Journal of International Money and Finance 28 (2009) 581–604

Contents lists available at ScienceDirect

Journal of International Money and Finance

journal homepage: www.elsevier.com/locate/jimf

The economic value of fundamental and technical information in emerging currency markets

Gerben de Zwart [a,b,*], Thijs Markwat [c,d], Laurens Swinkels [d,e], Dick van Dijk [c,d]

[a] ING Investment Management, Prinses Beatrixlaan 15, 2595AK, The Hague, The Netherlands
[b] Rotterdam School of Management, Erasmus University, Burgemeester Oudlaan 50, 3062PA, Rotterdam, The Netherlands
[c] Econometric Institute, Burgemeester Oudlaan 50, 3062PA, Rotterdam, The Netherlands
[d] Erasmus Research Institute of Management, Burgemeester Oudlaan 50, 3062PA, Rotterdam, The Netherlands
[e] Robeco Quantitative Strategies, Coolsingel 120, 3011AG, Rotterdam, The Netherlands

JEL classification:
C53
F31
G15

Keywords:
Emerging markets
Foreign exchange rates
Structural exchange rate models
Technical trading
Heterogeneous agents

A B S T R A C T

We measure the economic value of information derived from macroeconomic variables and from technical trading rules for emerging markets currency investments. Our analysis is based on a sample of 21 emerging markets with a floating exchange rate regime over the period 1997–2007 and explicitly accounts for trading restrictions on foreign capital movements by using non-deliverable forward data. We document that both types of information can be exploited to implement profitable trading strategies. In line with evidence from surveys of foreign exchange professionals concerning the use of fundamental and technical analysis, we find that combining the two types of information improves the risk-adjusted performance of the investment strategies.

1. Introduction

The literature on exchange rate forecasting has extensively analyzed the predictive content of two types of information: news on macroeconomic fundamentals as used in structural exchange rate models, and information from historical prices as used in technical trading rules. Meese and Rogoff's (1983) finding that structural models cannot outperform a naive random walk forecast at short horizons still stands after 25 years of intense research, see Cheung et al. (2005) for a recent assessment.

* Corresponding author. Tel.: +31 7037 91159; fax: +31 7037 81372.
E-mail address: gerben.de.zwart@ingim.com (G. de Zwart).

0261-5606/$ – see front matter © 2009 Elsevier Ltd. All rights reserved.
doi:10.1016/j.jimonfin.2009.01.004

There is somewhat more supportive evidence for the usefulness of macroeconomic information for forecasting exchange rates at longer horizons, see Mark (1995), Kilian (2001) and Berkowitz and Giorgianni (2001), among others. In general, the performance of technical trading rules at short horizons has been found to be considerably better, see Sweeney (1986), Levich and Thomas (1993) and Neely and Weller (1999), with Park and Irwin (2007) and Menkhoff and Taylor (2007) providing recent comprehensive surveys. Nevertheless, Olson (2004), Pukthuanthong-Le et al. (2007) and Neely et al. (in press) report that the profitability of technical trading rules has weakened substantially in recent years, at least for developed currencies.

The predictive ability of structural exchange rate models and technical trading rules has generally been considered in isolation. This is quite remarkable, in the sense that surveys among foreign exchange market participants invariably indicate that they regard both types of information to be important factors for determining future exchange rate movements, see Taylor and Allen (1992), Menkhoff (1997), Lui and Mole (1998), Cheung and Chinn (2001), and Gehrig and Menkhoff (2004). Not surprisingly then, most foreign exchange professionals use some combination of fundamental analysis and technical analysis for their own decision making, with the relative weight given to technical analysis becoming smaller as the forecasting (or investment) horizon becomes longer.

The weights assigned to fundamental and technical information for a given horizon may also vary over time. For example, Frankel and Froot (1990) provide empirical evidence for the switch of many professional forecasters from being 'fundamentalists' (using structural models and macro data) to acting as 'chartists' (using technical trading rules) during the second half of the 1980s. They motivate this changing behavior by the fact that fundamentalists experienced large negative returns in the mid-1980s, when currency prices strongly deviated from their fundamental values. This idea of switching behavior has more recently been formalized in so-called heterogeneous agents models. Brock and Hommes (1997, 1998) develop equilibrium models in which agents update their beliefs about the future profitability of investment strategies based on their past performance. These models show that rational investors can switch between simple (costless) strategies and sophisticated (costly) strategies. When all investors follow the simple strategy prices may diverge from their fundamental value, making it worthwhile for investors to engage in sophisticated strategies, because expected profits increase. Prices are then pushed back to their fundamental value and the expected net profits for sophisticated investors turn negative. This leads them to switch back to simple and costless strategies that might again result in prices moving away from their fundamental value. These heterogeneous agents models have recently been applied to currency markets, explicitly allowing for the presence of both chartists and fundamentalists, see Chiarella et al. (2006) and De Grauwe and Grimaldi (2005, 2006). The relative importance of these two types of traders (and, hence, the two types of information) varies over time as investors are assumed to switch between strategies according to their relative past performance. De Grauwe and Markiewicz (2006) offer an alternative interpretation of these models, in which market participants combine technical analysis and fundamental information in order to forecast future foreign exchange rates, with weights varying over time as a function of past profitability.

Most research on exchange rate forecasting has focused on developed markets. Scarcely any attention has been paid to emerging market currencies, possibly due to the fact that many emerging countries maintained a fixed or pegged exchange rate regime until fairly recently.[1] Since the mid-1990s, approximately, more and more countries have switched to a floating exchange rate regime. Simultaneously, the emerging currency markets became tradable for currency investors in either the deliverable forward market for currencies without trading restrictions or the non-deliverable forward (NDF) market for currencies with restrictions on foreign capital movements. By now the time series length as well as the cross-sectional breadth are sufficient to warrant a meaningful investigation of exchange rate predictability in emerging markets. To the best of our knowledge we are the first to conduct such an analysis. Previous empirical research on heterogeneous agents models has also been limited to developed currency markets, such as Vigfusson (1997) and De Jong et al. (2006). These studies report only limited empirical evidence supporting the switching behavior between fundamentalist and chartist strategies based on past performance that is assumed in the theoretical models.

[1] One aspect of exchange rate forecasting in emerging markets that did receive ample attention in the past is prediction of currency crises, in particular by means of so-called early warning systems, see Kaminsky (2006) for a detailed overview.