**Asia-Pacific
Economic Cooperation**

Cross-border Investment Linkages among APEC Economies: the Case of Portfolio Investment and Bank Lending

APEC Policy Support Unit
October 2009

Hyun-Hoo LEE, Policy Support Unit, APEC Secretariat, 35 Heng Mui Keng Terrace Singapore 119616. Email: lhh@apec.org, Phone: +65-9827-2991 Fax: +65-6891-9419.

Hyeon-seung HUH, School of Economics, Yonsei University, 134 Sinchon-doing, Seodaemun-gu, Seoul 120-749, Korea, Email:hshuh@yonsei.ac.kr Phone: +82-2-2123-5499, Fax: +82-2-2123-8638.

FOREWORD

APEC's formation in 1989 was not only a bridge for greater integration of the economies on either shore of the Pacific, but also a far-sighted and brave New World initiative bringing together industrialised and developing economies with a commitment to free and open trade and investment in the Asia – Pacific.

As it has matured and evolved, and indeed enjoyed the benefits of its successes in reducing regional tariff barriers, APEC has broadened its agenda to involve other issues that also contribute to better trade and investment linkages in a low tariff environment; for example, trade and investment facilitation and structural reform. The overall focus however has remained on greater regional economic integration and the benefits that increased trade and investment can contribute.

This is one of the two reports prepared by the PSU under a project entitled "Investigation of the Cross-border Investment linkages within APEC Economies and identifying Policy Implications". Professor Lee Hyun Hoon of the PSU was the principal researcher and author of this report which analyses portfolio investment and bank lending among APEC economies, while the other report (Lee and Rajan, 2009) will deal with bilateral foreign direct investment (FDI) linkages.

These two reports on cross-border investment linkages complement the PSU's first Research Report (Lee and Huh, 2009), entitled *Trade Creation in the APEC Region: Measurement of the Magnitude of and Changes in Intra-regional Trade since APEC's Inception*.

Since its inception in 1989, APEC has striven to achieve the goals of "free and open trade and investment" in the APEC region. These three reports are prepared, noting that 2009 is the 20th anniversary of APEC and 2010 is the target year of the Bogor Goals for industrialised member economies.

The establishment of the PSU was a decision of APEC Leaders' in 2007 and the Unit commenced operation in August 2008. Its role is to provide analytical and evaluation capacity and assist in coordinating related economic and technical cooperation for the development and implementation of APEC's agenda. Its broad mandate is to provide a policy and research capability to assist in implementing APEC's regional economic

integration agenda. It is currently focusing on behind-the-border (structural) economic reforms and trade and investment policy reforms, particularly in the area of facilitation.

Philip Gaetjens
Director
APEC Policy Support Unit

EXECUTIVE SUMMARY

For the past decade, expansion of cross-border financial asset transactions has been more dramatic than that of goods trade and GDP growth in the APEC region. Specifically, between 2001 and 2007, the values of inward holdings of foreign direct investment (FDI) stocks, equities, long-term bonds, and bank claims in the APEC region increased by 12.8 percent, 23.3 percent, 16.3 percent, and 15.5 percent per annum, respectively, while APEC's exports and GDP grew by 13.8 percent and 7.1 percent per annum, respectively. Thus, cross-border financial transactions, except for FDI, have grown at higher rates than goods trade or GDP between 2001 and 2007. The faster expansion of international financial transactions than of goods trade is also a global phenomenon, not just a phenomenon of the APEC region.

By virtue of such fast expansion of cross-border financial transactions in recent years, the total values of financial equity holdings and bank claims have become far larger than that of world trade. Specifically, the total value of bank claims (US$ 34 trillion) in the world is greater than those of long-term debt (US$ 19 trillion), equities (US$ 18 trillion), FDI stocks (US$ 15 trillion), and goods exports (US$ 14 trillion). It is interesting to note that, at US$ 11 trillion, the total value of bank claims in the APEC region is also the greatest, while the other three types of investment holdings and the value of goods exports each amount to around US$ 6 trillion. This suggests that while the share of APEC's goods exports in the world is 45 percent, the shares of bank claims, long-term debt, equity, and FDI are 33 percent, 29 percent, 36 percent, and 40 percent, respectively. Thus, the global share of the APEC region's capital market is smaller than that of its goods trade.

Conventional theoretical models have predicted that foreign capital inflows contribute to the economic growth of the borrowing countries. Even though there has recently been some empirical research suggesting that the relation is weak, it seems obvious that international capital movement helps the economic growth of the destination and source economies alike, as it finances domestic investment in the destination economies while it helps maximize the efficient use of capital in the source economies. Also, FDI can be a vehicle for technological progress in the destination economies through the use and dissemination of advanced production techniques.

Since its inception in 1989, APEC has striven to achieve the goals of "free and open trade and investment" in the APEC region. In particular, APEC's investment liberalization and facilitation efforts have contributed to cross-border investment between APEC economies.

However, as noted above, the global share of the APEC region's capital market is smaller than that of its goods trade, and there has been little effort to examine the underlying nature, structure, and determinants of such financial linkages between member economies.

Against this background, the present report aims to establish an understanding of the degree and structure of portfolio investment and bank loans among APEC economies.

The main findings and their policy implications can be summarized as follows:

First, both cross-border portfolio investment and bank lending are increasing at a rate higher than the income growth rate of source and destination economy alike. Thus, as APEC member economies continue to grow, the APEC region's capital market is expected to grow more rapidly and the investment linkages in the region are expected to be strengthened.

Second, except for inward bank lending, APEC membership has a highly significant positive relationship with financial transactions among members. That is, when compared with non-members, APEC member economies purchase more equities and long-term bonds from other APEC member economies and sell more equities and long-term-bonds to other members. It is also found that APEC member economies make more bank loans to other member economies, but they appear to borrow less from other member economies.

Third, inclusion of the bilateral goods trade intensity variable in our regression model reduces the size of the coefficient for the APEC membership dummy, suggesting that a large part of the regional financial market integration in the APEC region is due to strong linkages of intra-regional trade in the region. This implies that the financial market in the APEC region as a whole is not as fully integrated as the goods market, even though the continuing expansion of intra-regional trade in goods in the region is expected to contribute to the intra-regional financial transactions in the region.

Thus, continued efforts aimed at greater financial integration in the APEC region will be needed to cement many benefits to the member economies. Such benefits include lower capital costs for investment, improved financial resource allocation in the region, and greater confidence in the financial markets of the member economies. This will also enable regional financial centers to realize scale economies and to compete with global financial centers effectively (Young *et al.*, 2009).

Fourth, APEC member economies tend to engage in more cross-border financial investment with economies located geographically closer and with those sharing a common language. Distance and language are proxies for information asymmetries, and hence efforts to share more information among APEC member economies are expected to strengthen the investment linkages in the APEC region.

Fifth, the financial liberalization of both the source and destination economies is in general found to contribute to movement of international capital. Thus, APEC members should continue their efforts to internationalize their financial markets by liberalization of the capital account and progressive exchange controls. Also, concerted action to reduce capital market control among APEC member economies is expected to enhance investment integration in the APEC region.

Sixth, it has been found that lower tax rates on dividend or interest income are positively associated with greater inflows of financial assets. Thus, competitive pressure may make it attractive for APEC members to make use of competitive tools such as tax incentives or more far-reaching reductions in tax levels.

Seventh, it has been found that the level of country risk is clearly associated with cross-border flows of financial assets. In particular, political risk and economic risk of destination economies are found to have a close relationship with inflow of equity investment, long-term bond investment, and bank loans. Thus, individual and concerted efforts to improve institutional quality and lessen economic risk of member economies are expected to contribute to increasing intra-regional financial transactions in the region.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1. INTRODUCTION

This is one of the two reports prepared under a project entitled "Investigation of the Cross-border Investment linkages within APEC Economies and identifying Policy Implications". This report deals with portfolio investment and bank lending among APEC economies, while the other report (Lee and Rajan, 2009) deals with bilateral foreign direct investment (FDI) linkages.

APEC is a group twenty one economies located in the Asia-Pacific region. With 2.7 billion people, the twenty-one APEC member economies as a whole accounted for 40 percent of the world population of 6.6 billion people in 2007. The combined GDP of the APEC member economies was US$ 29.0 trillion in 2007, which accounted for over 53 percent of world GDP of US$ 54.6 trillion.

One of the important stylized facts concerning APEC is that its member economies are very dynamic in terms of economic growth. Between 1989 and 2007, the per capita GDPs of sixteen member economies grew faster than the world average (4.4 percent). The GDPs of thirteen APEC member economies also grew faster than the world average (5.9 percent) during the period. Specifically, the GDPs of Viet Nam and China grew at the exceptional rates of 14.2 percent and 13.2 percent per annum, respectively. Chile; Singapore; Peru; Malaysia; Mexico; Indonesia; and Korea also recorded very high growth rates ranging from 10.2 percent to 8.3 percent.

Trade expansion has been more dramatic. Between 1989 and 2007, among 21 APEC member economies, thirteen (fourteen if Russia is included) APEC economies enjoyed faster expansion of their exports than the world average growth rate of 8.9 percent. APEC's total exports increased from US$ 1.2 trillion to US$ 6.2 trillion, recording an annual average growth rate of 9.5 percent, which is larger than the world average growth rate.[1]

---

[1] For more discussions on trade in the APEC region, readers are referred to Lee and Hur (2009), another APEC PSU report, entitled "Trade Creation in the APEC Region: Measurement of the Magnitude of and Changes in Intra-regional Trade since APEC's Inception".

2 Cross-border Investment Linkages among APEC: the case of portfolio investment and bank lending

Table 1. 1 Comparison of Inward Financial Asset Trade and Exports of Goods

	2001 (billion USD)	2007 (billion USD)	2001-2007 (annualize growth, %)
Gross Domestic Product			
World	31,742	54,584	9.5
APEC	19,192	29,019	7.1
APEC (simple average)			12.1
Goods Export			
World	6,142	13,838	14.5
APEC	2,859	6,226	13.8
APEC (simple average)			15.4
Foreign Direct Investment			
World	6,164	15,211	16.2
APEC	2,942	6,073	12.8
APEC (simple average)			14.9
Equities			
World	5,200	17,772	22.7
APEC	1,831	6,445	23.3
APEC (simple average)			33.4
Long-term Bonds			
World	6,426	19,190	20.0
APEC	2,271	5,630	16.3
APEC (simple average)			19.8
Bank Loans			
World	11,500	34,217	19.9
APEC	4,705	11,176	15.5
APEC (simple average)			19.3

Notes: Under each item, "APEC" includes all the 21 member economies, and "World" includes all the economies in the world. As for their partners, equity and debt investors are 75 economies in the world; Bank loan lenders are 30 economies; Goods are exported to all the economies in the world; GDP for Brunei is not available in 2007, however, it would not affect the aggregated figure much; Regional growth rates are weighted average, unless stated as "simple average".
Source: International Monetary Fund, *Coordinated portfolio Investment Survey (CPIS) Database*; *Bank for International Settlements (BIS) Database*; International Monetary Fund, *Direction of Trade Statistics Database;* United Nations Conference on Trade and Development (UNCTAD), *Foreign Direct Investment Statistics Database.*

As seen in Table 1.1, expansion of cross-border financial asset transactions has been even more dramatic than that of goods trade and GDP growth in the APEC region.[2] Specifically, between 2001 and 2007, the values of inward holdings of foreign direct investment (FDI) stocks, equities, long-term bonds, and bank claims in the APEC region increased by 12.8 percent, 23.3 percent, 16.3 percent, and 15.5 percent per annum, respectively, while APEC's exports and GDP grew by 13.8 percent and 7.1

---

[2] Readers should be cautioned that because of the data (un)availability, the total values of different types of investments are calculated with different numbers of countries. See notes in the Table.

percent per annum, respectively. Thus, cross-border financial transactions, except for FDI, have grown at rates higher than goods trade or GDP between 2001 and 2007. The faster expansion of international financial transactions than of goods trade is also a global phenomenon, not just a phenomenon of the APEC region.

By virtue of such fast expansion of cross-border financial transactions in recent years, the total values of financial equity holdings and bank loans have become far larger than that of world trade. Specifically, the total value of bank loans (US$ 34 trillion) in the world is greater than the values of long-term debt (US$ 19 trillion), equities (US$ 18 trillion), FDI stocks (US$ 15 trillion), and goods exports (US$ 14 trillion). Similarly, at US$ 11 trillion, the total value of bank loans in the APEC region is also the greatest, with the other three types of investment holdings and the value of goods exports each amounting to around US$ 6 trillion. This suggests that while the share of APEC's goods exports in the world is 45 percent, the shares of bank loans, long-term debt, equity, and FDI are 32.7 percent, 29.3 percent, 36.3 percent, and 39.9 percent, respectively (Figure 1.1). Thus, the global share of the APEC region's capital market is smaller than that of its goods trade.

Figure 1. 1 APEC Share of Inward Financial Asset Holdings - Comparison of GDP and Exports and Goods (2007)
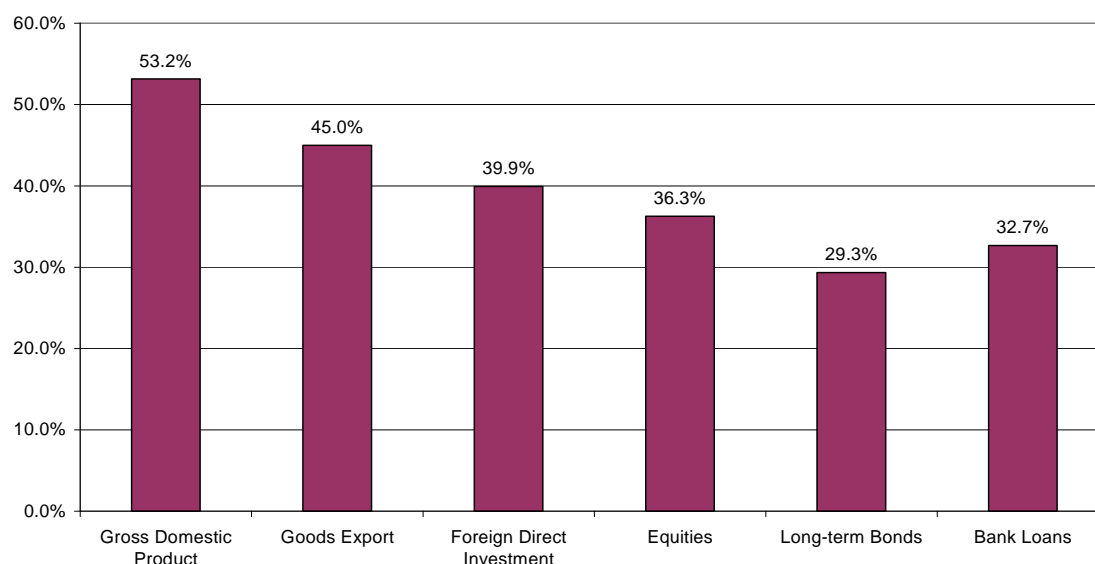
Conventional theoretical models have predicted that foreign capital inflows contribute to the economic growth of the borrowing countries.[3] Even though there has recently been some empirical research suggesting that the relation is weak,[4] it seems obvious that international capital movement helps the economic growth of the destination and source economies alike, as it finances domestic investment in the destination economies while it helps maximize the efficient use of capital in the source economies.[5] Also, FDI can be a vehicle for technological progress in the destination economies through the use and dissemination of advanced production techniques.

Figure 1.2 shows a scatter diagram of plots between 118 countries' annualized growth rates of per capita GDP (GDP_growth) in US dollars for the period 2001 – 2007 and their financial liberalization indices as of 2006 (Finlib_06).[6] A predicted regression line is also shown. As can be seen in the graph, there seems to be a very strong correlation between income growth and level of financial market liberalization. That is, the economies with a greater level of financial market liberalization seem to have enjoyed faster economic growth. Figure 1.3 also shows that APEC economies with greater improvement in financial market liberalization have enjoyed faster economic growth during the 2001 – 2007 period.7 Despite the fact that these two diagrams do not necessarily show a causal effect of financial liberalization on economic growth, there seems to be a very strong correlation of income growth with level of financial market liberalization and improvement of financial market liberalization.

---

[3] See Huh *et al* (2009), and references therein, for theoretical models explaining how foreign capital inflow helps the economic growth of the borrowing economy. See also Chapter III in UNCTAD (2009), for a summary discussion on theoretical models and empirical studies on the link between international capital flow and economic growth.

[4] See Prasad *et al* (2007), who find no empirical evidence that an increase in foreign capital inflows directly boosts growth. See also UNCTAD (2009).

[5] Of course, as can be seen in the recent global financial crisis of 2007-2009 and East Asian financial crisis of 1997-1998, a reckless management of finance can fuel over-investment and consumption boom and a sudden loss of confidence by investors can result in a financial crisis and hence an economic downturn.

[6] Per capita GDP growth is the annualized growth rate of per capita GDP between 2001 and 2007. *Finlib* is the inverse of the capital control intensity index as of 2006, drawn from the *Economic Freedom of the World* (*EFW*) index published annually by the Fraser Institute. http://www.freetheworld.com.

[7] *Finlib_growth* is the change in the inverse of the capital control intensity index between 2001 and 2007.

Figure 1. 2 Relation between Growth Rates of Per Capita GDP and Financial Market Liberalization (total countries = 118)
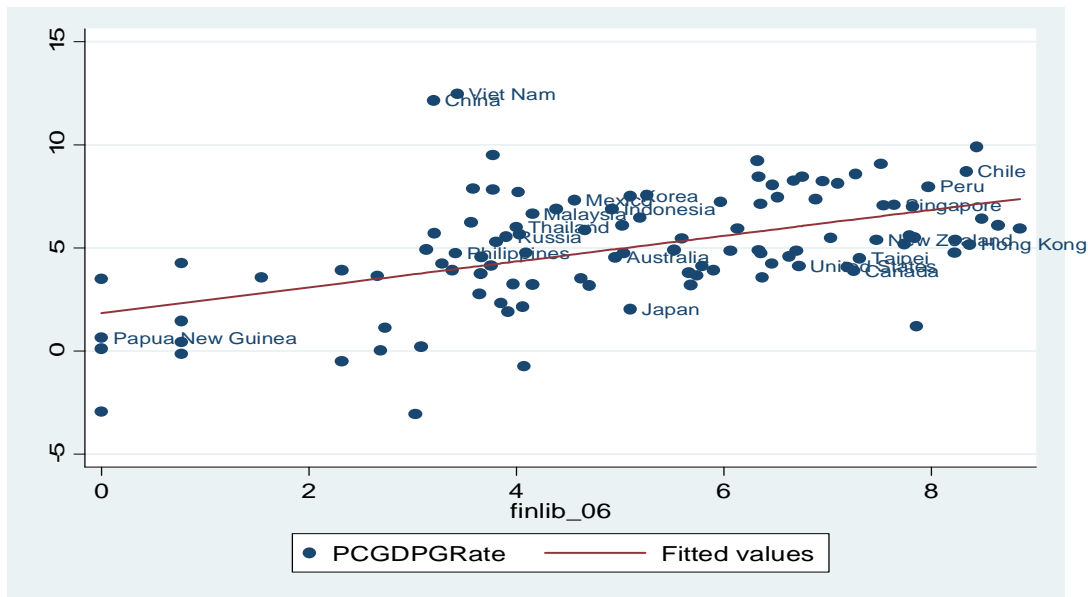
$$PCGDP\_growth = 1.84^{***} + 0.63^{***}Finlib\_2006; \qquad \# Obs = 118; R^2 = 0.242$$

$$(3.08) \qquad (5.78)$$

Figure 1. 3 Relation between Growth Rates of Per Capita GDP and Improvement in Financial Market Liberalization (APEC members only)
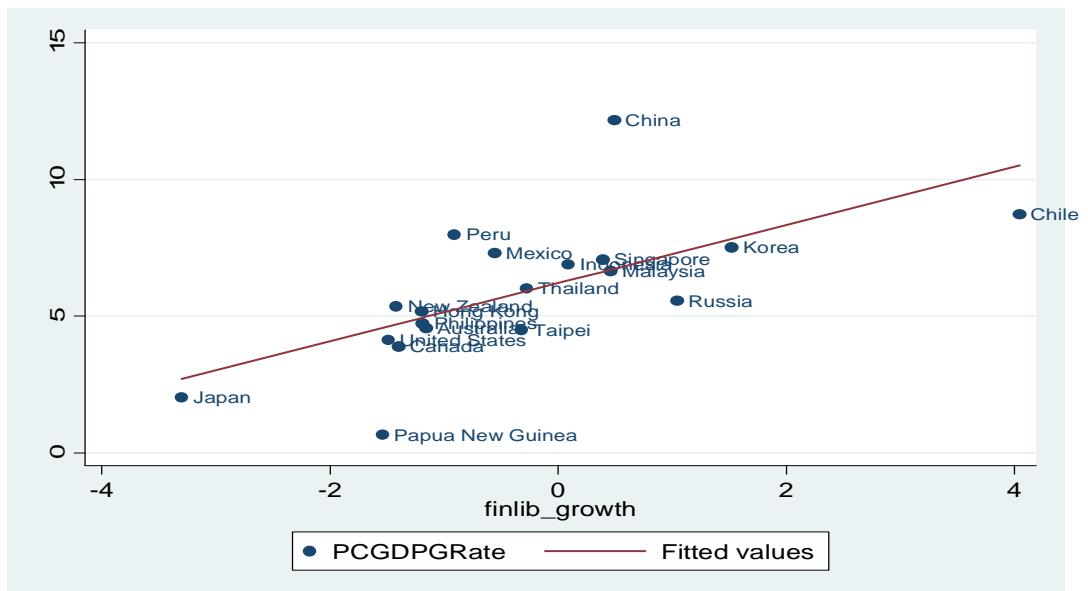
$$PCGDP\_growth = 6.21^{***} + 1.06^{***} Finlib\_growth; \qquad \# Obs = 19; R^2 = 0.423$$

$$(13.35) \qquad (3.53)$$

Since its inception in 1989, APEC has striven to achieve the goals of "free and open trade and investment" in the APEC region. In particular, APEC's investment liberalization and facilitation efforts have contributed to cross-border investment between APEC economies. However, as noted above, the global share of the APEC region's capital market is smaller than that of its goods trade, and there has been little effort to examine the underlying nature, structure, and determinants of such financial linkages between member economies.[8] Gaining a better understanding of these features of the linkages of financial markets in the APEC region will assist in identifying priorities for the post-APEC Investment Facilitation Action Plan (IFAP) II, and more broadly for future APEC agendas for regional economic integration (REI) and the goals of free and open trade and investment (FOTI).

Against this background, the APEC Policy Support Unit has produced two reports on (i) portfolio investment and bank lending and (ii) foreign direct investment (FDI), under a project entitled "An Investigation of the Cross-border Investment linkages among APEC Economies and identifying Policy Implications". The present report aims to establish an understanding of the degree and structure of portfolio investment and bank loans among APEC economies.

More specifically, this study aims to

a) Establish an understanding of the degree and structure of bilateral portfolio investment and bank lending among APEC economies.

b) Analyze the factors that have an impact on bilateral portfolio investment and bank lending.

c) Assess whether APEC members enjoy greater degree of bilateral portfolio investment and bank lending between themselves than with non-members.

d) Draw policy implications and issues for further analysis within the context of identifying priorities for APEC's forward agendas to further strengthen regional economic integration.

Section 2 will first give a description of the extent and trends of global and intra-regional trade in financial assets for the period 2001 – 2007. Section 3 will then

---

[8] Recent research on APEC investment linkages has been carried out by Li and Qiu (2009), but this study focuses only on M&A-type FDI.

introduces a financial gravity equation to analyse the factors that have impact on bilateral holdings of financial assets between APEC member economies and other economies (including both APEC member and non-member economies). In doing so, we augment the gravity equation with an APEC membership dummy variable and test whether APEC member economies conduct financial transactions more with other APEC member economies than with non-member economies. Regression results are reported in Section 4. Finally, Section 5 will draw policy implications and issues for further analysis within the context of identifying priorities for APEC's forward agendas to further strengthen regional economic integration.

2. SIZE OF BILATERAL HOLDINGS OF PORTFOLIO ASSETS

A. DATA

For equity and bond investments, the data used in this study are gathered from the IMF's Coordinated Portfolio Investment Survey (CPIS), which geographically breaks down holdings of securities (equities and bonds).[9] The first CPIS was conducted in 1997, when 29 economies participated. Since 2001, the CPIS has been undertaken on an annual basis and the number of participating economies has been expanded to 75, including 15 APEC member economies (Australia; Canada; Chile; Hong Kong, China; Indonesia; Japan; Korea; Malaysia; Mexico; New Zealand; the Philippines; Russia; Singapore; Thailand; and the United States). It also includes several offshore financial centers. The CPIS collects information on the stock of cross-border holdings of equities and bonds, broken down by the economy of the residence of the issuer. Holdings of securities which comprise direct investment are excluded. It is also noted that bond holdings include long-term debt securities and short-term securities, but only long-term debt securities are considered here because the data for short-term debt securities are limited, as can be seen Appendix Table A2.b.[10]

For bank lending, data on foreign claims drawn from the Bank for International Settlements (BIS) are utilized.[11] The BIS publishes the consolidated foreign claims of BIS reporting banks by nationality of lenders and borrowers. The data are gathered for 30 reporting countries, but due to confidentiality concerns of some reporting economies, publicly available data are for 26 economies, which include seven APEC member economies (Australia; Canada; Chile; Japan; Mexico; Chinese Taipei; and the United States).

The bank lending data mainly include standard inter-bank lending activities such as loans, bank-to-bank credit lines, and trade-related credit. Thus, the data reflect the investment decisions of international banks to lend to other financial institutions or

---

[9] http://www.imf.org/external/np/sta/pi/cpis.htm
[10] Some authors (eg., Garcia-Herrero *et al.*, 2009) work with total debt securities, but this is not preferable because there are some important characteristics of short-term debt securities that clearly distinguish them from long-term securities.
[11] http://www.bis.org/statistics/bankstats.htm

other foreign entities. It should be noted, however, that the BIS measure of international bank claims is classified by the country of origin of the claims (especially, the country in which the head office of the reporting bank is located), summing contractual lending by the head office as well as its branches and subsidiaries on a worldwide consolidated basis. For example, claims of Japanese bank branches operating in other countries (for example, Korea) and raising funds and extending loans to Korean borrowers are counted as Japanese claims on Korea. Therefore, this is not an exact measure of cross-border capital flows, but it can measure the degree of financial integration between Japan and Korea more accurately (see Eichengreen and Park, 2005).

Readers should also note that all the data for equities, long-term bonds, and bank lending are not flows but outstanding stocks. Simply taking differences from holdings to estimate net flows could be misleading because the reporting population changes between surveys and exchange rate movements may alter asset values. One advantage of working with holdings is that they are less volatile than flows and can be used to investigate the long-term determinants of international capital movement.

b. EQUITY HOLDINGS

Tables 2.1 and 2.2 give some insights on the nature of bilateral holdings of equities involving the APEC member economies.[12] Specifically, Table 2.1 presents for two years, 2001 and 2007, the outward and inward cross-border equity holdings involving APEC economies against 75 economies (both APEC member and non-members) in the world. The left panel shows the outward equity holdings, i.e., the foreign equities held by residents of the 15 CPIS-participating APEC member economies. On the other hand, the right panel shows the inward equity holdings, i.e., the cross-border equity assets invested in 21 APEC member economies.

In 2007, the total value of equity holdings in the world (i.e., the 75 countries that participated in the CPIS survey) was US$ 17.8 trillion. The share of the 15 APEC economies was 42.3 percent, at US$ 7.5 trillion. Of this, the United States was holding US$ 5.2 trillion of equities, which amounts to 29.5 percent of the world (75 countries) total or 69.7 percent of the total equity holdings of the 15 APEC economies. The second

---

[12] Appendix Table A3.1 reports a more detailed breakdown of bilateral equity holdings among APEC member economies.

largest equity investor among the APEC members is Japan, with US$ 573 billion of equities, followed by Canada and Hong Kong, China with US$ 564 billion and US$ 519 billion of equities, respectively. Readers should note, however, that as seen in Appendix Table A1, the equity investments of Canada and Hong Kong, China are mostly made in the United States and China, respectively.

Table 2. 1 APEC's Outward and Inward Equity Holdings in the World

	World (all) as Destnation			World (75) as Source		
	2001 (million USD)	**2007 (million USD)**	**2001-2007 (annualised growth, %)**	**2001 (million USD)**	**2007 (million USD)**	**2001-2007 (annualised growth, %)**
Australia	64,160.0	262,080.9	26.4	66,461.4	301,645.8	28.7
Brunei Darussalam	....	....	....	0.0	-0.3	0.0
Canada	230,795.9	563,660.6	16.0	97,106.1	465,154.9	29.8
Chile	3,946.4	65,057.0	59.5	3,416.5	11,746.5	22.9
China	....	....	....	13,296.6	387,919.5	75.5
Hong Kong, China	94,615.0	518,717.0	32.8	79,947.9	326,383.9	26.4
Indonesia	16.6	511.2	77.1	3,589.4	38,988.9	48.8
Japan	227,351.4	573,469.4	16.7	332,410.4	1,040,926.8	21.0
Korea	1,299.8	106,109.8	108.3	51,855.3	257,405.4	30.6
Malaysia	1,332.0	9,422.3	38.6	12,881.0	53,496.3	26.8
Mexico	....	3,671.8	....	40,579.9	120,980.5	20.0
New Zealand	7,618.2	27,411.2	23.8	3,399.1	11,640.5	22.8
Papua New Guinea	....	....	....	307.7	4,217.8	54.7
Peru	....	....	....	1,047.9	3,281.1	21.0
Philippines	110.8	185.8	9.0	3,448.1	18,908.3	32.8
Russia	103.0	4,081.0	84.6	10,944.5	182,112.7	59.8
Singapore	31,318.9	140,553.0	28.4	36,186.3	127,919.8	23.4
Chinese Taipei	....	....	....	39,018.2	153,760.5	25.7
Thailand	82.0	3,237.4	84.5	7,792.7	46,610.6	34.7
United States	1,612,667.0	5,247,983.0	21.7	1,027,412.6	2,889,037.1	18.8
Viet Nam	....	....	....	85.0	2,606.5	76.9
APEC	2,275,416.9	7,526,151.5	22.1	1,831,186.7	6,444,743.3	23.3
(simple average)			44.8			33.4
France	201,751.6	857,896.4	27.3	390,327.1	976,783.1	16.5
Germany	381,184.3	981,275.4	17.1	273,197.0	998,633.1	24.1
United Kingdom	558,379.3	1,541,432.0	18.4	713,135.4	1,643,612.2	14.9
World	5,200,145.1	17,771,952.1	22.7	5,200,145.1	17,771,952.1	22.7

Notes: ....denotes data not available; World investors are available for 75 economies, including 15 APEC members; Regional growth rates are weighted average, unless stated as "simple average".
Source: International Monetary Fund, *Coordinated portfolio Investment Survey (CPIS) Database.*

On the other hand, in 2007, the total value of the 21 APEC members' equities held by foreign residents in the world's 75 reporting countries was US$ 6.4 trillion, which accounts for 36.3 percent of the worldwide equity holdings of US$ 17.8 trillion. Among the 21 APEC members, the value of U.S. equities held by foreign residents was the largest, at US$ 2.9 trillion, which accounts for 16.2 percent of the world total and 44.8 percent of the APEC total. Thus, the United States is the largest source and destination economy for equity investments in the APEC region. The United States is also the

largest source and destination economy for equity investments in the world, followed by the United Kingdom.

Table 2. 2 APEC's Outward and Inward Equity Holdings in the APEC Region

	APEC (21) as Destination			APEC (15) as Source		
	2001 (million USD)	2007 (million USD)	2001-2007 (annualised growth, %)	2001 (million USD)	2007 (million USD)	2001-2007 (annualised growth, %)
Australia	44,448.2	160,978.0	23.9	44,627.1	188,248.4	27.1
Brunei Darussalam	....	....	....	0.0	0.0	0.0
Canada	160,601.0	357,463.2	14.3	94,572.6	404,044.1	27.4
Chile	1,318.6	28,044.0	66.5	1,988.3	5,466.3	18.4
China	....	....	....	9,833.8	288,891.3	75.7
Hong Kong, China	26,307.0	201,645.0	40.4	43,040.5	195,216.7	28.7
Indonesia	15.9	41.5	17.4	2,100.1	20,115.6	45.7
Japan	137,783.1	316,974.1	14.9	193,101.1	613,235.5	21.2
Korea	860.3	75,843.8	111.0	34,739.0	154,162.1	28.2
Malaysia	875.7	6,766.1	40.6	9,109.4	30,934.5	22.6
Mexico	....	2,297.8	....	27,958.2	91,949.5	21.9
New Zealand	5,733.8	17,764.1	20.7	2,477.1	8,462.2	22.7
Papua New Guinea	....	....	....	267.6	2,854.6	48.4
Peru	....	....	....	528.9	1,869.6	23.4
Philippines	95.4	93.8	-0.3	2,136.9	11,816.7	33.0
Russia	3.0	1,169.0	170.3	4,777.6	80,424.3	60.1
Singapore	22,111.0	78,337.2	23.5	25,937.7	75,747.3	19.6
Chinese Taipei	....	....	....	23,311.6	95,616.6	26.5
Thailand	53.0	2,175.1	85.7	4,379.8	23,937.0	32.7
United States	443,245.0	1,759,023.0	25.8	318,518.0	713,824.7	14.4
Viet Nam	....	....	....	45.6	1,798.8	84.5
APEC	843,451.0	3,008,615.7	23.6	843,451.0	3,008,615.7	23.6
(simple average)			46.8			32.5
France	53,144.2	161,796.7	20.4	134,906.5	408,698.2	20.3
Germany	80,573.7	170,810.7	13.3	87,480.4	383,356.5	27.9
United Kingdom	230,938.5	768,352.3	22.2	434,546.4	913,047.0	13.2
World	1,831,186.7	6,444,743.3	23.3	2,275,416.9	7,526,151.5	22.1

Notes: ….denotes data not available; World investors are available for 75 economies, including 15 APEC members; Regional growth rates are weighted average, unless stated as "simple average".
Source: International Monetary Fund, *Coordinated portfolio Investment Survey (CPIS) Database.*

Between 2001 and 2007, the total value of worldwide holdings of foreign equity investment increased by an annualized rate of 22.7 percent. Among the 15 APEC member economies which took part in the CPIS, 10 member economies increased their holdings of foreign equities at rates above the world average. Between those years, Korea's holdings of foreign equities increased at the exceptional rate of 108.3 percent per annum. Russia; Thailand; and Indonesia also increased their holdings of foreign equities dramatically.

Turning to inward equity investments, all of the 21 APEC members enjoyed annualized growth rates in double digits. Viet Nam; China; Russia; and Papua New Guinea

witnessed the greatest annualized growth rates of foreign investment in their equities, with 76.9 percent, 75.5 percent, 59.8 percent, and 54.7 percent, respectively. Indeed, except for the United States; Mexico; Japan; and Peru, all APEC member economies enjoyed higher growth rates than the world average of 22.7 percent. Overall, the APEC member economies have increasingly become integrated into the global financial market.

In order to assess whether growing capital mobility also contributed to the integration of financial markets within the APEC region, Table 2.2 reports the bilateral holdings of equities between APEC members. APEC member economies also increased their bilateral holdings of equities in the APEC region at rates similar to those for their worldwide equity holdings. Thus, the financial equity markets in the APEC region have also become increasingly integrated among member economies.

Figure 2.1 shows the changing shares of APEC's intra-regional outward equity investment and inward equity investment, respectively, between 2001 and 2007. The share of the United States in intra-regional outward equity investment among the 15 CPI-participating APEC member economies increased from 52.6 percent in 2001 to 58.5 percent in 2007, while the second and third largest equity investors, Canada and Japan, had shares that decreased during that period.

Figure 2.1 a Share of Intra-Regional Outward Equity Investment (2001, 2007)
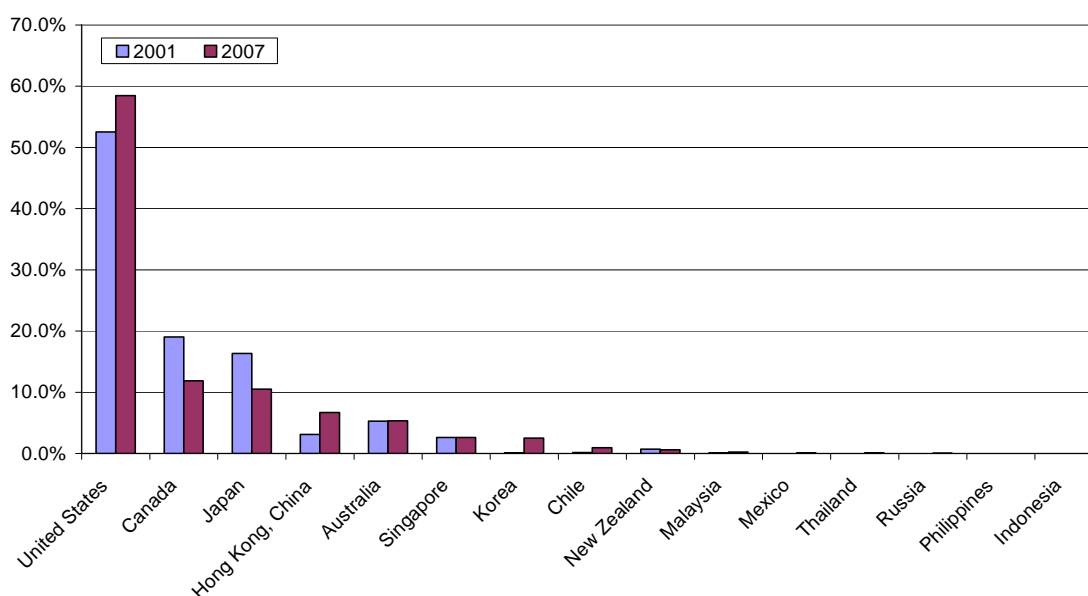
Figure 2.1 b Share of Intra-Regional Inward Equity Investment (2001, 2007)
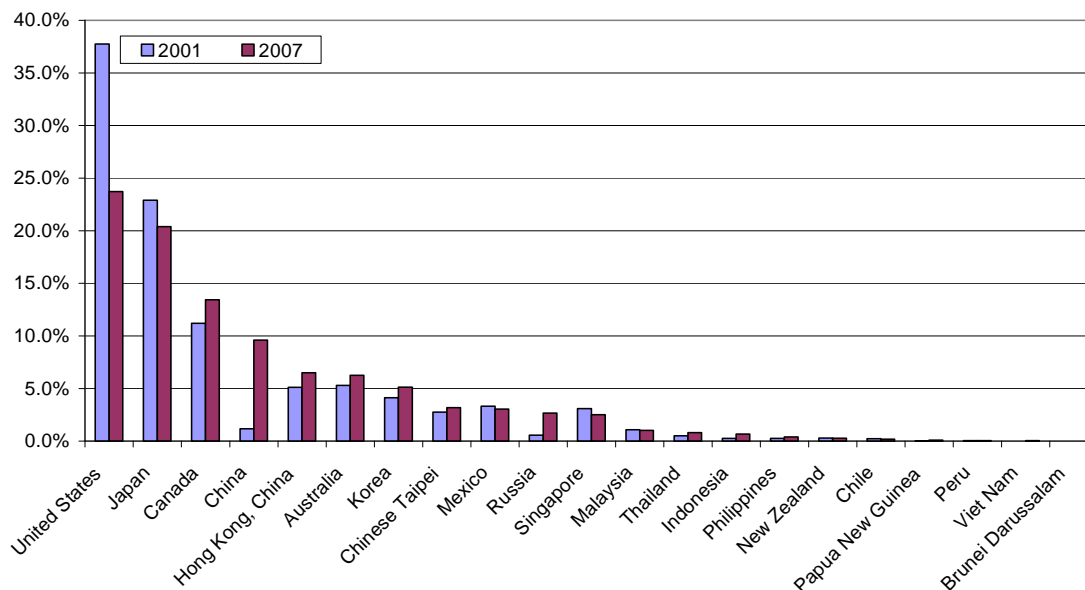
On the other hand, the U.S. share of intra-regional inward equity investment among the 21 APEC member economies decreased from 37.8 percent in 2001 to 23.7 percent in 2007, while China's share increased markedly from a meager 1.2 percent in 2001 to 9.6 percent in 2007.

3. LONG-TERM BOND HOLDINGS

The left panel of Table 2.3 presents, for 2001 and 2007, outward cross-border long-term bond investments by the 15 APEC member economies, i.e., the foreign long-term bonds held by residents of the 15 APEC economies.[13] The right panel of the table also presents the inward bond investments in each of the 21 APEC member economies, i.e., foreigners' holdings of long-term bonds issued by the 21 APEC member economies.

Table 2. 3 APEC's Outward and Inward Long-term Bond Holdings in the World

	World (all) as Destination			World (75) as Source		
	2001 (million USD)	**2007 (million USD)**	**2001-2007 (annualised growth, %)**	**2001 (million USD)**	**2007 (million USD)**	**2001-2007 (annualised growth, %)**
Australia	14,396.4	140,293.7	46.1	75,356.1	312,230.1	26.7
Brunei Darussalam	....	....	....	1.8	11.6	36.0
Canada	25,284.6	156,360.7	35.5	207,495.8	352,599.6	9.2
Chile	2,485.6	15,322.8	35.4	4,888.1	9,548.6	11.8
China	....	....	....	5,503.7	12,276.3	14.3
Hong Kong, China	85,877.0	205,505.0	15.7	15,625.8	14,988.9	-0.7
Indonesia	687.5	1,455.9	13.3	1,612.8	12,688.1	41.0
Japan	1,004,877.6	1,924,828.8	11.4	169,271.8	202,698.7	3.0
Korea	5,283.7	52,143.9	46.5	22,506.7	73,031.9	21.7
Malaysia	550.7	3,404.8	35.5	9,262.7	26,436.3	19.1
Mexico	....	8,246.1	....	44,275.8	50,329.5	2.2
New Zealand	4,732.7	7,576.7	8.2	9,280.4	18,669.3	12.4
Papua New Guinea	....	....	....	1.2	10.3	43.9
Peru	....	....	....	1,878.8	7,505.7	26.0
Philippines	1,641.3	4,792.0	19.6	8,815.9	20,408.8	15.0
Russia	967.0	21,346.0	67.5	14,993.6	36,077.5	15.8
Singapore	41,960.2	99,596.9	15.5	13,275.9	36,549.8	18.4
Chinese Taipei	....	....	....	1,966.1	4,304.0	13.9
Thailand	327.0	3,866.5	50.9	3,613.6	3,978.2	1.6
United States	555,358.5	1,587,092.0	19.1	1,661,233.6	4,433,609.7	17.8
Viet Nam	....	....	....	101.4	2,195.6	67.0
APEC	1,744,429.8	4,231,831.8	15.9	2,270,961.4	5,630,148.7	16.3
(simple average)			30.0			19.8
France	462,133.5	1,969,909.8	27.3	337,183.2	1,207,031.0	23.7
Germany	401,582.0	1,580,156.6	25.6	806,340.4	1,936,653.1	15.7
United Kingdom	667,302.9	1,742,601.4	17.3	395,339.6	1,472,194.1	24.5
World	6,426,437.1	19,189,503.8	20.0	6,426,437.1	19,189,503.8	20.0

Notes: ....denotes data not available; World investors are available for 75 economies, including 15 APEC members; Regional growth rates are weighted average, unless stated as "simple average".
Source: International Monetary Fund, *Coordinated portfolio Investment Survey (CPIS) Database.*

---

[13] Appendix Table A3.2 reports a more detailed breakdown of long-term bond holdings among APEC member economies.

In 2007, the total value of long-term bond holdings in the world was US$ 19.2 trillion, which is larger than the total value of equity holdings of US $17.8 trillion.[14] Unlike the case of equities, Japan is the largest creditor of long-term debt securities, with US$ 1.9 trillion. On the other hand, the United States is the largest debtor economy, with US$ 4.4 trillion of its long-term bonds held by foreign residents, which amounts to 78.7 percent of the total long-term debt in the APEC region or 23.1 percent of the total long-term debt in the world.

Between 2001 and 2007, 14 of the 15 APEC economies for which data are available increased their long-term debt investment at double-digit annualized growth rates. Inward long-term debt investment also grew very markedly during the period. Sixteen of the 21 APEC member economies saw their long-term debt securities held by foreign economies increase at double-digit annualized growth rates during the same period.

Table 2.4 reports the intra-regional outward and inward long-term bond holdings in the APEC region. Both outward and inward intra-regional bond holdings increased markedly in the APEC region between 2001 and 2007, suggesting that the financial bond markets in the APEC region have also become increasingly integrated among member economies. It is noted, however, that the growth rate of intra-regional outward and inward bond holdings in the APEC region is 12.9 percent, which is smaller than the corresponding rate for APEC-to-world bond investment (16.3%) or world-to-APEC bond investment (15.9%), implying that APEC regional bond market integration has been slower than worldwide bond market integration.

---

[14] With US$ 19.2 trillion as of 2007, the world's long-term bond holdings make up about 86 percent of the world's total (i.e. the sum of long-term and short-term) bond holdings of US$ 22.2 trillion.

Table 2.4 APEC's Outward and Inward Long-term Bond Holdings in the APEC Region

	APEC (21) as Destination			APEC (15) as Source		
	2001 (million USD)	2007 (million USD)	2001-2007 (annualised growth, %)	2001 (million USD)	2007 (million USD)	2001-2007 (annualised growth, %)
Australia	9,693.2	59,458.6	35.3	41,942.6	168,808.6	26.1
Brunei Darussalam	....	....	....	0.0	0.0	0.0
Canada	17,208.8	102,168.5	34.6	139,125.3	225,931.9	8.4
Chile	1,355.4	13,363.1	46.4	4,052.9	8,045.5	12.1
China	....	....	....	3,755.8	8,451.1	14.5
Hong Kong, China	48,811.0	114,129.0	15.2	5,361.5	8,376.8	7.7
Indonesia	436.0	498.8	2.3	732.8	7,442.3	47.2
Japan	397,797.2	685,830.0	9.5	36,385.7	57,893.2	8.0
Korea	3,484.9	32,398.1	45.0	14,850.3	42,712.3	19.3
Malaysia	283.3	1,282.6	28.6	7,340.3	16,366.1	14.3
Mexico	....	6,174.2	....	26,271.1	28,654.5	1.5
New Zealand	2,123.1	3,019.4	6.0	4,551.3	10,294.4	14.6
Papua New Guinea	....	....	....	0.3	0.0	0.0
Peru	....	....	....	1,305.2	3,453.0	17.6
Philippines	1,523.6	2,283.8	7.0	6,020.7	7,942.6	4.7
Russia	12.0	7,826.0	194.5	5,757.4	8,292.0	6.3
Singapore	24,900.2	62,702.2	16.6	4,227.3	17,225.2	26.4
Chinese Taipei	....	....	....	1,162.9	1,897.8	8.5
Thailand	154.0	1,790.7	50.5	2,740.5	2,840.7	0.6
United States	207,789.3	389,620.0	11.0	409,921.8	856,186.6	13.1
Viet Nam	....	....	....	66.2	1,730.3	72.3
APEC	715,572.0	1,482,545.0	12.9	715,572.0	1,482,545.0	12.9
(simple average)			35.9			15.4
France	89,880.3	255,110.3	19.0	82,469.9	218,626.1	17.6
Germany	51,359.5	190,120.2	24.4	156,540.0	268,090.6	9.4
United Kingdom	262,622.5	550,494.8	13.1	165,405.5	449,957.0	18.2
World	2,270,961.4	5,630,148.7	16.3	1,744,429.8	4,231,831.8	15.9

Notes: ....denotes data not available; World investors are available for 75 economies, including 15 APEC members; Regional growth rates are weighted average, unless stated as "simple average".
Source: International Monetary Fund, *Coordinated portfolio Investment Survey (CPIS) Database.*

Figure 2.2 a Share of Intra-Regional Outward Long-term Bond Investment (2001, 2007)
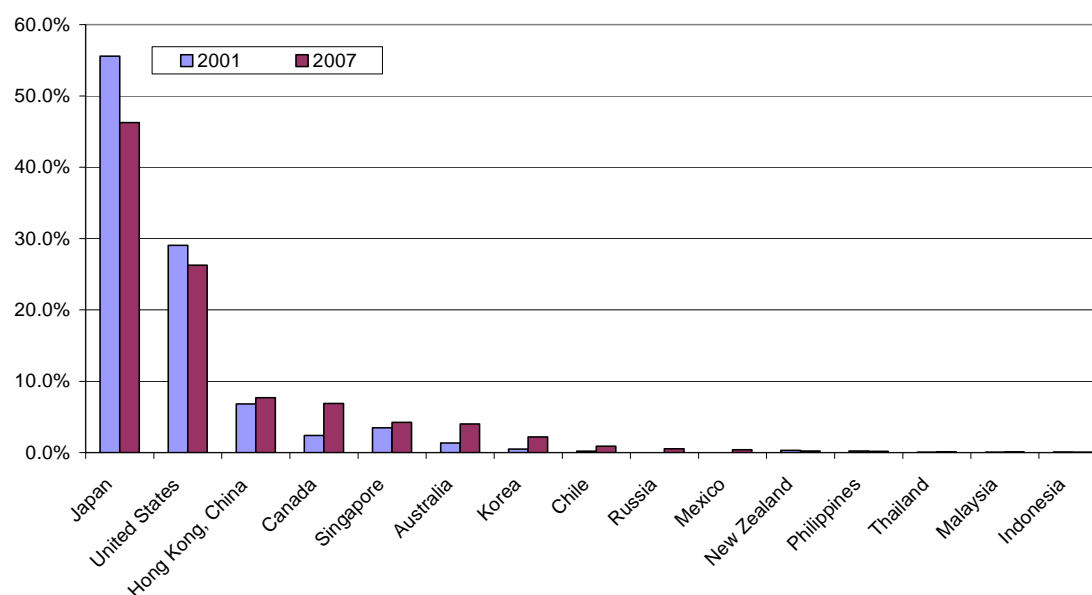
Figure 2.2. b Share of Intra-Regional Inward Long-term Bond Investment (2001-2007)
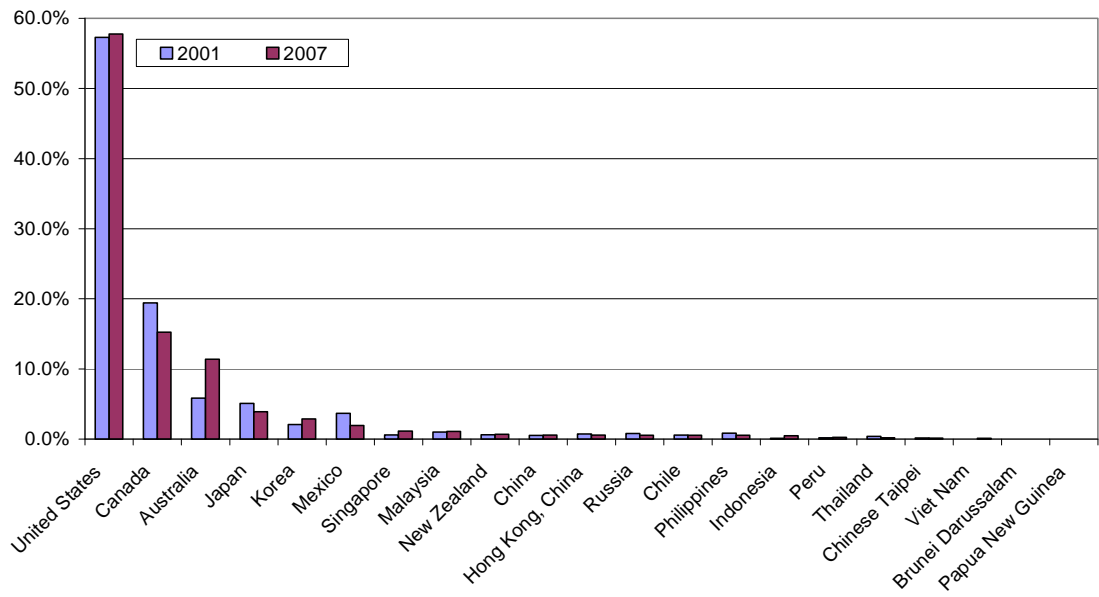
4.   BANK LENDING

Table 2.5 provides, for 2001 and 2007, outward cross-border bank claims by 7 APEC member economies in the left panel and inward bank claims (i.e. loans) against 21 APEC member economies in the right panel.[15]

Table 2. 5. APEC's Outward and Inward Bank Claims in the World

	World (all) as Destination			World (30) as Source		
	2001 (million USD)	**2007 (million USD)**	**2001-2007 (annualised growth, %)**	**2001 (million USD)**	**2007 (million USD)**	**2001-2007 (annualised growth, %)**
Australia	....	416,896	....	162,612	646,815	25.9
Brunei Darussalam	....	....	....	1,433	1,919	5.0
Canada	343,091	724,199	13.3	217,236	513,084	15.4
Chile	....	3,668	....	43,910	81,682	10.9
China	....	....	....	57,510	276,039	29.9
Hong Kong, China	....	....	....	267,937	375,865	5.8
Indonesia	....	....	....	37,328	67,177	10.3
Japan	1,175,208	2,294,213	11.8	553,338	937,161	9.2
Korea	....	....	....	73,098	374,836	31.3
Malaysia	....	....	....	51,417	110,298	13.6
Mexico	....	5,856	....	215,075	338,709	7.9
New Zealand	....	....	....	30,571	236,593	40.6
Papua New Guinea	....	....	....	98	1,643	60.0
Peru	....	....	....	14,689	25,329	9.5
Philippines	....	....	....	22,448	31,027	5.5
Russia	....	....	....	41,446	233,728	33.4
Singapore	....	....	....	133,838	260,952	11.8
Chinese Taipei	67,531	187,858	18.6	32,107	109,244	22.6
Thailand	....	....	....	42,360	54,967	4.4
United States	799,238	1,711,582	13.5	2,704,258	6,483,742	15.7
Viet Nam	....	....	....	2,438	15,293	35.8
APEC	2,385,068	5,344,272	14.4	4,705,147	11,176,103	15.5
(simple average)			14.3			19.3
France	818,772	3,693,831	28.5	538,901	1,975,880	24.2
Germany	2,200,325	4,427,835	12.4	791,329	2,287,993	19.4
United Kingdom	1,153,280	3,840,261	22.2	1,451,063	4,546,374	21.0
World	11,499,530	34,216,668	19.9	11,499,530	34,216,668	19.9

Notes: ....denotes data not available; World investors are available for the 30 BIS reporting economies, including 7 APEC members; Regional growth rates are weighted average, unless stated as "simple average".
Source: *Bank for International Settlements (BIS) Database.*

In 2007, the total value of bank claims in the world was US$ 34.2 trillion, which is larger than the total value of equity holdings of US $17.8 trillion or that of long-term

---

[15] Appendix Table A3.3 reports a more detailed breakdown of bilateral bank claims among APEC member economies.

bond holdings of US$ 19.2 trillion. The largest provider of bank loans was Japan, with US$ 2.3 trillion in bank claims in 2007, followed by the United States, holding US$ 1.7 trillion in bank claims. On looking at the right panel of the table, the largest bank loan borrower in the APEC region is the United States, with US$ 6.5 trillion, which amounts to 58.0 percent of total cross-border bank claims against the 21 APEC members and 18.9 percent of total international bank claims in the world.

Between 2001 and 2007, bank claims against most APEC member economies also grew at double-digit annualized growth rates. In particular, Papua New Guinea; New Zealand; Viet Nam; Russia; and Korea increased foreign borrowing at annualized rates of over 30 percent during the period, these being larger than the world average of 19.9 percent.

Table 2.6 shows intra-regional cross-border bank claims in the APEC region. Cross-border bank lending in the APEC region also increased at a double-digit growth rate of 12.1 percent per annum during the 2001-2007 period, but this is again smaller than the corresponding rates for APEC-to-world bank claims (15.5%) or world-to-APEC bank claims (14.4%), implying that financial market integration in terms of bank lending in the APEC region has also been slower than worldwide integration.

Table 2. 6 APEC's Outward and Inward Bank Claims in the APEC Region

	APEC (21) as Destination			APEC (7) as Source		
	2001 (million USD)	2007 (million USD)	2001-2007 (annualised growth, %)	2001 (million USD)	2007 (million USD)	2001-2007 (annualised growth, %)
Australia	....	250,366	....	35,576	130,643	24.2
Brunei Darussalam	....	....	....	126	178	5.9
Canada	226,010	453,698	12.3	63,185	118,049	11.0
Chile	....	2,270	....	11,482	10,604	-1.3
China	....	....	....	15,617	64,770	26.8
Hong Kong, China	....	....	....	67,177	86,725	4.3
Indonesia	....	....	....	14,077	20,058	6.1
Japan	666,272	1,075,428	8.3	68,568	133,526	11.7
Korea	....	....	....	30,290	113,717	24.7
Malaysia	....	....	....	14,812	22,705	7.4
Mexico	....	3,186	....	98,007	89,899	-1.4
New Zealand	....	....	....	3,108	207,893	101.5
Papua New Guinea	....	....	....	26	66	16.8
Peru	....	....	....	2,742	4,123	7.0
Philippines	....	....	....	9,197	10,037	1.5
Russia	....	....	....	2,974	29,272	46.4
Singapore	....	....	....	47,349	84,086	10.0
Chinese Taipei	46,869	101,018	13.7	15,393	35,556	15.0
Thailand	....	....	....	16,119	24,162	7.0
United States	303,624	578,456	11.3	726,010	1,273,512	9.8
Viet Nam	....	....	....	940	4,841	31.4
APEC	1,242,775	2,464,422	12.1	1,242,775	2,464,422	12.1
(simple average)			11.4			17.4
France	304,703	1,109,646	24.0	78,332	200,703	17.0
Germany	687,102	1,222,459	10.1	178,323	254,649	6.1
United Kingdom	681,922	1,942,643	19.1	259,610	766,981	19.8
World	4,705,147	11,176,103	15.5	2,385,068	5,344,272	14.4

Notes: ....denotes data not available; World investors are available for the 30 BIS reporting economies, including 7 APEC members; Regional growth rates are weighted average, unless stated as "simple average".

Source: *Bank for International Settlements (BIS) Database.*

Figure 2.3 a Share of Intra-Regional Outward Bank Lending (2001, 2007)
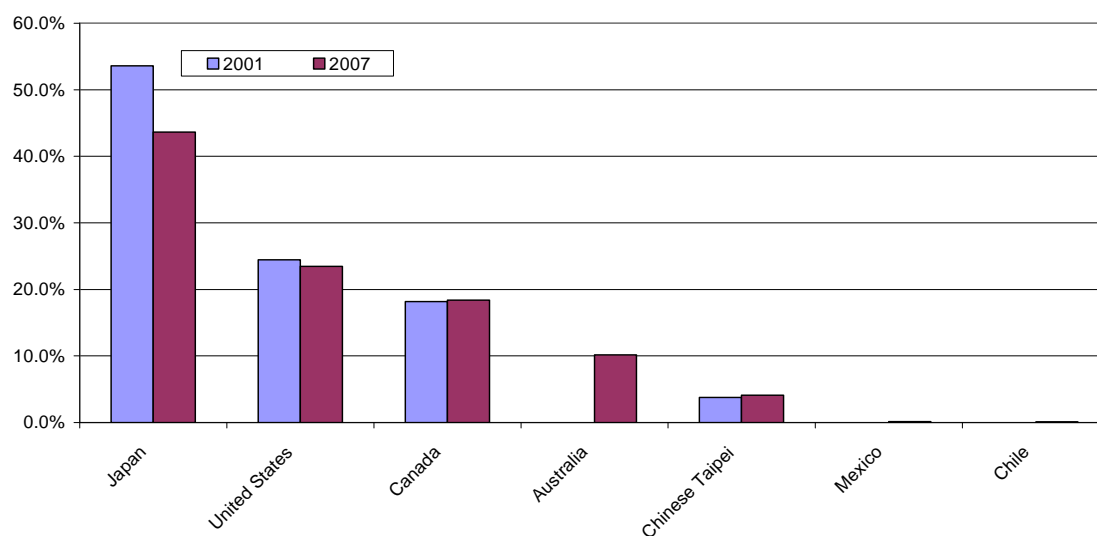
Figure 2.3 b Share of Intra-Regional Inward Bank Lending (2001, 2007)
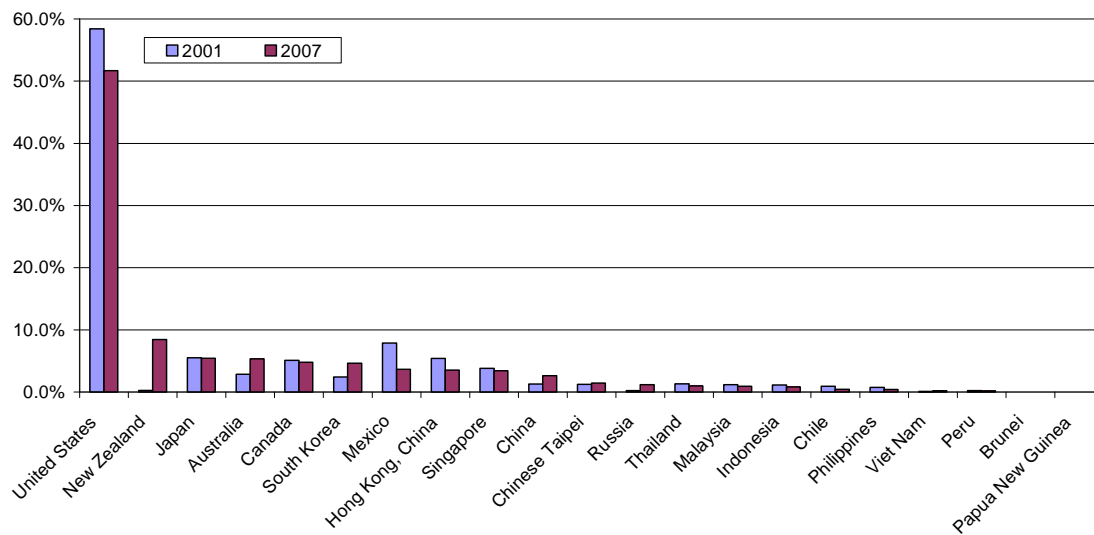
5. THEORETICAL FRAMEWORK AND EMPIRICAL MODELS

Portes and Rey (2005) is one of the first papers using gravity models to analyze the determinants of cross-border portfolio investment. Using a sample of 14 developed economies over the 1989-1996 period, they find that market sizes and distance are key determinants of cross-border portfolio investment. Dahlquist *et al.* (2003) use U.S. data and confirm the importance of distance in cross-border portfolio investment. Using the gravity model, Lee (2008) focuses on East Asia and finds that financial integration in equities and debt securities among East Asian economies is relatively lower than in Europe. Lane and Milesi-Ferretti (2008) also provide a systematic analysis of the bilateral factors driving portfolio equity holdings across countries and find that bilateral equity holdings are strongly correlated with bilateral trade in goods and services.

Utilizing a more theoretically motivated financial gravity model, Lee and Huh (2008) also find that the level of bilateral holdings of financial assets between Japan and other East Asian countries is smaller than what is expected by the gravity model. Garcia-Herrero *et al.* (2009) also use the gravity model and confirm that East Asian economies are less integrated in financial assets trade than European economies and find that the lack of liquidity in Asian financial markets helps to explain why Asian investors prefer to access the extra-Asian markets.

To a lesser degree, the geography of cross-border bank lending has also been analyzed using gravity models (Rose and Spigel, 2004; Lee, 2008; Papaioannou, 2009) and geographical proximity has been found to exert a significant determinant. Papaioannou (2009), in particular, finds that institutional quality and its improvements in the recipient economies have significant positive impact on international bank inflows.
This section builds on recent papers that have analyzed the financial gravity equation, such as Martin and Rey (2004), Portes and Rey (2005), Aviat and Courdacier (2005), and Courdacier and Martin (2006). Specifically, we draw a testable financial gravity equation from the model of Martin and Rey (2004) and Courdacier and Martin (2006). We then use the model to derive a testable equation for bilateral holdings of financial assets across borders.

a. THEORETICAL FRAMEWORK

In the theoretical framework of Courdacier and Martin (2006), which is a simplified version of Martin and Rey (2004), the value of the aggregate demand by country i agents for assets issued in country j at time t is:

$$(3.1) \quad Asset_{ijt} = \frac{\beta L_{it} y_{it} n_{jt}}{(1+\beta)} \left(\frac{r_{jt} Q_{it}}{\tau_{ijt}} \right)^{\varepsilon-1}$$

where $Asset_{ijt}$ = Demand for country j's equities, long-term bonds, or bank claims by
country i agents at time t,

L_{it} = population of country i at time t,

y_{it} = per capita income of country i at time t,

$L_{it} y_{it}$ = size factor (GDP) of country i at time t,

n_{jt} = number of assets in country j at time t,

τ_{ijt} = transaction costs between the two countries at time t,

r_{jt} = expected return in country j at time t,

Q_{it} = financial price index specific to country i at time t.[16]

$\beta/(1+\beta)$ is the elasticity of the size factor and the number of assets, while ϵ can be interpreted as the elasticity of substitution between assets. Thus, the value of the aggregate demand by country i agents for assets issued in country j will increase as the economic size (population and per capita GDP) of the source country i increases, the number of financial assets in partner country j increases, the expected return in the partner country increases, and transaction costs between the two countries decrease. It is noted here that the number of financial assets can be considered as the degree of financial sophistication of the country, which is shown to increase with the financial openness of the country (Martin and Rey; 2006).

By taking logs, we produce the financial version of the gravity equation for the total holdings of assets between countries i and j:

---

[16] As in Anderson and van Wincoop (2003), where the price index measures the country's remoteness in the gravity equation for goods trade, Qi measures the country's remoteness.

(3.2) $\log Asset_{itj} = \log(\beta/(1+\beta)) + \log L_{it} + \log y_{it} + \log n_{jt} + (\varepsilon - 1)\log r_{jt} - (\varepsilon - 1)\log \tau_{ijt}$

$\quad\quad\quad + (\varepsilon - 1)\log Q_{it}$.

It is noted that, unlike the standard gravity equation, Equation (3.2) includes the market size (and financial openness and expected returns) of only one country. It seems, however, reasonable to assume that the aggregate demand by country i agents for assets issued in country j also increases as the economic size of the partner country j increases. The aggregate demand by country i agents for assets issued in country j may also increase as country i agents have a greater degree of freedom in purchasing foreign financial assets. It also seems that low rates of return from domestic investment will cause domestic residents to invest more in foreign financial assets. Therefore, this study extends Equation (3.2) and utilizes the following gravity equation:

(3.3) $\log Asset_{ijt} = \alpha + \beta_1 \log POP_{it} + \beta_2 \log POP_{jt} + \beta_3 \log PCGDP_{it} + \beta_4 \log PCGDP_{jt}$

$\quad\quad\quad + \beta_5 \log Finlib_{it} + \beta_6 \log Finlib_{jt} + \beta_7 \log r_{it} + \beta_8 \log r_{jt} + \beta_9 \log \tau_{ijt}$

$\quad\quad\quad + \beta_{10} \log Q_{it} + \varepsilon_{ijt}$

where $\log Asset_{ij}$ is the natural logarithm of the value of the holdings of foreign equities (or long-term bonds or bank claims) issued in economy j, by residents of an APEC member economy, i.

As noted above, the data are drawn from the IMF's Coordinated Portfolio Investment Survey (CPIS). $\log POP_j$ and $\log POP_j$ are logs of populations of economies i and j, respectively, and $\log PCCDP_j$ and $\log PCGDP_j$ are logs of per capita GDP of economies i and j, respectively.[17] *Finlib$_i$* and *Finlib$_j$* are the degree of capital market liberalization in economy i and economy j, respectively, and τ_{ij} signifies transaction costs between the two countries. Thus, we proxy the financial sophistication by *Finlib,* which is the capital control intensity index drawn from the *Economic Freedom of the World* (*EFW*) index published annually by the Fraser Institute.[18] The capital control intensity index measures the foreign ownership/investment restrictions and capital controls, taking a

---

[17] We also used GDP in place of population and per capita GDP, but this did not affect our estimates.

[18] http://www.freetheworld.com.

value between 0 and 1. The higher the value, the less stringent are the restrictions on foreign ownership/investment and capital controls, and hence the greater is the degree of liberalization of the financial markets.

b. BENCHMARK MODEL

i. Empirical specification 1 (Outward investment)

For equities and long-term bonds, we take as "source" economies seven APEC member economies: Australia; Canada; Hong Kong, China; Japan; Korea; Singapore; and the United States.[19] That is, we explore a panel data set on bilateral cross-border equity holdings and bond holdings, respectively, between seven APEC "source" economies and 66 "partner" economies (including all 21 APEC members), for the period 2001 - 2007.[20] Readers should note however, that our panel is unbalanced as the data for some variables are not complete for some partner countries and for some years.

For bank lending, we also explore a panel data set on international bank claims by taking five APEC "source" economies: Australia; Canada; Japan; Chinese Taipei; and the United States, for the period 2001 - 2007.[21] Again, 66 economies including all APEC member economies are considered as partner economies.

To analyze whether the APEC "source" economies are major investors in assets issued by the residents of other APEC member economies, we add a dummy variable, *APEC*, which takes the value of one if the issuing economy is an APEC member. In order to compare the EURO market with the APEC region as a competing financial market, we also add another dummy variable, *EURO*, which takes the value of one if the issuing

---

[19] Among the 15 APEC member economies participating in the IMF's CPIS, eight economies (Chile; Indonesia; Malaysia; Mexico; New Zealand; the Philippines; Thailand; and Russia) are excluded in the empirical analysis because their data are incomplete for too many partner economies in the sample. See Appendix Tables A1 and A 2.

[20] The use of outstanding stocks instead of flows may cause the residuals of the regression model to be serially correlated over the period. If they are serially correlated, the estimators may be inconsistent. For this reason, as a robustness check, we also constructed a panel data set for the three years 2001, 2004, and 2007 (i.e., at three-year intervals) and estimate the augmented gravity model for the above four different specifications. The results are not shown here for brevity, but the major findings still remain unchanged qualitatively, although the quantitative values of the estimators are slightly different.

[21] Among the seven APEC member economies participating in the BIS data on the consolidated foreign bank claims, Chile and Mexico are excluded because their data are incomplete for too many partner economies in the sample. See Appendix Table A3.3. It is also noted that Australian data are only available from 2005.

economy is an EU member state that uses the euro as its official currency.[22] Thus, we estimate the following equation:

$$(3.4)\ \log Asset_{ijt} = \alpha + \beta_1 \log POP_{it} + \beta_2 \log POP_{jt} + \beta_3 \log PCGDP_{it} + \beta_4 \log PCGDP_{jt}$$

$$+ \beta_5 \log Finlib_{it} + \beta_6 \log Finlib_{jt} + \beta_7 Return_{it} + \beta_8\ Return_{jt} + \beta_9 \log \tau_{ijt}$$

$$+ \beta_{10} APEC_{jt} + \beta_{11} EURO_{jt} + u_i + u_t + \varepsilon_{ijt}$$

where i and j indicate the "source" and "destination" economy, respectively, u_i is the dummy for the source economies, and ut is the year dummy. Thus, we control for fixed effects in the source country dimension (i). It is also noted that we do not explicitly include the financial price index, Q_{it}, which can be considered as the "multilateral resistance term" of Anderson and van Wincoop (2003), because the use of fixed effects in the source countries will allow us to control for this. We also include year dummies to take account of factors such as the world business cycle, global capital market shocks, and so forth.

Among the explanatory variables, *POP* and *PCGDP* are taken from the World Bank's WDI Online data.[23] Note that *Asset* and *PCGDP* are expressed in 2000 US dollars, using the US GDP deflator. The expected return, $Return_j$ is the annualized average monthly return adjusted for exchange rate movement to take into account the influence of exchange rate changes, i.e., $Return_j = [(1 + R_j)(1 + e_j)] - 1$, where R_j is the one-year nominal rate of return of an asset in its own currency, and e_j is the rate of appreciation of the home currency relative to the U.S. dollar.[24]

Transaction costs between the two countries, τ_{ij}, take the following specific functional form:

$$\tau_{ijt} = Dist_{ij}^{\delta_1} \times exp\left(\delta_2 Tax_{ijt} + \delta_3 Comlang_{ij} + \delta_4 Contig_{ij} + \delta_5 Colony_{ij} + \delta_6 OFC_j \right)$$

---

[22] The euro is the official currency of 16 of the 27 member states of the European Union (EU). The euro was introduced to world financial markets as an accounting currency on 1 January 1999.
[23] http://publications.worldbank.org/WDI
[24] The average gross equity return, average gross bond return, and bank lending rate are used for the equity, bond, and bank lending equation, respectively. Following (Faruqee et al., 2004), we also adjusted the rate of return using the rate of inflation in the destination economy, and found similar results.

where Tax_{ijt} is the tax rate on dividend (or interest for bond investments and bank lending) income earned by resident i in country j at time t. *Dist* is the bilateral geographical distance, and *Comlang*, *Contig*, *Colony*, and *OFC* are dummies that indicate that partner countries share a common language, share a common border, are former colonies, and are offshore financial centers, respectively. We include *OFC* to control for partner countries that are offshore financial centers (OFC) with very favorable fiscal treatment.[25] It is noted here that *Dist*, *Comlang*, *Contig*, and *Colony* are proxy variables not just for transaction costs but to a greater extent for information frictions.

Tax rate is the current highest marginal rate applied (either on dividends or on interest), drawn from the International Bureau of Fiscal Documentation (IBFD) Tax Treaties Database.[26] Geographical distance is taken from Centre d'Etudes Prospectives et d'Informations Internationales (CEPII)'s website.[27] It is noted that the distances are weighted distances, which use city-level data to assess the geographic distribution of population inside each nation. The variables indicating whether the countries share a geographic border and a common language and are former colonies of another country are also taken from CEPII's website.

It is noted that the United States is the largest source and destination economy for securities investments in the region, and hence it would be useful to know whether any positive coefficient for APEC membership is due to the overshadowing role of the United States. Lee and Huh (2008) find that Japan, the second largest investor in East Asia, is more closely linked with the United States than with other East Asian economies. Garcia-Herrero *et al.* (2009) also find that Asian capital is invested predominantly outside the Asian market, such as in the United States.

Therefore, we split the APEC membership dummy into *APEC_no_us* and *USA*, where *APEC_no_us* captures all 20 non-U.S. APEC member economies and *USA* gives the value of one only when the destination economy is the United States. It is also noted that in this specification we also exclude the United States from the source economy group.

---

[25] OFCs are usually low-tax, lightly regulated jurisdictions. In our sample, they are Bahrain, Barbados, Bermuda, Costa Rica, Cyprus, Hong Kong, Ireland, Luxembourg, Malta, Panama, and Singapore.
[26] http://www.ibfd.org/portal/app?bookmarkablePage=home
[27] http://www.cepii.fr/anglaisgraph/bdd/distances.htm

(3.5) $\log Asset_{ijt} = \alpha + \beta_1 \log POP_{it} + \beta_2 \log POP_{jt} + \beta_3 \log PCGDP_{it} + \beta_4 \log PCGDP_{jt}$

$\qquad + \beta_5 \log Finlib_{it} + \beta_6 \log Finlib_{jt} + \beta_7 Return_{it} + \beta_8 Return_{jt}$

$\qquad + \beta_9 \log \tau_{ijt} + \beta_{10} APEC\_no\_us_{jt} + \beta_{11} USA_{jt} + \beta_{12} EURO_{jt} + u_i + u_t + \varepsilon_{ijt}$

Lee (2008), Lane and Milesi-Ferretti (2008), and Garcia-Herrero *et al.* (2009) suggest that the volume of trade in goods between countries has a positive impact on cross-border financial asset trade and add the (one-year lagged) volume of trade in goods as an explanatory variable in their gravity equations, but this is subject to endogeneity bias because trade in goods itself is affected by other gravity variables such as market size and geographic distance. Therefore, we instead include the residuals of the dependent variable obtained from running the following equation:

(3.6) $\log Trade\_goods_{ijt} = \alpha + \beta_1 \log POP_{it} + \beta_2 \log POP_{jt} + \beta_3 \log PCGDP_{it}$

$\qquad + \beta_4 \log PCGDP_{jt} + \beta_5 \log Tariff_{it} + \beta_6 \log Tariff_{jt} + \beta_7 \log Distance_{ij}$

$\qquad + \beta_8 Contig_{ij} + \beta_9 Comlang_{ij} + \beta_{10} \log Colony_{ij} + u_i + u_t + \varepsilon_{ijt}$

The residual (*r-Trade*) from this regression measures bilateral trade intensity between economies. Specifically, positive values imply that the pair enjoys bilateral trade at a degree greater than what is expected by gravity, while negative values imply that the bilateral trade between the pair is smaller than what is expected by gravity. Therefore, we estimate the following equation:

(3.7) $\log Asset_{ijt} = \alpha + \beta_1 \log POP_{it} + \beta_2 \log POP_{jt} + \beta_3 \log PCGDP_{it} + \beta_4 \log PCGDP_{jt}$

$\qquad + \beta_5 \log Finlib_{it} + \beta_6 \log Finlib_{jt} + \beta_7 Return_{it} + \beta_8 Return_{jt} + \beta_9 \log \tau_{ijt}$

$\qquad + \beta_{10} \, r\text{-}Trade_{ijt} + \beta_{11} APEC_{jt} + \beta_{12} EURO_{jt} + u_i + u_t + \varepsilon_{ijt}$

ii. Empirical specification 2 (Inward investment)

As noted above, even though only a few APEC member economies are participating in the CPIS as reporting countries, all of them are included as partner economies. This is also true for bank claims. Therefore, in our second specification, we explore a panel data set for the period 2001 - 2007 on bilateral cross-border financial asset holdings between 21 APEC "destination" economies and 66 "source" economies.

For international banking, we also explore a panel data set for the period 2001 - 2007 on bank borrowing by 21 APEC "destination (borrowing)" economies from 26 "source (lending)" economies.

Thus, our second benchmark empirical specification takes the following form:

$$(3.8)\ \log Asset_{ijt} = \alpha + \beta_1 \log POP_{it} + \beta_2 \log POP_{jt} + \beta_3 \log PCGDP_{it} + \beta_4 \log PCGDP_{jt}$$

$$+ \beta_5 \log Finlib_{it} + \beta_6 \log Finlib_{jt} + \beta_7 Return_{it} + \beta_8 Return_{jt} + \beta_9 \log \tau_{ijt}$$

$$+ \beta_{10} APEC_{jt} + \beta_{11} EURO_{jt} + u_i + u_t + \varepsilon_{ijt}$$

where i and j indicate the "destination" and "source" economy, respectively. Equation (3.8) appears to be the same as Equation (3.4), but i here no longer stands for source economy but destination economy; therefore, we control for fixed effects in the destination economy dimension (j). It is also noted that the number of observations for use in estimating Equation (3.8) is different from that in Equation (3.4).

As in Equation (3.5), in a separate equation we split the APEC membership dummy into *APEC_no_us* and *USA* so as to establish whether any positive coefficient for APEC membership is due to the overwhelming role of the United States. As in Equation (3.7), we also add in a separate equation *r-Trade*, the residuals taken from running a regression of Equation (3.6), showing how bilateral trade intensity is correlated with cross-border financial asset trade.

c. EXTENDED MODEL – EFFECTS OF COUNTRY RISK

It should be noted that the above specifications assume that country risks are the same across the destination economies. However, a number of studies have shown that there is a strong correlation between institutions and cross-border capital movement. For instance, Papaioannou (2009) finds that institutional underdevelopment is a key explanatory factor for the lack of foreign financing in the developing and undeveloped economies.

Such a link could be seen as one channel through which institutions promote productivity growth (Bénassy-Quéré *et al.*, 2007). Many researchers have found that there is a strong effect of institutions on productivity (see Acemoglu *et al.*, 2005, for a review). Indeed, good governance infrastructure exerts its positive influence on economic growth through the promotion of investment in general.

Therefore, we extend our benchmark model by adding a country risk variable in the outward investment equation, as follows:

$$(3.9) \ \log Asset_{ijt} = \alpha + \beta_1 \log POP_{it} + \beta_2 \log POP_{jt} + \beta_3 \log PCGDP_{it} + \beta_4 \log PCGDP_{jt}$$

$$+ \beta_5 \log Finlib_{it} + \beta_6 \log Finlib_{jt} + \beta_7 Return_{it} + \beta_8 Return_{jt} + \beta_9 \log \tau_{ijt}$$

$$+ \beta_{10} APEC_{jt} + \beta_{11} EU_{jt} + \beta_{12} Country\_Risk_{jt} + u_i + u_t + \varepsilon_{ijt}$$

where *Country_Risk$_{jt}$* is the country risk factor for economy j in terms of political, economic, and financial risks.

The variable *Country_Risk* will be proxied by the composite index constructed by Political Risk Services (PRS)[28] and published as the International Country Risk Guide (ICRG) rating, which comprises 22 variables in three subcategories of risk – political risk *(Pol_Risk)*, economic risk (*Econ_Risk*), and financial risk (*Fin_Risk*). The political risk index is based on one hundred points, financial risk on fifty points, and economic risk on fifty points. The total points from the three indices are divided by two, so that

---

[28] http://www.prsgroup.com/

the composite country risk variable, *Country_Risk*, ranges from zero, indicating minimum institutional quality, to one hundred, indicating total absence of country risk.

In the regression analysis, the composite country risk variable, *Country_Risk*, will be used in Equation (3.9) and then each of the three subcategories of risk will be used alternatively, noting that there is a significant correlation between political, economic, and financial risk, respectively. Finally, the three subcategories of risk will be included concurrently so as to assess what type of risk matters the most in cross-border investment. It should be noted that, for the sake of comparison, the original indices of economic risk and financial risk are multiplied by two, so that each of these three measures ranges from zero to one hundred. See Appendix A2. Data Sources for further details of these three subcategories of risk.

6. EMPIRICAL RESULTS

A. RESULTS FROM BENCHMARK MODEL

i. Equity holdings

Regression results obtained with ordinary least squares (OLS)[29] for equity holdings from running Equations (3.4), (3.5), and (3.7) are summarized in Table 4.1. Columns (1), (2), and (3) present the estimates for outward equity holdings, i.e., equity holdings by seven APEC source economies (Australia; Canada; Hong Kong, China; Japan; Korea; Singapore; and the United States) of 66 destination economies in the 2001-2007 period. On the other hand, Columns (4), (5), and (6) present the estimates for inward equity holdings, i.e., equity holdings by 66 source economies of 21 APEC destination economies.

The gravity model works well for all equations, as indicated by the large size of R^2: our gravity equation captures about 75 percent of the variance for equity holdings. Let us first focus on Column (1). The coefficient on population of source economies is negative and statistically significant. This result is not unexpected, as small-sized economies such as Hong Kong, China and Singapore are two major investors in the APEC region and their cross-border equity holdings are not smaller than those of larger-sized economies such as Australia and Korea. The coefficient on per capita GDP of source economies is positive and significant, suggesting that richer economies are major sources of equity investment. On the other hand, the coefficients on both population and per capita GDP of destination economies are significantly positive, suggesting that larger and richer economies are major recipients of the seven APEC economies' equity investment.

---

[29] As noted earlier, our panel data are unbalanced because there are many missing observations. Therefore, as a robustness check, we also tried the Tobit model to deal with missing observations and found similar results.

Table 4. 1 Determinants of Cross-border Equity Holdings (2001-2007)

	(1)	(2)	(3)	(4)	(5)	(6)
	Outward	Outward	Outward	Inward	Inward	Inward
log*POP_s*	-22.6***	-26.78***	-22.91***	0.82***	0.77***	0.88***
	(-5.65)	(-5.9)	(-5.98)	(31.26)	(24.11)	(33.14)
log*POP_d*	1.21***	1.19***	1.25***	-4.85*	-4.74*	-4.58*
	(37.94)	(30.19)	(39.72)	(-1.92)	(-1.89)	(-1.83)
log*PCGDP_s*	1.78***	2.42***	1.6***	2.95***	2.87***	3.08***
	(3.22)	(3.69)	(3.06)	(56.93)	(47.86)	(58.4)
log*PCGDP_d*	1.81***	1.88***	1.88***	1.35***	1.33***	1.34***
	(36.64)	(30.81)	(40.21)	(4.15)	(3.99)	(4.21)
Finlib_s	0.23**	0.24**	0.25***	0.1***	0.13***	0.09***
	(2.41)	(2.45)	(2.69)	(3.44)	(4.2)	(2.94)
Finlib_d	0	-0.01	-0.03	0.06	0.05	0.06
	(-0.02)	(-0.27)	(-1.11)	(0.8)	(0.63)	(0.81)
Return_s	-0.56	-0.21	-0.46	-1.46***	-1.41***	-1.11***
	(-1.31)	(-0.43)	(-1.1)	(-6.37)	(-5.82)	(-4.84)
Return_d	-0.22	-0.11	0.1	0.42**	0.4**	0.37**
	(-1.05)	(-0.44)	(0.48)	(2.39)	(2.26)	(2.14)
Tax_d	-0.04***	-0.05***	-0.03***	-0.02***	-0.05***	-0.02**
	(-7.97)	(-7.6)	(-6.08)	(-3.38)	(-7.25)	(-2.27)
log*Dist*	-1.07***	-1.21***	-1.2***	-0.99***	-1.04***	-1.11***
	(-13.96)	(-14)	(-16.06)	(-13.29)	(-13.3)	(-15.77)
OFC	2.19***	2.39***	2.11***	1.81***	1.88***	1.78***
	(10.69)	(10.64)	(9.9)	(13.97)	(13.77)	(13.6)
Comlang	1.17***	1.19***	1.42***	1.46***	1.41***	1.68***
	(12.64)	(10.86)	(15.65)	(15.15)	(13.85)	(17.39)
Contig	-0.61**	0.06	-0.51*	0.62***	0.78***	0.58***
	(-2.03)	(0.17)	(-1.68)	(2.67)	(3.15)	(2.63)
Colony	-0.17	-0.48**	-0.16	0.02	-0.07	0.12
	(-1.05)	(-2.05)	(-1.08)	(0.13)	(-0.39)	(0.8)
r-Trade			0.64***			0.53***
			(12.61)			(12.11)
APEC	0.84***		0.25**	0.64***		0.23**
	(9.33)		(2.53)	(6.76)		(2.37)
APEC_no_us		0.75***			0.61***	
		(6.87)			(5.99)	
USA		0.51**			1.53***	
		(2.17)			(9.42)	
EURO	0.42***	0.36***	0.4***	0.09	0.13*	0.05
	(4.24)	(3.12)	(4.28)	(1.15)	(1.65)	(0.65)
Constant	311.47***	359.37***	317.5***	27.73	60.48	22.56
	(5.19)	(5.51)	(5.53)	(0.71)	(1.15)	(0.59)
# OBS	1953	1601	1939	3735	3411	3676
R^2	0.7649	0.7134	0.7892	0.7484	0.7332	0.7591

Notes: 1. Outward equations include source-economy dummies and inward equations include destination-economy dummies. All equations also include year dummies. 2. Subscript "s" stands for source economy and "d" stands for destination economy. 3. Shown in parentheses are the robust t-statistics. 4. ***, **, and * denote one, five, and ten percent level of significance, respectively, for a two-tailed test.

The size of coefficient on per capita GDP is quite large (i.e. greater than 1.0), yielding 1.78 and 1.81 for source economy per capita GDP and destination economy per capita GDP, respectively. This suggests that a 10 percent increase either in per capita GDP of source economy or in that of destination economy will increase equity holdings by about 18 percent. Thus, we can expect that cross-border equity investment will continue to increase as income grows, and it will increase at a rate higher than the income growth rate.

The coefficient on the financial liberalization variable is positive and significant only for the source economy. This suggests that the seven APEC economies with a greater degree of financial liberalization tend to invest more in the foreign capital markets. The degree of financial liberalization in the destination economy does not appear to affect the investment decisions of the seven APEC economies. This result is in line with the findings in Chapter 2, where financial openness appears to promote outward FDI but financial openness in the host economy appears to have no discernible impact on FDI inflows.

The estimates for the rate of return in both the source and destination economies are negative but not significant at any conventional level of significance. This result may be in part due to the fact that our equity investment data are "stock", not "flow", while the rate of return used in the regression is a one-year return. This finding may also be in part due to the fact that the seven APEC member economies diversify risk profiles of their equity holdings by investing more in high-income (but mostly low-return-yielding) countries, as is found from the positive coefficient for the per capita income level of the destination economy. This finding may also suggest that the seven APEC member economies are making equity investments with a long-term perspective.

Turning to the variables related with transaction costs, we find that distance enters with a significant negative coefficient, suggesting that the seven APEC economies tend to purchase more equities from neighboring economies than from those located farther away. It is noted that distance proxies not just for transaction costs but to a greater extent for information asymmetries, because transaction fees are typically small for financial asset trade. The contiguity variable has a significant negative coefficient, suggesting that the seven APEC members purchase less from their border-sharing economies. This is somewhat contradictory to the findings for distance, but readers should not put much weight on this finding because, among the 455 possible pairs (= 7

X 65) in the sample, there are very few economy pairs that share borders: Canada (with the United States); Hong Kong, China (with China); Singapore (with Malaysia); and the United States (with Canada and Mexico).

We also find that the tax dividend variable enters with a significant negative coefficient, suggesting that a high tax rate on dividend income discourages foreign equity investment. It is also shown that the seven APEC members invest more in offshore financial centers, which are usually low-tax, lightly regulated jurisdictions. Thus, the tax level of the destination economy has a very discernible effect on inward equity investment. It is also shown that the seven APEC members invest more in countries which share the same language, but they do not invest more in their former colonies.

Above and beyond these effects, do the seven APEC member economies tend to hold more-than-expected levels of equities issued by other APEC member economies? The answer is "Yes". The coefficient of 0.84 on the APEC membership dummy illustrates that the seven APEC members hold 132 percent (or 2.3 times) more equities of other APEC member economies than of non-APEC member economies.[30] Thus, we have strong evidence that the APEC region is closely interlinked in terms of equity investment. In a complementary project report of the APEC Policy Support Unit, Lee and Hur (2009) report that the estimated coefficient for APEC membership in the equation for total exports of goods is 1.02, suggesting that on average an APEC member economy exports 177 percent (or 2.8 times) more to other APEC member economies than to non-APEC member economies, while the effect of APEC membership on total imports is 0.62, implying that on average an APEC economy imports 86 percent (1.9 times) more from other APEC member economies, compared to imports from non-APEC member countries. Thus, the APEC membership effect on outward equity investment is smaller than that on total exports but larger than that on total imports.

It is also interesting to note that the EURO dummy also has a significant and positive coefficient of 0.42, suggesting that the seven APEC members are holding about 50 percent (or 1.5 times) more equities of EURO members than of non-EURO members, when other factors are all controlled.

Column (2) reports the regression results when the APEC dummy is split into *APEC_no_us*, an APEC membership dummy excluding the United States, and *USA*, a

---

[30] It is calculated as 132% = (exp(0.84)-1)*100.

dummy taking the value of one only for the United States. Estimates for other control variables do not appear to differ substantially. The estimate for *APEC_no_us* is 0.75, and the estimate for the US dummy is 0.51, which is greater than that for *EURO*. Thus, the importance of the United States as the destination of equity investment is quite considerable.

As noted earlier, bilateral trade linkage might have some relationship with bilateral investment linkage, and hence Column (3) reports the results when we include the residuals of the dependent variable obtained from running the gravity equation for goods trade (Equation 3.6). The estimated coefficient for *r-Trade* in outward equity holdings is 0.64, which is significant at the one percent level. Thus, cross-border equity investment is greater between economies which enjoy greater trade integration.

Inclusion of the bilateral trade intensity variable does not appear to affect substantially the estimates of most other explanatory variables. One exception is the APEC membership dummy. The estimated coefficient for the APEC membership dummy is 0.25, which is considerably smaller than the corresponding estimate in Column (1) when the bilateral trade intensity variable is not included. It is also noted that the estimate is considerably smaller in magnitude than that for the *EURO* dummy variable, suggesting that equity market integration among the APEC member economies is in large part due to the strong linkages in goods trade among themselves.

Let us now turn to Column (4), which presents the estimates for inward equity holdings. The results show that APEC economies attract more equity investment from larger, richer, and financially more liberalized economies. APEC member economies also draw more equity investment from their neighboring, common-language-sharing, common-border-sharing economies and offshore financial centers.

It is interesting to note again that the size of the coefficient for per capita GDP is large for both source and destination economies, specifically suggesting that a 10 percent increase in per capita GDP of source economy (destination economy) will increase equity holdings by about 30 percent (14 percent). This finding confirms our earlier finding that cross-border equity investment will increase at a rate higher than the income growth rate.

It should also be noted that the estimated coefficients for equity return rate are negative for source economies and positive for destination economies, and both are statistically significant. Thus, unlike the outward equation, the inward equation yields results that are more in line with our previous expectations: more equity investment is drawn from lower-equity-return economies to higher-equity-return economies.

More interestingly, it is also found that the coefficient for the APEC dummy is 0.64 and highly significant, suggesting that the 21 APEC member economies receive 90 percent (or almost two times) more equity investment from other APEC members than from non-APEC members. It is also interesting to note that the coefficient for the *EURO* dummy is positive but statistically insignificant, suggesting that the APEC member economies do not receive greater equity investment from EURO member states than from others.

On looking at the characteristics of the recipient APEC member economies, smaller (in terms of population size) and higher-income APEC member economies tend to receive more equity investment. Again, the degree of financial market freedom of the recipient economies does not appear to affect the investment decisions of foreign investors. It is also found that a higher tax rate on dividend income discourages foreigners' equity investment.

Column (5) reports the results when the APEC dummy is split into *APEC_no_us* and *USA*. Again, estimates for other control variables do not appear to differ substantially. The estimate for the US dummy is 1.53, greater than 0.61, the estimate for *APEC_no_us* dummy. This finding implies that APEC economies as a whole receive more equity investment from other APEC member economies, yet the United States is a greater source of equity investment than other non-U.S. APEC member economies.

On looking at Column (6), the estimated coefficient for *r-Trade*, the residuals from Equation (3.6), is positive and highly significant. Thus, cross-border equity investment again appears to be greater between economies which enjoy greater trade integration. Inclusion of the bilateral trade intensity variable also weakens the APEC membership effect. Specifically, with the bilateral trade intensity variable included in the regression, the estimated coefficient for the APEC membership dummy is 0.23, which is considerably smaller than the corresponding estimate in Column (4) when the bilateral trade intensity variable is not included.

Thus, we have strong evidence that a large part of the regional equity market integration in the APEC region is due to strong linkage of intra-regional trade in the region. This finding is in parallel with findings of Lee (2008) and Garcia-Herrero *et al.* (2009) that estimates for the Intra-East Asia dummy become smaller when bilateral trade volume is controlled in the gravity equation.

ii. Long-term bond holdings

The estimated results for cross-border long-term bond holdings are presented in Table 4.2. Similarly to Table 4.1, Columns (1), (2), and (3) present the estimates for outward long-term bond holdings, i.e., long-term bonds held by seven APEC source economies (Australia; Canada; Hong Kong, China; Japan; Korea; Singapore; and United States), of 66 destination economies in the 2001-2007 period, while Columns (2), (4), and (6) present the estimates for inward bond holdings, i.e., long-term bonds held by 66 source economies of 21 APEC destination economies.

This compares very favorably in terms of precision of estimates and explanatory power with the gravity regression run for the equity holdings. A noticeable difference is that the estimates for financial market liberalization in the destination economies are now significantly positive, implying that, unlike equity trade, long-term bond investment is significantly and positively affected by the degree of financial market liberalization in the destination economies. On the other hand, the tax rate on interest income does not appear to have any discernible impact on bond investment, in contrast with the finding that the tax rate on dividend income has a highly significant negative impact on equity investment.

An interesting point is that, similar to the equity holdings, in Column (1) the size of the coefficient for per capita GDP is greater than one for both source and destination economies, specifically suggesting that a 10 percent increase in per capita GDP of source economy (destination economy) will increase equity holdings by about 23 percent (15 percent). This finding suggests that not only cross-border equity investment but also cross-border bond investment will increase at a rate higher than the income growth rate.

Table 4. 2 Determinants of Cross-border Long-term Bond Holdings (2001-2007)

	(1)	(2)	(3)	(4)	(5)	(6)
	Outward	Outward	Outward	Inward	Inward	Inward
log*POP_s*	-8.71**	-11.31***	-8.38**	0.84***	0.78***	0.9***
	(-2.32)	(-2.73)	(-2.37)	(24.5)	(17.57)	(25.65)
log*POP_d*	0.86***	0.85***	0.91***	-0.66	-0.61	0.45
	(21.49)	(16)	(22.83)	(-0.2)	(-0.19)	(0.14)
log*PCGDP_s*	2.31***	2.88***	2.29***	1.81***	1.77***	1.9***
	(3.51)	(3.68)	(3.53)	(31.16)	(26.54)	(32.1)
log*PCGDP_d*	1.48***	1.46***	1.56***	0.18	0.17	0.12
	(28.35)	(22.32)	(29.76)	(0.34)	(0.29)	(0.22)
Finlib_s	-0.06	-0.07	-0.06	0.4***	0.46***	0.39***
	(-0.66)	(-0.75)	(-0.66)	(11.81)	(12.19)	(11.56)
Finlib_d	0.09***	0.11***	0.08**	0.21**	0.21**	0.19**
	(2.94)	(2.72)	(2.49)	(2.16)	(2.15)	(2.04)
Return_s	0.3	0.49	0.31	-1.46***	-1.45***	-1.39***
	(0.55)	(0.86)	(0.58)	(-3.73)	(-3.39)	(-3.6)
Return_d	0.52	0.44	0.67	-0.21	-0.2	-0.17
	(1.19)	(0.79)	(1.51)	(-0.41)	(-0.37)	(-0.34)
Tax_d	0	-0.02***	0.01**	0.01*	0.01	0.01*
	(0.58)	(-3.16)	(2.03)	(1.89)	(0.97)	(1.89)
log*Dist*	-0.77***	-0.8***	-0.96***	-1.32***	-1.41***	-1.43***
	(-8.52)	(-7.64)	(-11.38)	(-16.13)	(-15.51)	(-17.81)
OFC	1.01***	0.75***	0.63***	1.37***	1.31***	1.23***
	(4.95)	(3.21)	(2.71)	(9.43)	(8.08)	(8.62)
Comlang	0.8***	0.88***	1.02***	0.76***	0.68***	0.92***
	(7.21)	(5.97)	(8.56)	(6.86)	(5.42)	(8.27)
Contig	0.1	-0.09	-0.05	-0.94***	-0.66***	-0.89***
	(0.48)	(-0.26)	(-0.27)	(-3.79)	(-2.61)	(-3.66)
Colony	-0.24	-0.68**	-0.31*	0.22	0.12	0.27
	(-1.21)	(-2.44)	(-1.77)	(1.2)	(0.54)	(1.55)
r-Trade			0.48***			0.37***
			(8.9)			(8.34)
APEC	0.4***		-0.2*	1.2***		0.82***
	(3.8)		(-1.8)	(10.5)		(6.69)
APEC_no_us		0.38***			1.22***	
		(2.91)			(9.48)	
USA		1.25***			2.05***	
		(4.64)			(10.35)	
EURO	-0.04	0.14	-0.09	0.73***	0.83***	0.7***
	(-0.39)	(1.08)	(-0.9)	(7.17)	(7.3)	(6.95)
Constant	132.2*	128.01**	88.74*	-13.24	-9.12	-33.54
	(1.88)	(2.17)	(1.72)	(-0.26)	(-0.13)	(-0.5)
# OBS	1372	1087	1370	2397	2143	2380
R^2	0.7592	0.7307	0.7731	0.7117	0.6571	0.7195

Notes: 1. Outward equations include source-economy dummies and inward equations include destination-economy dummies. All equations also include year dummies. 2. Subscript "s" stands for source economy and "d" stands for destination economy. 3. Shown in parentheses are the robust t-statistics. 4. ***, **, and * denote one, five, and ten percent level of significance, respectively, for a two-tailed test.

More interestingly again, APEC membership appears to have a positive relationship with cross-border long-term bond holdings in the outward equation. When the APEC dummy is split into *APEC_no_us* and a US dummy again (Column 2), the estimate for the U.S dummy is 1.25, which is greater than the estimate for the *APEC_no_us* dummy. This finding implies that APEC economies as a whole are holding higher values of bonds issued in other APEC member economies, yet the United States is a greater destination of bond investment than other non-U.S. APEC member economies. This is in large part because Asian economies continue to depend heavily on the U.S. dollar as an invoice currency, a foreign reserve currency, as well as an intermediary currency in the foreign exchange markets. As a result, demand for U.S. bonds tends to be higher than financial products denominated in other Asian currencies

When the bilateral trade intensity variable is added in our gravity equation (Column 3), the estimate for the bilateral trade intensity variable is positive and highly significant, while the estimate for the APEC membership dummy becomes negative and significant at the ten percent level. This finding suggests that close bond market integration among the APEC member economies is also in large part due to the closer goods trade integration among themselves.

On looking at Column (4), which presents the estimates for inward bond holdings, we find that, as in the case of equity investment, APEC economies attract more bond investment from larger, richer, and financially more liberalized economies. APEC member economies also draw more bond investment from their neighbouring, common-language-sharing, common-border-sharing economies and off-shore financial centers.

A difference is that financial liberalization in both source and destination economies now has a discernible impact on cross-border bond holdings. It should also be noted that economies with higher bond return rates at home tend to purchase more bonds abroad, but bond return rates in the destination economies do not appear to have a statistically significant effect on cross-border bond holdings. This result is in part due to the fact that, while the rate of return used in the regression is a one-year return, our data relate to holdings of "long-term" bonds.

It is interesting to note again that the coefficient for the APEC membership dummy is positive and significant. When the APEC dummy is split into *APEC_no_us* and a U.S.

dummy again (Column 5), the estimate for the U.S dummy is 2.05, which is greater than the estimate for the *APEC_no_us* dummy. This finding again implies that bonds issued in APEC economies as a whole are held with higher values by other APEC member economies, yet the United States is a greater bond investor than other non-U.S. APEC member economies.

When the bilateral trade intensity variable is added in our gravity equation (Column 6), the estimates for the APEC membership dummy become smaller. This finding again supports the previous finding that close bond market integration among the APEC member economies is in large part due to the closer goods trade integration among themselves.

One last observation is that the *EURO* dummy has a positive and significant coefficient, thus implying that the EURO member states are major investors in bonds issued by the APEC member economies.

iii. Bank loans

The estimated results are presented in Table 4.3. Columns (1), (2), and (3) present the estimates for outward cross-border bank claims by the five APEC member economies (Australia; Canada; Japan; Chinese Taipei; and the United States) against 66 economies, while Columns (4), (5), and (6) present the estimates for inward bank loans to the 21 APEC member economies.

Again, this compares very favorably, in terms of precision of estimates and explanatory power, with the gravity regressions run for the equity and bond holdings. On looking at the first three columns, we find a particular difference, among others, that the estimated coefficient for per capita GDP of source economy is negative, while that of destination economy is positive and significant. Thus, with respect to its relation with income per capita, the behavior of bank lending appears to be different from portfolio investment such as equity securities and debt securities. However, readers should not put much weight on this finding because this is in large part due to the fact that we have only five source economies whose income level is very similar.

Table 4. 3 Determinants of Cross-border Bank Claims (2001-2007)

	(1)	(2)	(3)	(4)	(5)	(6)
	Outward	Outward	Outward	Inward	Inward	Inward
logPOP_s	-3.1	-6.45	-0.55	0.84***	0.93***	0.98***
	(-0.49)	(-0.25)	(-0.09)	(22.18)	(19.45)	(26.59)
logPOP_d	0.92***	0.8***	0.97***	0.37	-5.76**	-3.72*
	(26.65)	(18.46)	(29.92)	(0.17)	(-2.07)	(-1.93)
logPCGDP_s	-1.26	-0.99	-1.04	2.44***	2.57***	2.51***
	(-1.58)	(-0.39)	(-1.35)	(23.76)	(23.74)	(26.84)
logPCGDP_d	1.28***	1.21***	1.33***	1.49***	0.93**	1.5***
	(26.56)	(19.13)	(31.06)	(5.31)	(2.36)	(6.06)
Finlib_s	0.1	0.09	0.09	0.59***	0.62***	0.47***
	(1.01)	(0.81)	(0.92)	(13.32)	(12.29)	(11.38)
Finlib_d	0.05	0.05	0.03	-0.1	0.06	-0.12*
	(1.56)	(1.2)	(1.01)	(-1.55)	(0.83)	(-1.89)
Return_s	0.29	0.27	0.11	0	0	0
	(0.42)	(0.29)	(0.16)	(0.56)	(0.18)	(-0.62)
Return_d	-0.21	-0.07	0.1	0.01	0.02	0.02
	(-0.88)	(-0.23)	(0.43)	(0.72)	(1.24)	(1.13)
Tax_d	-0.01	-0.02***	-0.01	0	-0.02**	0
	(-1.45)	(-2.78)	(-1.2)	(-0.16)	(-2.22)	(0.07)
logDist	-0.9***	-0.99***	-1.12***	-1.38***	-1.28***	-1.51***
	(-9.32)	(-8.32)	(-12.99)	(-18.1)	(-15.92)	(-22.89)
OFC	1.25***	1.2***	0.73***	0.82***	1.34***	1.11***
	(6.79)	(5.4)	(3.98)	(3.04)	(4.37)	(3.52)
Comlang	0.79***	1.04***	1.16***	0.58***	0.67***	1.06***
	(5.88)	(5.61)	(9.28)	(4.62)	(5)	(8.96)
Contig	-0.84***	-1.71***	-0.89***	-1.3***	-0.82***	-1.51***
	(-2.82)	(-5.05)	(-3.34)	(-5.8)	(-2.68)	(-7.03)
Colony	-0.04	-0.14	-0.2	0.4**	0.36*	0.39**
	(-0.15)	(-0.36)	(-0.99)	(2.25)	(1.85)	(2.47)
r-Trade			0.75***			0.82***
			(13.2)			(12.97)
APEC	0.8***		0.08	-0.39***		-1.01***
	(9.04)		(0.85)	(-3.25)		(-8.63)
APEC_no_us		0.85***			-0.48***	
		(7.62)			(-3.7)	
USA		2.2***			-0.99***	
		(8.08)			(-5.42)	
EURO	0.4***	0.71***	0.31***	-0.26***	-0.3***	-0.39***
	(3.66)	(5.15)	(3.08)	(-2.57)	(-3.07)	(-3.89)
Constant	48.85	106.56	4.81	-41.64	85.26	17.75
	(0.48)	(0.25)	(0.05)	(-0.94)	(1.46)	(0.6)
# OBS	1332	986	1314	1708	1602	1695
R^2	0.7381	0.7164	0.7825	0.7444	0.7195	0.7787

Notes: 1. Outward equations include source-economy dummies and inward equations include destination-economy dummies. All equations also include year dummies. 2. Subscript "s" stands for source economy and "d" stands for destination economy. 3. Shown in parentheses are the robust t-statistics. 4. ***, **, and * denote one, five, and ten percent level of significance, respectively, for a two-tailed test.

Financial liberalization and the rate of interest in both source and destination economies do not appear to have any discernible effect on outward bank lending, but the proxies for transaction and information costs, such as distance and the use of a common language, have statistically significant effects on the five APEC economies' outward bank lending.

Interestingly, the estimate for the APEC membership dummy in the equation for outward bank lending is positive and statistically significant, and its size is comparable to that in the equation for outward equity investment, but the estimate for the APEC membership dummy becomes insignificant when a bilateral trade intensity variable is added, suggesting again that closer ties in bank lending (outward) among APEC member economies are mostly due to closer ties in trade in goods.[31]

When the USA dummy is included separately from the non-U.S. APEC membership dummy, it is found that both the four non-U.S. APEC members and the United States are holding higher values of bank claims against other APEC members than non-members, yet the United States holds a greater value of claims than the other four APEC members.

On looking at the inward equations (Columns 4, 5, and 6), a noticeable difference from the outward equation is that per capita GDP of source economies reveals positive and significant estimates. The financial liberalization variable in the source economies also reveals statistically significant positive estimates.

More importantly, the estimates for the APEC membership dummy in the inward equation are negative and significant. This suggests that the 21 APEC member economies borrow more from non-APEC member economies. It is also interesting to note that when the non-U.S. APEC membership dummy is included separately from the USA dummy, Column (5) shows that APEC member economies borrow less from both the United States and other non-U.S. APEC members. Lastly, when a trade intensity variable is added, the estimate for the APEC membership dummy becomes smaller, while that for the trade intensity variable is positive and significant. This suggests again

---

[31] This is in part due to the fact that foreign trade-related credit is included in the BIS bank lending data, but its proportion is very small.

that closer ties in goods trade contribute to cross-border bank lending in the APEC region.

7. RESULTS FROM EXTENDED MODEL

This section reports the results obtained from running Equation 3.9 to assess how country risk is associated with capital movements across borders. Specifically, Tables 4.4, 4.5, and 4.6 report the results assessing how country risk affects cross-border equity investment, long-term bond investment, and bank lending, respectively. Column (1) yields the estimates when the ICRG composite country risk measure (lagged) is included. Columns (2), (3), and (4) report the estimates when the political, economic, and financial risk measures are included, on an alternative basis. Finally, Column (5) reports the estimates when the three risk measures are included together.

On looking at Column (1) in Table 4.4, we find that the coefficient on the composite country risk variable is 0.08 and significant at the 1 percent level. This estimate implies that a 10-point reduction in the country risk index is associated with an eight percent increase in outward equity investment. Inclusion of the country risk variable does not appear to affect substantially the estimates of most other explanatory variables. One exception is that the estimated coefficient for per capita GDP is now 1.41, which is considerably smaller than 1.81, the corresponding coefficient without the country risk variable (Column (1) of Table 4.1). Indeed, this is due to the fact that there is a positive correlation between per capita GDP and country risk.

There is a high correlation between the three ICRG risk measures: 0.64 between political risk and economic risk, 0.54 between economic risk and financial risk, and 0.20 between political risk and financial risk. [32] Therefore, each of the three subcategories of risk is first added in the regression alternatively, and then three risk measures are added concurrently. When each of the three risk measures is added separately, they all have positive and highly significant estimates. When they are added concurrently, however, the financial risk measure no longer enters statistically with any discernible estimate. Among the three risk measures, economic risk appears to have the greatest association with equity investment across borders

---

[32] Authors' calculation.

Table 4. 4. Effects of Country Risk on Cross-border Equity Holdings (2001-2007)

	(1) Outward	(2) Outward	(3) Outward	(4) Outward	(5) Outward
log*POP_s*	-23.54***	-23.14***	-23.67***	-22.81***	-23.85***
	(-5.92)	(-5.8)	(-5.99)	(-5.72)	(-6.03)
log*POP_d*	1.24***	1.27***	1.27***	1.18***	1.31***
	(39.79)	(38.54)	(40.11)	(37.96)	(39.07)
log*PCGDP_s*	1.79***	1.73***	1.8***	1.81***	1.76***
	(3.35)	(3.22)	(3.36)	(3.29)	(3.33)
log*PCGDP_d*	1.41***	1.42***	1.56***	1.78***	1.34***
	(23.46)	(21.51)	(29.97)	(35.75)	(20.55)
Finlib_s	0.26***	0.25***	0.26***	0.24**	0.26***
	(2.79)	(2.67)	(2.75)	(2.48)	(2.88)
Finlib_d	0	0.01	0	-0.01	0.01
	(0.01)	(0.28)	(0.01)	(-0.21)	(0.27)
Return_s	-0.47	-0.51	-0.47	-0.53	-0.46
	(-1.15)	(-1.24)	(-1.14)	(-1.25)	(-1.13)
Return_d	-0.16	-0.22	-0.04	-0.21	-0.07
	(-0.8)	(-1.12)	(-0.22)	(-1)	(-0.33)
Tax_d	-0.04***	-0.04***	-0.04***	-0.04***	-0.04***
	(-7.64)	(-8.08)	(-7.46)	(-7.66)	(-7.62)
log*Dist*	-1***	-1.11***	-1***	-0.99***	-1.06***
	(-13.06)	(-14.42)	(-13.42)	(-12.32)	(-13.35)
OFC	2.11***	2.36***	2.03***	2.04***	2.21***
	(10.64)	(11.6)	(10)	(10.18)	(10.93)
Comlang	1.15***	1.15***	1.06***	1.2***	1.05***
	(12.82)	(12.41)	(11.8)	(13.11)	(11.51)
Contig	-0.47*	-0.69**	-0.4	-0.47*	-0.52*
	(-1.8)	(-2.43)	(-1.48)	(-1.67)	(-1.89)
Colony	-0.13	-0.2	-0.11	-0.13	-0.15
	(-0.86)	(-1.32)	(-0.69)	(-0.78)	(-0.99)
APEC	0.55***	0.68***	0.4***	0.79***	0.36***
	(6.14)	(7.58)	(4.34)	(8.81)	(3.93)
EURO	0.3***	0.28***	0.25***	0.46***	0.16*
	(3.25)	(2.9)	(2.66)	(4.68)	(1.73)
Country_Risk_d	0.08***				
	(10.27)				
Political_Risk_d		0.05***			0.04***
		(7.99)			(4.98)
Economic_Risk_d			0.08***		0.07***
			(11.44)		(8.61)
Financial_Risk_d				0.02***	-0.01
				(4.78)	(-1.38)
Constant	321.84***	318.81***	322.46***	313.03***	325.75***
	(5.41)	(5.33)	(5.45)	(5.23)	(5.5)
# OBS	1953	1953	1953	1953	1953
R^2	0.7786	0.7740	0.7798	0.7673	0.7836

Notes: 1. All equations include source-economy dummies and year dummies. 2. Subscript "s" stands for source economy and "d" stands for destination economy. 3. Shown in parentheses are the robust t-statistics. 4. ***, **, and * denote one, five, and ten percent level of significance, respectively, for a two-tailed test.

Table 4. 5. Effects of Country Risk on Cross-border Long-term Bond Holdings (2001-2007)

	(1) Outward	(2) Outward	(3) Outward	(4) Outward	(5) Outward
log*POP_s*	-8.8**	-8.72**	-8.67**	-8.91**	-8.81**
	(-2.34)	(-2.32)	(-2.31)	(-2.37)	(-2.36)
log*POP_d*	0.83***	0.86***	0.88***	0.89***	0.92***
	(19.75)	(19.32)	(20.13)	(23.44)	(21.06)
log*PCGDP_s*	2.32***	2.31***	2.31***	2.32***	2.31***
	(3.53)	(3.51)	(3.5)	(3.58)	(3.59)
log*PCGDP_d*	1.62***	1.51***	1.45***	1.52***	1.5***
	(22.69)	(19.96)	(24.07)	(30.18)	(20.03)
Finlib_s	-0.07	-0.06	-0.06	-0.07	-0.07
	(-0.75)	(-0.66)	(-0.62)	(-0.79)	(-0.72)
Finlib_d	0.1***	0.1***	0.09***	0.09***	0.1***
	(3.17)	(2.98)	(2.94)	(2.88)	(3.1)
Return_s	0.25	0.29	0.31	0.24	0.23
	(0.45)	(0.54)	(0.57)	(0.44)	(0.44)
Return_d	0.33	0.5	0.58	0.19	0.24
	(0.77)	(1.15)	(1.32)	(0.47)	(0.61)
Tax_d	0	0	0	0	0
	(-0.4)	(0.44)	(0.79)	(-0.81)	(-0.85)
log*Dist*	-0.8***	-0.77***	-0.76***	-0.86***	-0.86***
	(-8.92)	(-8.53)	(-8.32)	(-9.88)	(-9.93)
OFC	0.99***	1***	1.02***	1.07***	1.12***
	(4.92)	(4.9)	(4.96)	(5.5)	(5.7)
Comlang	0.81***	0.81***	0.79***	0.73***	0.65***
	(7.37)	(7.21)	(7.11)	(6.8)	(5.93)
Contig	-0.02	0.09	0.13	-0.11	-0.09
	(-0.07)	(0.43)	(0.64)	(-0.58)	(-0.44)
Colony	-0.24	-0.24	-0.23	-0.23	-0.22
	(-1.19)	(-1.21)	(-1.21)	(-1.2)	(-1.15)
APEC	0.58***	0.42***	0.33***	0.59***	0.45***
	(4.99)	(3.79)	(2.93)	(5.54)	(3.99)
EURO	0.03	-0.03	-0.08	0.01	-0.07
	(0.24)	(-0.31)	(-0.69)	(0.09)	(-0.67)
Country_Risk_d	-0.03***				
	(-2.99)				
Political_Risk_d		0			-0.02**
		(-0.53)			(-2.1)
Economic_Risk_d			0.01		0.05***
			(1.25)		(4.87)
Financial_Risk_d				-0.03***	-0.05***
				(-6.61)	(-8.38)
Constant	135.83*	132.43*	130.57*	138.44**	134.9*
	(1.92)	(1.88)	(1.85)	(1.97)	(1.93)
# OBS	1372	1372	1372	1372	1372
R^2	0.7610	0.7593	0.7595	0.767	0.7716

Notes: 1. All equations include source-economy dummies and year dummies. 2. Subscript "s" stands for source economy and "d" stands for destination economy. 3. Shown in parentheses are the robust t-statistics. 4. ***, **, and * denote one, five, and ten percent level of significance, respectively, for a two-tailed test.

Table 4. 6. Effects of Country Risk on Cross-border Bank Claims (2001-2007)

	(1) Outward	(2) Outward	(3) Outward	(4) Outward	(5) Outward
log*POP_s*	-3.39	-3.34	-3.43	-2.42	-3.07
	(-0.54)	(-0.54)	(-0.55)	(-0.39)	(-0.49)
log*POP_d*	0.94***	0.96***	0.94***	0.97***	1.01***
	(26.91)	(27.87)	(26.83)	(29.41)	(30.41)
log*PCGDP_s*	-1.17	-1.26	-1.13	-1.28*	-1.24
	(-1.48)	(-1.62)	(-1.42)	(-1.66)	(-1.62)
log*PCGDP_d*	1.16***	1.02***	1.17***	1.33***	0.98***
	(18.37)	(16.38)	(21.09)	(29.09)	(15.66)
Finlib_s	0.1	0.1	0.1	0.09	0.1
	(0.98)	(1.03)	(0.96)	(0.95)	(1)
Finlib_d	0.08***	0.06**	0.09***	0.06**	0.07**
	(2.7)	(2.06)	(3.02)	(2.21)	(2.29)
Return_s	0.27	0.29	0.27	0.21	0.31
	(0.39)	(0.42)	(0.4)	(0.3)	(0.47)
Return_d	-0.15	-0.22	-0.17	-0.58***	-0.55***
	(-0.61)	(-0.95)	(-0.69)	(-2.69)	(-2.69)
Tax_d	-0.01*	-0.01	-0.01**	-0.01***	-0.01**
	(-1.86)	(-1.4)	(-2.04)	(-2.86)	(-1.99)
log*Dist*	-0.87***	-0.88***	-0.86***	-0.95***	-0.92***
	(-8.81)	(-9.28)	(-8.74)	(-10.06)	(-10.02)
OFC	1.11***	1.22***	1.11***	1.22***	1.38***
	(6.09)	(6.54)	(6.09)	(6.72)	(7.41)
Comlang	0.75***	0.76***	0.71***	0.74***	0.65***
	(5.59)	(5.88)	(5.19)	(5.54)	(4.93)
Contig	-0.74**	-0.8**	-0.72**	-1.18***	-0.95***
	(-2.29)	(-2.51)	(-2.21)	(-3.99)	(-2.99)
Colony	-0.03	-0.04	0	-0.08	0.02
	(-0.11)	(-0.18)	(-0.01)	(-0.35)	(0.08)
APEC	0.76***	0.69***	0.74***	0.87***	0.56***
	(8.58)	(7.96)	(7.89)	(9.99)	(6.23)
EURO	0.37***	0.29***	0.35***	0.35***	0.11
	(3.47)	(2.73)	(3.22)	(3.22)	(0.95)
Country_Risk_d	0.02**				
	(2.32)				
Political_Risk_d		0.04***			0.03***
		(6.26)			(4.8)
Economic_Risk_d			0.02**		0.04***
			(2.41)		(5.14)
Financial_Risk_d				-0.03***	-0.04***
				(-6.13)	(-7.83)
Constant	51.69	51.47	51.87	38.74	46.75
	(0.51)	(0.51)	(0.51)	(0.38)	(0.46)
# OBS	1321	1321	1321	1321	1321
R^2	0.7428	0.7494	0.743	0.7488	0.7604

Notes: 1. All equations include source-economy dummies and year dummies. 2. Subscript "s" stands for source economy and "d" stands for destination economy. 3. Shown in parentheses are the robust t-statistics. 4. ***, **, and * denote one, five, and ten percent level of significance, respectively, for a two-tailed test.

On turning to Table 4.5 showing the corresponding results for long-term bond investment across borders, we find, somewhat surprisingly, statistically significant negative estimates for the aggregate country risk measure (Column 1). When the three disaggregated risk measures are added alternatively (Columns 2-4), we find that it is only the financial risk that has a highly significant negative coefficient, while the other two measures do not appear to have any discernible association with the cross-border bond investment. When the three risk measures are added together (Column 5), the financial risk variable continues to enter with a statistically significant negative coefficient. Thus, unlike the case of equity investment, bond investors from the seven APEC member economies do not appear to assess adequately the potential country risk of the issuing economies. Specifically, they do not appear to make a proper assessment of financial risk of the issuing economies. Indeed, the United States, the largest recipient of bond investment in the world (See Table 4.3), shows a very low financial risk rating during the 2001-2007 period because of its large-scale foreign debt and current account deficits.

Finally, Table 4.6 shows the corresponding results for cross-border bank claims. Column (1) shows that the five APEC member economies make fewer loans to the economies with a greater country risk. Specifically, the estimated coefficient of 0.02 implies that a 10-point reduction in country risk of a borrowing economy is associated with a two percent increase in bank loans from the five APEC member economies. When the three disaggregated risk measures are added in the regression alternatively (Columns 2-4) and concurrently (Column 5), it is found that bank lending is positively associated with political and economic risks, but is negatively associated with financial risk. Thus, bank lenders from the five APEC member economies appear to make a proper assessment of the political and economic risks when making international loans. However, similarly to bond investors, bank lenders do not appear to put much weight on financial risk of the borrowing economies. Again, the United States, showing a very low financial risk rating during the 2001-2007 period, is in fact the largest bank loan borrower in the world (See Table 4.5).

8. POLICY IMPLICATIONS

Expansion of international financial transactions has recently been very dramatic. Specifically, between 2001 and 2007, the values of inward holdings of equities, long-term bonds, and bank claims in the APEC region increased by 23.3 percent, 16.3 percent, and 15.5 percent per annum, respectively, while APEC's exports and GDP grew by 13.8 percent and 7.1 percent per annum, respectively. The faster expansion of international financial transactions than of goods trade is also a global phenomenon, not just a phenomenon of the APEC region.

This report evaluates the magnitude and determinants of APEC member economies' cross-border financial transactions. This report also assesses whether APEC members enjoy greater investment linkages between themselves than with non-members and how APEC members can enhance intra-regional financial linkages in the APEC region.

Our analysis using the gravity model has shown that APEC member economies are holding higher values of financial assets of other APEC member economies than of non-member economies. However, a large part of the regional financial market integration in the APEC region is due to strong linkages of intra-regional trade in the region. This implies that the financial market in the APEC region as a whole is not as fully integrated as the goods market, even though the continuing expansion of intra-regional trade in goods in the region is expected to contribute to the intra-regional financial transactions in the region.

Thus, continued efforts aimed at greater financial integration in the APEC region will be needed as this will bring many benefits to the member economies, such as lower capital costs for investment, improved financial resource allocation in the region, and greater confidence in the financial markets of the member economies. This will also enable regional financial centers to realize scale economies and to compete with global financial centers effectively (Young *et al.*, 2009).

In the wake of the current global financial crisis, there is an urgent need to critically reassess and reform the global financial regulatory system. The present time is also most opportune for rising to the challenge of regional cooperation. The ultimate aim of

such cooperation should be to create a seamless, unified business area for finance in the region, linking the individual financial centers with one another in a region-wide network of integrated markets with financial institutions operating in those markets (Young *et al.*, 2009).

According to the findings from our gravity regression analysis, there are several areas that require regional cooperation to enhance financial integration in the APEC region.

First, it has been found that APEC member economies tend to engage in more cross-border financial investment with economies located geographically closer and with those sharing a common language. Distance and language are proxies for information asymmetries, and hence efforts to share more information among APEC member economies are expected to strengthen the investment linkages in the APEC region.

Second, the financial liberalization of both the source and destination economies is in general found to contribute to movement of international capital. Thus, APEC members should continue their efforts to internationalize their financial markets by liberalization of the capital account and the progressive exchange controls. Also, concerted action to reduce capital market control among APEC member economies is expected to enhance investment integration in the APEC region. At the same time, member economies should enhance their national regulatory systems so as to avoid any recurrence of serious problems similar to the current global financial/economic crisis.

Third, it has been found that lower tax rates on dividend or interest income are positively associated with greater inflows of financial assets. Thus, competitive pressure may make it attractive for APEC members to make use of competitive tools such as tax incentives or more far-reaching reductions in tax levels. Indeed, competition will generally enhance the efficiency of the finance industry, but such competition may be harmful because there will presumably be not only tax-rate competition but also duplication of effort and over-investment of resources in the APEC region. Thus, beggar-thy-neighbour competition should be avoided by ensuring that competition will be pursued alongside cooperation among APEC members in order to manage the risks identified above as well as to foster and accelerate financial integration within the APEC region.

Fourth, it has been found that the level of country risk is clearly associated with cross-border flows of financial assets. In particular, political risk and economic risk of destination economies are found to have a close relationship with inflow of equity investment, long-term bond investment, and bank loans. Thus, individual and concerted efforts to improve institutional quality and lessen economic risk of member economies are expected to contribute to increasing intra-regional financial transactions in the region. Economic risk can be lessened by improving individual economies' performance in terms of per capita GDP, real GDP growth, annual inflation rate, budget balance as a percentage of GDP, and current account as a percentage of GDP.

The link between political risk and cross-border capital movement deserves special attention, as such a link may be seen as one particular channel through which institutions are able to promote productivity growth (Bénassy-Quéré *et al.*, 2007). Indeed, good governance infrastructure exerts a positive influence on economic growth through the promotion of investment (domestic and foreign alike), while institutional underdevelopment is a key explanatory factor for the lack of foreign financing in the developing economies.

Political risk can be lessened in various ways, for example by enhancing government stability and improving socioeconomic conditions, by avoiding internal and external conflicts, and by preventing corruption and military engagement in politics. In addition, full observance of law and order and enhancement of quality and efficiency of administration will help reduce the level of political risk of an economy. Therefore, individual and concerted efforts to reduce political risk by addressing these areas will make a significant contribution to creating greater flows of capital in the APEC region and securing faster and sustained economic growth of member economies.

In this aspect, APEC's Investment Facilitation Action Plan (IFAP) to create and sustain the most conducive climate to attract investment by maximizing the effectiveness and efficiency of administration is very important.[33]

---

[33] The three initial priority areas for implementing the IFAP for 2008-2010 are e-transparency, reducing investor risk, and simplifying business regulation.

9. REFERENCES LIST

Acemoglu, D. and S. Johnson, and J. A. Robinson (2005), "Institutions as the Fundamental Cause of Long-run Growth?' in P. Aghion and S. Durlauf eds., *The Handbook of Economic Growth*, North-Holland.

Anderson, J. and E. Van Wincoop (2003), 'Gravity with Gravitas: A Solution to the Border Puzzle', *American Economic Review*, 93(1), 170-192.

Aviat, A. and N. Courdacier (2005), 'The Geography of Trade in Goods and Asset Holdings', *Journal of International Economics*, 71, 22-51.

Bénassy-Quéré, A., M. Coupet and T. Mayer (2007), 'Institutional Determinants of Foreign Direct Investment', *The World Economy*, 30(5), 764-782.

Courdacier, N. and P. Martin (2006), 'The Geography of Asset Trade and the Euro: Insiders and Outsiders', ESSEC Working Papers, DR 06020.

Dahlquist, M., L. Pinkowitz, R. Stulz and R. Williamson (2003), 'Corporate Governance and the Home Bias', *Journal of Financial and Quantitative Analysis*, 38(10), 87-10.

Eichengreen, B. and Y. C. Park (2005), 'Why Has There Been Less Financial Integration in Asia than in Europe', The Ford Foundation.

Faruqee, H., S. Li, and I. K. Yan (2004), 'The Determinants of International Portfolio Holdings and Home Bias', IMF Working Paper, WP/04/34. International Monetary Fund.

Garcia-Herrero, A., P. Wooldridge and D. Y. Yang (2009), 'Why Don't Asians Invest in Asia? The Determinants of Cross-border Portfolio Holdings', *mimeo*, Asia Development Bank Institute.

Huh, H., T. Inoue and H.- H. Lee (2009, forthcoming), 'Optimal Foreign Borrowing Revisited', *Japanese Economic Review*, (Available online).

Lane, P. and G. M. Milesi-Ferretti (2008), 'International Investment Patterns', *The Review of Economics and Statistics*, 90(3), 538-549.

Lee, J.-H. (2008), 'Patterns and Determinants of Cross-border Financial Asset Holdings in East Asia', Working Paper Series on Regional Economic Integration, No. 13, Asian Development Bank.

Lee, H.-H. and H. Huh (2008), 'Two-way Flows of Financial Assets and Their Implications for Financial Cooperation in East Asia', Presented at the International Conference on Trade and Investment Cooperation in East Asia, Korea University, Seoul, Korea.

Lee, H.-H. and J. Hur (2009), 'Trade Creation in the APEC Region: Measurement of the Magnitude of and Changes in Intra-regional Trade since APEC's Inception', APEC Policy Support Unit.

Lee, H.-H. and R. S. Rajan (2009), 'Cross-border Investment Linkages among APEC Economies: the Case of Foreign Direct Investment', APEC Policy Support Unit.

Li, Z. and L. D. Qiu (2009), 'Cross-border Mergers and Acquisitions within APEC and Their Implications for Exports, Greenfield FDI, and GDP', Submitted by Hong Kong, China to APEC Conference on Capacity Building for Sharing Success Factors for Improvement for Investment Environment, 2009/SOM2/IEG-EC/SEM/006.

Martin, P. and H. Rey (2004), 'Financial Super-markets: Size Matters for Asset Trade', *Journal of International Economics*, 64, 335-61.

Martin, P. and H. Rey (2006), 'Globalization and Emerging Markets: With or Without Crash?', *American Economic Review*, 96, 5, 1631-51.

Papaioannou, E. (2009), 'What Drives International Financial Flows? Politics, Institutions and Other Determinants', *Journal of Development Economics*, 88, 2, pp.269-281.

Park, Y. C. and C. Wyplosz (2008), 'Monetary and Financial Integration in East Asia: The Relevance of European Experience,' Economic Papers 329, European Commission.

Portes, R. and H. Rey (2005), 'The Determinants of Cross-border Equity Flows', *Journal of International Economics*, 65, pp.269-96.

Prasad, E., R. Rajan and A. Subramanian, 'Foreign Capital and Economic Growth,' *Brookings Papers on Economic Activity*, 2007 (2), pp.153-230.

Rose, A. and M. Spigel (2004), "A Gravity Model of Sovereign Lending: Trade Default and Credit," *IMF Staff Papers*, 51, pp.64-74.

Young, S. D. Choi, J. Sead, and S. Shirai (2009), *Competition among Financial Centres in Asia-Pacific: Prospects, Benefits, Risks and Policy Challenges*, Korea National Committee for Pacific Economic Cooperation Council (KOPEC), Pacific Economic Cooperation Council (PECC), Singapore: Institute of Southeast Asian Studies (ISEAS) Publishing.

APPENDICES

A.1. DATA SOURCES

- • Bilateral securities holdings: in millions of US dollars, International Monetary Fund, *Coordinated Portfolio Investment Survey* (http://www.imf.org/external/np/sta/pi/cpis.htm)

- • Bilateral bank claims: in millions of US dollars, Bank for International Settlements, *Consolidated Banking Statistics* (http://www.bis.org/)

- • Bilateral exports and imports: in millions of US dollars, from International Monetary Fund, *Direction of Trade* (http://www.imfstatistics.org/DOT/); Chinese Taipei Bureau of Foreign Trade (http://cus93.trade.gov.tw/ENGLISH/FSCE/)

- • Population, GDP, per capita GDP: in millions of US dollars, from World Bank, *World Development Indicators* (http://publications.worldbank.org/WDI); Chinese Taipei Statistical Data Book (2008)

- • Bilateral distance: weighted distances in km, which use city-level data to assess the geographic distribution of population inside each nation, from Centre d'Etudes Prospectives et d'Informations Internationales (CEPII)'s website (http://www.cepii.fr/anglaisgraph/bdd/distances.htm)

- • Geography variables (Comlang, Contig, Colony): from Centre d'Etudes Prospectives et d'Informations Internationales (CEPII)'s website, (http://www.cepii.fr/anglaisgraph/bdd/distances.htm)

- • Equity return rate: authors' calculation with data from *DataStream* on local stock market benchmark indices. (Return is annualized one year monthly return with adjustment to exchange rate fluctuation.) Exchange rate of return is annualized one year monthly return against the U.S. dollar, calculated with data from Thomson Reuters.

- • Bond return rate: authors' calculation with data from *DataStream* on indices compiled by JPMorgan. Specifically, US dollar denominated Emerging Market Bond Index (EMBI) is applied for emerging markets and US dollar denominated Government Bond Index (GBI) is applied for developed markets. If one market is available at both EMBI and GBI, the index at EBMI is applied as EMBI covers a longer time frame. (Return is annualized one year monthly return.)

- • Bank loan interest rate: authors' calculation on primary lending rate adjusted to exchange rate fluctuation; Source of lending rate is World Bank, *World Development Indicators* (WDI) and Chinese Taipei Central Bank (http://www.cbc.gov.tw)

- • Tax rate on dividend income and interest income: International Bureau of Fiscal Documentation (IBFD) Tax Treaties Database (http://www.ibfd.org/portal/Product_treaties.html)

- • Country risk: the variable *Country_Risk* is the composite index constructed by Political Risk Services (PRS), and published as the International Country Risk Guide (ICRG) rating which comprises 22 variables in three subcategories of risk – political risk *(Pol_Risk)*, economic risk (*Econ_Risk*), and financial risk (*Fin_Risk*) (http://www.prsgroup.com/).

- • The political risk *(Pol_Risk)* rating aims to assess the political stability of the countries. It is comprised of the following 12 components: government stability, socioeconomic conditions, investment profile, internal conflict, external conflict, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic tensions, democratic accountability and bureaucracy quality.

- • The economic risk (*Econ_Risk*) rating is to assess a country's current economic strengths and weakness. It is comprised of the following five components: per capita GDP, real GDP growth, annual inflation rate, budget balance as a percentage of GDP, and current account as a percentage of GDP.

- • The financial risk (*Fin_Risk*) rating aims to provide a means of assessing a country's ability to pay its way. It is comprised of the following five components: foreign debt as a percentage of GDP, foreign debt services as a percentage of

exports and goods and services, current account as a percentage of exports of goods and services, net international liquidity as months of import cover, exchange rate stability.

Table A 1. Geographic Breakdown of Bilateral Equity Holdings

Bilateral Equity Investment in 2001 (million USD)

to: / from:	Australia	Canada	Chile	Hong Kong, China	Indonesia	Japan	Korea	Malaysia	Mexico	New Zealand	Philippines	Russia	Singapore	Thailand	United States	APEC(15)	APEC/World	France	Germany	United Kingdom	World(75)
Australia	0.0	2,203.2	0.0	594.0	0.1	3,000.9	2.5	18.6	....	1,107.3	....	0.0	588.4	0.0	37,112.0	44,627.1	67.1%	379.0	635.4	10,967.9	66,461.4
Brunei Darussalam	0.0	....	0.0	....	....	0.0	0.0	....	....	....	....	0.0	....	0.0	....	0.0	0.0%	....	0.0	0.0	0.0
Canada	619.4	....	15.8	1,309.0	....	2,769.7	15.7	9.7	....	105.8	....	0.0	136.5	0.0	89,591.0	94,572.6	97.4%	964.1	-412.4	-6,957.6	97,106.1
Chile	9.7	55.7	0.0	....	....	5.9	0.0	....	....	(c)	....	0.0	....	0.0	1,917.0	1,988.3	58.2%	19.4	8.8	294.4	3,416.5
China	68.4	93.7	0.7	5,449.0	0.0	789.4	15.5	8.0	....	(c)	....	0.0	1,035.0	4.0	2,370.0	9,833.8	74.0%	183.3	51.1	1,462.0	13,296.6
Hong Kong, China	1,395.5	3,287.1	0.3	....	11.2	4,847.9	100.4	47.3	....	65.8	....	0.0	3,125.1	6.0	30,154.0	43,040.5	53.8%	733.2	765.8	12,290.7	79,947.9
Indonesia	14.3	58.3	73.6	....	....	49.7	12.6	43.7	....	(c)	....	0.0	306.9	15.0	1,526.0	2,100.1	58.5%	36.1	29.1	385.8	3,589.4
Japan	3,718.2	14,412.9	3.3	2,145.0	2.2	0.0	101.5	6.9	....	459.4	0.5	0.0	1,536.2	1.0	170,714.0	193,101.1	58.1%	7,245.2	5,771.6	52,610.4	332,410.4
Korea	402.4	2,023.4	0.4	1,311.0	0.1	381.3	0.0	8.4	....	40.8	....	0.0	1,034.2	0.0	29,537.0	34,739.0	67.0%	450.3	868.1	6,908.3	51,855.3
Malaysia	56.2	113.9	0.0	604.0	....	338.5	123.8	....	....	(c)	....	0.0	5,295.0	0.0	2,578.0	9,109.4	70.7%	95.2	113.7	1,372.1	12,881.0
Mexico	76.6	1,496.4	27.7	....	....	63.8	0.0	0.0	....	(c)	....	0.0	14.7	0.0	26,279.0	27,958.2	68.9%	319.0	905.1	5,260.6	40,579.9
New Zealand	55.7	181.5	0.0	....	....	183.4	0.0	0.0	....	....	....	0.0	52.5	0.0	2,004.0	2,477.1	72.9%	4.4	6.2	542.4	3,399.1
Papua New Guinea	0.0	....	0.0	....	....	0.3	0.0	112.3	....	....	....	0.0	....	0.0	155.0	267.6	87.0%	7.1	5.3	0.0	307.7
Peru	3.1	64.2	0.4	....	....	9.1	0.0	....	....	....	....	0.0	....	0.0	452.0	528.9	50.5%	5.3	2.6	203.1	1,047.9
Philippines	6.6	28.4	0.0	60.0	....	212.8	3.5	60.6	....	(c)	....	0.0	420.1	1.0	1,344.0	2,136.9	62.0%	18.5	6.2	300.2	3,448.1
Russia	7.7	139.7	4.0	....	....	10.5	2.8	....	....	(c)	....	0.0	....	0.0	4,613.0	4,777.6	43.7%	94.3	881.3	1,464.9	10,944.5
Singapore	439.1	1,291.1	0.0	1,403.0	2.2	923.9	0.8	460.9	....	30.3	2.2	0.0	....	8.0	21,376.0	25,937.7	71.7%	246.8	333.1	4,931.4	36,186.3
Chinese Taipei	177.2	652.4	0.3	1,486.0	0.0	394.3	0.0	6.0	....	(c)	....	0.0	987.4	1.0	19,607.0	23,311.6	59.7%	353.4	381.6	8,220.9	39,018.2
Thailand	21.4	108.8	0.0	488.0	0.0	289.7	20.3	14.7	....	(c)	0.8	0.0	1,520.0	0.0	1,916.0	4,379.8	56.2%	74.0	330.5	1,480.9	7,792.7
United States	37,376.0	134,390.3	1,191.9	11,458.0	....	123,511.2	454.5	68.2	....	3,924.2	91.9	3.0	6,033.9	14.0	....	318,518.0	31.0%	41,915.5	69,890.6	129,190.0	1,027,412.6
Viet Nam	0.0	....	0.0	....	....	0.8	6.5	10.4	....	(c)	....	0.0	25.0	3.0	0.0	45.6	53.7%	0.0	0.0	10.2	85.0
APEC	44,448.2	160,601.0	1,318.6	26,307.0	15.9	137,783.1	860.3	875.7	....	5,733.8	95.4	3.0	22,111.0	53.0	443,245.0	843,451.0	46.1%	53,144.2	80,573.7	230,938.5	1,831,186.7
APEC/Wolrd	69.3%	69.6%	33.4%	27.8%	96.0%	60.6%	66.2%	65.7%	....	75.3%	86.1%	2.9%	70.6%	64.6%	27.5%	37.1%		26.3%	21.1%	41.4%	35.2%
France	2,562.2	8,742.2	4.6	411.0	....	10,256.2	4.5	5.0	....	99.2	....	0.0	616.7	0.0	112,205.0	134,906.5	34.6%	0.0	47,234.2	84,963.0	390,327.1
Germany	1,666.1	5,886.9	29.2	288.0	....	6,800.4	18.2	2.2	....	222.5	14.1	6.0	346.9	0.0	72,200.0	87,480.4	32.0%	20,375.7	0.0	43,709.3	273,197.0
United Kingdom	5,806.5	22,733.4	37.9	22,698.0	....	29,479.9	51.5	23.7	....	1,013.1	....	0.0	2,688.4	0.0	350,014.0	434,546.4	60.9%	25,508.3	44,376.1	0.0	713,135.4
World	64,160.0	230,795.9	3,946.4	94,615.0	16.6	227,351.4	1,299.8	1,332.0	....	7,618.2	110.8	103.0	31,318.9	82.0	1,612,667.0	2,275,416.9	43.8%	201,751.6	381,184.3	558,379.3	5,200,145.1

Notes: ....denotes data not available; (c) denotes confidential data; World investors are available for the 75 reporting economies, including 15 APEC members.
Source: International Monetary Fund, *Coordinated portfolio Investment Survey (CPIS) Database* (accessed on 16th July, 2009).

Bilateral Equity Investment in 2007 (million USD)

to: / from:	Australia	Canada	Chile	Hong Kong, China	Indonesia	Japan	Korea	Malaysia	Mexico	New Zealand	Philippines	Russia	Singapore	Thailand	United States	APEC(15)	APEC/World	France	Germany	United Kingdom	World(75)
Australia	....	9,768.9	12.2	3,352.0	0.0	21,595.5	2,309.4	193.3	....	6,966.0	....	989.0	3,968.6	997.5	138,096.0	188,248.4	62.4%	1,347.9	5,189.2	42,002.7	301,645.8
Brunei Darussalam	0.0	0.0	0.0	0.0	....	0.0	0.0	-0.0	....	....	....	0.0	....	0.0	....	0.0	0.0%	7.7	0.0	-8.0	-0.0
Canada	5,567.9	0.0	124.7	1,534.0	....	16,472.1	230.9	25.1	18.3	412.5	(c)	27.0	666.5	0.0	378,965.0	404,044.1	86.9%	1,530.0	373.9	2,344.5	465,154.9
Chile	14.8	123.2	0.6	4.0	....	78.6	40.0	0.0	....	....	(c)	0.0	....	0.0	5,205.0	5,466.3	46.5%	198.5	4.4	1,233.5	11,746.5
China	1,714.1	2,327.0	72.1	153,455.0	0.0	15,042.7	10,854.5	100.4	....	(c)	(c)	7.0	9,652.5	7.8	95,658.0	288,891.3	74.5%	6,523.3	2,668.9	28,714.3	387,919.5
Hong Kong, China	5,638.5	6,075.0	56.8	0.0	5.6	17,501.3	27,970.8	1,832.1	....	(c)	....	0.0	16,512.4	102.1	119,522.0	195,216.7	59.8%	3,755.3	4,132.2	41,237.6	326,383.9
Indonesia	286.6	680.0	50.8	495.0	....	800.4	552.9	212.3	....	(c)	(c)	0.0	1,942.7	17.9	15,077.0	20,115.6	51.6%	537.8	499.0	5,725.2	38,988.9
Japan	19,317.8	43,660.1	174.8	8,940.0	0.4	....	4,390.0	200.2	....	1,575.1	0.2	1.0	5,740.0	17.0	529,219.0	613,235.5	58.9%	23,374.4	23,400.5	144,496.9	1,040,926.8
Korea	(c)	8,475.3	23.4	3,696.0	....	5,618.4	0.0	666.3	....	(c)	....	0.0	6,441.2	7.6	129,234.0	154,162.1	59.9%	8,022.3	3,849.5	29,192.7	257,405.4
Malaysia	465.3	777.8	0.4	2,043.0	1.0	1,158.1	694.5	....	....	(c)	(c)	1.0	8,119.8	3.6	17,670.0	30,934.5	57.8%	718.9	371.0	7,363.8	53,496.3
Mexico	(c)	4,539.5	602.3	1.0	....	842.4	178.1	....	....	(c)	(c)	0.0	369.2	0.0	85,417.0	91,949.5	76.0%	1,194.1	512.3	9,975.7	120,980.5
New Zealand	3,499.4	230.3	0.0	73.0	....	464.7	12.3	3.6	....	....	(c)	0.0	239.1	0.0	3,940.0	8,462.2	72.7%	33.7	160.5	660.8	11,640.5
Papua New Guinea	296.4	71.1	0.0	34.0	....	21.1	2.7	0.3	....	....	....	0.0	....	0.0	2,429.0	2,854.6	67.7%	38.2	14.7	30.3	4,217.8
Peru	(c)	52.8	73.9	0.0	....	54.6	9.4	....	....	(c)	(c)	0.0	....	0.0	1,679.0	1,869.6	57.0%	44.9	1.5	468.5	3,281.1
Philippines	152.3	211.3	17.6	418.0	....	317.8	89.1	37.2	....	(c)	....	0.0	663.5	1.0	9,909.0	11,816.7	62.5%	652.4	91.3	2,209.9	18,908.3
Russia	(c)	1,474.2	17.4	7.0	0.0	3,848.5	313.7	....	....	(c)	(c)	0.0	377.5	0.0	74,386.0	80,424.3	44.2%	1,341.8	5,673.5	17,870.1	182,112.7
Singapore	2,614.9	3,103.0	42.6	4,340.0	4.0	6,457.2	1,236.7	2,109.8	....	(c)	3.3	1.0	....	250.7	55,584.0	75,747.3	59.2%	2,088.4	2,199.3	17,951.4	127,919.8
Chinese Taipei	(c)	3,736.3	20.7	3,639.0	0.1	3,360.2	330.7	317.6	....	(c)	(c)	0.0	3,183.7	4.4	81,024.0	95,616.6	62.2%	2,165.8	1,940.2	22,820.0	153,760.5
Thailand	694.4	824.5	21.2	1,160.0	23.4	1,444.0	315.2	119.8	....	(c)	1.7	0.0	3,334.9	0.0	15,998.0	23,937.0	51.4%	588.7	759.6	7,845.8	46,610.6
United States	120,715.8	271,332.9	26,732.7	18,332.0	7.0	221,890.5	25,106.6	947.5	2,279.5	8,810.4	88.6	143.0	16,676.9	761.2	0.0	713,824.7	24.7%	107,608.3	118,969.2	385,607.1	2,889,037.1
Viet Nam	(c)	0.0	0.0	122.0	....	6.0	1,206.3	0.6	....	(c)	(c)	0.0	448.6	4.4	11.0	1,798.8	69.0%	24.6	0.0	608.7	2,606.5
APEC	160,978.0	357,463.2	28,044.0	201,645.0	41.5	316,974.1	75,843.8	6,766.1	2,297.8	17,764.1	93.8	1,169.0	78,337.2	2,175.1	1,759,023.0	3,008,615.7	46.7%	161,796.7	170,810.7	768,352.3	6,444,743.3
APEC/Wolrd	61.4%	63.4%	43.1%	38.9%	8.1%	55.3%	71.5%	71.8%	62.6%	64.8%	50.5%	28.6%	55.7%	67.2%	33.5%	40.0%		18.9%	17.4%	49.8%	36.3%
France	(c)	25,036.9	100.4	1,851.0	0.3	27,305.8	679.7	41.4	....	(c)	....	26.0	5,832.4	29.1	347,795.0	408,698.2	41.8%	0.0	81,423.3	76,140.9	976,783.1
Germany	8,764.0	17,479.7	243.3	1,358.0	0.4	22,909.9	625.3	74.4	3.6	(c)	....	118.0	2,612.6	3.3	329,164.0	383,356.5	38.4%	79,269.2	....	102,508.0	998,633.1
United Kingdom	22,760.0	59,657.8	1,166.1	51,704.0	0.5	52,865.5	1,730.1	280.7	4.8	2,291.8	....	323.0	5,334.7	0.0	714,928.0	913,047.0	55.6%	71,470.9	58,951.7	0.0	1,643,612.2
World	262,080.9	563,660.6	65,057.0	518,717.0	511.2	573,469.4	106,109.8	9,422.3	3,671.8	27,411.2	185.8	4,081.0	140,553.0	3,237.4	5,247,983.0	7,526,151.5	42.3%	857,896.4	981,275.4	1,541,432.0	17,771,952.1

Notes: ....denotes data not available; (c) denotes confidential data; World investors are available for the 75 reporting economies, including 15 APEC members.
Source: International Monetary Fund, *Coordinated portfolio Investment Survey (CPIS) Database* (accessed on 16th July, 2009).

Table A 2. a Geographic Breakdown of Bilateral Long-term Bond Holdings

Bilateral Long-term Bond Investment in 2001 (million USD)

to: \ from:	Australia	Canada	Chile	Hong Kong, China	Indonesia	Japan	Korea	Malaysia	Mexico	New Zealand	Philippines	Russia	Singapore	Thailand	United States	APEC(15)	APEC/World	France	Germany	United Kingdom	World(75)
Australia	0.0	194.9	0.0	8,275.0	54.8	14,074.3	22.9	0.4	....	499.6	10.0	0.0	2,812.1	0.0	15,998.6	41,942.6	55.7%	3,069.6	2,273.8	9,957.0	75,356.1
Brunei Darussalam	0.0	....	0.0	....	....	0.0	0.0	0.0	....	....	....	0.0	....	0.0	....	0.0	0.0%	0.0	0.0	0.0	1.8
Canada	217.5	....	62.0	2,997.0	1.0	19,093.2	25.6	6.1	....	65.9	20.0	0.0	1,019.1	0.0	115,617.9	139,125.3	67.0%	9,311.8	4,904.4	18,745.0	207,495.8
Chile	0.0	2.9	0.0	....	....	17.8	2.1	....	....	0.0	....	0.0	....	0.0	4,030.1	4,052.9	82.9%	32.6	86.4	208.9	4,888.1
China	0.0	23.1	0.0	1,776.0	....	879.8	117.8	....	....	0.0	....	0.0	325.2	0.0	633.9	3,755.8	68.2%	123.4	106.6	657.0	5,503.7
Hong Kong, China	789.9	21.7	0.0	....	95.4	1,253.6	287.8	27.9	....	(c)	25.0	0.0	920.1	47.0	1,893.2	5,361.5	34.3%	245.0	115.5	8,471.8	15,625.8
Indonesia	0.0	0.2	0.0	....	....	106.4	40.5	7.6	....	0.0	3.0	0.0	260.2	0.0	314.8	732.8	45.4%	0.9	7.9	308.9	1,612.8
Japan	836.4	458.4	5.0	4,980.0	1.0	0.0	74.8	14.9	....	245.6	5.0	6.0	3,606.2	0.0	26,152.4	36,385.7	21.5%	10,022.1	4,627.7	41,178.3	169,271.8
Korea	22.5	95.0	1.1	2,680.0	....	5,434.7	0.0	2.7	....	(c)	6.5	0.0	1,670.3	0.0	4,937.5	14,850.3	66.0%	1,104.3	774.7	3,707.2	22,506.7
Malaysia	0.0	0.5	0.0	1,766.0	....	2,197.4	295.3	....	....	0.0	9.0	0.0	1,392.1	0.0	1,680.1	7,340.3	79.2%	117.2	211.5	987.7	9,262.7
Mexico	4.6	863.8	170.5	....	....	2,613.0	51.0	15.2	....	0.0	1.8	0.0	57.9	0.0	22,493.3	26,271.1	59.3%	841.6	1,472.7	4,091.6	44,275.8
New Zealand	528.5	46.9	0.0	....	....	1,691.9	0.0	0.0	....	....	....	0.0	231.8	0.0	2,052.2	4,551.3	49.0%	699.8	211.5	1,702.8	9,280.4
Papua New Guinea	0.0	....	0.0	....	....	0.3	0.0	....	....	....	....	0.0	....	0.0	....	0.3	24.1%	0.0	0.0	0.0	1.2
Peru	0.0	65.1	2.1	....	....	14.0	0.0	2.9	....	....	....	0.0	1,221.1	0.0	....	1,305.2	69.5%	89.9	89.9	87.0	1,878.8
Philippines	0.0	142.6	0.0	1,152.0	....	1,347.1	89.5	41.3	....	(c)	....	0.0	577.1	0.0	2,671.2	6,020.7	68.3%	112.8	105.8	674.4	8,815.9
Russia	3.6	33.1	0.0	....	....	117.6	0.1	8.3	....	(c)	....	0.0	5,594.7	0.0	....	5,757.4	38.4%	329.6	1,314.9	2,417.8	14,993.6
Singapore	339.5	41.7	0.0	1,225.0	34.9	928.4	141.2	6.6	....	(c)	59.4	0.0	....	9.0	1,441.6	4,227.3	31.8%	81.1	78.4	7,674.1	13,275.9
Chinese Taipei	0.0	6.7	0.0	528.0	....	81.9	7.7	13.5	....	0.0	12.9	0.0	258.9	0.0	253.3	1,162.9	59.1%	54.6	14.1	343.7	1,966.1
Thailand	0.0	0.0	0.0	530.0	....	748.2	159.0	21.3	....	0.0	....	0.0	499.7	0.0	782.3	2,740.5	75.8%	82.0	53.8	396.0	3,613.6
United States	6,950.8	15,212.1	1,114.6	22,902.0	249.0	347,167.9	2,154.2	114.8	....	1,312.0	1,371.0	6.0	11,269.5	98.0	....	409,921.8	24.7%	63,562.0	34,908.6	160,994.4	1,661,233.6
Viet Nam	0.0	....	0.0	....	....	29.9	15.3	....	....	....	....	0.0	....	0.0	21.0	66.2	65.3%	0.0	1.8	18.9	101.4
APEC	9,693.2	17,208.8	1,355.4	48,811.0	436.0	397,797.2	3,484.9	283.3	....	2,123.1	1,523.6	12.0	24,900.2	154.0	207,789.3	715,572.0	31.5%	89,880.3	51,359.5	262,622.5	2,270,961.4
APEC/World	67.3%	68.1%	54.5%	56.8%	63.4%	39.6%	66.0%	51.4%	....	44.9%	92.8%	1.2%	59.3%	47.1%	37.4%	41.0%		19.4%	12.8%	39.4%	35.3%
France	341.1	653.1	37.9	1,847.0	19.9	52,008.8	212.5	25.1	....	108.9	35.0	0.0	1,055.1	40.0	26,085.6	82,469.9	24.5%	0.0	26,060.4	32,032.1	337,183.2
Germany	774.1	1,079.9	160.9	4,631.0	8.0	101,155.9	56.1	23.3	....	345.6	1.5	7.0	3,879.0	0.0	44,417.7	156,540.0	19.4%	60,043.9	0.0	76,914.7	806,340.4
United Kingdom	2,057.7	1,227.4	63.3	6,712.0	73.6	70,654.9	365.5	33.8	....	797.8	22.6	11.0	2,486.7	31.0	80,867.7	165,405.5	41.8%	34,613.9	28,036.8	0.0	395,339.6
World	14,396.4	25,284.6	2,485.6	85,877.0	687.5	1,004,877.6	5,283.7	550.7	....	4,732.7	1,641.3	967.0	41,960.2	327.0	555,358.5	1,744,429.8	27.1%	462,133.5	401,582.0	667,302.9	6,426,437.1

Notes: ....denotes data not available; (c) denotes confidential data; World investors are available for the 75 reporting economies, including 15 APEC members.
Source: International Monetary Fund, *Coordinated portfolio Investment Survey (CPIS) Database* (accessed on 16th July, 2009).

Bilateral Long-term Bond Investment in 2007 (million USD)

to: \ from:	Australia	Canada	Chile	Hong Kong, China	Indonesia	Japan	Korea	Malaysia	Mexico	New Zealand	Philippines	Russia	Singapore	Thailand	United States	APEC(15)	APEC/World	France	Germany	United Kingdom	World(75)
Australia	....	7,091.9	0.0	29,276.0	....	43,403.7	639.1	165.1	0.1	881.6	196.6	0.0	13,165.9	731.5	73,257.0	168,808.6	54.1%	16,786.0	12,766.1	12,647.8	312,230.1
Brunei Darussalam	....	0.0	0.0	(c)	....	0.0	....	....	....	....	....	0.0	....	0.0	0.0	0.0	0.0%	....	0.0	0.0	11.6
Canada	(c)	0.0	7.5	4,349.0	17.4	34,727.4	456.3	13.0	....	(c)	(c)	20.0	1,051.6	72.7	185,217.0	225,931.9	64.1%	13,495.2	15,548.3	9,736.0	352,599.6
Chile	(c)	35.6	0.0	40.0	....	377.1	22.8	....	....	(c)	(c)	0.0	7,564.0	6.0	7,564.0	8,045.5	84.3%	123.2	142.8	37.2	9,548.6
China	(c)	3.2	0.1	5,444.0	....	458.0	200.1	6.0	....	(c)	(c)	0.0	867.5	15.2	1,457.0	8,451.1	68.8%	917.3	304.7	180.5	12,276.3
Hong Kong, China	327.1	65.9	0.0	0.0	50.0	849.0	1,753.1	68.4	....	(c)	154.8	0.0	3,330.4	42.3	1,736.0	8,376.8	55.9%	363.1	69.2	424.2	14,988.9
Indonesia	19.4	51.2	0.3	(c)	....	603.8	189.1	111.0	....	(c)	(c)	0.0	3,196.0	0.6	3,271.0	7,442.3	58.7%	188.3	341.5	210.3	12,688.1
Japan	(c)	2,297.8	935.4	2,835.0	....	....	478.4	19.7	....	(c)	11.8	19.0	2,140.1	46.1	49,110.0	57,893.2	28.6%	39,736.5	7,914.0	11,663.3	202,698.7
Korea	(c)	133.1	40.3	13,088.0	5.4	8,117.3	0.0	294.9	....	(c)	169.2	0.0	10,740.9	278.2	9,845.0	42,712.3	58.5%	16,169.1	1,673.8	677.8	73,031.9
Malaysia	68.8	96.1	15.2	3,613.0	3.0	2,031.4	238.2	....	....	(c)	(c)	0.0	3,901.3	39.1	6,360.0	16,366.1	61.9%	1,480.5	643.3	589.6	26,436.3
Mexico	(c)	1,427.5	300.6	139.0	....	2,504.8	92.6	....	....	(c)	(c)	3.0	234.1	70.9	23,882.0	28,654.5	56.9%	577.7	2,548.2	1,422.8	50,329.5
New Zealand	(c)	779.2	0.0	415.0	....	4,925.2	0.2	....	....	....	(c)	0.0	273.7	1.2	3,900.0	10,294.4	55.1%	266.7	376.9	3,414.0	18,669.3
Papua New Guinea	0.0	0.0	0.0	0.0	....	0.0	0.0	....	....	....	....	0.0	....	0.0	....	0.0	0.0%	....	0.0	0.0	10.3
Peru	(c)	121.1	127.0	0.0	....	550.7	3.1	....	....	(c)	(c)	0.0	....	0.0	2,651.0	3,453.0	46.0%	112.2	555.0	365.4	7,505.7
Philippines	55.5	158.5	0.0	602.0	2.0	1,634.7	13.9	43.6	....	(c)	....	0.0	879.8	0.0	4,550.0	7,942.6	38.9%	1,236.8	1,280.7	1,263.3	20,408.8
Russia	(c)	240.9	2.3	45.0	....	1,054.2	239.0	....	....	(c)	(c)	0.0	158.6	32.1	6,520.0	8,292.0	23.0%	299.8	1,307.2	12,904.9	36,077.5
Singapore	165.7	143.5	0.0	2,834.0	165.8	3,871.6	342.7	89.2	....	(c)	497.5	0.0	....	54.2	9,061.0	17,225.2	47.1%	1,093.4	809.7	3,613.3	36,549.8
Chinese Taipei	0.0	13.6	0.0	1,122.0	....	56.0	115.7	4.8	....	(c)	(c)	0.0	417.7	0.0	168.0	1,897.8	44.1%	253.8	75.1	1,097.1	4,304.0
Thailand	(c)	20.2	0.0	442.0	....	289.2	114.5	9.1	....	(c)	33.5	0.0	1,098.2	0.0	834.0	2,840.7	71.4%	174.8	38.3	351.2	3,978.2
United States	58,822.1	89,461.6	11,934.5	49,161.0	255.2	580,312.3	27,492.9	457.9	6,174.1	2,137.8	1,220.4	7,784.0	20,603.4	369.3	0.0	856,186.6	19.3%	161,791.3	143,601.9	489,818.1	4,433,609.7
Viet Nam	(c)	27.6	0.0	724.0	....	63.5	6.4	....	....	....	(c)	0.0	643.0	28.9	237.0	1,730.3	78.8%	44.6	123.7	78.0	2,195.6
APEC	59,458.6	102,168.5	13,363.1	114,129.0	498.8	685,830.0	32,398.1	1,282.6	6,174.2	3,019.4	2,283.8	7,826.0	62,702.2	1,790.7	389,620.0	1,482,545.0	26.3%	255,110.3	190,120.2	550,494.8	5,630,148.7
APEC/Wolrd	42.4%	65.3%	87.2%	55.5%	34.3%	35.6%	62.1%	37.7%	74.9%	39.9%	47.7%	36.7%	63.0%	46.3%	24.5%	35.0%		13.0%	12.0%	31.6%	29.3%
France	4,681.3	4,385.1	32.7	6,732.0	14.5	118,383.5	3,336.8	12.7	0.1	(c)	40.7	44.0	2,611.0	99.8	78,252.0	218,626.1	18.1%	....	161,613.0	44,706.3	1,207,031.0
Germany	(c)	10,373.1	335.0	7,072.0	19.0	157,237.9	786.5	93.8	8.5	(c)	26.2	1,340.0	5,857.4	341.2	84,600.0	268,090.6	13.8%	319,947.3	....	56,327.0	1,936,653.1
United Kingdom	12,948.1	9,016.5	188.6	18,610.0	190.6	107,215.5	5,741.4	247.4	18.9	(c)	825.4	1,621.0	6,375.0	470.7	286,488.0	449,957.0	30.6%	136,839.8	140,233.7	0.0	1,472,194.1
World	140,293.7	156,360.7	15,322.8	205,505.0	1,455.9	1,924,828.8	52,143.9	3,404.8	8,246.1	7,576.7	4,792.0	21,346.0	99,596.9	3,866.5	1,587,092.0	4,231,831.8	22.1%	1,969,909.8	1,580,156.6	1,742,601.4	19,189,503.8

Notes: ....denotes data not available; (c) denotes confidential data; World investors are available for the 75 reporting economies, including 15 APEC members.
Source: International Monetary Fund, *Coordinated portfolio Investment Survey (CPIS) Database* (accessed on 16th July, 2009).

Table A 2. b Geographic Breakdown of Bilateral Short-term Bond Holdings

Bilateral Short-term Bond Investment in 2001 (million USD)

to: \ from:	Australia	Canada	Chile	Hong Kong, China	Indonesia	Japan	Korea	Malaysia	Mexico	New Zealand	Philippines	Russia	Singapore	Thailand	United States	APEC(15)	APEC/World	France	Germany	United Kingdom	World(75)
Australia	0.0	52.0	0.0	9,706.0	....	2,104.4	27.0	2.7	....	(c)	....	0.0	4,342.5	9.0	2,072.0	18,315.7	65.2%	366.6	66.1	980.5	28,094.7
Brunei Darussalam	0.0	....	0.0	....	....	0.0	0.0	....	....	....	....	0.0	....	0.0	....	0.0	....	0.0	0.0	0.0	0.0
Canada	54.1	....	0.0	429.0	....	46.8	0.0	0.0	....	0.9	....	0.0	352.2	0.0	6,235.0	7,118.0	47.7%	112.8	21.2	3,396.8	14,935.8
Chile	0.0	....	0.0	....	....	0.0	0.0	....	....	0.0	....	0.0	....	0.0	1.0	1.0	1.2%	0.9	0.0	63.8	80.7
China	(c)	....	0.0	1,191.0	....	0.0	24.1	....	....	0.0	....	0.0	86.8	0.0	0.0	1,301.9	85.4%	0.0	0.0	171.1	1,525.3
Hong Kong, China	0.0	....	0.0	....	0.8	14.9	18.1	....	....	0.0	....	0.0	701.4	72.0	0.0	807.2	72.3%	0.0	9.7	124.7	1,116.5
Indonesia	0.0	....	0.0	....	....	1.5	22.0	....	....	0.0	....	0.0	300.1	0.0	0.0	323.6	93.9%	0.0	0.0	10.2	344.7
Japan	60.8	0.3	0.0	2,123.0	....	0.0	0.0	0.5	....	(c)	....	0.0	5,407.7	0.0	973.0	8,565.3	21.1%	5.3	0.0	301.7	40,626.8
Korea	4.6	....	0.0	1,109.0	....	19.0	0.0	....	....	0.0	....	0.0	511.3	0.0	0.0	1,643.8	67.9%	0.0	0.0	169.7	2,419.3
Malaysia	0.0	3.6	0.0	51.0	2.1	2.3	33.3	....	....	0.0	....	0.0	199.1	0.0	0.0	291.3	65.9%	0.0	0.0	29.0	442.3
Mexico	0.0	....	0.0	....	....	16.6	0.0	....	....	0.0	....	0.0	29.4	0.0	132.0	178.0	27.3%	0.0	0.0	179.8	651.2
New Zealand	230.3	....	0.0	....	....	596.1	0.0	....	....	....	....	0.0	2,582.9	0.0	73.0	3,482.3	61.8%	0.0	0.0	58.0	5,638.3
Papua New Guinea	0.0	....	0.0	....	....	0.0	0.0	....	....	....	....	0.0	0.0	0.0	0.0	0.0	....	0.0	0.0	0.0	0.0
Peru	0.0	....	0.0	....	....	0.0	0.0	....	....	....	....	0.0	0.0	0.0	0.0	0.0	0.0%	0.0	0.0	5.8	142.7
Philippines	1.5	....	0.0	27.0	....	0.0	17.0	....	....	0.0	....	0.0	184.2	0.0	0.0	229.8	49.8%	0.9	0.0	37.7	461.7
Russia	0.0	....	0.0	....	....	0.0	0.0	....	....	0.0	....	0.0	....	0.0	0.0	0.0	0.0%	0.0	0.0	78.3	316.6
Singapore	0.0	....	0.0	57.0	2.7	280.3	10.2	3.7	....	0.0	....	0.0	....	89.0	0.0	442.9	35.9%	0.0	0.0	66.7	1,232.6
Chinese Taipei	0.0	....	0.0	81.0	....	0.0	0.0	1.5	....	0.0	....	0.0	80.9	0.0	0.0	163.4	150.0%	0.0	0.0	-56.6	108.9
Thailand	0.0	....	0.0	129.0	....	0.0	0.0	....	....	0.0	....	0.0	341.4	0.0	0.0	470.4	77.9%	0.0	0.0	29.0	603.9
United States	118.5	3,098.4	303.4	4,893.0	....	19,521.1	1,155.2	25.3	....	31.3	381.3	203.0	707.6	180.0	....	30,618.1	7.4%	11,052.4	3,369.2	18,801.5	412,542.7
Viet Nam	0.0	....	0.0	....	....	0.0	0.0	....	....	0.0	....	0.0	....	0.0	0.0	0.0	0.0%	0.0	0.0	4.4	4.4
APEC	469.8	3,154.4	303.4	19,796.0	5.6	22,602.9	1,306.9	33.7	....	32.2	381.3	203.0	15,827.5	350.0	9,486.0	73,952.7	14.5%	11,538.9	3,466.5	24,452.3	511,289.5
APEC/Wolrd	59.0%	61.1%	93.3%	78.8%	43.0%	39.3%	90.1%	8.5%	....	45.4%	99.6%	82.9%	49.5%	84.1%	7.0%	28.5%		24.8%	39.2%	31.2%	47.2%
France	0.0	51.5	10.0	273.0	....	2,156.7	0.0	0.4	....	0.0	....	0.0	1,450.3	9.0	5,281.0	9,231.8	18.5%	0.0	896.3	13,581.5	49,856.5
Germany	0.0	119.2	0.5	353.0	0.6	3,350.8	0.0	2.8	....	(c)	....	0.0	1,090.7	0.0	17,524.0	22,441.6	25.8%	5,933.8	0.0	9,405.8	86,997.0
United Kingdom	57.2	293.8	0.0	1,660.0	....	10,220.8	12.8	353.0	....	2.7	1.5	18.0	10,966.4	0.0	82,093.0	105,679.2	58.4%	8,480.7	548.2	0.0	181,086.2
World	796.0	5,159.7	325.3	25,108.0	13.0	57,525.0	1,450.9	396.7	....	70.8	382.9	245.0	31,962.3	416.0	135,578.0	259,429.7	23.9%	46,445.4	8,850.0	78,362.2	1,084,271.1

Notes: ....denotes data not available; (c) denotes confidential data; World investors are available for the 75 reporting economies, including 15 APEC members.
Source: International Monetary Fund, *Coordinated portfolio Investment Survey (CPIS) Database* (accessed on 16th July, 2009).

Bilateral Short-term Bond Investment in 2007 (million USD)

to: \ from:	Australia	Canada	Chile	Hong Kong, China	Indonesia	Japan	Korea	Malaysia	Mexico	New Zealand	Philippines	Russia	Singapore	Thailand	United States	APEC(15)	APEC/World	France	Germany	United Kingdom	World(75)
Australia	....	33.0	0.0	9,955.0	16.0	932.0	0.0	4.8	....	55.0	163.1	0.0	6,984.8	2,428.0	11,217.0	31,788.7	43.7%	3,094.5	1,514.8	5,638.1	72,713.4
Brunei Darussalam	0.0	0.0	0.0	(c)	....	0.0	....	....	....	....	....	0.0	0.0	0.0	0.0	0.0	....	....	0.0	0.0	0.0
Canada	(c)	0.0	377.2	162.0	....	35.2	7.8	3.3	....	(c)	(c)	0.0	84.4	0.0	22,272.0	22,942.0	68.7%	398.3	67.7	-16.2	33,385.0
Chile	....	0.0	0.0	41.0	....	0.0	0.0	....	....	....	(c)	0.0	0.0	0.0	5.0	46.0	72.6%	....	....	0.0	63.4
China	(c)	0.0	0.0	7,192.0	....	0.0	0.0	....	....	(c)	(c)	0.0	34.2	25.6	125.0	7,376.7	93.5%	....	0.0	26.4	7,887.2
Hong Kong, China	0.0	0.0	0.0	0.0	6.6	0.9	0.0	1.8	....	(c)	0.3	1.0	148.6	8.0	18.0	185.2	32.5%	115.3	0.0	12.4	570.4
Indonesia	0.0	0.0	0.0	(c)	....	29.1	0.0	....	....	(c)	(c)	0.0	4,193.6	1.9	1.0	4,225.5	97.2%	....	0.0	0.0	4,346.9
Japan	(c)	0.0	232.3	9,448.0	19.9	....	13.1	....	....	(c)	71.2	0.0	537.0	0.0	4,013.0	14,334.5	10.3%	47,442.7	0.0	2,761.8	138,643.5
Korea	0.0	0.0	0.0	3,482.0	....	27.2	0.0	....	....	(c)	0.5	0.0	3,094.8	239.7	476.0	7,320.3	66.1%	44.2	0.0	92.6	11,075.0
Malaysia	0.0	0.0	0.0	294.0	....	39.0	1.4	....	....	(c)	(c)	0.0	13,516.5	5.4	1,179.0	15,035.3	84.7%	1,338.5	88.3	84.6	17,751.7
Mexico	....	0.0	0.0	20.0	....	0.0	0.0	....	....	(c)	(c)	0.0	0.7	0.0	432.0	452.7	49.6%	....	1.5	33.8	912.3
New Zealand	(c)	0.0	0.0	45.0	....	0.0	0.0	....	....	....	(c)	0.0	58.5	0.0	1,958.0	2,061.5	31.3%	148.1	400.4	1,952.0	6,596.2
Papua New Guinea	0.0	0.0	0.0	1.0	....	0.0	0.0	....	....	....	....	0.0	....	0.0	0.0	1.0	100.0%	....	0.0	0.0	1.0
Peru	....	0.0	4.5	9.0	....	0.0	0.0	....	....	(c)	(c)	0.0	....	0.0	274.0	287.5	39.8%	....	0.0	71.6	723.3
Philippines	(c)	0.0	0.0	121.0	0.2	0.0	0.0	....	....	(c)	....	0.0	327.6	0.0	2.0	450.9	86.6%	....	0.0	17.6	520.6
Russia	0.0	0.0	0.0	48.0	....	0.0	0.0	....	....	(c)	(c)	0.0	1.0	0.0	13.0	62.0	3.9%	....	0.0	946.1	1,575.2
Singapore	0.0	0.0	0.0	1,645.0	18.2	985.4	0.0	51.7	....	(c)	....	0.0	....	260.8	65.0	3,026.1	79.4%	....	0.0	51.1	3,809.2
Chinese Taipei	0.0	0.0	0.0	283.0	....	0.0	0.0	....	....	(c)	(c)	0.0	47.3	0.0	0.0	330.3	87.2%	....	0.0	43.5	379.0
Thailand	0.0	0.0	0.0	20.0	....	38.1	0.0	....	....	(c)	....	0.0	62.2	0.0	10.0	130.3	76.7%	....	0.0	22.2	170.0
United States	893.9	4,068.4	2,700.5	3,064.0	....	11,108.5	146.3	2.7	978.4	281.7	1,059.5	335.0	2,908.5	231.8	0.0	27,779.3	4.4%	4,433.5	21,625.1	20,362.9	633,575.6
Viet Nam	0.0	0.0	0.0	66.0	....	0.0	0.0	....	....	....	(c)	0.0	34.2	0.0	0.0	100.2	99.0%	....	0.0	0.0	101.2
APEC	893.9	4,101.4	3,314.6	35,896.0	60.9	13,195.5	168.5	64.4	978.4	336.7	1,294.7	336.0	32,033.9	3,201.1	42,060.0	137,936.1	14.8%	57,015.1	23,697.9	32,100.7	934,800.0
APEC/Wolrd	25.2%	53.7%	83.5%	61.9%	37.5%	52.2%	42.4%	59.7%	98.0%	54.8%	84.0%	21.3%	37.7%	42.2%	11.8%	24.9%		30.7%	31.4%	21.7%	34.3%
France	(c)	16.6	0.0	1,260.0	....	263.9	20.6	5.1	....	(c)	49.9	0.0	4,660.0	623.5	17,466.0	24,365.7	14.3%	....	4,595.9	1,852.7	170,406.1
Germany	(c)	595.2	193.8	1,725.0	....	464.7	4.0	3.6	....	(c)	117.4	13.0	3,483.7	647.8	7,919.0	15,167.3	8.1%	8,672.9	0.0	297.0	186,960.6
United Kingdom	1,307.4	2,494.9	151.6	3,530.0	17.6	2,743.9	0.0	8.2	....	(c)	39.9	81.0	35,242.7	1,609.0	140,964.0	188,190.1	38.4%	30,682.7	4,199.9	0.0	489,814.4
World	3,552.8	7,638.9	3,970.7	57,994.0	162.3	25,268.4	397.0	108.0	998.3	614.6	1,541.8	1,580.0	84,913.4	7,588.4	356,704.0	553,032.7	20.3%	185,499.2	75,409.8	148,209.5	2,729,039.4

Notes: ....denotes data not available; (c) denotes confidential data; World investors are available for the 75 reporting economies, including 15 APEC members.
Source: International Monetary Fund, *Coordinated portfolio Investment Survey (CPIS) Database* (accessed on 16th July, 2009).

Table A 3. Geographic Breakdown of Bank Lending

Bilateral Bank Lending in 2001 (million USD)

to: from:	Australian banks	Canadian banks	Chilean banks	Japanese banks	Mexican banks	Taiwanese banks	US banks	APEC(7)	APEC/World	French banks	German banks	British banks	World(30)
Australia	...	...	...	14,519.0	...	586.0	20,471.0	35,576.0	21.9%	15,155.0	20,944.0	29,895.0	162,612.0
Brunei Darussalam	...	...	...	...	...	0.0	126.0	126.0	8.8%	1.0	2.0	1,192.0	1,433.0
Canada	...	...	...	17,584.0	...	604.0	44,997.0	63,185.0	29.1%	9,351.0	22,141.0	32,163.0	217,236.0
Chile	...	2,857.0	...	1,223.0	...	3.0	7,399.0	11,482.0	26.1%	1,420.0	3,360.0	1,728.0	43,910.0
China	...	261.0	...	11,539.0	...	15.0	3,802.0	15,617.0	27.2%	5,227.0	6,593.0	6,942.0	57,510.0
Hong Kong, China	...	2,321.0	...	38,379.0	...	6,329.0	20,148.0	67,177.0	25.1%	9,840.0	10,326.0	126,867.0	267,937.0
Indonesia	...	644.0	...	8,876.0	...	1,183.0	3,374.0	14,077.0	37.7%	2,508.0	8,201.0	3,758.0	37,328.0
Japan	...	7,078.0	...	0.0	...	4,112.0	57,378.0	68,568.0	12.4%	72,800.0	88,829.0	43,827.0	553,338.0
Korea	...	1,721.0	...	10,742.0	...	1,441.0	16,386.0	30,290.0	41.4%	7,258.0	6,702.0	6,922.0	73,098.0
Malaysia	...	...	...	6,241.0	...	780.0	7,791.0	14,812.0	28.8%	2,043.0	3,510.0	13,538.0	51,417.0
Mexico	...	17,899.0	...	2,838.0	...	57.0	77,213.0	98,007.0	45.6%	4,511.0	7,944.0	5,753.0	215,075.0
New Zealand	...	...	...	1,506.0	...	46.0	1,556.0	3,108.0	10.2%	989.0	3,810.0	17,209.0	30,571.0
Papua New Guinea	...	...	...	0.0	...	0.0	26.0	26.0	26.5%	1.0	35.0	...	98.0
Peru	...	359.0	...	163.0	...	2.0	2,218.0	2,742.0	18.7%	423.0	965.0	585.0	14,689.0
Philippines	...	...	...	3,144.0	...	1,200.0	4,853.0	9,197.0	41.0%	1,166.0	3,718.0	2,568.0	22,448.0
Russia	...	...	...	477.0	...	10.0	2,487.0	2,974.0	7.2%	2,509.0	21,984.0	610.0	41,446.0
Singapore	...	2,384.0	...	22,337.0	...	5,733.0	16,895.0	47,349.0	35.4%	5,094.0	12,027.0	29,185.0	133,838.0
Chinese Taipei	...	676.0	...	2,950.0	...	...	11,767.0	15,393.0	47.9%	1,890.0	1,453.0	5,387.0	32,107.0
Thailand	...	...	...	11,182.0	...	563.0	4,374.0	16,119.0	38.1%	1,734.0	3,952.0	4,139.0	42,360.0
United States	...	189,810.0	...	512,286.0	...	23,914.0	...	726,010.0	26.8%	160,224.0	460,401.0	349,318.0	2,704,258.0
Viet Nam	...	...	...	286.0	...	291.0	363.0	940.0	38.6%	559.0	205.0	336.0	2,438.0
APEC	...	226,010.0	...	666,272.0	...	46,869.0	303,624.0	1,242,775.0	26.4%	304,703.0	687,102.0	681,922.0	4,705,147.0
APEC/Woﾉrd	...	65.9%	...	56.7%	...	69.4%	38.0%	52.1%		37.2%	31.2%	59.1%	40.9%
France	...	4,742.0	...	42,743.0	...	1,298.0	29,549.0	78,332.0	14.5%	...	107,561.0	77,606.0	538,901.0
Germany	...	8,420.0	...	88,694.0	...	1,688.0	79,521.0	178,323.0	22.5%	72,773.0	...	52,449.0	791,329.0
United Kingdom	...	36,054.0	...	107,120.0	...	4,261.0	112,175.0	259,610.0	17.9%	93,580.0	464,202.0	...	1,451,063.0
World	...	343,091.0	...	1,175,208.0	...	67,531.0	799,238.0	2,385,068.0	20.7%	818,772.0	2,200,325.0	1,153,280.0	11,499,530.0

Notes: ….denotes data not available; World investors are available for the 30 BIS reporting economies, including 7 APEC members.

Source: *Bank for International Settlements (BIS) Database* (accessed on 27th July, 2009).

Bilateral Bank Lending in 2007 (million USD)

to: from:	Australian banks	Canadian banks	Chilean banks	Japanese banks	Mexican banks	Taiwanese banks	US banks	APEC(7)	APEC/World	French banks	German banks	British banks	World(30)
Australia	...	15,341.0	0.0	59,891.0	...	3,541.0	51,870.0	130,643.0	20.2%	58,330.0	65,364.0	159,561.0	646,815.0
Brunei Darussalam	13.0	...	...	...	...	81.0	84.0	178.0	9.3%	33.0	8.0	1,411.0	1,919.0
Canada	...	...	62.0	46,724.0	179.0	733.0	70,351.0	118,049.0	23.0%	28,105.0	42,967.0	...	513,084.0
Chile	553.0	...	...	1,253.0	1.0	54.0	8,743.0	10,604.0	13.0%	2,990.0	5,215.0	...	81,682.0
China	...	2,476.0	150.0	33,068.0	...	1,967.0	27,109.0	64,770.0	23.5%	21,636.0	21,369.0	60,566.0	276,039.0
Hong Kong, China	5,240.0	4,182.0	0.0	43,994.0	...	11,942.0	21,367.0	86,725.0	23.1%	24,423.0	12,919.0	167,940.0	375,865.0
Indonesia	...	268.0	...	9,606.0	...	638.0	9,546.0	20,058.0	29.9%	1,952.0	6,972.0	7,645.0	67,177.0
Japan	1,668.0	4,121.0	18.0	...	183.0	4,399.0	123,137.0	133,526.0	14.2%	167,898.0	83,220.0	116,701.0	937,161.0
Korea	...	4,260.0	61.0	29,832.0	...	5,661.0	73,903.0	113,717.0	30.3%	40,371.0	25,334.0	91,380.0	374,836.0
Malaysia	109.0	...	0.0	8,477.0	...	1,023.0	13,096.0	22,705.0	20.6%	3,741.0	5,150.0	29,074.0	110,298.0
Mexico	61.0	...	149.0	4,142.0	...	135.0	85,412.0	89,899.0	26.5%	9,706.0	6,799.0	...	338,709.0
New Zealand	199,126.0	913.0	0.0	4,512.0	...	797.0	2,545.0	207,893.0	87.9%	1,749.0	5,115.0	...	236,593.0
Papua New Guinea	...	...	...	55.0	...	0.0	11.0	66.0	4.0%	6.0	16.0	-26.0	1,643.0
Peru	...	...	132.0	945.0	20.0	4.0	3,022.0	4,123.0	16.3%	778.0	902.0	...	25,329.0
Philippines	...	71.0	...	3,817.0	...	1,265.0	4,884.0	10,037.0	32.3%	2,696.0	2,915.0	5,099.0	31,027.0
Russia	3.0	644.0	1.0	10,207.0	...	1,598.0	16,819.0	29,272.0	12.5%	30,468.0	45,571.0	...	233,728.0
Singapore	5,455.0	...	...	39,160.0	...	5,432.0	34,039.0	84,086.0	32.2%	15,552.0	30,601.0	54,329.0	260,952.0
Chinese Taipei	...	...	9.0	9,999.0	...	...	25,548.0	35,556.0	32.5%	7,426.0	4,890.0	28,591.0	109,244.0
Thailand	81.0	...	...	17,373.0	...	1,163.0	5,545.0	24,162.0	44.0%	2,724.0	3,922.0	8,041.0	54,967.0
United States	38,057.0	421,422.0	1,688.0	750,576.0	2,803.0	58,966.0	...	1,273,512.0	19.6%	686,591.0	851,954.0	1,208,891.0	6,483,742.0
Viet Nam	...	...	...	1,797.0	...	1,619.0	1,425.0	4,841.0	31.7%	2,471.0	1,256.0	3,440.0	15,293.0
APEC	250,366.0	453,698.0	2,270.0	1,075,428.0	3,186.0	101,018.0	578,456.0	2,464,422.0	22.1%	1,109,646.0	1,222,459.0	1,942,643.0	11,176,103.0
APEC/Woﾉrd	60.1%	62.6%	61.9%	46.9%	54.4%	53.8%	33.8%	46.1%		30.0%	27.6%	50.6%	32.7%
France	7,259.0	9,678.0	61.0	112,313.0	210.0	4,260.0	66,922.0	200,703.0	10.2%	...	228,913.0	262,078.0	1,975,880.0
Germany	...	12,690.0	74.0	139,633.0	307.0	3,136.0	98,809.0	254,649.0	11.1%	257,078.0	...	129,956.0	2,287,993.0
United Kingdom	109,988.0	98,350.0	161.0	213,106.0	73.0	11,180.0	334,123.0	766,981.0	16.9%	459,484.0	782,558.0	...	4,546,374.0
World	416,896.0	724,199.0	3,668.0	2,294,213.0	5,856.0	187,858.0	1,711,582.0	5,344,272.0	15.6%	3,693,831.0	4,427,835.0	3,840,261.0	34,216,668.0

Notes: ….denotes data not available; World investors are available for the 30 BIS reporting economies, including 7 APEC members.

Source: *Bank for International Settlements (BIS) Database* (accessed on 27th July, 2009).