Day of the week effect on foreign exchange market volatility: Evidence from Turkey

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Abstract

This paper assesses the day of the week effect of the daily depreciation of the Turkish lira (TL) against the US dollar (USD) and its volatility. The empirical evidence from Turkey presented here suggests that Thursdays are associated with higher and Mondays with lower depreciation rates compared to those of Wednesdays. Moreover, Mondays and Tuesdays are associated with higher volatility than Wednesdays.

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1. Introduction

The day of the week effect is often interpreted as a market anomaly (see, for example, Cornett et al., 1995). Such anomalies are often tested for developed markets and there is limited evidence from emerging markets. Moreover, most attention on the day of the week effect was focused on stock markets. However, especially in emerging markets, the foreign exchange market is the single most important financial market. The purpose of this paper is to assess this anomaly for Turkey, which is one of the few countries that has a freely floating exchange that allow us to assess (if there are any) market driven regularities (see, Reinhart and Rogoff, 2002). The Turkish
The Turkish lira (TL) – US dollar (USD) exchange market is sizable. For example, the Turkish lira – US dollar exchange market constitutes 0.14% of US dollar exchange in the world and Turkey is the 31st among 51 countries on US dollar trade with its own local currency, having a greater share when compared to Brazil, Thailand, Portugal, Finland, Malaysia and Argentina (see, Bank of International Settlement, 2004). The US dollar also constitutes a large share in the Turkish financial markets on trading as well. The average overnight trading in the interbank money markets between 3 January 2005 and 22 September 2005 is 2,951,878, the volume of ISE trading is 1,000,774 YTL, and the volume of the foreign exchange in interbank money markets is 6,237,631 (excluding private transactions) for this period. These clearly indicate the importance of the foreign exchange trade in Turkey and the world.

This paper assesses the day of the week effect on the foreign exchange rate and its volatility for the period between 12 March 2001 and 22 November 2005, when Turkey had a freely floating exchange rate regime. Knowledge of the properties of the daily exchange rate has important implications for economists and portfolio managers. The effects of exchange rate movements on international trade and capital flows can be vital, especially for small open economies where foreign exchange variability could affect the economic performance significantly. Moreover, understanding the day of the week effect on the exchange rate as well as on its variance could be important for portfolio managers when they construct international assets portfolios. Furthermore, knowledge of these regularities could be useful in pricing foreign currency options.

There might be various reasons for the day of the week effect. Lakonishok and Levi (1982) attribute the effect to the difference between trading time and settlement time. Domodaran (1989) argue that bad news tends to be reported on Fridays and due to delayed release of the information, Mondays are associated with lower returns. Wang et al. (1997) also report the Monday effect but only for the last 2 weeks of the month. Foster and Vishwanathan (1990) also note that Mondays have more news to evaluate; therefore trade tends to be less intensive.

There is extensive literature regarding the day of the week effect on daily depreciation (McFarland et al., 1982; Hilliard and Tucker, 1992; Cornett et al., 1995). Aydogan and Booth (2003) argued that the day of the week effect was present in the daily depreciation of the local currency in Turkey for the 1986–1994 period. Yamori and Mourdoukout (2003) investigated the day of the week effect for the Yen/US dollar exchange rate. They reported the presence of the day of the week effect for the 1973–1989 period but the effect disappeared in the 1990s. They argued that this might be due to the financial deregulation Japan made, which increased the efficiency of the financial markets. Furthermore, Yamori and Kurihara (2004) found some support for the day of the week effect for 29 foreign exchange markets in the 1980s. They also stated that the day of the week effect disappeared for almost all 29 countries in the 1990s.

A risk-averse investor is interested in not only the variation of his/her return, but also its volatility. Engle (1993) argued that investors must adjust their portfolios for the type of assets whose volatility is expected to increase. Therefore, it is important to understand any regularity that may exist in volatility. This study extends the literature by: (1) allowing the variance of the daily depreciation to be time dependent; (2) showing that this change is affected by the day of the week effect; and (3) by allowing this conditional variance to affect the exchange rate. Similar studies were performed for some foreign equity markets by Berument and Kiymaz (2001), Kiymaz and Berument (2003) and Yalcin and Yucel (2006).

Savva et al. (2005) investigated the day of the week effect by considering the 1993–2005 period for 15 European stock markets. They looked at the day of the week effect for both mean
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