Day-of-the-week effect in the Taiwan foreign exchange market

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Abstract

This study uses stochastic dominance with and without risk-free assets to examine whether trading days can affect patterns of the day-of-the-week effect in the Taiwan foreign exchange market. Our results generally indicate that higher returns appear on the first three days of the week across different trading-day regimes in the Taiwan foreign exchange market, confirming day-of-the-week effect. Allocating part of investors’ assets in risk-free assets is useful in distinguishing returns among week-days for all currencies.

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1. Introduction

In the last three decades of financial research, one of the distinctive return patterns of financial assets is the day-of-the-week effect. That is, returns of equity assets appear to be lower on Monday as compared to other days of the week (Cross, 1973; French, 1980;

McFarland et al. (1982) have first documented the day-of-the-week effect in the foreign exchange market. Their empirical results show that Monday and Wednesday offer higher average returns than Thursday and Friday, a finding also later confirmed by So (1987) and Cornett et al. (1995). Aydoğan and Booth (2003) reveal that returns in the Turkish foreign exchange markets are generally higher on Tuesday and Wednesday and lower on Friday. Recently, Yamori and Kurihara (2004) find that the day-of-the-week effect exists in the 1980s for some currencies, but disappears for almost all currencies in the 1990s in the New York foreign exchange market.

The goal of the study is to investigate if there is day-of-the-week effect in the Taiwan foreign exchange market. We use daily data on eight currencies with respect to New Taiwan dollar: Australia dollar, Canada dollar, Euro, Hong Kong dollar, Japan yen, Swiss franc, United Kingdom pound, and US dollar from 1992 through 2006. The Taiwan market offers several interesting features for our examination as follows.

First, our data enable us to examine if changes of trading-day regimes affect the potential day-of-the-week effect. Prior to 1952, the New York Stock Exchange (NYSE) conducted six-day trading in a week (i.e., one-day weekend). Since 1952, it has been only five-day trading in a week (i.e., two-day weekend). Keim and Stambough (1984) find a higher return on the last trading day of the week, no matter whether it was Friday or Saturday. The six-day trading (one-day weekend) was in effect before 1998 in the Taiwan foreign exchange market. In addition, an “alternative two-day” weekend was implemented during 1998–2000. Since 2001, the two-day weekend has been adopted in the Taiwan financial market in order to align with the global practice. Thus, the change of trading-day regimes in the Taiwan foreign exchange market provides us a unique opportunity to examine if the pattern of day-of-the-week effect changes.

Second, we are the first to study and employ the stochastic dominance (SD) theory to examine day-of-the-week effect in the foreign exchange market. An important and useful feature of SD is that it is distribution-free, allowing the distribution of returns to be continuous, discrete or any mix of the two. It does not require the normality assumption, which is obviously inappropriate for exchange rate. In addition, the advantage of SD imposes fewer restrictive assumptions regarding the investor utility function. For example, the first-degree stochastic dominance (FSD) makes only one assumption on investor utility that investors prefer more returns to less. Thus, the investor utility function can be concave, linear, or convex. In contrast, many asset pricing models, like the well-known capital asset pricing model (CAPM), are derived on the assumption that the investor utility function must be concave or on the normality assumption of returns.

1 The authors thank the suggestions of the anonymous referee for considering the new Euro currency in comparison to the other currencies taken into account; therefore, Euro is added during the 2001–2006 period in this study.

2 The “alternate two-day” weekend means that one week has six-trading days and that the following week has only five.
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