. Methodology

3.1 Research Questions

As indicated in introduction, we have two major research questions. One of them is to find out whether the inception of index futures trading has destabilized the underlying stock index or not. We will examine the volatility of the underlying index before and after the introduction of futures in order to answer the first question.

3.2 Modeling Volatility

In this paper, we use the EGARCH model, which considers the asymmetric effects, to analyze the effect of futures trading on the volatility of ISE 30 index spot returns. An EGARCH model suggested by Nelson (1991) is modified with a dummy variable controlling the introduction of futures trading, S&P 500 volatility index (VIX), and dummy variables considering the day of the week effect. The model used for the analysis is as follows:

3.3 Data

In this study, the Istanbul Stock Exchange 30 index, Istanbul Stock Exchange 30 index futures and S&P 500 volatility index (VIX) series are used. We used ISE-30 futures, because this is the most heavily traded index futures and the data is more comprehensive compared with that of ISE-100.

4. Results and Discussion

The most striking aspect of the results is the change in the causality relation between the two markets after the break in September 2008. It is found that prior to break point, spot market seems to have a causal effect on futures market. However, after the break, dynamics change and futures market becomes a significant leading factor in spot market. Block-exogeneity test results show the strong unidirectional causal relationship from futures to spot market in the post break period.
5. Conclusions and Recommendations

The vast majority of the empirical evidence on the introduction of futures trading, points to a stabilizing effect on the underlying spot market. This study extends this empirical approach to an emerging market, Turkey. Given the highly volatile characteristics of Turkish stock market among other emerging markets and the potential risk of volatility spillovers for the globally integrated financial markets, the investigation of the volatility behavior of stock returns before and after the introduction of futures is of particular interest for fund managers as well as policymakers.

References
