POLICY OPTIONS AND CHALLENGES
FOR DEVELOPING ASIA—
PERSPECTIVES FROM THE IMF AND ASIA
APRIL 19-20, 2007
TOKYO

DE FACTO DOLLARIZATION AND ITS EFFECT ON FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH OF CAMBODIA, LAO PDR AND VIET NAM

WATANABE SHINICHI
INTERNATIONAL UNIVERSITY OF JAPAN

Paper presented at the Conference: POLICY OPTIONS AND CHALLENGES FOR DEVELOPING ASIA—PERSPECTIVES FROM THE IMF AND ASIA
Organized by the International Monetary Fund (IMF) and
Japan Bank for International Cooperation (JBIC)
April 19-20, 2007
Tokyo, Japan

De facto dollarization and its effect on financial development and economic growth of Cambodia, Lao PDR and Viet Nam

Version 2

Watanabe Shinichi
International University of Japan

April 17, 2007

1. Introduction

In Cambodia, Lao PDR and Vietnam (hereafter, CLV) cash and deposits of foreign currencies perform important functions of money in parallel with those of domestic currency, although the use of foreign currency is not legally permitted as a means of payment in Lao PDR and Vietnam.[1] The economy in which cash and deposits of foreign currencies perform important functions of money is called a "dollarized" economy, where "dollar" is used as a generic term for foreign currencies.[2]

Figure 1 shows the state of deposit dollarization of CLV in terms of the FCD (foreign currency deposits)/BRM(broad money) ratio. The levels of deposit dollarization of CLV are 71%, 61% and 23% respectively. The levels of Cambodia and Lao PDR are quite

---

1 Keeping foreign currencies as a store of value is legal in Lao PDR and Vietnam. In Cambodia U.S. dollar is regarded as a legal tender in the sense that debt payment is legally settled in U.S. dollar.

2 The term "dollarization" is used in various contexts. Cash dollarization and deposits dollarization are the use of foreign currency cash and deposits in pararrel with national currency cash and deposits. Monetary dollarization refers to cash dollarization plus deposits dollarization. Financial dollarization is the use of foreign currency for financial transactions. Real dollarization is the use of foreign currency for pricing wages, goods and services. The term "dollarization" is also used for "official dollarization" or "full dollarization," that is, the policy to abolish national currency and adopt foreign currency for the domestic use.

high in comparison with other dollarized economies. Among the highly dollarized economies listed in Balino, Bennett and Borensztein (1999), the value of FCD/BRM was higher than 60% only in Bolivia , Peru and Uruguay in 1995.

In addition to dollarization of deposits, CLV is characterized by the extensive use of cash foreign currencies, that is, cash dollarization.[3]

De Zamaroczy and Sa (2003, p. 13) estimate that 96% of total money supply of Cambodia was U.S. dollar cash and deposits during the period 1995-2000, the remaining 4% being riel cash and deposits.[4] Furthermore they find that the amount of cash dollar was from 10 to 16 times higher than dollar deposits over the same period. Cambodian economic activities are largely supported by the currency issued by the U.S.

Cash U.S. dollar and Thai baht are also widely used in Lao PDR as a means of payment, although its estimate is not available. At the border area Chinese yuan and Vietnamese Dong are also used in addition to U.S. dollar and Thai baht. Furukawa (2002) describes the result of the survey on border trades in Lao conducted by the National Economic Research Institute in 2001. The composition of currencies used for settling trades was Thai baht (34%), Lao kip (28%), U.S. dollar (12-13%), Chinese yuan (12-13%) and Vietnamese dong (9%). The currencies used for daily transactions (including cross border trades) consisted of Thai baht (26%), U.S. dollar (26%), Lao kip (21%), Vietnamese dong (16%) and Chinese yuan (5%). Nakhonsy Manodham (2002) describes the survey results concerning the operation of unofficial foreign exchange markets in Lao PDR. He finds that unofficial markets are quite liquid and sizable. Pani (2002) argues that cash foreign currencies are used widely in Lao PDR.

---

[3] Typically currency circulates within the national boundary of its issuing country. The major exceptions are the U.S. dollar and euro. They are widely used as money outside their national or regional boundaries, although the depth and range of their use vary across countries. Porter and Judson (1996) estimates that from 55% to 65% of the U.S. dollar notes were held outside the U.S. at the end of 1995. Seitz (1995) finds that from 30% to 40% of the Deutsche mark notes were held abroad at the end of 1994.

[4] Riel is the national currency unit of Cambodia. The amount of riel deposits is negligible.

A comparable study does not exist for Vietnam. But a number of evidence indicate that a large amount of cash U.S. dollar is held by public and used as a means of payment for the transactions of real estates and motor vehicles.[5] Duong Thanh Dung (2002) finds that unofficial foreign exchange markets in Vietnam are quite liquid and can handle a large amount of purchases and sales of cash U.S. dollar by using the network of traders.

The purpose of this paper is to study the linkage between dollarization and another important financial phenomenon in CLV, that is, financial development. Figure 2 is the graphs of financial development of CLV from 1993 to 2005, where the level of financial development is measured by the ratio of Credits to the Private Sector to GDP (CPS/GDP). For the purpose of comparison three lines for Low income countries, Lower middle income countries and Heavily indebted poor countries (HIPC) are added. The levels of financial development of CLV were all under the level of HIPC until 1998. But the difference began to develop among the three countries since 1999. Cambodia and Lao PDR have remained under the same condition, their levels of financial development being lower than that of HIPC. But Vietnam crossed the lines of both HIPC and Low income countries at the end of 1990s and has been rapidly moving toward the line of Lower middle income countries since then.

Figure 3 combines the information in Figures 1 and 2 and plots the values of (FCD/Broad Money, CPS/GDP) of CLV from 1993 to 2005. Up to 1998, the levels of financial development of CLV remained stagnant at a low level in spite of their large differences in the degree of deposit dollarization. But the financial deepening started to pick up very rapidly after 1999 without much change in the level of deposit dollarization.

Do Figures 1, 2 and 3 indicate that there is no systematic relationship between dollarization and financial development? In comparison with a large number of

---

[5] Watanabe (2002) estimates that the stock of cash dollar was about 15% of cash Vietnamese dong in late 1990s. Furthermore a large amount of gold is held as a store of

literature on dollarization and the choice of foreign exchange rate regime, the literature is scarce that has studied how the currency risk or currency-induced credit risk associated with deposit dollarization affects the behavior of the banking sector and the efficiency of its functions as financial intermediaries in the long run. Balino, Bennet and Borensztein (1999) argue that foreign currency deposits promote financial deepening and financial intermediation in the countries where the confidence in domestic currency is lost due to high inflation and macroeconomic instability.[6] De Nicolo, Honohan and Ize (2003) present the evidence that supports the argument of Balino, Bennet and Borensztein. They show that in economies with more than 20-30 % inflation an increase in the degree of deposit dollarization (FCD/Total deposits) increases the level of monetary depth (M2/GDP). But the same evidence implies that an increase in deposit dollarization decreases monetary depth when inflation rate is lower than 20-30%, which is the case for CLV for most periods.

This paper will argue that at least two important channels are in operation that link dollarization and financial development, and will present the evidence that supports the argument.[7] Contrary to Balino, Bennet and Borensztein, we will argue that higher dollarization will deter financial development. The first channel is the standard self-insurance mechanism which weakens the incentives of banks to develop their organizational capabilities to screen and monitor private borrowers in the economic environment in which they are vulnerable to currency risk or currency-induced credit risk associated with deposit dollarization. The second is the informal remittance channel in which informal remittances keep both the level of cash and deposit dollarization and the size of informal economies high. In spite of the efficiency at the individual level, the presence of active informal economies weakens the incentives of the public to create

value and is often used as a unit of account in transactions of real estate.

[6] The argument is a bit dubious because inflation may also induce individuals to shift their asset portfolio from financial assets to real assets such as real estate. Then financial intermediation is likely to go down.

[7] It is possible that inflation causes the negative pattern between deposit dollarization and financial development. A higher inflation causes the level of dollarization to increase and the level of financial intermediation to decrease at the same time. But Figures 4.1 and 4.2 show that no correlation exists between inflation and other variables

political powers to develop laws and institutions that will help the economy as a whole to overcome the system wide inefficiency.[8]

The discussion of this paper is organized as follows. Section 2 develops a conceptual framework for formulating the hypotheses on the two channels that link dollarization with financial development. Section 3 presents the evidence to test the hypotheses. Section 4 concludes the paper.

2. A conceptual framework

A financial system performs functions essential for economic growth. It gives liquidity to fixed long-term investment by creating liquid assets that enable individuals to pool and share the risks of fixed long-term investment, and reduces the risks for the economy as a whole. By doing so, it enhances aggregate investment and promotes technological progress. Financial intermediaries perform these functions by

(1) (mobilization function) offering deposit facilities to individuals who desire to fill the gap between their income and consumption patterns over time under uncertainty,

(2) (screening function) finding borrowers who have promising investment projects and will be able to repay the loans with high probability, and

(3) (monitoring function) monitoring business activities of borrowers and exercising control over their decisions if necessary in order to secure the safety of their credits.

How does dollarization affect the development of these functions of the financial system?

2.1 Self-insurance channel

Self-insurance channel is well developed in the mainstream dollarization literature that

---

in the data.

[8] North (1991) develops a similar argument why system wide inefficiency could continue in some economies in the absence of effective legal mechanism to enforce contracts.

focuses on currency risk or currency-induced credit risk of banks and economic organizations associated with dollarization of liabilities. Eichengreen and Hausmann (1999) calls the vulnerability of emerging economies to foreign exchange rate risk as their "original sin." Calvo and Reinhart (1999) propose "full dollarization" to avoid the currency risk arising from the sudden stops of capital flows. Yeyati and Sturzenegger (2003) examine the conditions for successful implementation of "full dollarization." De Nicolo, Honohan and Ize (2003) undertake a cross-country regression analysis to find the empirical evidence of the inherent fragility of highly dollarized economies.

When deposit dollarization is high, it brings in currency risk or currency-induced credit risk in the portfolio of banks. The mechanism is well known. Drastic depreciation of domestic currency increases the domestic currency value of the foreign currency denominated liabilities of banks and firms and causes their net worth to fall precipitously even to a negative value (at least on the accounting book). Because of the sudden increase in bankruptcy risk, credit markets stop their normal functions completely, resulting in the collapse of investment and overall economic activities.

In the face of such risks, banks can self-insure their exposure to the currency risk of their own or through their borrowers by reducing the amount of foreign currency credits to domestic borrowers and investing either in safe and liquid assets abroad or in foreign currency reserves at the central bank.

Thus, an increase in dollarization discourages banks to find good domestic borrowers in order to avoid the currency-induced credit risk, and induces them to invest in liquid, risk free foreign currency assets abroad or at the central bank. In the long run such self-insurance policy of banks deters the development of their organizational capability to strengthen their screening and monitoring functions, and has negative effect on financial development and economic growth.

2.2 An informal remittance channel

This section integrates the insights obtained in the previous studies on remittances that are implemented largely independently but point out the importance of remittances as a private supply channel of foreign currencies, some of which is informal and associated with the existence of informal economies.

(1) By using official statistics of workers' remittances in the world, Ratha (2003, 2005) show a surprising fact that remittances are now the most important source of finance for many developing countries, in particular for low income countries. Furthermore he argues that unrecorded remittances sent through informal channels are at least 50% higher than the recorded ones.[9]

(2) A number of papers collected in the conference volume of State Bank of Vietnam and JICA (2002) on dollarization in CLV demonstrate the importance of remittances and other transfers as the supply channels of foreign currencies. Lonh Hay (2002) argues that the operation of the United Nations Transitional Authority in Cambodia (UNTAC) in early 1990s was crucial in determining the depth of dollarization in Cambodia. After UNTAC left, the high degree of dollarization has been supported by the inflows of dollars through multiple sources, including both public and private transfers. Nguyen Thi Hong (2002) and Nguyen Quang Vinh (2002) estimates the amount of remittances through both official and unofficial channels in Vietnam. Ngoc Bao (2002) and Nguyen Thi Nhung (2002) argue that the main source of de facto dollarization in Vietnam is remittances.

(3) Mourmouras and Russel (2000) examine how dollarization emerges with the smuggling of foreign currency cash. Individuals smuggle foreign cash by exporting

---

[9] As a country develops and its financial system matures, private transfers including remittances will eventually decline in the very long run. It may take more than a few decades for CLV to reach that stage. Massay (2003) argues that households use international migration as a means to overcome the limitations of imperfect domestic financial markets and cope with the risks they face more effectively. Under this hypothesis, emigration is characterized by an inverted U-shaped curve that reflects the maturity of the domestic financial system. He shows that it took two decades for Korea to pass through the peak of its emigration cycle and four decades to complete it. It took about 100 years for European countries to complete the cycle. The Philippines is still on the rising side of the emigration cycle.

goods. While exports are not likely to be a major channel of dollarization because the trade balance of CLV (and most other dollarized economies) is in deficit, their analysis points to one of the essential aspects of high dollarization. That is, highly dollarized economies are characterized by the presence of a large informal economy.

(4) Schneider (2004) provides the estimate of the size of the informal economies for 145 countries.[10] All the highly dollarized economies listed in Balino, Bennet and Borensztein (1999) have large informal economies except Argentina and Costa Rica. The size of the informal economy in CLV is 52.4% of GDP in Cambodia, 33.4% in Lao PDR and 17.9% in Vietnam respectively in 2002/2003. Figure 5 shows that a positive correlation exists between deposit dollarization and the size of informal economy. Khieu (2005) finds a strong, statistically significant negative effect of the size of the informal economy on economic growth.

(5) An agreement is emerging that institutional capacity, the capability of the government to enforce the law in particular, is crucial for financial development. Levine (2004) and MacFarlan, Edison and Spatafora (2003) summarize the current state of the literature.

The observations from (1) to (5) show that a highly dollarized economy tends to be characterized by the presence of a large "efficient" informal foreign exchange markets and informal economy that are outside the control of the government. But the "efficiency" of informal foreign exchange markets and informal economy is due to the attempt of individuals and traders to evade taxes and various government regulations, and the "local efficiency" does not lead to the "system wide efficiency." Rather the "local efficiency" and the "system wide inefficiency" are simply the different side of the same coin. The study of finance-growth nexus has found that a financial system performs its functions better when its legal institutions protects the rights of creditors and enforces financial contracts more effectively. Enforceability of laws is found to be

[10] Schneider uses the term "shadow economy" for measuring the size of economic activities that evade taxes and regulations.

particularly important and crucial. These observations indicate that the insufficient organizational capability of government to enforce the law underlies both high dollarization and the failure of financial development in the long run.

2.3 Hypotheses

We can summarize our argument on the relationships between dollarization and financial development in the following hypotheses:

(1) High dollarization discourages banks to find borrowers with good investment projects and induces them to self-insure themselves by investing in liquid risk free foreign currency assets abroad or at the central bank. In the long run such self-insurance policy of banks deters the development of their organizational capability to strengthen their screening and monitoring functions, and has negative effect on financial development and economic growth.
(2) When the organizational capability of the government to enforce the laws (financial contracts in particular) is limited, an economy is more likely to suffer from both high (cash) dollarization and the low level of financial development.

3. Empirical evidence

Let us review the empirical evidence to find whether our argument summarized in the two hypotheses in Section 2.3 stands well against the data. For the level of financial development we use Credit to Private Sector as percentage of GDP of World Development Indicator.[11] As a measure of deposit mobilization, we use Money and quasi money (M2) as percentage of GDP of World Development Indicator. As a measure of the organizational capability of government to enforce the laws we use the Rule of Law Index of Kaufmann, Kraay and Mastruzzi (2006), which takes on values

---

[11] Some evidence exists that indicate that the growth of credits to private sector does not necessary mean that banks have a stronger capability to select high quality borrowers. See De Gregorio and Guidotti (1995), Bao Van (2002), Wakulwa (2002), Favara (2003). A more detailed investigation is necessary to verify the result.

between -2.5 and 2.5, the lager value being better. It is computed from various survey results.

Testing Hypothesis (1)

Figures 6.1, 6.2 and 6.2 show the gaps of organizational capabilities of banks between mobilizing deposits and supporting the financial needs of the private sector. Since the beginning of 2000's the gap has been widening in Cambodia and Lao PDR. In contrast the gap narrowed sharply at the end of 1990s in Vietnam and has remained small. These observations are consistent with the existence of the disincentive effect of high dollarization to find borrowers with good investment projects. Figure 7 shows that since the end of 1990s the banks of Cambodia and Lao PDR have kept a large amount of liquid reserves, which is particularly true for Cambodia.

All in all, the evidence is consistent with the disincentive effect of high dollarization on the development of the key function of financial intermediaries to find borrowers with good investment projects.

Testing Hypothesis (2)

Figure 8 shows the behavior of the Rule of Law Index (RLI) for CLV from 1996 to 2005.[12] None of the three countries takes on a positive value in RLI. Nevertheless they started to behave differently since the end of 1990s. The values of RLI of Cambodia and Lao PDR have been stagnating around -1.1, but the value of RLI of Vietnam improved consistently from -0.94 in 1998 to -0.47 in 2002. An important change may be taking place in Vietnam in terms the quality of governance.

Figure 9 and 10 are scatter diagrams of pooled data of CLV. Figure 9 shows a positive correlation between the rule of law and financial development. Figure 10 shows a

[12] The values for 1997, 1999 and 2001 are the average values of the adjacent years.

negative correlation between the rule of law and dollarization.[13]

4. Concluding remarks

This paper has asked two questions. What are the sources of dollarization in CLV? What does dollarization imply for financial development and economic growth in the long run? In order to answer these questions we have considered the currency risk or currency-induced credit risk of banks and its implications for the development of organizational capacity of banks. In addition we have incorporated a largely ignored aspect of dollarization. That is, remittances serve as an important private money supply channel of foreign currencies. A large part of the remittance channel is informal and is associated with informal economy. We have tried to find the evidence that "efficiency" supported by the informal mechanism is inherently limited and deters the development of the capabilities of financial organizations.

We have found a very interesting possibility in Vietnam. Important changes may be taking place which are strengthening the organizational capabilities of the government and banks, that is, the law enforcement capabilities of the government and the intermediation capabilities of banks to find borrowers with good investment projects. Dedollarization in Vietnam may reflect such progress.[14]

In spite of the high economic growth in recent years, the financial systems of Cambodia and Lao PDR have not yet found a way toward dedollarization. If the interpretation of the findings of this paper is correct, the key for dedollarization is to strengthen the organizational capability of governments, banks and other financial intermediaries. This argument is consistent with the observation of Massey (2003) on temporal labor migration and remittances. He summarizes the argument of the new economics of labor migration and points out that they are the aspects of a rapid transformation of a society

---

[13] The FCD/Broad money ratio is used for the pooled data.

[14] Ishikawa (2005, p.23) emphasizes the importance of government capacity to identify the policy issues of a given economy and design and implement policies and institutions that enhance market development.

associated with socioeconomic development and that their importance will eventually decline as its financial markets develop.[15]

One important issue that is not addressed in this paper is the implications of global increase in dollarization and remittances for the architecture of international monetary system. An important source of the increase of dollarization in low or lower middle income countries is the increase of remittances associated with an increasing number of temporal labor migration. International community has started to establish a coherent policy framework that benefits all the parties concerned, that is, migrants themselves, sending countries and receiving countries. It is desirable to find a comparable arrangement in the area of international monetary system. The increase of people flows and remittances will continue the increasing trend of dollarization, which will increase the vulnerability of the financial system to the currency shocks or currency-induced credit risk of developing countries. Given the prospect of an increasing importance of remittances as a source of development finance for low or lower middle income countries, an international monetary arrangement that helps reduce the currency risk for developing countries will become more important.

References

Balino, T., Bennet, A., and Borensztein, E. (1999): *Monetary Policy in Dollarized Economies*, Occasional Paper 171, IMF.

Bao Van (2002): “Domestic and International Financial Intermediation and Economic Growth in Asia in 1980s and 1990s – Empirical Evidence,” in *Financial systems and economic growth in developing countries in Asia and Africa*, ed. by Watanabe, S. Niigata: IUJ-IDP Press, 15-33.

[15] Massey uses “market failure” for describing the lack of markets for credit, insurance, futures and capital in the sending countries of migrants. But it would be better said as being caused by the *underdevelopment* of market mechanism. The former suggests the need to correct the market failure by non-market mechanism, but the latter implies the need for policies and institutions that enhance the market development.

Berkowitz, D., Pistor, K., and Richard, J.F. (2000): "Economic Development, Legality, and the Transplant Effect," *CID Working Paper* No.39.

Calvo, G. A. and Reinhart, C. (1999): "Capital Flow Reversals, the Exchange Rate Debate, and Dollarization," *Finance and Development*, September, 36 (3).

De Gregorio, J. and Guidotti, P.E. (1996): "Financial Development and Economic Growth," *World Development*, 23 (3), 433-448.

De Nicolo, G., Honohan, P. and Ize, A. (2003): "Dollarization of the Banking System: Good or Bad?" *IMF Working Paper*, WP/03/146.

De Zamaroczy, M. and Sa, S. (2003): *Economic Policy in a Highly Dollarized Economy, The case of Cambodia*, IMF Occasional Paper 219.

Duong Thanh Dung (2002): "Survey of dealers in unofficial dollar markets in Hanoi area and its analysis," in *Dollarization and its effect on monetary and foreign exchange rate policies and the development of financial systems: Vietnam, Lao PDR and Cambodia*, SBV/JICA, 51-68.

Eichengreen, B. and Hausmann, R. (1999): "Exchange rates and financial fragility," *NBER Working Paper* No. 7418.

Favara, G. (2003): "An Empirical Reassessment of the Relationship between Finance and Growth," *IMF Working Paper*, WP/03/123.

Furukawa, H. (2002): "Dollarization in the Lao PDR: its development and current situation," in *Dollarization and its effect on monetary and foreign exchange rate policies and the development of financial systems: Vietnam, Lao PDR and Cambodia*, SBV/JICA, 167-179.

IMF (2000): *Cambodia: Selected Issues*, IMF Staff Country Report No. 00/135.

Ishikawa, S. (2005): "Supporting Growth and Poverty Reduction," *GRIPS Discussion Paper* No.9.

Kaufmann, D., Kraay, A. and Mastruzzi, M. (2006): "Governance Matters V: Governance Indicators for 1996-2005," World Bank.

Khieu, C. (2005): *Economic Growth across Countries: Does Institutional Environment of SMEs Matter?* MA thesis at IUJ.

Levine, R. (2004): "Finance and Growth: Theory and Evidence," in *NBER Working Paper* No. 10776.

Lonh Hay (2002): "Dollarization in Cambodia," in *Dollarization and its effect on* *monetary and foreign exchange rate policies and the development of financial systems: Vietnam, Lao PDR and Cambodia,* SBV/JICA, 181-192.

MacFarlan, M., Edison, H. and Spatafora, N. (2003): "Growth and Institutions," in *World Economic Outlook, Growth and Institutions*, IMF.

Massey, D.S. (2003): "Patterns and Processes of International Migration in the 21st Century," Paper prepared for *Conference on African Migration in Comparative Perspective*, Johannesburg, South Africa.

Mourmouras, A. and Russell, S. (2000): "Smuggling, Currency Substitution and Unofficial Dollarization: A Crime-Theoretic Approach," *IMF Working paper,* WP/00/176.

Nakhonsy Manodham (2002): "Results of dollarization survey in the Lao PDR," in *Dollarization and its effect on monetary and foreign exchange rate policies and the development of financial systems: Vietnam, Lao PDR and Cambodia,* SBV/JICA, 149-166.

Ngoc Bao (2002):"Interest rate and foreign exchange rate policies in a partially dollarized economy with a large unofficial dollar market (1)," in *Dollarization and its effect on monetary and foreign exchange rate policies and the development of financial systems: Vietnam, Lao PDR and Cambodia,* SBV/JICA, 83-98.

Nguen Quang Vinh (2002): "Evolution of remittance and surrender policies in Vietnam," in *Dollarization and its effect on monetary and foreign exchange rate policies and thedevelopment of financial systems: Vietnam, Lao PDR and Cambodia,* SBV/JICA, 33-50.

Nguen Thi Hong (2002): "Dollarization of financial assets and liabilities of the household sector, the enterprise sector and the banking sector in Vietnam," in *Dollarization and its effect on monetary and foreign exchange rate policies and the development of financial systems: Vietnam, Lao PDR and Cambodia,* SBV/JICA, 13-32.

Nguen Thi Nhung (2002): "Interest rate and foreign exchange rate policies in a partially dollarized economy with a large unofficial dollar market (2)," in *Dollarization and its effect on monetary and foreign exchange rate policies and the development of financial systems: Vietnam, Lao PDR and Cambodia,* SBV/JICA, 83-98.

North, D. (1991): "Institutions," *J. of Economic Perspectives,* 5 (1), Winter, 97-112.

Pani, M. (2002): "Dollarization in the Lao PDR," in IMF Country Report No. 02/61, March.

Porter, R.D. and Judson, R.A. (1996): "The Location of U.S. Currency: How Much Is Abroad," *Federal Reserve Bulletin*, October, 883-903.

Ratha, D. (2003): "Workers' Remittances: An Important and Stable Source of External Development Finance," in *Global Development Finance*, World Bank, 157-175.

______ (2005): "Remittances: A Lifeline for Development," *Finance and Development,* December, 42 (4).

Schneider, F. (2004): "The Size of the Shadow Economies of 145 Countries all over the World: First Results over the Period 1999 to 2003," *IZA Discussion Paper* No. 1431.

Seitz, F. (1995): "The Circulation of Deutsche Mark Abroad," Deutsche Bank, Working Paper, May 1995.

Wakulwa, P. W. (2002): "Are Africa's stock markets for prestige or purpose?" in *Financial systems and economic growth in developing countries in Asia and Africa*, ed. by Watanabe, S., Niigata: IUJ-IDP Press, 34-59.

Watanabe, S. and Ono, T. (1997): "Reexamination of financial policies in view of the observations in Savings and Investment Survey of Households - 1997," in *Study on economic development policy in the transition towards a market-oriented economy in Viet Nam*, Vol. 3, 1998, MPI of Viet Nam and JICA.

World Bank (2001): *Finance for Growth, Policy Choices in a Volatile World*, World Bank Policy Research Report, Oxford University Press.

Yeyati, E. L. (2006): "Financial dollarization: evaluating the consequences," *Economic Policy*, January.

______ and Struzenegger (2003): *Dollarization*, Cambridge: The MIT Press.