Dollarization in Laos: Evidence, Causes and Policy Implications
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Abstract
Laos is only one of a few countries in ASEAN (after Cambodia) that has long experienced de facto a dollarized economy since the early 1990s and this situation has continued to prevail even until to date. This paper defines dollarization in the case of Laos (or sometimes is called currency substitution) as the holding by residents of a large amount of theirs assets in the form of foreign currency-denominated assets (i.e. US dollars and Thai Baht).

Firstly, the paper begins with the basic analysis through the examination of patterns of dollarization experience in the Lao economy and then discusses the causes of dollarization during 1990s. The paper presents evidence on the relatively large size of dollarization as measured by foreign currency deposit to broad money in the banking system. The preliminary evidence is empirically clear that Laos can probably be regarded as the most highly dollarized economy. This is because, for example, the use of foreign currency currently represents more than 70 percent of broad money. Residents in Laos are already used to quoting prices and carrying out transactions in foreign currency, especially large transactions are made in foreign currency, either in U.S. dollars or Thai Baht. The reserve requirements of commercial bank are met with both domestic and foreign-denominated assets; deposits and loans in the domestic banks denominated in foreign currencies are generally high and have risen rapidly compared with domestic currency. Dollarization in Laos appears to have directly caused by macroeconomic instability such as episodes of high inflation and rapid currency devaluation.
This situation has been observed similarly in several Latin America countries or those transition  
1 economies. However, this paper also believes that indirect causes were also behind the surge of dollarization( close trade link, economic openness resulting in large foreign currency in forms of foreign investments and etc.). Secondly, this paper believes that dollarization in Laos is rather unofficial than official ones and the national authorities neither sought nor encouraged it. It is mainly due to aforementioned factors. In this context, the question arises as to what are the possible policy options for the national authorities to undertake in the wake of very high dollarization. This paper, therefore, goes on to shed some light on policy options that may be adopted to deal with the prevalence of dollarization. It stresses the importance of economic stability to affect dollarization, especially to avoid high inflation and rapid currency devaluation. In addition, improvement of financial infrastructure (domestic payment system etc.) has also an important implication. The policy options suggested here are appropriate in the short to medium term.

1. Introduction
At the beginning of the late 1980s, Laos introduced a new package of economic reform program aiming at gradually transforming its central planned economy into a market economy. This program, as part of a new approach towards economic openness, which has come to be known as the New Economic Mechanism (NEM), brought with an economic environment conducive to economic growth, promotion of foreign investments and competitive banking sector. While introduction of a market economy assists with economic growth, improved foreign direct investments, however, there are also some of other problems accompanied with this process. One of pressing problems facing the national authorities of Laos is its high degree of dollarization.

The surge of dollarization in Laos dates back to the early 1990s as the country entered an era of economic openness, and this situation has continued to prevail until to date. A particularly high degree of dollarization brings some concerns and challenges for policy makers to design the economic policy for sound macroeconomic stability, coupled with steady poverty reduction. Dollarization was neither sought not encouraged by the national authorities. Rather, this phenomenon was mainly due to both “direct” and “indirect” factors. Among other things, the factors that were direct to Laos included the episode of high inflation and rapid currency devaluation - until today cannot be completely assured - that were taking place in the context of historical economic development of Laos. Apart from direct factors, the factors that were indirect to Laos included large inflows of foreign currency – continuing to date - in the forms of external assistance, private transfers and export earnings. Since Laos’ economy has increasingly liberalized and its trade is heavily dependent on its neighboring
countries, particularly Thailand) foreign currency (especially Thai Bath), has widely used along with the national currency (Kip). Furthermore, the U.S dollar has also used together with the Lao Kip and Thai Baht for both small and large volumes of transactions. As a result, Laos has been confronted with multiple currencies circulating significantly in the economy, to the point that foreign currency has played an important role as a medium of exchange, store of value. At the present, the prevalence of dollarization is seen as inevitable consequence of economic adjustment during transitional stage that sound macroeconomic fundamentals cannot be completely ensured and appears to be acceptable at least for the short-run, but a number of pros and cons accompanied with it requires a considerable attention from policy makers.

This paper discusses from a critical perspective some of the issues raised in this debate. Although, this paper does not reach a conclusive answer on whether Laos should endorse an official dollarization as policy option but this paper believes that this study will shed some light on the issues by providing some empirical evidence of dollarization in the Lao economy. The paper focuses on practical aspects of dollarization rather than theoretical aspects. The focus of this study is illustrated particularly for the case of Laos, the country has not so long opened up its economy and has a history of macroeconomic instability-repeated high inflation and rapid currency devaluation. As a result, this has led to high degree of dollarization. Laos is considered in the group of the most highly dollarized country as classified by IMF staff (See Balino, Bennett and Borensztein, 1999) and is one of a few countries in ASEAN (after Cambodia) for a decade has experienced very high ratio of FCD to M2, with its share of foreign currency deposits to broad money (as widely used as an indicator of dollarization) rising from 42 percent in the early 1990s to nearly 80 percent in the late 1990s (Honohan and Shi 2002).

The rest of the paper is organized as follows. In brief, in Section II begins with an overview of dollarization experience during 1990s. In Section III analyses the sources of dollarization. In Section IV deals with policy implications to affect dollarization and Section V provides concluding remarks.

This paper first presents the basic definition, varieties and measurement of dollarization and then continues to provide the facts about Laos’ case, in particular a brief overview of a recent history of dollarization experience and its primary causes during 1990s in Laos.

2. An Overview of Dollarization Experience in Laos during 1990s

2.1. Definition, Varieties and Measurement of Dollarization

Dollarization is described in an extensive literature as the holding by residents of a significant share of their assets in the forms of foreign-currency-denominated assets and it is also described as a situation where a foreign currency is used for the same purpose as the national currency, ie., as a medium of exchange, a unit of account, and store of value. According to Schuler (2000) dollarization has three main varieties: unofficial dollarization, semiofficial
dollarization and official dollarization. In the context of his definition, (1) unofficial dollarization occurs when people hold substantial amount of their financial wealth in foreign assets even though foreign currency is not legal tender. Legal tender means that a currency is legally acceptable as payment for all debts, unless perhaps the parties to the payment have specified payment in another currency. Legal tender differs from forced tender, which means that people must accept a currency in payment even if they would prefer to specify another currency. The term ‘unofficial dollarization’ covers both cases where holding foreign assets is legal and cases where it is illegal. In some countries it is legal to hold some kinds of foreign assets, such as dollar accounts with a domestic bank, but illegal to hold other kinds of foreign assets, such as bank account abroad, unless special permission has been granted. Unofficial dollarization often occurs in stages that corresponds to the textbook functions of money as a store of value, means of payment and unit of account. In the first stage, which economists sometimes call “asset substitution”, people hold foreign bonds and deposits abroad as store of value. They do so because they want to protect against losing wealth through inflation in the domestic currency or through the outright confiscations that some countries have made. In the second stage of unofficial dollarization, which again economists call “currency substitution”, people hold large amounts of foreign-currency deposits in the banking system (if permitted), and later foreign notes, both as a means of payment and as store of value. Wages, taxes, and daily expenses such as grocery and electric bills continue to be paid in domestic currency, but expensive items such as automobiles and houses are often paid in foreign currency. In the final stage of unofficial dollarization, people think in terms of the foreign currency and prices in domestic currency become indexed to the exchange rate; (2) semi-official dollarization: foreign currency is legal tender and may even dominate bank deposits, but plays a secondary role to domestic currency in paying wages, taxes and everyday expenses such as grocery and electric bills and (3) official dollarization also called full dollarization, occurs when foreign currency has exclusive or predominant status as full legal tender. That means not only is foreign currency legal for use in contracts between private parties, but the government uses it in payments. If domestic currency exists, it is confined to a secondary role, such as being issued only in the form of coins having small value.

Beyond a qualitative description of dollarization, the main challenge for more precisely characterizing this phenomenon is the measurement of the degree of dollarization. Most studies of currency substitution and dollarization in developing countries rely upon data on foreign currency deposits (dollar deposits) in the domestic banking system to indicate the extent of dollarization. Following Balino and his research members (IMF, 1999), this paper starts by using their most common dollarization ratios found in the literature as follows. That is, letting D denote the rate of dollarization, FCD foreign currency deposits, and M2

\[
\text{Degree of dollarization} = \frac{\text{FCD}}{\text{Broad money}} > 30 \text{ percent}
\]

Based on this principle, they define the degree of dollarization as follows:
Highly dollarized economies, as measured by the level of FCD in the domestic banking system divided by broad money or money supply, exceeds 30 percent as an approximate indicator and; (B) Moderately dollarized economies, as measured by the same yardstick are less than 30 percent. Now let us take a look at the real situation of dollarization in Laos based on this principle.

2.2. Dollarization Experience in Lao Economy During 1990s

Prior to the early 1990s, Lao economic system was so called a centrally planned economy. The economy was in a low monetization and barter trade and in-kind payments were mostly common. The Lao Kip was dominantly used for domestic payments and coupons were also issued by the authorities and used together with currency as a medium of exchange in the designated shops run by the state. The use of foreign currency was strictly prohibited and even scare in the hand of general public. Since Laos has adopted an open economy and a liberal exchange rate regime, coupled with macroeconomic instability led-loss of confidence in domestic currency, the use of foreign currency in Laos has been remarkably increased over the past several years and presently accounts for about three-quarter of broad money. The foreign currency, especially U.S dollars and Thai Baht has become a de facto secondary and an important currency for domestic payment. As a result, Laos is currently confronting with multiple currency practices and this phenomenon is one of special features of Lao economy today.

Based on Schuler(2000), in the case of Laos, this paper thinks that dollarization in M2 consist of Narrow Money (M1) which includes currency outside banks and demand deposits and Quasi money, which includes time and saving deposits and foreign currency deposits.

Laos could be described as unofficial ones because, as noted earlier, this phenomenon is an inevitable consequence of economic adjustment during transitional period and also was neither sought nor encouraged by the monetary authorities. By the law, only Lao Kip is permitted as sole legal tender in Laos. In the Presidential Decree Law (No. 01/OP dated August 9, 2002) with reference to the article 3 “The use of foreign exchange” stipulates as follows: “A person means a legal person shall not directly pay nor receive in foreign exchange for the goods and services rendered to them or by them, nor settle the debts in foreign exchange within the Laos except for the BOL has proposed and approved by the Government. A holder of foreign exchange who is in need to make payment within the Laos shall exchange foreign currency into Lao Kip at commercial banks and foreign exchange bureaus authorized by BOL.” In reality, however, Laos’ financial system is characterized by a de facto dollarization, resulting in unofficial multi-currency practices. The U.S dollar and Thai Baht are extensively used by residents eventhough they are not the legal tender. In urban areas, the Lao Kip is solely used for small cash transactions and as divisionary money. In those areas, high prices for goods and services are mostly quoted in U.S dollars and Thai Baht. The high value-transactions are predominantly settled in either U.S dollars or Thai Baht. In rural areas, far from the border, the
Kip remains the major means of payment, and also serves also as a store of value along with gold. The Kip is mainly put in circulation through government payments for goods and services including the civil servants’ salaries. Along the Lao-Thai border, Thai Baht is widely circulated, used for payments and is preferred to the dollar. Furthermore, in the border areas with Viet Nam and China, the Vietnamese Dong and Chinese Yuan circulate to a limited extent among traders who engage in regular cross-border trading.

**Degree of dollarization** - The clear evidence of dollarization in Laos, this paper focuses on key indicators (1) FCD to broad money as the most important indicator; (2) the prevalence of domestic payment for daily transactions; (3) the composition of foreign currency deposits to total deposits in the banking sector; (4) composition of loans and (5) reserve requirements of commercial banks. Since the composition of amount of foreign currency in circulation is hard to know accurately, FCD to broad money is probably one of the most important indicators widely used to measure the level of dollarization in ample literatures.

**FCD to Broad money**: During 1990s, the domestic use of foreign currency in Laos emerged notably. In the early 1990s, the degree of dollarization was already high (above 30 percent). By the late 1990s, however, this ratio has continued even higher when Laos experienced macroeconomic instability, especially a very high inflation rate started in 1998 at the rate of 90.12 percent and even reached triple digits at 127.2 percent in 1999. On average, during 1990s the ratio was approximately 50 percent. Table 1.1 provides data on the growth of FCD to broad money ratios during 1990s and confirming the increased degree of dollarization in Laos during the same period.

**Table 1-1 Laos: The Growth of FCD to M2 Ratios, 1990-2000**

<table>
<thead>
<tr>
<th>Year</th>
<th>FCD to (M2) ratio</th>
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<tr>
<td>90</td>
<td>42.0</td>
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<td>91</td>
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<td>92</td>
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By using ratios of FCD to total stocks of broad money as main indicator for the degree of dollarization, one important fact that stands out from Table 1.1 is the notable increase in the degree and incidence of dollarization that has occurred in Laos since the early 1990s. Table 1.1 shows that the growth of FCD to M2 ratio has been consistently high in Laos since then.

According to the table, the ratio was above 30 percent and this ratio, indicating Laos is the most highly dollarized economy. Presently, foreign currency accounts for the largest component of the domestic money supply.

By regional comparison of dollarization, as measured by ratios of foreign-currency deposits to broad money, most of previous literature often compared Laos with its neighboring countries. In this case, we can compare Laos with Cambodia and Vietnam for illustrative purpose. Table 1.2 indicates the average degree of dollarization in Laos during 1990s, confirming the large degree of dollarization in Laos. Dollarization in Laos was higher than in Vietnam, but lower than in Cambodia.

Table 1.2 Regional comparison: Degree of Dollarization: FCD % of M2

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<tbody>
<tr>
<td>Cambodia</td>
<td>N.A</td>
<td>N.A</td>
<td>26.3</td>
<td>36.3</td>
<td>51.4</td>
<td>56.3</td>
<td>63.1</td>
<td>62.5</td>
<td>54.2</td>
<td>60.9</td>
<td>68.0</td>
<td>53.2</td>
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<tr>
<td>Country</td>
<td>42.0</td>
<td>39.4</td>
<td>36.8</td>
<td>41.4</td>
<td>34.4</td>
<td>42.4</td>
<td>40.4</td>
<td>56.7</td>
<td>67.1</td>
<td>79.5</td>
<td>76.0</td>
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<tr>
<td>Vietnam</td>
<td>N.A</td>
<td>41</td>
<td>25.9</td>
<td>20.9</td>
<td>20.4</td>
<td>19.7</td>
<td>19.3</td>
<td>22.0</td>
<td>25.3</td>
<td>26.6</td>
<td>34.3</td>
<td>25.5</td>
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Source: Patrick Honohan and Aqin Shi, Development Research Group, the World Bank

The high degree of **dollarization** in Laos was confirmed by Balino (IMF, 1999), characterizing an economy as the most highly dollarized when ratio of FCD to broad money exceeds 30 percent. According to Balino, Laos can be surely viewed as a “the most highly dollarized” economy and this can be further included in the group of highly dollarized economies.

**Domestic payment:** As pointed out earlier, by the rule of law, individuals are allowed to hold foreign currency-denominated bank accounts, whereas firms and households can borrow in foreign currency. But domestic payment must be carried out in domestic currency. In reality however, foreign currency is widely used in the country either in large or small value transactions. Transactions with large value settlement or even between companies are often conducted in foreign currency, either in US dollar or Thai Baht. A typical case can be illustrated as follows. For instance, residents in Laos wanting to buy a car, in most cases, car sellers would only accept foreign currency (either U.S.dollar or Thai Baht). This is a common practice for residents in Laos. Although the composition of the amount of foreign currency in circulation...
both U.S dollars currency and Thai Baht in Laos’ economy is still hard to capture accurately, however, according to a survey conducted by the National Economic Research Institute (NERI) (as of May,2001), the proportion of currency used for settlement, on average, for border trade in seven surveyed areas was approximately 34 percent for Thai Baht, 28 percent for Kip,12-13 percent for each of U.S. dollar and Chinese Yuan and about 9 percent for Vietnamese Dong. Shares of each currency used for daily transactions including international trade were as follows: about 26 percent for both U.S.dollar and Thai Baht, about 21 percent for Lao Kip, 16 percent for Dong and about 5 percent for Yuan.

In Laos, because the domestic payment infrastructure is at an early stage of development, people make limited use such as checks or wire transfers as modes of payment. It is largely a cash-based economy with virtually no electronic payment, checks are being used only by large institutions in urban areas. Financial intermediation is shallow and transactions in the banking system are predominantly effected in foreign currency, either U.S.dollar or Thai Baht. All banks in Laos are allowed to mobilize saving deposits and extend credit in both national currency and foreign currency. However, most banks have a large volume of foreign currency deposits and foreign currency lending, particularly state owned commercial banks. Since we have noticed earlier that Lao economy is in practice already highly dollarized by looking at the ratios of FCD to broad money to measure, the widespread use of foreign currency for payment. The additional facts in terms of composition of foreign currency deposits further give us a clear answer for the phenomenon. For example, at the end of December 1999, about 85 percent of banking deposits were denominated in foreign currency accounts(U.S. dollars and Thai Baht), while Kip deposits accounted for only 15 percent. In addition, 80 percent of foreign currency was deposited at the State Owned Commercial Banks and the rest of 20 percent was deposited at other banks. The share of depositors was almost equal between individuals and corporations.

Foreign Currency Deposits to Total Deposits- Another useful aspect that can also indicate the domestic dollarization, is the ratio of foreign currency deposits to total deposits in the banking system. The data on foreign currency deposits total deposits in domestic banks have also widely formed the basis for almost all previous studies of dollarization. In Laos, deposits constituted the main source of Lao ecommercial banks, representing more than 60 percent of total liabilities. During 1990-2000, it strongly confirmed the growing importance of deposit dollarization. Table 1.3 and figure 1.1 depict the FCD to total deposits in banking system during the period 1990- 2000. They show that there has been a highly continued trend of increased deposit dollarization in Laos. Furthermore, FCD constitutes a significant share in recent years, reaching over 80 percent in 2000. Not surprisingly, this ratio of more than 80 percent appears common in Laos where residents are allowed to maintain foreign currency accounts. High inflation rates and sharp currency devaluations prompting the deposits’ motive
to shift from the domestic currency to foreign currency deposits, thus contributing to the rise in the FCD ratio. Recent high inflation levels particularly discouraged savings in domestic currency as people behave very rationally to open account in foreign currency or to switch from Kip to a safer store of value. Local currency deposits are held mainly for transaction purposes. The foreign currencies both U.S dollar and Thai Baht are the currencies of choice for storing value.

Table 1-3 Laos: Foreign Currency Deposits to Total Deposits,1990-2000 (in percent)

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<tbody>
<tr>
<td></td>
<td>17.8</td>
<td>10.5</td>
<td>67.0</td>
<td>49.1</td>
<td>49.7</td>
<td>57.3</td>
<td>54.4</td>
<td>65.9</td>
<td>76.4</td>
<td>89.6</td>
<td>84.9</td>
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Source: Gianni Nicolo, Patrick Honohan, and Alain Ize, IMF working paper (2003)

Because of multiple currency practices occurred in Lao economy, banks are also permitted to accept deposits in foreign currency. Here, deposit dollarization refers to both U.S. dollar and Thai Baht deposit accounts.

Figure 1-1 Laos: Foreign Currency Deposits to Total Deposits, 1990-2000
Foreign Currency Loans: Once Lao banking sector accepting both local and foreign currencies it is required to lend in both types of currency considering from the viewpoint of the cost of mobilized funds. At the end of 1999, large volumes of loans of Lao banking sector were denominated in foreign currency, representing 75 percent of bank loans. Between December 1997 and September 1999, Kip denominated loans dropped by 23 percent in U.S dollar equivalent or by 56 percent in deflated real Kip, while dollar denominated loans increased in double. The supply of Kip denominated loans decreased as Banks tend not to provide much credit in local currency at negative interest rates. The demand for Kip denominated loans also decreased as borrowers preferred to borrow in foreign currency to minimize cost of loan ignoring the factors in the foreign currency risks. However, banks also faced the risks of defaults when bank granted credit in foreign currencies even when borrowers did not have revenues in foreign currency earnings. As the Kip depreciated, borrowers needed more and more Kip to replay the loans. Borrowers first increased the prices of their goods and services (hence fueling inflation) until it was no longer possible and then they defaulted on their loans.

Reserve requirements of commercial banks: Reserve requirements are one of major tools of BOL to conduct monetary policy in order to control money supply directly. This is a powerful way of affecting the money supply and interest rates. In this situation, the BOL also imposes on banks a minimum reserve-deposit ratio. Changes in reserve requirements affect the money supply by causing the money multiplier to change. An increase in reserve requirements raises the reserve-deposit ratio and thus lowers the money multiplier and the money supply. In the case of a highly dollarized economy like Laos, this forces the BOL (central bank) to impose reserve requirements in three currencies: Lao Kip, U.S dollars and Thai Baht for commercial banks in order to control the money supply.

To explain the reasons behind the high degree of dollarization in Laos, it is essential to explore further its underlying causes as follows:

3. Causes of High Dollarization in Laos

Several factors help explain the extremely high level of financial dollarization in Laos. In particular, this paper believes that one of key factors is concerned with a risk hedging decision. This paper thinks that the high degree of dollarization in Laos has a strong and close relationship with the historical context of macroeconomic instability and economic changes during 1990s. From this point of view, there are two main channels which the problem is enhanced. This paper will now analyze more deeply this hypothesis on high degree of dollarization through the examination of each one of such channels as follows:

3.1. Direct Channels

Generally, the causes of dollarization as pointed out in the extensive literature were mainly due to macroeconomic instability: high inflation and rapid exchange rate depreciation. This situation is particularly applied to emerging economies as well as transitional economies.
Following the ample empirical studies, heavy usage of foreign currency generally has occurred in countries with high and variable inflation rates and where the rate of currency depreciation has also been high and variable. In such economies, the opportunity cost of holding domestic currency is often high and uncertain, leading residents to use foreign currency for savings and even transactions. Ortiz (1983), Ramires-Rojas (1985), Marquez (1987), Melvin (1988), Roja-Suares (1992), Clements and Schwartz (1993) and Agenor and Khan (1996) interalia have documented the positive association between exchange rate depreciation and the extent of dollarization as the phenomenon has become known, particularly for Latin America and Eastern Europe. Furthermore, according to Berg and Borensztein (IMF, 2002), in high inflationary countries, dollars or some other hard currency may be in widespread use in daily transactions, alongside the local currency. Such informal dollarization is a response to economic instability and high inflation, and the desire of residents to diversify and protect their assets from the risks of devaluation of their own currency. For further explanation, it is useful to distinguish between two motives for demand of foreign currency assets: currency substitution and asset substitutions. In currency substitution, foreign assets are essentially used as means of payments and unit of account and typically arises under condition of high inflation or hyperinflation when high costs of using domestic currency for transactions prompts the public to search for available alternatives. In asset substitution, this results from risk and return considerations about domestic and foreign assets. Historically, foreign currency-denominated assets have provided the opportunity of insuring against macroeconomic risks, such as price stability and prolonged depreciation in many developing economies. Even under conditions of currency stability, foreign currency-denominated assets may still serve this purpose if residents believe there is even a small prospect of inflationary relapse.

In the case of Laos, these two main factors can be surely explained the rapid rise in dollarization in Lao economy. As for the direct channels, this paper would like to focus on two important factors (1) the country’s history of high inflation rate and (2) rapid exchange rate depreciation.

**A. The current levels of dollarization are related to the country’s history of high inflation**

A past history of imprudent macroeconomic management, characterized by weak fiscal management led to large central bank financing of the budget deficits during the same period, created strong inflationary pressures and an erosion of public confidence in the national currency. Laos has a long history and experience of imprudent macroeconomic management with repeated high inflation and rapid depreciation of exchange rate. This is likely to be one of the roots of a high degree of domestic dollarization. With regard to this primary root, Table 1.4 and Figure 1.4 shows the price level over time and how Laos’ familiarity with inflation is long standing. The table 1.4 and figure 1.4 shows trends in the development of inflation and growth in FCD to M2 during the period 1990-2000. They clearly show that the inflation rate is consistently quite high in Laos with a two-digit level during the same period, except a few years (1992, 1993 and 1994). In particular, the main episodes of high inflation rate in the late 1990s can be considered as the driving force behind the speedy surge in dollarization, peaking almost
80 percent in 1999 when inflation was 127.2 percent.

**Table 1-4 Laos: Historical Data on Inflation Rate and the Level of Dollarization: Growth in FCD to M2 Ratios and Inflation, 1990-2000**

<table>
<thead>
<tr>
<th>Year</th>
<th>FCD to M2 Ratios</th>
<th>Inflation Rate (%)</th>
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<tbody>
<tr>
<td>90</td>
<td>42.0</td>
<td>17.7</td>
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<tr>
<td>91</td>
<td>39.4</td>
<td>10.4</td>
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<td>92</td>
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<tr>
<td>98</td>
<td>67.1</td>
<td>90.1</td>
</tr>
<tr>
<td>99</td>
<td>79.5</td>
<td>127.2</td>
</tr>
<tr>
<td>00</td>
<td>76.0</td>
<td>23.14</td>
</tr>
</tbody>
</table>

Source: Patrick Honohan and Anging Shi, Macro Pani(IMF,2002) and Bank of the Lao PDR(BOL)

**Figure 1-2 Laos:**

**Growth in FCD to M2 Ratios and Inflation, 1990-2000**

Source: Table 1.4

By analyzing historical evidence from this preliminary review of the data, it seems that the level of dollarization is related to the country’s history of macroeconomic instability such as high inflation rate. This basic assumption
does not only support my initial argument but has
been strongly confirmed when De Zamaroczy and Sa
(IMF, 2002) used a powerful tool by
conducting a causality analysis between inflation rate and dollarization in three countries: Laos, Cambodia and Vietnam. The test shows that the main sources of the surge in dollarization in Laos were the episodes of high inflation (between early 1995 to December 1999) and also a concomitant sharp depreciation of the domestic currency.

**B. The current levels of dollarization are related to the country’s history of exchange rate depreciation.**

Before analyzing how dollarization links to exchange rate depreciation, it is useful to understand in brief the exchange rate regime in Laos. The historical developments of exchange rate in the late 1980s was a starting point. During this period, liberal exchange rate was introduced in line with the economic reform. The important event was the deregulation of the foreign exchange system that started in 1988 led to de facto current account convertibility under a unified exchange rate. The exchange rate crises of 1995 and 1997, however, prompted the return to a more restricted system and wide divergence between the de facto and de jure systems.

It is still inconclusive how to make a formal classification of the exchange rate system in Laos. In despite of a formal shift to a managed float regime took place in 1995, the exchange rate is actually fixed on a daily basis with foreign exchange rationing as a fundamental element of the system. There was almost no intervention in the practical sense. The authorities effectively control the bank exchange rate on a day-to-day basis. The BCEL plays a dominant role in foreign exchange transactions in the banking system, and all other banks follow the BCEL exchange rate on a daily basis. A close relationship between the BCEL and the BOL facilitates official influence over the bank exchange rate. At the same time, the importance of the truly floating parallel market, both in terms of the volume of transactions and its influence on the bank rate, give the system many of the characteristics of a floating system particularly during periods when the parallel market is in official favor.

During 1998, the Kip depreciated more than 50 percent against the US dollar, reaching Kip 4,182 (Table 1.5) and 60 percent against Thai baht. The commercial bank rate has generally followed the parallel market exchange rate. However, the premium of the parallel market rate varied considerably, though the official policy is to keep the premium to less...
than 2 percent. The monetary authority is committed to maintaining a flexible exchange rate policy. As before, the exchange rate will be set to limit the spread with the parallel market to under 2 percent. In this way, the exchange rate will continue to be an indicator of the stance of macroeconomic policy.

After giving a brief picture of exchange rate management in Laos, analytical issues can then be discussed. To explain the link between exchange rate and the level of dollarization, this paper is based on an analysis of the country’s history of severe exchange rate depreciation, and the persistence of dollarization. In the mean time, a basic economic tool is used to support this assumption. First, let’s see the evidence from past historical experience of two factors. Table 1.5 and Figure 1.3 shed light on the relationship between the levels of dollarization and country’s exchange rate. Table 1.5 and Figure 1.3 show trends in the development of the exchange rate (Kip/US$) and the level of dollarization during 1990-2000. Exchange rate and the level of dollarization remained fairly stable during 1990-1996. However, Kip depreciation continued to prevail starting from 1997 to 1999 and Kip exchange rate lost its value significantly from Kip 2015 to 8,214 vis-a-vis dollar and this pushed the level of FCD/M2 increase from 56.6 percent to nearly 80 percent at the same period. Since then, the level of dollarization has often stayed above 75 percent.

Table 1-5 Laos: Exchange Rate Depreciation and the Growth of FCD to M2 Ratios, 1990–2000

<table>
<thead>
<tr>
<th>Year</th>
<th>FCD to M2 ratios</th>
<th>Exchange rate: Kip/US$</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>42.0</td>
<td>695</td>
</tr>
<tr>
<td>1991</td>
<td>39.4</td>
<td>711</td>
</tr>
<tr>
<td>1992</td>
<td>36.8</td>
<td>725</td>
</tr>
<tr>
<td>1993</td>
<td>41.4</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>35.6</td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>42.2</td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>40.5</td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>56.6</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>67.1</td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>79.5</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>76.0</td>
<td></td>
</tr>
</tbody>
</table>
In summary, high inflation rate and exchange rate depreciation appeared to be historically found as important factors contributing to a great extent of dollarization in Laos. From the point of view of this paper, high level of unofficial dollarization can be prevailed because of a response to macroeconomic instability, and the desire of residents to diversify and protect their assets from the risks of devaluation of their own currency. It is rational for people to behave in that way in order to hedge their asset value by shifting their money from Kip deposits to hard currency like U.S.dollar and Thai Baht deposit accounts, as well as increasing holding foreign currency in cash and gold. At the same time, people also rely more on foreign currencies as a means of settlement whenever they buy expensive durables, land or houses because denominated amount of circulating bank note of Kip turned to be too small compared with prices of commodities in the domestic market.

Apart from the historical observations of the link between high inflation and severe currency devaluation in Laos, which provide supporting evidence for the sources of domestic dollarization, this paper now turns to a basic analysis on the demand for foreign currency assets in Laos by comparing the interest rate return between Lao Kip and FC deposits (especially U.S dollar) which yields higher rate of return. This paper attempts to use a standard formula to explain the factors influencing the demand for foreign currency assets. According to the standard theory, a foreign currency deposit’s future value depends on two factors: the interest rate it offers and the expected change in the currency’s exchange rate against other currencies.
**Exchange rates and Asset Returns: Illustrative case for Laos**

Theoretically, the interest rates offered by domestic and foreign currency deposits can be a driving force to motivate the demand for depositors. In the case of Laos, the interest rates offered by domestic currency, the Lao Kip, and Dollar deposits tell us how their Kip, and dollar value will change over a year. The other piece of information needed to compare the rates of return offered by Kip, and U.S Dollar deposits is the expected change in the Kip/dollar exchange rate over the year. To see which deposits, Kip, or U.S dollar, offer a higher expected rate of return, we must ask the question: if I use Kips to buy a dollar deposit, how many Kips will I get back after the year? When you answer this question, you are calculating the Kip rate of return on a dollar deposits because you are comparing its Kip price today with its Kip value a year from today.

There is a basic rule that shortens this calculation. First, **define the rate of depreciation** of the Kip against the dollar as the percentage increase in the Kip/dollar exchange rate over a year. Once the rate of depreciation of the Kip against the U.S. dollar has been calculated, the rule is: The Kip rate of return on Dollar deposits is approximately the dollar interest rate plus the rate of depreciation of the Kip against the dollar. In other words, to translate the dollar return on dollar deposits into Kip terms, we need to add the rate at which the dollar’ Kip price rises over a year to the dollar interest rate. We can summarize our discussions by introduction some notations:

\[ R^$ = \text{Today’s interest rate on one-year dollar deposits,} \]

\[ E_{K/S} = \text{Today’s Kip/dollar exchange rate (number of Kips per dollar)} \]

\[ E^{*}_{K/S} = \text{Kip/dollar exchange rate (number of Kips per dollar) expected to prevail a year from today} \]

(The symbol marked with asterisk (*) attached to this last exchange rate indicates that it is a forecast of the future exchange rate based on what people know today.)

Using these symbols, the expected rate of return on a dollar deposit, measured in terms of dollars is written, as the sum of (1) the dollar interest rate and (2) the expected rate of Kip depreciation against the dollar

\[ R^$ + (E^{*}_{K/S} - E_{K/S})/E_{K/S} \]

This (expected) return is what must be compared with the interest rate on one-year Kip deposits, \( R^K \).
, in deciding whether Kip or dollar deposits offer the higher (expected)rate of return.
The (expected)rate of return difference between Kip and dollar deposits is therefore equal to \( R_K \) less the above expression

\[
R_K - [R_s + \frac{(E^{*}_{K/s})}{E_{K/s}}] = R_K - R_s - \frac{(E^{*}_{K/s} - E_{K/s})}{E_{K/s}}
\]

Table 1-6: Comparing Kip Rates of Return on Kip and Dollar Deposits, 1990-2000.

<table>
<thead>
<tr>
<th>Year</th>
<th>R_K</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>0.17</td>
</tr>
<tr>
<td>1991</td>
<td>0.18</td>
</tr>
<tr>
<td>1992</td>
<td>0.18</td>
</tr>
<tr>
<td>1993</td>
<td>0.18</td>
</tr>
<tr>
<td>1994</td>
<td>0.17</td>
</tr>
<tr>
<td>1995</td>
<td>0.16</td>
</tr>
<tr>
<td>1996</td>
<td>0.17</td>
</tr>
<tr>
<td>1997</td>
<td>0.18</td>
</tr>
<tr>
<td>1998</td>
<td>0.19</td>
</tr>
<tr>
<td>1999</td>
<td>0.16</td>
</tr>
<tr>
<td>2000</td>
<td>0.16</td>
</tr>
<tr>
<td>$s$</td>
<td>0.04</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
</tr>
<tr>
<td>$(E^* \text{ kgs})$</td>
<td>—</td>
</tr>
<tr>
<td>$(R \text{ k})$</td>
<td>—</td>
</tr>
<tr>
<td></td>
<td>-0.16</td>
</tr>
</tbody>
</table>
Note: $R_K =$ Kip Interest Rate; $R_s =$ Dollar Interest; Expected Rate of Kip Depreciation against dollar: \( (E^*_{K/s} - E_{K/s}) / E_{K/s} \)

Rate of return difference between Kip and Dollar deposits $R$

\[ R_K - R_s - (E^*_{K/s} - E_{K/s}) / E_{K/s} \]

Source: Author’s calculation based on Paul R. Krugman (2000)

Note: When the difference above is positive, Kip deposits yield the higher rate of return; when it is negative, dollar deposits yield the higher rate of return.

Table 1-6 carries out some illustrative comparison. A numerical example will clarify the nature and concept of the table. In 1990, the interest difference in favor of Kip deposits is 13 percent per year ($R_K - R_s = 0.17 - 0.04 = 0.13$), the change in the exchange rate is prevailed \([(E^*_{K/s} - E_{K/s}) / E_{K/s} = 0.023]\). This sum could be obtained from calculation of depreciation of Kip/$ exchange rate, for example: $D_K/$(1990) = (E_{K/s}(1991) - E_{K/s}(1990)) / E_{K/s}(1990):

\[
\frac{711 - 695}{695} = \frac{16}{695} = 0.023
\]
To calculate the rate of return difference between Kip and dollar deposits, we can get by following the aforesaid formula. (0.17-0.04-0.023 =0.107 or roughly 11 percent). This means that the (expected) annual real rate of return on Kip deposits is 11 percent higher than that on U.S. dollar, so that, other things equal, people would prefer to hold their wealth as Kip rather than as dollar deposits. It seems that from 1990-94, the annual rate of return on Kip deposits was higher than that on U.S. dollar deposits but the rate of dollarization was still higher than the normal yardstick (above 30 percent). This might be due to the initial start of relaxation of regulation on foreign currency deposits. People might want to shift investment portfolio choice by opening deposit account in foreign currency simultaneously. But the facts also showed that the rate of dollarization was quite steady during the same period. However, starting from 1995 similar case that was discussed earlier: the interest difference in favor of Kip deposits is more than offset by an 28 percent expected depreciation of the Kip, so dollar deposits are preferred by market participants. As Table 1-6 shows, Kip deposit accounts yielded the higher rate of return from 1990 to 1994, so it seems that the rate of dollarization was slightly variable when exchange rate remained relatively stable during the same period. However, the rate of dollarization rose consistently from the mid-1990s to the late 1990s then rapid exchange rate depreciation emerged, this prompted motive for foreign currency deposits (US dollars) because dollar deposits yield the higher rate of return particularly in 1995 (except 1999) until 2000. This situation is quite consistent to various views that if domestic currency has low expected returns, as in high inflationary countries, then foreign currency deposits become a significant liquid investment opportunities for domestic residents. Moreover, given the higher depreciation of domestic currency, the expected rate of return on foreign-currency-denominated deposits (if expressed in terms of domestic currency) would be higher than the rate of return paid on domestic interest-rate bearing assets. This difference, in favor of foreign currency deposits prompts portfolio shift of domestic currency into foreign currency.

Moreover, despite the rate of return in foreign currency is lower than the rate of international market, but people still prefer deposit in foreign currency to the national currency. The possible explanation for this is that, in Laos people have limited investment opportunities, financial market is underdeveloped and characterized by restriction of capital inflows or outflow thus the volume and range of financial assets are limited, prompting investors to choose between domestic money or foreign currency saving deposits. The behavior of depositors could be regarded as rational. This is supported by Alami (2001) who views that in developing countries, foreign currency deposits earn competitive rates of return that are closely related to the rates prevailing in international markets. In addition, developing countries’ financial market are at the early stage of development and often characterized by restrictions on capital inflows. The volume and range of financial assets are limited, and as such investors choose among domestic money, domestic bonds or foreign currency deposits. In the case of exchange rate affects the behavior of depositors, we can look at how
changes in the current exchange rate affect expected return. The easiest way to see how this relationship hold is by looking at numerical example: How does a change in previous Kip/dollar exchange rate, everything else held constant, change the expected rate of return, measured in terms of Kip, on dollar deposits? For example, 1991’s Kip /dollar rate is 711 per dollar and the exchange rate one year later (1992) is Kip 725 per dollar. Then the expected rate of Kip depreciation against the dollar for 1991 is (725-711)/711= 0.0196 or 2 percent per year. This implies that when you buy a dollar deposit, you not only earn the interest but also get a 2 percent “bonus” in terms of Kip.

**Table 1-7 Laos: Today’s Kip/Dollar Exchange Rate and the expected Kip Return on Dollar Deposits when E varies -1990-2000**

<table>
<thead>
<tr>
<th>Year</th>
<th>E K/$</th>
<th>R $</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>695</td>
<td>0.04</td>
</tr>
<tr>
<td>1991</td>
<td>711</td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td>725</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>725</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>730</td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>730</td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>935</td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>2,015</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>4,182</td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>7,578</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>8,214</td>
<td></td>
</tr>
</tbody>
</table>
(3) \( \frac{(E^* K/ \Delta E) / E K}{k_s} \)  

\[
\begin{array}{l}
0.04 \\
0.03 \\
0.03 \\
0.04 \\
0.04 \\
0.04 \\
0.04 \\
0.02 \\
0.04 \\
0.02 \\
0.02 \\
\end{array}
\]

(4) \( R^s + (E^* k_s) / E \)  

\[
\begin{array}{l}
0.023 \\
0.02 \\
0.00 \\
0.07 \\
0.00 \\
0.28 \\
1.15 \\
1.075 \\
0.81 \\
0.084 \\
0.15 \\
\end{array}
\]
0.17
Source: Author’s calculation based on Paul R. Krugman (2000)
Notes: Today’s Kip/$ exchange rate $E_{K/S}$.
Interest on Dollar Deposits: $R$
Expected Kip Depreciation Rate against Dollar $E^*_{K/S}$
$- E_{K/S}$
$)E_{K/S}$.
Expected Kip Return on Dollar Deposits $R$
$+ (E^*_{K/S}$
$- E_{K/S}$
$)E_{K/S}$.
According to table 1-7,
, the Kip return on dollar deposits for various levels of each year’s
Kip/dollar exchange rate $E_{K/S}$
with different scenario of depreciated exchange rate and dollar
interest rate per year is also different. As we can see, a rise in each year’s Kip/dollar exchange rate (a depreciation of the Kip against dollar) always lowers the expected Kip return on dollar deposits (as in our example), while a fall in today’s Kip/dollar rate (an appreciation of the Kip against the dollar) always raises this return. This may run encounter intuition that a
depreciation of the Kip against the dollar makes dollar deposits less attractive relative to Kip deposits (by lowering the expected Kip return on dollar deposits) while an appreciation of the Kip makes dollar deposits more attractive.
A similar table is presented by Paul R. Krugman (2000), although time coverage and currency are
different but the method for calculation is the same.

3.2. Indirect Channels
Besides direct channels of historical factors mentioned above, the high degree of
dollarization in Laos has been encouraged by indirect channels. Two important channels are: (1) the foreign currency inflows resulting from economic openness and (2) the underdevelopment of domestic payment system. Now, let us explain as follows
Foreign currency inflows resulting from economic openness: Prior to the early
1990s, the country achieved only limited monetization and most domestic transactions were
based on barter economy. Foreign investments were restricted to its political bloc, like socialist
countries and external assistance was provided based on grants and in-kinds from the same bloc,
while the remittances from abroad were restricted. However, with the liberalization of economy
in the late 1980s, there were some channels for foreign currency inflows into the country. First,
foreign currency inflows—continuing to date—stemming from foreign investments and second, foreign currency inflows from external assistance in form of loans, grants and aid, remittances private transfers, and export earnings started to flow into Laos in the early 1990s.

With regard to foreign investments, since the authorities have adopted an open economy and engaged in international economic cooperation, this favorable condition prompted relatively large foreign-currency inflows in terms of foreign capital and private transfers into the country. Although evidently not all of this amount from foreign investments occurred in Laos but there was a possible channel through which foreign investments may have affected the surge of dollarization. This paper argues that when foreign investors entered the country, they brought in with them some amount of cash in U.S. dollars or Thai Baht, and they needed a wide range of goods and services (local staff, housing, transportation, interpretation etc.). When they employed local staff, some foreign companies paid salaries and wages in foreign currency, especially in U.S dollars. They needed housing and in most cases, they paid the monthly rent in cash in dollars. The rent is approximately from 250 to 1,500 dollars per month. They also purchased goods in domestic markets in foreign currency. In terms of Thai Baht, since foreign investments from Thailand retain the first rank by source of the country and Thailand is also a major trade partner of Laos, the amount of cash in Thai Baht flow in the country could be high. On average, the value of approved foreign investments from Thailand represented almost U.S.$3 billion during 1993-1998. However, this amount could not be regarded as the real amount of cash in foreign currency circulating in the economy. It is estimated that about 40 percent of total value circulating in cash in the economy is based on the described channel. A typical case for channel through which foreign investments led to the surge of dollarization, particularly in Thai Baht such as Thai foreign branches are one of example for this argument.

Local employees hired by Thai foreign branches were paid salaries and wages in Thai Baht. Once local staff earns monthly salaries, they may open deposit accounts at the banks or even use Thai Baht to buy commodities in the market. This channel is evidently clear to explain the link between foreign currency inflow from foreign investment and the surge of dollarization in Lao economy today. Since the Law on foreign investment promotion has been enacted in the early 1990s, foreign investments have played an important role in Laos’ transition to a market system and contributed to the country’s rapid economic growth in 1990s. It is estimated that the total value of foreign investment influx was close to U.S$ 6,364.8 million (Table 1-9).

Table 1-9-Laos: Approved Foreign Investments by Value and Number of Projects, 1993-2001

<table>
<thead>
<tr>
<th>Year</th>
<th>Value (US$_billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>93</td>
<td></td>
</tr>
<tr>
<td>94</td>
<td></td>
</tr>
<tr>
<td>95</td>
<td></td>
</tr>
<tr>
<td>96</td>
<td></td>
</tr>
<tr>
<td>97</td>
<td></td>
</tr>
<tr>
<td>98</td>
<td></td>
</tr>
<tr>
<td>99</td>
<td></td>
</tr>
</tbody>
</table>
Number of projects

153
130
55
63
66
68
53
36
68

Total investment value (In million of U.S. dollars)

354.8
2,598
615.0
1,292.6
142.4
122.5
83.9
19.4
1,155.6

Source: IMF Staff country report No. 98/77 August 1998 and various issues

The channel through which dollarization can arise from foreign assistance could be described similarly to channel from foreign investments. A typical case to explain this is when foreign loans were approved, particularly project loans for infrastructure. They hired local workers and paid their salaries and wages in foreign currency. They bought goods equipments and machinery goods for their projects and needed a wide range of service too. They opened accounts at commercial banks in foreign currency to facilitate their projects. In my opinion, this indirect channel also provided the impetus for speedy dollarization. In the area of external assistance, during the second half of 1980s, the authorities embarked upon an economic reform program, supported by international financial institutions

, including IMF-supported programs under the Structural Adjustment Facility (SAF), and the Enhanced Structural Adjustment Facility (ESAF); ADB-supported program under Financial Sector Program Loans (FSPL I, II), and WB-supported programs under Structural Adjustment Credit (SAC I, II) and others. The international financial assistance was provided in form of grants (bilateral and multilateral donors) and loan disbursements (program loans and project loans).

With the assistance from ADB, since 1989, 36 loans have been approved (including

Some kinds of financial assistance in terms of program loans from IMF, ADB and WB, especially under IMF financial arrangements mentioned above, are not regarded as a direct effect of dollarization because of this type of loans do not flow directly in the economy, directly flows to government account.
five structural and sectoral adjustment loans) for a total of $835.90 million, of which $567.75 million has been disbursed to Laos. The ADB also approved 151 technical assistance projects since 1989, for a total of U.S. $76.5 million.

By analyzing the external assistance, it appears that Lao economy is mainly dependent on external source in terms of grants, aid and loans. During 1990s, there was also relatively large inflow of foreign assistance in terms of external aid. The total amount was $842.4 million during 1993 to 2001. Loan disbursement during the same period totals to $989.4 million. In addition, Laos also received technical assistance amounted to $164.9 million during the same period.

During the 1990s such large inflows of foreign currency, especially dollars from overseas, coupled with macroeconomic instability triggered a speedy dollarization. In addition, it was compounded by the large remittance from Laotians overseas, bringing dollars into the country as residents were allowed to keep deposits denominated in foreign currency. This also encouraged the repatriation of balance from deposits accounts kept in foreign banks (mainly Thailand) to banks in Laos. As a result, the domestic use of foreign currencies (U.S. dollars and Thai baht and other) has increased remarkably over the past several years in Laos. Furthermore, foreign currency deposits in the banking system started to rise notably. Since the early 1990s they have constituted an increasingly important component of the banking system’s deposit base and foreign currencies now account for the largest component of the domestic money supply.

Another potential indirect channel for the surge of dollarization is underdevelopment of domestic payment system. Underdeveloped domestic payment system promotes the use of foreign currency because cash payment in domestic currency is not convenient for a large value of payment and carries a large amount of cash to buy expensive goods. Thinking of security and other factors, it might not be convenient for money holders to carry cash. Since the highest Kip denomination available in circulation is a 20,000 Kip bill it is only equal to about 2 dollars, payment for large value transactions prompt to use foreign currency instead. For example to buy a TV set it only costs roughly U.S.$ 250 per set but requires 2.5 million Kip (10,000 Kip/U.S$). This really needs a very large amount of cash in Kip but if domestic payment system is developed, people do not have to pay in cash, but they can make payments in the forms of checks or other kinds of means. This condition can affect the rate of dollarization. Because of these constraints, domestic payments are still dominated by the use of cash in which the US dollar and Thai baht circulate widely alongside the Lao Kip. This reliance on cash will become more expensive and inefficient as the volume of business transactions increase. Checks remains of limited use and is confined almost exclusively to banks and enterprises. Check clearing is conducted by the Banking Operations Department of BOL, on a daily basis from Monday to Friday. At 3:00 PM, the representatives of each commercial bank would bring their checks and manually, offset their assets and liabilities. The average value of checks was more than US$ 5,000 equivalent reflecting the use as a mean to settle large value transactions. The process...
takes two days in Vientiane to settle and up to seven days for non-local checks. The use of checks is decreasing: the number of checks cleared by the clearing house has decreased from 25,257 checks in 1997 to 24,454 checks in 1998. Promissory notes are being promoted. The fact that the forms of checks are not standard and not machine readable may become an impediment to the development of the use of checks in the future. Credit cards are normally used by foreigners to settle hotels bills, pay visa fees and purchase airplane tickets. All external fund transfers are carried out by telex through the BCEL and its foreign correspondents for SOCBs, or through Bangkok for Thai bank branches.

In addition to the factors mentioned above, Macro Pani (IMF, 2002) views that the use of foreign currencies in Laos has been encouraged by the close trade links with Thailand (formal and informal), the past stability of the Thai baht, and by the large inflows of remittances sent by expatriates. These remittances were previously kept in banks in Thailand and informally brought into the country in the form of cash. But more recently these have been deposited directly in foreign-currency accounts held at banks in Laos.

The major causes of the recent surge in dollarization have been, however, from the standpoint of this paper, the high inflation and severe depreciation of the domestic currency. In particular, two episodes of sharp devaluation, in 1995 and in 1997-99, have induced residents to reduce their demand for balance in the local currency and increase their demand for foreign currency. The second episode was particularly dramatic. As the exchange rate depreciated from 935 Kip to the dollar in 1996 to 7,578 Kip to dollar in 1999, and inflation rose from 13.8 percent to 127.2 percent, year-on-year during the same period the rate of dollarization increased from about 40.5 percent to almost 80 percent. The process was only slightly reversed when inflation rates fell and the Kip stabilized in 2000- a typical case of hysteresis normally observed in countries affected by dollarization.

The problem was aggravated by the inflexibility of nominal interest rates. Despite the large actual and expected devaluation, nominal interest rates remained largely constant, spurring a flight of funds from the domestic currency. Alternative investment opportunities are virtually nonexistent with the financial market still at an early stage of development, and so foreign currencies are much more attractive stores of value.

The prevalence of dollarization in Laos may provide the benefits and costs to Lao economy. According to empirical works, for example, dollarization is often provides the costs and benefits. The costs often attributed to a highly dollarized economy are: (1) cost associated with the loss of seigniorage; (2) cost associated with the loss of an effective monetary policy; (3) cost associated with the loss of an effective exchange rate policy; (4) cost associated with the loss of the lender of last resort and increased banking vulnerabilities. In terms of benefits of dollarization, there are (1) benefit associated with financial re-intermediation; (2) benefit associated with economic and financial links; and (3) benefit associated with fiscal discipline. Because of a study on the effects of dollarization requires a detailed analysis, however, this paper do not intend to deal with this issue at present yet. Therefore, it deserves further studies in
4. Looking ahead for Policy Implications: What can be done about dollarization?

Although international experience shows that avoiding complete dollarization is generally more difficult and some occasions fail to affect but in turn, generate the use of foreign currency. Hence, the road toward de-dollarization is unlikely smooth and easy. Nevertheless, a country can manage to reduce its degree of domestic dollarization by taking some policy actions. In responding to this challenge, the question being raised here is what are possible policy options to undertake by the national authorities to affect the degree of dollarization. In this context, policy options, the last gist of this paper, suggested by this paper to be considered to affect dollarization are associated with (1) Restoring confidence in the maintenance of price stability- exchange rate; (2) Developing domestic alternative financial instruments; (3) Developing an efficient domestic currency payments system and (4) consideration of some alternative for the operation of monetary/exchange rate policy. In my opinion, this policy stance is quite appropriate in the short to medium term.

Restoring confidence in the maintenance of low inflation rate and stable exchange rate

As described in the previous section, Laos has limitedly maintained a stable macroeconomic condition as evidenced by high inflation, exchange rate depreciation, etc.. The prerequisite to dealing with dollarization in an economy is always the suggestion to go for a sound macroeconomic policy. In fiscal front, weak fiscal management characterized by weak tax administration and the recourse to central bank financing the budget deficit, has been a major cause of the past macroeconomic instability. The authorities should make a greater effort to maintain fiscal discipline by keeping budget spending in check. Off-budgetary expenditure should be limited and the recourse to central bank financing the budget deficit should be completely dismantled. In the monetary front, the monetary authorities should consider to limit its policy goals to pursue rather than to have multiple objectives. For example, if monetary policy is expected to achieve economic growth, stabilize domestic prices as well as the exchange rate without help from other policy instruments, the monetary authorities is facing impossible task (impossible trinity).

Given the high level of dollarization, the conduct of monetary policy should be given a priority of preserving the value of the currency by keeping a low rate of inflation. Due to a small domestic monetary base, a monetary policy aimed at output stabilization is likely to be highly powerless, and even a moderate amount of seigniorage may involve high costs in terms of inflation, capital flight, and of a further increase in dollarization. A policy specifically aimed at reducing dollarization to increase the domestic monetary base through regulations and legal restrictions, is likely to be largely ineffective, including capital flight and underground transactions. Instead, encouraging the use of Kip- in the form of incentives rather than
regulations, should be pursued through stabilization. Maintaining a stable macroeconomic environment means particularly low inflation and stable exchange rate will promote confidence of the public in the national currency. As history has shown that in the event of high inflationary-episode coupled with currency depreciation, residents shift their investment choices from a weak to a strong currency to hedge the risks.

**Developing an efficient domestic currency payments system**

Other efforts to limit dollarization could be done through institutional measures. In the case of Laos, as noted earlier, the domestic payment is typically underdeveloped is mostly carried out in cash. In response to this, the authorities should continue to improve domestic payment infrastructure, clearing and settlement procedures. Although regulatory arrangements were in place to help improve the domestic payment, implementation is still lacking. For example, article 44 of BOL Law stipulates as follows:

> “The Bank of the Laos (BOL) shall establish a mechanism of payment for the purpose of providing commercial banks and financial institutions under its management with instruments for payment and the widespread use of checks and other instrument for payment.”

Pani (2002) and other.

Another legal foundation for promotion of the payment system is the Decree on Check No. 175/PM enacted in October 1996. In addition, the Decree on Bills of Exchange and Promissory Notes was enacted in December 1998. At present, however, domestic payments are still dominated by the use of cash in which the U.S dollar and Thai baht are circulated widely along with the Lao Kip. This condition will become more expensive and inefficient as the volume of business transactions increase. Checks remains of little use and is almost exclusively confined to banks and larger enterprises. Credit cards are normally used by foreigners to settle hotel bills, pay visa fees and purchase airplane tickets. Because payment in those large volumes, requires large amount of cash in Kip, people are reluctant to hold a large amount of Kip as they are concerned with security and inconvenience. Consequently, they prefer foreign currency to the national currency for payment. In Laos, once domestic payments develop and become more efficient, this would allow an increased usage of the currency limited M2, without creating inflation and instability and provide facility of transactions. This will ensure that no exposure risk is being built in the system. In addition, to facilitate domestic payment and promote the use of Kip, the authorities should consider the issuance of large-denomination banknotes. Currently, the highest denomination banknote is Kip 20,000-bill and is only equal to 2 dollars. Therefore, people only use it for small value of payments. For high-priced commodities it will require a large amount of cash in Kip, and so people use foreign currency for payment instead.

**Developing alternative financial instruments**

Another policy options to affect dollarization is that authorities may consider to develop alternative financial instruments such as stocks, mutual fund shares, corporate finance bonds and asset-backed securities and also facilitate the use of specific indexed instruments or simple derivatives (swaps, future, and options). These instruments, which are likely to be used mostly by enterprises and large investors, unbundle risk coverage from the transactions and store-of- value functions of currency. By limiting the replacement of local currency by foreign
currency including reserve money, those instruments in principle can enhance the scope for monetary policy. However, they are likely to be only partial substitute for FCD and FCL -owning, for instance, to high transaction costs-and may be difficult to develop in unsophisticated markets. Furthermore, derivatives entail risks, to which the authorities should ensure that banks are not unduly exposed.

In Laos, where these financial instruments are limitedly available, the authorities should try to foster the development of alternative financial instruments denominated in Kip (e.g., government’s bonds). Such instruments would likely require to offer a competitive yield than deposits with the commercial banks (both in Kip and foreign currency), as the government will need to restore public confidence. Government should continue to persistently sell Treasury bills. To make them attractive, T-bills would thus need to be offered in very high remuneration to compensate both for sovereign default and exchange rate risks. This in turn could be harmful to the fragile fiscal position. Such instruments would also requires the establishment of an active financial markets for the purpose of liquidity, but such development can be considered only in the medium term, as it requires essential elements like development of secondary markets. Prior to developing a secondary market, it may require improvements in institutional infrastructure and payment and settlement system.

Consideration of some alternatives for the operation of monetary/exchange rate policy

Some options for the operation of monetary/exchange rate policy require to take a careful and gradual steps are: “hard” or “soft” exchange rate pegs, inflation targets, monetary targets, and controls on the amount of domestic credit extended by the central bank. Always bear in mind that, all of these options are associated with costs and benefits.

“Hard pegs” such as full dollarization or a currency board, are likely most powerful to fight against inflation, as they are concerned with legal provisions that are hard to reverse and provide additional anchor for credibility. By reducing and eliminating currency risk, a hard peg helps promote foreign investments and facilitate the trade and financial integration with the rest of the world. A hard peg however is also associated with the cost, including a complete loss of control on monetary policy, removing an important instrument to adjust to asymmetric shocks. Furthermore, under a hard peg, the currency is anchored to (or replaced by) a single foreign currency,

exposing the country to external shocks deriving from movement in the relative exchange rates of its trading partners. This type of risk can be particularly relevant in Laos, owing to the diversified pattern of its foreign trade.

The option of the appropriate currency regime for a hard peg may also be problematic, since both the dollar and the Thai baht are

See Mishkin and Savastano (2000) for a more discussion of the advantages and disadvantages of various targets of monetary policy.

A currency board could be in principle designed in a way that removes the risk of external shocks by
pegging to multiple currencies (Oppers, 2000) or to a currency basket. Currently, however, such arrangements are mere academic hypotheses.

While about 70 percent of Lao imports come from Thailand, some of these imports originate in third countries; Lao exports, in turn, are purchased by a variety of countries belonging to different currency areas.

widely used in Laos and would thus be candidates for adoption.

A “soft” peg regime allows more scope for flexible adjustment, providing likelihood of a devaluation of the parity, and can limit the risk of external shocks (by anchoring to a basket of currencies reflecting the composition of foreign trade), but credibility is limited and may not be less trusted by the public, particularly at an early stage when the monetary authorities have not yet established a reputation for credibility. In Laos, owing to belief and bad memory of large and rapid depreciation, the risk of a lack of confidence inducing speculative attacks may be particularly high. Under these conditions a soft peg may even result in an increase in dollarization, and expectations of a devaluation (or even of an abandonment of the peg) may turn out to be self-fulfilling. A soft currency peg may be more easily adopted at a later stage in the stabilization process, when the monetary authorities have restored the confidence of the public.

By targeting inflation, the authorities set explicit their objective of maintaining the stable value of the currency, undertaking a commitment that is easily perceived and verified by the public. In the meantime, the authorities keep the monetary policy on the control and thus the possibility of reacting to unforeseen or asymmetric shocks. The costs of inflation targeting derive from the fact that inflation is not directly controlled by the authorities. Targeting inflation requires an accurate understanding of the relation between the instruments at the disposal of the monetary authorities (credit, interest rates, money supply) and inflation. In addition, it requires prompt and reliable information and forecasts of the relevant variables, and efficient financial institutions that allow an accurate transmission of monetary impulses on prices.

In Laos, owning to the low degree of development of financial sector, and to the instability of money demand (deriving, in turn, from dollarization), neither of these requirements might be satisfied under present circumstances.

Monetary targets are more directly controlled by the authorities and thus allow them to regain more quickly the confidence of the public, reducing actual inflation by inducing favorable expectations. Monetary targeting, however, requires a stable-and known-money demand function. In the case of a highly dollarized economy, money demand is defined

See Berg and Borensztein(2000) for a discussion of the “pros and cons” of full dollarization.

Since the trade pattern changes over time, the currency basket would need to be periodically adjusted.
To be effective, an exchange rate peg requires to be transparent. When a peg system is adopted, the authorities should thus take care at informing the public about the composition of the currency basket, the criteria used for its periodic revision, and the technical details of the pegging rule that is adopted.

See Masson et al. (1997)

Limiting the amount of monetization of the fiscal deficit from central bank would tackle the root of inflationary money expansion-

By taking this policy measure strictly through controlling the monetization of the deficit of the government and state-owned enterprises, this will be paving the way for an effective stabilization of the currency. Domestic credit is directly controlled by the authorities even in the absence of developed financial institutions. The setback of this type of policy is that domestic credit is only indirectly linked with inflation. However, with a ceiling on domestic credit, a sustained expansion of broad money could only be driven from inflow of foreign currency, that would be demand-driven and thus have a lower impact on inflation. While not allowing for a fine-tuned control on the actual inflation rate, a monetary policy focused on domestic credit would allow an effective reduction of inflation over time.

5. Conclusions

In this paper, the principal conclusions that merge from the analysis are clearly preliminary rather than conclusive and in many ways informative from a policy perspective. It deserves further research.

This paper has attempted to shed some light on dollarization in Lao economy. First, the paper presented an overview of dollarization experience in Laos. It examines the pattern of dollarization during 1990s as a period for Laos experienced episodes of high inflation, rapid exchange rate depreciation and allowed foreign currency deposits in the financial system. The paper presents evidence on the large degree of dollarization in Laos by looking at important indicators namely foreign currency deposits to broad money, foreign currency deposits to total deposits, the ratio of foreign currency loans and etc.. Through this examination, the paper initially concludes that the domestic use of foreign currency (as measured by FCD to broad money) in Laos has increased significantly from 42 percent in the early 1990s to almost 80 percent in the late 1990s and presently accounts for approximately three-quarter of broad money. Because of ratio of FCD to broad money exceeds 30 percent (as widely considered highly

See Boyer and Kinston (1987) and Girton and Roper (1981)
dollarized economies), in the case of Laos can be probably viewed in the groups of the most highly dollarized economy.

Several factors could help explain the extremely high level of dollarization in Laos. This paper, however, believes that the main causes of high dollarization in Laos are direct and indirect factors. The direct factors responsible for the rise of dollarization are the severe nominal devaluation of the currency and very high inflation, especially in the late 1990s. Furthermore, this paper also believes that indirect factors associated with economic openness resulting in large inflows of foreign currency in the form of foreign investment, external assistance, private transfer and export receipts can be the driving force behind the large degree of dollarization.

In the presence of high dollarization, international experiences show that dealing with dollarization is not an easy task. There are no policy recipes that can ensure the complete elimination of dollarization. In some occasions fail to affect it but in turn generate the use of foreign currency and produce unintended effects. Successful policy responses have varied across countries and have not relied on a single tool. A careful policy approach, therefore, is important in affecting the degree of dollarization. In the case of Laos, this paper believes that the high degree of dollarization can be addressed through policy options suggested in Section 4. The policy options are appropriate, at least, from the short-term to medium term. Among policy options, maintaining a prudent macroeconomic stability through fiscal and monetary disciplines has an important implication. Fiscal and monetary policies can play a beneficial role as an instrument to increase the stability of the currency. At the same time, other policy measures directly aimed at encouraging a wider use of the domestic currency, for example, (a) developing an efficient domestic currency payments system and (b) developing alternative financial instruments and etc., should also be implemented as a complement to a wider stabilization policy, and should be based on incentives and confidence than legal restrictions.

This paper is based on the author’s recent study titled “Dollarized Economy in Laos: Causes, Effects and Policy Responses” Dissertation, March, 2004, IDEC, Hiroshima University.

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Policy Debate: Does dollarization benefit developing economies?

Issues and Background
Some countries have recently considered making another country's currency their own: in particular, adopting the dollar. This is a highly consequential step for any country, one that has to be considered very carefully and, in our view, should not be done without consultation with United States authorities. On one hand, dollarization offers the attractive promise of enhancing stability. On the other hand, the country also must be prepared to accept the potentially significant consequences of doing without the capacity independently to adjust the exchange rate or the direction of domestic interest rates. The implications for the United States are also consequential. We do not have an a priori view as to our reaction to the concept of dollarization. We would also observe that there are a variety of possible ways for a country to dollarize. But it would not, in our judgment, be appropriate for United States authorities to extend the net of bank supervision, to provide access to the Federal Reserve discount window, or to adjust bank supervisory responsibilities or the procedures or orientation of U.S. monetary policy in light of another country's decision to dollarize its monetary system.
Our position on dollarization should start from the core assertion: A stable monetary order is the appropriate corollary to a free trade agreement. Whether we are thinking in terms of our NAFTA partners or looking beyond to the Free Trade Area of the Americas (FTAA), one of our primary objectives should be to establish a monetary union or common currency that would provide a consistent unit of account across borders. When price signals are distorted through currency fluctuations, markets cannot function at optimal levels. Individuals who bring their goods and services to the international marketplace are unfairly punished and rightfully discouraged when currency movements turn legitimate profits into foreign exchange losses. If we believe in free trade and free markets, we must work toward a common currency with the same fervor we bring to the effort to reduce trade barriers and fight protectionism.

Developing economies often experience high and unstable inflation rates when their governments increase the money supply to finance higher levels of government spending. High and unstable inflation rates result in a more unstable investment climate and a lower rate of economic growth. When people lose faith in the domestic currency, it is not uncommon for another currency to be used as a medium of exchange in the domestic economy. Because of its relative stability and use as an international reserve currency, the U.S. dollar frequently is used for this purpose. "Dollarization" is said to occur when the U.S. dollar replaces the domestic currency as the official medium of exchange.

Advocates of dollarization suggest that developing economies that replace their less stable domestic currency with the U.S. dollar experience a lower and more stable inflation rate. A lower and more stable inflation rate, in turn, is expected to lead to a higher level of investment and a faster rate of economic growth. This benefit is larger when the domestic monetary authorities have established a poor track record in maintaining a stable domestic money supply.

Opponents of dollarization note that the domestic monetary authorities have no control over the domestic money supply under this policy. The government of a dollarized economy will not be able to use discretionary monetary policy to deal with domestic macroeconomic problems. If the domestic economy experiences a business cycle that closely corresponds to the U.S. economy's business cycle, this may present less of a problem (since the U.S. Fed might engage in appropriate monetary policy responses). Even if the U.S. Fed can be trusted to engage in "appropriate" policy responses, many countries are still reluctant to cede their control over domestic macroeconomic policy to a foreign agency. Countries that replace their national currencies with the dollar will also lose "seignorage," the profit made by governments that issue token money (seignorage exists because the purchasing power of coin and paper money exceeds the cost of producing the money).

Many U.S. policymakers argue that dollarization is an indication of the relatively high rate of success that the Fed has experienced in maintaining a stable currency in recent years. There is some concern, though, that foreign governments will attempt to exert
political pressure to encourage the Fed to pursue monetary policies that are not consistent with U.S. monetary policy objectives.

The introduction, and apparent success of the Euro in establishing a common currency throughout much of Europe has encouraged discussions involving the use of the dollar for a similar role in North and South America. Argentina had maintained a fixed exchange rate (and full convertibility) with the dollar for over a decade and had considered completely switching to the use of the dollar as a medium of exchange. An economic and political crisis in Argentina (resulting in five Presidents in a two-week period), however, resulted in the floating of the peso on February 11, 2002. Advocates of dollarization have also made some inroads in Mexico. Panama has used the U.S. dollar as its official currency since its creation as a nation. Ecuador adopted the dollar as its currency in 2000. Despite U.S. trade restrictions, the informal economy in Cuba relies on the U.S. dollar. The success of the Euro has resulted in some discussion of dollarization in Canada. During the next few years, the dollarization debate is likely to be a major policy issue in the U.S. and in countries experiencing currency instability.

Primary Resources and Data

- **Federal Reserve Board of Governors**
  http://www.federalreserve.gov/
  The Federal Reserve Board of Governors web site contains information on the conduct of U.S. monetary policy. As the debate over dollarization continues, this site is likely to contain speech transcripts and other information relevant to the debate.

- **Mark Bernkopf's Central Banking Resource Center**
  http://patriot.net/~bernkopf/
  This web site contain links to the websites of virtually all central banks that maintain an internet presence. These web sites often contain information about the conduct of monetary policy in these countries.

- **Free Trade Area of the Americas**
  http://www.alca-ftaa.org
  This site is the home page of the Free Trade Area of the Americas, a proposed free trade area that would encompass most of the countries of North and South America. Information about the nature and status of this proposal is available at this site. It is likely that future discussions of a common currency for North and South America would take place within this organization.

- **U.S. Foreign Trade Statistics**
  http://www.census.gov/ftp/pub/foreign-trade/www/
  This Census Bureau web site contains recent and historical data on U.S. imports, exports, trade balances, and other relevant measures of trade. U.S. trade statistics with major trading partners are provided for broad product categories.

- **CNN's Financial Network's Currencies web site**
http://cnnfn.com/markets/currencies/
CNN's list of current exchange rates provides information on the exchange rate between the dollar and the currencies of our major trading partners.

**X-rates.com Currency Calculator**
http://www.x-rates.com/calculator.html
X-rates.com Currency Calculator provides online conversion between monetary balances for over 40 other currencies. It also provides a graph of the last few month's exchange rate between any two of these currencies. This helps illustrate the degree of exchange rate stability among these currencies.

**Joint Economic Committee, "Basics of Dollarization"**
http://users.erols.com/kurrency/basicsup.htm
This July 1999 report (revised January 2000) contains a very useful discussion of the practical issues associated with dollarization. It describes the history of dollarization, alternative methods of dollarization, and introduces arguments for and against this process.

**Alan M. Taylor, "Dollarization as a Technology Import"**
Alan M. Taylor discusses the issues surrounding dollarization in this May 19, 2000 San Francisco Federal Reserve Board Economic Letter. This article contains a very nice history of past monetary crises in Argentina and the movement towards dollarization. Taylor also provides an interesting discussion of the network externalities associated with the use of a particular currency.

**Mark Falcoff, "Dollarization for Argentina? For Latin America"**
http://www.aei.org/publications/pubID.10158,filter./pub_detail.asp
In this April 1999 Latin American Outlook article, Mark Falcoff provides a solid discussion of the pros and cons associated with dollarization. He notes that the potential benefits include price stability, less exchange-rate risk, lower trading costs, lower interest rates, and higher rates of economic growth. The potential cost includes a loss of monetary policy autonomy.

**Different Perspectives in the Debate**

**Dallas Federal Reserve District Bank, "Dollarization: A Common Currency for the Americas?"**
http://www.dallasfed.org/htm/dallas/events/archive/dollarspeech.html
This website contains links to the text of a variety of papers and speeches delivered during a March 6-7, 2000 conference organized by the Dallas Fed. These documents provide a nice overview of the major issues surrounding dollarization. (The Adobe acrobat viewer plugin is required to view this document. You may download this viewer by clicking here.)

**Steve H. Hanke and Kurt Schuler, "A Dollarization Blueprint for Argentina"**
In this Cato Institute Foreign Policy Briefing, Steve H. Hanke and Kurt Schuler argue that Argentina would benefit from dollarization. They note that Argentina
has increased currency stability in recent years by maintaining a fixed exchange rate with the dollar. Replacing the peso with the dollar would remove any remaining exchange-rate risk and would be expected to result in lower interest rates and a faster rate of economic growth. Hanke and Schuler suggest that the benefits from having a stable currency outweigh the costs of foregone seignorage and of giving up domestic control over monetary policy.

- **C. Fred Bergsten, "Dollarization in Emerging-Market Economies and its Policy Implications for the United States"**
  C. Fred Bergsten, in this April 22, 1999 testimony, examines the conditions under which dollarization is beneficial to an economy. He concludes that a dollarization policy is desirable only in countries that:
    - are relatively small and have a high volume of international trade (thereby being subject to relatively large exchange-rate shocks),
    - have experienced recent hyperinflation or a history of hyperinflation, or
    - countries that have a high volume of trade with the U.S.

- **Francois R. Velde and Marcelo Veracierto, "Dollarization in Argentina"**
  In this June 1999 Chicago Fed Letter, Francois R. Velde and Marcelo Veracierto examine the costs and benefits of dollarization in Argentina. They argue that dollarization will be more successful if it is done in collaboration with the U.S. rather than unilaterally. (The Adobe acrobat viewer plugin is required to view this document. You may download this viewer by clicking [here](http://www.chicagofed.org/publications/fedletter/1999/cfljune99.pdf).)

- **Paul Krugman, "Monomoney Mania"**
  [http://www.pkarchive.org/trade/mono.html](http://www.pkarchive.org/trade/mono.html)
  In this April 15, 1999 Slate article, Paul Krugman argues that the use of fewer currencies is not necessarily desirable. He notes that different countries may be at different stages of their business cycles. When one economy is growing faster than another, wages and prices in the faster growing economy will rise relative to those in the slower growing economy. Under a system of flexible exchange rates, an adjustment in the exchange rate will accommodate this adjustment without requiring either inflation or deflation in either country. If both countries shared a common currency, however, such an adjustment would require changes in the levels of wages and prices in one or both countries. Krugman argues that it is simpler to allow the exchange rate to shift in such a situation than to require the adjustment of thousands of wages and prices.

- **Paul Krugman, "Argentina's Money Monomania"**
  In this online followup to the article listed above, Paul Krugman argues that Argentina should devalue its currency. He suggests that the cost of maintaining a fixed exchange rate with the dollar is doing more harm than good for Argentina's economy.

- **Paul Krugman, "Don't Laugh at Me, Argentina"**
  [http://slate.msn.com/?id=32173](http://slate.msn.com/?id=32173)
  Paul Krugman discusses the cost of dollarization in Argentina in this July 7, 1999 article in Slate. He notes that Argentina was able to gain credibility by
maintaining convertibility between dollars and pesos. The cost of this, though, is an inability to conduct desirable monetary policy changes.

- **U.S. Treasury Secretary Robert E. Rubin, "Remarks on Reform of the International Financial Architecture"**  
  U.S. Treasury Secretary Robert E. Rubin provides warnings of the potential costs associated with dollarization in this April 21, 1999 speech. He notes that countries that engage in dollarization will lose control over their domestic monetary policy. Rubin also suggests that the Fed will not provide bank supervision or discount window services to countries that adopt this policy.

- **Senate Banking Committee, "Citizen's Guide to Dollarization"**  
  [http://banking.senate.gov/docs/reports/dollar.htm](http://banking.senate.gov/docs/reports/dollar.htm)  
  This Senate Banking Committee document weighs the pros and cons of dollarization. It is argued that dollarization can provide benefits for both the U.S. and any country that pursues this policy.

- **Thomas J. Courchene, "Towards a North-American Common Currency: An Optimal Currency Area Analysis"**  
  [http://qsilver.queensu.ca/~courchen/BELL6.htm](http://qsilver.queensu.ca/~courchen/BELL6.htm)  
  Thomas Courchene argues that Canada's independent monetary policy and exchange rate flexibility between the U.S. and Canadian dollars have resulted in unnecessary instability in the Canadian economy. He argues that, given the high volume of trade between the U.S. and Canada, either a fixed exchange rate or a common currency should be adopted.

- **Canadian Broadcasting Corporation, "The Dollarization Debate"**  
  This website provides a transcript of (and a RealPlayer video of) a discussion of the arguments for dollarization in both Argentina and Canada. It is argued that dollarization would force Canadian firms to be more competitive since they could not rely on currency depreciation to keep their exports affordable.

- **Kurt Schuler, "A Contingency Plan for Dollarizing Hong Kong"**  
  [http://www.hku.hk/hkcer/articles/v52/kurt.htm](http://www.hku.hk/hkcer/articles/v52/kurt.htm)  
  Kurt Schuler, in this online HKCER Letters article, argues that Hong Kong would benefit from dollarization. He notes that the Hong Kong dollar suffered several speculative attacks as a result of the Asian financial crisis. Schuler suggests that a full conversion to the U.S. dollar would improve credibility and reduce speculation.

- **Tsang Shu-ki, "A Critical Comment on Government-sponsored Dollarization as a Rescue"**  
  Tsang Shu-ki discusses some of the problems associated with dollarization in the Hong Kong economy. He argues that the choice of a particular fixed exchange rate is somewhat arbitrary and that economies should preserve the option of exiting from a fixed-exchange rate system if that is in the national interest. The cost of exit under dollarization, however, is substantially higher than under alternative fixed-exchange rate regimes.

- **Lawrence H. Summers, Testimony before the Senate Banking, Housing and**
Urban Affairs Committee, April 22, 1999
http://www.senate.gov/~banking/99_04hrg/042299/summers.htm
Lawrence H. Summers, the Deputy Secretary of the U.S. Treasury, discusses the implications of dollarization in his testimony before the Senate Banking, Housing, and Urban Affairs Committee. He indicates that fixed exchange rate regimes (and dollarization) offers stability to importers and exporters, but requires that the country gives up control of its domestic money supply. Summers notes that Panama, a dollarized economy, is the only Latin American economy that has an active 30-year fixed rate mortgage market. This, he argues, is a result of the credibility provided by dollarization. Summers notes that the U.S. economy benefits from dollarization since these economies are providing the U.S. with an interest-free loan when they acquire dollars for their own monetary use. A second benefit to the U.S. occurs as a result of the increase in trade that would be expected to result from a larger currency area. An additional potential benefit from dollarization is additional economic and political stability in the region. Summers states that the U.S. Fed will not provide deposit insurance or bank supervision services to dollarized economies.

Wayne Angell, Testimony before the Senate Banking, Housing and Urban Affairs Committee, April 22, 1999
http://www.senate.gov/~banking/99_04hrg/042299/angell.htm
Wayne Angell argues in support of dollarization in his testimony before the Senate Banking, Housing and Urban Affairs Committee. He argues that dollarization would enhance economic stability and economic growth in both Mexico and Argentina. Angell argues that the Fed should assist the central banks in these countries in establishing a more rigid system of bank regulation and supervision. He also suggests that dollarized economies be invited to join NAFTA.

Judy Shelton, Testimony before the Senate Banking, Housing and Urban Affairs Committee, April 22, 1999
http://www.senate.gov/~banking/99_04hrg/042299/shelton.htm
Judy Shelton lends her support to the dollarization process in her testimony before the Senate Banking, Housing and Urban Affairs Committee. She notes that high interest rates in Mexico have discouraged investment and slowed economic growth. Dollarization would be expected to reverse this problem. Shelton notes that U.S. monetary policy is already taking global economic conditions into account and suggests that dollarization would not necessarily change the monetary policy pursued by the Fed.

Robert J. Barro, "From Seattle to Santiago, Let the Dollar Reign"
Robert Barro argues for dollarization in Argentina in this Hoover Digest reprint of a March 8, 1999 New York Times article. He suggests that the U.S. should actively support dollarization by compensating Argentina for the lost seignorage. Barro suggests that dollarization could help reform monetary institutions in countries that have experienced problems in maintaining currency stability.

Guillermo A. Calvo, Testimony before the Senate Banking, Housing and Urban Affairs Committee, April 22, 1999
In his testimony before the Senate Banking, Housing and Urban Affairs Committee, Guillermo A. Calvo argues that dollarization is especially valuable for emerging-market economies that possess large dollar-denominated debts. These countries are very likely to experience high rates of inflation and have a larger debt burden as a result of currency devaluation. He argues that financial market "contagion" will be less likely if such economies are dollarized, since dollarized economies are not subject to currency-devaluation risk.

**Guillermo A. Calvo, "On Dollarization"**
In this April 20, 1999 paper, Guillermo A. Calvo examines the rationale for dollarization in an emerging market economy. He notes that in most emerging market economies, a large share of assets and liabilities are already denominated in foreign exchange. Calvo argues that Latin American economies are already substantially affected by monetary policy and economic conditions in the U.S. He suggests that some emerging market economies would benefit from dollarization since it provides for a more predictable and credible monetary policy. (To view this document, the Adobe acrobat viewer plugin is required. You may download this viewer by clicking here.)

**Catherine L. Mann, Testimony before the Senate Banking, Housing and Urban Affairs Committee, April 22, 1999**
http://www.senate.gov/~banking/99_04hrgr/042299/mann.htm
Catherine Mann describes the costs and benefits associated with dollarization during her testimony before the Senate Banking, Housing and Urban Affairs Committee. She notes that partial dollarization has occurred in a large share of countries experiencing economic difficulties. This has occurred as a result of private-sector initiatives rather than a policy-initiated process. Mann notes that dollarization will not correct structural problems in these economies, nor will it improve the quality of fiscal policy decisions. She argues that dollarization (or a fixed-exchange rate system) will not work well in the long run since it does not allow relative prices to differ across countries in response to different rates of productivity growth. Mann suggests that the most appropriate strategy is to correct the structural problems that these countries are experiencing.

**John Chown, "Currency Boards or Dollarization - Solutions or Traps?"**
http://www.riia.org/pdf/briefing_papers/currency_boards.pdf
In this August 7, 1999 Royal Institute of International Affairs Briefing Paper, John Chown examines alternative methods of providing a stable money supply in Russia. The options considered include dollarization and a currency board arrangement under which the U.S. dollar (or other stable currency) serves as a reserve asset and is freely convertible at a fixed rate. Chown notes that a practical difficulty with either a currency board or dollarization is the cost of acquiring foreign currency reserves. He notes the problems that Russia would face if there were external control of its monetary policy. Chown argues that either dollarization or a currency board system would make it more difficult for the U.S. to maintain control of its domestic money supply (since it becomes more difficult to monitor the domestic money supply when a larger share of the domestic
currency circulates abroad. He suggests that the best strategy for Russia would be the use of a currency board that receives its credibility from a stable foreign currency while allowing the Russian government to receive seignorage. (To view this document, the Adobe acrobat viewer plugin is required. You may download this viewer by clicking here.)

  This is a transcript of an International Monetary Fund forum on dollarization in Latin America. Participants in this forum are: Guillermo Otiz (Governor of the Central Bank of Mexico), Miguel Kiguel (Chief of Argentina's Cabinet of Advisors and Undersecretary of Finance, Ministry of Economy, and Public Works and Services), Jeffrey Frankel (Brookings Institute and former member of the U.S. Council of Economic Advisers), and Eduardo Borensztein (Division Chief of the IMF Developing Studies Division). This forum provides a good discussion of the advantages and disadvantages of dollarization.