INDIAN STOCK MARKET INTEGRATION AND CROSS COUNTRY ANALYSIS

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ABSTRACT;

After the liberalization of the Indian capital market its integration with international stock market has grown. The Present study is examining the stock market integration between India and developed countries such as USA, UK, Japan, France and Australia. The objective is to examine the stock indices of the above-mentioned developed countries with relation to India for a period of 10 years (1 October 1997-1 October, 2007) out the integration between them. For this purpose, Unit Roots, Granger Causality, co integration and Error correction Mechanism are used. To examine the short –run and long run relationships between India and the developing counties. The study found that co integration existing between India and developed countries. (USA, UK, Japan, France and Australia).

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Introduction:

Indian stock markets, in the recent years, have sharply risen on the back of improving macroeconomic fundamentals and large inflow of foreign money. Large foreign investments have brought greater transparency and liquidity into the Indian market. India entered the International Financial Markets to mobilize resource towards the end of the 1970s around the time of the launch of Fourth Five Year Plan. India could not have carried on with its old policies and procedures, as there were visible signs that the flow of soft financing would decrease with the emergence of new claimants on such financing. The World Bank also consented for India and its financial institutions to enter global markets and establish themselves as creditworthy borrowers. In lieu of the rise in activities of International Financial Markets, it seemed to be the most opportune time for the country to enter the markets for mobilizing resource support that was so vital for financing India's economic plans. While entering the global financial markets in 1980-81, India passed through numerous phases of operations in these markets. The first phase lasted for the ten-year period, 1980-1990, and finances were raised on a modest scale during this initial phase with the down grading of India's credit rating by the International rating agencies during the early half of 1991, the markets were completely closed to the Indian entities and barring short term facilities for financing oil imports. Finance could not be raised during the ensure there-year period 1991-94. The year 1994-95 marks a watershed in India's external market operations as without a formal up gradation to investment grade rating; India could access the international financial markets for raising finances in multiple ways. And, despite temporary treatment since the mid-1990s for raising debt, issues of Global Depository Receipts (GDRs) American Depository Receipts (ADRs) , mutual fund flotation abroad, portfolio investment and foreign direct investments. It is necessary to note that India is in a position to raise foreign finances to the tune of $ 10 billion per annum from all these sources during the new phases.

The roles that regions play in the world's capital markets are changing. While the US remains the largest financial markets; the euro zone has emerged as a financial powerhouse indeed. The euro zone, UK and US account for some 80% of all cross border capital flows. In contrast, Japan is strikingly isolated; its capital flows are smaller than China although china's stock of financial assets is only one –quarter of the size of Japan's. The underlying force for integration is that people want freedom to make economic decisions and to access different forms of finance, risk management techniques and investment and portfolio diversification opportunities. It is now much easier to circumvent restrictions, which people regard as inimical to their private interests and this throws policy makers into a reactive role, forcing them to reassess their policy process. International capital market relationships not only have implications for portfolio diversification, but also have important implications for macro economic polices that influence trade and fiscal balances of countries and the financial polices of different agents within the capital improving economy. In a country like India where the stock market is undergoing significant transformation with the liberalization measures, there are also concerns regarding its exposure to risk in case of global/regional crises i.e. need to know how far contagion can affect the Indian stock market in a more and more globally integrated environment. The degree of financial openness is an empirical question which needs to be resolved and if policy makers are to know the structure of their economies and implement polices that will be effective in achieving their aims. One implication of integration I s that price of the good or assets is determine by the market, and economists generally argue that outcomes in competitive markets tend to be more efficient and equitable than otherwise. The degree of integration would seem to indicate whether there are efficiently gains to be had by liberalization; the argument that financial integration promotes economic development and welfare is not, however uncontroversial, and there are arguments that transitional costs can be high and that the gains from openness are overstated. The events of 1997 might be used to buttress these types of arguments.

In this study, an effort has been made to examine how Indian capital market is integrated with the Indian major trading partners (developed countries), especially after the initiation of financial and economic reforms. The results, both at international level

and India, have been largely inconclusive. The Indian capital market has been experiencing a process of structural transformation in that the operations in the Indian capital market are being conducted on the standard equivalent to those in the international developed markets. Internationally, many studies relating to capital market integration have been conducted to test the degree of capital market integration, especially in developed countries. There are a very few studies on capital market integration in India. The present study is intended to partially fill this gap.

Data

The study comprises daily stock market indices at closing times as collected from the **www.econstats.com** and the validity of the data was checked from respective stock exchange websites. Accordingly, our data series consist of the daily index values of the, DJIA, FTSE-100, NIKKEI-225, CAS-40 and ATX-100 for US, UK, Japan, France, and Australia respectively. The period of study is based on the collected data series 1997-2007.

The rest of the paper is arranged as follows: section 2 gives a brief review of existing literature relevant with this study. Section 3 describes the methods used for our study. Section 4 presents the analytical framework for the present study as well as the results of the empirical exercise. Section 5 concludes with a summary of the results

Section -2

Review of Literature: Several studies have attempted to examine the integration of Capital markets. The findings of various studies are given below.

Bailey and Stulz (1990) investigated the prospects for international portfolio diversification among pacific basin stock markets using the daily returns for the Malaysia, Korea, Singapore Hong Kong, Japan, Philippines, Taiwan and Thailand market indices from January 1977 to December 1985. They used simple correlation analysis to detect interrelations among the markets.Their results showed that the degree of correlation between US and Asian equity returns depended upon the period specification, whether daily, weekly or monthly. For example, with daily returns, only correlations between the US & Hong Kong, and Japan & Taiwan were significant, where as for

monthly returns, correlations between all Asian markets were significant with the exception of the Philippines and Thailand.

Bakaert and Harvey (1995) used a conditional regime - switching model to account for periods when national markets were segmented from world capital markets and when they became integrated in the sample. The author found that integration was substantial for the entire period not only for Malaysia, which had less investment restrictions, but also Thailand, a large shift in the degree of integration was noted in 1987, when foreign ownership restrictions were relaxed. The author applied the model to group of emerging capital market including some Basin Markets (Korea, Taiwan, Malaysia and Thailand) during 1975-1992.

Amanulla & Kamaiah (1995) conducted a study to examine the Indian stock market efficiency by using Ravallion co integration and error correction market integration approaches. The data used are the RBI monthly aggregate share indices relating five regional stock exchanges in India, viz Bombay, Calcutta, Madras, Delhi, Ahmedabad during 1980-1983.

According to the authors, the co integration results exhibited a long-run equilibrium relation between the price indices of five stock exchanges and error correction models indicated short run deviation between the five regional stock exchanges. The study found that there is no evidence in favour of market efficiency of Bombay, Madras, and Calcutta stock exchanges while contrary evidence is found in case of Delhi and Ahmedabad.

Karajazyk (1995) investigated one measure of financial integration between equity markets. He used a multifactor equilibrium. Arbitrage pricing theory to define risk and to measure deviations from the "Law of one price". He applied the integration measure to equities traded in 24 countries (four developed and 20 emerging). He found that the measure of market segmentation tends to be much larger for emerging markets than for developed markets, which flows into or out of the emerging markets. The measure tends to decrease over time, which is consistent with growing levels of integration. Large values of adjusted mis-pricing occur around periods in which capital controls change significantly. Finally, he found asymmetric integration relationship; stock markets of developed nations are more integrated than those of emerging nations.

Redel (1997) concentrated on the capital market integration in developing Asia during the period 1970 to 1994 taking into variables such as net capital flows, FDI, portfolio equity flows and bond flows. He observed that capital market integration in Asian developing countries in the 1990's was a consequence of broad-based economic reforms, especially in the trade and financial sectors, which is the critical reason for economic crises which followed the increased capital market integration in the 1970s in many countries will not be repeated in the 1990s. He concluded that deepening and strengthening the process of economic liberalization in the Asian developing countries is essential for minimizing the risks and maximizing the benefits from increased international capital market integration.

Ayuso and Blanco (1999) analyzed whether there has been any increase in the degree of financial integration during the nineties. They have taken weekly returns on seven selected stock exchanges viz; New York, London, Paris, Madrid, Frankfurt, Milan and Tokyo during 1990-94 and 1995-99 periods. It is shown that during the 1990's the linkages between national stock exchanges seem to have increased. Not only as the weight of foreign assests in agents' portfolio increased but also have the correlation between stock indices and the ability of each market return to explain the behavior of returns on other markets

Park (1999) found that the degree of International financial integration has been increasing modestly in the recent decades both for the developed and developing countries. Among the developed countries the variance of international financial integration is relatively large vis-à-vis developing countries. The author concluded that among the developing countries India is the least active in the process of integration at least through 1997.

Nath and Verma (2003) examine the interdependence of the three major stock markets in south Asia stock market indices namely India (NSE-Nifty) Taiwan (Taiex) and Singapore (STI) by employing bivariate and multivariate co integration analysis to model the linkages among the stock markets, No co -integration was found for the entire period (daily data from January 1994 to November 2002).They concluded that there is no long run equilibrium

Tripaty (2006) examined the relationship between the world market and developed markets. He found that the world market is having an impact on developed markets and he concluded that the world stock market is efficient and co-integrated with developed market, indicating long-run equilibrium relationship

Most of studies relating to investigation of integration of stock markets within India and also their convergence with the world markets point out the existence of co-integration among different countries. Further, it has been observed from empirical studies that the financial sector reforms have been successful in bringing significant improvements in various market segments. Most of the studies confirm that when a security is listed in both developed and emerging stock markets, then the price of such security is mainly influenced by the shocks generated in the developed market. As integration of stock markets across globe is still partial, it leaves ample opportunity for switching between advanced markets like U.S. or Japan and the emerging Asian market including India.

Section -3

Methodology of the study

Stock market indices are used to study integration of capital markets in India, USA, UK, Japan, Australia, and France. Granger Causality test is carried out to see the direction of the relationship. Then, co integration and error correction mechanism are used to check whether India and developed countries co integrate in the long run and whether they converge to each other over the short run. Since the objective of this study is to check whether the co integration of the movements of these indexes, so natural logarithm of the

Empirical tests   for co integration can only proceed if the time series are non-stationary. In this analysis, we will test all the series of indices for unit root properties using two commonly used unit root tests, namely Augmented Dickey fuller (ADF) test, Phillips- Perron (1998) test and KPSS test. For the ADF test, the ADF test, the null hypothesis of a single unit root is tested against the alternative of stationary using the model stated in Equation 1.

$$\Delta Y_t = \alpha_0 + Y_{t-1} + \sum_{i=1}^{p} \beta i \Delta Y_{t-1} + e_t \quad \text{…………..} (1)$$

The co integration analysis technique is still evolving and has many forms, as is evident from the literature which might sometimes seem confusing to the first timer. Often the terms causality and co integration are synonymous. To examine the co-movements between the Indian stock market and the developed markets, we first study their relationship by the simple regression.

$$X_t^I = a + bX_t^k + e_t \tag{2}$$

Where the endogenous variable X_t^I represents the Indian stock index, the exogenous variable X^K is the stock index ; of any of the developed countries including the U.S.A., U.K, Japan, Australia, France ; and e_t error term. In order to study the joint effect from all the developed stock markets on the Indian market. We further study the following multiple regression.

$$X_t^I = a + b_1 X_t^{k1} + b_2 X_t^{k2} + b_3 X_1^{k3} + b_4 X_1^{k4} + b_5 X_t^{k5} + e_1 \tag{3}$$

Where X^K are the stock indices for the USA, UK, Japan, Australia and France for i=1, 2, 3, 4 and 5 respectively. This is very useful when it is wished to test and incorporate both the economic theory relating to the long-run relationship between variables, and short-run disequilibrium behaviors. In the following ECM for example:

$$\Delta y_t = a_1 + \sum_{i=0}^{n} \beta_i \Delta y_{t-i} + \sum_{j=0}^{m} \gamma_i \Delta x_{t-i} + \theta(y_t - \lambda x_t)_{t-1} + e_t \quad \textbf{(4)}$$

The short-run relationship is captured by the lagged terms of the Δx variable the current impact of Δx to Δy is captured by the β_0 coefficient, while the long-run disequilibrium deviations are captured by the one period lagged error-term of the co integrating equation, with θ being the adjustment factor to equilibrium. θ Of course takes values

between zero to one, while it is obvious that the closest to one the largest is the adjustment to equilibrium and vice versa.

Section-4

Empirical Analysis:

To examine the stationarity property of all the variables used in our study, we have carried out the ADF, PP and KPSS unit roots. All the tests have been conducted both with intercept and with intercept and trend, without intercept. Stock market integration between and India and five developed countries (US, UK, Japan, France and Australia) is explained here with the help of co-integration techniques. Hence, it is a necessary condition that the variables that appear in the stock market integration should not be integrated of order zero i.e. (I (o). At the same time, it should be of the same order as variables of same order only can co-integrate each other.

Unit Root Tests: Discussion of results

Table 1 to 2 carry the required statistics of ADF, PP and KPSS tests for the variables on both levels and first differences. Log values of the variables are used in this study. Stock market indices, when measured in levels are not stationary as the value of the test statistics i.e. ADF, PP and KPSS are not significant. But when these variables are measured in first differences, it is evident that both DF and ADF statistics are negative and statistically significant at 1 % level.

Table 1 Unit Root Test s Level						
Variables	**Augmented Dickey-Fuller Test**			**Phillips-Perron Test**		
	With Intercept	**Without Intercept**	**With Intercept and Trend**	**With Intercept**	**Without Intercept**	**With Intercept and Trend**
SENSEX	0.230023	1.026485	-1.113635	-1.360433	-1.484208	-1.14901
DJIA	-1.345872	0.694728	-1.349993	-1.252546	0.773995	-1.256852
FTSX-100	-1.424872	0.261813	-1.367289	-1.088232	0.422216	-1.012538
NIKKI 225	-1.127974	-0.897884	-0.934934	-1.029640	-0.912921	-0.812204

CAC -40	-1.503149	0.530436	-1.512243	-1.365615	0.663455	-1.372933
ATX-100	1.241934	2.505376	-1.453673	1.178485	2.422336	-1.463922

Unit Root Test s Level

Variables	KPSS Test	
	With Intercept	With Intercept and Trend
SENSEX	4.311328	1.396873
DJIA	0.229223	0.222053
FTSX-100	1.258805	1.045930
NIKKI 225	1.430446	1.207835
CAC -40	0.679437	0.707394
ATX-100	4.678871	1.477826

Table 2: Unit Root Test s First difference						
Variables	Augmented Dickey-Fuller Test			Phillips-Perron Test		
	With Intercept	Without Intercept	With Intercept and Trend	With Intercept	Without Intercept	With Intercept and Trend
SENSEX	-21.89599	-21.86957	-21.92718	-285.8130	-244.8163	-363.1427
DJIA	-48.49486	-48.48236	-48.48448	-48.64218	-48.60174	-48.63086
FTSX-100	-32.33732	-32.34120	-32.33658	-50.47572	-50.41348	-50.46840
NIKKI 225	-47.94096	-47.95822	-47.93173	-47.95783	-47.97548	-47.93272
CAC -40	-50.21416	-50.20829	-50.20431	-50.50823	-50.48369	-50.49738
ATX-100	-46.44557	-46.37396	-46.54187	-46.46529	-46.40239	-46.54458

Unit Root Test s First difference

Variables	KPSS Test	
	With Intercept	With Intercept and Trend
SENSEX	0.432053	0.095086
DJIA	0.049700	0.040247
FTSX-100	0.151877	0.100659

NIKKI 225	0.302133	0.080177
CAC -40	0.195655	0.196413
ATX-100	0.706260	0.051984

Results of Granger tests:

As we mentioned in last chapter between any pair of variables there is a possibility of unidirectional causality or bidirectional causality or none. This can also be the case between two pairs of variables used in our empirical analysis. The pre-condition for applying Granger Causality test is to ascertain the stationarity of the variables in the pair.

The second requirement for the Granger Causality test is to find out the appropriate lag length for each pair of variables. For this purpose, we used the vector auto regression (VAR) lag order selection method available in Eviews 5.0 package. This technique uses six criteria namely log likelihood value (log L), sequential modified likelihood ratio (LR) test statistic, final prediction error (F & E), AKaike information criterion (AIC), Schwarz information criterion (SC) and Hannan –Quin information criterion (HQ) for choosing the optimal lag length. Among these six criteria, all except the LR statistics are monotonically minimizing functions of lag length and the choice of optimum lag length is at the minimum of the respective function. In our case, the optimum lag length has been found out to be 10 for all the variables, based on LP, FPE, ALC, SC and HQ

Finally, the result of Granger causality test is reported in table 3. There is a unidirectional causal influence between Indian stock indices and United States, Japan and France. Whereas UK, Australia are not having any causality.

The present study found that direction of causality is from United States, Japan, France to India, since estimated f-value is significant at 5% level. On the other hand, there is no reverse causation from India to United States, Japan and France. Therefore, Indian Capital Markets have influenced by US, Japan and France. Since both the computed value and F value are found in significant. This suggests here is exists no causal relation between UK and Australia that mean there is no influence between these two capital markets.

Table: 3Granger Causality Tests: Lag 10

Null Hypothesis	Obs	F-Statistic	Probability
UNITIED STATES does not Granger Cause INDIA	980	10.8332	1.3E-17
INDIA does not Granger Cause UNITIED STATES		0.76385	0.66396
UK does not Granger Cause INDIA	1222	1.42093	0.16525
INDIA does not Granger Cause UK		0.91448	0.51883
JAPAN does not Granger Cause INDIA	845	2.91462	0.00135
INIDA does not Granger Cause JAPAN		0.69964	0.72538
FRANCE does not Granger Cause INDIA	1492	2.34918	0.00946
INDIA does not Granger Cause FRANCE		1.01315	0.42966
AUSTRALIA does not Granger Cause INDIA	1011	0.65353	0.76803
INDIA does not Granger Cause AUSTRALIA		0.74131	0.68574

Results of co integration test:

Co-integration tests are helpful while dealing with non-stationary in the data and also examine the long run relationship. As the unit root tests try to examine the presence of stochastic trend of time series, co integration tests search for the presence of a common stochastic trend among the variables from the unit root test results, the required condition for co integration test that given series are not I (O) is satisfied .At levels all the variables are non-stationary, where as first differenced stationary.

The concept of co integration, introduced by Granger (1986) and further developed by Engle and Granger (1987), incorporates the presence of non stationary, long-term relationship and short-run dynamics in the modeling process. The study proposed to test the presence of non-stationary and long term relationship between India and developed countries capital markets namely USA ,UK, Japan, France ,Australia. A financial time series is said to be integrated of one order i.e., I (1), if it

becomes stationary after differencing once. If two series are integrated of order one, there may have a linear combination that is stationary without requiring differencing and, if they do, they are said to be co integrated.

The study used test residuals equation (1) employing Augmented Dickey Fuller (ADF) regression estimation. The results show that six lagged variables are appropriate in ensuring that the residuals e_t of each series is white noise. Since the statistics exceed the critical value as reported in table 2, the results of the ADF and PP and KPSS test confirms the presence of co integration for all stock indices documented in the co integration analysis and thus causally related. The study also proposed Johansson co integration test determining whether there exist long run relationship between India and developed countries capital markets.

To analyze long run relationship between Indian Capital Market and other developed capital markets, Johansen co-integration model has adopted. For testing co-integration, there are two test statistics to use. First, one is trace statistics and other one is Maximum Eigen value statistics. The results are shown in table 4. An empirical result of trace statistic indicates that the rejection of null hypothesis at 0.05 critical values i.e. there are no co-integration vector. In other words, Indian capital market has long relationship with other developed markets i.e. Australia, USA, UK, and Japan. Trace test also indicates that 1 co integration equation at 5 % level of significance, tells about long run equilibrium between Indian capital market and other developing markets.

Similarly, the empirical results of Maximum Eigen value are shown in the table 5. The empirical result indicates that the rejection of null hypothesis at 0.05 critical value i.e. no-co integration vector. It also tells that Indian capital market has long run equilibrium with other developing markets. Maximum Eigen value indicates that 1 co integration equation at 5 % level of significance.

Table-4 Multivariate co integration India, Untied States, UK, Japan, France and Australia trace Statistics

Lags interval (in first differences): 1 to 4				
Hypothesized				
No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.066761	107.2667	95.75366	0.0064
At most 1	0.019860	38.58703	69.81889	0.9658
At most 2	0.009812	18.64719	47.85613	0.9962
At most 3	0.005895	8.846300	29.79707	0.9926
At most 4	0.002295	2.969732	15.49471	0.9683
At most 5	0.000690	0.685871	3.841466	0.4076
Trace test indicates 1 co integrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Table -5 Multivariate co integration India, Untied States, UK, Japan, France and Australia Max-Eigen Statistics

Lags interval (in first differences): 1 to 4				
Hypothesized				
No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.066761	68.67965	40.07757	0.0000
At most 1	0.019860	19.93984	33.87687	0.7608
At most 2	0.009812	9.800892	27.58434	0.9875
At most 3	0.005895	5.876568	21.13162	0.9852
At most 4	0.002295	2.283861	14.26460	0.9827
At most 5	0.000690	0.685871	3.841466	0.4076
Max-eigenvalue test indicates 1 co integrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Empirical analysis Error Correction Mechanism;

From the above analysis, it has explained that, Indian capital market has long run relationship with other developing markets. But that does not mean they have short run equilibrium. There may exists short run dynamics among capital markets. For taking care of short run equilibrium Error Correction Mechanism (ECM) has been

adopted. ECM empirical results have shown in the table (6). Indian capital market and Australian capital market has taken into consideration. Empirical result shows that co-efficient of difference closing price ATX-100 is non-zero that means difference closing price Sensex is out of equilibrium. Since co-efficient of lagged residual is negative, the term θut-1is negative. Therefore, the dependent variable ΔX is also negative to restore equilibrium. That means dependent variable ΔX is above its equilibrium value, it starts falling in the next period to correct the equilibrium error. Empirical result also finds that Indian capital market adjusts to change in Australian capital market have a positive impact on short-run changes. Similarly, in case of UK, Japan and France, short run changes in the capital market has positive impact on short-run changes in Indian capital market except USA capital market which has shown negative impact on short run changes in Indian capital market.

Table 6 Error correction model results

$$\Delta y_t = a_1 + \sum_{i=0}^{n} \beta_i \Delta y_{t-i} + \sum_{j=0}^{m} \gamma_i \Delta x_{t-i} + \theta(y_t - \lambda x_t)_{t-1} + e_t \quad \textbf{(6)}$$

variables	θ	Coefficient of lagged residuals	R-squared	Adjusted R-squared	P- value
Australia	-4.75E-05 (-16.67549)#	0.641368 (1.800141) @	0.114292	0.113479	0.0720* (0.0000)**
France	-7.39E-05 (-6.395822)#	0.281442 (1.059176) @	0.017645	0.016798	0.2896* (0.0000)**
United states	-5.72E-05 (-5.711663)#	0.207149 (-0.626361) @	0.014829	0.013932	0.5311* (0.0000)**
Untied Kingdom	-6.72E-06 (-6.255664)#	0.384819 (1.240084) @	0.017581	0.016708	0.2151* (0.0000)**
JAPAN	-7.84E-06 (-7.84E-06)#	0.712599 (2.433790) @	0.020898	0.019961	0.0150* (0.0000)**

Note.* Probability value of Coefficient of lagged residuals

** Probability value of Coefficient of error correction term

T-statistics of Coefficient of error correction term

@ T-statistics of Coefficient of lagged residuals

Section -5

Summary and Conclusion

This paper empirically investigates the long run equilibrium relationship between the Indian stock market and the stock market indices of five developed countries as a using the multivariate co integration. The multivariate co integration technique is used to investigate the long run relationship. To asses the short run influence of one market on the other and to assess how many days each market takes to factor out the influence Indian capital market, we have used the granger causality test with 10 days. The present study found that US, Japan and France market factors influencing Indian stock market. It might be because of maximum international trade commercial activities between three countries. UK and Australia markets are not influencing by Indian stock market. Similarly, in case of UK, Japan and France, short run changes in the capital market has positive impact on short-run changes in Indian capital market except USA capital market which has shown negative impact on short run changes in Indian capital market The study finally conclude that India and developed countries markets USA, UK, Japan, France, and Australia highly co integrating during the period of the study

Financial integration is key to delivering competitiveness, efficiency and growth. But will integration also bring about financial stability? Not necessarily. Strong framework rules, closer co operation and in particular a readiness to share information and co ordinate action across borders are necessary complements. Countries such as India will, over the next 10 to 15 years, need to move towards far greater integrated global financial world and policy makers in India need to rethink the framework for such integration. India to a great extent is far less integrated with the global markets and is fortunate in its leadership at the policy level. Our policy makers will navigate India through the present crisis. That is the least of our worries.

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