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Explaining the early years of the euro exchange rate: An episode of learning about a new central bank

Manuel Gómez[a], Michael Melvin[b,c,*], Federico Nardari[d]

[a] University of Guanajuato, Mexico
[b] Barclays Global Investors, San Francisco, CA 94105, USA
[c] Department of Economics, Arizona State University, USA
[d] Department of Finance, Arizona State University, USA

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Abstract

Many observers were surprised by the depreciation of the euro after its launch in 1999. Handicapped by a short sample, explanations tended to appeal to anecdotes and lessons learned from the experiences of other currencies. Now sample sizes are just becoming large enough to permit reasonable empirical analyses. The model of this paper provides empirical support for the euro exchange rate to be affected by learning. By focusing on euro-area inflation as the key fundamental, the model is structured toward the dynamics of learning about ECB policy with regard to inflation. While a stated target inflation rate of 2 percent existed, it may be that market participants had to be convinced that the ECB would, indeed, generate low and stable inflation. With a prior distribution drawn from the pre-euro EMS experience and updating based upon the realized experience each month following the introduction of the euro, the evidence suggests that it was not until December of 1999 that the market assessed a greater than 50 percent probability that the inflation process had changed to a new regime. From this point on, trend depreciation of the euro ends and further increases in the probability of the new inflation process are associated with euro appreciation versus the US dollar, the British pound and the Japanese yen.

JEL classification: C1; C4; F31; F33

Keywords: Euro; ECB; Exchange rates; Bayesian learning; Markov Chain Monte Carlo; Bayes Factors

*Corresponding author. Tel.: +1 415 908 7635; fax: +1 415 618 5474.
E-mail address: michael.melvin@barclaysglobal.com (M. Melvin).

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1. Introduction

The launch of the euro on January 1, 1999 was the most important international financial event since the end of World War II. This new currency was expected by many to garner immediate acceptance and challenge the role of the dollar as a vehicle currency. Nevertheless, in its infancy its role in the foreign exchange market has been less than what was expected.

As shown by Hartmann (1998), the nations that comprise the European Monetary Union make an economic unit at least as large as the U.S.. European Union (EU) GDP exceeds U.S. GDP, EU population exceeds U.S. population, EU exports surpass U.S. exports, and outstanding claims in total EU capital markets (bank assets, bonds and equities) are larger than those in the U.S.. All these indicators would lead us to think that the new currency would challenge the supremacy of the dollar as the most important currency in the world. Nevertheless, the triennial Bank for International Settlements (BIS) survey indicates that the dollar's share of foreign exchange market activity has risen while that of the euro compared to legacy European currencies has fallen. In 1998, the dollar entered on one side of 87 percent of foreign exchange transactions and the legacy euro currencies 53 percent[1]. In 2001, the dollar share rose to 90 percent while the euro's share was but 38 percent. In 2004, the dollar share was 89 percent while the euro's share was 37 percent. Further evidence is provided in Hau et al. (2002) who show that the average daily dollar/euro volume in foreign exchange trading is nine percent lower than the dollar/DM volume[2]. Moreover, they show that the trade volume of the euro with the yen and the Swiss franc decreased by 44 and 25 percent, respectively when compared with the mark. This decrease in volume is striking if we consider that the mark is only one of the legacy currencies in the monetary union.

Our focus is not on the volumes traded but on the prices. Most scholars and practitioners would consider a major issue to be an understanding of the determinants of the level of the exchange rate. Earlier explanations have included Sinn and Westermann (2001, 2003), who explain the early weakness of the euro by arguing that holders of black market currency were afraid to convert their old European coins and black market notes into the euro in 2002, so they either spent them on goods and services, whereby the lower demand for money is associated with euro depreciation, or else they exchanged them for dollars prior to the appearance of euro currency. Alquist and Chinn (2001) say that the appreciation of the dollar after 1999 can be explained by U.S.–Euro area productivity differentials; however, the euro was also depreciating against the yen, so that this explanation alone cannot do. Our explanation emphasizes the role of the new central bank and the effect of a lack of European Central Bank (ECB) credibility on the exchange rate when the market is learning about the ECB policymaking process and addresses the initial euro depreciation as well as later appreciation against the dollar and pound.

Credibility of the European Central Bank, or the lack of it, has likely played a very important role in the determination of the price of the euro in its infancy. The ECB is not the central bank of one country. It covers the geographical area of 12 different countries,

[1]Since there are two currencies involved in every foreign exchange (FX) transaction, the global sum of currencies' shares will equal 200 percent.

[2]They are comparing the average daily volume between the period January 1998–December 1998 with the period January 1999–August 1999.