ELSEVIER

Journal of International Money and Finance
21 (2002) 351–383

Journal of International Money and Finance

www.elsevier.com/locate/econbase

The euro as an international currency: explaining puzzling first evidence from the foreign exchange markets

Harald Hau [a,*], William Killeen [b], Michael Moore [c]

[a] INSEAD, Fontainebleau, France
[b] BNP Paribas Asset Management, London, UK
[c] Queen's University, Belfast, UK

Abstract

This paper presents evidence that the bid-ask spreads in euro rates increased relative to the corresponding bid-ask spreads in the German mark (DM) prior to the creation of the currency union. This comes with a decrease in transaction volume in the euro rates relative to the previous DM rates. The starkest example is the DM(euro)/yen rate in which the spread has risen by almost two-thirds while the volume decreased by more than one third. This outcome is surprising because the common currency concentrated market liquidity in fewer external euro rates and higher volume tends to be associated with lower spreads. We propose a micro-structure explanation based on a change in the information environment of the FX market. The elimination of many cross currency pairs increased the market transparency for order flow imbalances in the dealership market. It is argued that higher market transparency adversely affects the inventory risk sharing efficiency of the dealership market and induces the observed euro spread increase and transaction volume shortfall.

JEL classification: F31; G14; G15; D8

Keywords: Vehicle currency; Market transparency; Spread determination; Transacton costs

* Corresponding author. Department of Finance, INSEAD, Boulevard de Constance, 77305 Fontainbleau Cedex, France. Tel.: +33-1-6072-4000; fax: +33-1-6072-4045.

E-mail address: Harald.Hau@insead.fr (H. Hau).

0261-5606/02/$ - see front matter
PII: S0261-5606(01)00041-9

1. Introduction

A key feature of an international currency is a dominant role in the global foreign exchange (FX) market.[1] It has long been realized that this role can by far surpass a country's relative importance in international trade. Examples are the asymmetric role of the dollar in global foreign exchange trading or of the German mark (DM) for European currency pairs. This observation lead to the notion of a "vehicle currency," which emerges from currency competition as a predominant transaction medium because of network externalities and scale economies translating high transaction volume into lower transaction costs. This vehicle currency perspective is underpinned by evidence on the inverse long-run relationship between transaction costs and transaction volume across different foreign exchange markets (Hartmann, 1998a, 1998b, 1999).[2] The creation of the euro implied a liquidity consolidation of many external rates in a single euro rate. The euro could therefore hope to surpass the German mark as a vehicle currency in the global FX market.[3]

The first part of our paper examines the outcome of the "euro experiment" for the FX market in the first one to two years of the montary union. We examine evidence both on external bid-ask spreads and transaction volumes in the pre- and post-euro environment and find that both criteria indicate a diminished role of the euro relative to the German mark. We can summarize our empirical findings in three points:

Stylized Fact 1 (Euro Transaction Costs). The euro is characterized by higher transaction costs in the dollar, yen and sterling markets. Quoted spreads increased from approximately 3.76 to 5.26 basis points for the dollar rate, from 5.1 to 8.3 basis points for the yen rate and from 3.1 to 9.2 basis points for the sterling rate. Other evidence strongly suggests that this widening extends to effective spreads.

Stylized Fact 2 (Non-euro Transaction Costs). The increase in the cost of euro transactions, relative to DM transactions, occurred against a background of constant or even declining costs in dollar markets, other than the euro/dollar market.

Stylized Fact 3 (Transaction Volume). A unique data set for brokered interdealer trades shows lower euro transaction volumes compared to the previous DM volumes. The decrease in the role of euro transactions, compared to DM transactions, occurred against stable or even increasing transaction volumes in dollar markets, other than the euro/dollar market.

[1] The international role of a currency has additional dimensions. These include its use in the broad range of financial asset transactions, in international trade invoicing and in central bank activities. This paper is concerned only with FX trading. For a more general discussion of the international role of the euro we refer to Detken and Hartmann (2000), Giavazzi et al. (2000) and Kool (2000).

[2] Other important work includes Glassman (1987), Black (1991), Bollerslev and Domowitz (1993), and Boothe (1988)

[3] For such a scenario prediction see Portes and Rey (1998). Based on security market size they find it plausible that the euro would expand the role of the German mark (DM) as a regional vehicle currency and could challenge the dollar's supremacy as the world's principal international currency.