Financial Liberalization in the Pacific Basin: Implications for Real Interest Rate Linkages*

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I. INTRODUCTION

In recent years, almost all countries in the Pacific Basin have attempted to promote greater economic efficiency by undertaking steps to liberalize

* We appreciate helpful comments from Koichi Hamada, an anonymous referee, and seminar participants at the Institute for Monetary and Economic Studies at the Bank of Japan, especially Shinji Takagi, Mitsuhiro Fukao, and Tutsufumi Yamakawa. Remaining errors are our own. Able research assistance by John Duffy and Rosalind Bennett and typing by Donna Payne and Thomas Wood are acknowledged. The views presented in this paper are those of the authors alone and do not necessarily reflect those of the Federal Reserve Bank of San Francisco or the Board of Governors of the Federal Reserve System. Hutchison's research was supported by a Pacific Basin Research Grant from the President's Office of the University of California. their domestic financial systems and remove restrictions on international capital flows. Hong Kong and Singapore were the first to begin liberalizing their financial systems by removing or relaxing interest rate regulations and abolishing exchange controls in the mid-1970s. Significant financial reforms have been undertaken in Japan and Malaysia since the late 1970s and in the Philippines, Australia, New Zealand, and Indonesia since the early 1980s. More recent movements toward liberalization have occurred in Thailand, Korea, and Taiwan. Although the timing and extent of liberalization steps have varied across countries, virtually all countries in the region have allowed domestic and foreign market forces to play a greater role in their financial markets.¹

A major question about this liberalization process concerns the extent to which it has increased the integration of the financial markets of Pacific Basin nations into world financial markets and correspondingly increased the degree to which their domestic real interest rates are linked internationally. This issue is important because the degree of independence of national stabilization policies from those abroad is inversely related to the extent to which domestic real interest rates are linked internationally (Mathieson, 1979).² In theory, the degree of international linkage of real interest rates depends on the degree of integration of both financial and goods markets (Frankel, 1986). However, since the process of financial liberalization has been the foremost economic development within most countries in the Pacific Basin region during the later 1970s and 1980s (see Cargill *et al.*, 1986; Fry, 1986) real interest rates in Pacific nations are likely to be more closely related to U.S. real interest rate movements in recent years than previously.

A number of studies of interest rate linkages among the United States, Canada, and European countries exist (von Furstenberg, 1983; Mishkin, 1984a, 1984b; Cumby and Obstfeld, 1984; Cumby and Mishkin, 1986). However, similar studies in the case of other countries, particularly in the Pacific Basin, are scant (Blejer and Khan, 1983; Edwards and Khan, 1985;

¹ Greenwood (1986) provides a survey of financial deregulation developments in seven East Asian countries, including Taiwan, South Korea, Hong Kong, Malaysia, Singapore, Thailand, and Indonesia. Also see Glick (1988). On balance, the empirical evidence supports the view that financial liberalization, particularly freer interest rates, is positively associated with economic performance in developing countries. See, for example, McKinnon (1973), Fry (1982), and Mathieson (1982).

² Mathieson in another paper (1980) also argues that authorities in many developing countries have been reluctant to enact financial reforms, despite long-run efficiency benefits, due to short-term financial adjustment problems. He argues that the short-run adjustment problems can be avoided if financial reform is integrated with stabilization policy. Deregulation of capital flows in a small economy—by linking real interest rates internationally—is likely to significantly limit the ability of the authorities to pursue an independent stabilization policy, however. Glick, 1987). More important for our purposes, no study exists measuring how the link between real rates in the United States and other Pacific Basin nations has changed over time in response to the financial liberalization process.

This paper attempts to fill that gap. Its purpose is to examine the extent to which linkages between domestic real interest rates in Pacific Basin countries and U.S. real interest rates have changed in response to the financial liberalization process. The paper is organized as follows. Section II states the basic hypothesis test and estimation equation relating the extent to which real interest rates in selected Pacific Basin nations are related to U.S. rates. The methodology of Cumby and Mishkin (1986) is employed to obtain consistent estimates from ex post observations of real rates. Section III presents and discusses the empirical results in terms of the extent of national financial liberalization efforts. Section IV draws some policy implications.

II. REAL INTEREST RATE LINKAGES AND FINANCIAL LIBERALIZATION

A country's real interest rate is equal to its nominal interest rate minus the expected rate of inflation. The relation of real interest rates between two countries thus depends on the relationship of nominal interest rates through the interaction of their financial markets, on the relationship of price levels through the interaction of their goods markets, and, since their price levels are denominated in different currencies, on the exchange rate between their currencies (Frankel, 1986; Cumby and Mishkin, 1986). More explicitly, the ex ante foreign and U.S. real interest rates in country j (rr_j) may be expressed as the sum of the ex ante U.S. real interest rate (rr_{us}), the expected percentage change in the real or purchasing power parity (PPP) exchange rate \hat{q}_j^e , and the expected deviations in uncovered interest rate parity (UIP),

$$\mathbf{rr}_{j} = \mathbf{rr}_{us} + \hat{q}^{e} + (i_{j} - i_{us} - \hat{s}_{j}^{e}), \tag{1}$$

where i_j represents the nominal interest rate, \hat{p}_j^e represents the expected inflation rate, rr_j equals $i_j - \hat{p}_j^e$, \hat{s}_j^e denotes the expected change in the nominal foreign exchange price of the dollar, and $\hat{q}_j^e = \hat{s}_j^e + \hat{p}_{us}^e - \hat{p}_j^e$. Subscript *j* (us) denotes country *j* (U.S.) and all variables represent either percentage rates of return or rates of change from time *t* to t + 1.

Equation (1) states that real interest rates may differ between countries because of two factors given by the last two terms on the right-hand side of the expression. The first of these terms represents expected deviations from PPP or, equivalently, expected real exchange rate movements. The second term represents deviations in UIP. According to UIP, the anticipated rate of depreciation of the foreign currency should equal the nominal interest differential (presuming U.S. and foreign assets are otherwise comparable).

Real interest rates are thus equal across countries only in the absence of deviations from PPP and UIP. Ceteris paribus, increasing financial integration in the Pacific Basin, and implied smaller deviations in UIP, should have reduced the real interest rate gap between nations in the region.³ This is our maintained hypothesis.

Formal tests of interest rate linkage are constructed from the hypothesis

$$\mathbf{rr}_j = \alpha_j + \beta_j \mathbf{rr}_{us} + \omega_j, \qquad (2)$$

where ω_j is an error term. The hypothesis of equal real returns implies $\alpha_j = 0$ and $\beta_j = 1$, while the hypothesis that there is no link between rates implies $\beta_j = 0$. Partial linkage is indicated if $0 < \beta_j < 1$.

The major difficulty in estimating in real interest rates and linkages is that expected inflation rates and hence ex ante real interest rates are unobservable. The econometric methodology we use to make statistical inferences about ex ante real rates from observed data follows that of Cumby and Mishkin (1986), and we estimate

$$eprr_j = \alpha_j + \beta_j eprr_{us} + \mu_j, \qquad (3)$$

where $eprr_j$ ($eprr_{us}$) is the ex post real interest rate, and μ_j is an error term. Although (3) depends only on observables, the error term μ_j will generally be correlated with the explanatory variable $eprr_{us}$. An instrumental variables estimation method is therefore necessary to obtain consistent estimates. Consistency requires that the instruments used to estimate the ex ante U.S. real interest rate be uncorrelated with the error in (3), which is a composite of the inflation forecast errors in the foreign country and the United States, and the linkage error ω_j . It is thus necessary to choose instruments that exert no additional influence on the interest rate in country *j* apart from their influence on the real rate in the United States. As suggested by Cumby and Mishkin, a natural choice for instruments that

³ Frankel (1986) contends that the primary source of the rejection of real rate equality for the industrialized countries is the failure of purchasing power parity since plausibly international goods market integration is far weaker than international financial market integration (or equivalently that goods in different countries are far from being perfect substitutes). However, others (Cumby and Obstfeld, 1984) have provided evidence against uncovered interest parity that is equally as strong as that against purchasing power parity in the case of developed countries. satisfy these requirements are those variables that predict the U.S. ex post real rate well.

III. EMPIRICAL RESULTS

Data

Seven Pacific Basin countries—Japan, Singapore, Hong Kong, Malaysia, Taiwan, Australia, and the United States—were chosen for the empirical analysis because each possesses a market-influenced interest rate with a sufficiently long-enough time series. In addition, all have experienced significant financial liberalization. The sample range in the empirical analysis consisted of quarterly data over the period 1974:4 to 1986:1 (to 1985:4 for Malaysia). All data were obtained from the IMF "International Financial Statistics" or national sources. Where available, the rates used were end-of-period 90-day rates. More specifically, the 90-day Treasury bill rate was used for the United States, the 3-month gensaki rate for Japan,⁴ and the 90-day commercial bill rate for Australia. For Taiwan, the short-term curb rate was employed,⁵ for Singapore, the 90-day money market rate, and for Malaysia the overnight interbank rate.⁶ In the case of Hong Kong the high value of the overnight interbank rate in the last month of each quarter was used.

Some qualifications regarding the data are appropriate before presenting the results. Due to limited data availability, the assets employed are not strictly comparable: they typically differ in terms of maturity and risk. Some assets are riskless (U.S. T-bills), while the others have various degrees of default risk. This is especially true for Taiwan where the unoffi-

⁴ Gensaki transactions consist of the resale or repurchase of bonds at a fixed price after a fixed period. In essence, they are short-term capital transactions using bonds as collateral.

⁵ The curb market is an unofficial, largely unregulated financial market involving small borrowers and lenders. In the mid-1970s the aggregate size of the curb market in Taiwan was as large as that of all other financial institutions put together. In 1980 it accounted for roughly 30% of total domestic assets (see Cheng, 1986, p. 151). Due to higher transactions costs, risk premiums, etc., the cost of funds in the curb market is substantial. No consistent series exist for rates on new instruments permitted in the late 1970s. Data for the curb rate was obtained from monthly issues of the Financial Statistics Monthly, Taiwan District, Republic of China ("Interest Rates in Unorganized Money Market, Taipei City").

⁶ Commercial paper rates are preferable to other interest series in Malaysia. Treasury bills are held mainly to satisfy minimum liquidity requirements and other portfolio restrictions imposed on commercial banks and other financial institutions and are sold at below-market yields. Similarly, interest rates on call loans to discount houses are influenced by their use in satisfying minimum liquidity regulations. Furthermore, the corporate bond market is extremely thin, and a consistent interest rate series is not available for the negotiable CDs introduced in 1978. cial curb market rate is employed. Mean interest differentials, reflecting systematic differences in asset characteristics, therefore may not be zero even with no impediments to real and financial integration.

Results

Table I shows the mean, standard deviation (SD), and coefficient of variation (CV) of ex ante real interest rate differentials between the United States and each Pacific Basin nation estimated for the full sample and two subsample periods. The 1974:4–1977:3 subsample represents the pre-financial liberalization period, and 1983:2–1986:1 represents the post-liberalization period. In the countries under analysis, financial liberalization was generally implemented not at a discrete point in time, but in stages. The two subsample periods used were chosen to clearly distinguish between the pre- and post-financial reform stages.

	$\mathbf{rr}_j = \mathbf{rr}_{us}$					
Country		1974:4-1977:3	1983:2-1986:1	1974:4-1986:1		
Hong Kong	Mean	0.018	-0.016	-0.009		
	SD	0.043	0.024	0.038		
	CV	2.38	-1.46	-4.09		
Singapore	Mean	0.046	0.008	0.022		
	SD	0.030	0.016	0.29		
	CV	0.656	1.96	1.32		
Malaysia	Mean	0.018	0.007	-0.003		
	SD	0.022	0.017	0.027		
	CV	1.22	2.43	-9.35		
Japan	Mean	0.022	-0.007	0.009		
	SD	0.027	0.025	0.029		
	CV	1.25	-3.44	3.10		
Taiwan	Mean	0.218	0.180	0.186		
	SD	0.043	0.019	0.037		
	CV	0.199	0.107	0.200		
Australia	Mean	-0.014	0.010	0.006		
	SD	0.018	0.019	0.021		
	CV	-1.28	1.97	3.48		

 TABLE I

 Ex Ante Real Interest Rate Differentials with the United States

Note. Mean of difference between ex ante real interest rate abroad and in the United States, with standard deviation (SD) and coefficient of variation (CV) listed below. Estimated ex ante real rates calculated as described in text using instrumental variables. Calculations for Malaysia stop at 1985:4.

Ex ante real rate estimates for individual countries were obtained from the fitted values of a regression of the ex post real rate on an information set including a constant term, linear and quadratic time trends, the nominal interest rate, and three lags of inflation. The addition of other variables, such as money growth, was not found to provide any additional explanatory power, except for the case of Malaysia.⁷

The results in Table I show that for all six countries the mean real interest differentials are smaller in the latter, post-liberalization period than in the earlier period.⁸ These results are consistent with the hypothesis that the financial liberalization process has brought greater real interest rate linkage to the Pacific region. The standard deviation around the mean real interest differential also fell in five of the six countries (except Australia). However, the coefficient of variation rose in four cases. This indicates that the standard deviation, though lower in the latter sample period in most countries, did not generally fall proportionately to the drop in the average interest differential.

More formal tests of the degree of linkage between United States and Pacific Basin real interest rates are based on estimation of Eq. (3) using the instrumental variables procedure discussed in the previous section.

Table II contains the results of these linkage regressions. In order to ensure sufficient degrees of freedom in the pre- and post-liberalization periods and to maintain consistency across countries, 1979:1 was used as the common sample break point. In each country in the sample, major financial liberalization or innovation measures were introduced immedi-

⁷ In an earlier version of the paper we also calculated ex ante real interest rate differentials after attempting to control for regime shifts by introducing several dummy variables into the information set. Quandt statistics and Chow tests were used to test for evidence of such shifts. A regime shift (at the 0.05 level of significance) was found for the United States from 1980:1 to 1982:3 with subsequent return to the original regime after the third quarter of 1982. For Japan a regime shift was found to occur in 1979:1. Shifts found for other countries took place in Hong Kong in 1981:4, Singapore in 1977:3, Malaysia in 1980:2, and Taiwan in 1979:4; no significant shift was found for Australia. The final estimates of ex ante real rates were obtained by including in the regression equation multiplicative dummy terms for all variables; the dummy was set equal to 0 before the shift point and 1 at the shift point and after (except for the United States where it was set equal to 0 again after 1982:3). The real interest differential results are essentially the same as reported in Table I, however, and are omitted for brevity. These results are available from the authors upon request.

⁸ It is interesting to note in Table I that in the early period, every country except Australia had higher real interest rates on average than the United States. To the extent that capital controls and regulated financial markets were designed to insulate economies and keep domestic interest rates below world levels, this may seem a counterintuitive result. It is possible, however, that financial controls (i) kept real rates lower than what they otherwise would have been or (ii) were effective in influencing nominal rates but not real rates.

	$eprr_j = \alpha$				
Country	α	β	R ²	SEE	DW
Hong Kong					
1974:4-1978:4	0.00(0.27)	0.53(0.54)	0.04	0.061	2.59
1979:1-1986:1	-0.02(-1.26)	0.92(3.05)***	0.31	0.054	2.78
Singapore					
1974:4-1978:4	0.03(2.13)**	0.15(0.18)	0.02	0.053	2.19
1979:1-1986:1	0.02(2.54)***	0.64(3.44)***	0.38	0.033	1.90
Malaysia					
1974:4-1978:4	0.00(-0.03)	-0.28(-0.45)	-0.02	0.038	2.66
1979:1-1985:4	-0.00(0.29)	0.71(2.63)**	0.17	0.048	1.39
Japan					
1974:4-1978:4	0.01(1.19)	0.19(0.31)	0.00	0.039	1.78
1979:1-1986:1	0.01(2.32)**	0.55(3.57)***	0.31	0.026	2.73
Taiwan					
1974:4-1978:4	0.21(14.61)***	1.09(1.38)	0.15	0.049	0.85
1979:1-1986:1	0.13(5.26)***	2.07(3.87)***	0.22	0.097	2.15
Australia					
1974:41978:4	-0.03(-2.04)*	-1.62(-1.95)*	0.21	0.051	1.96
1979:1-1986:1	0.03(2.93)***	0.54(2.80)***	0.18	0.035	1.86

TABLE II

LINKAGES WITH U.S. REAL INTEREST RATE, INSTRUMENTAL VARIABLES ESTIMATION

Note. t statistics are in parentheses to right of coefficients (***, **, * denote 0.01, 0.05, and 0.10 levels of significance for two-tailed tests, respectively). Instruments used in all cases were a constant, the nominal interest rate in the United States, three lagged values of inflation in the United States, time and time-squared trend variables.

ately prior to or after this date.⁹ As discussed above, econometric considerations suggest as appropriate instruments those variables employed to predict the U.S. real rate—a constant, linear, and quadratic time trend, the nominal U.S. interest rate, and three values of lagged U.S. inflation.¹⁰

The first point to note in Table II is that in four of the six countries, the constant terms are statistically significant in at least one period. That is, we find real interest rates in these countries persistently above the U.S.

⁹ A common break point (1979:1) for each of the six countries in the sample was selected to maintain consistency. Based on our prior knowledge of the specifics of the financial reform process, however, other reasonable country-specific break points were also tested (i.e., for Australia, 1980:1, Malaysia, 1978:4; Hong Kong, 1981:1; and Singapore, 1978:2). These results are available from the authors upon request, but are omitted here for brevity. The results from these regressions and those reported in Table II are very similar: a highly significant increase in the link of the domestic interest rate with the U.S. rate is observed in the latter period for all of the countries.

¹⁰ Multiplicative dummy terms were also included for the U.S. interest rate and inflation variables for the period 1980:1 to 1982:3 to control for a monetary regime shift.

rate (except in the early sample period in Australia). This result is consistent with the findings in Table I and suggests significant differences in risk and other asset characteristics, in addition to limitations in international financial integration.

Of particular interest in Table II, however, is the coefficient β that describes the amount of movement in each country's real rate for a given movement in the U.S. rate. The hypothesis that real rates are fully linked internationally is $\beta = 1$. For the early, pre-liberalization period, the null hypothesis of no domestic real interest rate linkage with the United States ($\beta = 0$) cannot be rejected for five of the six countries. In sharp contrast, the latter period results reject the null hypothesis of no linkage for all six countries in the sample. The β estimates (excepting Taiwan) range from 0.54 (Australia) to 0.92 (Hong Kong). The β estimates are significantly different from zero at the 0.01 level of confidence for Hong Kong, Singapore, Australia, Japan, and Taiwan, and at the 0.05 level for Malaysia. The explanatory power (R^2) of each equation also increases significantly for five of the six nations. F statistic results testing the equality of coefficients between the two periods also indicate a significant change (at the 0.05 level of confidence) for all countries in the sample.¹¹

These results strongly support our maintained hypothesis that the β_j coefficient is significantly larger in the post-financial reform period than in the pre-reform period; i.e., that the financial reform and liberalization process has significantly increased the real interest rate linkages of Pacific Basin countries with the United States.

Interpretation

On an individual country level, it is interesting to compare the estimated real interest rate linkage coefficient (β) in the latter period with the degree to which each country has pursued financial liberalization measures. One outlier, and seemingly implausible result, is the case of Taiwan where the estimated average ex ante real interest rate is much higher than that in the United States and a 1% rise in U.S. real interest rates is estimated to be reflected in a roughly 2% rise in real rates in Taiwan.

¹¹ The DW statistics indicate that the null hypothesis of zero first-order serial correlation can be conclusively rejected in only 2 of 12 cases at the 0.05 level (for Taiwan in the early sample period and Hong Kong in the latter sample). Malaysia falls in the indefinite range in both sample periods and Hong Kong in the indefinite range for the early sample period. It should be noted that for the data set of Cumby and Mishkin, which involves overlapping observations (unlike our data set), the problem of induced serially correlated errors is severe. Accordingly, they employ a two-step, two-stage least-squares procedure developed by Cumby *et al.* (1983). This procedure avoids problems associated with applying Cochrane-Orcutt type techniques to models assuming rational expectations (see Flood and Garber, 1980). However, these results may be attributable to the underlying asset used for Taiwan—the curb market interest rate. The curb market in Taiwan is unofficial, largely unregulated, and primarily involves small borrowers and lenders. This is the only unofficial and unregulated market interest rate employed in this study, and involves substantial risk and transactions costs. Curb market risk and institutional characteristics may be reflected in both a higher average differential plus a proportional markup over U.S. real rates.

Interpreting the results for the five other countries in the study, where the assets are more closely comparable in terms of default and political risk and transactions costs, is more straightforward. The order of degree of linkage estimated in the latter period (high to low) is Hong Kong (0.92), Malaysia (0.71), Singapore (0.64), Japan (0.55), and Australia (0.54). These estimates correspond quite well with the extent to which these nations have carried out financial liberalization measures and reduced controls on international capital flows. (The possible exception is the ordering of Malaysia and Singapore, but these two coefficient estimates are well within one standard deviation of each other.)

Specifically, Hong Kong has long been the most open financial system in the Pacific Basin, having abolished its last official exchange controls in December 1972 and now imposing no controls on international capital receipts or payments by residents or nonresidents. Singapore also has very open financial markets, with a major liberalization of foreign exchange transactions in June 1978 (Moreno, 1988). Residents are free to make transactions in any currency as well as to invest in any currency. However, the authorities have sought to some extent to segment domestic money markets from the Asia dollar market (an offshore current market where rates are freely determined): the use of Singapore dollars is prohibited in the Asia dollar market, an interest tax is levied on investment transactions by foreigners conducted in Singapore's domestic markets, and local borrowing limits by nonresidents exist.

Malaysia followed Singapore in the pursuit of financial deregulation. In October 1978, measures reducing the extent of administrative guidance, making interest rates more flexible, and establishing markets for bankers' acceptances and CDs were announced. Major exchange control regulation liberalization measures were undertaken in 1978 and 1984, and remittances abroad are now freely allowed. Approval for domestic residents' foreign borrowing and for nonresidents' domestic borrowing is required when certain limits are exceeded, however, but is readily given when involving "genuine" trade transactions (Abidin, 1986). Moreover, commerical banks, who form the core of the foreign exchange market, are limited in the open exchange positions they may maintain.

Japan and Australia are estimated to have somewhat lower degrees of

real interest rate linkage with the United States. In both cases, this reflects the fact that major liberalization moves occurred well into the 1980s. The two countries' experiences are quite different, however. Japan has followed a gradual process of deregulation of both domestic and international transactions since the mid-1970s, including lifting a variety of interest rate ceilings and most of the binding controls on international capital flows (Takagi, 1988). On the international side, the gradual relaxation of a variety of exchange controls was formally recognized by the December 1980 amendments to the Foreign Exchange and Foreign Trade Control Law. The legislation provided that, in principle, most capital flows were free unless specifically disallowed, reversing the earlier principle that flows were prohibited unless specifically allowed. Another particularly important development was the integration of the competitive open Gensaki (repurchase agreements) market with the Euro-ven market in May 1979, when restrictions on nonresidents' Gensaki transactions were completely eliminated (Otani and Tiwari, 1981).

Despite the 1980 legislation, however, many restrictions remained, including ceilings on banks' net foreign asset positions (spot and forward), restrictions on investments abroad by insurance companies and pension funds, and Euro-yen bond issues being tightly controlled. From 1981, but particularly in 1983–1984, a number of these restrictions were gradually relaxed. The Japanese domestic interbank and bond markets as a consequence have shown a high degree of integration with the Euro-yen market since late 1983 (Takagi, 1988).

Although a number of restrictions on international transactions still apply, some observers conclude that lifting the remaining controls would be unlikely to have a very significant net overall effect on international financial integration in Japan (Argy, 1987).

Australia was the last country in our sample of Pacific Basin nations to significantly liberalize international transactions. Although some progress to free capital flows was made in 1978, international markets were not completely liberalized until late 1983 when the Australian dollar also was floated. Only a few minor controls remain on international transactions, and most are largely prudential in nature (Argy, 1987). The recent nature of the liberalization process in Australia, falling for the most part toward the end of our sample period, may be responsible for the relatively low measured real interest rate linkage with the United States.

IV. CONCLUSION

This paper tests the theoretical prediction that the process of financial liberalization leads to greater international financial integration and linkage of domestic real interest rates to those in the rest of the world. We choose for our sample six Pacific Basin nations that have undergone significant financial liberalization moves in recent years.

Our empirical results strongly support the view that financial liberalization leads to stronger ties between domestic real interest rates in these nations and U.S. real rates. With the exception of Taiwan, every nation in the sample shows a highly statistically significant increase in the extent to which domestic real rates are linked internationally following financial reform. Moreover, our empirical estimates of each nation's degree of real interest linkage with the rest of the world corresponds well to the extent of the national financial liberalization effort.

These results have important policy implications. The financial reform and liberalization process followed in most Pacific Basin nations was initiated in the hope of increasing the efficiency of the domestic financial sector and the domestic real economy. Our results indicate, however, that one side effect of financial liberalization is that domestic real interest rates become more closely linked with rates in the rest of the world. The implication of this result is that domestic stabilization policy measures, to the extent that they work through real interest rate changes and are pursued independently of worldwide economic conditions, are likely to be less effective in financially open economies.

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