



## Exploring dimensions of regional economic integration in East Asia: More than the sum of its parts?<sup>☆</sup>

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### ABSTRACT

No single measure of real or financial integration sufficiently captures all of the salient characteristics of the extent of integration between individual economies and of economies within particular regional groups. This paper introduces the idea of utilising and combining the effects of a number of individual measures of integration and, in doing so, presents an assessment of the stylised facts around bilateral and regional real and financial integration for the ASEAN5 and the large industrial Asian countries for the period 2000–2009. By using many measures, one should be able to achieve two objectives. The first is to capture many of the main attributes of integration in order to further provide insight into the integration landscape in East Asia. The second is to investigate which individual (if any) measure drives the overall level of integration and, as such, address the question of what might be the possible sources of integration between countries in the region. This has significant policy implications about how to best target policies of liberalisation in both goods and financial markets as well as informing the ongoing debate about optimal currency areas (OCA) and a possible monetary union in Asia.

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## 1. Introduction

No single measure of real or financial integration sufficiently captures all of the salient characteristics of the extent of interconnectedness between the economies in East and Southeast Asia. Furthermore, no single measure is able to explain what particular or individual aspects of integration drive the overall degree of closeness between economies and of economies within particular regional groups. As such, this paper seeks to employ and report various measures of bilateral real and financial integration for the ASEAN5+3 countries, namely Indonesia, Malaysia, the Philippines, Singapore and Thailand, and China, Japan and Korea.

Moreover, this paper seeks to uncover some stylised facts as to the extent of 'overall' integration in the region. The objective here is to utilise data that is readily available and to construct several measures of integration taking in the real and financial dimensions. By using many measures, one should be able to investigate which individual measure drives the overall level of integration. While each measure may not be perfect (after all, this is why there is such a large literature on each individual measure of real or financial integration), and while the list of measures adopted here may not be exhaustive, there is much value to gaining information about the stylised facts of integration in Asia and to provide insights into the nature of

<sup>☆</sup> This paper draws on and significantly extends a report prepared by the author for the Economic Research Institute for ASEAN and East Asia (ERIA) project on Achieving Sustainable Growth in East Asia and on Cavoli (in press).

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integration in the region. This has significant policy implications about how to best target policies of liberalisation of both trade and finance. The paper also intends to measure the extent of integration between a country and a set of other countries (cluster or region). The questions that we can seek to answer here are: Which countries are ‘closest’ to each other in terms of economic integration? Do different measures of integration produce different results in relation to these clusters or groups?

The measures presented in this paper are, in essence, summaries relating to a particular characteristic of economic integration. By and large, the measures fall into two categories; real integration and financial integration. Perhaps surprisingly, there appears to be very little work of this type in this area<sup>1</sup> – researchers preferring to pursue the option of refining individual measures rather than examining the interaction of individual measures in an attempt to ascertain a broader perspective of integration in the Asian region. This is not intended to be an exhaustive formal analysis of real and financial integration but rather, to provide a set of stylised facts in the hope of further highlighting the integration landscape in East Asia.

Indeed, this paper does not deal with the measures of integration that take on political dimensions – such as the removal of trade barriers or capital controls, or the imposition of trade or investment agreements<sup>2</sup> – in many respects, the traditional way of assessing economic integration as captured by the first three of Balassa’s five stages of integration (Balassa, 1961). Rather, this paper attempts to uncover whether countries are integrated through the behaviour of economic variables.<sup>3</sup>

As mentioned above, there is a large literature that formally estimates individual measures of real and financial integration. Few papers attempt to consolidate them to form an overall picture of the extent of integration. A recent example is Grimwade, Mayes, and Wang (2011) which refer to their work as examining the ‘effects’ of integration but this is effectively a survey piece. Further, there are few papers that present an analysis of integration where the political and economic aspects of integration are viewed in combination; recent examples include Plummer and Wignaraja (2006) and Aminian, Fung, and Ng (2008).

As nations in the region continue with their general push towards liberalising trade and finance, one would expect the extent of integration to be higher over time. But is this regional or global integration (see, for instance Eichengreen & Park, 2003)? Many of the financial cooperation initiatives, such as the Asian Bond Fund and the Asian Bond Market Initiative would suggest that, if successful, the greater the likelihood that integration will more regionally oriented (see Rajan, 2008 for a discussion of these initiatives). This paper will provide some insight into whether this characteristic is indeed emerging in the data.

Further to this, information about which individual measures may drive overall integration possibly has some useful policy implications. It may provide insights into the suitability of a number of political instruments of integration (trade agreements vs investment accords, removal of controls over FDI flows vs portfolio vs bank flows, and so on). There is also growing evidence that real and financial integration (as subsets of ‘economic’ connections more generally) is closely connected; it is plausible to consider a situation where trade integration is associated with more synchronous business cycles and together produce spillovers that facilitates monetary integration (see Frankel & Rose, 1998). As such, information about the different dimensions of integration may well inform the ongoing debate about optimal currency areas (OCA) and a possible monetary union in Asia. As is very well known, OCA is heavily reliant on integration.<sup>4</sup> Is the region sufficiently close so as to justify a currency union? What would be the optimum in terms of the countries in a possible union?

Indeed, there are many connections between integration and possible monetary integration. First, exchange rate stability may encourage trade, and therefore encourage the promotion of trade agreements. Second, increase openness and integration (perhaps fortified by trade agreements) render flexible exchange rates less appropriate. Third, while the increased factor mobility associated with a common market may substitute for trade to some extent; it may also substitute for exchange rate adjustment, thus help to meet OCA criteria. Lastly, and by no means the final connection, monetary union may encourage closer synchronicity of business cycles with in a region – which may help retrospectively justify monetary integration.

The policy messages that emerge from this issue are vast, but the value added of this paper is that it is essentially a way of gathering the pertinent stylised facts about the integration landscape in Asia. This paper is structured as follows: The following section outlines the data sources, defines each of the measures of integration employed in this study and describes how integration is calculated. Section 3 presents some results for bilateral levels of integration as well as each country’s level of integration against regional groups. Two methods deriving and describing overall integration are also presented. Section 4 offers some concluding remarks.

<sup>1</sup> With the exception of a few contributions mentioned below in the next section.

<sup>2</sup> See, for instance Kumar, Kesavapany, and Chaocheng (2008) for an examination of these issues for Asia.

<sup>3</sup> This, in essence, presents a justification for the wording; “... dimensions of ...”, in the title of this paper. Certainly, the terms ‘closeness’, or ‘interconnectedness’ could be employed instead of integration, as indeed could ‘economic globalisation’. The issue of separating the political, or policy dimensions and the economic characteristics has an analogy in the literature on regional economic integration. The term ‘regionalism’ refers to integration efforts that are derived from policy, such as those requiring agreements from national governments. ‘Regionalization’, on the other hand, refers to integration that is measured by and reflected in economic data such as trade shares, investment flows and arbitrage conditions (see Pomfret, 2011).

<sup>4</sup> There is the issue of sequencing here, notably the direction of the relationship between trade and monetary integration. It is commonly held that trade integration led to monetary integration in the European case but the evidence for Asia is less clear cut (for instance, see Pomfret, 2005 and Plummer and Wignaraja, 2006). Much of the literature of sequencing appears to omit the financial dimensions of integration and whether it leads or lags trade and monetary integration.

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