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Intereconomics

Suggested Citation: Cornelius, Peter K. (1994) : The internationalization of emerging stock markets, Intereconomics, ISSN 0020-5346, Nomos Verlagsgesellschaft, Baden-Baden, Vol. 29, Iss. 3, pp. 131-138, http://dx.doi.org/10.1007/BF02926350

This Version is available at:
http://hdl.handle.net/10419/140452

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Peter K. Cornelius*

The Internationalization of Emerging Stock Markets

Stock markets in developing countries today account for about 7 per cent of world equity market capitalization, and this share is rising rapidly. Foreign investors have in the past often faced restrictive barriers to access to these emerging markets. A growing number of developing countries have now started to dismantle these barriers, however, resulting in an increasing interest by international portfolio managers in these emerging stock markets.

Recognizing the potential benefits of a well-functioning equity market, several developing countries have made important efforts to establish and invigorate stock exchanges. In fact, equity markets already exist in more than forty developing countries. The capitalization of these emerging markets has increased more than eightfold during the last decade, and some of them have shown a significantly better performance than stock markets in industrial countries. Thanks to more stable macroeconomic policies, financial sector reforms and decreased regulation, they have become less volatile and more liquid as indicated by an average increase in the volume traded of 200 per cent per annum since the beginning of the 1980s.

At the same time, there has been increasing interest in emerging stock markets by international investors, largely motivated by

□ the possibility of above-average, long-term capital appreciation;

□ the fear of missing a market development and a perceived need to be in the market early; and, perhaps most importantly,

□ potential portfolio diversification gains.[1] While most developing countries have taken a rather cautious approach vis-à-vis foreign investors, a growing number have started to dismantle existing barriers to access in order to attract foreign savings in the form of portfolio investment. In fact, foreign portfolio investment in emerging markets has grown significantly and is projected to reach US$ 100 billion by the end of this decade – compared with only a few million dollars in the early 1980s. A large share of this amount is anticipated to come from big pension funds, which are expected to allocate at least one per cent of their portfolios to this asset class.[2] While the increased availability of foreign capital would likely contribute to the further development of financial markets in developing countries, the internationalization of emerging stock markets may in turn help achieve a more efficient allocation of capital in the world economy.

Evolution of Stock Markets in LDCs

With their total market capitalization having risen from about US$ 80 billion in 1983 to more than US$ 720 billion in 1992 (cf. Table 1),[3] stock markets in developing countries today account for about 7 per cent of world equity market capitalization. At the beginning of the last decade, their share was less than 2 per cent. The value traded in these markets has risen even more rapidly, with their share totalling more than 10 per cent of the total value of stocks traded worldwide.

In fact, some Asian and Latin American markets are already significantly larger than a number of developed

* International Monetary Fund, Washington D.C., USA. The views expressed are strictly those of the author and do not necessarily reflect those of the International Monetary Fund. Geographical names in this paper are used solely for the convenience of the reader and do not imply the expression of any opinion whatsoever on the part of the International Monetary Fund concerning the legal status of any country, territory, city, area, or of its authorities, or concerning the delimination of its boundaries or national affiliation. Helpful comments by David Burton, G. Russel Kincaid, Miguel Savastano, and Ronald Schramm are gratefully acknowledged. The author is solely responsible for all remaining errors.

[1] World Institute for Development Economics Research: Foreign Portfolio Investment in Emerging Equity Markets, Helsinki 1990, p. 14.

[2] Farida Khambata: A Leg Up the Ladder, in: The Banker, July 1993.

[3] These estimates, which are based on data provided by the International Finance Corporation, do not include emerging markets in Eastern Europe. However, some of them, particularly in the Czech Republic, Hungary, and Poland, have recently shown rapid growth rates in terms of market capitalization and volumes traded.

markets. Emerging markets in Korea, Taiwan and Mexico, for example, have reached about the same size as the markets in Spain, Italy and Australia. With a market capitalization of nearly US$ 140 billion, the Bolsa Mexicana de Valores represents the eleventh largest stock market in the world. With a trading volume of US$ 240 million in 1992, the Taiwan stock exchange is the fifth most active bourse worldwide.

Most of these equity markets have evolved in the late 1970s and early 1980s. Like the younger bourses today, e.g. those in Africa and the Caribbean, they were characterized by low liquidity, high volatility and low market efficiency. However, as part of the development process of many countries, which has included macroeconomic and structural reforms as well as financial sector deregulation, they have expanded rapidly and begun to be accepted in the global market place.

While equity markets may play an important role in allocating capital more efficiently, thus contributing to the growth potential of an economy, they tend to develop only after a country has achieved a degree of economic and political stability and started implementing growth-oriented policies. According to Papaioannou and Duke,[4] four stages of development can be identified, although each market has, of course, its own idiosyncracies, and the duration of these phases may vary according to the country and time frame within which an emerging market's evolution occurs:

☐ In the *initial phase*, equity prices tend to rise and stocks become more widely accepted as an investment alternative to traditional bank deposits and short-term government bonds. Equity markets in this stage of development include some African bourses but also markets in the CIS states and the Baltic countries. As market liquidity increases and risk-adjusted returns rise, the equity market becomes more credible.

☐ In the *second phase*, pressure for cheaper capital funding leads to a loosening of regulations in the domestic market and the introduction of financial sector reforms. Improvements in the financial infrastructure typically include the computerization of equity market dealings, the simplification of procedures for listing firms, and the relaxation of antiquated standards for accepting brokers and brokerage houses in equity transactions. Moreover, new accounting systems are introduced which are internationally acceptable and gain investors' confidence, while special committees are instituted to oversee new laws and regulations dealing with the transparency of financial transactions. For example, markets in China, Columbia, India, Pakistan, Peru, the Philippines, and Poland have entered this stage.

☐ With a declining degree of market volatility, in the *third*, or *expansion, phase* investors easily absorb new issues of stocks and corporate bonds. As firms strive to pay up debt and private and newly privatized companies make their initial offers, the volume of issuance increases rapidly.

Table 1
Emerging Stock Markets – Overview

	Market Capitalization (US$ millions) 1983	Market Capitalization (US$ millions) 1992	Value Traded (US$ millions) 1992	Number of Domestic Companies at end – 1992	Market Concentration[1]
Africa					
Cote d'Ivoire	248	331	4	24,000	–
Egypt[2]	1,106	2,594	293	656	–
Kenya	–	607	12	57	–
Mauritius	–	377	10	22	–
Morocco	253	1,876	70	62	–
Nigeria	2,970	1,243	23	153	53.6
Tunisia	–	46	2	17	–
Zimbabwe	265	628	20	62	47.7
Asia					
Bangladesh	48	315	11	145	–
China	–	18,314	13,363	53	–
India[3]	7,178	65,119	20,597	6,700	32.2
Indonesia	101	12,038	3,903	155	61.4
Korea	4,387	107,448	116,101	688	22.4
Malaysia	22,798	94,004	21,730	366	14.0
Pakistan	1,126	8,028	980	628	19.1
Philippines	1,389	13,794	3,104	170	30.6
Sri Lanka	–	1,439	114	190	–
Taiwan	7,599	101,124	240,667	256	15.4
Thailand	1,488	58,259	72,060	305	36.3
Europe					
Greece	964	9,489	1,605	129	50.4
Portugal	84	9,213	3,455	191	22.1
Turkey	968	9,931	8,191	145	11.4
Middle East					
Iran	–	1,157	225	118	–
Jordan	2,713	3,365	1,317	103	31.6
Western Hemisphere					
Argentina	1,386	18,633	15,679	175	72.5
Barbados	–	258	2	15	–
Brazil[4]	15,102	45,261	20,525	565	51.2
Chile	2,599	29,644	2,029	245	57.9
Colombia	857	5,681	554	80	62.9
Costa Rica	118	477	11	93	–
Jamaica	113	3,227	386	48	–
Mexico	3,004	139,061	44,582	195	39.4
Peru	546	2,630	398	287	–
Trinidad & Tobago	1,011	514	22	27	–
Uruguay	9	368	9	26	–
Venezuela	2,792	7,600	2,631	66	80.0
Total	83,222	774,093	594,685	13,217	–

[1] Share of value traded held by ten most active stocks.
[2] Cairo.
[3] Bombay.
[4] Sao Paulo.

Source: International Finance Corporation: Emerging Stock Markets Factbook 1993, Washington D.C. 1993.

[4] Michael G. Papaioannou and Lawrence K. Duke: The Internationalization of Emerging Equity Markets, in: Finance and Development, Vol. 30, No. 3 (September 1993), pp. 36-39.

Trading activity rises and brings about more effective intermediation. The growing need for a risk transfer mechanism spurs the development of equity and currency-hedging instruments such as derivatives and index products. Such activity can be observed in Argentina, Brazil, Hungary, Malaysia, Thailand and Turkey.

□ Finally, in the *fourth*, or *mature, phase* equity risk premiums fall to internationally competitive levels relative to government treasury bill rates or equivalent money market rates. In this phase, growth becomes more stable as can be observed, for example, in Greece, Korea, Mexico, Portugal and Taiwan.

Foreign interest in investing in emerging stock markets has largely been concentrated on those markets which have reached at least the third stage. Although less developed equity markets might offer even higher rates of return and larger diversification gains, they typically lack sufficient liquidity. In fact, the limited availablity of suitable stock is often seen as the major obstacle to international investment in emerging markets.[5] Small trading volumes effectively exclude large institutional investors, because even what these investors consider small trades would amount to large transactions for these markets and could result in excessive volatility.

Removing Barriers to Access

While many developing countries have recognized the potential benefits of a well-functioning equity market and implemented measures to promote the development of those markets, most governments have been quite reluctant to dismantle barriers to access for foreign investors. Several factors explain this cautious attitude.[6] First, there is concern that foreign equity investment represents an unstable inflow that could reverse at the precise moment when the balance of payments is weak and the economy is facing economic difficulties. Second, given the investor's interest in offsetting high risks by above-average rewards, it is argued that portfolio investment is a particularly costly form of inflow when both dividends and future redemptions are taken into account. Third, it is feared that equity investment provides foreigners with an avenue of control over domestic corporations and that foreign investors may simply come to dominate the market, key sectors of industry and the financial services sector.

In practice, these concerns are reflected in a variety of barriers to access, which can be broadly categorized as follows:

□ general restrictions limiting aggregate inflows, for example by confining access to approved country funds;

□ restrictions related to foreign exchange controls on remittances;

□ restrictions related to the preservation of domestic ownership;

□ restrictions aimed at isolating the domestic financial sector;

□ taxation disincentives that can effectively turn away foreign investors.

However, more recently, a growing number of developing countries have begun to recognize the potential advantages of attracting foreign savings for economic growth and started to eliminate capital restrictions. Although in some cases severe barriers still apply, access to emerging markets has in general become significantly more liberal. This applies in particular to the rapidly growing Asian and Latin American stock markets (cf. Table 2).[7]

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[5] For the main markets, the number of stocks with the desired characteristics, i.e. tradeability and the reliability of regularly released information, is estimated to be in the order of 900-1300 – compared with a total number of listed companies of more than 13,000 at end-1992. Korea and Taiwan account for about two thirds of this total. Cf. World Institude of Development Economics Research, op. cit.

[6] World Institute for Development Economics Research, op. cit., p. 20.

Peter Behrens (Ed.)

EEC Competition Rules in National Courts

Les règles de concurrence de la CEE devant les tribunaux nationaux

Part One: United Kingdom and Italy / Première Partie: Royaume Uni et l'Italie

The competition rules of the EEC are directly applicable in the Member States. Therefore, the national courts play an important role in the implementation of European competition law. The editor of this volume has initiated a research project which will analyse the national case law. This volume contains the national reports from the United Kingdom and Italy. Further national reports will follow.
The project is designed to make the national case law accessible to lawyers practicing in the field of European competition law. The Community organs get an overview over the implementation of Community law in Member States. Those interested in research find the materials for further comparative studies.
The authors are competition law experts from the different Member States. The editor ist Professor of Law at the University of Hamburg and Member of the Board of Directors of the Institut für Integrationsforschung of the Stiftung EUROPA-KOLLEG Hamburg.

1992, 315 p., paperback, 88,– DM, 620,– öS, 80,– sFr, ISBN 3-7890-2709-X
(Schriften des Europa Kollegs Hamburg zur Integrationsforschung, Bd. 1)

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Table 2
Barriers to Access in Emerging Stock Markets
(at end-March 1993)

	Are listed stocks freely available to foreign investors?	Repatriation of: Income	Capital	Withholding Tax for U.S. Based Investors: Interest	Dividends	Long-term Capital gains on Listed Shares
Argentina	Free entry	Free	Free	0.0	0.0	0.0
Brazil	Free entry	Free	Free	15.0	15.0	0.0
Bangladesh	Relatively free entry	Some restrictions		...	...	...
Chile	Relatively free entry	Free	After I year	32.0[a]	32.0[a]	32.0[a]
China	Special classes of shares	Free	Free	10.0	10.0	0.0
Columbia	Free entry	Free	Free	12.0	12.0	12.0
Costa Rica	Relatively free entry	Free	Free	0.0	5.0	0.0
Greece	Free entry	Free	Some restrictions	15.0	0.0	0.0
India	Authorized investors only	Free	Free	10.0	10.0	10.0
Indonesia	Relatively free entry	Some restrictions		20.0	20.0	20.0
Jamaica	Relatively free entry	Free	Free	25.0	33.3	0.0
Korea	Relatively free entry	Free	Free	12.0	15.0	0.0
Malaysia	Free entry	Free	Free	20.0	0.0	0.0
Mexico	Relatively free entry	Free	Free	15.0	0.0	0.0
Nigeria	Closed	Some restrictions		15.0	5.0	20.0
Pakistan	Free entry	Free	Free	10.0	10.0	0.0
Peru	Free entry	Free	Free	37.0	11.0	0.0
Philippines	Special classes of shares	Free	Free	15.0	15.0	0.25[b]
Portugal	Free entry	Free	Free	25.0	20.0	0.0
Sri Lanka	Relatively free entry	Some restrictions		0.0	15.0	0.0
Taiwan	Authorized investors only	Free	Free	20.0	20.0	0.0
Thailand	Relatively free entry	Free	Free	15.0	10.0	0.0
Trinidad & Tobago	Relatively free entry	Free	Free	25.0	25.0	0.0
Turkey	Free entry	Free	Free	0.0	0.0	0.0
Venezuela	Relatively free entry	Free	Free	20.0	20.0	30.0[c]
Zimbabwe	Special classes of shares	Restricted		0.0	20.0	30.0

[a] Rates if investment made under DI 600, the most commonly used venue. [b] Transaction tax on gross transaction value, in lieu of capital gains tax. [c] Rate on capital gains in excess of Bs 2 million.

Note: Some industries in some countries are considered strategic and are not available to foreign/non-resident investors, and the level of foreign investment in other cases may be limited by national law or corporate policy to minority positions not to aggregate more than 49 per cent of voting stock. The summaries above refer to new money investment by foreign institutions; other regulations may apply to capital invested through debt conversion schemes or other sources.

Key to access: Free entry – no significant restrictions to purchasing stocks; relatively free entry – some registration procedures required to ensure repatriation rights; special classes – foreigners restricted to certain classes of stocks, designated to foreign investors; authorized investors only – only approved foreign investors may buy stocks; closed – access prohibited or severely restricted.

Key to repatriation: Income – dividends, interest, and realized capital gains; capital – initial capital invested; some restrictions – typically, requires some registration with or permission of the authorities who may restrict the timing of exchange release; free – repatriation done routinely.

Source: International Finance Corporation, op. cit.

The probably most liberal access policy is applied in Malaysia, where non-residents are free to buy and sell stocks on the local market – with only the exception of first public offerings. There is no withholding tax on dividends and capital gains. But other countries in Asia have already implemented steps to follow the Malaysian example. Until recently, for example, India and Korea restricted foreigners' access to investments in approved mutual funds. As a rule, these funds had to be co-managed by domestic trust companies, and the sale of shares to domestic residents was prohibited. In early 1992, however, these restrictions were liberalized. The Indian government decided to allow domestic companies to issue convertible bonds in foreign markets. In addition, foreign pension funds were permitted to invest directly in the Indian stock market. At the same time, restrictions on the repatriation of income and capital were abolished, and the withholding tax on interest, dividends and capital gains was reduced. In the case of Korea, foreign direct portfolio investment of up to 10 per cent was permitted in January 1992, with a maximum holding of 3 per cent per individual investor. From October 1991, foreign investors were allowed to convert convertible bonds, which had already reached their conversion date, into the underlying stock and use the proceeds from selling these stocks to buy most other stocks in the market. Moreover, the taxation of interest and dividends was modified.

In contrast, Taiwan has maintained tight restrictions. Although in 1991 foreigners were allowed to invest directly in the Taiwanese stock market, stocks are available only to authorized investors. In fact, the Taiwanese authorities have become increasingly reluctant to allow more foreign

[7] For further details cf. Stuart Allen and Selina O'Connor: The Guide to World Equity Markets 1992, Euromoney Publications, London 1992.

capital into Taiwan because of the upward pressure on the already strong currency. The stock market instruments are severely restricted for foreigners, with regulations prohibiting short sales or margin trading.

Important examples where restrictions on portfolio investment have been dismantled can also be found in Latin America. Mexico already began to liberalize its access policy in the late 1980s. Today, foreign investors may purchase any stocks which brokerage firms are authorized to transfer into a trust fund that was set up by the government development bank (Nafinsa). In the process of Mexico's privatization programme for the country's 18 commercial banks, the government decided in early 1992 to allow foreign investors also to purchase financial institutions' and bank B class shares (normally reserved for Mexican nationals) through the trust fund. According to the privatization programme, 51 per cent of the shares are sold by auction to groups of individuals with Mexican citizenship, and the remaining 49 per cent is floated in secondary offerings to institutional investors, companies, and foreign investors. However, foreign investors are not yet permitted to own voting shares, and participation is limited to 30 per cent of total stock.

Brazil, the second largest emerging market in Latin America, has also liberalized regulations regarding foreign portfolio investment. In early 1991, the government decided to open Brazil's stock markets, allowing foreign investors to own Brazilian securities directly rather than only through Brazilian-incorporated investment funds as before. Moreover, Brazilian companies were allowed to issue securities in the international capital markets. Also, the government resolution took away the diversification requirements of the past, which had stipulated that each security was to represent less than 10 per cent of the total value of the portfolio. In addition, the minimum investment period required for foreign investment in Brazilian stocks was reduced from 3 months to 24 hours. On the other hand, investments by institutional investors were limited to a minority ownership in the company.

However, the liberalization of access barriers has not been confined to the more advanced emerging stock markets. Although African bourses, such as Nigeria or Zimbabwe, have remained virtually closed to foreign investors, other countries have considerably liberalized their access policies and actively try to attract foreign capital. In Columbia and Peru, for example, listed stocks are now freely available to foreign investors, and income and dividends may be freely repatriated. In other cases, e.g. Costa Rica, Jamaica and Sri Lanka, some registration procedures are required to ensure repatriation rights.

International Portfolio Diversification

The good performance of many emerging stock markets, their increasing liquidity and the improved opportunities to invest in these markets has resulted in a growing interest both by international portfolio managers and in the academic literature. Most importantly, however, this interest has been motivated by the potential diversification benefits these markets may offer. As a number of studies have found, diversifying into emerging markets may significantly reduce an investor's portfolio risk without changing expected returns. As Darrat and

Table 3

Correlation Coefficient Matrix of IFC Global Total Return Indexes

(US$; five years ending December 1992)

	USA	Arg	Bra	Chi	Col	Gre	Ind	Idn	Jor	Kor	Mal	Mex	Nig	Pak	Phi	Por	Tai	Tha	Tur	Ven	Zim
USA	1.00																				
Arg	0.03	1.00																			
Bra	0.14	-0.18	1.00																		
Chi	0.15	-0.07	0.15	1.00																	
Col	0.07	-0.08	0.13	-0.15	1.00																
Gre	0.01	0.11	0.12	0.00	0.20	1.00															
Ind	-0.16	0.21	0.10	-0.01	-0.10	0.04	1.00														
Idn	0.16	-0.26	0.06	0.16	0.27	0.34	0.06	1.00													
Jor	0.24	-0.13	-0.09	-0.04	0.08	0.12	-0.07	0.14	1.00												
Kor	0.20	-0.15	0.00	-0.07	-0.15	-0.27	-0.11	-0.01	-0.06	1.00											
Mal	0.53	-0.12	0.20	0.18	0.09	-0.04	0.03	0.46	0.22	0.27	1.00										
Mex	0.31	0.21	0.04	0.09	-0.10	-0.16	0.01	0.07	0.02	0.25	0.19	1.00									
Nig	-0.04	0.11	-0.05	-0.21	0.15	0.16	-0.28	-0.09	0.02	0.04	0.01	-0.05	1.00								
Pak	0.05	0.03	0.00	-0.10	0.41	-0.11	-0.11	0.09	0.06	0.01	-0.01	-0.04	-0.04	1.00							
Phi	0.40	-0.03	0.23	0.16	0.26	0.22	-0.08	0.51	0.25	0.03	0.47	-0.01	0.04	0.07	1.00						
Por	0.29	0.09	0.28	0.05	0.04	0.35	0.02	0.20	0.03	0.10	0.23	-0.02	-0.11	0.11	0.25	1.00					
Tai	0.12	-0.04	0.07	0.27	0.03	-0.06	-0.08	0.29	0.21	0.14	0.23	0.30	0.00	-0.03	0.28	-0.06	1.00				
Tha	0.41	0.05	0.08	0.12	0.08	0.10	0.15	0.40	0.19	0.13	0.59	0.28	-0.02	0.06	0.37	0.09	0.25	1.00			
Tur	-0.13	0.23	0.14	-0.06	0.17	0.38	0.15	0.26	-0.06	-0.06	0.15	0.07	0.09	0.13	-0.03	0.36	0.11	0.29	1.00		
Ven	-0.06	0.05	-0.18	-0.19	0.18	0.05	0.05	0.03	-0.13	-0.11	-0.28	-0.04	0.18	0.02	-0.21	-0.06	-0.24	-0.20	-0.10	1.00	
Zim	0.03	-0.14	0.09	0.00	-0.19	0.02	-0.25	0.04	-0.13	-0.02	0.04	0.02	0.20	0.14	0.06	0.07	-0.03	-0.19	0.03	0.19	1.00

Source: International Finance Corporation., op. cit.

Mukherjee have shown, for example, "...it is possible to perceive betas of LDC's stocks being much lower than those of stocks in developed countries for a well diversified investor...".[8]

These potential benefits result mainly from low correlations of equity prices with other markets, suggesting that national factors play an important role in the return-generating process.[9] In fact, as Table 3 shows, a number of emerging stock markets are even negatively correlated with the US market.

Bailey and Stulz[10] estimated ex post efficient frontiers, i.e. the locus of all convex combinations of any two efficient portfolios, for 1977-85 available to investors holding long positions in Pacific Basin indexes as well as the S&P 500, using daily and monthly data. According to their results, with daily data a US investor could have reduced his or her portfolio risk by 50 per cent compared with a purely domestic portfolio represented by the S&P 500. While the authors argue that the use of daily data may overstate the potential gains from diversification,[11] the use of monthly data would still have implied a reduction in portfolio risk by about a third.

But even compared with a portfolio that is already diversified internationally with respect to other developed markets, an international investor appears to be able to reduce his portfolio risk further by adding emerging markets. Solnik, for example, considered five different investment strategies.[12] The first strategy restricted the investment universe of a US investor to the national market portfolio represented by the S&P 500. The second strategy was represented by the Morgan Stanley Capital International (MSCI) world index of open markets. These strategies were chosen because they can easily be implemented by the purchase of index funds; they are therefore called passive strategies.

In addition, Solnik examined three active strategies, defined as strategies where a US investor attempts to maximize returns for a given level of risk by investing in various national stock indices. The first active strategy allowed for investments in all national stock markets included in the MSCI index (the smaller European markets are included in the European stock index) as well as Korea, Taiwan and Thailand. The second active strategy considered the same universe less the restricted emerging markets of the Pacific Basin. Finally, the third active strategy excluded all investments in Asia, restricting the universe to the United States and Europe.

Estimating ex post efficient frontiers for 1977-88 based on the different strategies described above, Solnik found that for a given level of return a US investor could have reduced his portfolio risk significantly by diversifying internationally. The purely domestic strategy was dominated by the passive global strategy, which, in turn, was dominated by the active international strategies. Among those, the dominant strategy was clearly the one that included the emerging markets, resulting in a significant improvement in the risk/return trade-off. According to his estimates, the optimal allocation to these markets would have been more than 40 per cent – regardless of the degree of the foreign investor's risk aversion.

However, these estimates should not be regarded as projections for potential capital flows to developing countries once barriers to access are completely dismantled. First of all, they ignore that there are transaction and information costs associated with foreign investment. Investors normally know much less about foreign markets, institutions and firms and may therefore impute extra "risk" to foreign investments, particularly concerning emerging markets.[13] As French and Poterba

[8] Ali F. Darrat and Tarun K. Mukherjee: The Behavior of the Stock Market in a Developing Economy, in: Economics Letters, Vol. 22 (1987), pp. 273-278, here p. 273.

[9] As is well known, gains from international portfolio diversification depend on the variance of the foreign indexes, on their correlation with the domestic market index, and on their mean returns. If foreign indexes have similar variances and mean returns as the domestic market index, the benefits will be highest if the foreign indexes have a low correlation with the domestic market. Cf. for example, Herbert G. Grubel: Internationally Diversified Portfolios: Welfare Gains and Capital Flows, in: The American Economic Review, Vol. 58 (1968), pp. 1299-1314; Haim Levy and Marshall Sarnat: International Diversification of Investment Portfolios, in: The American Economic Review, Vol. 60 (1970), pp. 668-675; Bruno Solnik: Why Not Diversify Internationally?, in: Financial Analyst, Vol. 30 (1974), pp. 48-54.

[10] Warren Bailey and Rene Stulz: Benefits of International Diversification: the Case of Pacific Basin Stock Markets, in: Journal of Portfolio Management, 1990, pp. 57-61.

[11] First, the returns for the various markets are not truly contemporaneous; they are observed at different calendar times and hence contain different information. Second, differing autocorrelation patterns across countries make it difficult to estimate how stock price changes are related across countries. Daily returns may be measured with noise and be biased toward zero. Given that the random walk hypothesis holds better for weekly and monthly returns, it seems more appropriate to estimate efficient frontiers by using returns with this periodicity.

[12] Bruno Solnik: Pacific Basin Stock Markets and International Diversification, in: S. Gho Rhee and Rosita P. Chang (eds.): Research on Pacific Basin Stock Markets, Amsterdam 1991, pp. 309-321.

[13] In fact, as a number of studies have shown, even the more developed emerging markets, such as Malaysia, Korea, and Taiwan, seem to be informationally inefficient. In many cases, serial correlation – typically showing a positive sign – was detected, presumably resulting from the slow incorporation of new information or insider trading. This suggests that despite important efforts in reducing barriers to the dissemination of information companies appear to divulge less information with a greater time lag than is the norm in developed markets. Cf. also Mansoor Dailami and Michael Atkin: Stock Markets in Developing Countries. Key Issues and a Research Agenda, World Bank Working Paper WPS 515, Washington D.C. 1990; Peter K. Cornelius: A Note on the Informational Efficiency of Emerging Stock Markets, in: Weltwirtschaftliches Archiv (forthcoming).

argue, this may be an important reason why international diversification has been far less than perfect even with regard to developed markets.[14] In their view, the lack of diversification appears to be the result of investor choices rather than institutional constraints.

However, in this connection it is important to note that the International Finance Corporation has recently introduced new Investable Emerging Market Index (IFCI) series, which go beyond definitions of legal investability and apply tighter liquidity criteria than before.[15] These indexes are to provide international investors with the definitive benchmarks for emerging stock market performance, reducing information costs and facilitating the implementation of indexed investment strategies. Passive indexation strategies are assumed to be particularly attractive for large institutions because they can provide a cost-effective, diversified exposure to the emerging market asset class. As a rule, index funds generate lower management and custodial fees and substantially lower on-going transaction costs.

Secondly, it would be misleading to assume that the correlation of returns in emerging markets and abroad is exogenous, i.e. that the risk/return benefits would not be affected by the elimination of access barriers. Low correlations with foreign markets, which explain why emerging markets may provide significant portfolio diversification gains, are a strong indication that these markets are segmented. As is well known, market segmentation may develop from several types of barrier to international investments. In a segmented market, assets are priced according to domestic factors, while in an integrated market domestic assets are priced according to international factors.[16]

The hypothesis that barriers to access play an important role for the degree of market integration of emerging economies has been formally tested in a

[14] Kenneth R. French and James Poterba: Investor Diversification and International Equity Markets, in: The American Economic Review, Vol. 81 (May 1991), pp. 222-226.

[15] Farida Khambata, op. cit.

[16] Cf. Campbell R. Harvey: The World Price of Covariance Risk, in: The Journal of Finance, Vol. 46 (1991), pp. 111-157. Black, for example, has shown that the world market portfolio will be efficient for neither foreign nor domestic investors in the presence of differential taxation on foreign investments. Cf. Fischer Black: International Capital Market Equilibrium with Investment Barriers, in: Journal of Financial Economics, Vol. 1 (1974), pp. 337-352. Errunza and Losq have examined a one-way barrier, which precludes domestic agents from investing in foreign assets, but allows foreign agents to freely invest in domestic markets. Cf. V. Errunza and E. Losq: International Asset Pricing under Mild Segmentation: Theory and Test, in: Journal of Finance, Vol. 40 (March 1986), pp. 105-124. As the authors have shown, such a restriction results in a higher return, or super premium, on foreign securities by foreign investors over the unrestricted equilibrium return. The impact of a legal restriction by the government that constrains the fraction of equities of local firms that can be owned by foreigners has been the subject of several studies, for example: C. S. Eun and S. Janakiramanan: A Model of International Asset Pricing with a Constraint on Foreign Equity Ownership, in: Journal of Finance, Vol. 41 (September 1986), pp. 897-914; and N. Bulent Gultekin, Mustafa N. Gultekin and Alessandro Penati: Capital Controls and International Capital Market Segmentation: The Evidence from the Japanese and American Stock Markets, in: Journal of Finance, Vol. 44 (September 1989), pp. 849-869. These studies have generally shown that two different prices rule in the foreign securities market, reflecting the premium offered by the domestic investor over the price under no constraints and the discount demanded by the foreign investor.

Andreas Tegge

Die Internationale Telekommunikations-Union

Organisation und Funktion einer Weltorganisation im Wandel

The ITU is the regulatory body and central forum for cooperation in the field of international telecommunications. Governments and the telecommunications industry reach agreement in this world organization in regard to regulations and standards for global telecommunications traffic. The main tasks of the ITU are the establishment of principles governing tariffs and clearance payments, the standardization of telecommunications services and equipment, the allocation of radio frequencies and satellite orbits, and development assistance in telecommunications. The ITU is facing the greatest challenge in its history in the wake of a world-wide deregulation of telecommunications. This monograph surveys the structure and operation of the ITU, its reform efforts and its future role in a market-driven world telecommunications order. This is also the first comprehensive German-language work on the ITU, besides being a contribution to the law and political economy of international organizations. This work is intended for legal scholars, economists, political scientists, and practitioners in the fields of politics and the economy.

1994, 373 pp., hardback, 98,– DM, 690,50 öS, 89,– sFr, ISBN 3-7890-3230-1
(Law and Economics of International Telekommunications, Vol. 21)

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number of studies. For example, Bailey[17] found that capital controls in Pacific Basin markets had a significant explanatory power for different responses to "news" in the United States. Cheung and Mak[18] detected short-term Granger-causality between the US market and the open emerging markets in Asia. In contrast, prices in markets with severe barriers to access did not seem to be Granger-caused by changes in prices in the US market. Finally, in another study, the present author[19] found that stock prices in Malaysia, a very open market, and US stock prices were moving together in the long run, whereas no cointegration was found in the case of Korea and the United States.

However, with the removal of barriers to access emerging markets are likely to become more integrated, implying that domestic assets will increasingly be priced according to international factors. This would likely be reflected in stronger co-movements between returns in emerging markets and industrial country markets. As a result, the betas of assets in emerging markets can be assumed to increase over time, thus reducing the potential benefits from diversification for a foreign investor. Thus, while potential diversification gains from investing in emerging stock markets currently appear to be very high, Solnik himself cautioned that if "foreign investment had been allowed on a significant scale, some or all of these risk/return benefits could have disappeared."[20]

In fact, the experience in industrial countries which dismantled capital controls in the postwar period provides ample support for this hypothesis. Taylor and Tonks,[21] for example, who examined the effects of the abolition of exchange controls in the United Kingdom in October 1979, found a significant increase in the degree to which the United Kingdom and overseas markets move together in the long run after this date. The authors concluded that the reduction in long-term portfolio risk from international diversification has become significantly smaller in the post-liberalization period.[22] Thus, there seem to be good reasons to regard recent estimates about future capital flows to emerging markets with some caution.

Conclusions

A number of emerging stock markets which were established in the late 1970s and early 1980s have reached a stage of development where they increasingly attract the attention of international investors. Thanks to macroeconomic and structural reforms and financial deregulation, their market capitalization has grown rapidly, while stock prices and returns have become less volatile. The degree of liquidity and the variety of trading instruments has risen significantly, allowing the markets to play an increasingly important role in allocating capital.

Many governments are now beginning to realize that the opening of equity markets to foreign investment could provide an important avenue for attracting foreign savings needed to achieve the country's growth targets. While, until recently, most developing countries took a rather cautious attitude regarding foreign portfolio investment, a growing number of them have started to dismantle existing barriers to access. Given that many emerging markets have shown a much better performance than industrial country equity markets and investments in these markets may result in significant portfolio diversification gains, it is generally assumed that the elimination of capital restrictions would indeed lead to large increases in capital flows to developing countries.

As argued in this paper, however, foreign portfolio investment will likely be concentrated on relatively few emerging markets, namely those where the availability of suitable stock can absorb the expected increase in the supply of capital. While it can be assumed that capital flows to those markets will significantly increase once exchange restrictions are fully eliminated, it needs to be taken into account that the degree of market integration is likely to rise. Given that barriers to access seem, at least partly, to have been responsible for the low correlation of stock prices in emerging markets and abroad, their removal would probably lead to a reduction in return/risk ratios. Therefore, recent estimates of possible portfolio investment in developing countries should be viewed with some caution. Nevertheless, the internationalization of emerging stock markets is an important step which can bring about significant welfare gains, both from the global point of view of international capital allocation and from the perspective of the host countries.

[17] Warren Bailey: US Money Supply Announcements and Pacific Rim Stock Markets: Evidence and Implications, in: Journal of International Money and Finance, Vol. 9 (1990), pp. 344-356.

[18] Yan-Leung Cheung and Sui Choi Mak: The International Transmission of Stock Market Fluctuation between the Developed Markets and the Asian-Pacific markets, in: Applied Financial Economics, Vol. 2 (1992), pp. 43-47.

[19] Peter K. Cornelius: Capital Controls and Market Segmentation of Emerging Stock Markets, in: Seoul Journal of Economics, Vol. 5 (1992), pp. 289-299.

[20] Bruno Solnik: Pacific Basin Stock Markets ..., op. cit., p. 320.

[21] Mark P. Taylor and Ian Tonks: The Internationalisation of Stock Markets and the Abolition of U.K. Exchange Controls, in: The Review of Economics and Statistics, Vol. 71 (May 1989), pp. 332-336.

[22] It should be noted, however, that Taylor and Tonks' study was based on country level indexes. However, a higher degree of co-movements in stock price indexes on the country level does not necessarily mean an equal rise on the sectoral level. Wadhwani, for example, found that European stock markets have become increasingly integrated, inter alia, due to the elimination of trade and payments barriers and capital controls and to the convergence of financial policies, especially in relation to the European Monetary System. However, he found surprisingly little correlation between industrial sectors in different markets. Cf. Sushil Wadhwani: Are European Stockmarkets Converging?, in: Goldman Sachs Portfolio Strategy (October 1991).