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## The Role of the Financial Sector in Enhancing Economic Growth in LAO PDR

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## The Role of the Financial Sector in Enhancing Economic Growth in Lao PDR\*

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### Abstract

In recent years the Lao PDR's financial sector developed fast in terms of financial depth, intermediation and distribution. A developed financial sector is the basis for dynamic economic growth. Yet, unsustainable financial liberalization and growth poses risks to financial sector stability. The study scrutinizes the role of the financial sector in enhancing economic growth in Lao PDR and aims to answer the question of adequate financial sector supervision with respect to the economy's development. It is argued that only a prudentially supervised financial sector can enhance the economic growth performance of Lao PDR in the medium and long run.

*Keywords: finance-growth nexus, financial sector development, supervision*

JEL: G01, G32, O11, O16, O49

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## 1 Introduction

If and how the financial sector can promote economic growth, the so-called finance-growth nexus, is widely discussed in the literature. In particular the issue of causality – whether finance drives growth or vice versa – is controversially discussed.<sup>1</sup> However, a broad consensus exists that a sustainably developed and supervised financial sector enhances economic growth.

In the late 1980s Lao PDR initiated a transition process and began to liberalize its goods and financial markets. But in particular the financial sector remains underdeveloped and shallow. While in developed economies the financial sector comprises various sources of funding, in Lao PDR the sector is mainly bank-based. Currently only three companies (Banque pour le Commerce Exterieur Laos (BCEL), EDL Generation Public Company and Lao World Public Company)<sup>2</sup> are listed on the stock market which opened in 2011.

The financial sector is dominated by state-owned commercial banks (SOCBs). Only since the mid 2000s the sector is gradually liberalized<sup>3</sup> and in the course of the new Law on Commercial Banks 2007 a considerable number of private and foreign banks have entered the market.<sup>4</sup> Since then the development of the financial sector made a great leap forward in terms of financial deepening, intermediation and distribution. Yet, history shows that financial liberalization is closely linked to financial turbulence. To ensure sustainable economic development in the medium and long run, financial liberalization must be accompanied by prudential financial sector supervision.

The remainder of the study is organized as follows. Section two reviews the theoretical and empirical literature on the finance-growth nexus and the functions of the financial sector. Possible transmission channels from the financial sector to growth based on

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<sup>1</sup> See Levine (2004) for an overview of the theoretical and empirical research concerning the connections and relationship of finance and growth.

<sup>2</sup> BCEL is the largest state-owned commercial bank, EDL Generation Public Company is a public electricity company and Lao World is a public company building and maintaining convention halls, entertainment centers and shopping malls (Lao Securities eXchange, <http://www.lsx.com.la/info/stock/listedCompany.do?lang=en>).

<sup>3</sup> In 2004 the government issued the Law on Promotion of Foreign Investment, which has facilitated capital inflows.

<sup>4</sup> In 2007 two joint venture banks, two private banks and six foreign bank branches in addition to the four SOCBs operated in Lao PDR's financial sector (BOL Monetary Statistics 2007). Five years later the number of private banks has risen to ten and the number of foreign bank branches to sixteen (BOL Monetary Statistics 2013).

financial development indicators are analyzed. In section three challenges of the currently large capital inflows and their impacts, the multicurrency problem and recent developments of the financial sector are assessed. In section four attention is drawn on prudential financial sector regulation and the supervision capacity of the Bank of Lao PDR (BOL). Section five summarizes and concludes.

## 2 Finance-Growth Nexus

### 2.1 Theoretical Background

The debate whether or not and if how financial sector development contributes to economic growth is not new. Schumpeter (1912) argued that the banker is an intermediary who brings the entrepreneur with a new business idea together with the financier. This stimulates economic development. By accumulating and efficiently allocating savings, the financial sector supplies the funding for investments which, in the classical theory, are directly associated with growth. This idea was reflected in early growth models which explain economic growth by the rate of savings and capital productivity (Harrod 1939, Domar 1946). Later models accounted for productivity growth by adding technological progress (Solow 1956).<sup>5</sup>

The finance-growth nexus was subject to various empirical investigations. In 1969, using financial asset to GNP<sup>6</sup> ratios as proxies for financial development, Goldsmith (1969) found correlations between financial development and growth. Subsequent work in this field was strongly influenced by King and Levine (1993). Using financial market indicators (financial depth, intermediation and distribution) and economic growth indicators (level of investment, per capita GDP growth rates and the capital stock) they provided empirical evidence for Schumpeter's suggestion that financial development promotes growth. They showed that economies with a deeper financial sector with high levels of intermediation and distribution tend to grow faster than economies with less developed financial markets. King and Levine (1993) concluded that

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<sup>5</sup> For a detailed overview of the theoretical literature see e.g. Koivu (2002), Zhuang et al. (2009), Stolbov (2013).

<sup>6</sup> In contrast to the GDP GNP (gross national product) also accounts for net income from assets/ income abroad.

financial development considerably contributes to economic growth as increasing capital accumulation and allocation efficiency promote technological progress.<sup>7</sup>

Furthermore Greenwood and Jovanovic (1990) emphasized the financial sector's role to collect and evaluate information and allocate capital to the most profitable investment projects. Rajan and Zingales (1998) found that a developed financial sector reduces the external costs of finance. This directly benefits existing firms but also encourages new firms to enter the market which spurs innovation, competition and growth.<sup>8</sup>

With a specific focus on emerging and developing economies the IMF (2012a) finds that undeveloped financial markets do not provide a sufficient shock absorption mechanism to external shocks. Deeper financial markets foster growth as they reduce volatility arising from liquidity constraints. The study pays particular attention to the surveillance of the financial sector as unsustainable growth of the financial sector creates new sources of instability. Barajas et al. (2013) confirm the positive relationship of financial development and growth in developing countries but emphasize that the magnitude of the effect is heterogeneous across regions, national income levels and between oil exporting and non-oil exporting countries. They stress that limited access to financial services, lacking competition and low financial supervision in low income countries hinder growth despite financial deepening.

Korner and Schnabel (2010) show that a state-owned bank dominated financial sector in combination with low financial depth and poor institutional quality has negative growth effects. Law et al. (2013) find that due to the lack of institutional quality until a certain development threshold the finance-growth nexus is non-existent. According to Beck (2013) and Law et al. (2013) the 'more finance, more growth' hypothesis must be revised to 'better finance, more growth' as for long-term growth the quality of financial development matters.

Estrada et al. (2010) focus on the finance-growth nexus in developing Asia. The main result from the empirical analysis is a positive and significant effect of financial sector

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<sup>7</sup> This result was approved by numerous subsequent studies (see e.g. Levine et al. 1999, Levine 2004, Demirgüç-Kunt & Levine 2008; Čihák et al. 2013).

<sup>8</sup> For a broad review of the empirical literature see e.g. Moshin (2000), Thiel (2001), Levine (2004), Fink (2005), Zhuang et al. (2009).

development on real GDP per capita growth. The authors find that the effect for developing Asia is stronger than for the rest of the world. But the experience of the Asian financial crisis shows that medium- and long-term growth can only be achieved with a stable and developed financial sector. Thus, the role of the financial sector has to shift from purely quantitative growth to efficiently channeling funds into high-quality investments (Estrada et al. 2010).

## 2.2 Finance-Growth Transmission Channels

The task of a financial sector is to mobilize funds for investment and to support economic activity. As an intermediary it transforms and allocates capital from market participants to investment projects (IMF 2004). To fulfill this purpose, Demirgüç-Kunt and Levine (2008) identify five core functions of the financial sector. The first is to accumulate savings from individuals and pool them for investments. Secondly, information about potential investments must be collected and capital must be allocated to its most productive use (selection and screening process). The third task is to monitor if the provided capital is used in the intended way. Fourthly, the financial sector provides knowhow and opportunities to diversify and manage risks (liquidity risks, diversified portfolios, better loan management, etc.). Finally, it facilitates the exchange of goods and services by lowering transaction costs (Demirgüç-Kunt & Levine 2008).

By developing and executing these functions, the financial sector can enhance medium- and long-term economic growth. The transmission channels from finance to growth can be derived from a simple endogenous growth model, where output is dependent on capital productivity and the capital stock.

$$Y_t = AK_t \quad (1)$$

( $Y_t$  – output;  $K_t$  – capital;  $A$  – capital productivity) (Pagano 1993). The capital stock is assumed to depreciate at a constant rate ( $d$ ). Investment ( $I_t$ ) in period  $t$  is determined by the difference of the capital stock in two subsequent periods.

$$I_t = K_{t+1} - (1 - d)K_t \quad (2)$$

But due to inefficiency reasons Pagano (1993) assumes that a certain fraction ( $0 \leq \delta \leq 1$ ) of savings ( $S$ ) is lost during the process of financial intermediation.

$$I_t = \delta * S \quad (3)$$

Given the growth rate from (1)  $g_{t+1} = Y_{t+1}/Y_t - 1$  and assuming that in the steady state output and the capital stock grow at the same rate  $Y_{t+1}/Y_t - 1 = K_{t+1}/K_t - 1$ . Inserting transposed equation (1) ( $1/K_t = A/Y_t$ ) and equation (2) ( $K_{t+1} = I_t + (1 - d)K_t$ ) in  $g = (K_{t+1}/K_t - 1)$  yields the steady state growth rate ( $g$ ):

$$g = A * I/Y - d. \quad (4)$$

Which, with aggregate savings rate  $S/Y$  being denoted as  $s$ , can be approximated as

$$g = A * \delta * s - d. \quad (5)$$

Based on equation (5) three possible transmission channels from finance to growth can be derived: The term  $\delta$ , which determines the loss of resources while savings are transformed into investment, the capital productivity  $A$  and the savings rate  $s$ . The first transmission channel ( $\delta$ ) concerns the financial sector's ability to efficiently channel savings into investments. Competition and advanced technologies reduce banking service fees, overhead costs and thereby the interest rate spread. As during the transformation process costs are reduced, more savings can be transformed into investments (Pagano 1993).

The capital productivity  $A$  stresses that a developed financial sector is able to collect sufficient information to evaluate investment projects and allocate capital to the projects with the highest marginal productivity. A larger number of financial intermediaries allows for better risk sharing by depositors (Pagano 1993). In contrast to the first two channels, the effect of financial development on the savings rate  $s$  is ambiguous. Due to risk reduction and reduced liquidity constraints, the savings rate might decline. In contrast, McKinnon (1973) and Shaw (1973) argue that a liberalized financial sector increases the savings rate by the removal of repressive interest rate ceilings on deposits. Liberalized interest rates are likely to generate higher deposit revenues and thus stimulate savings.

To evaluate the development of the financial sector in Lao PDR financial depth, intermediation and distribution are scrutinized as development indicators (King & Levine 1993). A deeper financial sector benefits from economies of scale, as fixed costs are

reduced (Fitzgerald 2006). Financial sector participants profit from network externalities as more market information can be gathered by the financial intermediaries which improves capital allocation (Greenwood & Jovanovic 1990). A deep and diversified financial sector reduces capital constraints, external shock exposure and risks (Fitzgerald 2006). Thus, size is a crucial indicator for the degree of development of the financial sector.

But from quantitative financial sector development alone one cannot conclude whether the sector is functioning effectively.<sup>9</sup> Therefore, as a proxy for the quality of lending the ratio of private to public financial intermediaries is used. It can be assumed that private financial intermediation is more market oriented than that of public institutions and thus capital allocation will be more efficient. (Demirgüç-Kunt & Levine 2008). Similarly, Kawai and Prasad (2011) argue that credit channeled to the private sector is more productive than lending to state-owned enterprises (SOEs). In particular for transition economies with long traditions of politically biased lending, the distribution criterion is an important development indicator.<sup>10</sup>

### 3 Finance and Growth in Lao PDR

#### 3.1 Capital Inflows and the Multicurrency Problem

An important driver for financial sector development in emerging and developing economies are capital inflows. Capital inflows reduce interest rates, enhance investment, diversify financial risks and facilitate technology and managerial knowhow spillovers (Grenville 2012; IMF 2012). But capital flows also bear potential risks as they tend to be pro-cyclical and volatile. Periods of inflows are often followed by sudden

<sup>9</sup> Demirgüç-Kunt and Levine (2008) argue that if the banking sector expands too quickly, a boom is likely to be followed by a bust. In this case, a rapidly expanding financial sector is not an indicator for positive growth impulses but for distortions.

<sup>10</sup> Due to a lack of micro data the analysis is limited to the macroeconomic level. The data used is mainly provided by the BOL which, according to the IMF's and World Bank's (2009, p. 13) report on observance of standards and codes, lacks the 'most basic requirements of modern accounting and financial reporting' with issued statements being 'hardly useful for decision making'. Due to the lack of reliable data, the study is limited in coverage and depth. For background information expert interviews and secondary data are used. Furthermore, given the data constraint of the study, only the development of financial depth, intermediation and distribution are covered. Other important factors for a sustained financial development are access, efficiency and stability. As the financial system is multidimensional the exclusive analysis of the quantitative development does not entirely cover the issue (Čihák et al. 2013).



stops and capital flow reversals (Kaminsky et al. 2005; Balakrishnan et al. 2012; Forbes & Warnock 2012; Gosh 2012).

Kawai and Lamberte (2010) argue that capital flows are likely to cause macroeconomic and financial instability. During the inflow period excess capital supply is likely to lead to overheating, credit booms, inflation and (real) currency appreciation (Hoffmann & Schnabl 2014). Financial instability is caused by a currency and maturity mismatch because due to shallow financial markets developing countries can neither borrow in their domestic currency nor long term on international capital markets (Eichengreen & Hausmann 1999).

The domestic financial sector, as the intermediary, transforms short-term foreign-currency-denominated debt into longer term investments, often denominated in domestic currency. The financial sector bears the maturity and currency risk in case of a shock (exchange rate depreciation and/ or sudden stop). Balakrishnan et al. (2012) show that over 60% of capital inflow periods to emerging Asia ended in a sudden stop. Risks associated with capital flows amplify with increasing international financial market integration, as capital flows are becoming larger and increasingly volatile due to the expansive monetary policy stances of large industrialized countries (Balakrishnan et al. 2012; Forbes & Warnock 2012).

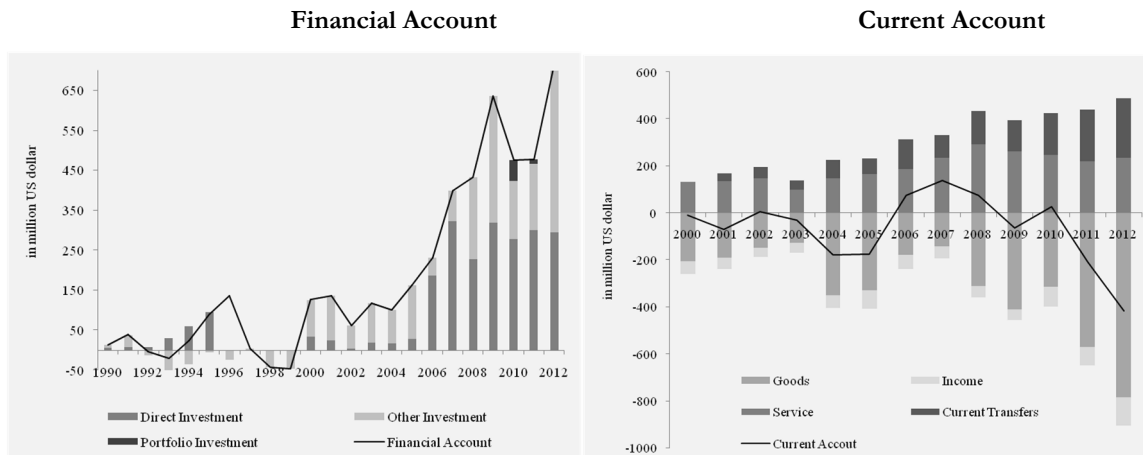
In contrast to most other Southeast Asian economies Lao PDR has a positive financial and negative current account. The financial account is driven by foreign direct investment and other investment<sup>11</sup> inflows. Portfolio capital inflows play, due to the underdeveloped financial market and limited investment opportunities a neglecting role (left hand panel of Figure 1). More than 70% of FDI inflows are invested into large mining and hydropower projects (IMF 2013a, data for 2012). Other investment flows to Lao PDR are mainly (about 90% in 2012) 'bank related', which is often short-term and volatile capital (BOL 2012c, IMF 2012c). In particular, the other investment position can contain official development assistance (ODA) credits which are not captured as current transfers. ODA is largely used to finance trade and government budget deficits (BOL 2012a, p. 18).

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<sup>11</sup> Other investment is a residual category of the financial account covering trade credits, loans to the central government, monetary authorities and banks (IMF Balance of Payments Manual).

The negative current account balance is mainly driven by the negative trade balance as imports exceed exports. Services and current transfers, which include workers' remittances and ODA, are positive and stable (right hand panel of Figure 1).

**Figure 1: Current and Financial Account of Lao PDR**



Note: Current and financial accounts are balanced by the change in reserves and errors and omissions. In particular since 2006 errors and omissions are unusually large (accounting for about 25% of the balance of payments in 2012). This might be an indicator for unrecorded capital flows and/ or the inaccuracy of the data in general. Source: IMF (IFS).

The relatively high capital inflows to Lao PDR since the early 2000s have put appreciation pressure on the exchange rate of the Lao kip. To stabilize the exchange rate the BOL has frequently intervened in the foreign exchange market and accumulated foreign reserves. Figure 2 shows that in particular between 2006 and 2008 the amount of foreign reserves strongly increased.<sup>12</sup> During the subprime crisis reserves fell slightly and increased again in 2011 and 2012. The BOL's foreign exchange purchases led to an increased monetary base. Via the commercial bank's money multiplier function this is likely to lead to an expansion of the total amount of money and thus, according to the quantity theory of money<sup>13</sup>, to inflation and undue credit growth.

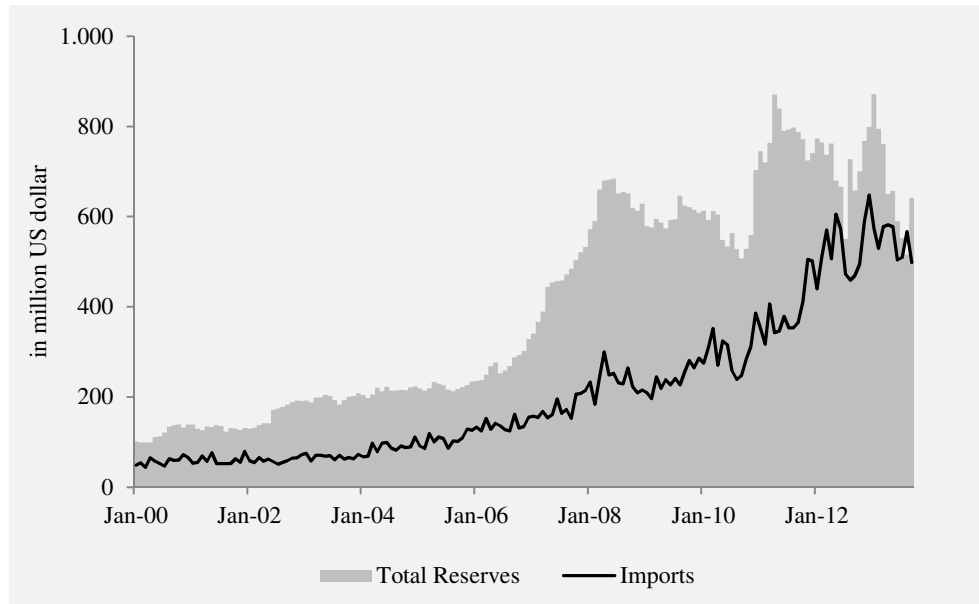
Figure 2 shows the declining coverage of imports by foreign reserves. The reserves to months of imports ratio is a common measure to assess an economy's ability to absorb external shocks. Reserves to months of imports hit a low of about 0.8 months of im-

<sup>12</sup> The increase in foreign reserves is also reflected in the rising net foreign asset position in the BOL balance sheet in Figure 3.

<sup>13</sup> Assuming the velocity of money relatively constant and the increase of output less than the increase in money supply.

ports in June 2013. With the decline of reserves to months of imports ratio macroeconomic vulnerability is increasing. The IMF (2013a) considers Lao PDR's foreign reserves to be inadequate for precautionary measures and raises concerns about a foreign currency liquidity shortage.<sup>14</sup>

**Figure 2: Foreign Reserves and Import Expenditure**



Note: 2013 up to June only.

Source: IMF (IFS) and IMF Article IV (various issues).

To partially sterilize the monetary effects of foreign reserve accumulation the BOL *inter alia* sold Lao kip-denominated bonds to the domestic banking sector. This is reflected in an enlarging securities other than shares position. The accounting exchange on the liability side enables the BOL to keep the increasing currency in circulation under control (Figure 3). To not stifle growth the BOL declined the IMF's (2012b) advise to raise commercial banks' reserve requirements to further slow down money supply growth. When, between 2008 and 2010; net foreign assets declined pressure for sterilization eased. However, in the same time the BOL's claims on non-public financial institutions considerably rose. This can be explained by new commercial banks entering the Lao PDR financial sector. A prerequisite to operate a bank or a bank's branch in Lao PDR is a minimum of registered capital of no less than 100bn respectively 50bn

<sup>14</sup> An appropriate stock of reserves would cover three to four months of imports. In comparison with other Southeast Asian low income countries Lao PDR ranks last in terms of reserves in months of imports (IMF 2013).

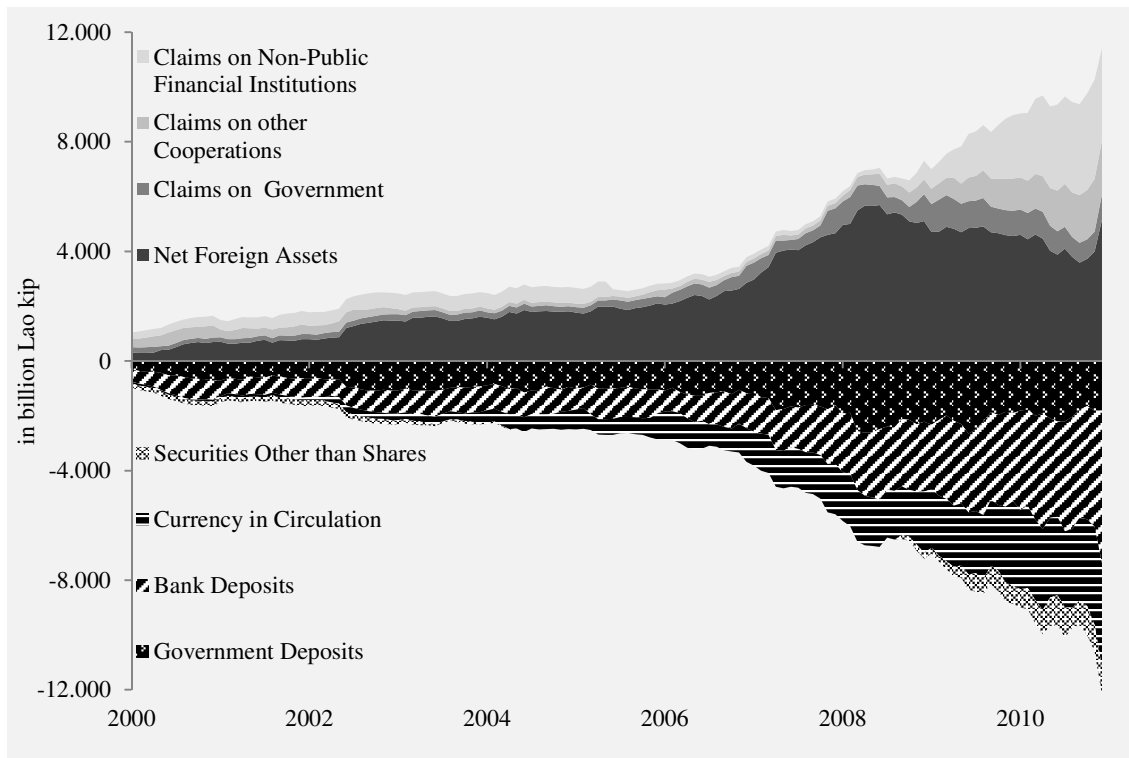
Lao kip (BOL 2007, Article 13). Of the registered capital 25% must be deposited with the BOL. In return for the commercial banks' reserve deposits the BOL conducts liquidity providing open market operations, which supply the banks with capital to not suppress lending.

The resulting increase in the claims on non-public financial institutions is mirrored on the passive side of the BOL's balance sheet in bank deposits which reflect the new commercial banks' minimum reserve deposits. The overall liquidity stance of the reserve depositing and subsequent open market operations is neutral, but the measure supports lending in Lao kip and thereby de-dollarization (see Figure 5). New (mainly foreign) banks and branches entering the Lao PDR financial sector are likely to fulfill their reserve requirements in part by depositing foreign-currency-denominated capital at the BOL.<sup>15</sup> In return the BOL supplies the banks with Lao kip by conducting open market operations.

All in all, capital inflows and an increasing number of commercial banks led to an increase in money supply and lending. On the one hand this is due to domestic money creation as reflected in the BOL balance sheet. On the other side in a highly dollarized country it is possible that foreign-currency-denominated capital inflows do not fully accumulate in the central bank but are directly channeled into the private sector as foreign-currency-denominated credit.

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<sup>15</sup> New banks entering Lao PDR financial sector are mainly foreign banks and branches with their parent banks operating in the neighboring countries such as Thailand, Cambodia, Vietnam and China.

**Figure 3: BOL's Balance Sheet**

Source: IMF (IFS).

A decreasing reserves to months of imports ratio in combination with rising foreign debt, a comparatively high public debt to GDP ratio of about 50% (including publicly guaranteed) (IMF 2013a) and a negative current account, make Lao PDR vulnerable to exchange rate fluctuations. An appreciation would deteriorate the trade balance even further thereby increasing foreign debt, whereas a depreciation would considerably increase the external debt burden in terms of domestic currency. Thus, to stabilize financial markets and growth the BOL has to keep the exchange rate relatively stable.

In the Lao PDR exchange rate stabilization is a particularly critical issue as the country faces a multicurrency problem. In contrast to most other Southeast Asian countries, where the US dollar traditionally plays an important role as exchange rate anchor, in the Lao PDR alongside the Lao Kip, the US dollar and the Thai baht are widely used for payments, as units of account and as store of value (Kyophilavong 2010).<sup>16</sup> By 2010 about 50% of the currency in circulation are Lao kip, 30% are Thai baht and 20% are

<sup>16</sup> Subsequently the term dollarization is used for the multicurrency problem with the US dollar and the Thai baht.

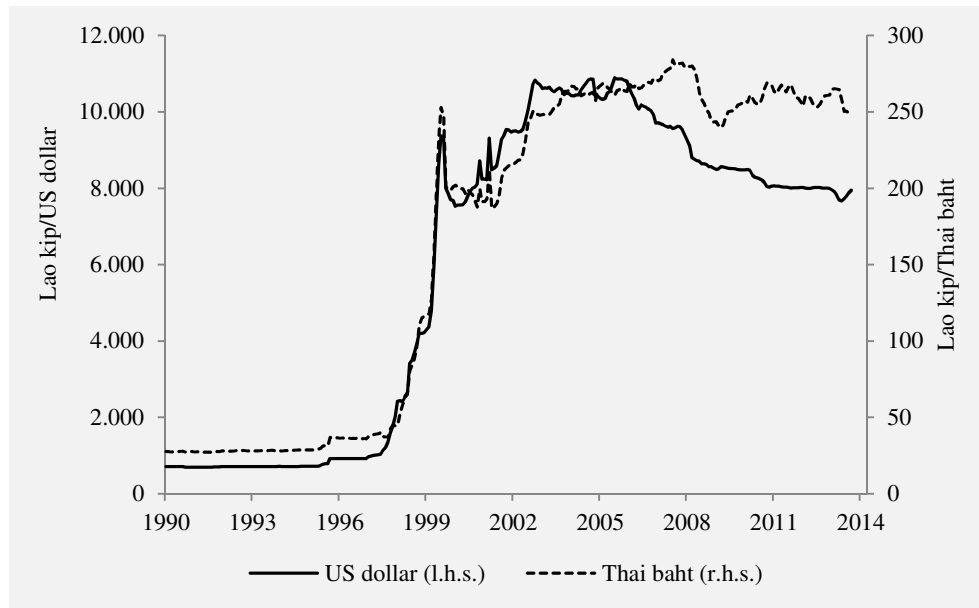
US dollar (Klär & Kooths 2010).<sup>17</sup> The frequent use of the Thai baht is due to close trade and financial linkages of the two economies. About two thirds of Lao PDR's imports (one third of exports) originate in (are shipped to) Thailand. Thailand is also Lao PDR's main source of FDI (Kyophilavong 2010).

Given the important role of the Thai baht and the US dollar in the Lao PDR's economy the exchange rates against both currencies are of particular importance. Figure 4 shows the exchange rate of the Lao kip against the US dollar and the Thai baht since 1990. Before the Asian financial crisis the Lao kip (as the Thai baht) was tightly pegged to the US dollar. During the Asian financial crisis the Lao kip and the Thai baht depreciated strongly against the US dollar. In the early 2000s the exchange rates stabilized. Since mid 2006 the Lao kip follows an appreciation path against the US dollar whereas the exchange rate against the Thai baht fluctuates between 240 and 280 Lao kip.

While most Southeast and East Asian currencies strongly depreciated against the US dollar during the turmoil of the subprime crisis the Lao kip continued appreciating. From early 2011 to late 2012 the Lao kip/US dollar exchange rate was kept relatively stable, before it started to appreciate again. Within half a year the value of the Lao kip gained about 4 percent against the US dollar. In June 2013 the trend reversed and since then the Lao kip loses value. The real exchange rate on the other hand continues to appreciate due to increasing labor costs and inflationary pressure (IMF 2013a). This is also reflected in the negative current account position.

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<sup>17</sup> Klär and Kooths (2010) refer to BOL sources whereas the IMF's estimated share of foreign denominated deposits to M2 tends to be higher.

**Figure 4: Exchange Rate of the Lao Kip Against the US Dollar and the Thai Baht**

Source: IMF (IFS).

Multiple currencies limit monetary policy independence and the central bank's ability to act as lender of last resort (Menon 2010). The money supply in Lao PDR depends on the monetary policy decisions in the US and Thailand. Expansive (restrictive) US/Thai monetary policy tends to increase (reduce) the money supply in the Lao PDR by increasing capital in(out)flows denominated in US dollar/ Thai baht. The impact on the monetary policy stance is independent from the economic situation in the Lao PDR.<sup>18</sup> The multicurrency problem impairs the BOL's lender of last resort function as its ability to guarantee and back up private and public banks' deposits and to inject liquidity in the event of a crisis is limited.

Another drawback of multiple currencies are lower seigniorage gains, which arise from the difference of the money's face value and its production cost. Seigniorage gains from base money are only partially collected by the BOL, but are gained by the US Fed and the Thai central bank. On the positive side dollarization contributes to fiscal stability as printing money to finance budget deficits is limited (Menon 2010). Given the budget deficit of 6.5% of GDP in 2013 (IMF 2013) and the government's spending behavior

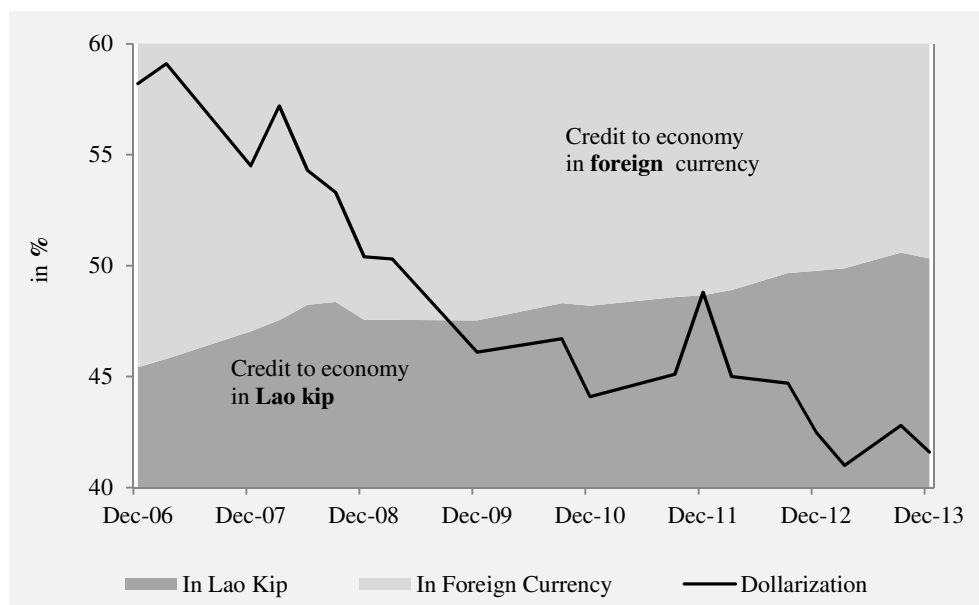
<sup>18</sup> If the business cycle of the US and/ or Thailand and Lao PDR have opposing trends the impact on the economy is likely to be negative (as either foreign monetary policy is too expansive which may lead to overheating and inflation or too restrictive which would depress economic activity).

(e.g. increasing civil servants salaries in the face of lower than expected revenues (IMF 2013)) enhanced fiscal discipline contributes to macroeconomic stabilization.

The phenomenon of multiple currencies in a country is only a symptom. The reason for the high dollarization is due to the economy's past instability (high inflation, under-developed financial sector, weak legal systems, fragile institutions, etc.) (Klär & Kooths 2010). In the course of the Asian financial crisis the Lao kip depreciated strongly against the US dollar (see Figure 4), real growth declined to 4% (1998), debt to GDP grew substantially and inflation skyrocketed to triple digits (Kyophilavong 2010). The macroeconomic instability further favored dollarization. But in the face of buoyant capital inflows since the early 2000s growth recovered, the exchange rate stabilized and inflation declined (Kyophilavong 2010).

Given increasingly sound macroeconomic fundamentals and the continued appreciation of the Lao kip against the US dollar the government's attempts to promote the Lao kip as the 'only currency used in Lao PDR' (de-dollarization) have been fairly successful. Figure 5 shows that dollarization – measured as foreign currency to base money – declined from about 60% to 40% during the last seven years. In the same time the ratio of credit denominated in Lao kip to credit denominated in US dollar rose from below 30% to about 50%.

**Figure 5: De-Dollarization and Domestic Currency Credit**



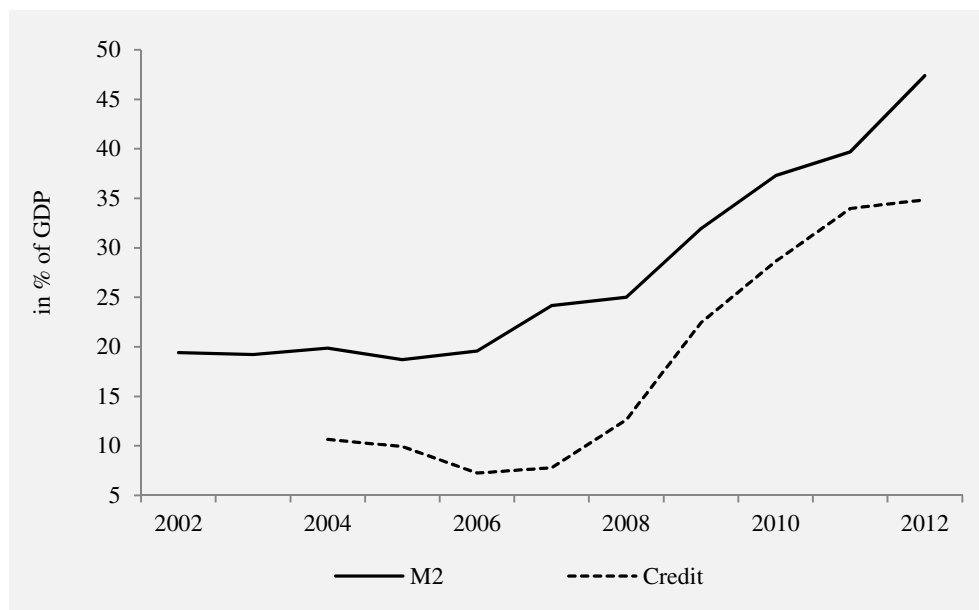
Source: IMF Article IV 2009 and 2013.



### 3.2 Financial Sector Development

Sustained capital inflows and the market entry of private and foreign commercial banks after the introduction of the Law on Commercial Banks in 2007 accelerated domestic money supply growth. Starting from a very narrow base of broad money, the money supply (M2)<sup>19</sup> in percent of GDP expanded from 20% in 2006 to almost 50% in 2012 (Figure 6). A higher M2 to GDP ratio indicates financial deepening and higher monetization of the economy, as a relatively high rate of money and quasi-money is readily available for investment and consumption. The increased money supply went along with rapid credit expansion. Between 2007 and 2012 the average annual credit growth rate clearly exceeded 20%. Overall credit (from the central bank and commercial banks to the economy) increased from 11% of GDP in 2004 to 35% of GDP in 2012.

**Figure 6: M2 and Credit to the Economy (Private and Public Sector)**



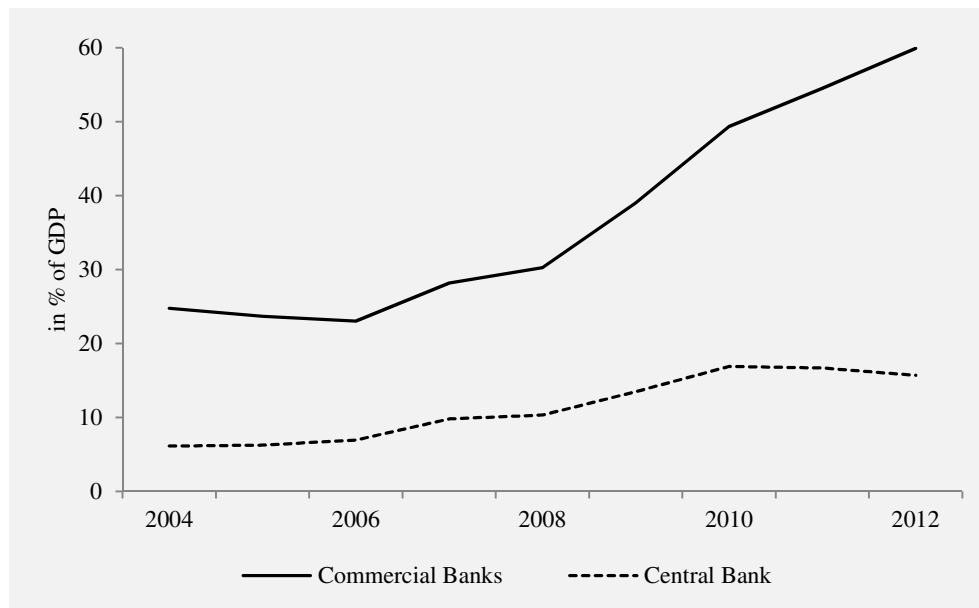
Source: BOL Annual Economic Report (various issues) (M2), IMF (GDP).

The ratio of central bank assets and commercial banks assets' to GDP is another important indicator of financial depth as a broader base of banking assets reflects less credit constraints (Beck et al. 1999). On the other hand the ratio between the two types of assets sheds light on the sectors efficiency. A higher commercial bank share is assumed to indicate higher efficiency as private capital allocation prevails over political

<sup>19</sup> M2 is defined as broad money supply and consists of the currency in circulation and Lao kip and foreign-denominated deposits (BOL 2012a).

considerations and thus lending can be assumed to be channeled to more productive investments (Kawai & Prasad 2011). Figure 7 shows that since 2008 the commercial bank asset to GDP ratio rose considerably more than the central bank asset to GDP ratio, reflecting the market entry of new commercial banks and thereby increasing efficiency. But as the three biggest commercial banks in Lao PDR – with a market share of 50-60%<sup>20</sup> – are state-owned this indicator must be treated with caution.

**Figure 7: Central and Commercial Bank Assets**

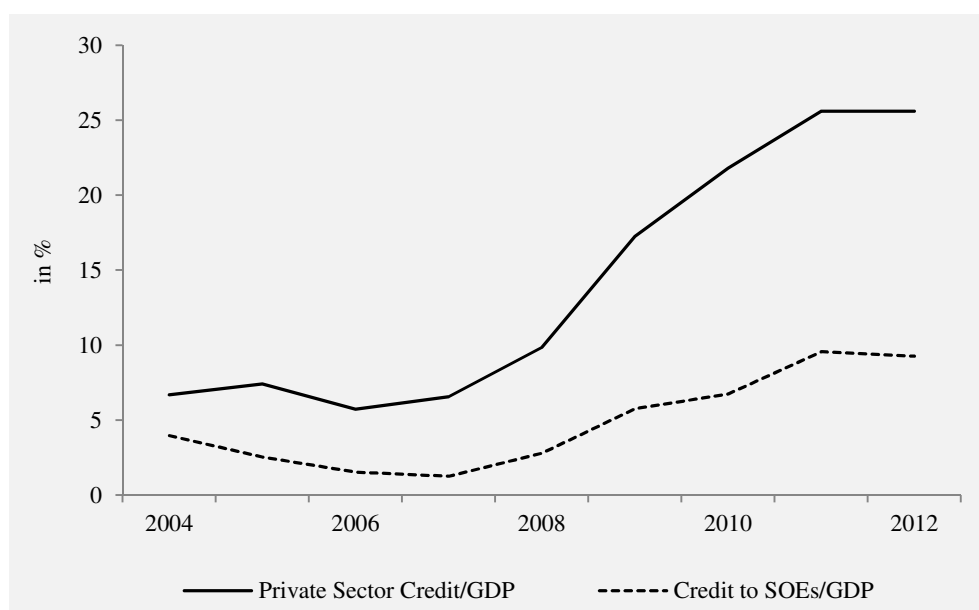


Source: BOL Monetary Statistics (various issues) (assets), IMF (GDP).

Besides depth and intermediation, the distribution of capital – between the private and public sector – is an important factor in evaluating the development of the financial sector (e.g. King & Levine 1993). Credit to the private sector to GDP ratio is particularly interesting for transition economies which have a tendency to lend to SOEs. Figure 8 shows that since 2007 credit to the private sector in relation to credit to SOEs increased significantly.<sup>21</sup> Since then the gap between credit to the private sector and credit to SOEs gradually widened, indicating rising efficiency in credit allocation.

<sup>20</sup> The market share relates to the asset, deposit and loan share of the SOCB in relation to quasi-private banks (BOL Monetary Statistics (various issues)).

<sup>21</sup> The onset of the rise reflects again the promulgation of the new Law on Commercial Banks and the resulting increase of new private and foreign commercial banks.

**Figure 8: Lending to the Private Sector vs. Lending to SOEs**

Source: BOL Monetary Statistics (various issues) (credit), IMF (GDP).

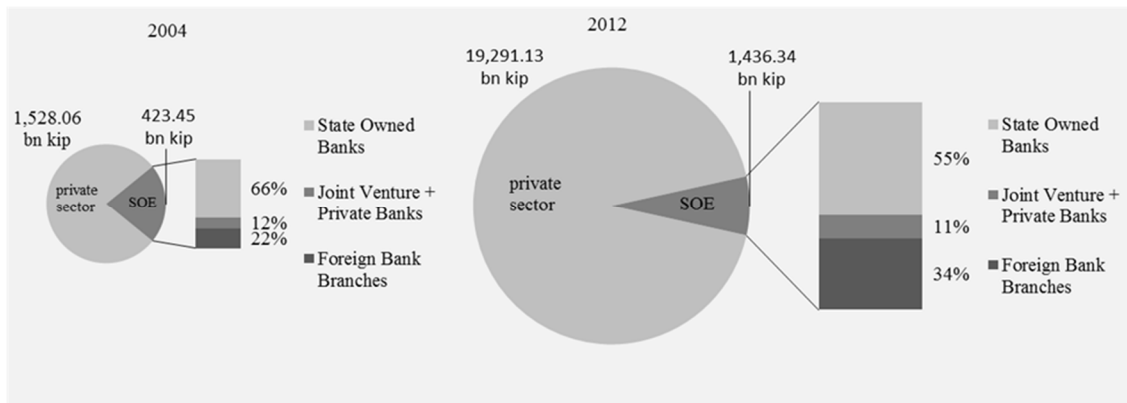
In the past the Lao PDR financial sector was characterized to a large extent by government directed lending to SOEs, mainly through state-owned banks. These loans followed political interest rather than efficiency considerations which led to high non-performing loan (NPL) ratios<sup>22</sup> (Unteroberdoerster 2005). The increasing lending to SOEs since 2008 raises questions concerning the sustainability and the performance of the loans (IMF 2012b).

Figure 9a shows the size of lending to the private sector compared to the size of lending to SOEs as well as lending to SOEs by bank ownership. Overall lending increased by a factor of ten from 1,950bn Lao kip in 2004 to 20,700bn Lao kip in 2012. The share of lending to the SOEs of overall lending declined from 22% to 7%. Striking is the change in the composition of the type of bank which is lending to SOEs. The share of the state-owned banks declined by 11 percentage points, whereas the share of foreign bank branches increased by 12 percentage points. Foreign bank branches now account for one third of commercial bank lending to SOEs.<sup>23</sup>

<sup>22</sup> The ratio reflects the share of non-performing loans to overall loans.

<sup>23</sup> Reportedly one reason is that many of the foreign bank branches just recently entered the market which is becoming more competitive and thus they finance investment projects which are not necessarily top tier. This could also be a possible explanation for the high NPL ratio of foreign bank branches (see Figure 10).

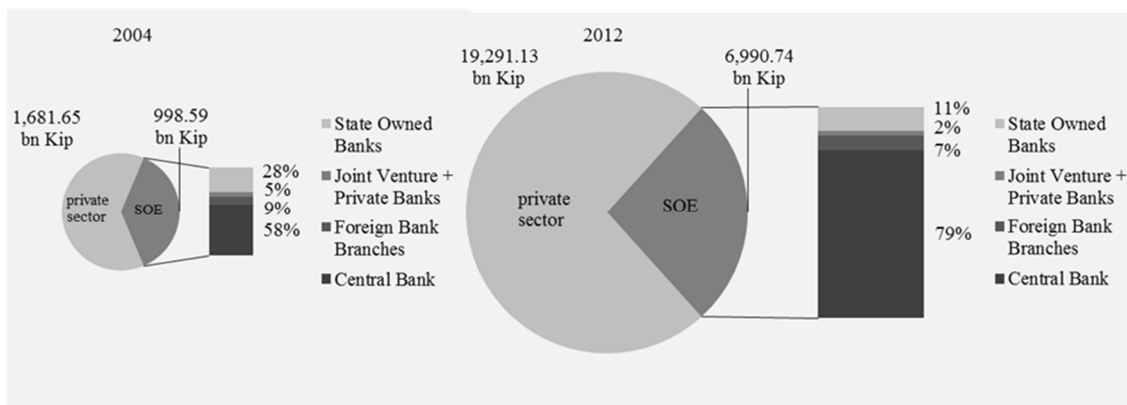
**Figure 9a: Lending to Private vs. Lending to SOEs by Bank Type**



Source: BOL Monetary Statistics (various issues).

The structure of lending to the private sector vs. lending to SOEs as well as the composition of the ownership of banks which lend to SOEs changes considerably, if one includes central bank lending (Figure 9b). Although the share of credit to SOEs out of overall credit decreased by 10 percentage points, it still accounts for more than a quarter of total lending in 2012. In absolute terms lending to SOEs increased by a factor of seven (from about 1,000bn Lao kip to 7,000bn Lao kip). Eye-catching is that the share of the commercial banks (especially the SOCBs) in financing SOEs was halved (from 40% to 20%). Commercial bank lending was replaced by an increasing share of direct central bank lending, which accounts for almost 80% (or 5,550bn Lao kip) of lending to SOEs. Direct central bank lending to SOEs accounted for about 15% of real GDP in 2012.

**Figure 9b: Lending to Private vs. Lending to SOEs by Bank Type Including the Central Bank**

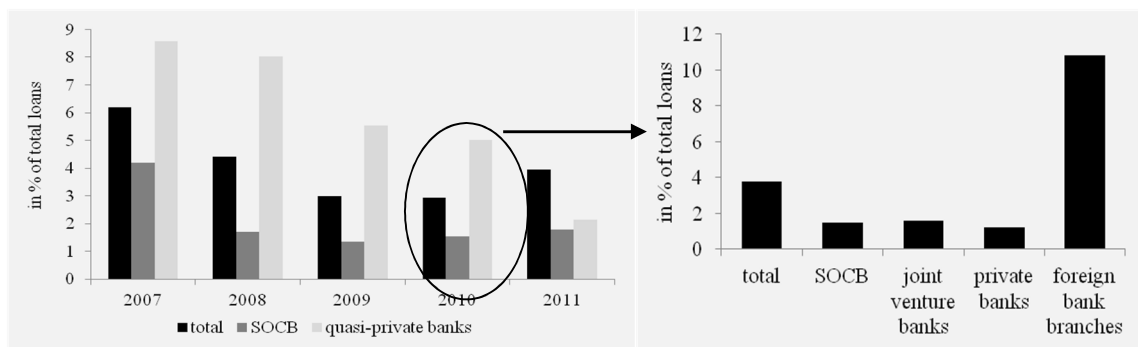


Source: BOL Monetary Statistics (various issues).

The government increasingly uses the BOL to directly finance government projects. Between 2006 and 2012 government priority projects worth 8.4% of GDP have been financed by the BOL. About 75% of public funding went into infrastructure projects. By the year 2015, public investment is planned to be further increased and to account for at least 12% of GDP (Ministry of Planning and Investment 2011, p. 207 and 111). Increased direct central bank lending is argued to be due to the fact that SOCBs increasingly operate based on efficiency considerations being less willing to lend to unprofitable investments. To fulfill the government's socio economic plan the BOL has to step in. In the case of loan default, the NPLs would not show up in the balance sheets of the SOCBs but account as central bank loss and as government expenditure if the BOL has to be recapitalized.

The NPL ratio in the Lao banking sector declined from about 70% in 2004 to below 6% since 2007 (IMF 2008, 2012b). The decline is due to large publicly-financed write-offs during the bank restructuring process. As a result, the NPL ratio of SOCBs is considerably lower than the ratio of quasi-private banks. In particular foreign bank branches show a comparatively high NPL ratio (Figure 10). The declining overall NPL ratio is likely to be due to credit boom. Excessive risk taking and deteriorated banks balance sheets only become apparent with a time lag when capital flows are reversed (Ocampo 2003, IMF 2012b).

**Figure 10: Non-Performing Loan Development and Composition**



Source: BOL 2012d, IMF Article IV 2012 (composition).

## 4 Crisis Risks and Prevention

### 4.1 The Asian Financial Crisis as Wake Up Call

In the wake of the Asian financial crisis, Stiglitz (1998, p. 32) argued that 'financial market liberalization preceding the development of adequate regulatory capacity is likely to lead to an enhanced likelihood of a financial crisis'. The experiences of the Asian financial crisis are of particular relevance for the financial sector development and liberalization process of Lao PDR as the current development of the financial sector to some extent resembles developments in other Southeast Asian economies in the run-up to the Asian financial crisis.

The causes for the Asian financial crisis are many. A broad consensus exists that the combination of buoyant capital inflows, financial sector liberalization and poor financial sector supervision contributed to the unsustainable development (e.g. Brownbridge & Kirkpatrick 1998; Stiglitz 1998; Corbett et al. 2001; Estrada et al. 2010). In the late 1980s, many Southeast Asian countries began to liberalize their financial markets by opening up capital accounts, reducing constraints on banking activities and liberalizing foreign bank entry (Brownbridge & Kirkpatrick 1998). High growth rates in Southeast Asia and low interest rates in large industrial economies as in Japan and the US led to large scale carry trades<sup>24</sup> (Hoffmann & Schnabl 2008).

The Southeast Asian economies recorded strong capital inflows during the first half of the 1990s (Bank of International Settlement (BIS) 1997). Driven by capital inflows domestic lending expanded rapidly but due to limited knowhow and inadequate risk assessment, the underdeveloped financial markets were not able to allocate capital efficiently (Estrada et al. 2010). Lending was directed to privileged domestic firms (mainly export oriented) and insufficient collateral was compensated by government guarantees (either implicit or explicit) (Corbett et al. 2001). This led to an investment structure which was characterized by high volumes but low quality (Estrada et al. 2010).

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<sup>24</sup> Carry trading is an interest rate and currency speculation where investors borrow in countries with low interest rates and invest in countries with high interest and growth rates. The investors' profit is the spread between borrowing and lending costs as well as exchange rate changes. Carry trades to Southeast Asian economies were in particular attractive as the exchange rates were pegged to the US dollar which nullified the exchange rate risk. Carry trades are speculative, volatile and mainly for a short period which enables investors to move capital quickly in and out of a country.

Overinvestment as well as the increasing competition in the financial sector led to deteriorating returns on investment. Deregulation enabled banks to expand their activities to riskier sectors with potentially higher returns (e.g. real estate investments). To maximize profits, banks tended to undertake riskier projects than depositors would have approved. This was possible because (i) depositors lacked correct and complete information<sup>25</sup> about the banks' investment projects; (ii) banks implicitly assumed a public bailout in case of bank failure (to protect the depositors and to prevent contagion effects) (BIS 1997; Brownbridge & Kirkpatrick 1998) and (iii) financial sector supervision was insufficient.

The rapid financial development outpaced the regulators capacity to efficiently oversee the sector. Thus, economic optimism during the boom and inadequate risk evaluation led to the underestimation of financial risks by borrowers, banks and regulators alike (Ocampo 2003). When foreign capital inflows slowed down (and later reversed) unprofitable investment projects and rising NPLs put pressure on bank balance sheets. The maturity and currency mismatch of loans increased the banks' distress (McKinnon & Schnabl 2004). In 1997 the 'Asian Miracle' ended with numerous bankruptcies of banks, large-scale currency depreciations and depressed growth.

Driven by large capital inflows the Lao PDR financial sector is growing rapidly while it is still under-developed and vulnerable to external shocks. If financial sector liberalization and deepening continue to outpace the capacity of the regulating authorities, financial fragility may increase with potentially negative effects as experienced during the Asian financial crisis. In particular the rapid credit expansion is viewed critically as it could cause vulnerabilities to the financial sector (IMF 2012b).

Table 1 compares the credit expansion in Southeast Asian later crisis economies six years prior to the Asian financial crisis with developments in Lao PDR over the last six years. With respect to annual real growth, annual loan growth and loan growth to GDP

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<sup>25</sup> Asymmetric information results if one party has better information than the other. In this case banks can select investment projects adversely as the lender cannot distinguish between low-risk and high-risk projects. As riskier projects offer higher returns and possible losses are borne by the lender, banks have an incentive to engage in riskier projects. Asymmetric information is in particular an issue in underdeveloped financial markets as information costs are higher due to a lack in transparency (weak disclosure policies) and low legal enforcement standards (Brownbridge & Kirkpatrick 1998). Another issue is the free rider problem as due to the typically large number of small depositors of a bank it is rational for a depositor not to pay to gain information as costs would outrun the profit (Mishkin 2001).

growth, the current Lao PDR financial sector development exhibits similar characteristics as the Southeast Asian economies prior to the Asian financial crisis. Domestic credit to GDP is, however, considerably smaller than in the other Southeast Asian economies, what suggests a different level effect (at a lower level of financial development credit to the private sector grows faster).

**Table 1: Credit Growth in Southeast Asia 1990-96 and Lao PDR 2006-12 (in %)**

Country	Annual GDP growth	Annual credit growth	Annual credit growth/Annual GDP growth	Domestic credit/GDP	
				1990	1996
Indonesia	17	20	118	45	55
South Korea	14	17	121	68	79
Malaysia	13	18	138	80	136
Philippines	13	33	254	26	72
Thailand	14	24	171	84	130
<b>Lao PDR (2006-12)</b>	<b>15</b>	<b>38</b>	<b>254</b>	<b>7 (2006)</b>	<b>35 (2012)</b>

Source: Brownbridge & Kirkpatrick (1998); BOL Monetary Statistics and ADB estimations (Lao PDR data).

The rapid credit expansion and an increasing number of new borrowers poses a challenge to commercial banks to evaluate future returns of investment projects, process credit applications and monitor the use of funding. If credit growth outpaces the ability of commercial banks to evaluate the risk of projects and monitor their clients, rising NPLs become likely. Furthermore, the increasing number of new commercial banks increases competition. To gain market share and to fulfill the loan to deposit ratio requirement of 60-80% set by BOL, financing of projects with lower marginal profitability becomes likely. This on the one hand reduces the individual bank's returns on investment as observed by Keovongvichith (2012) and on the other hand deteriorates the loan portfolio quality.<sup>26</sup>

<sup>26</sup> This could, as in the Southeast Asian economies before the crisis, raise the incentive of banks to expand their activities to more profitable but also riskier activities in the future in particular as the largest banks are fully or partly state-owned and a government bailout is implicit. So far the Lao PDR financial sector offers only limited investment products beyond traditional banking operations. But this situation could change when in 2015 Lao PDR will join the ASEAN Economic Community. With the opening up of the financial sector, new financial products and opportunities are likely to arise, exceeding national regulators' capacities.



The increasing number of commercial banks and the rapid credit expansion also require increasing diligence of the financial sector supervision authority. But although the BOL requires regular public disclosure statements of the commercial banks' balance sheets and business operations (BOL 2007, Article 57) data disclosure remains poor (Kronenberg 2011, IMF 2012b). Given the poor commercial bank data, limited capacities and the broad spectrum of tasks the BOL is hardly capable to efficiently supervise the rapidly expanding financial sector.

Prior to the Asian financial crisis the growing structural distortions in the Asian financial markets became obvious as capital inflows slowed down. More recently, when the US Fed's former chairman Ben Bernanke (2013) in June 2013 hinted a possible ending of the US Fed's quantitative easing some Southeast Asian economies got under fierce depreciation pressure when capital flows started to reverse. Kawai and Lamberte (2010) argue that countries with current account deficits, high inflation rates and foreign currency denominated debt are particularly vulnerable to capital outflows. In Asia in particular India, Indonesia and Lao PDR match these characteristics facing recently fierce depreciation pressure.<sup>27</sup> The Lao kip devaluated from about 7.700 Lao kip per US dollar in June to almost 8.000 Lao kip per US dollar in September 2013 (see Figure 4).

The IMF's (2013a) risk assessment for Lao PDR states that there is a high likelihood that the end of the unconventional monetary policy measures in the US triggers a capital flow reversal which would increase the foreign currency liquidity strains. Shrinking foreign reserves contribute to a higher likelihood of devaluation pressure on the Lao kip. Foreign capital drain and a devaluation of the Lao kip would negatively affect banks' and companies' balance sheets. Financial sector distress is likely to lead to a loss of confidence in the domestic banking system, capital flight and a reacceleration of dollarization (IMF 2013a).

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<sup>27</sup> All three countries have current account deficits (which were sustained by hot money inflows prior to the crisis), but with the prospect of an imminent end of US quantitative easing investors' confidence in the sustainability of the economies is shrinking and capital is withdrawn. The Indian rupee and Indonesian rupiah lost more than 15% within four months after Bernanke's announcement.

## 4.2 Propositions for Improved Financial Sector Supervision

Financial sector development is often accompanied by financial liberalization which includes the opening up of the capital account, the dismantling of restrictions on private or foreign banking operations, the removal of interest rate ceilings, etc. (Brownbridge / Kirkpatrick 1998). But financial liberalization also has its drawbacks. The frequent occurrence of banking crises in the aftermath of the financial liberalization in several developing economies in the 1980s and 1990s indicate a link between financial liberalization and financial fragility (e.g. Stiglitz 1998, Rossi 1999, Kaminsky & Reinhart 1999).<sup>28</sup> To ensure sound financial sector development Mishkin (2001) proposes several measures to ensure prudential supervision. For the still underdeveloped Lao PDR financial sector some measures, such as restrictions on risky asset holdings or the separation of the banking sector from other financial services are not yet crucial. Instead, capital and disclosure requirements as well as bank examination practices are of particular importance.

Capital requirements aim to prevent excessive risk taking as the increased share of equity capital increases the bank owners' loss in case of bankruptcy.<sup>29</sup> In line with Basel I, commercial banks operating in the Lao PDR financial sector are required to maintain a capital adequacy ratio of at least 8% (total capital to total risk weighted assets) and a 5% ratio of the tier I capital to total risk weighted assets (BOL 2001b, Article 4). But up to date the Basel I standards are not fully implemented (ADB 2012). Despite far reaching recapitalization measures and ongoing financial support, two of the SOCBs remain below the regulatory minimum (Kronenberg 2011, IMF 2012b).<sup>30</sup> Furthermore, reportedly many assets held by the commercial banks do not comply with the regulations as they are difficult to liquidize in case of a shock (e.g. domestic government

<sup>28</sup> Rossi (1999) and Demirgüç-Kunt & Detragiache (1998) find a significant positive relationship between financial liberalization and financial crises in particular in developing economies with weak banking sector regulation. The link does not only apply for developing countries. A major reason for the subprime crisis in the US and Europe was the combination of new complex investment products with insufficient regulation (Financial Crisis Inquiry Commission 2013).

<sup>29</sup> Capital requirements can be based on the leverage ratio (equity capital divided by assets) or on risk associated with certain off-balance-sheets activities. International recommendations for capital requirements are covered under the Basel Accords where banks are required to hold certain minimum requirements according to their risk-weighted asset holdings and activities.

<sup>30</sup> The SOCBs receive 'capitalization bonds' and 'bonds for settlement of defaulted LC' (letter of credit) issued by the Ministry of Finance. For instance in 2010 the BCEL (the largest state-owned commercial bank) received 608bn / 40bn Lao kip, respectively (BCEL Annual Report 2011).

bonds). Overall the capital adequacy of commercial banks (measured by loan to capital ratio) deteriorated since 2007 (Keovongvichith 2012).

For the supervision authority as well as for stockholders, creditors and depositors of commercial banks a regular and comprehensive disclosure of information on the bank's portfolio, activities and risk exposure is crucial for monitoring the bank. The disclosure of information reduces the banks' advantages of asymmetric information and increases market discipline and financial stability. Currently the enforcement of the disclosure policy in the Lao PDR financial sector is very weak. While the BOL requires regular disclosure of the financial statements of all commercial banks (BOL 2007, Article 57), public access to that information is limited. Also, national auditing standards don't meet international requirements and data released is of poor quality and inadequate for market decision making (IMF and World Bank 2009). Kronenberg (2011) argues that if international recognized standards were applied, the overall picture of the health of the banking sector could change considerably.

In addition to the public disclosure of banking information regular bank examinations are important to strengthen banking supervision and monitoring. Although on- and off-site examinations<sup>31</sup> in Lao PDR exist, risks are not addressed adequately as examinations are mainly compliance based and not risk-focused (Kronenberg 2011, IMF 2012b). On-site examinations take place annually with the same number of staff and time frame for every bank regardless the bank's size or risk exposure. Data gathered is insufficient as it lacks a risk focused quality assessment. Given limited risk management capacity, exchange rate risks or interest rate risks are not evaluated at all, while others such as liquidity risks are insufficiently addressed. The time lag between examination and the use of the data is too long for efficient decision making. Off-site examinations are argued to be insufficient as well due to inexperienced and the limited number of staff (Kronenberg 2011).

In Lao PDR the financial sector supervision falls to the BOL: "The Bank of the Lao PDR shall review and comment on the regulations on credit and other regulations of

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<sup>31</sup> On-site examination refer to BOL staff visiting the premises of commercial banks, to assess their business operations and the state of the property. Off-side examination imply the monitoring and analysis of the financial condition of the commercial banks on the basis of regularly business reports.

the commercial banks and financial institutions under its supervision including the implementation of these regulations' (Government of Lao PDR 1995, (new) article 42). To enhance the supervision of the financial sector the BOL reorganized and strengthened its banking supervision.<sup>32</sup> Despite improvements, the BOL's supervisory ability is still limited, in particular given the current financial sector development with an increasing number of banks, strong capital inflows and rapid credit expansion. Furthermore, supervising the financial sector is only one task of the BOL. Kronenberg (2011) argues that the BOL might face conflicting interests carrying out its assigned tasks (maintaining the stability of the Lao kip, supporting the government's development goals and supervising the financial sector). This is in particular the case when the BOL channels credit to SOEs to finance government projects as shown above (see Figure 9b). This is critical for two reasons. Firstly, direct lending is closely related to NPLs as decision making on credit provision is not based on efficiency reasoning but politically motivated. This has caused unsustainable high NPL levels in Lao PDR before, which had to be written off at high costs to the government (Unteroberdoerster 2005). Secondly, with the BOL being the supervising authority, direct central bank lending (which after all accounts for about 15% of GDP) is not subject to any further control.

## 5 How to Move Forward

With respect to financial depth, intermediation and distribution the financial sector in Lao PDR has seen a rapid catch-up in recent years. Money supply increased, the market share of commercial banks in comparison to that of the central bank rose and credit is increasingly channeled to the private than to the public sector. This development improves the fulfillment of the main functions of a financial sector: selecting, screening and monitoring of investment projects; diversifying and managing risks; accumulating and pooling savings for investments and reducing transaction costs.

However, financial development and credit growth are to a large extent driven by high foreign capital inflows, SOCBs – which still dominate the banking sector – and by

<sup>32</sup> In November 2010 the former Financial Institution Supervision Department was split into two departments, which are independent of one another: the Commercial Bank Supervision Department and Financial Institutions Supervision Department. The objective is to increase the effectiveness of supervision in each market segment (BOL 2012d).

direct central bank lending. Politically biased lending and overinvestment are likely to lead to declining returns on investments and a rising NPL ratio. The large share of credit denominated in foreign currency makes Lao PDR vulnerable to exchange rate depreciations. With a comparatively low level of international reserves the BOL may not be able to stabilize the exchange rate in face of further growing devaluation pressure. As the current financial sector development is driven by quantitative rather than qualitative factors the financial development may outpace the regulators' capacity and risks for macroeconomic instability increase. Thus, it is of utmost importance to enhance prudential financial sector regulation.

To avoid an Asian financial crisis like scenario in Lao PDR and to transform the developments of the financial sector into sustainable medium to long-term growth, the sequencing and pace of financial development and regulation are crucial. In response to the Asian financial crisis Brownbridge and Kirkpatrick (1998) drew four lessons for prudential regulation which are of particular interest for Lao PDR. Firstly, given increased capital inflows regulators must constrain financial institutions' foreign currency exposures to limit the vulnerability to exchange rate changes and foreign capital outflows. For Lao PDR this point is of particular concern due to its relatively high capital inflows and the multicurrency problem.

Secondly, the BOL must enforce existing regulations. Supervision regulations exist but are poorly enforced. Thirdly, financial institutions should be encouraged to use international standards of credit classification to reveal their financial situation. This would provide the BOL with the necessary data basis for financial sector supervision. Fourthly, to reduce moral hazard of banks a government bailout in the case of failure must be ruled out. This is in particular important for the Lao PDR financial sector as the largest banks are state-owned and thus face an implicit bailout guarantee which could raise the incentive for riskier actions.

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