

BUSINESS CYCLES AND THE SYNCHRONISATION PROCESS: A BOUNDS TESTING APPROACH

Chan Tze Haw

Medical Education Research Unit (MERU), International Medical University,
Sesama Centre, Plaza Komanwel, Bukit Jalil, 57000 Kuala Lumpur
(chanth@imu.edu.my)

and

Evan Lau Poh Hock

Faculty of Economics and Business, Universiti Malaysia Sarawak (UNIMAS),
94300 Kota Samarahan, Sarawak
(lphevan@feb.unimas.my)

ABSTRACT

To justify the business cycle synchronisation (BCS) process among ASEAN-5 (Indonesia, Malaysia, Philippines, Singapore and Thailand), Japan and the United States, the Autoregressive Distributed Log bounds test and the UECM (Unrestricted Error Correction Model) representation advanced in Pesaran *et al.* (2001) is deployed. Evidently, ASEAN-5 has achieved some important degree of business cycle co-fluctuations, attributed to improved intra-trading and cross-boarder investments. Nonetheless, the idiosyncratic and common shocks in ASEAN economies are more identical to the Japanese experience rather than the US experience. Comparable patterns of economic development and liberalisation process have created countries (ASEAN-Japan) with similar economic structures, implying that further economic cooperation and currency arrangements in the region are bright. In addition, our findings demonstrate that the bilateral exchange rate stability may not contribute to the business cycle convergence, as in the ASEAN-US case while bilateral exchange rate dispersion has not jeopardised the ASEAN-Japan BCS process. Also, price divergences among the ASEAN-US-Japan indicate that there is scope for further price convergence if the Japanese Yen or the US dollar is to be adopted as the common currency. Nonetheless, a co-ordinated regional policy should focus on

narrowing the yen/dollar fluctuation, ahead of forming a common currency area or monetary union.

INTRODUCTION

Economic integration among Asian countries and the world has increased rapidly, mainly driven by the upsurge of cross-border investments, increasing intra-regional trade and greater financial integration. Concurrently, the network of trade and capital flows in the region has become comprehensive and intricate, contributing to a more rapid transmission of shocks from country to country. As a consequence, the Asian crisis 1997/98 had 'spillover' effects on Russia and Brazil, while the contraction of IT industry in US had affected the ASEAN outputs severely in 2001. The integration process is likely to deepen over time with the growing preferential trading agreements (PTAs) and regional cooperation arrangements among the Asia Pacific countries.

The increasing trends of regional PTAs are similar to those in Latin American, North American and European countries in the late 1980s and early 1990s. In 2000, about 97% of total global trade involved countries that are members of at least one PTA as compared to a 72% share in 1990. Recent PTAs in the ASEAN region include the ASEAN Free Trade Area (1992), the Japan-ASEAN Comprehensive Economic Partnership (2001), the ASEAN-China

Free Trade Area (2001), the Singapore-Japan Economic Partnership Agreement (2001), the Singapore-New Zealand bilateral trade agreement (2001), the Chiang Mai Initiative (2002) and the ASEAN+Japan+China+South Korea Free Trade Area (2002).

These events have led to a more interdependent business cycle across countries and whether business cycle synchronisation (BCS hereafter) has become a general phenomenon for Asian countries, has lately become a key issue in open economy macro-economics.

Business Cycle Synchronisation

The BCS, with precise regards to the long-and short-run co-movement of aggregate economic behaviour (e.g. Loayza *et al.*, 2001; Duarte and Holden, 2001), has been the object of substantial literature, particularly in the European economics. The term 'synchronicity' can be associated with the concept of symmetry, which in turn, has been extensively used to justify the convergence aspirations imposed for access to the European Union. Extensive literature can be cited via Artis and Zhang (1997, 1999), Beine and Hecq (1997), Frankel and Rose (1998), Beine *et al.*, (2000) and Sensier *et al.*, (2002), among others.

Theoretically, co-movement of business cycles can be sourced from three aspects. First, country-specific shocks which are rapidly transmitted across countries. Second, external shocks that affect all countries in a similar or different fashion. Third, shocks specific to a sector of the economy, which is similar in different countries (Emerson *et al.*, 1992; Girardin, 2002). However, not all countries share the same degree and speed of co-movements according to the intensity of economic integration and transmission mechanisms. Countries may experience different shocks, or may respond differently to common shocks, owing to contrasting policy reactions, differences in the composition of output and differences in the

monetary transmission due to diverging financial structures.

Though BCS has become a general phenomenon in Europe, the presence of common cycles in Asia is still ambiguous. For instance, Eichengreen and Bayoumi (1996) discovered that correlation of supply shocks in the region was especially high for two groups; one consisting of Japan and South Korea, while the other consisting of Indonesia, Malaysia and Singapore. Instead, a subsequent study by Loayza *et al.* (2001) concluded that Japan, South Korea and Singapore are bound by a common cycle of aggregate demand and supply shocks, while Indonesia, Malaysia and Thailand by another, based upon a highly similar trade structure. In contrast Bayoumi and Eichengreen (1994) found little difference in the asymmetry of both shocks between Europe and East Asia, whereas Chow and Kim (2000) reported that East Asian countries differed from Western European countries and are more likely be subjected to asymmetric shocks. Further, Lee *et al.* (2002) improved the methodology of assessing symmetry of shocks, and found that the size of regional shocks is comparable to that of Europe.

Business Cycles

Jong (2001), Shin and Wang (2002) and McKinnon and Schnabl (2003) investigated the effect of trade intensity and exchange rate stability on the patterns of Asian business cycles. Having Japan as anchor cycle, Jong (2001) found increased bilateral trade dependence results in greater correlation of Asian business cycles. Shin and Wang (2002) highlighted the increased intra-industry trade but not the trade alone that has explained the business cycle fluctuations. McKinnon and Schnabl (2003) further demonstrated that the East Asian business cycles are closely linked to the fluctuations of yen/dollar exchange rates, via changes in the export competitiveness, inflows of FDI and intra-ASIAN income effects. Clearly, these studies were