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Asset Substitution and Currency Substitution behind Dollarization and De-dollarization Policy in the Lao PDR: Evidence from Bank-Level Data

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1 Introduction

The Lao People's Democratic Republic (Lao PDR hereafter) has continued to make significant progress in promoting economic growth and financial development over the past decade. Its economy has performed well with annual Gross Domestic Product (GDP) growth rates averaging 7–8% in the period following economic reforms, though from a low base, marking the country as one of the highest economic performers in the international context. While the economic and financial reforms during the transition from a centrally planned to a market-based

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economy brought positive achievements for social and economic indicators, one of the most notable effects of the economic and financial liberalization in the country is the increased use of foreign currency (notably the US dollar and Thai baht) as a way of holding wealth and a means of transaction for goods and services by the domestic residents. This phenomenon (referred to in the literature as dollarization) has become one of the monetary problems that authorities face.

The dollarization phenomenon was neither sought nor encouraged by the monetary authorities. Rather, a main cause of the widespread use of foreign currency for domestic economic transactions was high inflation and sharp depreciation of the local currency, the kip, during the period of transition, coupled with a gradual relaxation of some restrictions on foreign currency deposits transformed unofficial holdings of foreign currency banknotes into formal foreign currency deposits (FCDs).

To illustrate the magnitude of dollarization in the Lao PDR, it is useful to present the ratio of FCDs in proportion to broad money, which is a conventional indicator of dollarization. The dollarization ratio of this country had been almost 40% as early as 1988 and reached a peak of almost 80% in 1999. The dollarization process has begun to reverse following successful economic stabilization, falling to 58.2% in 2006, and to 42.4% in 2013 (See Fig. 1(B) in Chap. 1).

This paper examines the trend of dollarization in the Lao PDR. The unique feature of this study is an examination of financial dollarization using bank-level data originally obtained from selected state-owned commercial banks (SOCBs), which are key players in the Laotian banking sector. The disaggregated data on deposits allows us to examine how the composition of depositors and their behavior evolved in response to macroeconomic and banking environment. Unlike previous studies on dollarization in the Lao PDR (Pani 2002; Menon 2007, 2008; Kyophilavong 2010) which examine only macro-level data, this paper offers a deeper look into the trend of financial dollarization.

Another merit of this paper is the consolidated review of de-dollarization policy measures taken by the Bank of Lao PDR (BOL), the monetary authorities of the country, which contribute significantly to containing the growth of dollarization in the country.

The rest of this paper is organized as follows. Section 2 presents a brief overview of economic and monetary developments in the Lao PDR. Section 3 analyzes the levels and trends of dollarization with macro- and bank-level data. A thorough review of de-dollarization policy is made in Sect. 4. Section 5 contains concluding remarks.

2 An Overview of Economic and Monetary Developments

The process of dollarization in the Lao PDR is closely linked with numerous economic and monetary events that took place over the past two and a half decades (Box 1).

Box 1: Chronology of policy changes surrounding Laotian economic and financial developments during 1986–2014

1. November 1986: Lao PDR begins to move from centrally planned economy to market-oriented economy under auspice of "New Economic Mechanism" during the IV Congress of the Lao People's Revolutionary Party.
2. March 1988: Council of Ministers issues Resolution No. II/PSL to transform a mono-bank system into a two-tier banking system.
3. October 1988: Actual implementation of the banking system reform.
4. September 1988: Law on Foreign Investment Promotion and Management enacted by the National Assembly, paving the way for foreign banks to open business in the Lao PDR.
5. July 1989: First Nationwide Banking Conference convenes under chairmanship of the late Chairman of Council of Ministers (Mr. Kaysone Phomvihane) and Council of Ministers' Decree on Commercial Banks Activities issued.

6. October 1989: A joint venture–foreign bank (JDB) entry permitted to operate for the first time in Vientiane Capital, and allowed to mobilize FCDs and lend in foreign currencies.
7. September 1990: Decree on Foreign Currency Management and Precious Metals (No. 53/CM) issued.
8. June 1993: Prime Minister's Decree on the Organization and Activity of the Bank of the Lao PDR No. 95/PM issued.
9. October 1995: Law on Bank of the Lao PDR No. 05/95/NA passed by the National Assembly.
10. September 1995: Fixed exchange rate removed and adoption of a "managed floating".
11. June 1995: Maximum lending rates lifted for commercial banks, and subsequently minimum deposit rates removed in January 1996.
12. July 1997: Asian financial crisis erupts.
13. July 1998: Consolidation and restructuring of state-owned commercial banks.
14. October 1999: Law on Bank of the Lao PDR No. 05/95/NA revised and amended.
15. March 2000: Council of Ministers' Decree on Commercial Banks upgraded into Presidential Decree on Commercial Banks (No. 02/PR).
16. August 2002: Presidential Decree on Foreign Currency Management and Precious Metals No. 01/PR issued.
17. December 2006: Presidential Decree on Commercial Banks replaced by Law on Commercial Banks No. 03/NA as passed by the National Assembly.
18. May 2007: Decree on Foreign Currency Management and Promotion of the Use of kip for Domestic Transactions No. 150/PM issued.
19. March 2008: Presidential Decree on Foreign Currency Management and Precious Metals No. 01/P amended.
20. September 2009: Decree on the Implementation of Commercial Bank Law No. 275/PM issued.

21. January 2011: Lao Securities Exchanges launched for initial public offering (IPO) trading.
22. December 2012: Law on Securities (No. 21/NA) enacted.
23. December 2014: Law on Foreign Currency Management (No. 55/NA) enacted.

In the pre-reform period, the Lao PDR had a centrally planned economy and a mono-bank system where there was no separation between the functions of the central bank and commercial banks and the government-owned and administratively controlled all banking operations and foreign exchange. Under this tightly controlled regime, a complex system of exchange rate control was practiced. Foreign currency holdings by domestic residents were strictly prohibited (though tolerated) and foreign exchange for international transactions was centrally allocated through a state-owned bank, Banque Pour Le Commerce Exterieur Lao (often referred to BCEL as "foreign trade bank"). Export proceeds had to be surrendered and residents were not permitted to hold FCDs.

Nonetheless, private foreign exchange transactions were conducted in the parallel exchange market. Multiple official exchange rates were used for official transactions, and exchange rates between the official and parallel markets varied widely from 1985 to 1987 (Lathouly 1995).

The government of the Lao PDR launched its economic and financial reforms under the auspices of the "New Economic Mechanism" in 1986. Banking and monetary reforms were touted as key components of market-oriented economic reforms which included (1) deregulation of the banking sector, (2) liberalization of the foreign exchange regime, and (3) promotion of foreign direct investments. In the early stages of economic reforms, the Lao PDR experienced high inflation and an unstable exchange rate. Liberalization of the foreign exchange regime also resulted in massive devaluation of official exchange rates (See Fig. 2 of Chap. 1).

In March 1988, the government unified the various official rates and adopted a single exchange rate system. Under the new system, the BOL set the buying and selling rates for the kip/US dollar. The unified official rate was set close to the prevailing parallel market rate. As a result, the official rate was devalued from 95 kip per US dollar to 350 and later 450, reflecting a steep depreciation of the kip in the parallel market. The government also managed to keep the gap between the official and parallel market exchange rates under 10% throughout the period of 1989–1993, as required by the concessional loan conditionality jointly imposed by the International Monetary Fund (IMF) and the World Bank (Lathouly 1995).

In September 1990, the government issued a Decree on the Management of Foreign Exchange and Precious Metals (No. 53/PM), setting a legal basis for all commercial banks to accept FCDs from the public for the first time. Restrictions on foreign currency holdings were lifted. Residents and enterprises were allowed to maintain FCDs in local commercial banks. Commercial banks were authorized to extend credit in foreign currency to domestic enterprises.

In September 1995, the BOL decided to abolish the official exchange rate and formally adopted a "managed float" exchange system. Under this system, small and regular adjustments of the official/commercial bank exchange rate were made in line with parallel market developments. As a result, the commercial exchange rate depreciated to around 930 kip per US dollar. The measures taken by the BOL temporarily helped to restore the stability of the foreign exchange market, and the spread between the commercial bank and parallel market rates remained below 2.5% until August 1996.

The Laotian economy was severely affected by the 1997 Asian financial crisis originating in Thailand, and accommodative monetary and fiscal policies aggravated the severity of the situation. To cope with the economic downturn due to the Asian financial crisis, in 1998 the BOL removed bank-by-bank credit ceilings, leading to credit growth and a growth in broad money of 94 and 113%, respectively (IMF 2000). The country experienced high inflation, with the annual inflation rate reaching a peak of 129% in 1998–1999. The value of the kip against the US dollar also depreciated by more than 80%.

By 2006 macroeconomic stability was fully restored as the country embarked on an exchange rate-centered monetary policy by targeting an exchange rate within a band of 5% per annum. When necessary, the BOL would intervene in the foreign exchange market to maintain the stability of the nominal exchange rate. In August 2008, the BOL also introduced a daily reference rate for commercial banks. This policy has enhanced the capacity of the BOL to manage the exchange rate with more flexibility for both the kip/Thai baht and kip/US dollar exchange rates. As a result, yearly inflation rates were gradually brought under control, declining from 127% in 1999 to a low of 6.8% in 2006. This trend has continued ever since. Since then the Lao PDR has continued to maintain macroeconomic stability with a low and one digit inflation rate.

In addition, large capital flows raised a boom during this period, resulting in an appreciation of the kip against the US dollar. As a result, public confidence in local currency holding has returned. From the perspective of broad money (M2) in proportion to GDP (Fig. 3 of Chap. 1), the ratio of M2 to GDP has increased rapidly in recent years since local currency deposits as a component of M2 have grown much faster than FCDs, demonstrating increased public confidence in Lao kip deposits. This also helps to enhance development in the underdeveloped financial sector in the Lao PDR.

3 The Laotian Experience of Dollarization from 1988 to 2013

This section presents empirical evidence on dollarization in the Lao PDR from 1988 to 2013. The analysis is divided into two parts; the first part uses aggregate data for the dollarization ratio, while the second employs disaggregated bank-level data.

3.1 Analysis on the Trends of Dollarization

In the Lao PDR, it has been a common practice for businesses and households to use foreign currency as a medium of exchange and unit of account instead of the kip. The use of the US dollar and the Thai baht is seen all over the country, with large transactions commonly taking place in urban areas. The use of foreign currency can also be found outside of the major cities as well, such as in those provinces with long borders where border trade activities and smuggling are common. In places like hotels, restaurants, and shops foreign currency has been frequently used by vendors and tourists. These tendencies are more prevalent in parts of the urban service sector including the real estate sector and private schools, companies and to a less extent in the retail sector—primarily in high-value imported consumer goods such as computers and automobiles.

In the local market, prices are quoted in Thai baht and US dollars and shops stand ready to accept either foreign or local currency, but when accepting kip, the exchange rate quoted is typically significantly undervalued, encouraging the buyers of such services to pay in Thai baht or US dollars. Despite its significance, however, it is difficult to analyze the extent of the use of foreign currency cash for payments as there is no reliable estimate of foreign currency cash in circulation.

We examine the trend of financial dollarization using the FCD to broad money ratio (Fig. 1). The dollarization ratio was as high as 40% at the beginning of the economic transition in 1988 and remained broadly the same until 1996. In 1998, dollarization rose to 68% and reached a

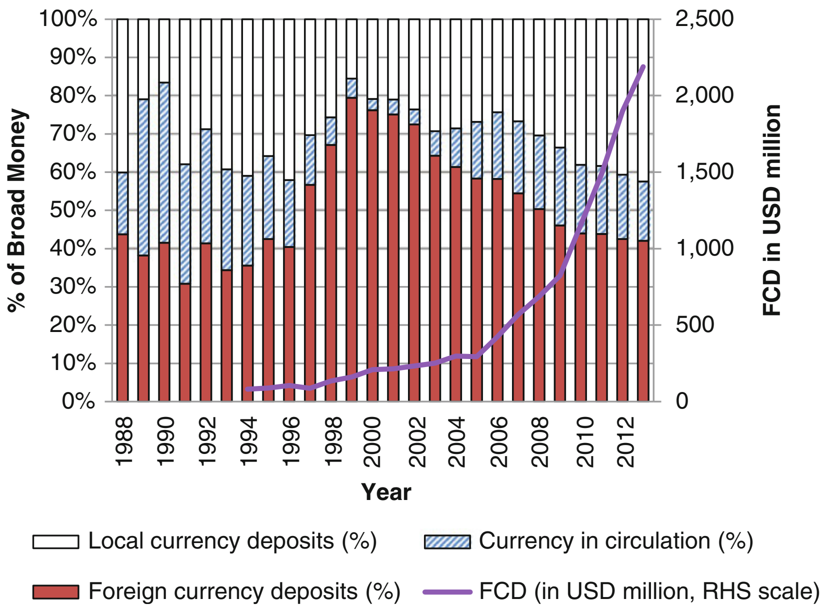

Fig. 1 Composition of broad money and FCDs in US dollar, Lao PDR, 1988–2013. *Source* Otani and Pham (1996); *IMF Country Report* (various issues)

peak of almost 80% in 1999 (in part due to the effects of devaluation). In the subsequent years, the dollarization ratio dropped continuously from its peak and in 2013 was stable at 42, a level similar to that seen in the 1990s.

There are two factors that explain this trend of deposit dollarization: (1) the removal of restrictions on foreign currency holdings, and (2) macroeconomic instability resulting from the 1997 Asian financial crisis. First, restrictions on foreign currency holdings were lifted and commercial banks were initially allowed to accept FCD accounts for both residents and nonresidents in 1988. The ratio of FCDs to M2 in the banking sector immediately reached about 40% in 1988 and remained roughly the same until 1996. The regulatory changes to FCDs might have allowed banks to absorb the foreign currency cash circulating domestically outside the banking system.

Second, macroeconomic instability in the late 1990s is closely linked to increased deposit dollarization. A large depreciation produces a rise in FCDs in local currency terms due to the valuation effect, which mostly explains the trend of dollarization ratio in 1998–1999. In addition, macroeconomic stabilization beginning in 2000 was associated with a downward trend in the dollarization ratio. As shown in macroeconomic data in Chap. 1, the inflation and exchange rates have generally remained low and stable since 2001, even as the dollarization ratio has been falling.

However, a record of low inflation and a stable exchange rate over the past decade did not bring down the dollarization ratio below the pre-shock level of 1996. This could partly be explained by hysteresis, or ratchet effect, a concept which describes a situation in which dollarization persists despite disinflation and exchange rate stabilization.

We present the composition of foreign and local currency deposits of the entire banking sector. Figure 2 shows a decomposition of deposits by currency and by three types of deposits, namely demand deposits, savings deposits, and time deposits. The figure shows that the ratio of FCDs to total deposits was 70.6% in 2006, and it declined to 48.7% in 2014. First, a large portion of FCDs are demand and savings deposits. Until 2008, the sum of demand and savings FCDs accounted for more than 50% of the total deposits of the entire banking sector, and it still accounts for 34.7% as of 2014. A portion of demand and savings FCDs

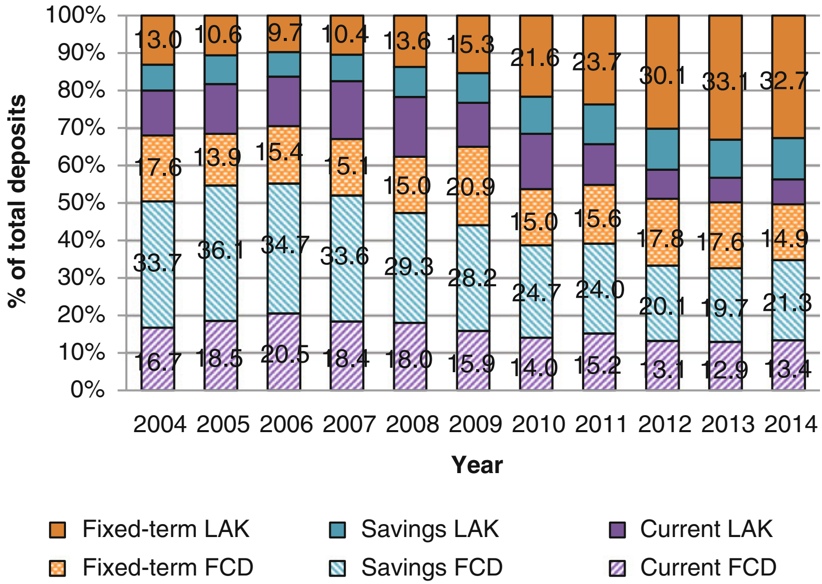

Fig. 2 Composition of deposits by currency and by type of deposits, Lao PDR, 2004–2014. *Source Quarterly Reviews of Monetary Statistics*, Bank of the Lao PDR (various issues) *Note* LAK stands for Lao Kip

is possibly held for transaction purposes, such as international and domestic payments.

Second, when we examine local currency deposits we find that fixed-term kip deposits have been growing faster than other deposits in recent years, resulting in a notable increase in its share in total deposits, which rose from 9.7% in 2006 to 32.7% in 2014. This is a stark contrast with the fixed-term FCDs whose share remains stable at around 15%. The robust growth in local currency fixed-term deposits strongly suggests that asset substitution has phased out.

3.2 Analysis with Bank-Level Data

In addition to an analysis of the general trend of the dollarization ratio, this paper further examines bank-level data. The banking system in the

Lao PDR has been dominated by state-owned commercial banks (SOCBs) . As of October 2014, the banking system consists of the central bank, (BOL) and four SOCBs[1], three joint venture banks, seven private banks, and 21 branches or subsidiaries of foreign banks. Collectively, these banks operate through a service network of 87 branches, 415 service units, 113 exchange bureaus, and 826 automated teller machines (ATMs) throughout the country. In terms of market share, SOCBs account for almost 60% of total bank assets. SOCBs also clearly dominate in terms of total loans and total deposits, at shares of 66.5 and 62.2%, respectively, during 2009–2013.

SOCBs include BCEL, Lao Development Bank (LDB), and Agriculture Promotion Bank (APB). While these three banks do not necessarily represent the banking sector, their high shares in the banking sector allow us to infer the trends of the whole banking sector. BCEL[2] is a foreign trade bank and the biggest bank in the country, dealing with international banking business and mainly operating in urban areas with 19 branches and 64 service units throughout the country. LDB[3] focuses its banking business on small and medium enterprises (SME), operating mainly in urban areas with 18 branches and 69 service units as of June 2014. APB[4] was formerly known as a policy-based bank before its transformation into a commercial bank in October 2006. Its banking business is centered on promoting financial access for farmers and households in rural areas. Due to its specific nature, APB is the only bank that has a wider service network in rural areas, with 17 branches and 82 service units throughout the country.

Table 1 summarizes the structure of loans and deposits by currencies during 2000–2013 for BCEL, LDB, and APB. First, with Table 1, we perform a cross-sectional comparison among these three banks. We consider that BCEL represents depositors of urban areas, and APB represents depositors of rural areas. We find that the extent of deposit dollarization in rural areas is much lower than that found in urban areas. As of 2013, the ratio of FCDs to total deposits is 54.9% for BCEL, and 14.7% for APB.

Second, in BCEL and LDB we also observe a declining share of the US dollar on both fixed and savings deposits, and an increasing share of kip in both fixed and savings deposits. At BCEL, the share of US dollar

Table 1 Types of deposits and loans of selected commercial banks, Lao PDR, 2000–2013

	(A) Composition of deposits by currency, BCEL																		
	Current deposits						Savings deposits						Term deposits						Total
	LAK		USD		THB		LAK		USD		THB		LAK		USD		THB		
	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.
2002	111	8.3	397	29.7	11	0.8	22	1.6	405	30.3	79	5.9	17	1.2	243	18.2	51	3.8	1336
2003	90	5.8	414	26.8	15	1.0	29	1.9	422	27.4	109	7.1	66	4.3	331	21.4	66	4.3	1542
2004	139	7.8	509	28.7	14	0.8	39	2.2	546	30.8	113	6.4	78	4.4	268	15.1	67	3.8	1773
2005	235	10.2	620	26.9	39	1.7	87	3.8	650	28.2	219	9.5	114	5.0	259	11.2	79	3.4	2302
2006	242	9.0	772	28.7	52	1.9	103	3.8	780	29.0	221	8.2	120	4.5	316	11.8	85	3.2	2692
2007	316	9.6	839	25.6	65	2.0	155	4.7	933	28.4	321	9.8	164	5.0	370	11.3	118	3.6	3282
2008	450	10.9	1063	25.7	51	1.2	260	6.3	978	23.7	373	9.0	302	7.3	510	12.3	145	3.5	4132
2009	655	12.0	988	18.1	112	2.1	515	9.4	1298	23.8	513	9.4	592	10.8	584	10.7	202	3.7	5458
2010	1561	20.5	926	12.1	123	1.6	728	9.5	1592	20.9	754	9.9	975	12.8	680	8.9	282	3.7	7621
2011	1140	11.0	1752	17.0	177	1.7	1100	10.6	1938	18.8	1136	11.0	1939	18.8	779	7.5	369	3.6	10,330
2012	1019	8.2	1678	13.5	179	1.4	1685	13.5	2367	19.0	1342	10.8	2791	22.4	885	7.1	499	4.0	12,446
2013	972	6.9	1686	12.0	218	1.5	1923	13.6	2629	18.7	1572	11.2	3458	24.5	1091	7.7	545	3.9	14,093

Source Author's calculation based on data compiled from commercial banks

Notes Percentage refers to the share of a deposit in total deposits. LAK, USD, and THB stand for Lao kip, US dollar, and Thai baht, respectively

Table 1 (Continued)

(B) Loan-to-deposit ratio by currency, BCEL				
Year	Loan-to-deposit ratio by currency			
	Total (in LAK) %	THB (in LAK) %	USD (in LAK) %	LAK %
2002	67.3	39.6	74.3	44.5
2003	53.1	16.4	62.7	30.1
2004	46.6	16.6	55.2	24.7
2005	50.3	10.1	66.9	23.1
2006	26.5	13.7	28.2	29.7
2007	26.4	10.9	27.5	35.2
2008	33.8	20.5	35.6	36.6
2009	36.0	31.3	40.3	31.3
2010	37.5	31.0	46.2	31.4
2011	49.8	31.3	64.0	42.0
2012	56.7	62.6	61.0	50.8
2013	67.4	57.7	73.7	65.6

Source Author's calculation based on data compiled from commercial banks

Table 1 (Continued)

(C) Composition of deposits by currency, LDB																			
	Current deposits						Savings deposits						Term deposits						Total
	LAK		USD		THB		LAK		USD		THB		LAK		USD		THB		
	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.
2003	170	21.0	38	4.7	5	0.7	106	13.1	132	16.3	115	14.2	27	3.4	127	15.6	90	11.1	810
2004	190	22.2	57	6.7	11	1.3	111	13.0	149	17.4	143	16.8	27	3.2	94	11.0	73	8.6	855
2005	187	21.5	65	7.4	17	1.9	130	15.0	164	18.8	173	19.9	17	1.9	56	6.5	62	7.1	871
2006	276	25.2	108	9.8	20	1.8	141	12.8	220	20.0	172	15.7	21	1.9	66	6.1	75	6.8	1098
2007	406	27.9	172	11.8	33	2.3	192	13.2	250	17.2	236	16.2	32	2.2	61	4.2	74	5.1	1457
2008	501	33.1	91	6.0	29	2.0	236	15.6	232	15.4	212	14.0	45	3.0	79	5.3	87	5.7	1512
2009	572	30.0	160	8.4	51	2.7	309	16.2	246	12.9	247	13.0	83	4.3	110	5.7	131	6.9	1909
2010	413	19.4	119	5.6	34	1.6	452	21.3	372	17.5	305	14.4	133	6.3	121	5.7	175	8.2	2123
2011	494	20.3	187	7.7	46	1.9	476	19.5	347	14.2	326	13.4	190	7.8	175	7.2	196	8.0	2438
2012	468	16.9	218	7.9	39	1.4	614	22.2	308	11.1	357	12.9	301	10.9	218	7.9	243	8.8	2767
2013	413	12.9	129	4.0	57	1.8	765	23.9	451	14.1	489	15.3	387	12.1	227	7.1	279	8.7	3195

Source Author's calculation based on data compiled from commercial banks

Notes Percentage refers to the share of a deposit in total deposits. LAK, USD, and THB stand for Lao kip, US dollar, and Thai baht, respectively

Table 1 (Continued)

(D) Composition of deposits by currency, APB																			
	Current deposits						Savings deposits						Term deposits						Total
	LAK		USD		THB		LAK		USD		THB		LAK		USD		THB		
	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.	%	Kip, bil.
2000	48	59.8	0	0.5	0	0.1	19	23.7	1	1.0	2	2.6	9	11.1	0	0.5	1	0.6	81
2001	52	49.6	2	1.9	0	0.0	26	25.2	2	1.9	3	2.9	17	15.9	1	1.3	1	1.2	105
2002	46	36.7	0	0.4	0	0.0	37	29.6	2	1.9	4	3.6	30	24.3	2	1.7	2	1.8	125
2003	78	38.8	2	0.8	0	0.0	45	22.4	4	1.9	5	2.7	62	30.8	2	1.2	3	1.4	201
2004	97	33.9	2	0.6	1	0.4	48	16.8	9	3.1	9	3.3	115	40.4	1	0.5	3	0.9	285
2005	103	31.4	5	1.5	1	0.2	61	18.7	10	3.1	15	4.5	127	38.8	2	0.7	4	1.1	328
2006	172	42.7	5	1.3	1	0.2	68	16.9	10	2.4	14	3.4	121	30.1	5	1.2	7	1.9	403
2007	333	51.1	2	0.4	2	0.4	86	13.2	16	2.4	26	3.9	160	24.5	9	1.3	18	2.7	651
2008	326	43.0	5	0.7	3	0.4	93	12.3	23	3.0	29	3.8	247	32.6	10	1.4	21	2.8	757
2009	336	35.4	7	0.8	4	0.4	136	14.4	30	3.1	48	5.0	351	37.0	9	0.9	28	2.9	949
2010	299	23.8	5	0.4	2	0.2	195	15.5	30	2.4	65	5.1	600	47.8	15	1.2	46	3.6	1257
2011	354	20.9	12	0.7	3	0.2	289	17.1	49	2.9	100	5.9	799	47.3	25	1.5	60	3.5	1691
2012	366	16.2	10	0.5	6	0.3	408	18.1	53	2.4	125	5.5	1192	52.8	28	1.2	68	3.0	2258
2013	381	13.4	74	2.6	5	0.2	505	17.9	67	2.4	158	5.6	1527	54.0	32	1.1	81	2.9	2830

Source Author's calculation based on data compiled from commercial banks
Notes Percentage refers to the share of a deposit in total deposits. LAK, USD, and THB stand for Lao kip, US dollar, and Thai baht, respectively

Table 2 Components of deposit accounts by type of account holder of selected commercial banks, Lao PDR, 2002–2014

Bank	Year	Type of account holder	Demand deposits			Saving deposits			Fixed deposits			Total
			LAK	THB	USD	LAK	THB	USD	LAK	THB	USD	
			Unit: Kip, billion									
BCEL	2002	Individuals	2	0	27	18	65	259	15	49	224	659
		Corporate	109	2	370	4	14	146	1	3	19	667
	2014	Individuals	161	11	175	2536	1782	2591	4691	669	1291	13,905
		Corporate	1173	26	2524	277	49	486	157	0	106	4798
LDB	2004	Individual/Corporate	190	2	57	111	21	149	271	73	94	967
	2014		661	5	175	1011	73	412	5273	304	226	8140
APB	2002	Individual	7	0	0	37	4	2	30	2	2	86
		Corporate	39	0	0	0	n.a.	n.a.	n.a.	n.a.	n.a.	39
	2014	Individual	76	3	3	654	198	71	1964	91	33	3094
		Corporate	501	4	9	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	513

Source Author's calculation based on data compiled from commercial banks

Notes Deposit amounts are compiled by currency and by type of account holder. LAK, THB, and USD stand for Lao kip, Thai baht, and US dollar, respectively. There are some discrepancies in figures between Tables 1 and 2 fixed-term deposits to its total deposits declined from 21.4% in 2003 to 7.7% in 2013, while the share of local currency fixed-term deposits rose from 1.2% in 2002 to 24.5% in 2013. Similarly, at LDB, the share of US dollar fixed-term deposits declined from 15.6% in 2003 to 7.1% in 2013, whereas the share of local currency fixed-term deposit rose from 3.4 to 12.1% in the same period. This implies an unwinding of asset substitution.

Finally, when we examine LDB, whose main depositors are SMEs, we find that the share of deposits by currency shows that depositors tend to keep deposits in US dollars and Thai baht proportionally for saving accounts and for fixed deposits. Interestingly, its demand deposits are largely in local currency, which implies that settlements of SMEs are largely in local currency.

Table 2 presents the composition of deposits by type of account holder and by type of deposits for three SOCBs (BCEL, LDB, and APB). Account holders are classified into corporations and individuals. Among these three banks, LDB does not differentiate between individuals and corporations, probably due to its focus on SMEs.

Several observations can be made from Table 2. First, the weight of corporate accounts has declined in both BCEL and APB. In BCEL, the shares of corporate and individual accounts were nearly the same in 2002. However, the deposits of individual accounts have grown much faster than those of corporate accounts. In 2014, the latter is almost three times larger than the former. There was a similar change in APB.

Second, fixed deposits have been more favored by individuals whereas demand deposits have been more favored by corporations, regardless of currency type. This apparent preference of corporations for more liquid deposits suggests that their demand deposits are held to facilitate transactions rather than as an investment or store of value instrument, while individual/households keep deposits as a financial portfolio. Saving deposits have been held by both individuals and corporations, but the former overwhelms the latter. Rises in fixed deposits at BCEL and APB are attributable to changes in the composition of depositors, with an increasing weight of individual accounts.

Third, we can see that for fixed deposits of individual accounts, there has been a notable shift from US dollar deposits to kip deposits. In contrast, when we look at the demand deposits of corporate accounts, we find that US dollar deposits continue to account for more than a half of the total demand deposits of corporate accounts.

In summary, observation of bank-level data leads us to conclude that the decline in the dollarization ratio (FCDs to M2) is attributable to a change in the composition of depositors from corporations to individuals and to the preference of individuals to save in local currency fixed deposits held for asset portfolios. In contrast, the corporate sector tends to hold demand deposits for transaction purposes, and the large part of their demand deposits is FCDs. Households' savings deposits would be also used for transaction purposes. For demand deposits and saving deposits, the weights of FCDs remain high, implying that FCDs for transaction purpose are more persistent than FCDs for asset substitution.

4 Evaluation of De-dollarization Policy in Lao PDR

4.1 Evaluation of De-dollarization Policy

The Laotian de-dollarization policy has evolved through different arrangements over the past 2 decades (Box 2). This section attempts to provide an empirical assessment of de-dollarization policy. The methods of policy evaluation definitely have some limitations. There are many ways that a policy can influence the market behavior, and it is often quite difficult to establish a causal connection between a policy and an actual outcome.

Box 2: Chronology of major regulatory and policy changes in Lao PDR, 1988–2015

Year	
October 1988	Commercial banks allowed to accept foreign currency deposits

September 1990	Decree on Foreign Currency Management and Precious Metals (No. 53/PM)
September 1995	Fixed exchange rate regime replaced by a managed float exchange rate regime
October 1996	Decree on Cheque Payment (No. 175/PM)
June 2002	Regulation on reserve requirement ratio comprising kip and foreign currency issued and later amended in May 2006
August 2002	Decree on Foreign Currency Management and Precious Metals upgraded to Presidential Decree (No. 01/PR)
September 2006	Commercial banks first promote the use of ATM cards and utility payment (bills for water and electricity) through banking system
May 2007	Decree on Foreign Currency Management and Promotion of the Use of the kip for Domestic Transaction (No. 150/PM)
September 2007	Nationwide campaign on the use of national currency through media, commercial advertisement, posters, etc.
March 2008	Presidential Decree on Foreign Currency Management and Precious Metals revised
March 2008	BOL Circular on foreign exchange allowing commercial banks and their exchange bureaus to sell foreign exchange to public equivalent to 20 million kip per person per day (equivalent to US$2500) with only ID card or passport (No. 57/BOL)
August 2008	BOL Circular on reference rate: kip/US dollar determination for commercial banks
September2009	Decree on the Implementation of Commercial Bank Law (No. 273/PM)
February 2010	Inter-ministry Committee on Law Enforcement and kip Promotion with the role of conducting

	regular inspections on shops and markets, and corrective action on shops that make payments and quote prices in foreign currencies
September 2013	BOL Circular to commercial banks (No. 792/BOL) to lend in foreign currency only to companies with foreign exchange incomes
October 2014	Decree on Cheque Payment (No. 386/PM) revised
December 2015	ATM Pool Switch for commercial banks launched

In addition to macroeconomic stabilization, Laotian authorities employed other measures, including convertibility of local currency, restrictions on foreign currency loans, promotion of the use of local currency for domestic transactions, and improvements to the domestic payment system and usability of the local currency.

4.1.1 Restoring Macroeconomic Stability

Perhaps the most striking measure that led to a decline in the use of foreign currency was successful macroeconomic stabilization. By learning from the painful experience of the Asian financial crisis and the subsequent high inflation, severe devaluation, and slow economic growth, the BOL took substantial measures to address the long-standing roots of economic instability. A monetary policy framework included implementation of tight monetary policy, reduced credit growth, and exchange rate flexibility, with the exchange rate as the principal tool. Over the past 10 years, the monetary authorities were able to maintain a single-digit inflation rate and a stable exchange rate. The significant improvement in macroeconomic stability has resulted in substantial de-dollarization in the Lao PDR (IMF 2013).

In terms of asset substitution, since the ratio of foreign to local-currency-denominated deposits is considered to positively relate to

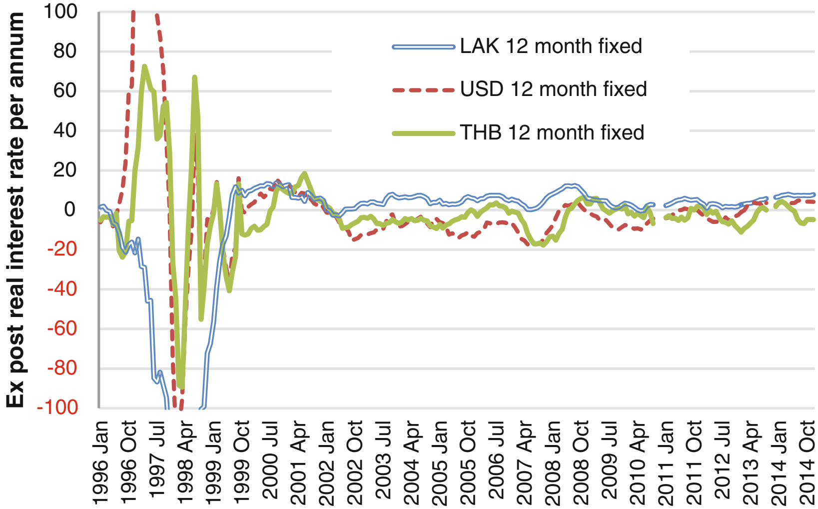

Fig. 3 *Ex post* real interest rates on local and foreign currency fixed deposits, Lao PDR, January 1996–December 2014. *Sources International Financial Statistics*, IMF; Bank of Lao PDR website: http://www.bol.gov.la/english/interate1.html *Notes* LAK, USD, and THB stand for Lao kip, US dollar, and Thai baht, respectively

the gap in real returns, a fall in inflation (i.e., a rise in real return of local-currency-denominated deposits) should lower the demand for FCDs relative to local currency deposits. Figure 3 shows real interest rates on local currency deposits and foreign currency deposits. The fall in the dollarization ratio that began in 2003 coincides with a switch from a highly negative real interest rate on local currency deposits to a positive return; since then, the real return of local currency deposits has exceeded those of FCDs for most of the times.

4.1.2 Convertibility of Local Currency

In August 2013, the BOL issued a newly revised circular on foreign exchange (No. 243/BOL). To avoid public concerns and restore confidence in the capacity of the supply of foreign exchange by the banking sector, the BOL allowed commercial banks and their exchange bureaus to sell foreign exchange to the general public equivalent to 20 million kip per person per day (equivalent to US$2500) without specifying the purpose or requiring a complex process. This policy was aimed at building public confidence that foreign exchange could be purchased whenever needed.

Another important implication of this policy is that it helps the BOL to contain the foreign exchange black market. As a result, the gap between the black market and official exchange markets narrowed. Many agents, companies, individuals, and tourists turned to banks and formal money changers, not only for purchases of foreign exchange but also for sales of foreign exchange. According to available figures on the volume of foreign exchange trading, the amount of foreign currency purchased by the Bureau de Change of commercial banks increased significantly from US$10.5 million to about US$18–20 million per month. However, the biggest cost involved with this policy is that the BOL spends a substantial amount of foreign reserves on market intervention aimed at maintaining the stability of currency, thus limiting the level of foreign reserves.

4.1.3 Restrictions on Foreign Currency Loans

In September 2013, the BOL issued a regulation on commercial banks (No. 792/BOL) designed to restrict lending in foreign currencies only to companies with foreign exchange incomes. The main objective was to mitigate credit risk associated with unhedged borrowers. This regulation was introduced amid a high amount of nonperforming loans that resulted from lending to borrowers without a source of foreign currency earning. The regulation was supportive of the campaign for the use of local currency for domestic payment.

4.1.4 Improvement of Domestic Payments System and Usability of Local Currency

Underdevelopment of domestic payment systems is also one of the factors that cause the use of foreign currency because cash payment in local currency is inconvenient for large payments, since a large sum of cash is needed to buy high-value products. The main domestic payment instruments are cash, and to a lesser extent, checks, as the latter are cumbersome to use.

Starting in the early 2000s the BOL encouraged commercial banks to develop a modern payment system. BCEL has taken the leading role in developing a modernization scheme for payment system and became the first bank to introduce the core banking system which can support an online system of branches in the form of real-time automated telling machine (ATM) service within the country.

Payment is now available for high-value transactions through banks or other modes of payments. At present, modern and electronic payments system such as debit cards, credit cards and inter-linkage of ATMs in the commercial banking system, in particular, has become a part of people's lives in the country. Under the BOL's Master Plan of modernization of payment system (2011–2015), Real-Time Gross Settlement (RTGS) and an Automatic Clearing House application have already been implemented, and ATM Pool and e-Payment Gateway systems are now underway. For example, BCEL stands ready to install an Electronic Data Capture (EDC) machine to facilitate debit/credit cards payment for shops that need this type of service and provide a special discount from 10–20% for their clients when they buy products from designated shops. There was a good response from customers. ATM cards are increasingly used by the public, and people can withdraw cash from ATMs only in local currency with lower service charge even though their accounts are in foreign currency.

As for the usability of the local currency, its small denomination incentivizes the use of foreign currency because cash payment in local currency is inconvenient for large payments. Prior to 2000, the highest denomination banknote was 5000 kip, which was first issued in 1997. It had a monetary value equivalent to about US$3 initially but its value fell to less than US$1 in 2001 due to the depreciation of the kip.

The BOL introduced the higher denomination of 10,000 and 20,000 kip banknotes in 2002, the 50,000 kip banknote in 2006, and the 100,000 kip banknote in 2011. The 50,000 kip banknote and the 100,000 kip banknote, for example, had a monetary value equivalent to US$5.2 and US$12.5 at the time of introduction of these banknotes. The BOL also improved the quality of banknotes and distribution.

The amount of local currency in circulation has been growing and the kip is increasingly used for numerous purposes. As shown in the financial statistics in Chap. 1, the amount of cash in circulation in the proportion of GDP has significantly increased from 0.5% in 2000 to about 8% in 2013.

4.1.5 Promotion of the Use of Local Currency for Domestic Transactions

The Decree on Foreign Currency Management and Promotion of the Use of the Kip for Domestic Payment (No. 150/PM), issued in May 2007, aimed to increase awareness among all agents, companies, and individuals around the country and encourage them to use only local currency for domestic payments, regardless of the size of the transaction. This decree provides a legal basis for the BOL's mandates and for relevant authorities to provide cooperation in instructing respective bodies under their supervision to comply with the legal requirements for tax payment and remuneration in local currency. The decree also gives the BOL a mandate to collaborate with authorities to conduct regular inspections of business units, companies, and shops to determine whether they are making payments and quoting prices in local currency. The Decree permits the BOL and competent authorities to award prizes to those who provide support and cooperation and to take action against those who violate the regulations. According to a report available from the Monetary Policy Department (BOL 2014), the BOL has issued letters of appreciation to 24 business entities, letters of warning to 193 entities, and imposed a penalty to 11 entities during 2007–2014.

In March 2008, the BOL amended and upgraded the Prime Minister's Decree on foreign exchange management to a Presidential Decree (No. 01/P) and issued implementation instructions in April 2010 incorporating more provisions on effective legal action against those violating the regulations in both minor and severe cases. Provisions and models for good conduct were set. Because of this upgrade to a higher legal status, the regulation could be more stringently enforced. The BOL also created a steering committee for law enforcement and kip promotion consisting of members from key agencies such as the Ministry of Justice, the Court and prosecutors, the Economic Police, the Industry and Trade Department of Vientiane Prefecture, and so on, with the role of implementation, coordination, and monitoring of market conduct. This committee conducted regular inspections to monitor the price quotation of goods and services in the markets, shops, companies, and trade fairs or exhibitions.

The authorities have carried out active promotion campaigns nationwide to encourage the use of local currency. These aimed to persuade the public to change their behavior and rebuild public confidence in the kip. These campaigns included dissemination seminars on the regulatory framework from the central to provincial levels in public offices, schools, universities, and companies. The purpose of the seminars was to persuade the public to strictly comply with the existing legal framework. Furthermore, authorities used public media to promote the use of local currency through radio, television, promotional ads, songs, and posters (Box 3).

Box 3: Example of song title composed by Laotian national artists to promote the use of Kip. *Source* Bank of Lao PDR's Website http://www.bol.gov.la/MPD_2012/index.html

1. Let's join hand to use Kip nationwide
2. Lao people must love to use Lao Kip
3. Lao Kip is a symbol and dignity of our nation
4. Lao Kip is a symbol of our sovereignty
5. The Value of the Lao Kip
6. Lao Kip, Lao Society
7. Our Nation, Our Lao Kip
8. Money and Gold
9. Lao National, Lao Kip
10. Kind hearted merchants
11. Lao currency, Lao Kip
12. Let's maintain the value of Kip

While it is difficult to quantify how much this policy contributed to the de-dollarization of the economy, from eyewitness reports and observation in the field, there have been some positive outcomes. Many shops now increasingly quote prices and accept payment for goods and services in local currency. Public behavior has generally changed to cooperate with the BOL to enforce the implementation of the Law. According to a preliminary report based on a market survey conducted by the committee for foreign currency law enforcement and kip promotion, more than 200 out of 500 business entities, companies, and shops were cooperating with the BOL and quoting prices and accepting payment in local currency.

The Lao authorities consider that in the context of the country, reliance on only market incentives/economic measures is not sufficient to persuade people to use local currency for domestic payment (Pansivongsay 2008). Thus, the authorities emphasize other measures to boost confidence in the kip, including promotion of the use of kip through the media. It is expected that the BOL will continue both the kip promotion campaign and the legal measures until people are proactive and accept only kip for domestic transactions (Phouthonesy 2008).

4.2 Policy Options for De-dollarization

In pursuing the ultimate goal of minimizing the use of foreign currency in the economy, what are the possible policy options for the monetary authorities? The remainder of this section sheds some light on the policy options suitable for the Lao PDR.

Maintaining a sound macroeconomic environment by keeping inflation low and maintain a stable exchange rate is the most critical component of a de-dollarization strategy. This view is also echoed in a speech by the former BOL Governor that "devaluation of the kip would lead to a lack confidence in the national currency and would cause people to convert the kip into foreign currencies to protect their savings."[5] Besides, a policy specifically aimed at reducing dollarization to increase the domestic monetary base through regulations and legal restrictions should be carefully implemented, as it may lead to capital flight and underground transactions. Instead, promotion of the use of the kip through incentives rather than regulations should be pursued.

4.2.1 Development of a Domestic Financial Market

Although the problem of asset substitutions has improved as shown by in the decline in the proportion of foreign currency fixed deposits to total deposits, further effort is required to develop deep and liquid domestic financial markets that can provide alternative investment opportunities to FCDs and reduce the motivation for financial dollarization. Issuance of medium to long-term government bonds in local currency provides a vehicle for domestic investment and can serve as a benchmark for the interest rate.

Similarly, the development of a well-functioning foreign exchange market backed by high levels of foreign reserves would ensure easy market access to foreign exchange, limiting the demand for foreign currency for precautionary reasons. High foreign reserves also play an important role in a dollarized economy as they serve as the first line of defense in the case of a bank run and help to ensure public confidence in the exchange rate.

Although there has been an attempt to develop a domestic financial market in recent years by the authorities, it is still in an early stage of development. The Lao Stock Exchange (LSX) was established in October 2010, and only four companies have been listed in the market during the past 5 years. The domestic bond market is also shallow, and at present the government securities denominated in local currency are only short-term securities, such as the Treasury bills and long-term bonds issued in 2015 for 570 billion kip with maturities of less than 1 year and interest rates of 4–5% per annum. The scope of the market remains restricted and market participants are mostly banks.

4.2.2 Prudential Regulation of the Financial System

Prudential measures might also be effective for dealing with asset substitution. These measures can make foreign currency loans and deposits less attractive, internalizing the real cost of doing business in foreign currency. Prudential measures include narrow open foreign currency position limits, higher liquidity requirements on FCDs, a higher risk premium on dollar deposits in deposit insurance scheme, and higher capital and provisioning requirements on foreign currency loans, especially for borrowers without foreign exchange revenues. They also include stronger collateral and valuation rules for foreign-currency-denominated loans.

Since January 2001 the BOL has set different ratios for local currency deposits and FCDs for reserve requirements. The reserve requirement ratio is 5% for local currency and 10% for foreign currency. These reserve requirement ratios have been kept unchanged since May 2006.

For the open position of foreign currency, a BOL regulation on foreign currency exposure (No. 818/BOL) issued in October 2010 requires commercial banks to maintain a net open position for a single foreign currency for short and a long position not more than 20% of tier-one capital, and a net foreign currency position for all currencies for short and long position not exceeding 25% of tier-one capital.

Third, general loan loss provisions regulations do not distinguish between foreign currency loans and local currency loans. According to a BOL decision issued in April 2010, there is a unified rate for commercial banks to make provisions for nonperforming loans in the range of 0.5–1% of total loans (BOL Decision No. 242/BOL). Similarly, there is also one unified premium rate in the deposit insurance scheme that the commercial banks in Lao PDR shall contribute by 0.1% of total deposits to the Lao Depositor Protection Fund (BOL regulation No. 283/BOL issued in August 1999).

4.2.3 Measures on Currency Substitution

In parallel with policy measures to deal with asset substitution, complementary measures should be considered to control currency substitution or holdings of foreign currency for domestic transaction purposes. For example, policies that promote the use of local currency for payments through convenient and lower cost services than those for foreign currency could be pursued. Similarly, another policy option is control on domestic account transfers of FCDs since demand deposit FCDs are held for domestic transactions as well as for the settlement of international trade. Instead of an immediate ban on domestic account transfers of

FCDs, one option is to impose higher service fees or taxes. When firms encounter higher costs associated with fund transfers, they may shift to transactions using local currency deposits. However, controls on domestic account transfers of FCDs may backfire; transactions may go underground, using foreign currency cash instead of local currency deposits. The policy change may cause a massive withdrawal of demand deposit FCDs. Therefore, the policy must be carefully designed with advance notice given to depositors and safeguards for banks put in place.

Furthermore, public agencies should take a leading role in conducting operations in local currency as much as possible. Increased promotion of tax payments in local currency can support an increase in demand for local currency, as can public payment for wages, goods, and services in local currency.

5 Conclusions

With the implementation of market-oriented reforms in the Lao PDR during the late 1980s, the banking sector was reformed and restrictions on foreign currency holdings were largely removed. Subsequently, a lack of experience in macroeconomic management in dealing with the 1997 Asian financial crisis led to high inflation and a sharp depreciation of exchange rate. As a result, the Lao PDR has experienced high dollarization. The ratio of FCDs to broad money increased from 43.8% in 1988 and reached a peak of almost 80% after the 1997 Asian financial crisis, and remained around 40% following economic stabilization in the latter half of 2000s.

We examine the situation of deposit dollarization using the bank-level data. Major findings could be concluded as follows. First, changes in FCD holding of individuals for asset substitution (fixed deposits) coincided more closely to macroeconomic stabilization, and its growth decelerated more sharply than that of FCD holding of corporations for transaction motives (demand and savings deposits). FCD for transaction purposes might be more difficult to contain when compared with FCDs for asset substitution. Second, FCDs are more prevalent in urban areas than in rural areas.

The authorities have introduced a series of de-dollarization policy measures. These include maintaining macroeconomic stability, improvement and strict enforcement of regulations on foreign exchange management, improvement of domestic payment system and usability of local currency, and nationwide promotion of the use of local currency for domestic transactions. A sharp increase in local currency in circulation from 0.5% of GDP in 2000 to 7.8% in 2013 and 9.2% in 2014, respectively, suggests a remarkable achievement of the de-dollarization policies.

Dollarization is a multifaceted problem due to the mixture of asset substitution, currency substitution, and precautionary demand for foreign exchange in the face of underdeveloped financial system. For successful de-dollarization, each purpose of foreign-currency-denominated assets must be addressed by a composite of de-dollarization strategies; one strategy does not fit all components of dollarization. Thus, there is a spectrum of policy options that Laotian authorities could consider pursuing to contain the use of foreign currency in the domestic economy. The guiding principle here is that policy measures should generally include the maintenance of long-term macroeconomic stability and enhancement of the attractiveness of local currency.

Notes

1. One of these SOCBs is Noyoby Bank, which is classified as a specialized and public bank, set up by the government in September 2006 to provide loans for rural development in areas designated by the government. It does not accept deposits from the public and its source of funding is the government budget allocation, as stated in its charter.
2. BCEL was established as a SOCB in November 1989, succeeding branches of the central bank.
3. LDB was established in April 2003 as a result of the merger of two SOCBs, namely Lane Xang Bank and Lao May Bank.
4. APB was established in June 1993, originally as specialized policy bank for supporting the agriculture sector.
5. Khamphouvong (2010).

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