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# Foreign Currency Usage and Perception: Evidence from a Survey on Cambodian Households[1]

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**Abstract**

Cambodia is highly dollarized in terms of macro aggregated figures, such as foreign currency deposit to M2. It is not well known that how households are living in the multi-currency environment. In this paper, the primary objective is to present the real picture of dollarization of households, using survey-based data from October 2014 to January 2015. This survey obtained responses from 2273 sample households from 25 provinces. It is possible to see different aspects of household behavior, such as income, expenditure, saving, borrowing, currency notes usage, potential risks of currency mismatches in the household's budget, and perception and opinions.

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## 1. Introduction

It is well known that Cambodia is highly dollarized in terms of FDC/M2 or other financial sector figures. These figures give people an impression that almost all transactions are done in foreign currency. These data are useful whenever cross country comparison is needed, but sometimes mislead the real picture. It may be difficult to see how households are using foreign currency in their transactions from them. Moreover, since economic activities and their environments differ significantly by area, household behavior relating to currency usage may also be differentiated across the regions of the country. From the aggregated data it is impossible to see such difference. The survey data showed us well diversified usage of currencies of people living in multi-currency environment.

The previous literature on the foreign currency borrowing of households using micro data has identified several factors that significantly impact upon household economic behavior. Seeking interest rate differentials between foreign currency loans and local currency loans, hedging foreign currency risks, or avoiding volatility on returns are some of the significant factors to drive households to borrow in foreign currencies (Fidrmuc et al. 2013). In the literature on the dollarization of transactions, network externality has also been discussed as a factor affecting foreign currency usage (Valev 2010). Thus, we know that households use foreign currencies differently depending on the types of transaction being undertaken. However, the motivations behind such foreign currency usage are complicated and not easily understandable.

In this paper, the primary objective is to present the real picture of dollarization of households, using survey-based data from October 2014 to January 2015. This survey obtained responses from 2273 sample households from 25 provinces. We saw different aspects of household behavior, such as income, expenditure, saving, borrowing, currency notes usage, potential risks of currency mismatches in the household's budget, and perception and opinions. This chapter is intended to facilitate discussion on foreign currency usage, particularly from a household perspective. The rest of this chapter is organized as follows: the next section reviews the literature on dollarization from the household perspective, then the following section outlines the survey design for households, and the data collected. The remaining sections present the results of this survey from several aspects, allowing us to see the real picture of household behavior. The final section gives conclusions, and some implications for policy makers.

## 2. Previous Studies on the Dollarization of Household Behavior

It may well be said that previous studies on dollarization with a particular focus on household behavior have been rather limited compared to those on financial institutions or enterprises. This is partly because previous studies of dollarization began by using aggregated macro data derived from the financial system, or used the financial statements of listed companies. Data that allows analysis of the actual behavior of households is not as readily available as the data commonly used for the analysis of financial institutions or enterprises. Such analyses require micro data to analyze these behaviors.

In the past, studies on households were either focused on borrowing activities, or on currency preferences in terms of externality. The former strand of studies used micro survey data analyzing household choice of borrowing currency. Pellinyi and Bilek (2009) for example, used household survey data from Hungary to analyze the determinants of foreign currency borrowing. They did not find evidence that Hungarian foreign currency borrowers were better educated, wealthier or more risk-loving than their peers. However, they did find that foreign currency borrowers were likely to believe that depreciation could decrease the cost of taking loans in a local currency. Borrowers are more usually driven by macroeconomic factors such as: the high interest rate spread between local currency and foreign currency loans, a relatively stable exchange rate, and competition from foreign owned banks. Beer et al. (2010) analyzed the characteristics of FX (Swiss franc) borrowers in Austria. They used a uniquely detailed financial wealth survey of Austrian households to sketch a comprehensive profile of the attitudes and characteristics of the households involved. They found that risk seeking, affluence, and the marital status

of households, were more likely to influence the taking of a housing loan in a foreign currency. Moreover, financially literate or high-income households were more likely to take a housing loan in general. These socio-economic characteristics of foreign currency borrowers led them to conclude that Swiss franc borrowing may not be a serious threat to financial stability.

Fidrmuc et al. (2013) studied the determinants of foreign currency loans of households, using data on the behavior of households in nine Central and Eastern European Countries (CEECs). Due to the richness of their data, they could examine hypothesis affecting loan currency in terms of macro variables and micro surveyed variables. However, their particular contribution to this strand of literature was that, instead of focusing on existing loans, they used information about respondents' intentions to take out a loan, which they interpreted as a measure of the demand for foreign currency loans. This approach ennobled them to separate supply factors from demand factors affecting the currency choice outcome. They found that trust in domestic and foreign financial assets (saving) and institutions were the most robust determinants of foreign currency loans. Moreover, hedging factors such as remittances and household income in foreign currency would increase the probability of foreign currency loans.

Beckmann & Stix (2015) studied household behavior in foreign currency borrowing, particularly focusing on their knowledge about exchange rate risk. They tested the proposition that demand for foreign currency loans was driven by a lack of knowledge about the exchange rate risk emanating from such loans. They employed individual-level survey data from eight Central and Eastern European countries that provided them with information on agents' knowledge about exchange rate risks. They showed that a majority of respondents were aware that depreciation will increase loan installments, and that knowledge about exchange rate risks exerts a strong impact on the choice of the loan currency. Finally, they outlined the negative effect of exchange rate literacy on foreign currency borrowing.

Later studies on the externality of currency usage also used micro surveyed data to analyze household preferences on currency. Valev (2010) examined the effect of externalities as well as that of expected depreciation on foreign currency preferences, using survey data from Bulgaria. In this survey, households were asked about currency preferences in terms of seller perspectives on real estate sales, car sales, real estate rentals, and labor sales (wages). He showed that foreign currencies were preferred in transactions if households perceive that they are widely used in the economy. But expected depreciation played a rather limited role in currency preferences. It was observed only for residents in small towns and villages. Based on these findings, he concluded that it may be necessary to distinguish between factors affecting financial dollarization and those affecting dollarization of transactions.

## 3. Survey Data and Methodology

The authors carried out a survey of households from October 2014 to January 2015. This collected information from all 25 provinces of Cambodia (Table 3.1). We divided our sample survey into seven regions: (1) Phnom Penh; (2) Siem Reap; (3) the Northeast Area; (4) the Northwest Area; (5) the Central Area; (6) the Southeast Area; and (7) the Southwest Area.[3] In this survey, we interviewed 2,273 households; to simplify the data collection process and to avoid sampling biases, we employed stratified sampling at the provincial level according to the actual regional population from the General Census of 2008 (covering 2,841,897 households)[4]. Our questionnaire covered income, expenditure, tangible and financial assets, and borrowings, and also demographical variables such as age and the education levels of household heads. In the sample, districts/communes close to the borders with Thailand and Vietnam were

[3]The Northeast Area includes Kratie, Modul Kiri, Ratanak Kiri, and Stung Treng. The Northwest Area includes Banteay Meanchey, Otdar Meanchey, and Preah Vihear. Central Area includes Kampong Cham, Kampong Chhnang, Kampong Speu, Kampong Thom, and Kandal. Southeast Area includes Kampot, Kep, Prey Veng, Svay Rieng, Takeo, and Tboung Khmum. Southwest Area includes Koh Kong, Preah Sihanouk, Pursat, Battambang and Pailin.

[4] We obtained the General Census 2008 from the National Institute of Statistics (NIS).

included, which enabled us to analyze the usage of foreign currency other than the US Dollar in these areas.

**Table 3.1: Summary of the Household Survey**

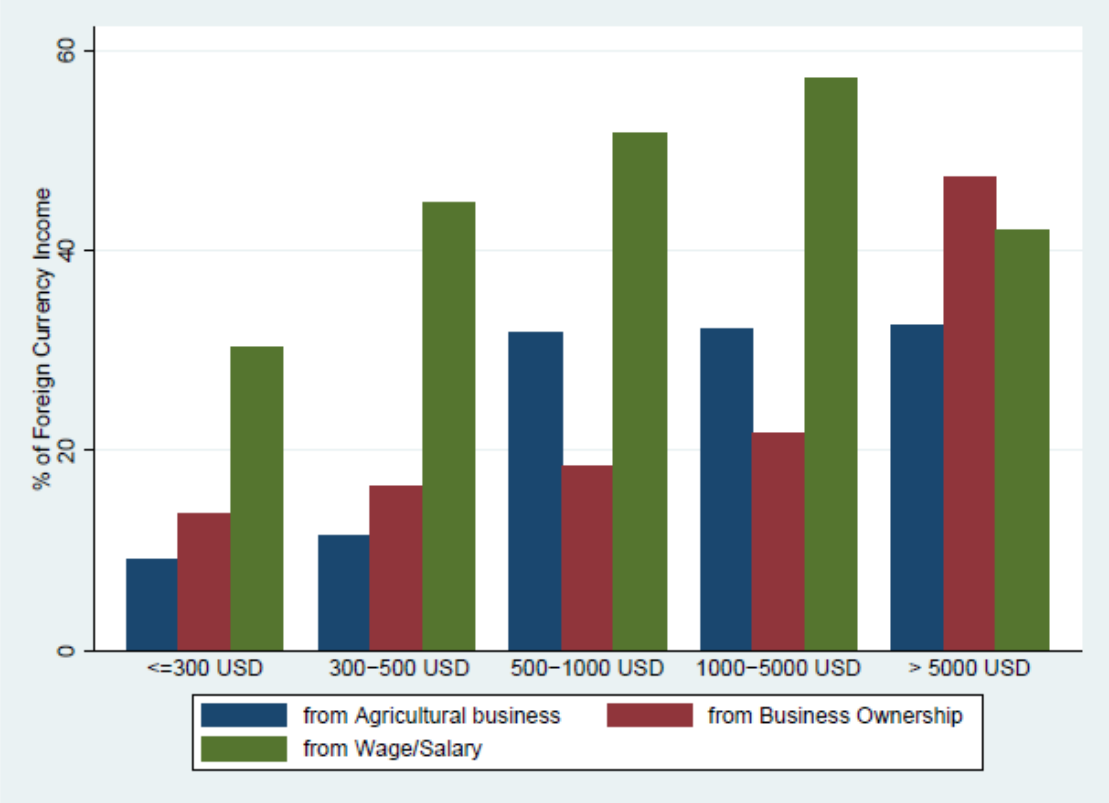
| Region | Province | Sample Size | | |
|---|---|---|---|---|
| | | Urban | Rural | Total |
| Phnom Penh | | 78 | 72 | 150 |
| Siem Reap | | 64 | 56 | 120 |
| The North-East Area | Kratie | 31 | 29 | 60 |
| | Mondul Kiri | 31 | 29 | 60 |
| | Ratanak Kiri | 31 | 29 | 60 |
| | Stung Treng | 31 | 29 | 60 |
| The North-West Area | Banteay Meanchey | 59 | 61 | 120 |
| | Oddar Meanchey | 27 | 23 | 50 |
| | Preah Vihear | 27 | 23 | 50 |
| South-East Area | Kampot | 54 | 45 | 99 |
| | Kep | 31 | 29 | 60 |
| | Prey Veng | 71 | 62 | 133 |
| | Svay Rieng | 46 | 36 | 82 |
| | Takeo | 61 | 46 | 107 |
| | Tbong Khmum | 55 | 46 | 101 |
| South-West Area | Koh Kong | 31 | 29 | 60 |
| | Preah Sihanouk | 31 | 29 | 60 |
| | Pursat | 37 | 33 | 70 |
| | Battambang | 76 | 68 | 144 |
| | Pailin | 29 | 25 | 54 |
| Central Area | Kandal | 78 | 74 | 152 |
| | Kampong Cham | 54 | 46 | 100 |
| | Kampong Chhnang | 52 | 42 | 94 |
| | Kampong Speu | 65 | 56 | 121 |
| | Kampong Thom | 56 | 50 | 106 |
| Total | | 1206 | 1067 | 2273 |

## 4. Survey Results

### 4.1. Income Dollarization

As discussed in Fidrmuc et al. (2013), income in foreign currencies can be interpreted as one of the major hedging measures that facilitates other economic behavior based on foreign currencies. For our study, we first classified the income sources of households into three: salary/wage income, income from business ownership, and income from agriculture (Figure 3.1). When looking into foreign currency denominated income by source of income, we observed that salary/wage income has the highest ratio of foreign to local currency, with a mean value of 38.3 percent, while business ownership and agricultural operations use around 16.9 percent and 5.0 percent respectively. Thus, salary/wage income is one of the key drivers for income dollarization. Specifically, the data suggests that among wage earners, those engaged in the garment/shoe manufacturing sector showed the highest mean value of dollarization, at 87.5%, and those in the banking/finance sector recorded the second highest at 62.2%. By area, those living in Phnom Penh showed the highest mean value of 66.2%, and those in Siem Reap had the second highest at 51.4%.

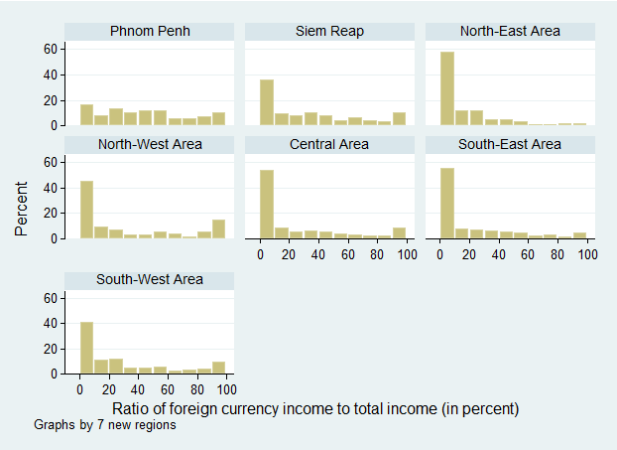
**Figure 3.1: Income Dollarization (by source of income and income level)**



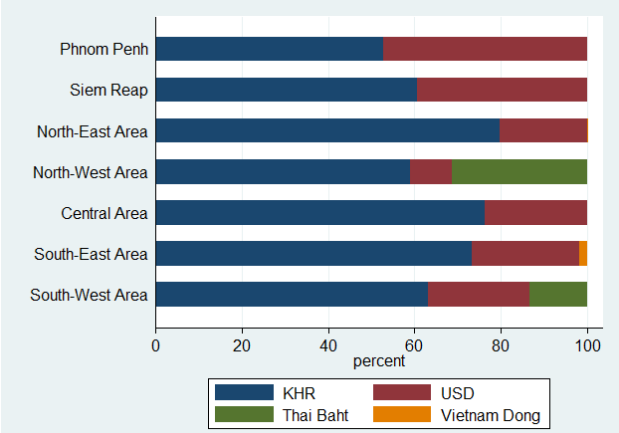

The mean value of total income (excluding remittances) dollarization ratios was 21.6 percent for the 2,164 effective respondents. However, our survey showed that there were significant differences in level of income dollarization by area. We examine the degree of dollarization in different areas of Cambodia in Figure 3.2.

**Figure 3.2: Ratio of FX in Income**

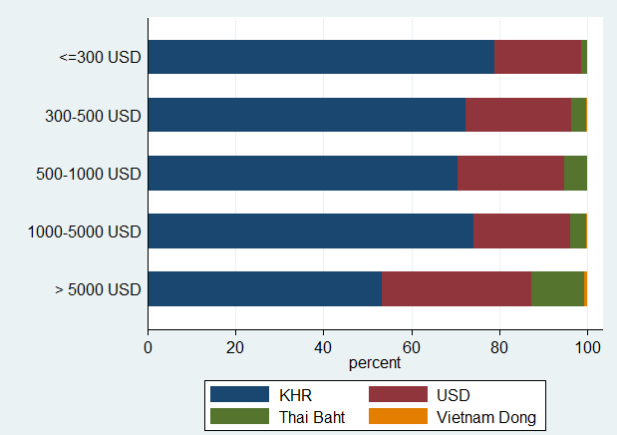
Panel A: Ratio of FX in Income



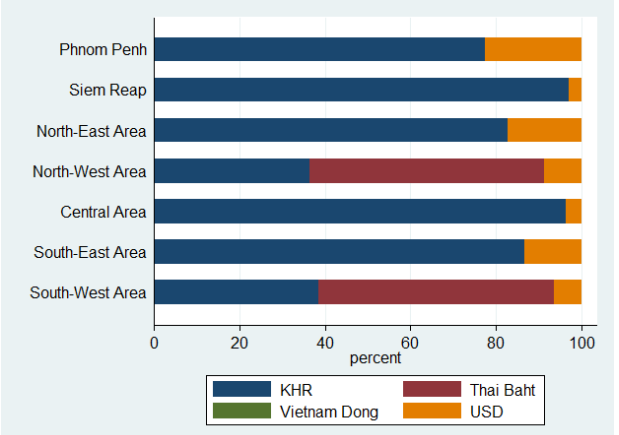

Panel B: Currency Composition of Income by Area



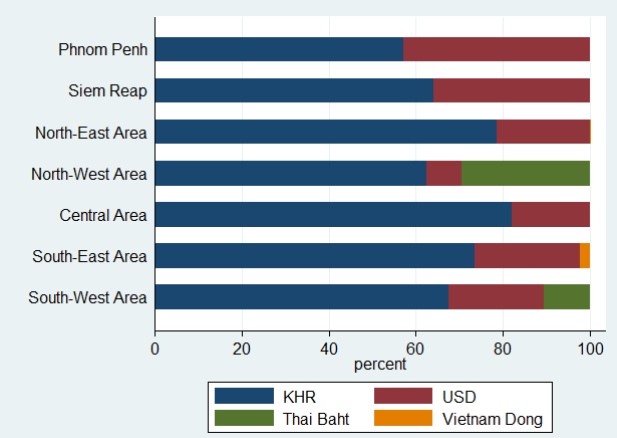

Panel C: Currency Composition of Income by Income Level



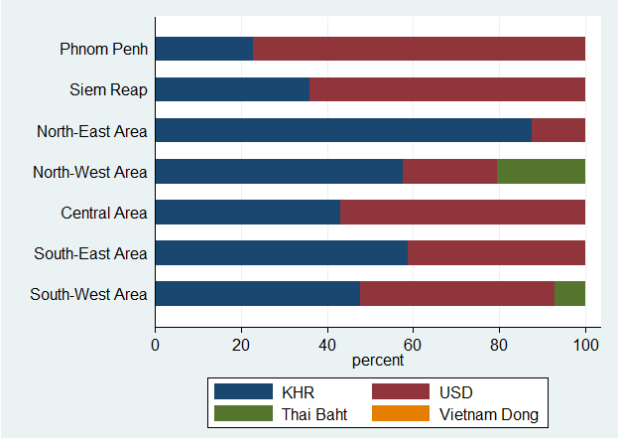

Panel D: Currency Composition of Agriculture Income by Area




Panel E: Currency Composition of Income of Business Ownership by Area




Panel F: Currency Composition of Wage/Salary Income by Area



Panel A in Figure 3.2: Ratio *of FX* in Income gives the distribution of ratios of foreign currency denominated income to total income by individual sample. Panel B gives the average level of currency composition of income by area. In Phnom Penh the ratios were uniformly distributed, while in the other areas the ratio ranging from 0-10 % was most frequently observed. In Siem Reap we observed samples evenly distributed in the range from 10% to 60%, but still the lowest range of less than 10% was the most popular one (Panel A). On average in Phnom Penh, Siem Reap, the Northwest Area, and the Southwest Area, there was a higher composition of foreign currencies in total income, while in the Northeast, Central, and Southwest Areas this ratio was lower (Panel B). Based on these results, we may say that other than in Phnom Penh, the most common currency for household income is the KHR. Though observable, foreign currency usage for income was not so common. However, in Phnom Penh it is quite common for people get their income in foreign currencies, and the degree of dollarization varies significantly. This result conforms well to the anecdotal evidence that dollarization is led by foreign direct investment (FDI) and the tourism sector, which are common in these urban areas. In the Northwest and Southwest Areas, usage of the Thai baht contributed to the rise of foreign currency usage. In the Southeast Area we observed usage of the Vietnamese Dong, but its contribution was quite low. Thus, in the west side of the country, particularly in the Northwest Area, people use the currencies of the neighboring country, as this might generate income from cross border transactions with the Thai people for example.

Panel C gives the average level of currency composition of income by income level. Here we divided income levels into five categories; ranging from the lowest with a monthly income of USD 300 equivalent or less, to the highest with a monthly income above USD 5000 equivalent. In general, the data show that the higher is the income level, the higher is the ratio of foreign currency in total income. As income in foreign currencies can be a good hedging measure for other foreign currency transactions; thus those with higher incomes may use foreign currencies more frequently than those with lower incomes. Panel D gives the currency composition of average agriculture incomes by area. In general, the use of foreign currencies for agriculture income is quite limited. This can be interpreted by noting that farmers sell their products into local markets in KHR. However, the pattern is quite different in the Northwest and Southwest Areas. Use of foreign currencies dominates agriculture income, particularly the Thai Baht, which is the most common currency in these areas. Farmers there sell their products to the market or to middle man and get paid in Thai Baht. Panel E analyses the currency composition of income from business ownership. It is observed that Phnom Penh has the highest ratio of foreign currency use in business income. In the second rank is the Northwest Area, and the third is Siem Reap. It is noted that use of the Thai Baht raises the ratio in Northwest Area in general. The Central and Northeast Areas show the lowest and the second lowest ratios. Finally, Panel F gives the currency composition of wage/salary income by area. In general, it can be observed that wage/salary income is the leading source for income dollarization for households except in the Northeast Area. This is particularly clear for wage/salary earners in Phnom Penh and Siem Reap.

Overall, we can say that as an individual household behavior; income dollarization is an important phenomenon for those living in Phnom Penh or to some extent in Siem Reap. In the rest of the country, particularly in the Northeast Area, foreign currency use in income generation is not significant. Even if we include remittances in household income, the main results stay the same. It is also noted that in the Northwest and in Southwest Areas the use of the Thai Baht pushes up the ratio of foreign currency composition significantly, suggesting the development of cross border transactions in these areas.

## 4.2. The Dollarization of Expenditure

As discussed in Valev (2010), foreign currencies are preferred in transactions if they are already used widely in the economy. To test such perceptions of households, in the expenditure section we asked respondents for the ratios of foreign currency use by items: (1) food; (2) rice; (3) tobacco & alcoholic beverages; (4) house rent; (5) recreation & culture; (6) clothing & footwear; (7) restaurant & eating out; (8) communication; (9) education; (10) health including toiletry; (11) transportation; (12) furniture & appliances; and (13) water & electricity. The results told us that in general foreign currencies widely used in Cambodia, but depending on items its degree of usage differs significantly. Depending on the items bought, people used different currencies

for purchase or payment. Generally speaking, for food and beverage, alcohol and tobacco, water and electricity, and health including toiletries, people used the KHR. However, for house rent, communication, and furniture and appliances they used foreign currency. Depending on what they purchase or for what they pay then, they differentiate the use of currencies. This again conforms to anecdotal evidence that durables like furniture, appliances, and particularly real estate and their related services are basically transacted in dollars, while KHR is used frequently for daily and small transactions. However, in Phnom Penh, for expenditure on recreation & culture, clothing & footwear, restaurant & eating out and education, we observed a different pattern of foreign currency usage compared to the other areas. Respondents in Phnom Penh used foreign currency more frequently for such expenditure compared to the other areas. (Figure 3.3, Panels E, F, G, I)

With regard to the ratios of foreign currency use to total expenditure, Panel N in Figure 3.3 shows the average level of currency composition by area. Phnom Penh has the highest ratio of foreign currency use in total expenditure. The second highest was the Southwest Area, and the third was Siem Reap. Panel O in same figure gives the average level of currency composition by income level. We found that the higher the level of income, the more foreign currency is used. This may be interpreted as households with high income level will consume more durables like furniture, appliances, and particularly real estate and their related services. Thus, the weight of daily and small items such as food or toiletry is small in their total expenditure basket.

The survey results suggest that respondents use either local or foreign currency differently by type of products or services. Some items showed high usage of foreign currency in their purchase or payment patterns. In terms of daily expenditure, foreign currency is not the major method of payment for households. However, for large transactions, such as for payment of house rent or furniture/appliances, there is reliance on foreign currency The results here are consistent with the discussion of Valev (2010) that perceptions of the use of foreign currencies are influenced by an individual's personal experience of use. The results show that there is network externality in the context of Cambodia, as Valev (2010) suggested.

### 4.3. The Use of Currency exchange in Sales of Assets

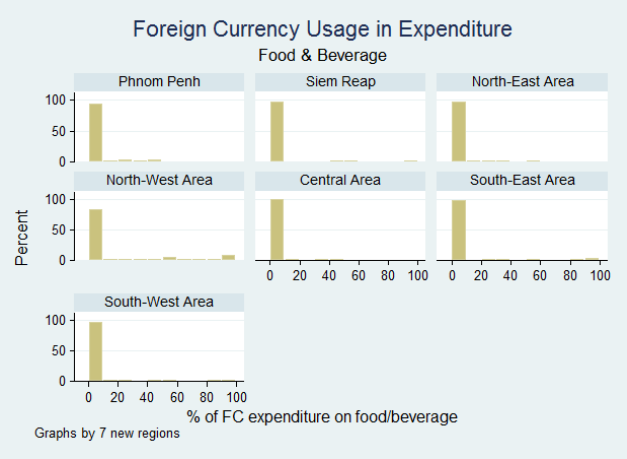
In order to examine household preferences for currencies in transactions, we asked which currencies they would prefer to receive for sales of their assets: real estate, furniture and appliances, motorcycles & cars, other machinery & equipment for business/personal use, livestock, and inventories for business/farming. In terms of the sales of real estate, out of 2169 respondents, 82.5% responded that they preferred US Dollars. Only 13.9% said that they preferred KHR. In terms of the sales of furniture and appliances, 61.9% of 2156 respondents preferred KHR while 34.4% said USD. For motorcycles & cars, 81.4% of 1911 respondents preferred USD, and 47.3% of 1032 respondents preferred KHR for sales of other machinery & equipment for business/personal use. For livestock, 84.0% of 886 respondents preferred KHR, and of 1402 respondents, 79.5% preferred KHR for sales of inventories for business/farming (Figure 3.3).

These results are far different from what was observed in the case of Hungary by Valev (2010). There, only 35.8% of respondents preferred foreign currency for real estate sales. In case of the sales of vehicles, just 32.7% of respondents preferred foreign currencies. From these figures we may well say that the dollarization environment in Cambodia is far different from what was observed in Hungary. In fact, we may expect stronger effects to network externality for the use of foreign currencies in Cambodia.

Moreover, we also observed significant differences by areas: Panels A to F of Figure 3.4 give currency preferences by area. As for sales of real estate, and motorcycles & cars, USD was the most preferred currency to receive in all areas (Panels A, C). But for livestock, and inventories for business/farming, KHR is the most preferred currency in all areas (Panels E, F). For furniture and appliances KHR is the most preferred currency except in Phnom Penh (Panel B). And for other machinery & equipment for business/personal use, foreign currencies including the Thai Baht were preferred to local currency except in the Central and Southeast areas (Panel D).

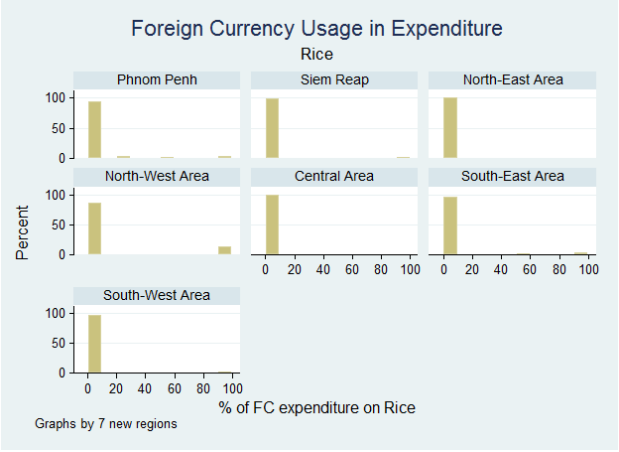
**Figure 3.3: Ratio of FX in Expenditure**

Panel A



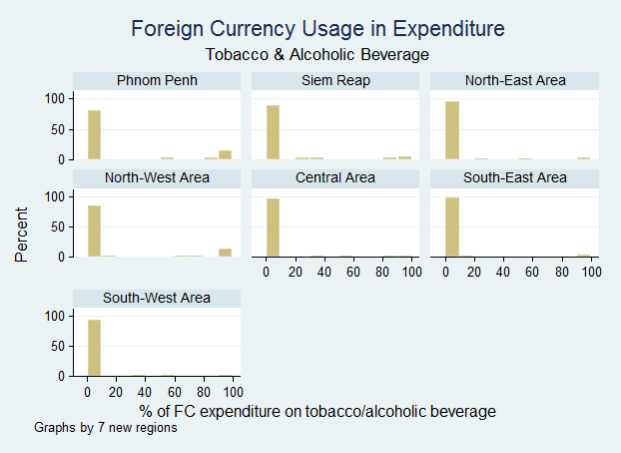

Note: For this question, the effective number of respondents was 2264.

Panel B



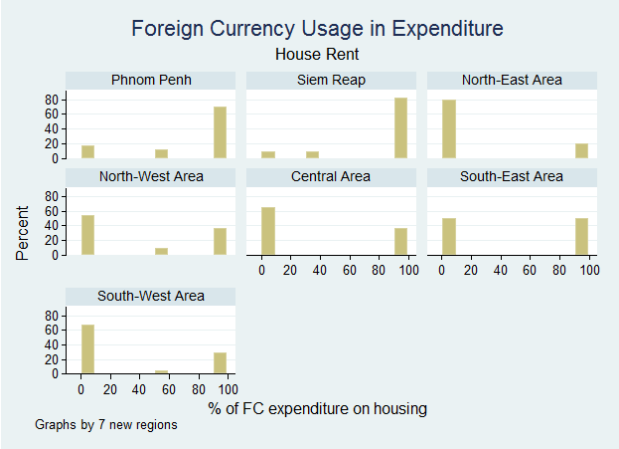

Note: For this question, the effective number of respondents was 1364.

Panel C



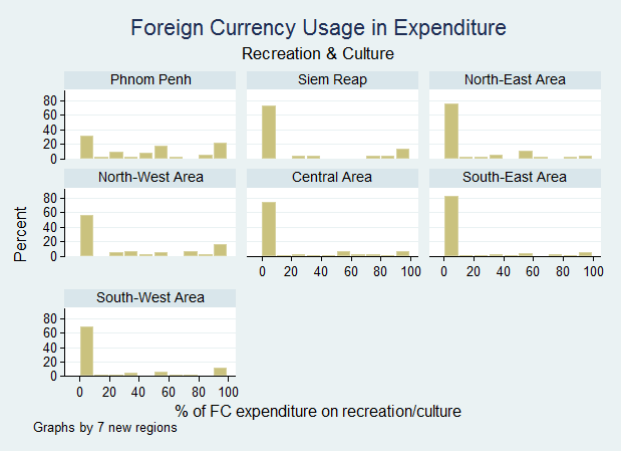

Note: For this question, the effective number of respondents was 795.

Panel D



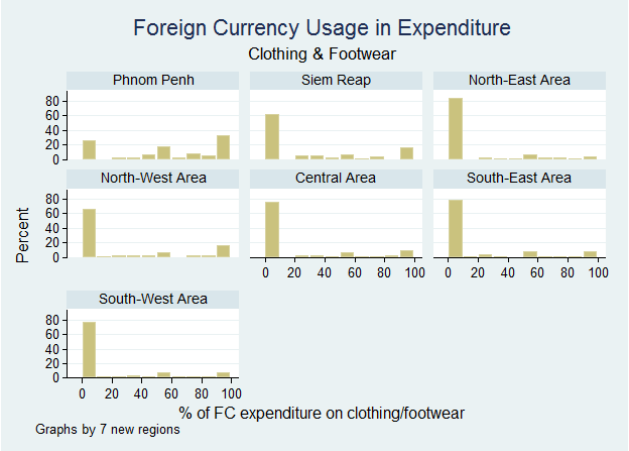

Note: For this question, the effective number of respondents was 90.

Panel E



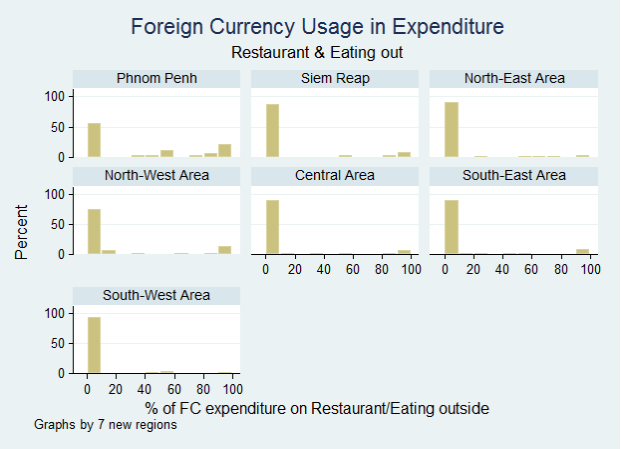

Note: For this question, the effective number of respondents was 478.

Panel F



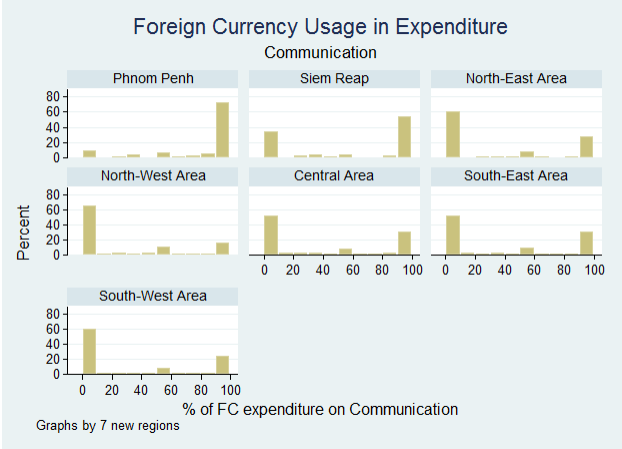

Note: For this question, the effective number of respondents was 1628.

Panel G



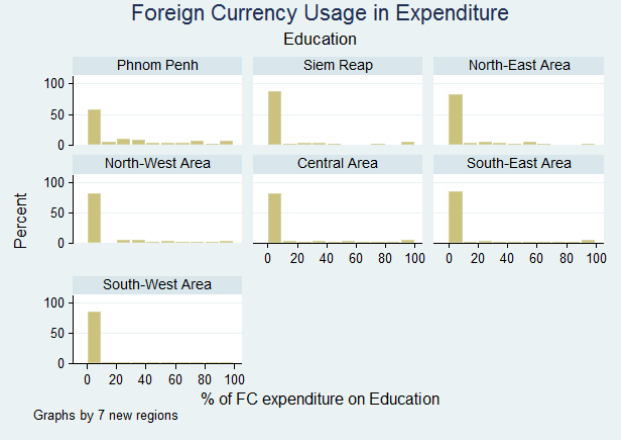

Note: For this question, the effective number of respondents was 560.

Panel H



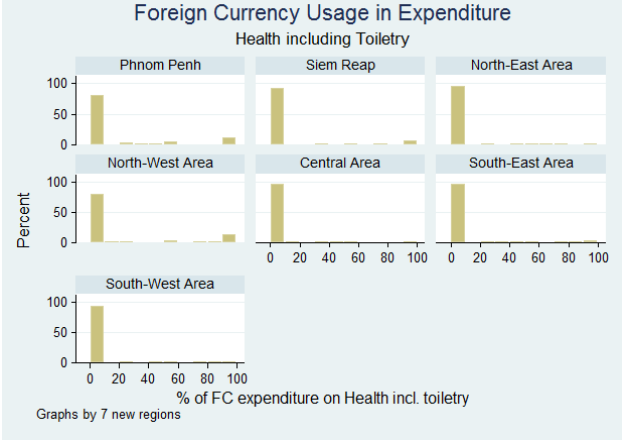

Note: For this question, the effective number of respondents was 2015.

Panel I



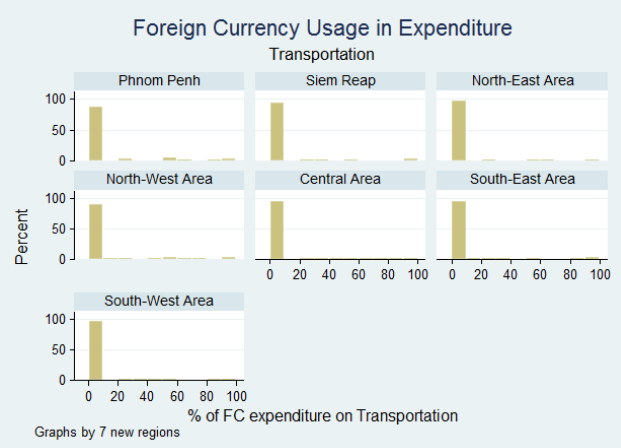

Note: For this question, the effective number of respondents was 1475.

Panel J



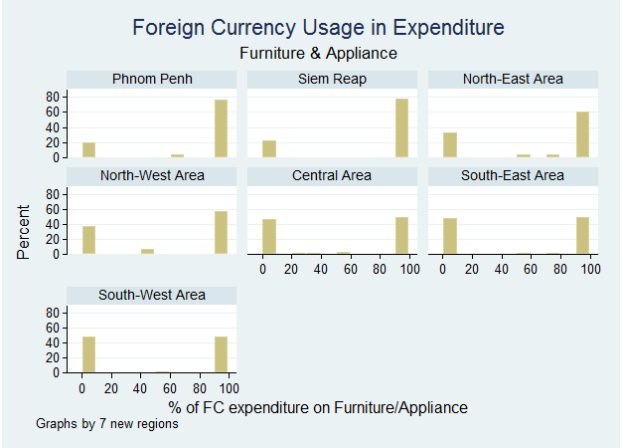

Note: For this question, the effective number of respondents was 2095.

Panel K



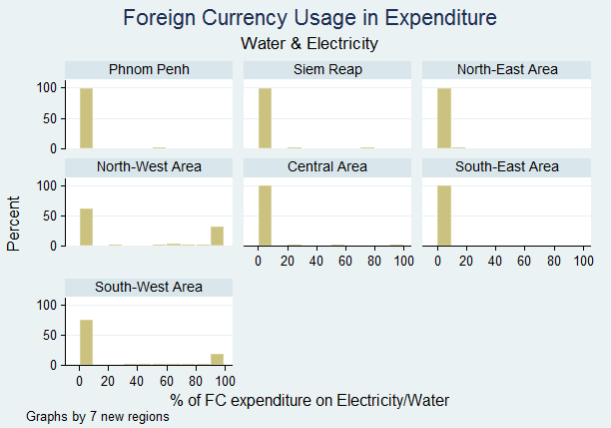

Note: For this question, the effective number of respondents was 2029.

Panel L



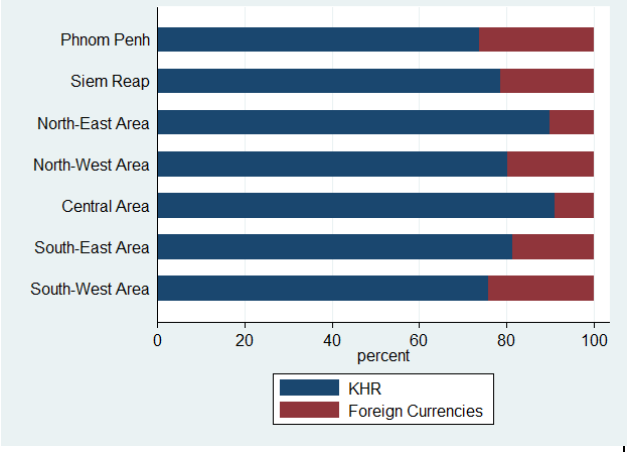

Note: For this question, the effective number of respondents was 299.

Panel M




Note: For this question, the effective number of respondents was 2209.

Panel N: Currency Composition of Total Expenditure




Panel O: Currency Composition of Total Expenditure by income level

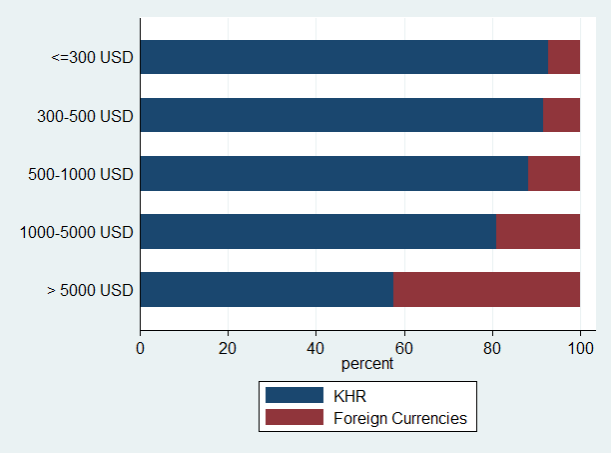
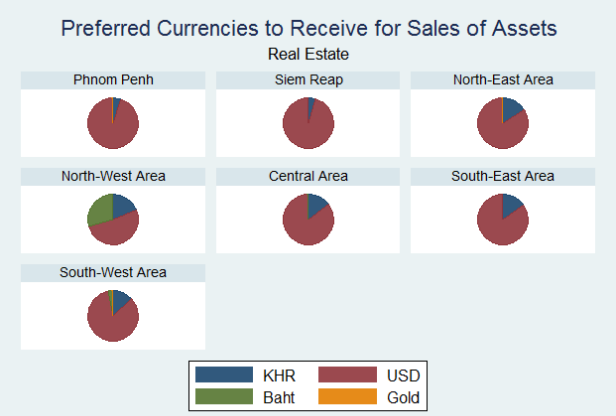


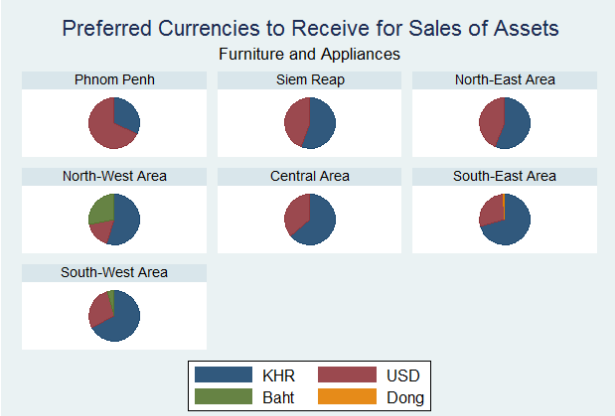
**Figure 3.4: Preferred Currency to Receive**

Panel A



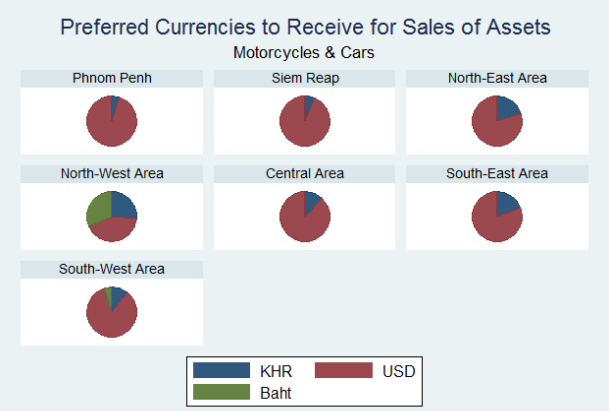

Note: For this question, the effective number of respondents was 2169.

Panel B



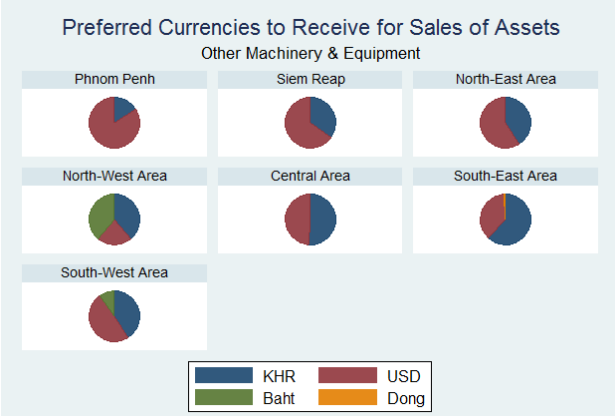

Note: For this question, the effective number of respondents was 2156.

Panel C



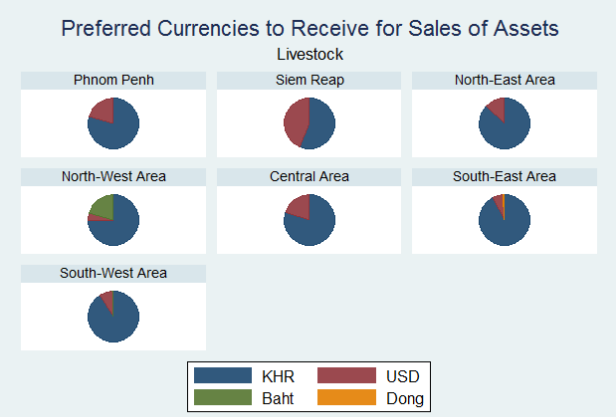

Note: For this question, the effective number of respondents was 1911.

Panel D



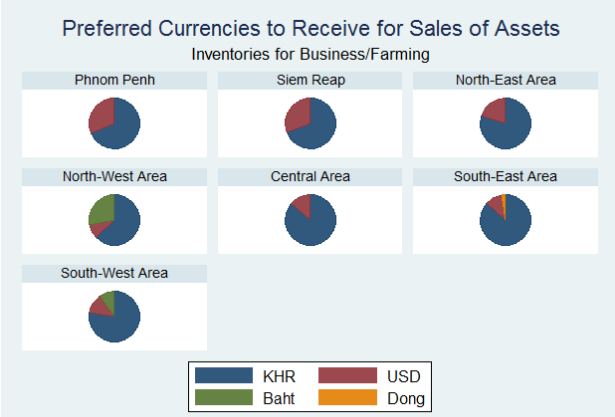

Note: For this question, the effective number of respondents was 1032.

Panel E




Note: For this question, the effective number of respondents was 886.

Panel F




Note: For this question, the effective number of respondents was 1402.

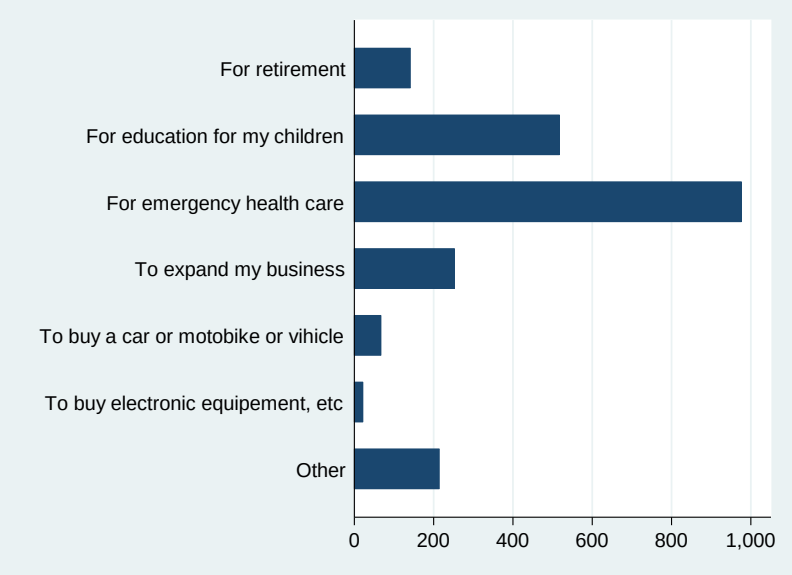
## 4.4. Saving Behavior

### 4.4.1. Currency Choice for Saving

To determine the saving behavior of households, respondents were asked their current saving habits. Though we asked several questions regarding assets, as it is common in Cambodia, particularly in rural areas, to save in kind, in order to identify preferences in currency usage we focused on financial assets. Because in Cambodia the financial products available for households are quite limited, we concentrated on savings in deposits in financial institutions (bank or MFI), cash held at home, and savings in other schemes.

Of 2232 effective respondents, 60.5% (1351) answered that they had savings. These households saved money in the form of financial assets (cash or deposits). In terms of currency choice for such savings, 1329 households expressed their choice of currencies (Figure 3.6: Currency Choices for Saving Panel A): of these, 87.0% (1,157 households) saved their money in KHR, and 43.9% (584 households) saved their money in USD, while 32.4% (431 households) saved in both currencies. In terms of headcounts, KHR is more popular for saving than USD. Thus, we found that in terms of numbers of households, Cambodian households save in local currency rather than in USD. This feature is quite different from what we can observe in terms of the amount of deposits, here the use of KHR is quite marginalized. It is noted that those who had income in KHR tended to save only in KHR, while those possessing USD savings tended to save in both currencies. We may infer that there would be differences in terms of holding costs, accessibility, or purpose between saving in KHR and those in USD (Figures 3.5 and 3.6).

**Figure 3.5: The Purpose of Saving**




Note: This table shows the frequency of answers to the question “For what purpose are you/your household head saving? Select top 3.” (Q51)

**Figure 3.6: Currency Choices for Saving**

## Panel A: Currency for Savings

| Saving in USD | Saving in KHR | | |
|---|---|---|---|
| | Yes | No | Total |
| Yes | 431 | 153 | 584 |
| No | 726 | 19 | 745 |
| Total | 1,157 | 172 | 1,329 |

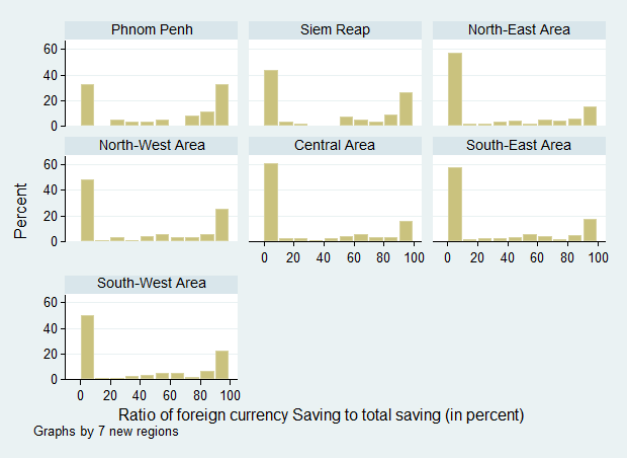
Note: Panel A and B are the summary responses to the question asked "Approximately how much cash do you and your household head have in saving, and in which currency?"
Some respondents were dropped from households who answered that they had some savings.

## Panel B: Details of Savings by Currency

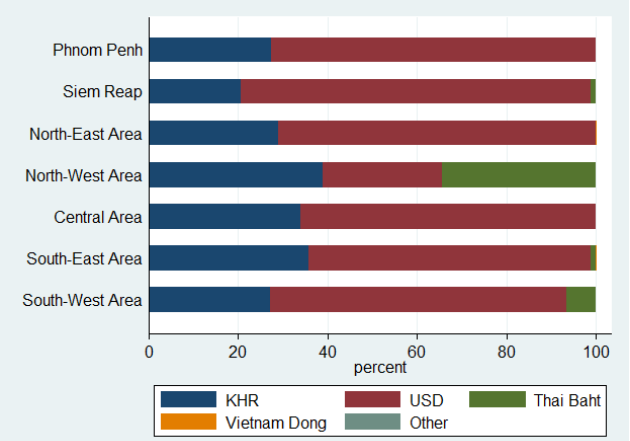
| Type of Currency | Obs | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| ***ALL*** | | | | | |
| KHR savings | 1098 | 382 | 1205 | 0 | 30000 |
| USD savings | 1098 | 743 | 2646 | 0 | 40000 |
| Baht savings | 1098 | 67 | 1389 | 0 | 45590 |
| Dong savings | 1098 | 1 | 11 | 0 | 234 |
| Others | 0 | | | | |
| ***Amounts > 0*** | | | | | |
| KHR savings | 943 | 445 | 1290 | 4 | 30000 |
| USD savings | 461 | 1771 | 3857 | 10 | 40000 |
| Baht savings | 53 | 1383 | 6233 | 5 | 45590 |
| Dong savings | 8 | 106 | 70 | 35 | 234 |
| Others | 0 | | | | |

Note: Expressed in USD except for observation numbers. Upper panel is the summary statistics of saving amount answered. Due to non-responses, sample size was reduced from 1329 to 1098. The lower panel gives summary statistics using respondents with positive amounts only.

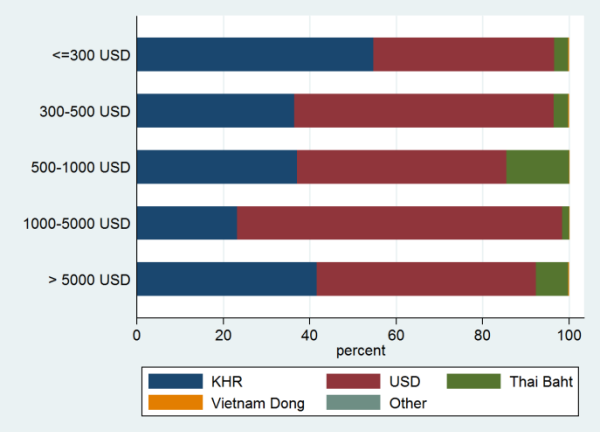
## Panel C: Foreign Currency Usage in Savings




## Panel D: Currency Composition of Savings by area




## Panel E: Currency Composition of Saving by income level



Of 1329 respondents, 82.6% (1098 households) revealed the amount they saved. From Panel B in Figure 3.6: Currency Choices for Saving we can observe that USD saving has much higher value than that of KHR. Therefore, we may understand that KHR is a more popular currency for savings, but the savings in KHR are smaller than those in USD. Panel C Figure 3.6: Currency Choices for Saving shows the distribution of the ratio of foreign currency denominated savings to total savings of individuals, and Panel D gives the average level of currency composition of savings by area. When we analyze the regional differences for choice of currencies, the popularity of KHR in terms of number of households using it remained the same in all areas (Panel C), but in terms of the level of savings, foreign currencies dominated in all areas (Panel D). It is noted that in the Northwest Area, the Thai Baht makes up a significant part of total savings. Finally, Panel E shows average level of currency composition by income level. We found that the higher the level of income, the more foreign currency is saved, except for the highest income group. This may be interpreted as that the objective of saving for households with higher income levels is to purchase consumer durables or real estate often traded in USD, while for those with lower income levels it is to keep local cash on hand for emergency purposes.

### 4.4.2. Deposit Accounts in Financial Institutions

Of a total of 2272 effective responses only 14.3% (325 households) answered that they had more than one account in financial institutions. Table 3.2: Currency Choice for Accounts gives respondents' currency choice for accounts. This turned out to be different from what was observed in terms of savings in general; when it comes to accounts in financial institutions, KHR and USD had comparable levels of choice.

**Table 3.2: Currency Choice for Accounts**

| Currency Type | | Total |
|---|---|---|
| KHR account only | | 151 |
| USD account only | | 120 |
| Other Currency only | | 1 |
| KHR & USD | | 53 |
| KHR & Other Currency | | 0 |
| USD & Other Currency | | 1 |
| KHR, USD and Other Currency | | 0 |

Note: Sample is reduced to households which answered "Yes" to the question "Do you and your household head save money?" (Q50). Furthermore, households which refused to answer the currency type of deposit account were excluded from the sample. The total number of respondents in the analysis was 325.

But when we examine the regional differences for choice of account currencies in Table 3.2, there are observable differences in the choice (Table 3.3). In Siem Reap, USD accounts are more common than KHR ones; while in the other areas a KHR account is more common. In Phnom Penh and the Central Area, both currencies have same level of popularity. It is noted that, in general, the percentage of households with accounts is quite low, making up only 14.3% of the total sample. Even in Phnom Penh, only 19.3% of respondents possessed a bank account. This situation is far from what we saw in answers to the savings question (of 2272 respondents, 1351 households answered that they had savings). Therefore, deposit accounts are still a very minor means of saving.

**Table 3.3: The Currency Composition of Accounts**

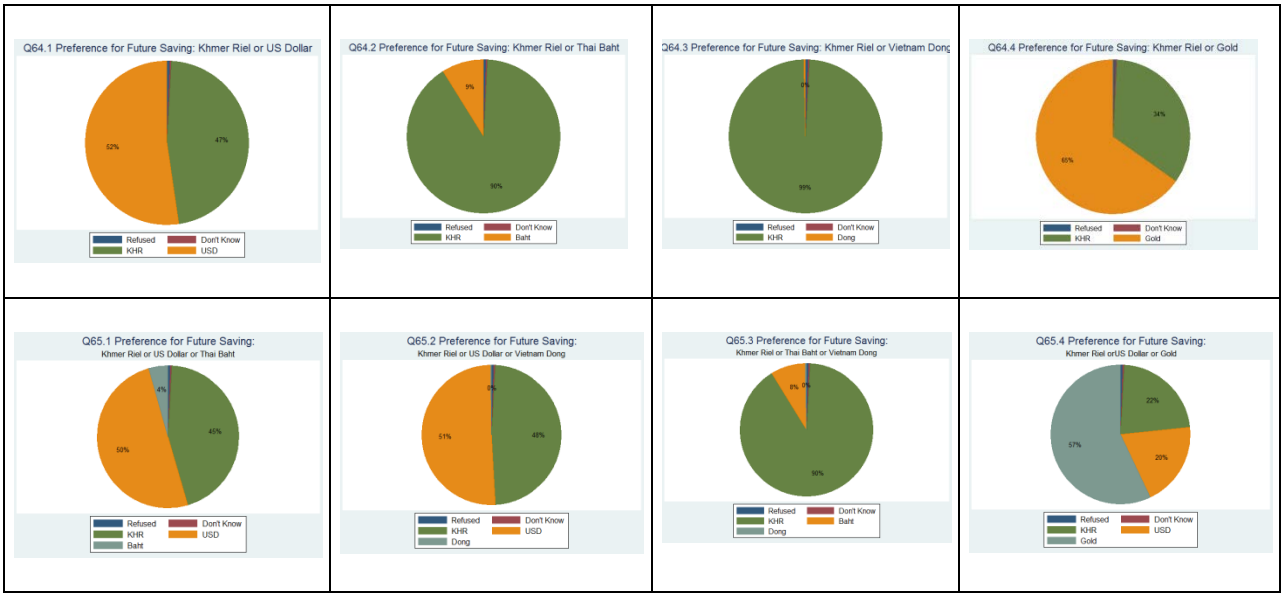
| | | KHR account | | USD account | | Having account | All |
|---|---|---|---|---|---|---|---|
| Phnom Penh | | 17 | 58.6% | 16 | 55.2% | 29 | 150 |
| SiemReap | | 5 | 33.3% | 12 | 80.0% | 15 | 120 |
| North-East | Area | 29 | 70.7% | 23 | 56.1% | 41 | 240 |
| North-West | Area | 19 | 61.3% | 13 | 41.9% | 31 | 220 |
| Central | Area | 44 | 57.9% | 44 | 57.9% | 76 | 573 |
| South-East | Area | 57 | 67.1% | 38 | 44.7% | 85 | 582 |
| South-West | Area | 33 | 68.8% | 27 | 56.3% | 48 | 388 |
| Total | | 204 | | 173 | | 325 | 2273 |

Note: The numbers of households having KHR deposits, USD deposits, deposits, total number of households interviewed are shown in column 1-4, respectively. The percentages of households having KHR/USD deposits relative to the number of households having deposits in any type of currency are shown.

### 4.4.3. Currency Choice for Future Saving

Respondents were asked to show their preference on currency choice for future saving (Figure 3.7). There were two types of questions: The first asked respondents to choose either currency A or currency B for saving and the second group asked them to pick up one from three choices. The results showed that gold was the most preferable choice, while the Vietnam Dong or Thai Baht were very unpopular. Comparing KHR and USD, the USD was a slightly more popular choice for saving.

**Figure 3.7: Currency Choice for Future Saving**




These results may imply that a simple restriction or ban of USDs for cash holdings or saving would result in gold holding. Since saving in the form of gold holding cannot be integrated in the formal financial system, such a ban would limit the development of the financial sector.

## 4.5. The Borrowing behavior of Households

### 4.5.1. Currency for borrowing

Respondents were asked about the details of their outstanding loans when interviewed. The questions covered type of lenders, currencies, and amounts loans. Of the 2273 respondents, 634 households answered that they had loans. Most of these had one loan, but some had two or three loans. Thus, in total we tracked the details of 673 loans. Panel A of Figure 3.8 gives the currency denominations of 673 loans by lenders. Of the 673 loans, 436 were in USD while only 210 were in KHR. It is clear that USD is the more popular choice for borrowing than other currencies. However, it should be noted that such choices differed significantly by lender type: 76% of bank loans, 66% of MFI loans, and 50% of loans from family and friends were denominated in US Dollars. In terms of regional differences in the choice of borrowing currencies, there was a difference between Phnom Penh and the other areas of the country (Figure 3.8: Currency Choices of Borrowings Panel B) If we look more closely, in Phnom Penh, regardless of lender type, households were borrowing in USD only. However, in other areas some of the households were borrowing in KHR from all type of lenders. Thus, we might say that the loan market in Phnom Penh is totally dollarized, while in other areas, households still have room to make a choice of loan currency. Therefore, it may be appropriate to start promotion of use of KHR for loans other than in Phnom Penh.

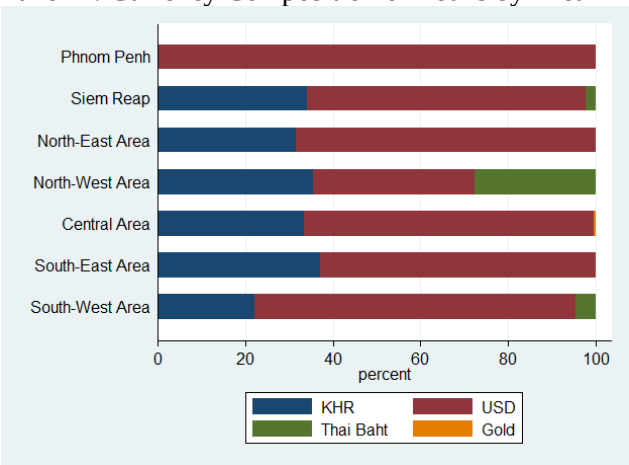
Panel D gives average level of currency composition by income level. We found that the higher was the level of income the more in foreign currency they borrowed. It may be interpreted that objectives of borrowing for households with higher income level is to purchase durables or real estates which are normally traded in USD, while for those with lower income level it is to make both ends meet.

**Figure 3.8: Currency Choices of Borrowings**

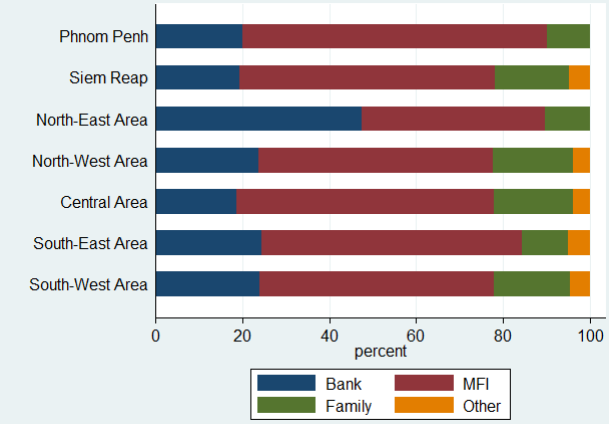
Panel A: Frequency of Loans by Currencies and Lenders

| | Currency | | | | |
|---|---|---|---|---|---|
| Lender | KHR | USD | Baht | Gold | Total |
| Commercial Bank | 31 | 123 | 8 | 0 | 162 |
| Microfinance institution | 123 | 252 | 8 | 0 | 383 |
| Family or friends | 42 | 51 | 9 | 1 | 103 |
| NGO | 3 | 5 | 0 | 0 | 8 |
| Other informal lender | 7 | 4 | 2 | 0 | 13 |
| Others | 4 | 0 | 0 | 0 | 4 |
| Refused | 0 | 1 | 0 | 0 | 1 |
| Total | 210 | 436 | 27 | 1 | 674 |

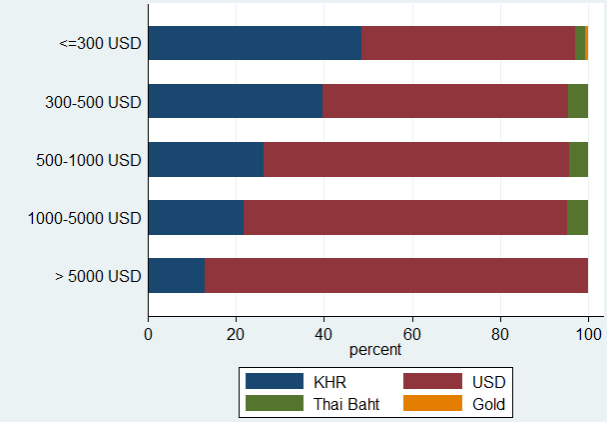
Panel B: Currency Composition of Loans by Area



Panel C: Lender Composition of Loans by Area




Panel D: Currency Composition of Loans by Income Level




### 4.5.2. Reasons for taking out local currency/foreign currency loans

Households were asked for the top two reasons for currency choice in relation to loans taken out in the past three years. In response, 782 respondents said that they had borrowed in foreign currency (FX), while 476 said that they had borrowed in local currency (Table 3.4).

**Table 3.4: Reasons for the Loan Currency Choice**

| ***I borrowed in foreign currency because…(782 respondents)*** | Yes |
|---|---|
| It is easier to borrow large amounts of money in FX | 146 |
| The purpose of my loan requires FX currency amount | 537 |
| I cannnot find a loan in KHR for the amount I need | 33 |
| The interest rate of foreign currency is better | 34 |
| The transactions I am involved in require that I pay in foreign currency | 211 |
| Don't want to risk exchange rate losses | 15 |
| Others | 21 |

| ***I borrowed in KHR because… (476 respondents)*** | Yes |
|---|---|
| I would borrow KHR if the amount was less than 1,000 dollars | 57 |
| Interest rates are better than USD | 5 |
| Transactions are in KHR | 216 |
| Don't want to risk exchange rate losses | 40 |
| Others | 232 |

Of the 782 respondents who borrowed in a foreign currency, 537 households said that their purpose required foreign currency, and 211 of them said that their transaction needed to be done in foreign currency. This may imply that household choice of loan currencies is influenced by the type of

network externalities discussed by Valev (2010). This accords well with the fact that households normally borrow money in order to purchase real estate, cars & motorbikes, or furniture & appliances, which are normally available in foreign currency. We also observed though that accessibility or availability matter in the choice of currency. That is, 146 households gave ease of obtaining a loan as their reason for the choice, and 33 households said that they could not find the loan amount they needed in KHR. Thus, these results tell us that size of loan may affect choice of currency. It is noted however, that level of interest rates or recognition of the risks associated with exchange rate fluctuations are not major reasons for currency choice.

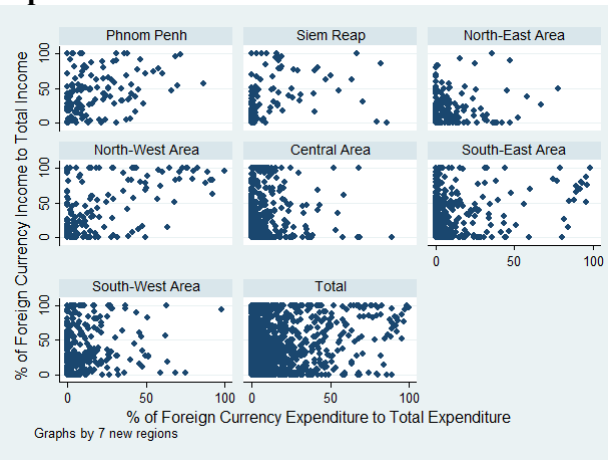
Of the 476 respondents in this category, 216 households who had borrowed in KHR said that their transactions needed to be done in KHR. This was the most popular reason for choosing KHR. The second most popular reason was the amount of the required loan. They chose KHR because the amount was less than 1,000 dollars equivalent. Here again we can confirm that the amount of loan matters for choice of currency; in the case of using KHR markets for this, smaller loans affected the choice of currency. In the case of KHR borrowing, we observed again that the level of interest rates or exchange rate risk did not play significant role in the choice of currency. Finally, Panel B gives the average level of currency composition of loan by area. In terms of regional difference, it is clear that in Phnom Penh loans are usually in USD. However, in other areas including Siem Reap, even though USD was still dominant; loans denominated in KHR had a 20-30% share of the market. It should again be noted that in the Northwest and Coastal Areas, the Thai baht is used as loan currency together with the USD or KHR.

### 4.6. Currency mismatches in Income /Expenditure/Borrowing

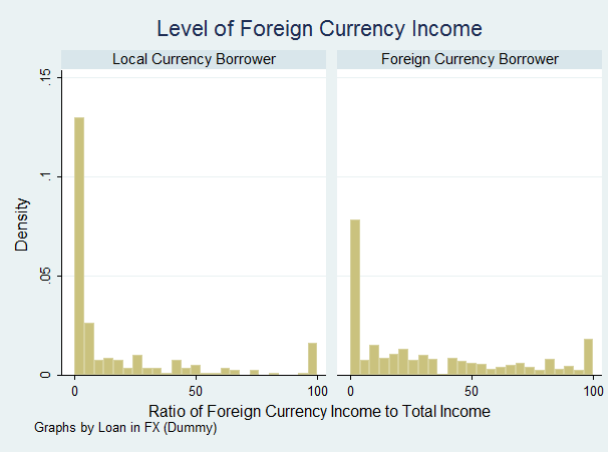
Panel A in Figure 3.9 shows the relationship between the ratio of foreign currency income to total income, and the ratio of foreign currency expenditure to total expenditure by households. We observe a clear relationship between them. Households having higher ratios of income in foreign currencies did not necessarily spend in foreign currencies, and vice versa. Panel B gives the distribution of the ratio of foreign currency income to total income by currency choice of loan. It is clear that those who had loans in KHR tended to have lower ratios compared to those with a foreign currency loan. We were able to confirm this with a t-test result of two groups of samples - KHR loan holders and foreign currency loan holders (Panel C). The results show the distribution of the ratio of foreign currency saving (sum of deposit in bank/MFI and cash at home) to total saving, by currency choice of loan. It is clear that those who had loans in KHR tended to have lower ratios compared to those with a foreign currency loan. Again, we confirmed this pattern using a t-test of the relationship between KHR loan holders and foreign currency loan holders (Panel E). The survey results thus show that households have currency mismatches between income and expenditure. However, in terms of financial activity, they are trying to match currency for borrowing to that of income or saving.

**Figure 3.9: Currency Mismatch of Households**

**Panel A: Ratios of FX currency in income and expenditure**




**Panel B: Ratios of FX currency in Income by Borrowing Currency**




**Panel C: T-test of Foreign Currency Income by Borrowing Currency**

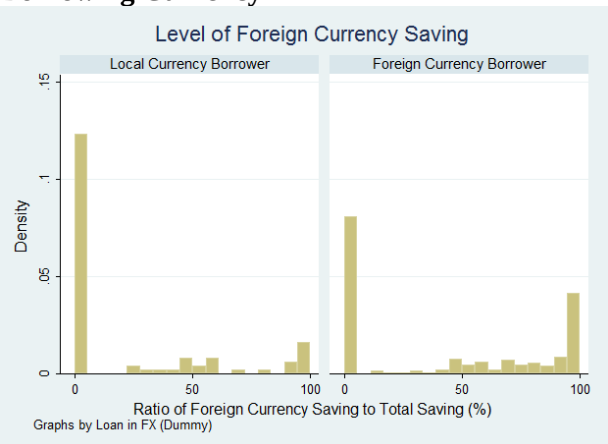
Two-sample t test with equal variances

| Group | Obs | Mean | Std. Err. | Std. Dev. | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| Local Cu | 198 | 17.98312 | 2.055469 | 28.92381 | 13.92958 | 22.03667 |
| Foreign | 453 | 32.21381 | 1.567104 | 33.35392 | 29.13409 | 35.29352 |
| combined | 651 | 27.88558 | 1.282079 | 32.71187 | 25.36806 | 30.4031 |
| diff | | -14.23068 | 2.732487 | | -19.59627 | -8.865102 |

diff = mean(Local Cu) - mean(Foreign) t = -5.2080
Ho: diff = 0 degrees of freedom = 649

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

**Panel D: Ratios of FX currency in Saving by Borrowing Currency**




**Panel E: T-test of Foreign Currency Saving by Borrowing Currency**

Two-sample t test with equal variances

| Group | Obs | Mean | Std. Err. | Std. Dev. | [95% Conf. | Interval] |
|---|---|---|---|---|---|---|
| Local Cu | 89 | 21.32501 | 3.69549 | 34.86319 | 13.981 | 28.66902 |
| Foreign | 234 | 43.53337 | 2.814906 | 43.05978 | 37.98745 | 49.07929 |
| combined | 323 | 37.41404 | 2.342628 | 42.10218 | 32.80525 | 42.02283 |
| diff | | -22.20836 | 5.103051 | | -32.24801 | -12.16871 |

diff = mean(Local Cu) - mean(Foreign) t = -4.3520
Ho: diff = 0 degrees of freedom = 321

Ha: diff < 0 Ha: diff != 0 Ha: diff > 0
Pr(T < t) = 0.0000 Pr(|T| > |t|) = 0.0000 Pr(T > t) = 1.0000

## 4.7. Currency Exchange

Almost all households declared that they exchanged currency, normally at a money changer, and to lesser extent at a shop (Figure 3.10: Money Changing). A few respondents exchange currency at banks, and very few at microfinance institutions. We divided the frequency of the currency exchange of households into four categories: rarely (about 3 times per year), sometimes (every 2-3 months), frequently (every month) and very frequently (everyday/every week). The respondents show that the frequency of their currency exchange is in between rarely to sometimes. Not surprisingly, for bilateral exchange, USD and KHR are the most usual currencies involved, followed by THB and KHR (Figure 3.11). On an area basis, households would rather exchange from USD to KHR in Phnom Penh, most parts of the Central Area, and in Takeo and Sihanoukville. This pattern could reflect the fact that these regions receive more USD than other regions, or it may mean that they demand KHR in their economic and/or financial payments. We see the same in the direction of exchange between THB and KHR; households would rather exchange from THB to KHR than in the opposite direction. At the regional level, the exchange between THB-KHR is concentrated in the provinces of the Northwest and Southwest that have borders with Thailand. As for other possible exchanges, such as those from KHR to VND, or from USD to THB, VND, or another currency, we did not see any frequent operations; in fact, this rarely or never happened.

The demand for currency exchange has made foreign exchange activities more profitable. This has attracted money changers. It has also intensified competition in this market, and has resulted in minimizing the spread bid-ask of the exchange rate in Cambodia. This mild spread in turn favors the usage of foreign currency (Table 3.5).

**Figure 3.10: Money Changing (Place of Change)**

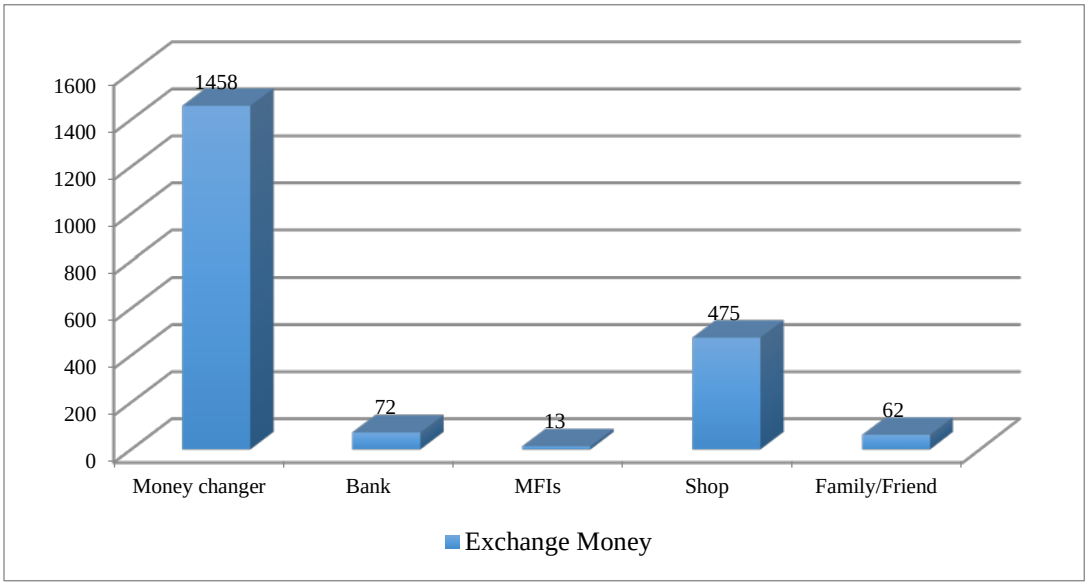


**Figure 3.11: Money Changing (Direction of Change)**


Note: As for direction of money change, “Currency A- Currency B” means that currency A is converted to currency B. For example, USD-KHR stands for currency conversion from USD to KHR.

**Table 3.5: Mean Value of Frequency of Currency Exchange from One Currency to the Other across Regions**

| Region | Province | KHR-USD | USD-KHR | KHR-THB | THB-KHR | KHR-VND | VND-KHR | USD-THB | THB-USD | USD-VND | VND-USD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Phnom Penh | | 2.03 | 3.03 | 1.00 | 1.00 | 1.00 | 1.01 | 1.02 | 1.00 | 1.00 | 1.00 |
| Siem Reap | | 1.79 | 2.44 | 1.00 | 1.18 | 1.00 | 1.00 | 1.00 | 1.05 | 1.00 | 1.00 |
| NE | Kratie | 1.67 | 2.00 | 1.00 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Mondul Kiri | 2.50 | 2.33 | 1.00 | 1.00 | 1.13 | 1.08 | 1.07 | 1.00 | 1.13 | 1.05 |
| | Ratanak Kiri | 1.87 | 2.40 | 1.00 | 1.00 | 1.00 | 1.07 | 1.00 | 1.00 | 1.00 | 1.03 |
| | Stung Treng | 1.70 | 2.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| NW | Banteay Meanchey | 1.52 | 1.61 | 1.86 | 3.04 | 1.00 | 1.00 | 1.08 | 1.42 | 1.00 | 1.00 |
| | Otdar Meanchey | 1.62 | 1.88 | 2.42 | 1.78 | 1.00 | 1.00 | 1.20 | 1.10 | 1.00 | 1.00 |
| | Preah Vihear | 1.72 | 2.28 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| SE | Kampot | 1.74 | 2.30 | 1.00 | 1.05 | 1.00 | 1.01 | 1.00 | 1.03 | 1.00 | 1.00 |
| | Kep | 1.31 | 1.92 | 1.00 | 1.05 | 1.02 | 1.02 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Prey Veng | 1.66 | 2.60 | 1.00 | 1.05 | 1.03 | 1.00 | 1.00 | 1.02 | 1.00 | 1.00 |
| | Svay Rieng | 1.55 | 2.44 | 1.00 | 1.00 | 1.38 | 1.27 | 1.00 | 1.00 | 1.51 | 1.35 |
| | Takeo | 1.95 | 3.08 | 1.01 | 1.08 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Tbong Khmum | 2.13 | 2.12 | 1.00 | 1.00 | 1.01 | 1.03 | 1.00 | 1.00 | 1.00 | 1.00 |
| SW | Koh Kong | 1.45 | 2.27 | 2.67 | 2.12 | 1.00 | 1.00 | 1.02 | 1.07 | 1.00 | 1.00 |
| | Preah Sihanouk | 1.76 | 2.98 | 1.00 | 1.05 | 1.02 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Pursat | 2.03 | 2.24 | 1.00 | 1.33 | 1.00 | 1.00 | 1.00 | 1.01 | 1.00 | 1.00 |
| | Battambang | 1.79 | 1.81 | 1.15 | 2.24 | 1.00 | 1.00 | 1.04 | 1.22 | 1.00 | 1.00 |
| | Pailin | 1.70 | 1.81 | 2.04 | 3.02 | 1.00 | 1.00 | 1.15 | 1.52 | 1.00 | 1.00 |
| CA | Kampong Cham | 2.09 | 2.18 | 1.00 | 1.04 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Kampong Chhnang | 2.11 | 2.93 | 1.01 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Kampong Speu | 2.10 | 3.03 | 1.01 | 1.01 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Kampong Thom | 2.10 | 2.14 | 1.03 | 1.05 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| | Kandal | 1.95 | 3.05 | 1.01 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.01 | 1.00 |

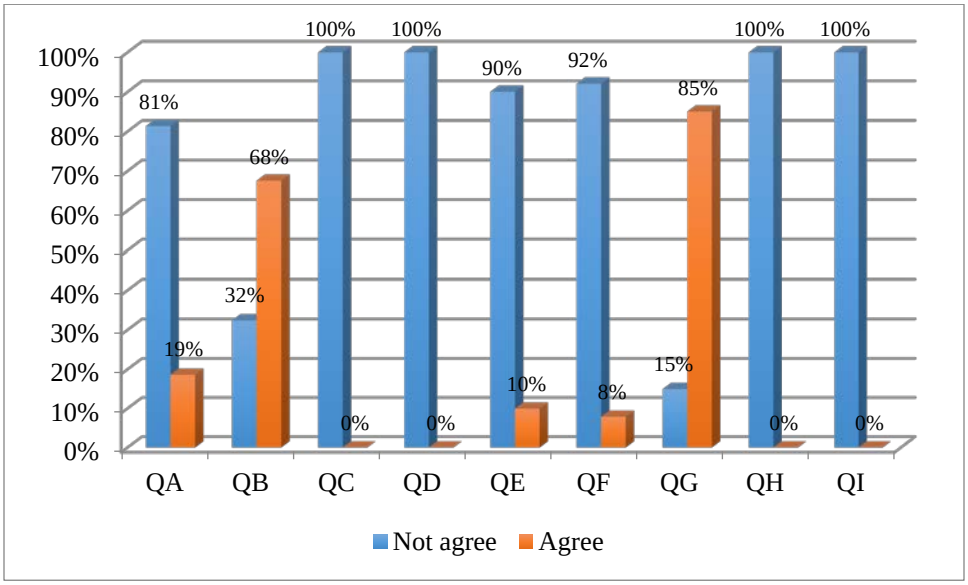
Note: Data are the mean value of the exchange from one currency to another currency, for example from KHR to USD (shortcut: KHR-USD). NE: Northeast Area, NW: Northwest Area, SE: Southeast Area, SW: Southwest Area, CA: Central Area. The value is from 1 to 5, 1: is never, 2: is rarely (about 3 times per year), 3: is sometimes (every 2-3 months), 4: is frequently (every month) and 5: is very frequently (every day or every week).

## 4.8. The reaction to Payment in Different Currencies from the Currency Quotation

In the situation when foreign currency circulates at the same time as the local currency, it frequently happens that the currency in which the quotation of goods and services is made is different from the currency that the buyers dispose for actual payment. To cover this situation, we asked questions about this coincidence that allowed for different possible answers, to examine the range of household reactions (Figure 3.11). According to the answers QE and QG of the households, less than 15% said that they always pay in the currency of the bill or the request of the sellers. In this case, only a minority would negotiate the exchange rate with the sellers; 80% accept the rate that is fixed by the sellers (QA and QB). At the same time, there are around 10% of respondents that change their currency before they pay to sellers, when the bill or request requires disbursements in a currency that is different from the currency that they have, because they wish to avoid exchange losses (QF). As a result, households generally tend to keep different currencies with them in order to pay in the currency of a bill or the request of the seller. Otherwise, they will make losses. This could be in the

form of time and money, and is caused by seeking currency exchange but facing an unfavorable exchange rate fixed by the sellers when using different currencies to pay.

**Figure 3.11 Payment in Different Currencies**



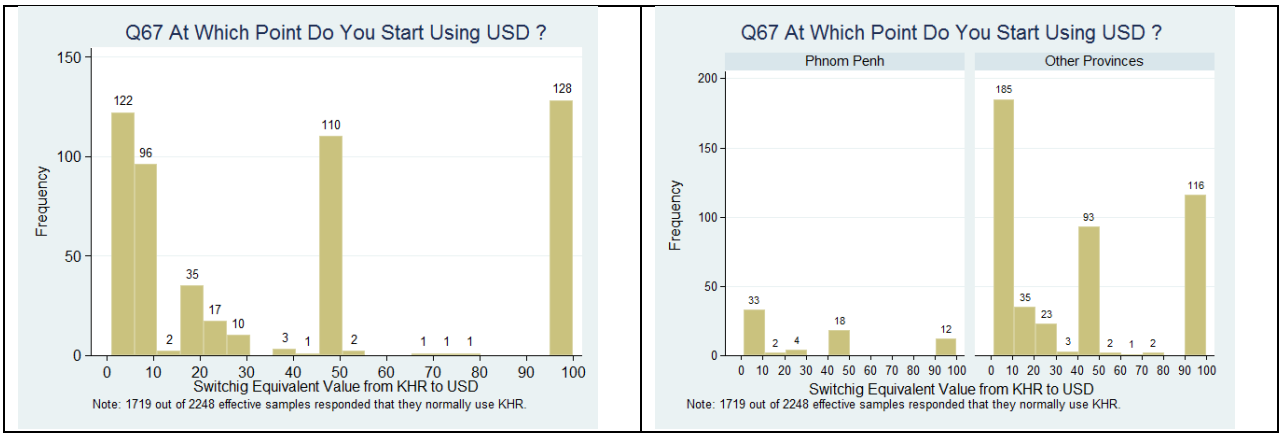

Note: Question: Do you ever pay goods and services in different currency from the seller's request?
Answers to the above question:
QA: Yes, I do and I can negotiate the exchange rate or have an arrangement on the exchange rate.
QB: Yes, I do but I cannot negotiate the exchange rate. The seller fixes it.
QC: Yes, I pay by ATM transfer from my bank account and the bank does the currency exchange.
QD: Yes, I pay by transferring from a Mobile account and the bank does the currency exchange.
QE: No, I always pay in the currency of the bill or request.
QF: No, I change the currency at the market/bank/MFI, and then pay seller in the currency of the bill.
QG: No, I generally have sufficient currencies needed for payments and pay in the currency they request.
QH: No I pay by doing ATM transfer from my bank account to the seller in the currency they request.
QI: No, I pay by doing transferring from a mobile account to the seller in the currency they request.

## 4.9. Perceptions and Opinions

### 4.9.1. The Choice of Currency

Respondents were asked to indicate at which point they generally start using USD instead of KHR (Figure 3.12). The responses show that 11% of them declare that they mainly use USD when it is possible to do so in all kind of payments, from amounts of 0 to 20 dollars equivalent. Some 6% of them start using USD for payment from between 20-50 dollars equivalent, and 6% of them pay with USD from 50 dollars. Overall, only 24% of households show that they have used USD notes however, and this means that another 76% usually use KHR notes in their payments. The results by region show that there is not much geographical difference in the pattern of switching from KHR to USD.

**Figure 3.12: Choice of Currency Usage**




## 4.9.2. Potential Need for larger Value KHR Notes

Sometimes it is said that it is inconvenient to use KHR as there is no note higher than 100,000 Riels (equivalent to USD 25), particularly for high value transactions. This inconvenience forces people to use USD notes, especially the higher value notes. Respondents were asked whether they would use more KHR if notes of higher value were issued. In the case of 200,000 Riel note, more than 60% of effective respondents answered they would use or possibly use it in all areas. In the case of 300,000 or 400,000 Riel notes, the number was less, but still a majority of respondents suggested they would use them if they became available. This confirms that the current largest KHR denomination is still small in value, and people need larger ones. However, it also shows that people would not likely to use new denominations that had values higher than USD 100 equivalent. It seems that these denominations would be inconvenient for them, perhaps because of too many zeros.

## 4.9.3. Usage patterns of KHR notes and USD notes

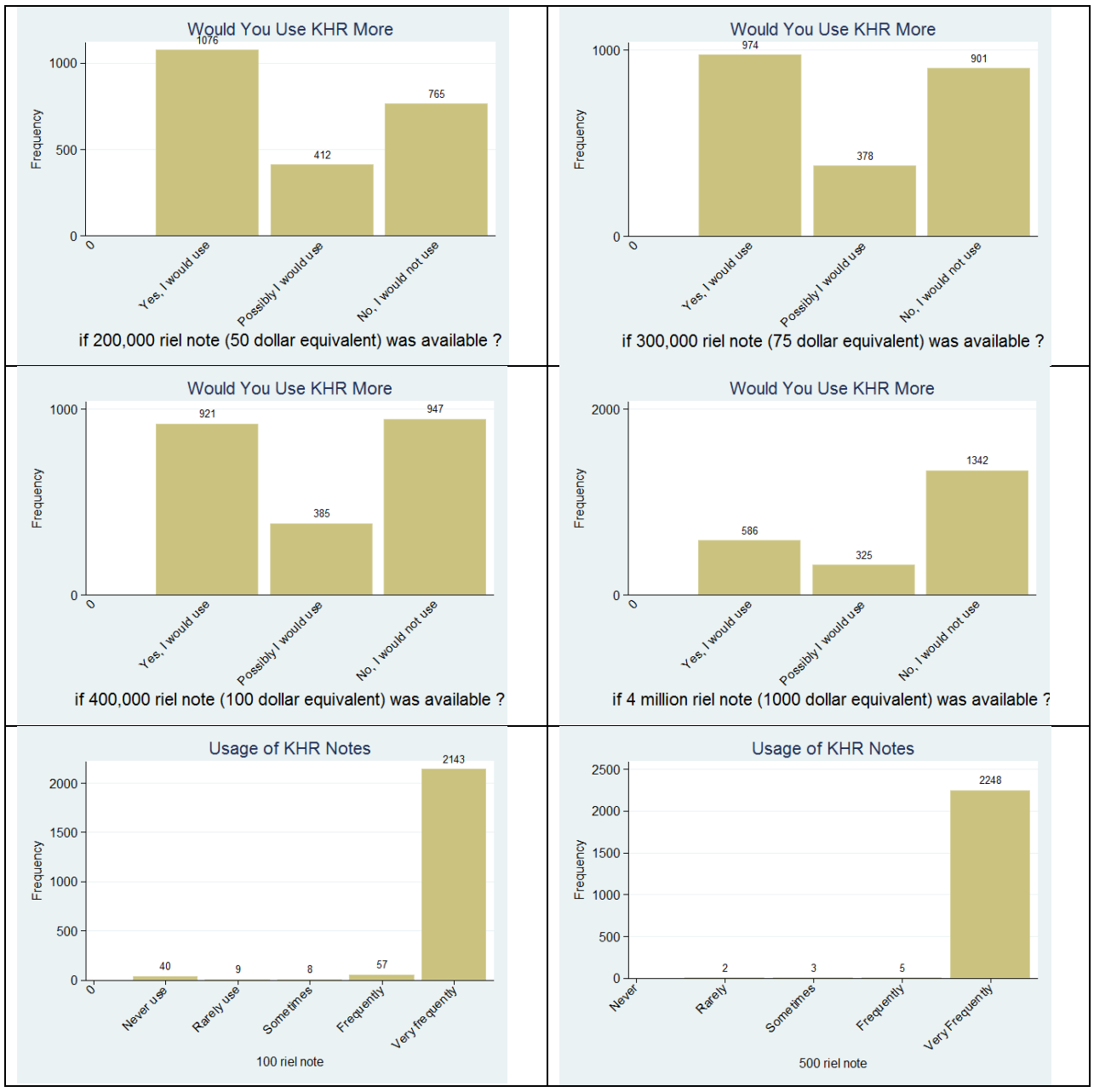
To capture the usage patterns of currently available KHR notes, respondents were asked to indicate frequency of use in five levels, from never to very frequent (Figure 3.13)[5]. With regard to the 50 Riel note, most respondents said they never use it, regardless of the geographical area they live in. From the 100 Riel note to the 10,000 Riel note in a high frequency of use was recorded in all areas. But from 20,000 Riel note responses began to change, ranging from never to very frequently, but showing an increasing number of negative (never or rarely) answers. In the case of the 50,000 Riel note, 39.7% of respondents answered negatively. In the case of the 100,000 Riel note, 81.5 % responded that they never, or very rarely use it. It is worth mentioning that the distribution of respondents on these questions was not so different across the regions (Table 3.6).

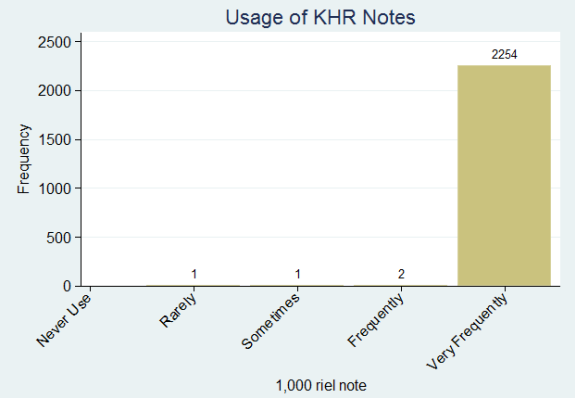
This could show that USD notes were preferred instead of KHR for these amounts, or there are numbers of households whose living standards are too low for them to use these large values. To verify this, we also looked at those respondents who use USD notes (Figure 3.14). The numbers of respondents that sometimes, frequently and very frequently use USD notes, concentrated on the 1 dollar note (77%:1737/2258), 5 dollar note (72%:1623/2258), and the 10 dollar note (69%:1557/2258), but the numbers decrease with the 20

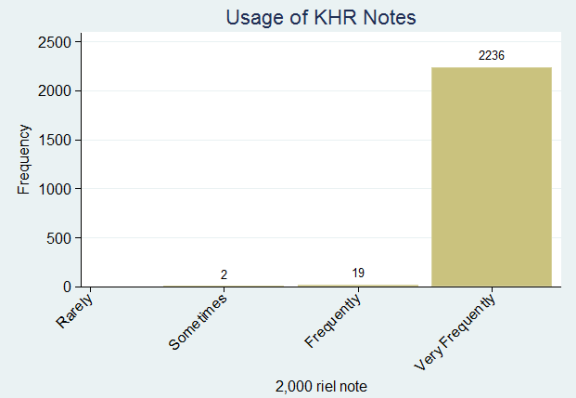
[5] Frequency was defined as follows: 'never' as for less than 2 or 3 times in a year, 'rarely' as for 2 or 3 times a year, 'sometimes' as for 2 or 3 times a month, 'frequently' as for every month, and 'very frequently' as for every day/every week.

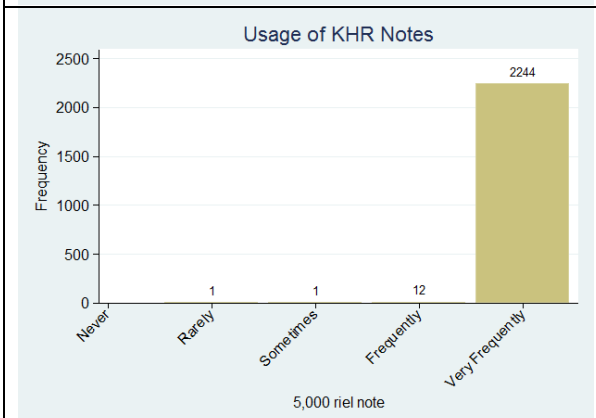
dollar note (61%:1377/2258), the 50-dollar note (49%:1105/2258), and the 100-dollar note (44%:983/2258), though use percentages are still relatively high.

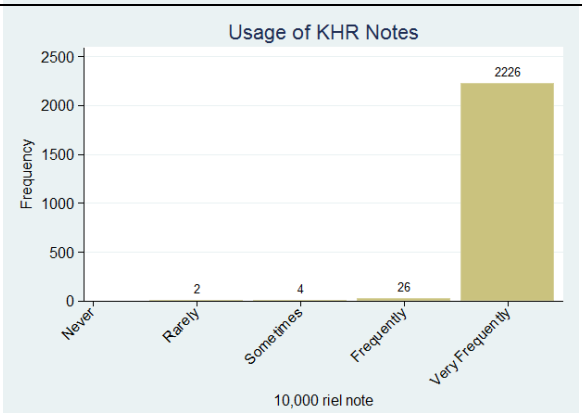
**Figure 3.13: Usage of KHR Notes**

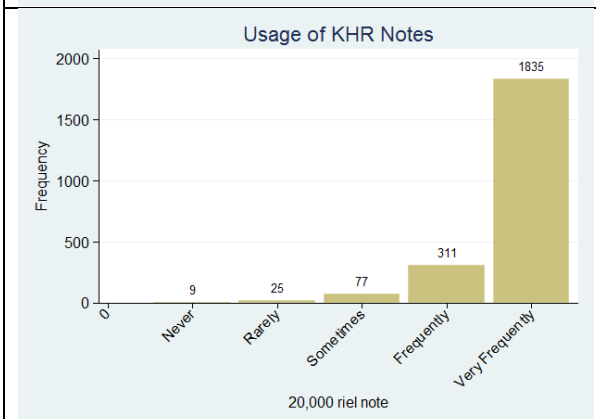


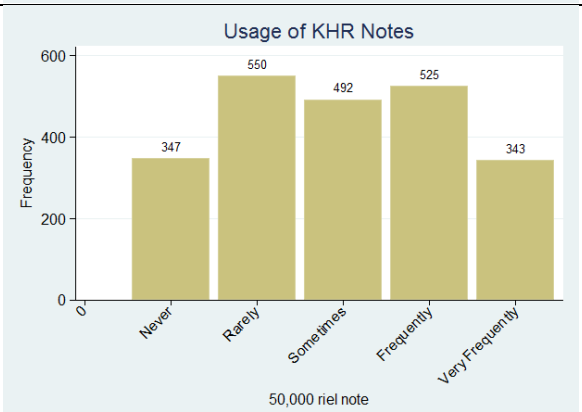

Usage of KHR Notes
Frequency
2500
2000
1500
1000
500
0
2254
1
1
2
Never Use
Rarely
Sometimes
Frequently
Very Frequently
1,000 riel note


Usage of KHR Notes
Frequency
2500
2000
1500
1000
500
0
2236
2
19
Rarely
Sometimes
Frequently
Very Frequently
2,000 riel note


Usage of KHR Notes
Frequency
2500
2000
1500
1000
500
0
2244
1
1
12
Never
Rarely
Sometimes
Frequently
Very Frequently
5,000 riel note


Usage of KHR Notes
Frequency
2500
2000
1500
1000
500
0
2226
2
4
26
Never
Rarely
Sometimes
Frequently
Very Frequently
10,000 riel note


Usage of KHR Notes
Frequency
2000
1500
1000
500
0
1835
9
25
77
311
0
Never
Rarely
Sometimes
Frequently
Very Frequently
20,000 riel note


Usage of KHR Notes
Frequency
600
400
200
0
550
492
525
347
343
0
Never
Rarely
Sometimes
Frequently
Very Frequently
50,000 riel note

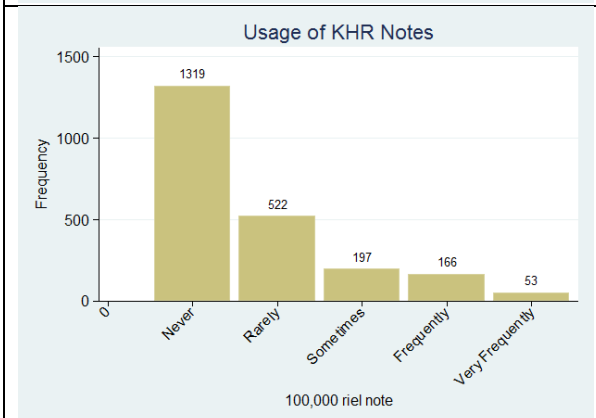
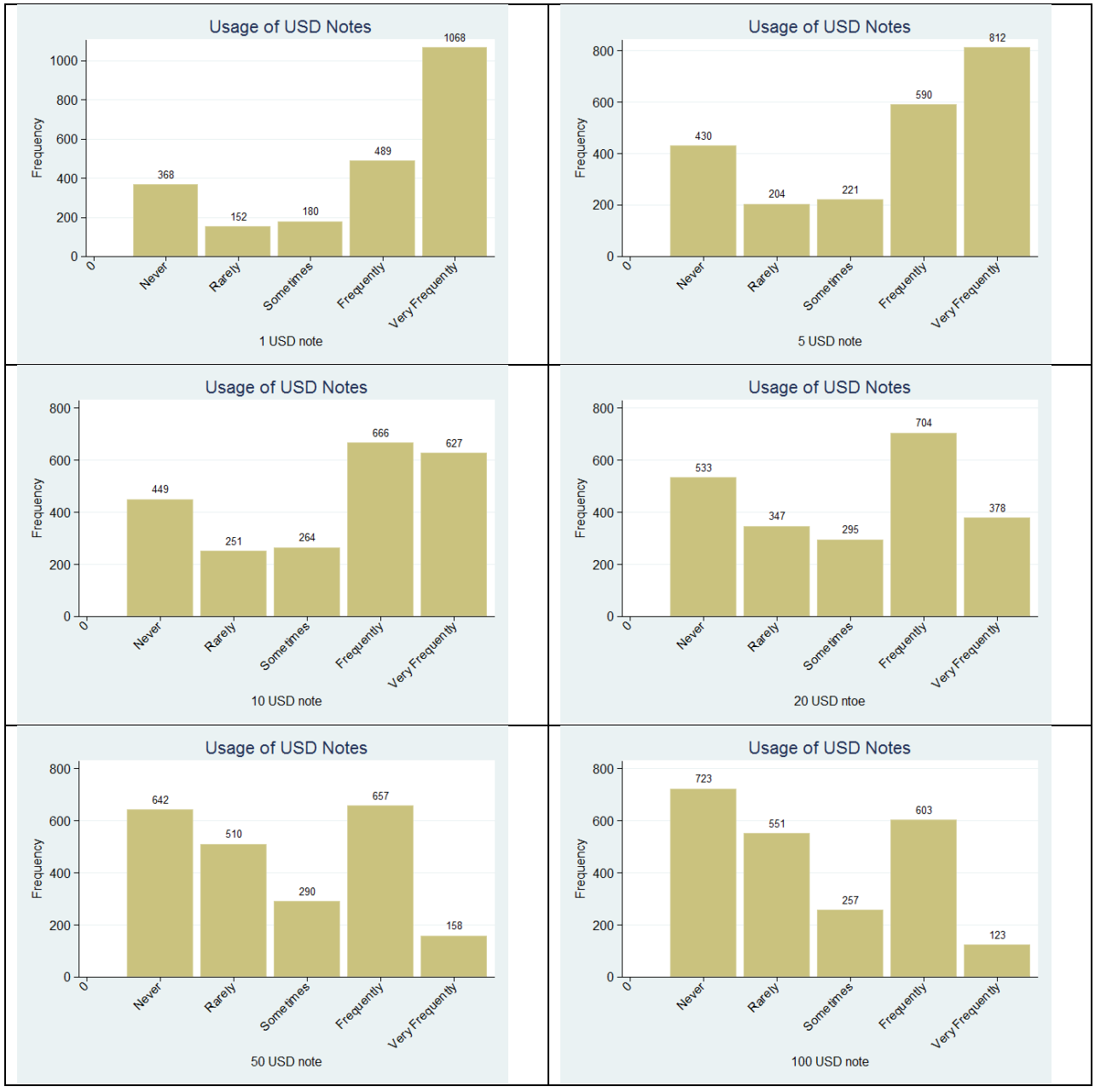

Usage of KHR Notes
Frequency
1500
1000
500
0
1319
522
197
166
53
0
Never
Rarely
Sometimes
Frequently
Very Frequently
100,000 riel note

**Figure 3.14: Usage of USD Notes**




At the regional level, in the case of the 1-dollar note, the majority of respondents in Phnom Penh, Siem Reap, and the Central Area use it very frequently in their daily transactions. In Phnom Penh in particular, 78.5 % of respondents used it very frequently, while only 2.0% responded negatively, either ‘never’ or ‘rarely’.

But in the Northwest Area, 43.1% of respondents responded negatively. In case of the 5 dollar or 10 dollar notes, the negative answers in Phnom Penh are 2.7% and 2.0% respectively. Those using them 'Very Frequently' are again a majority there. In the case of the 20-dollar or higher notes, negative ratios go up to 22.8% (100-dollar), while 16.1% responded 'very frequently' even in the case of the 100-dollar bill. It is noticeable that in the North-East area, 10.8% responded that they use the 50-dollar bill 'very frequently,' and 11.3% said the same for the 100-dollar bill. These responses reflect the fact that the use of KHR and USD notes are in a competitive situation when the amount of payments are equal or below 10-dollars equivalent, but are also in a complementary situation to some extent as KHR banknotes exist with a wide range of denominations below 10-dollars equivalent. These two currencies are rather complementary for the amount of payments above the 10-dollar equivalent level, as the two largest denominations of KHR are not frequently used (Table 3.6). It also means that USD notes are preferable currency for paying transactions when the amounts exceed the 10-dollar equivalent level.

**Table 3.6: Usage of KHR High Value Notes**

| How Frequently Do You Use 50,000 Riel Note ? | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Refuse | Don't Know | Never | Rarely | Sometimes | Frequently | Very Frequently | Total |
| Phnom Penh | 1 | 0 | 21 | 33 | 33 | 44 | 18 | 150 |
| Siem Reap | 1 | 0 | 21 | 34 | 37 | 20 | 7 | 120 |
| North-East Area | 0 | 0 | 24 | 23 | 36 | 58 | 99 | 240 |
| North-West Area | 2 | 0 | 41 | 66 | 38 | 60 | 13 | 220 |
| Central Area | 6 | 0 | 89 | 156 | 143 | 117 | 62 | 573 |
| South-East Area | 2 | 0 | 84 | 160 | 121 | 138 | 77 | 582 |
| South-West Area | 3 | 1 | 67 | 78 | 84 | 88 | 67 | 388 |
| Total | 15 | 1 | 347 | 550 | 492 | 525 | 343 | 2,273 |
| How Frequently Do You Use 100,000 riel note ? | | | | | | | | |
| | Refuse | Don't Know | Never | Rarely | Sometimes | Frequently | Very Frequently | Total |
| Phnom Penh | 1 | 0 | 73 | 38 | 17 | 18 | 3 | 150 |
| Siem Reap | 1 | 0 | 74 | 29 | 10 | 5 | 1 | 120 |
| North-East Area | 0 | 0 | 133 | 48 | 22 | 25 | 12 | 240 |
| North-West Area | 2 | 0 | 138 | 46 | 17 | 15 | 2 | 220 |
| Central Area | 6 | 0 | 332 | 142 | 50 | 37 | 6 | 573 |
| South-East Area | 2 | 0 | 336 | 132 | 53 | 39 | 20 | 582 |
| South-West Area | 3 | 1 | 233 | 87 | 28 | 27 | 9 | 388 |
| Total | 15 | 1 | 1,319 | 522 | 197 | 166 | 53 | 2,273 |

### 4.9.4. **Feelings about particular Statements**

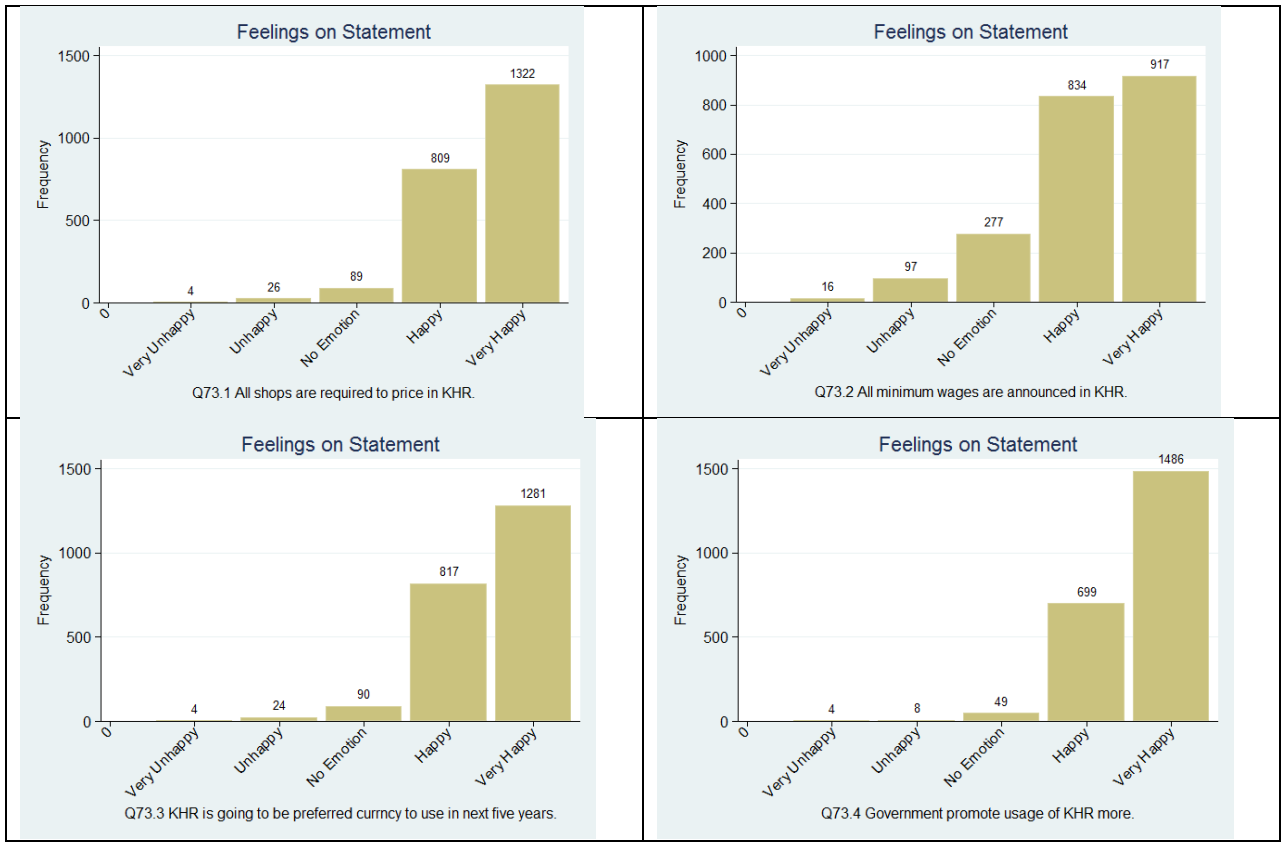
When respondents were asked about their feelings on the statement 'all shops are required to price in KHR'; more than 90% in all areas responded positively, as either 'happy' or 'very happy' (Figure 3.15 and Table 3.7). In the Northeast Area, 4.2% responded negatively, as either 'very unhappy' or 'unhappy'. The ratios of negative answers are very low or negligible in other areas. When respondents were asked their feelings on the statement, 'all minimum wages are announced in KHR', negative answers, either 'unhappy' or 'very unhappy,' increased in all areas. The total average ratio of negative answers on this dimension was 5.0%, but was 8.6% and 6.6% in the Vietnam Border area, and in the Central Area respectively. The lowest ratio was 1.7%, observed in the Northwest area.

When respondents were asked their feelings on the statement 'KHR is going to be the preferred currency to use in the next five years,' negative answers (either 'unhappy' or 'very unhappy') were very low in

all areas, averaging 1.2%. No negative responses were recorded in Phnom Penh or in the Northwest area. The highest negative ratio was 2.1% in the Northeast, and the second highest was observed in the Central Area at 1.9%. When respondents were asked their feelings on the statement, 'Governments will promote the use of the KHR more,' negative answers (either 'unhappy' or 'very unhappy') were also very low in all areas, 0.5% on average. No negative responses were recorded in Phnom Penh, the Northwest area, and in the Vietnam Border Area. The highest negative ratio was 1.3% in the Northeast area, and the second highest was observed in the Central Area at 0.9%.

When respondents were asked about their feelings towards the statement 'All business transactions in Cambodia are required to be carried out in KHR,' negative answers were again low in all areas, averaging 2.1%. The highest negative ratio is 3.3% in Northeast area and the second highest is observed in Central area with 2.7%. Therefore, there is a general consensus that the use of riels should be promoted by the government, and by implementing some regulatory requirements, such as currency of quotation and payment. However, there are still a very small group of people not so happy with the use of KHR for accounting the minimum wage (4.5% of households), and paying all business transactions in Cambodia (2% of households).

**Figure 3.15 Feelings on Statements**



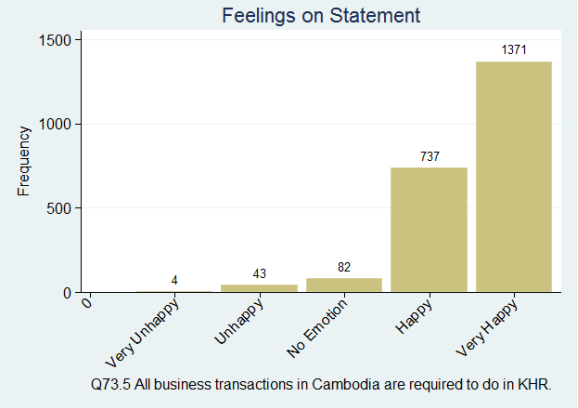

Feelings on Statement
Frequency
1500
1000
500
0
4
43
82
737
1371
0
Very Unhappy
Unhappy
No Emotion
Happy
Very Happy
Q73.5 All business transactions in Cambodia are required to do in KHR.

**Table 3.7: Feelings on Statements by Area**

Q73.1 All shops are required to put their prices in KHR

| | Refuse | Don't Know | Very Unhappy | Unhappy | No Emotion | Happy | Very Happy | Total |
|---|---|---|---|---|---|---|---|---|
| Phnom Penh | 2 | 0 | 0 | 1 | 6 | 47 | 94 | 150 |
| Siem Reap | 1 | 0 | 0 | 1 | 5 | 44 | 69 | 120 |
| North-East Area | 0 | 0 | 2 | 8 | 11 | 81 | 138 | 240 |
| North-West Area | 2 | 0 | 0 | 1 | 7 | 82 | 128 | 220 |
| Central Area | 6 | 3 | 1 | 9 | 17 | 213 | 324 | 573 |
| South-East Area | 4 | 1 | 1 | 2 | 23 | 222 | 329 | 582 |
| South-West Area | 3 | 1 | 0 | 4 | 20 | 120 | 240 | 388 |
| Total | 18 | 5 | 4 | 26 | 89 | 809 | 1,322 | 2,273 |

Q73.2 All minimum wages are announced in KHR.

| | Refuse | Don't Know | Very Unhappy | Unhappy | No Emotion | Happy | Very Happy | Total |
|---|---|---|---|---|---|---|---|---|
| Phnom Penh | 2 | 7 | 0 | 7 | 14 | 44 | 76 | 150 |
| Siem Reap | 1 | 0 | 0 | 6 | 19 | 49 | 45 | 120 |
| North-East Area | 0 | 14 | 2 | 6 | 18 | 82 | 118 | 240 |
| North-West Area | 2 | 7 | 1 | 4 | 26 | 81 | 99 | 220 |
| Central Area | 6 | 30 | 8 | 33 | 87 | 217 | 192 | 573 |
| South-East Area | 4 | 37 | 4 | 33 | 72 | 226 | 206 | 582 |
| South-West Area | 3 | 19 | 1 | 8 | 41 | 135 | 181 | 388 |
| Total | 18 | 114 | 16 | 97 | 277 | 834 | 917 | 2,273 |

Q73.3 KHR is going to be a preferred currency to use in Cambodia in the next five years.

| | Refuse | Don't Know | Very Unhappy | Unhappy | No Emotion | Happy | Very Happy | Total |
|---|---|---|---|---|---|---|---|---|
| Phnom Penh | 2 | 3 | 0 | 0 | 1 | 43 | 101 | 150 |
| Siem Reap | 1 | 0 | 0 | 1 | 2 | 53 | 63 | 120 |
| North-East Area | 0 | 0 | 2 | 3 | 6 | 70 | 159 | 240 |
| North-West Area | 2 | 1 | 0 | 0 | 5 | 82 | 130 | 220 |
| Central Area | 6 | 20 | 2 | 9 | 38 | 239 | 259 | 573 |
| South-East Area | 4 | 10 | 0 | 8 | 24 | 227 | 309 | 582 |
| South-West Area | 3 | 5 | 0 | 3 | 14 | 103 | 260 | 388 |
| Total | 18 | 39 | 4 | 24 | 90 | 817 | 1,281 | 2,273 |

Q73.4 The government promote the usage of KHR more.

| | Refuse | Don't Know | Very Unhappy | Unhappy | No Emotion | Happy | Very Happy | Total |
|---|---|---|---|---|---|---|---|---|
| Phnom Penh | 2 | 1 | 0 | 0 | 3 | 40 | 104 | 150 |
| Siem Reap | 1 | 0 | 0 | 1 | 1 | 53 | 64 | 120 |
| North-East Area | 0 | 0 | 2 | 1 | 8 | 67 | 162 | 240 |
| North-West Area | 2 | 0 | 0 | 0 | 1 | 77 | 140 | 220 |
| Central Area | 6 | 3 | 2 | 4 | 13 | 188 | 357 | 573 |
| South-East Area | 4 | 3 | 0 | 0 | 13 | 180 | 382 | 582 |
| South-West Area | 3 | 2 | 0 | 2 | 10 | 94 | 277 | 388 |
| Total | 18 | 9 | 4 | 8 | 49 | 699 | 1,486 | 2,273 |

| Q73.5 All businesses transactions in Cambodia are required to do in KHR. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Refuse | Don't Know | Very Unhappy | Unhappy | No Emotion | Happy | Very Happy | Total |
| Phnom Penh | 2 | 2 | 0 | 2 | 6 | 48 | 90 | 150 |
| Siem Reap | 1 | 0 | 0 | 2 | 7 | 42 | 68 | 120 |
| North-East Area | 0 | 0 | 3 | 5 | 6 | 73 | 153 | 240 |
| North-West Area | 2 | 0 | 0 | 3 | 10 | 77 | 128 | 220 |
| Central Area | 6 | 6 | 1 | 15 | 12 | 190 | 343 | 573 |
| South-East Area | 4 | 7 | 0 | 9 | 17 | 189 | 356 | 582 |
| South-West Area | 3 | 3 | 0 | 7 | 24 | 118 | 233 | 388 |
| Total | 18 | 18 | 4 | 43 | 82 | 737 | 1,371 | 2,273 |

## 5. Conclusions

Although there is a high level of dollarization throughout the country in terms of macro-aggregated figures, there has been little empirical study done on the behavior of households in Cambodia in relation to this situation. This chapter analyzed the real picture of households living in a multi-currency circulating environment, using survey-based data collected in 2014 and 2015 by a joint research project of JICA-RI and the National Bank of Cambodia. We analyzed the foreign/local currency usage of households from various angles: income, expenditures, savings, borrowings, usage of currency notes, money changing, and perceptions/opinions on these processes. Results were organized by area in order to capture regional differences in foreign currency usage. We found that, in the case of Cambodia: (1) wage/salary income is highly dollarized, compared to other source of income; (2) the level of dollarization of expenditure differs significantly by type of products or services, and is particularly high for large transactions, such as for the payment of house rents or furniture/appliances; and (3) there exist relatively wide mismatches in the currency composition of income/expenditures and income/borrowings.

From these findings we can draw some policy implications. The household sector turns out to be less dollarized than the enterprise sector in terms of foreign currency usage for its income/revenue, expenditure, or borrowings transactions. In this sense households hold, in general, positive perceptions with respect to policies or statements designed to promote the use of local currency. It may as a result be easier to start implementing promotion programs targeting household activities in this area. For example, reducing transaction costs associated with the use of KHR notes, particularly for high value transactions. In this sense increasing more bank account in KHR would encourage the payment of salary in KHR and the transaction by KHR. It would reduce cash holding and its associated risks as well as facilitate the use of KHR through different types of payment instruments. It could also address some complains about inconvenience of holding too much KHR to make their large payments. While it is necessary to examine these perceptions further, there may exist network externalities for the dollarization of financial transactions. Reducing network externality through raising cost for USD transactions, while reducing them for KHR, may facilitate pricing in KHR. Moreover, given the wide mismatch in currency composition of income/expenditures and income/borrowings, some households were not aware of the risks of exchange rate changes, or had concrete ideas on hedging strategies. It may be necessary to make some efforts to raise the awareness of risks associated with exchange rate fluctuations through financial literacy education. Such risk awareness of exchange rates will raise the preference for receiving wage/salaries in the local currency.

Before ending this Chapter, we would like to mention some limitations of the current data. We analyzed the currency choices of households in terms of income, expenditure, savings or loans. However, it is necessary to take into account the interests of their counterparts, such as sellers or lenders, that affect the outcome of currency choice. In this case, the wage/salary intentions of employers will impact on currency choice. When borrowing currency, lender intentions will also affect choices. In this regard, future studies should attempt to detangle the factors originated from the counterparts of households. The questionnaires for follow-up surveys on households should be designed so as to draw the intention of households directly, rather than the possible final outcomes of choice that we concentrated on.

## Acknowledgements

I am grateful to Dr. Khou Vouthy, Director of Economic Research and International Cooperation Department, the National Bank of Cambodia as one of the co-researchers of this project, who contributed section 4.7, 4.8, and 4.9 as well as gave me helpful comments to improve the paper.

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