NORTH-HOLLAND

Journal of Economics and Business 55 (2003) 557–584

Journal of Economics & Business

Exchange rate regimes and stock return volatility: some evidence from Asia's silver era

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Abstract

We study the impact of switching between silver, gold, and paper money standards on stock returns from seven small open economies from 1873 to 1941. Paper currency regimes are often associated with higher stock market volatility and higher correlations between markets. Indicators of global economic activity and export commodity prices typically explain a greater fraction of stock return behavior than currency related factors. There is little evidence that adoption or abandonment of the traditional currency, silver, has an impact on stock return volatility and cross-market correlation.

JEL classification: G12; G15; F31

Keywords: Exchange rate; Return volatility; Currency regime

1. Introduction

Stock returns have proven their usefulness in understanding a variety of economic forces. Studies of the impact of earnings announcements, capital structure changes, and governance on stock prices have increased our understanding of the microeconomic factors and decisions that

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0148-6195/$ – see front matter
doi:10.1016/S0148-6195(03)00054-7

affect firms. Studies of the associations between stock returns and macroeconomic indicators have increased our understanding of the impact of economic forces and policy choices on the economy.

Stock market returns also contribute to our understanding of how exchange rates affect corporate performance, competitiveness, and economic activity. Starting with the work of Jorion (1990, 1991), a number of authors have measured the exchange rate exposures of U.S. stock and industry portfolio returns.[1] Studies of other countries often indicate more significant exposures than for the U.S., while specific U.S. industries sometimes display a particularly significant impact of exchange rates on stock returns.[2] There is also evidence that exposure to exchange rate risk may earn a risk premium in equity markets.[3]

Evidence on exchange rate regimes and stock returns is scarce. Bodart and Reding (1999) find that European monetary cooperation tends to decrease European bond market volatility and increase correlation between bond markets. There is, however, much less impact on volatility and correlations in European stock markets. Bartov, Bodnar, and Kaul (1996) find that the beta and total volatility of U.S. multinationals increases after the 1973 breakdown of the Bretton Woods agreement. Hardouvelis, Malliaropulos, and Priestley (1999) find convergence in European equity markets as the 1999 adoption of the Euro approached while De Santis, Gerard, and Hillion (2002) report shifts in the nature of the currency risk premium. The macroeconomics literature suggests that a pegged currency can increase economic volatility (Frenkel & Mussa, 1980) because there is no longer a fluctuating exchange rate to absorb foreign economic shocks. Empirical studies (Artis & Taylor, 1994; Fratianni & von Hagen, 1990) find that the volatility of domestic economic indicators declines after adoption of the European Monetary System or that there is no consistent association between economic volatility and currency regime (Baxter & Stockman, 1989; Flood & Rose, 1995; Rose, 1995).

Our paper examines the impact of exchange rate regime changes on conditional volatilities and cross-correlations of stock prices from China and other Asian economies from 1873 to 1941. Our sample of seven economies switched from a common currency, silver, to gold or paper at different times. Thus, the number and variety of regime switches during this period offers a unique opportunity to study the significance of exchange rate regime changes. Furthermore, international trade and investment flourished during this period. In particular, the seven economies we study were heavily geared towards exporting minerals, agricultural products, and light manufactures. Thus, this period permits us to study the impact of exchange rate regime changes during a long time period comparable to the modern era in many ways.

The paper is organized as follows. Section 2 summarizes the monetary regimes in force in our sample countries during the period under study. Section 3 outlines the methodology and data set while Section 4 presents empirical results. Section 5 is a summary and conclusion.

2. Asian colonial monetary systems

Silver was the traditional medium for large transactions in China. Foreign trade put silver "pieces of eight" produced in Spain and Spanish America into circulation in China alongside