**ACADEMIC
INVESTIGATIONS
& CONCEPTS**

SECTION 1

ON ASEAN CAPITAL MARKET AND INDUSTRY INTEGRATION: A REVIEW

Hung Quang Do*, M. Ishaq Bhatti**, László Kónya***

* Department of Economics and Finance, La Trobe University, Bundoora, Vic, 3083, Australia,
Ho Chi Minh National Academy of Politics, Vietnam
** Department of Economics and Finance, La Trobe University, Australia
*** Department of Economics and Finance, La Trobe University, Australia

Abstract

Due to the benefits of investment diversification across markets and industries, and the increasing importance of ASEAN capital markets, this paper attempts to review recent studies on capital market integration and investment implications in six selected ASEAN countries. Several methodologies including VAR, GARCH, Copula and DCC, Bayesian approach, CAPM and factor models have been examined in this research. Most of the existing studies consider the capital market integration and its investment implications at a country level, whereas this paper attempts to extend the analysis to the industry level of integration. It also reviews the uses of a VARMA-MGARCH-asymmetric BEKK models to investigate the integration at industry levels in recommending investment diversification. The findings of this paper may provide guidance to academia, investors and policy makers on asset diversification.

Keywords: ASEAN countries, Capital market integration, Portfolio selection, Investment Implications
JEL Classification: G11, G15, F36

1. INTRODUCTION

Capital market integration and related issues are complex but fascinating. They have been studied intensively in the literature. On the one side, the governments of emerging countries have tried to increase their capital market integration with developed markets and regions. On the other side, the integration of capital markets might reduce the benefit of investment diversification. This paradox has inspired the creation and improvement of countless theories, methodologies and strategies as well as suggestions to policymakers and investors alike.

This paper attempts to deal with this paradox by reviewing the recent theoretical and practical developments in the literature, concentrating on the area of international financial markets and the way they are interconnected and integrated in the high tech age of the 21st century when information on international financial markets is readily available, along with high speed computing power. Due to the increasing roles in the global capital market of the Asia region in general and the ASEAN region in particular, it attempts to review the literature in three different overlapping areas: international capital markets, portfolio selection, and the ASEAN6 (Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam).

This study aims to synthesize the theoretical and empirical studies on capital market integration and portfolio selection in general, and then discusses the ASEAN6 capital markets in particular. Findings from this paper might help academics, policy makers and investors alike who are focused on capital market and portfolio diversification in ASEAN countries. Specifically, the gaps in the literature revealed by this review might be useful for future research.

The rest of this paper is structured as follows. Section 2 considers the definition of capital market integration, the proxies that can be used to capture it and the models applied to investigate it. Section 3 provides a succinct review of portfolio selection with a focus on the ASEAN6 stock markets and their respective industries. Section 4 provides a general review of the ASEAN6 capital markets and of the Vietnamese stock market. Finally, concluding remarks are in Section 5.

2. REVIEW OF THE LITERATURE ON CAPITAL MARKET INTEGRATION

Various concepts of *integration* of a capital market have been developed in the literature. As shown in Table 1 in our opinion, the best definition of integration in the 1980s is due to Llewellyn [1980]: "the occurrence of three forces: the equality and comovement of interest rates, the equilibrating movement of exchange rates, and the transfer of aggregate money across countries". Marston [1995] considers capital market integration as the involvement of two interrelated elements: national market deregulation and capital flow liberalization. However, the lifting of international investment barriers does not imply the integration of a financial market; it just implies a chance that this market could be integrated with other developed markets.

Akdogan [1995] looks at the relation between the risk and return of various assets. He states that capital markets are integrated if there is no differential risk premium for identical or similar financial instruments traded at different locations.

This approach is novel because it does not focus on the relation of monetary markets or the money supply movements among countries but rather on the relation of capital markets. In addition, Akdogan [1995] considers exchange rates as a factor contributing to the volatility of asset returns and capital controls as impediments to capital market integration. Similarly, Bekaert and Harvey [1995] state that "Markets are completely integrated if assets with the same risk have identical expected returns irrespective of the market". Moreover, they contend that if a market is integrated with the world market, then this market and the world market are related to each other and the covariance between them can explain the expected return, while in the case of segmented markets this covariance is insignificant. In our view, the definitions of Akdogan [1995] and Bekaert and Harvey [1995] best express the integration of capital markets. The recent examples of the popularity these definitions can be seen in the work of Choudhary and Siag [2015] and Lehkonen [2015] among others.

Table 1. Major definitions of capital market integration

Authors	Definitions of market integration
Mendelson [1972]	The equalization of yields of comparable loans and securities with the anticipated devaluations or revaluations of exchange rates.
Subrahmanyam [1975]	Movement from domestic equilibrium to international equilibrium (individuals with different endowments of securities and exchange to maximize their respective welfares). Barriers to international diversification to be removed.
Llewellyn [1980]	The occurrence of three forces: the equality and comovement of interest rates, the equilibrating movement of exchange rates, and the transfer of aggregate money across countries.
White and Woodbury [1980]	If a single factor explains most of the covariation among yields and the factor loading approaches 1 then the markets are integrated. If there are as many factors as there are interest rate series and if each factor can affect only one interest rate then the markets are segmented.
Akdogan [1995]	No differential risk premium for similar or identical financial instruments traded at different locations.
Marston [1995]	The involvement of two interrelated elements: national market deregulation and capital flow liberalization.
Bekaert and Harvey [1995]	Markets are completely integrated if assets with the same risk have identical expected returns irrespective of the market.

Similarly to the underlying theories, there is a range of proxies for capital market integration in empirical studies, (see Table 2).

For example, Bekaert and Harvey [1995] use the regime probability (the likelihood that a market is integrated) to measure integration, while Bekaert and Harvey [1997] use the ratio of equity market capitalisation to GDP and the ratio of trade to GDP. Carrieri et al. [2007] consider the time varying ratio of unspanned variance of an industry price index to the total variance of the country price index (which is actually the time varying coefficient of determination of the simple regression of the domestic market return on the return of a portfolio) as an integration index. The larger this ratio, the higher the level of integration. A new valuation-based measure of capital market integration is proposed by Bekaert et al. [2011] and [2013]. In these papers, the proxy for integration is the weighted aggregated difference between local and global industry earnings yields. This method has the advantage that it does not depend on any specific asset pricing model. Recent papers, Lehkonen [2015] and Bae and Zhang [2015], use cross-market correlation as a proxy for their integration.

Although various proxies for capital market integration have been used in the literature, they have all tried to measure the degree of influence of international market returns on local market returns. Some authors might set a threshold for market integration (e.g. the regime probability of Bekaert and Harvey [1995]) but, in general, the higher the influence the higher degree of market integration.

Table 2. Major research on capital market integration

Methodologies	Authors	Proxies for capital market integration	Findings
Conditional regime-switching model	Bekaert and Harvey [1995]	Regime probability (the likelihood that a market is integrated)	Malaysia and Thailand are more integrated while other countries appear segmented.
Factor model of conditional variances	Bekaert and Harvey [1997]	Equity market capitalisation/GDP, and trade/GDP	Capital market liberalization often increases the correlation between local market returns and world market but do not drive up local market volatility.
Three factor model (common factor, local factor and currency factor)	Adler and Qi [2003]	Relative weight of common factor.	Degree of market integration is higher at the end of period but exhibits a wide swing that is related to both global and local events.
GARCH (1,1)-in-mean	Carrieri et al. [2007]	Un-spanned variance of industry price index/total variance of the country price index (R^2)	Degree of integration across countries is different, none of the emerging countries appear to be completely segmented.
Simple and essentially model	Bekaert et al. [2011] and [2013]	The weighted aggregated difference between local and global industry earnings yields	Emerging markets are less integrated relative to the developed markets. Malaysia, the Philippines and Singapore are more integrated. Indonesia and Thailand are more segmented.
Multivariate regressions	Lehkonen [2015], Bae and Zhang [2015]	Cross country correlations	Lehkonen [2015]: Integration is mostly affected by financial openness, the institutional environment, and global financial uncertainty. Bae and Zhang [2015]: Negative relationship between degree of capital market integration and crisis in emerging markets.
GARCH(1,1) models	De Santis and Imrohoroglu [1997], Carrieri et al. [2007], Tai [2007b], Lau et al. [2010], Kenourgios and Samitas [2011], Pasioura et al. [2013].		Tai [2007b]: Prior to liberalization, stock markets of India, Korea, Malaysia, the Philippines and Thailand were segmented from the world market but have been fully integrated thereafter.
Error correction models	Phylaktis [1997]	Speed of adjustment of real interest rate following a shock. The faster the adjustment the higher the degree of market integration	There has been an increase in capital market integration of Pacific Basin countries with the US and Japan.
VAR model	Jang and Sul [2002]	Comovement of stock markets	After a crisis, there is a drastic increase in comovement among seven Asian countries especially among Hong Kong, Thailand, Indonesia and Singapore.
VAR model	Phylaktis and Ravazzolo [2002], [2005]	Correlation between domestic and foreign excess return innovations is the proxy for financial integration	Financial integration is accompanied by economic integration. Stock markets of Thailand and the Philippines are strongly integrated with those of the US and Japan. Singapore stock market integrated with the US stock market in 1980s. Malaysian and Indonesian stock markets are integrated with Japanese stock market and segmented from US stock market in the 1990s.
VAR model	Huyghebaert and Wang [2010]	Granger causality	The relationships among the East Asian stock markets are time-varying and the stock market interactions increase during and after the Asian crisis.
Cointegration analysis	Click and Plummer [2005]	Long-run relation of stock indices	Stock markets of Indonesia, Malaysia, the Philippines, Singapore and Thailand are integrated but not completely.
Cointegration analysis	Shabri et al. [2008], [2009]	Long-run relation of stock indices	Stock markets of Indonesia, Malaysia, the Philippines, Singapore and Thailand are moving toward greater integration among themselves and with the US and Japan.
Conditional Intertemporal Capital Asset Pricing Model (ICAPM) in DCC-GARCH model	Guesmi et al. [2014]	Various direct and indirect factors	The risk is regionally priced. Changes in the degree of regional stock market integration are explained by inflation, exchange rate volatility, spread variations, short-term interest rate and world market dividend yield.
ICAPM in multivariate DCC-GARCH model	Boubakri and Guillaum [2015]	Covariance between local and international stock market prices	East Asian stock markets were partially segmented within the region until 2008 then integrated. Risk premium related to regional stock markets is significant for all countries.
The advent of securitization and deregulation of branch banking	Loutskina and Strahan [2015]	Multivariate regressions	House price shocks spur economic growth and the effect is larger in localities more financially integrated via secondary loan market and bank branch networks.
Copula models	McNeil and Frey [2000], De Melo Mendes and De Souza [2004], Junker and May [2005], Ane and Labidi [2006], Hu [2006], Rosenberg and Schuermann [2006], Ozun and Cifter [2007], Rodriguez [2007], Miguel-Angel and Eduardo [2012], and Bhatti and Nguyen [2012]		

Countless studies in the literature have investigated the integration of various markets and regions over the world using multiform models and methodologies, such as regime-switching models, factor models, GARCH models, and VAR models, etc.

Each model has its own advantages and shortcomings.

For example, Bekaert and Harvey [1995] use a conditional regime-switching model to measure capital market integration of twelve emerging markets based on monthly data from December

1969 to December 1992. Adler and Qi [2003] use a three factor model (common factor, local factor and currency factor) to examine the time varying regional market integration of the Mexican equity market into the North American equity market, in which the relative weight of the common factor measures the degree of integration.

Several papers have applied GARCH models to examine capital market integration, including De Santis and Imrohoroglu [1997], Carrieri et al. [2007], Tai [2007b], Lau et al. [2010], Kenourgios and Samitas [2011], and Pasioura et al [2013]. Specifically, Carrieri et al. [2007] estimate a GARCH-in-mean model using annual data for 1977-2000 to assess the evolution in market integration for eight emerging markets. Tai [2007b] estimates an asymmetric GARCH (1,1)-in-mean model using monthly data for 1980–2001 to investigate capital market integration of six emerging Asian markets with the world market, and the effect of the liberalization process on the cost of capital and price volatility for each market. The advantage of a GARCH model is that it can expose the influence of conditional volatility on returns. However, it cannot reveal either the simultaneous interdependence of dependent variables in a system model or the causal effects between these variables.

Others, including Phylaktis [1997], Jang and Sul [2002], Phylaktis and Ravazzolo [2002], Click and Plummer [2005], Phylaktis and Ravazzolo [2005], Shabri et al. [2008], [2009], Huyghebaert and Wang [2010], Lau et al. [2010], and Umutlu et al. [2010] implement cointegration techniques to investigate the integration of markets. For instance, Phylaktis [1997] estimates error correction models to examine the financial integration of Pacific Basin countries, and looks at the speed of adjustment of real interest rates following a shock, to infer the degree of capital market integration; the higher the degree of capital market integration the faster the adjustment to long-run equalisation of real interest rates. Jang and Sul [2002] use a VAR model of daily stock market indices of seven Asian countries to analyse the impact of the 1997 Asian crisis on the comovement of these countries' stock markets. Phylaktis and Ravazzolo [2002], [2005], and Huyghebaert and Wang [2010] also estimate VAR models to analyse the capital market integration. Meanwhile, Shabri et al. [2008] and Shabri et al. [2009] apply cointegration analysis with Generalised Method of Moments to investigate the integration of five ASEAN capital markets.

Some other studies, including Bowman et al. [2010], Huyghebaert and Wang [2010], Jang and Sul [2002], and Tuluca and Zwick [2001], investigate the reaction of capital markets to the Asian financial crisis by estimating the degree of market cointegration/comovement over three sub-periods, namely pre-crisis, during-crisis and post-crisis. They have a consensus that the degree of capital market cointegration/comovement is higher during the crisis than before it.

The advantage of a VAR model or cointegration analysis is that they can disclose the simultaneous interdependence or comovement among dependent variables. However, these techniques cannot incorporate the influence of conditional return volatility on stock returns.

The contagion of the recent 2007-2008 US financial crisis to other capital markets has also been investigated in the literature by, among others, Dooley and Hutchison [2009], Longstaff [2010], Pesaran and Pesaran [2010], Guo et al. [2011], and Samarakoon [2011]. For example, Samarakoon [2011] applies two-step regressions to delineate the interdependence from contagion of the US financial crisis.

There are also several examples in the literature for the application of copula to describe the dependence structure of financial markets, such as McNeil and Frey [2000], De Melo Mendes and De Souza [2004], Junker and May [2005], Ane and Labidi [2006], Hu [2006], Rosenberg and Schuermann [2006], Ozun and Cifter [2007], Rodriguez [2007], Miguel-Angel and Eduardo [2012], and Bhatti and Nguyen [2012]. However, copulas are more useful in the boom and crisis periods, or downside regimes where there might be more extreme values than during normal periods. In addition, the effects of shocks on stock returns in crisis periods have been investigated extensively in the literature by analysing spillover effects and contagions (see for example, Nagayasu [2001], Forbes and Rigobon [2002], Sander and Kleimeier [2003], Tai [2004], Bakaert et al. [2005], Baele and Inghelbrecht [2010], and Tai [2007a]), and asymmetric effects of positive and negative shocks (Kroner and Ng [1998], Bekaert and Wu [2000]).

A great deal of research has been done on the capital market integration and related issues of Asian countries as well (e.g. Errunza and Losq [1989], Errunza et al. [1992], Kreinin and Plummer [1992], Bekaert [1995], Bekaert and Harvey [1995], Phylaktis [1997], Plummer [1997], Bekaert et al. [2002], [2002], Jang and Sul [2002], Phylaktis and Ravazzolo [2002], Bekaert et al. [2003], Chelley-Steeley [2004], Bekaert et al. [2005], Click and Plummer [2005], De Jong and De Roon [2005], Phylaktis and Ravazzolo [2005], Shackman [2006], Carrieri et al. [2007], Claessens and Schmukler [2007], Tai [2007a], Tai [2007b], Bruner et al. [2008], Chambet and Gibson [2008], Panchenko and Wu [2009], Pukthuanthong and Roll [2009], Huyghebaert and Wang [2010], Umutlu et al. [2010], Babecky et al.[2012], Salina and Shabri [2012], Goh et al. [2014], Teulon et al. [2014], Boubakri and Guillaumin [2015], and Chien et al. [2015]). Most of these studies use stock market price indices to investigate the degree of capital market integration, the factors of capital market integration, the relationship between capital market integration, financial market development, barriers to market integration, economic growth etc. Their findings vary across countries and regions. For example, Bekaert [1995] finds that emerging markets have different degrees of integration with the US market, and that the barriers to market integration are poor credit ratings, high and variable inflation, exchange rate controls, the lack of a high quality regulatory and accounting framework, the lack of sufficient country funds or cross-listed securities, and the limited size of some stock markets. Bekaert and Harvey [1995] and Carrieri et al. [2007] find that emerging markets exhibit time-varying integration. Bekaert et al. [2002] investigate whether the dates of capital market integration are the same as the dates of market liberalization based on the index total returns and dividend yields from 20 emerging

markets, and find that integration occurs always later than the official date of liberalization. However, the integration (segmentation) of a stock market does not necessarily lead to the integration (segmentation) of all of its industries or sectors. Moreover, the investments often happen at the industry and company levels. Thus, investigating the integration at the country level to recommend investment diversification choices might lead to inappropriate decisions.

There are some other papers using industry price indices to examine integration and their benefits on diversification (e.g. Heston and Rouwenhorst [1994], Griffin and Karolyi [1998], Baca et al. [2000], Cavaglia et al. [2000], Carrieri et al. [2004], Ferreira and Gama [2005], Bruner et al. [2008], Masten et al. [2008], Baele and Inghelbrecht [2009], Bekaert et al. [2009], and Eiling et al. [2012]). Most of these studies find that intra-industry

diversification across country are beneficial. For instance, Heston and Rouwenhorst [1994] find that industry indices are less volatile and more strongly correlated than country indices, and that cross country diversification within an industry is more effective than cross industry diversification within a country. Moreover, Griffin and Karolyi [1998] find the traded-goods industries dominate the non-traded goods industries, which implies the importance of international investments. Baca et al. [2000] and Cavaglia et al. [2000] find that the industry effect has increased while the country effect has decreased in explaining the stock return variations and that global industry diversification provides less risk than country diversification. Similarly, the findings of Ferreira and Gama [2005] imply that industry diversification has become relatively more efficient than country diversification (details can be seen in Table 3).

Table 3. Research which investigates industry returns

Authors	Data	Findings
Heston and Rouwenhorst [1994]	829 firms from 12 European countries and 7 industry categories from 1978 - 1992.	Industry indices are less volatile and more correlated than country indices. Cross country diversification within an industry is more effective than cross industry diversification within a country.
Griffin and Karolyi [1998]	25 countries and 66 industries including Indonesia, Malaysia, Singapore and Thailand.	Industrial composition account for only a very little part of the variations in country index returns.
Baca et al. [2000]	Monthly sector and market indices of 7 countries from March 1979 to March 1999.	Industry effect increases while country effect declines.
Cavaglia et al. [2000]	21 developed equity markets including Singapore from January 1986 to November 1999.	Industry factors dominate country factors. Global industry diversification provides less risk than country diversification.
Carrieri et al.[2004]	7 weekly country returns and 18 local industry returns from G7 countries from January 1991 - October 1999.	Country is integrated/segmented only if most of her industries are integrated/segmented.
Ferreira and Gama [2005]	Daily market returns and 38 industry returns from 21 developed markets from 1974 - 2001.	Toward the end of sample period, industry diversification has become relatively more efficient than country diversification.
Baele and Inghelbrecht [2009]	Weekly data from 4 regions, 21 countries including Singapore and 18 industries from 1973 - 2007.	On average, the country specific risk is higher than the industry specific risk, unless time-varying betas are accounted for.
Eiling et al. [2012]	10 Economic and Monetary Union zone industry indices and 11 Euro country indices from February 1990 to May 2008.	Before the launch of the Euro in 1999, country effects dominate industry effects but later industry effects took over.
Bekaert et al. [2009]	Weekly portfolio returns from 23 developed countries and 26 industries from January 1980 - December 2005.	The dominance of industry factors over country factors is a short-lived phenomenon.

Besides studies using stock returns to investigate the integration/segmentation of ASEAN, other papers rely on stock return volatilities to imply this information. The advantage of this method is that it can reveal the integration of risk associated with stock returns which is a good guide to making beneficial investment decisions. For example, Bae et al. [2004] consider more than 2000 stocks from 45 emerging countries to examine the impact of investability (foreign-owned ratio) on market volatility and find a positive relationship between these characteristics of individual stocks and the integrated signal of highly investible stocks. Bekaert and Harvey [1997] analyse the reasons behind varying volatility across markets and find that capital market liberalization often increases the correlation between the local and the world markets, but does not increase local market volatility. However, since all these papers use market indices to work with return volatility, they ignore the issues at the industry/sector level, so the benefits of

industry investment diversification might be hidden by the integration implication at the country level.

Grier et. al. [2004] use a bivariate VARMA–MGARCH – asymmetric BEKK model to study the effects of growth volatility and inflation volatility on average growth and inflation rates. Elder and Serletis [2011] and Rahman and Serletis [2011] apply a bivariate VAR-MGARCH model on US data to investigate the relationship between oil price uncertainty and economic activity. Building on these papers, Rahman and Serletis [2012] estimate a bivariate VARMA-MGARCH-asymmetric BEKK model to investigate the relationship between oil price and economic activity using quarterly Canadian data from January 1974 to January 2010. The advantage of this model is that it can capture the time-varying simultaneous interdependence of dependent variables in a system. It can also reveal the time-varying interaction of conditional return volatilities across returns as well as among these conditional volatilities. In addition, this model can measure the asymmetric effects of positive and negative shocks

on dependent variables, and can be used to investigate the causal effects between dependent variables. To the best of our knowledge, no published paper has ever applied the VARMA-MGARCH-asymmetric BEKK model for studying the integration/segmentation of the six ASEAN countries at the industry/sector level.

3. REVIEW OF THE LITERATURE ON PORTFOLIO SELECTION

The theories of portfolio selection were developed by Markowitz [1952] and [1970] with the mean-variance paradigm in maximizing discounted expected returns, and by Merton [1973] with the ICAPM model. These theories have been applied extensively in the literature (e.g. Cohen and Pogue [1967], Levy and Sarnat [1970], Konno and Yamazaki [1991], Barberis [2000], Pastor [2000], Pastor and Stambaugh [2000], Elton et al. [2014], and Sharpe [2011]) and many related models/methodologies/approaches have been developed, (see Table 4).

For example, Grubel [1968] investigates the welfare gain and capital flows from international diversification by developing static and dynamic mean-variance models, and finds that the foreign asset demand is normal and permanent for US investors. Levy and Sarnat [1970] draw a locus of efficient portfolios to investigate the benefits of international diversification for American investors, and find that the investors are better off diversifying in developing countries. Mayers and Rice [1979] examine portfolio performance using a security market line benchmark in a Capital Asset Pricing Model (CAPM) model and confirm that an individual with better information than the market will plot above this line.

Murthi et al. [1997] propose a new measure of portfolio performance by incorporating transaction costs into the Sharpe index to examine the market efficiency of the mutual fund industry. Meanwhile, Pastor [2000] uses an asset pricing model to incorporate a prior degree of belief into a Bayesian framework to select an optimal portfolio. Pastor and Stambaugh [2000] also investigate portfolio choices using Bayesian approaches among three different asset pricing models (two risk-based models and one characteristic-based model).

Some other papers take into account the Value-at-Risk (VaR) to examine portfolio selection (e.g. Campbell et al. [2001], Ahn et al. [1999], Basak and Shapiro [2001], Alexander and Baptista [2002], Chen and Yu [2013], and Al Janabi [2014]). In particular, Campbell et al. [2001] develop a portfolio selection model in a VaR framework and use US stocks and bonds in their empirical investigation. They find that this model is useful for non-normalities, alternative time horizons and alternative risk specifications. Alexander and Baptista [2002] apply a mean-VaR model to examine the portfolio selection and find that certain risk-averse investors can select portfolios with larger standard deviation using VaR as a measure of risk.

Hui [2005] investigates the comovement between the Singaporean stock market and US and Asia Pacific stock markets using an ARIMA model and studies the diversification benefits of these international markets for Singaporean investors. Driessen and Laeven [2007] examine the diversification benefits of investors in 52 countries of different regions using the mean-variance framework of Markowitz [1952]. They find that investors from developing countries gain more from international diversification benefits than those from other countries, especially outside the country's region. Moreover, they find that investors from countries of high risk get the largest benefit of international diversifications.

Garlappi et al. [2007] extend the classical mean-variance portfolio model of Markowitz [1952] by introducing two new components to allow for the possibility of multiple priors and investor's aversion to ambiguity. Applying the model to eight monthly equity price indices from January 1970 to July 2001, Garlappi et al. (2007) find that portfolios chosen by the new model are more stable and deliver a higher out-of-sample Sharpe ratio than the traditional mean-variance model.

To overcome the inability of handling the higher order moments and parameter uncertainty in portfolio selection of Markowitz [1952], Harvey et al. [2010] apply the skew normal distribution in modelling multivariate returns in a Bayesian framework and find that the proposed model is flexible enough to allow for skewness and coskewness and heavy tails. Portfolio selection problems are also investigated under crisis market outlooks (Al Janabi [2014]) and the inclusion of all risky assets (Yao et al. [2014]). Without using a Bayesian framework and a CAPM model in portfolio selection, Shynkevich [2013] applies a technical methodology to select an efficient investment portfolio. This paper uses a set of trading rules (filter, moving average, support and resistance, and channel breakout) to examine the predictability of returns on sector and industry equity portfolios and finds evidence of intra-industry and inter-sector time-series momentum.

Empirical studies on portfolio selection in the Asian region have also been published in the literature. For example, Ibrahim [2006] examines the benefit of portfolio diversification across the US, Japan and ASEAN equity markets by studying their cointegration in a VAR model. The paper finds that diversification benefits exists in long-term investments across these markets, but short-term gains in diversifying in ASEAN markets for investors in the US might be limited due to the increasing integration of these markets to the US market.

Balli et al. [2014] investigate the return and volatility spillover effects of shocks using ASEAN sector and national indices in a univariate AR-GARCH model. The authors find that investors might be better off diversifying across countries rather than sectors in the ASEAN area. Goh et al. [2014] investigate the diversification benefit in six ASEAN stock markets (Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam) using portfolios of 25 stocks in each country and find that Malaysian investors can benefit from diversifying in these markets.

Table 4. Researches on Portfolio Selection

Methodologies	Authors	Data	Findings
Mean-variance paradigm in maximizing discounted expected returns.	Markowitz [1952], [1970]		Theoretical research
Inter-temporal CAPM model.	Merton [1973]		Theoretical research
Dynamic mean-variance models between two countries with constrains on three forms of holding wealth: real assets, money and bonds.	Grubel [1968]	11 major stock market returns from 1959 to 1966.	The international diversification of portfolios is the source of world welfare gains from international economic relations. International capital movements are a function of interest rate differentials and growth rates in total asset holding.
Draw a locus of efficient portfolios between mean returns and their variances.	Levy and Sarnat [1970]	28 stock market returns from 1951-1967	Investors are better off diversifying in developing countries.
Using security market line benchmark in a CAPM model.	Mayers and Rice [1979]	Theoretical research	An individual with better information than the market will plot above this line.
Draw the sample estimates of securities' parameters toward their historical grand average.	Frost and Savarino [1986]	25 randomly selected securities on NYSE from January 1953 to August 1971.	Portfolio performance could be improved with this informative prior.
Incorporating transaction cost into Sharpe index to examine efficiency of mutual fund industry.	Murthi et al. [1997]	2083 mutual funds for the third quarter of 1993.	The mutual funds are all approximately mean-variance efficient.
Use asset pricing model to incorporate a prior degree of belief into a Bayesian framework to select an optimal portfolio.	Pastor [2000]	Returns of value-weighted portfolio of all stock listed on NYSE from January 1926 to December 1996.	Prior degree of beliefs is very strong.
Bayesian approaches among two risk-based models and characteristic-based model.	Pastor and Stambaugh [2000]	Investors who update their prior beliefs for 1963-97.	Different degrees of belief affect the portfolio selections in these models.
VAR model.	Barberis [2000]	Monthly US Treasury bills and NYSE stock returns from June 1952 to December 1995.	Investors with a long investment horizon of 10 years allocate more to stocks than those with a short horizon of 1 year.
Value-at-Risk frameworks.	Ahn et al. [1999], Basak and Shapiro [2001], Campbell et al. [2001], Alexander and Baptista [2002], Chen and Yu [2013], and Al Janabi [2014]		Campbell et al. [2001]: This model is useful for non-normalities, alternative time horizons and alternative risk specifications. Alexander and Baptista [2002]: Certain risk-averse investors can select portfolios with larger standard deviation using Value-at-Risk (VaR) as a measure of risk.
Autoregressive integrated moving average (ARIMA) model.	Hui [2005]	Stock returns of Singapore, the US and Asia Pacific stock markets.	Singaporean investors can diversify their portfolios in the US, Australia, Japan and Taiwan. Whereas, the markets of Hong Kong, the Philippines, South Korea and Thailand are not beneficial for their diversification
Mean-variance framework of Markowitz [1952].	Driessen and Laeven [2007]	52 countries in different regions.	Investors from developing countries gain larger international investment, especially outside the country's region. Investors from high country risk get larger benefit of international diversifications.
Develop Markowitz [1952] introducing two new components to allow for the possibility of multiple priors and investor's aversion to ambiguity.	Garlappi et al. [2007]	Monthly price index returns from developed countries from January 1970 - July 2001.	Portfolios chosen by the new model are more stable and deliver higher out of sample Sharpe ratio than the traditional model.
Applying the skew normal distribution in modelling multivariate returns using Bayesian framework.	Harvey et al. [2010]	Daily stock and fixed income returns from July 2001 to June 2006.	This model is flexible enough to allow for skewness and coskewness and heavy tails.
Apply a set of trading rules (filters, moving average, support and resistance, and channel breakout).	Shynkevich [2013]	Daily Dow John US index and ten ICB industry indices from December 1991 to December 2011.	There are evidences of intra-industry and inter-sector time series momentum.
Cointegration analysis in VAR model.	Ibrahim [2006]	US, Japan and ASEAN equity returns.	Diversification benefits exists in long-term investment across these markets but short-term gains in diversifying in ASEAN markets for investors in the US might be limited due to the increasing integration of these markets to the US market.
AR-GARCH model.	Balli et al. [2014]	Weekly stock returns of ASEAN6 countries and China, Europe, Japan, US from 1990-2013.	Investors might be better off diversifying across countries rather than sectors in ASEAN area.
Index calculation.	Goh et al. [2014]	Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam.	Malaysian investors can benefit from diversifying among these selected ASEAN markets.

Some papers use fund price indices to examine portfolio selection. For example, Ng [2002] investigates the investment strategies in ASEAN-5 closed-end funds using daily price indices, while Muhamad and Nawawi [2011] evaluate the performance of 51 Malaysian international unit trust

funds with Malaysian and international benchmark indices using the Modigliani and Modigliani [1997] model.

Although the literature has devoted much attention to portfolio selection in ASEAN stock markets, it somewhat ignored the issue of international diversification among ASEAN6 industries from the point of view of specific investors. The only exception is Balli et al. [2014], who find that investors are better off diversifying across ASEAN countries rather than ASEAN sectors in gaining a diversification benefit. But Markowitz [1952] suggests that investors should diversify across industries to utilise the cross-industry low covariance. These contradictory findings might serve as a motivation for further research of the benefits of diversification among the ASEAN6 stock markets and their industries for specific investors.

4. REVIEW OF THE LITERATURE ON ASEAN6 CAPITAL MARKETS

Over nearly 50 years, since its establishment in 1967, the role of ASEAN has been increasing significantly in global economic activities and has been a focus of investors and academia alike. Hill [1994] performs an analytic survey on ASEAN economic development and finds that this group is attractive due to its economic performance, policy regimes, institutional arrangements and intellectual contributions.

Different aspects of ASEAN economic cooperation and integration have been investigated in the literature. For example, Plummer [1997] and Naya and Plummer [1997] review ASEAN economic integration and development and confirm that ASEAN has made remarkable strides in economic cooperation. Meanwhile, lots of suggestions have been made to improve the economic integration of ASEAN. For example, Naya and Plummer [1991] examine the economic cooperation of ASEAN in the new international economic environment and suggest that ASEAN needs to improve its intra-regional cooperation in order to take the advantage of its own markets and resources. Pangestu et al. [1992] suggest that each ASEAN country should continue to liberalize, improve the investment climate and remove bottlenecks such as poor infrastructure. Soesastro [2005] proposes principles and core elements to accelerate ASEAN economic integration such as free and open investment, trade liberalization, service sector liberalization, infrastructure development and institutional mechanisms. Bhattacharyay [2009] raises the need to enhance ASEAN infrastructure cooperation to achieve Asia-wide connectivity and integration. Issues related to the ASEAN Economic Community are also investigated in Wei-Yen [2005] and Plummer and Yue [2009].

Other papers focus on the trade among the ASEAN countries as well as between them and other countries and regions. For example, Akrasanee [1983], Sekiguchi [1983], and Yamashita [1991] investigate the trade and investment relationship between Japan and the ASEAN countries, whereas, Kreinin and Plummer [1992] assess the effect of the North American Free Trade Area on ASEAN and South Korea using a commodity matching technique and suggest ways to minimize adverse impact such

as enhancing regional integration programs. Zhang and Hock [1996] and Chirathivat [2002] investigate the trade and investment relationship between ASEAN and China and find that the trade between them is small as a share of their total trade. This is also confirmed by Cai [2003], Wong and Chan [2003] and Laurenceson [2003]. Other authors research the relationship between ASEAN and Pacific economic cooperation (Yam et al. [1992]), the policy coherence with OECD (Tan et al. [1995]), ASEAN+3 (Stubbs [2002], Beeson [2003]), the political relation with China (Zha [2002]), ASEAN Free Trade Area (AFTA) and the Asian crisis (Elliot and Ikemoto [2004]), the role of AFTA (Tongzon [2005]), and the 2007-2008 Global Financial Crisis (Gimet and Lagoarde-Segot [2011]).

Several other authors investigate the relationship between the economic development of ASEAN countries and other factors, such as the role of small and medium industries (Bruch and Hiemenz [1984]), political underpinnings (Mackie [1988]), tourism (Walton et al. [1993], Var et al. [1999]), economic growth (Tongzon [1998]), foreign direct investment (Fan and Dickie [2000]), educational policy (Booth [1999]), economic model (Kojima [2000]), cooperation (Tan [2003]), services (Gani and Clemes [2002]), new regional agreements (Harvie and Hyun-Hoon [2002]), transnational corporation and technology (Giroud [2003]), electricity consumption (Yoo [2006]), and technology development (Wang and Chien [2007]).

In particular, Sharma and Chua [2000] investigate the relationship between intra-regional trade and the economic growth of ASEAN (Indonesia, Malaysia, Philippines, Singapore and Thailand) using a gravity model. They find that the trade in these countries is positively correlated with the size of the economy and the ASEAN integration scheme does not increase intra-trade among these countries. Tan [2004] examines trade and investment laws and policies in ASEAN countries to see whether the ASEAN economic integration goes beyond a free trade area, and finds that it is hard to see ASEAN becoming a common market by 2020. Petri et al. [2012] examine the benefit of the ASEAN Economic Community (AEC) applying a general equilibrium analysis and find that AEC could create gains similar to those resulting from the EU. Whereas, Bayoumi and Mauro [2001] find that ASEAN is less suited for a regional common currency than the EU but suggest a firm political commitment is needed by ASEAN countries to get this common currency.

However, all these papers examine somewhat different aspects of the economic development of ASEAN, and the most comprehensive reviews by Hill [1994] and Naya and Plummer [1997] are rather old compared to the recent volatile economic relations.

As shown in Table 5 various empirical research on the integration of ASEAN stock markets has been done. The literature finds that the degree of the integration of ASEAN countries has increased. For example, Ahmed and Tongzon [1998] use a VAR model of quarterly real GDP to investigate the economic linkages among ASEAN countries and find that ASEAN economies are more vulnerable to the US than to Japan. Other studies use stock market data to examine the integration of the stock and bond markets of ASEAN countries. For instance, the stock markets of 5 ASEAN countries (Indonesia, Malaysia,

Philippines, Thailand and Singapore) are examined by Palac-McMiken [1997], Shabri et al. ([2008], [2009]), Ahmed and Sundararajan [2009], Lau et al. [2010], Salina and Shabri [2012], Md-Yusuf and Rahman [2012], while the development and integration of ASEAN bond markets are examined by Plummer and Click [2005], and the ASEAN stock market integration after the Asian financial crisis is investigated by Click and Plummer [2005].

However, not much attention has been devoted so far to the integration/segmentation of ASEAN stock markets at the industry/sector level. There are only a few papers in this field, such as Baele and Inghelbrecht [2009], Bekaert et al. [2009], Bruner et al. [2008], Cavaglia et al. [2000], Ferreira & Gama [2005], Griffin and Karolyi [1998] and Balli et al. [2014]. In particular, there is no paper in the literature applying a VARMA-MGARCH-asymmetric BEKK model to investigate the integration of ASEAN industries.

Among ASEAN6, the literature on the development of the Vietnamese capital market is rather limited. Some authors investigate different aspects of Vietnam in relation to ASEAN. For example, Tuan [1994] explores the economic, political and security implication of ASEAN for Vietnam, Dollar [1996] and Truong and Gates [1996] examine the economic reform, openness and transformation, Thanh [2005] examines Vietnam's trade liberalization and international economic integration, and Leung [Leung 2009] writes about the reforms in the banking and financial sectors of Vietnam.

Table 5. Research on ASEAN capital markets

Authors	Methodology	Findings/Suggestions
Hill [1994]	Analytic survey	ASEAN area is attractive due to its economic performance, policy regimes, institutional arrangements and intellectual contributions.
Plummer [1997] and Naya and Plummer [1997]	Analytic survey	ASEAN has made remarkable strides in economic cooperation.
Naya and Plummer [1991]	Analytic survey	ASEAN needs to improve its intra-regional cooperation in order to take the advantage of its own markets and resources.
Pangestu et al. [1992]	Analytic survey	Each ASEAN country should continue to liberalize, improve the investment climate and remove bottlenecks.
Soesastro [2005]	Analytic survey	Principles and core elements to accelerate ASEAN economic integration: free and open investment, trade liberalization, service sector liberalization, infrastructure development and institutional mechanisms.
Bhattacharyay [2009]	Analytic survey	Enhancing ASEAN infrastructure cooperation to achieve Asia-wide connectivity and integration.
Sharma and Chua [2000]	Gravity model	The trade in ASEAN countries is positively correlated with the size of the economy and the ASEAN integration scheme does not increase intra-trade among these countries.
Ahmed and Tongzon [1998]	VAR model	ASEAN economies are more vulnerable to the US than to Japan.
Palac-McMiken [1997]	Cointegration analysis	The stock markets of Malaysia, Thailand, the Philippines and Singapore are linked with each other, but not with Indonesia. During 1987-95, these markets are not collectively efficient, stock price movements can be predicted.
Shabri et al. [2008], [2009]	Cointegration and Generalised Method of Moments (GMM)	The stock markets of Indonesia, Malaysia, the Philippines, Singapore and Thailand are integrated among themselves and with US and Japan, implying the long-run diversification benefits across the ASEAN markets tend to diminish. Different causal relations are found between ASEAN stock markets and those of the US and Japan.
Ahmed and Sundararajan [2009]	Analytic survey	ASEAN equity markets appear to have become more integrated with those of other countries outside the region than within the region. Several factors cause the limitation of regional integration: (1) large differences in the market development, (2) lack of convergence of regulations and rules governing markets, (3) difference in the measures which are incorporated into national development plans, (4) prevalence of exchange restrictions and (5) the missing markets.
Lau et al. [2010]	VAR model	Stock markets of Indonesia, Malaysia, the Philippines, Singapore and Thailand are integrated both pre- and post-Asian crisis.
Md-Yusuf and Rahman [2012]	VAR model	There is feedback interaction between stock market and exchange rate volatility in Malaysia. There is no causality between stock market and exchange rate volatility in Indonesia, the Philippines and Singapore.
Balli et al. [2014]	Univariate AR-GARCH model	Regional and global shocks have different influences on the ASEAN-wide sector and national equity indices. ASEAN-wide sector returns are mostly driven by local shocks. Investors might be better off diversifying their assets across countries rather than sectors in ASEAN area.
Narayan and Narayan [2010]	Cointegration and Garanger causality tests	Stock price, oil prices and nominal exchange rates of Vietnam are cointegrated.
Nguyen and Bhatti [2012]	Copula model	There is left tail dependence between international oil price changes and Vietnamese stock market.
Dong Loc et al. [2008]	Autocorrelation test, Runs test, Variance-ratio test	Vietnamese stock market is weak-form efficient.
Boubakri and Guillaumin [2015]	ICAPM in multivariate DCC-GARCH model	East Asian stock markets were partially segmented within the region until 2008 then integrated. Risk premium related to regional stock markets is significant for all countries.
Chien et al. [2015]	VAR model	China and ASEAN5 stock markets have at most one cointegrating vector, and the integration between China and ASEAN5 has gradually increased .

In general, the Vietnamese capital market is scarcely investigated with only a few papers focusing on some specific aspects of this market. For example, Nguyen and Ramachandran [2006] and Kim and Mckenzie [2007] investigate the determinants of the capital structure of Vietnamese enterprises. Khaled and Le [2009] study the impacts of domestic and US economic indicators on Vietnamese stock prices, and find a significant relationship between these variables. Narayan and Narayan [2010] and Nguyen and Bhatti [2012] examine the relationship between oil prices and the stock markets of Vietnam.

However, to the best of our knowledge, no paper in the literature has so far provided a comprehensive summary of the development of the Vietnamese capital market. The most complete study on the development of this market is Dong Loc et al. [2008], however, it considers only trading on the Ho Chi Minh Stock Exchange (HSX) up to 2005, without considering price limits and settlement cycles which are important indicators that help define the level of development of a capital market.

5. CONCLUDING REMARKS

Capital market integration and its investment implications have been investigated extensively in the literature. A great variety of models and methodologies have been applied to examine various aspects of capital market integration/segmentation but they can be grouped into a limited numbers of models such as VAR models, GARCH models, Copula models, and factor models. Various studies on portfolio selection have applied the theories of Markowitz [1952] and [1970] and Merton [1973] on different models. However, while most of the models have applied Bayesian frameworks, CAPM models, VAR and GARCH models, there is a lack of application in complicated models like multivariate VARMA-MGARCH-asymmetric BEKK models. Most studies in the literature have used country stock market returns to investigate the issues of integration/segmentation and portfolio diversification. There has been a shortage of studies investigating integration/segmentation at industry/sector levels to assess investment diversification.

In addition, this study finds that the stock markets of ASEAN6 and their international diversification benefits have not received sufficient attention and most of them have relied on VAR and/or GARCH models. The data used in those studies are also mainly at the country level, and there has been a scarcity of studies examining integration/segmentation of ASEAN industries/sectors. It is also clear that in spite of its rapid growth in the last fifteen years, the Vietnamese stock market has not been explored intensively in the literature. Consequently, the beneficial risk diversification opportunities might not be fully appreciated by worldwide investors.

REFERENCES

1. Adler, M & Qi, R 2003, 'Mexico's integration into the North American capital market', *Emerging Markets Review,* vol. 4, no. 2, pp. 91-120.

2. Ahmed, H & Tongzon, JL 1998, 'An investigation of economic linkages among the ASEAN group of countries', *ASEAN Economic Bulletin,* vol. 15, no. 2, pp. 121-136.

3. Ahmed, J & Sundararajan, V 2009, 'Regional Integration of Capital Markets in ASEAN Recent Developments, Issues, and Strategies (with Special Reference to Equity Markets)', *Global Journal of Emerging Market Economies,* vol. 1, no. 1, pp. 87-122.

4. Ahn, D-H, Boudoukh, J, Richardson, M & Whitelaw, RF 1999, 'Optimal Risk Management Using Options', *The Journal of Finance,* vol. 54, no. 1, pp. 359-375.

5. Akdogan, H 1995, *The Integration of International Capiral Markets*, Edward Elgar, Brookfield.

6. Akrasanee, N 1983, *ASEAN-Japan Relations: Trade and Development*, Institute Southeast Asian Studies, Pasir Panjang.

7. Al Janabi, MAM 2014, 'Optimal and investable portfolios: An empirical analysis with scenario optimization algorithms under crisis market prospects', *Economic Modelling,* vol. 40, no. June, pp. 369-381.

8. Alexander, GJ & Baptista, AM 2002, 'Economic implications of using a mean-VaR model for portfolio selection: A comparison with mean-variance analysis', *Journal of Economic Dynamics and Control,* vol. 26, no. 7, pp. 1159-1193.

9. Ané, T & Labidi, C 2006, 'Spillover effects and conditional dependence', *International Review of Economics & Finance,* vol. 15, no. 4, pp. 417-442.

10. Babecký, J, Komárek, L., & Komárková, Z. 2012, 'Integration of chinese and russian stock markets with world markets: National and sectoral perspectives', *Business And Economics--Economic Situation And Conditions,* vol. 2012, no. 4, pp. 4-40.

11. Baca, SP, Garbe, BL & Weiss, RA 2000, 'The Rise of Sector Effects in Major Equity Markets', *Financial Analysts Journal,* vol. 56, no. 5, pp. 34-40.

12. Bae, K-H, Chan, K & Ng, A 2004, 'Investibility and return volatility', *Journal of Financial Economics,* vol. 71, no. 2, pp. 239-263.

13. Bae, KH & Zhang, X 2015, 'The Cost of Stock Market Integration in Emerging Markets', *Asia-Pacific Journal of Financial Studies,* vol. 44, no. 1, pp. 1-23.

14. Baele, L & Inghelbrecht, K 2009, 'Time-varying Integration and International diversification strategies', *Journal of Empirical Finance,* vol. 16, no. 3, pp. 368-387.

15. --- 2010, 'Time-varying integration, interdependence and contagion', *Journal of International Money and Finance,* vol. 29, no. 5, pp. 791-818.

16. Balli, F, Balli, HO & Luu, MN 2014, 'Diversification across ASEAN-wide sectoral and national equity returns', *Economic Modelling,* vol. 41, no. August, pp. 398-407.

17. Barberis, N 2000, 'Investing for the Long Run When Returns Are Predictable', *The Journal of Finance,* vol. 55, no. 1, pp. 225-264.

18. Basak, S & Shapiro, A 2001, 'Value-at-risk-based risk management: optimal policies and asset prices', *Review of Financial studies,* vol. 14, no. 2, pp. 371-405.

19. Bayoumi, T & Mauro, P 2001, 'The suitability of ASEAN for a regional currency arrangement', *The World Economy,* vol. 24, no. 7, pp. 933-954.

20. Beeson, M 2003, 'ASEAN plus three and the rise of reactionary regionalism', *Contemporary Southeast Asia: A Journal of International and Strategic Affairs,* vol. 25, no. 2, pp. 251-268.

21. Bekaert, G 1995, 'Market Integration and Investment Barriers in Emerging Equity Markets', *The World Bank Economic Review,* vol. 9, no. 1, pp. 75-107.

22. Bekaert, G & Harvey, CR 1995, 'Time-Varying World Market Integration', *The Journal of Finance,* vol. 50, no. 2, pp. 403-444.

23. --- 1997, 'Emerging equity market volatility', *Journal of Financial Economics,* vol. 43, no. 1, pp. 29-77.

24. Bekaert, G & Harvey, CR 2002, 'Research in emerging markets finance: looking to the future', *Emerging Markets Review,* vol. 3, no. 4, pp. 429-448.

25. Bekaert, G, Harvey, CR & Lumsdaine, LR 2002, 'Dating the integration of world equity markets', *Journal of Financial Economics,* vol. 65, no. 2, pp. 203-247.

26. Bekaert, G, Harvey, CR & Lundblad, CT 2003, 'Equity market liberalization in emerging markets', *The Journal of Financial Research,* vol. 26, no. 3, pp. 275-299.

27. Bekaert, G, Harvey, CR, Lundblad, CT & Siegel, S 2011, 'What Segments Equity Markets?', *Review of Financial Studies,* vol. 24, no. 12, pp. 3841-3890.

28. --- 2013, 'The European Union, the Euro, and equity market integration', *Journal of Financial Economics,* vol. 109, no. 3, pp. 583-603.

29. Bekaert, G, Harvey, CR & Ng, A 2005, 'Market Integration and Contagion*', *The Journal of Business,* vol. 78, no. 1, pp. 39-69.

30. Bekaert, G, Hodrick, RJ & Zhang, X 2009, 'International Stock Return Comovements', *The Journal of Finance,* vol. 64, no. 6, pp. 2591-2626.

31. Bekaert, G & Wu, G 2000, 'Asymmetric Volatility and Risk in Equity Markets', *Review of Financial studies,* vol. 13, no. 1, pp. 1-42.

32. Bhattacharyay, BN 2009, *Infrastructure development for ASEAN economic integration,* no. 138, Asian Development Bank Institute.

33. Bhatti, MI & Nguyen, CC 2012, 'Diversification evidence from international equity markets using extreme values and stochastic copulas', *Journal of International Financial Markets, Institutions and Money,* vol. 22, no. 3, pp. 622-646.

34. Booth, A 1999, 'Education and Economic Development in Southeast Asia: Myths and Realities', *ASEAN Economic Bulletin,* vol. 16, no. 3, pp. 290-306.

35. Boubakri, S & Guillaumin, C 2015, 'Regional integration of the East Asian stock markets: An empirical assessment', *Journal of International Money and Finance,* vol. 57, no. October, pp. 136-160.

36. Bowman, RG, Chan, KF & Comer, MR 2010, 'Diversification, rationality and the Asian economic crisis', *Pacific-Basin Finance Journal,* vol. 18, no. 1, pp. 1-23.

37. Bruch, M & Hiemenz, U 1984, *Small-and medium-scale industries in the ASEAN countries: agents or victims of economic development?,* Westview Press, Boulder.

38. Bruner, RF, Li, W, Kritzman, M, Myrgren, S & Page, S 2008, 'Market integration in developed and emerging markets: Evidence from the CAPM', *Emerging Markets Review,* vol. 9, no. 2, pp. 89-103.

39. Cai, KG 2003, 'The ASEAN-China free trade agreement and East Asian regional grouping', *Contemporary Southeast Asia,* vol. 25, no. 3, pp. 387-404.

40. Campbell, R, Huisman, R & Koedijk, K 2001, 'Optimal portfolio selection in a Value-at-Risk framework', *Journal of Banking & Finance,* vol. 25, no. 9, pp. 1789-1804.

41. Carrieri, F, Errunza, V & Hogan, K 2007, 'Characterizing World Market Integration through Time', *Journal of Financial and Quantitative Analysis,* vol. 42, no. 4, pp. 915-940.

42. Carrieri, F, Errunza, V & Sarkissian, S 2004, 'Industry Risk and Market Integration', *Management Science,* vol. 50, no. 2, pp. 207-221.

43. Cavaglia, S, Brightman, C & Aked, M 2000, 'The Increasing Importance of Industry Factors', *Financial Analysts Journal,* vol. 56, no. 5, pp. 41-54.

44. Chambet, A & Gibson, R 2008, 'Financial integration, economic instability and trade structure in emerging markets', *Journal of International Money and Finance,* vol. 27, no. 4, pp. 654-675.

45. Chelley-Steeley, P 2004, 'Equity market integration in the Asia-Pacific region: A smooth transition analysis', *International Review of Financial Analysis,* vol. 13, no. 5, pp. 621-632.

46. Chen, R & Yu, L 2013, 'A novel nonlinear value-at-risk method for modeling risk of option portfolio with multivariate mixture of normal distributions', *Economic Modelling,* vol. 35, no. September, pp. 796-804.

47. Chien, M-S, Lee, C-C, Hu, T-C & Hu, H-T 2015, 'Dynamic Asian stock market convergence: Evidence from dynamic cointegration analysis among China and ASEAN-5', *Economic Modelling,* vol. 51, no. December, pp. 84-98.

48. Chirathivat, S 2002, 'ASEAN–China Free Trade Area: background, implications and future development', *Journal of Asian Economics,* vol. 13, no. 5, pp. 671-686.

49. Choudhary, S & Siag, R 2015, 'Stock Market Interlinkages among Major Developed Equity Markets: Critical Literature Review', *International Journal of Applied Research,* vol. 1, no. 4, pp. 88-92.

50. Claessens, S & Schmukler, SL 2007, 'International financial integration through equity markets: Which firms from which countries go global?', *Journal of International Money and Finance,* vol. 26, no. 5, pp. 788-813.

51. Click, RW & Plummer, MG 2005, 'Stock market integration in ASEAN after the Asian financial crisis', *Journal of Asian Economics,* vol. 16, no. 1, pp. 5-28.

52. Cohen, KJ & Pogue, JA 1967, 'An Empirical Evaluation of Alternative Portfolio-Selection Models', *The Journal of Business,* vol. 40, no. 2, pp. 166-193.

53. De Jong, F & De Roon, FA 2005, 'Time-varying market integration and expected returns in emerging markets', *Journal of Financial Economics,* vol. 78, no. 3, pp. 583-613.

54. De Melo Mendes, BV & De Souza, RM 2004, 'Measuring financial risks with copulas', *International Review of Financial Analysis,* vol. 13, no. 1, pp. 27-45.

55. De Santis, G & Imrohoroglu, S 1997, 'Stock returns and volatility in emerging financial markets', *Journal of International Money and Finance,* vol. 16, no. 4, pp. 561-579.

56. Dollar, D 1996, 'Economic reform, openness, and Vietnam's entry into ASEAN', *ASEAN Economic Bulletin,* vol. 13, no. 2, pp. 169-184.

57. Dong Loc, T, Lanjouw, G & Lensink, R 2008, 'Stock-market efficiency in thin-trading markets: the case of the Vietnamese stock market', *Applied Economics,* vol. 42, no. 27, pp. 3519-3532.

58. Dooley, M & Hutchison, M 2009, 'Transmission of the U.S. subprime crisis to emerging markets: Evidence on the decoupling–recoupling

hypothesis', *Journal of International Money and Finance,* vol. 28, no. 8, pp. 1331-1349.

59. Driessen, J & Laeven, L 2007, 'International portfolio diversification benefits: Cross-country evidence from a local perspective', *Journal of Banking & Finance,* vol. 31, no. 6, pp. 1693-1712.

60. Eiling, E, Gerard, B & De Roon, FA 2012, 'Euro-Zone Equity Returns: Country versus Industry Effects', *Review of Finance,* vol. 16, no. 3, pp. 755-798.

61. Elder, J & Serletis, A 2011, 'Volatility in Oil Prices and Manufacturing Activity: An Investigation of Real Options', *Macroeconomic Dynamics,* vol. 15, no. SupplementS3, pp. 379-395.

62. Elliott, RJR & Ikemoto, K 2004, 'AFTA and the Asian Crisis: Help or Hindrance to ASEAN Intra-Regional Trade?', *Asian Economic Journal,* vol. 18, no. 1, pp. 1-23.

63. Elton, EJ, Gruber, MJ, Brown, SJ & Goetzmann, WN 2014, *Modern portfolio theory and investment analysis*, Wiley, New Jersey.

64. Errunza, V & Losq, E 1989, 'Capital Flow Controls, International Asset Pricing, and Investors' Welfare: A Multi-Country Framework', *The Journal of Finance,* vol. 44, no. 4, pp. 1025-1037.

65. Errunza, V, Losq, E & Padmanabhan, P 1992, 'Tests of Integration, Mild Segmentation and Segmentation Hypotheses', *Journal of Banking & Finance,* vol. 16, no. 5, pp. 949-972.

66. Fan, X & Dickie, PM 2000, 'The contribution of foreign direct investment to growth and stability: A post-crisis ASEAN-5 review', *ASEAN Economic Bulletin,* vol. 17, no. 3, pp. 312-323.

67. Ferreira, MA & Gama, PM 2005, 'Have World, Country, and Industry Risks Changed over Time? An Investigation of the Volatility of Developed Stock Markets', *Journal of Financial and Quantitative Analysis,* vol. 40, no. 1, pp. 195-222.

68. Forbes, KJ & Rigobon, R 2002, 'No Contagion, Only Interdependence: Measuring Stock Market Comovements', *The Journal of Finance,* vol. 57, no. 5, pp. 2223-2261.

69. Frost, PA & Savarino, JE 1986, 'An Empirical Bayes Approach to Efficient Portfolio Selection', *Journal of Financial and Quantitative Analysis,* vol. 21, no. 03, pp. 293-305.

70. Gani, A & Clemes, MD 2002, 'Services and economic growth in ASEAN economies', *ASEAN Economic Bulletin,* vol. 19, no. 2, pp. 155-169.

71. Garlappi, L, Uppal, R & Wang, T 2007, 'Portfolio selection with parameter and model uncertainty: A multi-prior approach', *Review of Financial Studies,* vol. 20, no. 1, pp. 41-81.

72. Gimet, C & Lagoarde-Segot, T 2011, 'Global crisis and financial destabilization in ASEAN countries: a microstructural perspective', *Journal of the Asia Pacific Economy,* vol. 16, no. 3, pp. 294-312.

73. Giroud, A 2003, *Transnational corporations, technology and economic development: backward linkages and knowledge transfer in South East Asia*, Edward Elgar Publishing, Cheltenham.

74. Goh, Q, Annuar, M & Zariyawati, M 2014, 'The Benefits of Diversification in Asean Stock Market to Malaysia Investors', *Asian Social Science,* vol. 10, no. 4, pp. 78-92.

75. Grier, KB, Henry, ÓT, Olekalns, N & Shields, K 2004, 'The asymmetric effects of uncertainty on inflation and output growth', *Journal of Applied Econometrics,* vol. 19, no. 5, pp. 551-565.

76. Griffin, JM & Karolyi, AG 1998, 'Another look at the role of the industrial structure of markets for international diversification strategies', *Journal of Financial Economics,* vol. 50, no. 3, pp. 351-373.

77. Grubel, HG 1968, 'Internationally Diversified Portfolios: Welfare Gains and Capital Flows', *The American Economic Review,* vol. 58, no. 5, pp. 1299-1314.

78. Guesmi, K, Moisseron, J-Y & Teulon, F 2014, 'Integration versus segmentation in Middle East North Africa equity market: Time variations and currency risk', *Journal of International Financial Markets, Institutions and Money,* vol. 28, pp. 204-212.

79. Guo, F, Chen, CR & Huang, YS 2011, 'Markets contagion during financial crisis: A regime-switching approach', *International Review of Economics & Finance,* vol. 20, no. 1, pp. 95-109.

80. Harvey, CR, Liechty, JC, Liechty, MW & Müller, P 2010, 'Portfolio selection with higher moments', *Quantitative Finance,* vol. 10, no. 5, pp. 469-485.

81. Harvie, C & Hyun-Hoon, L 2002, 'New Regionalism in East Asia: How Does It Relate to the East Asian Economic Development Model?', *ASEAN Economic Bulletin,* vol. 19, no. 2, pp. 123-140.

82. Heston, SL & Rouwenhorst, KG 1994, 'Does industrial structure explain the benefits of international diversification?', *Journal of Financial Economics,* vol. 36, no. 1, pp. 3-27.

83. Hill, H 1994, 'ASEAN Economic Development: An Analytical Survey—The State of the Field', *The Journal of Asian Studies,* vol. 53, no. 3, pp. 832-866.

84. Hu, L 2006, 'Dependence patterns across financial markets: a mixed copula approach', *Applied Financial Economics,* vol. 16, no. 10, pp. 717-729.

85. Hui, T-K 2005, 'Portfolio diversification: a factor analysis approach', *Applied Financial Economics,* vol. 15, no. 12, pp. 821-834.

86. Huyghebaert, N & Wang, L 2010, 'The co-movement of stock markets in East Asia: Did the 1997-1998 Asian financial crisis really strengthen stock market integration?', *China Economic Review,* vol. 21, no. 1, pp. 98-112.

87. Ibrahim, MH 2006, 'Financial integration and international portfolio diversification: US, Japan and ASEAN equity markets', *Journal of Asia-Pacific Business,* vol. 7, no. 1, pp. 5-23.

88. Jang, H & Sul, W 2002, 'The Asian financial crisis and the co-movement of Asian stock markets', *Journal of Asian Economics,* vol. 13, no. 1, pp. 94-104.

89. Junker, M & May, A 2005, 'Measurement of aggregate risk with copulas', *Econometrics Journal,* vol. 8, no. 3, pp. 428-454.

90. Kate, P & Fabiola, R 2002, 'Measuring financial and economic integration with equity prices in emerging markets', *Journal of International Money and Finance,* vol. 21, no. 6, p. 879.

91. Kenourgios, D & Samitas, A 2011, 'Equity market integration in emerging Balkan markets', *Research in International Business and Finance,* vol. 25, no. 3, pp. 296-307.

92. Khaled, H & Le, KN 2009, 'The impact of macroeconomic indicators on Vietnamese stock prices', *The Journal of Risk Finance* vol. 10, no. 4, pp. 321 - 332.

93. Kim, SJ & McKenzie, MD 2007, *Asia-pacific financial markets: integration, innovation and challenges*, Emerald Group Publishing, Bingley.

94. Kojima, K 2000, 'The "flying geese" model of Asian economic development: origin, theoretical extensions, and regional policy implications', *Journal of Asian Economics,* vol. 11, no. 4, pp. 375-401.

95. Konno, H & Yamazaki, H 1991, 'Mean-absolute deviation portfolio optimization model and its applications to Tokyo stock market', *Management science,* vol. 37, no. 5, pp. 519-531.

96. Kreinin, ME & Plummer, MG 1992, 'Effects of economic integration in industrial countries on ASEAN and the Asian NIEs', *World Development,* vol. 20, no. 9, pp. 1345-1366.

97. Kroner, KF & Ng, VK 1998, 'Modeling Asymmetric Comovements of Asset Returns', *The Review of Financial Studies,* vol. 11, no. 4, pp. 817-844.

98. Lau, E, Puah, C-H, Oh, S-L & Abu Mansor, S 2010, 'Volatility co-movement of Asean-5 equity markets', *Journal of Advanced Studies in Finance,* vol. 1, no. 1, pp. 23-30.

99. Laurenceson, J 2003, 'Economic Integration between China and the ASEAN-5', *ASEAN Economic Bulletin,* vol. 20, no. 2, pp. 103-111.

100. Lehkonen, H 2015, 'Stock Market Integration and the Global Financial Crisis', *Review of Finance,* vol. 19, no. 5, pp. 2039-2094.

101. Leung, S 2009, 'Banking and financial sector reforms in Vietnam', *ASEAN Economic Bulletin,* vol. 26, no. 1, pp. 44-57.

102. Levy, H & Sarnat, M 1970, 'International Diversification of Investment Portfolios', *The American Economic Review,* vol. 60, no. 4, pp. 668-675.

103. Llewellyn, DT 1980, *International Financial Integration: The limits of Sovereignty*, Wiley, New York.

104. Longstaff, FA 2010, 'The subprime credit crisis and contagion in financial markets', *Journal of Financial Economics,* vol. 97, no. 3, pp. 436-450.

105. Loutskina, E & Strahan, PE 2015, 'Financial integration, housing, and economic volatility', *Journal of Financial Economics,* vol. 115, no. 1, pp. 25-41.

106. Mackie, JA 1988, 'Economic growth in the ASEAN region: the political underpinnings', in *Achieving Industrialization in East Asia*, Cambridge University Press, pp. 283-326.

107. Markowitz, H 1952, 'Portfolio Selection*', *The Journal of Finance,* vol. 7, no. 1, pp. 77-91.

108. --- 1970, *Portfolio selection. Efficient diversification of investments.*, Yale University Press, New Haven.

109. Marston, RC 1995, *International financial integration: A study of interest differentials between the major industrial countries*, Cambridge University Press, New York.

110. Masten, AB, Coricelli, F & Masten, I 2008, 'Non-linear growth effects of financial development: Does financial integration matter?', *Journal of International Money and Finance,* vol. 27, no. 2, pp. 295-313.

111. Mayers, D & Rice, EM 1979, 'Measuring portfolio performance and the empirical content of asset pricing models', *Journal of Financial Economics,* vol. 7, no. 1, pp. 3-28.

112. McNeil, AJ & Frey, R 2000, 'Estimation of tail-related risk measures for heteroscedastic financial time series: an extreme value approach', *Journal of Empirical Finance,* vol. 7, no. 3–4, pp. 271-300.

113. Md-Yusuf, M & Rahman, HA 2012, 'The Granger causality effect between the stock market and exchange rate volatility in the ASEAN 5 countries', *Proceedings of the Business, Engineering and Industrial Applications (ISBEIA), 2012 IEEE Symposium on*, 23-26 Sept. 2012, pp. 754-759.

114. Mendelson, M 1972, 'The Eurobond and Capital Market Integration*', *The Journal of Finance,* vol. 27, no. 1, pp. 110-126.

115. Merton, RC 1973, 'An Intertemporal Capital Asset Pricing Model', *Econometrica,* vol. 41, no. 5, pp. 867-887.

116. Miguel-Angel, C & Eduardo, P 2012, 'Modelling dependence in Latin American markets using copula functions', *Journal of Emerging Market Finance,* vol. 11, no. 3, pp. 231-270.

117. Modigliani, F & Modigliani, L 1997, 'Risk-adjusted performance', *The Journal of Portfolio Management,* vol. 23, no. 2, pp. 45-54.

118. Muhamad, AH & Nawawi, AHM 2011, 'Evaluation on international unit trust funds: A case for Malaysia', paper presented at the International Conference on Business, Engineering and Industrial Applications (ICBEIA), IEEE, Kuala Lumpur, 5-7 June, pp. 24-29.

119. Murthi, BPS, Choi, YK & Desai, P 1997, 'Efficiency of mutual funds and portfolio performance measurement: A non-parametric approach', *European Journal of Operational Research,* vol. 98, no. 2, pp. 408-418.

120. Nagayasu, J 2001, 'Currency crisis and contagion: evidence from exchange rates and sectoral stock indices of the Philippines and Thailand', *Journal of Asian Economics,* vol. 12, no. 4, pp. 529-546.

121. Narayan, PK & Narayan, S 2010, 'Modelling the impact of oil prices on Vietnam's stock prices', *Applied Energy,* vol. 87, no. 1, pp. 356-361.

122. Naya, SF & Plummer, MG 1991, 'ASEAN economic co-operation in the new international economic environment', *ASEAN Economic Bulletin,* vol. 7, no. 3, pp. 261-276.

123. --- 1997, 'Economic Co-operation after 30 Years of ASEAN', *ASEAN Economic Bulletin,* vol. 14, no. 2, pp. 117-126.

124. Ng, CK 2002, 'Return and Variance Parities of ASEAN-5 Country Funds and International Equity Index Investments ', *International Journal of Finance,* vol. 14, no. 2, pp. 2244-2256.

125. Nguyen, CC & Bhatti, MI 2012, 'Copula model dependency between oil prices and stock markets: Evidence from China and Vietnam', *Journal of International Financial Markets, Institutions and Money,* vol. 22, no. 4, pp. 758-773.

126. Nguyen, TDK & Ramachandran, N 2006, 'Capital Structure in Small and Medium-sized Enterprises: The Case of Vietnam', *ASEAN Economic Bulletin* vol. 23, no. 2, pp. 192-211.

127. Ozun, A & Cifter, A 2007, *Portfolio Value-at-Risk with Time-Varying Copula: Evidence from the Americas*, no. 2711, Munich Personal RePEc Archive.

128. Palac-McMiken, ED 1997, 'An examination of ASEAN stock markets: a cointegration approach', *ASEAN Economic Bulletin,* vol. 13, no. 3, pp. 299-311.

129. Panchenko, V & Wu, E 2009, 'Time-varying market integration and stock and bond return concordance in emerging markets', *Journal of Banking & Finance,* vol. 33, no. 6, pp. 1014-1021.

130. Pangestu, M, Soesastro, H & Ahmad, M 1992, 'A new look at intra-ASEAN economic co-operation', *ASEAN Economic Bulletin,* vol. 8, no. 3, pp. 333-352.

131. Pasioura, F, Gaganis, C, Zopounidis, C, Alexakis, P & Vasila, A 2013, 'On the integration of European capital markets', *Managerial Finance,* vol. 39, no. 9, pp. 825-836.

132. Pastor, L 2000, 'Portfolio selection and asset pricing models', *The Journal of Finance,* vol. 55, no. 1, pp. 179-223.

133. Pástor, Ľ & Stambaugh, RF 2000, 'Comparing asset pricing models: an investment perspective', *Journal of Financial Economics,* vol. 56, no. 3, pp. 335-381.

134. Pesaran, B & Pesaran, MH 2010, 'Conditional volatility and correlations of weekly returns and the VaR analysis of 2008 stock market crash', *Economic Modelling,* vol. 27, no. 6, pp. 1398-1416.

VIRTUS INTERPRESS®

135. Petri, PA, Plummer, MG & Zhai, F 2012, 'ASEAN Economic Community: A General Equilibrium Analysis*', *Asian Economic Journal,* vol. 26, no. 2, pp. 93-118.

136. Phylaktis, K 1997, 'Capital market integration in the Pacific-Basin region: An analysis of real interest rate linkages', *Pacific-Basin Finance Journal,* vol. 5, no. 2, pp. 195-213.

137. Phylaktis, K & Ravazzolo, F 2002, 'Measuring financial and economic integration with equity prices in emerging markets', *Journal of International Money and Finance,* vol. 21, no. 6, pp. 879-903.

138. Phylaktis, K & Ravazzolo, F 2005, 'Stock prices and exchange rate dynamics', *Journal of International Money and Finance,* vol. 24, no. 7, pp. 1031-1053.

139. Plummer, MG 1997, 'ASEAN and the Theory of Regional Economic Integration: A Survey', *ASEAN Economic Bulletin,* vol. 14, no. 2, pp. 202-214.

140. Plummer, MG & Click, RW 2005, 'Bond market development and integration in ASEAN', *International Journal of Finance & Economics,* vol. 10, no. 2, pp. 133-142.

141. Plummer, MG & Yue, CS 2009, *Realizing the ASEAN Economic Community: a comprehensive assessment*, Institute of Southeast Asian Studies, Pasir Panjang.

142. Pukthuanthong, K & Roll, R 2009, 'Global market integration: An alternative measure and its application', *Journal of Financial Economics,* vol. 94, no. 2, pp. 214-232.

143. Rahman, S & Serletis, A 2011, 'The Asymmetric Effects of Oil Price Shocks', *Macroeconomic Dynamics,* vol. 15, no. SupplementS3, pp. 437-471.

144. --- 2012, 'Oil price uncertainty and the Canadian economy: Evidence from a VARMA, GARCH-in-Mean, asymmetric BEKK model', *Energy Economics,* vol. 34, no. 2, pp. 603-610.

145. Rodriguez, JC 2007, 'Measuring financial contagion: A copula approach', *Journal of Empirical Finance,* vol. 14, no. 3, pp. 401-423.

146. Rosenberg, JV & Schuermann, T 2006, 'A general approach to integrated risk management with skewed, fat-tailed risks', *Journal of Financial Economics,* vol. 79, no. 3, pp. 569-614.

147. Salina, HK & Shabri, MAM 2012, 'Time Varying Integration Among ASEAN-5 Economies', *Aceh International Journal of Social Sciences,* vol. 1, no. 1, pp. 16-23.

148. Samarakoon, LP 2011, 'Stock market interdependence, contagion, and the U.S. financial crisis: The case of emerging and frontier markets', *Journal of International Financial Markets, Institutions and Money,* vol. 21, no. 5, pp. 724-742.

149. Sander, H & Kleimeier, S 2003, 'Contagion and causality: an empirical investigation of four Asian crisis episodes', *Journal of International Financial Markets, Institutions and Money,* vol. 13, no. 2, pp. 171-186.

150. Sekiguchi, S 1983, *ASEAN-Japan relations: investment: proceedings of a workshop and a conference*, Institute of Southeast Asian Studies, Pasir Panjang.

151. Shabri, AMM, Ahamed, KMM & Mohd, AOM 2008, 'Interdependence of ASEAN-5 stock markets from the US and Japan', *Global Economic Review,* vol. 37, no. 2, pp. 201-225.

152. Shabri, AMM, Ahamed, KMM, Mohd, AOM & Hassanuddeen, AA 2009, 'Dynamic linkages among ASEAN-5 emerging stock markets', *International Journal of Emerging Markets,* vol. 4, no. 2, pp. 160 - 184.

153. Shackman, JD 2006, 'The equity premium and market integration: Evidence from international data', *Journal of International Financial Markets, Institutions and Money,* vol. 16, no. 2, pp. 155-179.

154. Sharma, SC & Chua, SY 2000, 'ASEAN: economic integration and intra-regional trade', *Applied Economics Letters,* vol. 7, no. 3, pp. 165-169.

155. Sharpe, WF 2011, *Investors and markets: portfolio choices, asset prices, and investment advice*, Princeton University Press, New Jersey.

156. Shynkevich, A 2013, 'Time-series momentum as an intra- and inter-industry effect: Implications for market efficiency', *Journal of Economics and Business,* vol. 69, pp. 64-85.

157. Soesastro, H 2005, *Accelerating ASEAN economic integration: Moving beyond AFTA*, no. WPE 091, Centre for Strategic and International Studies

158. Stubbs, R 2002, 'ASEAN plus three: emerging East Asian regionalism?', *Asian Survey,* vol. 42, no. 3, pp. 440-455.

159. Subrahmanyam, MG 1975, 'On the optimality of international capital market integration', *Journal of Financial Economics,* vol. 2, no. 1, pp. 3-28.

160. Tai, C-S 2004, 'Can bank be a source of contagion during the 1997 Asian crisis?', *Journal of Banking & Finance,* vol. 28, no. 2, pp. 399-421.

161. --- 2007a, 'Market integration and contagion: Evidence from Asian emerging stock and foreign exchange markets', *Emerging Markets Review,* vol. 8, no. 4, pp. 264-283.

162. --- 2007b, 'Market integration and currency risk in Asian emerging markets', *Research in International Business and Finance,* vol. 21, no. 1, pp. 98-117.

163. Tan, G 2003, *ASEAN Economic Development and Cooperation*, Times Academic Press, Singapore.

164. Tan, LH 2004, 'Will ASEAN Economic Integration Progress Beyond a Free Trade Area?', *International and comparative law quarterly,* vol. 53, no. 4, pp. 935-967.

165. Tan, LH, Fukasaku, K & Plummer, MG 1995, *OECD and ASEAN Economies: The Challenge of Policy Coherence*, OECD Development Centre, Paris.

166. Teulon, F, Guesmi, K & Mankai, S 2014, 'Regional stock market integration in Singapore: A multivariate analysis', *Economic Modelling,* vol. 43, pp. 217-224.

167. Thanh, VT 2005, 'Vietnam's trade liberalization and international economic integration: evolution, problems, and challenges', *ASEAN Economic Bulletin,* vol. 22, no. 1, pp. 75-91.

168. Tongzon, JL 1998, *The economies of Southeast Asia: the growth and development of ASEAN economies*, Edward Elgar Publishing, Cheltenham.

169. Tongzon, JL 2005, 'Role of AFTA in an ASEAN economic community', in DH Wei-Yen (ed.), *Roadmap to an ASEAN Economic Community*, Institute of Southeast Asian Studies, Pasir Panjang, pp. 127-147.

170. Truong, DH & Gates, CL 1996, 'Vietnam in ASEAN—economic reform, openness and transformation: an overview', *ASEAN economic bulletin,* vol. 13, no. 2, pp. 159-168.

171. Tuan, HA 1994, 'Vietnam's membership in ASEAN: economic, political and security implications', *Contemporary Southeast Asia,* vol. 16, no. 3, pp. 259-273.

172. Tuluca, SA & Zwick, B 2001, 'The Effects of the Asian Crisis on Global Equity Markets', *Financial Review,* vol. 36, no. 1, pp. 125-142.

173. Umutlu, M, Akdeniz, L & Altay-Salih, A 2010, 'The degree of financial liberalization and aggregated stock-return volatility in emerging markets', *Journal of Banking & Finance,* vol. 34, no. 3, pp. 509-521.

174. Var, T, Toh, R & Khan, H 1999, 'Tourism and ASEAN economic development', *Annals of Tourism Research,* vol. 26, no. 1, pp. 195-196.

175. Walton, J, Hitchcock, M, King, V & Parnwell, M 1993, 'Tourism and economic development in ASEAN', in M Hitchcock, VT King & MJG Parnwell (eds), *Tourism in South-East Asia.*, Routledge, London, pp. 214-233.

176. Wang, T-Y & Chien, S-C 2007, 'The influences of technology development on economic performance—the example of ASEAN countries', *Technovation,* vol. 27, no. 8, pp. 471-488.

177. Wei-Yen, DH 2005, *Roadmap to an ASEAN economic community*, Institute of Southeast Asian Studies, Pasir Panjang.

178. White, BB & Woodbury, JR 1980, 'Exchange rate systems and international capital market integration', *Journal of Money, Credit and Banking,* vol. 12, no. 2, pp. 175-183.

179. Wong, J & Chan, S 2003, 'China-ASEAN Free Trade Agreement: Shaping Future Economic Relations', *Asian Survey,* vol. 43, no. 3, pp. 507-526.

180. Yam, TK, Heng, TM & Low, L 1992, 'ASEAN and Pacific economic co-operation', *ASEAN Economic Bulletin,* vol. 8, no. 3, pp. 309-332.

181. Yamashita, S 1991, *Transfer of Japanese technology and management to the ASEAN countries*, Tokyo University Press, Tokyo.

182. Yao, H, Li, Z & Chen, S 2014, 'Continuous-time mean–variance portfolio selection with only risky assets', *Economic Modelling,* vol. 36, no. January, pp. 244-251.

183. Yoo, S-H 2006, 'The causal relationship between electricity consumption and economic growth in the ASEAN countries', *Energy policy,* vol. 34, no. 18, pp. 3573-3582.

184. Zha, D 2002, 'The Politics of China-ASEAN Economic Relations: Assessing the Move toward a Free Trade Area', *Asian Perspective,* vol. 26, no. 4, pp. 53-82.

185. Zhang, Z & Hock, OC 1996, 'Trade interdependence and direct foreign investment between ASEAN and China', *World Development,* vol. 24, no. 1, pp. 155-170.