Sources of time-varying trade balance and real exchange rate dynamics in East Asia

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ABSTRACT

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A sticky-price model with minimal assumptions for identification is used to motivate a time-varying model that allows for state dependent innovations to explore the trade balance dynamics of a group of East Asian economies. This paper shows that the correlation between the trade balance and the real exchange has historically been highly conditional on the type of macroeconomic shock. Permanent (transitory) shocks have historically produced a positive (negative) correlation between the trade balance and real exchange rate over the last 20 years. Second, since the Asian financial crisis the real exchange rate dynamics of the East Asian countries have been dominated by persistent component(s), while the dynamics of the trade balance have been more influenced by transitory factors. J. Japanese Int. Economies 29 (2013) 117–141. International Monetary Fund, United States International Monetary Fund United States.

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1. Introduction

The tight management of the exchange rate in many Asian economies is often seen as part of an export-led development strategy. However, the trade balance surpluses accumulated over recent
years has led to large global macroeconomic imbalances vis-à-vis much of the advanced economies. In the context of multilateral consultations and G20 meetings have given rise to questions regarding whether large current account surplus countries should be called upon to appreciate their currencies. Much of the focus has been on China’s large trade balance surplus. This paper examines the trade balance dynamics of five large current account surplus East Asian economies: China, South Korea, Japan, Malaysia and Taiwan (see Fig. 1).

Understanding factors driving fluctuations in Asian trade is important for domestic policy consideration and international policy coordination. The analysis also contributes to the question of whether Asian exchange rate dynamics are better characterised by ‘equilibrium’ or ‘disequilibrium’ models. \(^1\) Recent analyses conducted in the framework of the new generation of macroeconomic models, while providing a high degree of theoretical rigor to the debate, has often led to dissatisfying divergent results (Chinn and Lee, 2007). Without claiming full generality, this paper adopts a parsimonious method to decompose shocks in a manner relevant to the current global imbalance debate. This paper investigates the evolution of key trade imbalances and real values of currencies by relying upon a minimalist set of long-run identifying assumptions that are consistent with a wide range of models. With the role of the exchange rate being a focal point for the Asian economies, shocks are decomposed according to their long-run effect on the real exchange rate.

The paper complements other papers that adopt a long-run identification strategy to study the exchange rate or current account. Clarida and Gali (1994), for example, applied a long-run identification strategy to explore the role of monetary shocks in the exchange rate fluctuations, in a three-variable system comprising bilateral real exchange rate, inflation differential, and relative output. In related work, Chadha and Prasad (1997), Prasad (1999), Astley and Garratt (2000) and Lee and Chinn (2006) examine the role of transitory and permanent shocks on the current account balances of the G7 economies.

These studies have been subject to criticism. Grier and Ye (2009) showed in a fixed coefficient model that without taking into account structural shifts (particularly in the mean) between the real exchange rate and the trade balance leads to spurious conclusions. \(^2\) Furthermore, they also show that without accounting for changes in conditional heteroskedasticity in the dynamics of the trade balance

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\(^1\) See Dornbusch (1976) for an example of a disequilibrium exchange rate model, and Stockman (1987) of equilibrium models.

\(^2\) Also see Rafiq (2010).
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