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# **Consumer Loans in Cambodia: Implications on Banking Stability**

by

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## **Abstract**

This paper analyzes the fast development of consumer loans including housing loans in Cambodia to check whether or not such a development posts any stability risk to banking system in Cambodia. Using stress-testing method, the paper finds that current level of consumer loans provided by banks does yet creates a big threat to the banking stability in Cambodia. Rather, the surge reflects consequences of positive development in the banking system and economy as a whole, including the rise of middle-income class, changing family structure, stronger competition among banks, and more widespread financial literacy.

**Keywords:** Housing loans, consumer loans, stress testing, banking stability, Cambodia, financial crisis

**JEL Classification Code:** E58, G21, G01, G28, O16

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## 1. Introduction

It is widely recognized that the development of financial system plays a crucial role in economic prosperity of any country in many forms. Focusing on household's welfare, the development of consumer loans help relax the constraint of households by allowing them to frontload some of their consumptions on the expectation of higher income flow in the future. However, at the same time, loan expansion to households implies increasing household indebtedness which, if excessive, might create significant risks to financial stability. This instability is realized at the time when the deterioration of the economy or the occurrence of a strong-enough negative shock affects the households' balance sheet and cash-flow position, resulting in the loan defaults and then creating threat to banks' balance sheet and financial instability if the exposure of the banking portfolio to consumer loans is high enough.

The vivid example is the recent financial crisis which shows that excessive lending especially mortgage lending creates vulnerability to not only household but also the financial system and is one of the factors that triggered financial crisis.

This experience of financial crisis has caught attention to supervisory authorities to scrutinize the development of the consumer loans or household indebtedness and design policies and measures to prevent the excessive lending while at the same time considering their benefit-and-risk balancing.

In Cambodia, the consumer loans have been soaring in the recent years. This surge has been underpinned by, from the demand side factors, increase in middle-income class and changing family structure, and, from the supply side factors, stronger competition in the banking systems, coupled with more financial literacy which increases financial intermediation.

Given this fast development of consumer loans in Cambodia, it is always interesting and noteworthy to question whether or not the current growth poses any risk to stability of banking system in Cambodia and whether or not it is time to take actions against this fast development trend, considering the benefit-and-risk tradeoffs. This paper will provide the first attempt to study in depth the consumer loans and its implication on banking stability in Cambodia, with a main focus on addressing these questions.

This paper is organized as follows. Chapter 2 gives an overview of the related literature on implication of consumer loans, particularly housing loans, on

financial stability. Chapter 3 describes the current development of consumer loans in Cambodia. Chapter 4 provides an in-depth analysis with stress testing method to investigate if the current development of consumer loans poses any significant risks to banking stability, followed by the policy implication to achieve the sustainable development of banking and financial system, and Chapter 5 is conclusion.

## **2. Literature Review**

The concept of consumer loans has become increasingly examined just over the past decade. Prior to that, it had traditionally been a minor subject for study to identify its causes and implications for banking and financial distress, since households were considered to be a trustworthy borrower or normally have collaterals upon their borrowing. These enable banks to prevent excessive losses on household lending, compared to corporate lending, and the concentration of study and examination of loan performance and its implication for banking crisis had been put on corporate sector.

Since late 1990s, as the build-up of household debt has accelerated, the studies of the household debt have been growing, and household debt is clearly gaining greater focus in the advent of sub-prime crises. A growing literature on consumer loans started to emerge (Girouard et al, 2006), focusing on the causes and consequences of the widespread growth in consumer loans.

A number of studies have identified various common underlying causes of the buildup of household borrowing or consumer loans (see Girouard et al, 2006; Dynan and Kohn, 2007; Dynan, 2009, and IMF, 2012). These factors include favorable financial conditions resulting from favorable monetary and macroeconomic conditions, financial liberalization and innovation in credit markets, and buoyant housing markets that have eased credit access for lower income borrowers and loosened credit constraints for first-time buyers. Together with rising credit availability and declining lending standards, a wave of household optimism over future increase in income and wealth from increasing housing price also explains the acceleration of household borrowing.

Greater access to consumer loans, at one end, enables households to relax their financial constraints by frontloading some of their consumption on expectations of rapid income growth in the future. However, at the other end, increasing consumer loans may lead to household over-indebtedness which raises concerns

about its implications on financial stability, especially in the period of weak and uncertain economic outlook.

A number of studies identified how rising consumer loans pose risks to banking and financial stability. Relaxation of borrowing constraint to household enables household to increase their spending and decrease their saving buffer as they expect to borrow instead of solely relying on their own savings to ensure against shocks to their income or wealth. Thus, the decreasing saving buffers and high debt burden make households more vulnerable to shocks and then lead to financial distress. Also, less liquidity constraints and strong credit growth will lead to an increase in credit to less creditworthy borrowers and subsequent rise in the number of loan default in the case of shock (Mian and Sufi, 2009). Herrala and Kauko (2007) did simulation studies and concluded that even though the consumer loans bear a relatively low credit risk to banks, under extreme conditions coinciding with large and persistent adverse shocks to unemployment, interest rates and house prices, large consumer loans could become a threat to financial stability.

For other implication of consumer loans on financial and economic stability, IMF (2012) also highlighted that for countries where household debt was high, the housing bust and the subsequent recessions happen to result in more severe and protracted contraction in consumption and general economic activities, compared to countries with low household debt. As a result of burst, real consumption declines by more than 3.9 percentage points more in the case of high household borrowing. Real GDP generally decreases more and unemployment rate increases more. Cerra and Saxena (2008), Reinhart and Rogoff (2009) suggested similar results that high household leverage exacerbates the consequence of the housing burst and recession. Mian and Sufi (2011) used country-level data to identify the household debt and found that a higher level of household debt is positively associated with sharper declines in consumption spending especially on consumer durables, residential investment, and employment.

There are a number of main channels through which accumulated consumer loans can intensify the downturns. Tobin (1980) argued that borrowers have high marginal propensity to spend from wealth, current income, or other available resources they can have. This suggests that a shock to the borrowers will force them to deleverage and reduce their spending, thus leading to greater decline in aggregate activity in the country with high household debt. Guerrieri and Lorenzoni (2011) also explained that the consumption depression was enforced in the case of high consumer loans, as households need higher precautionary saving

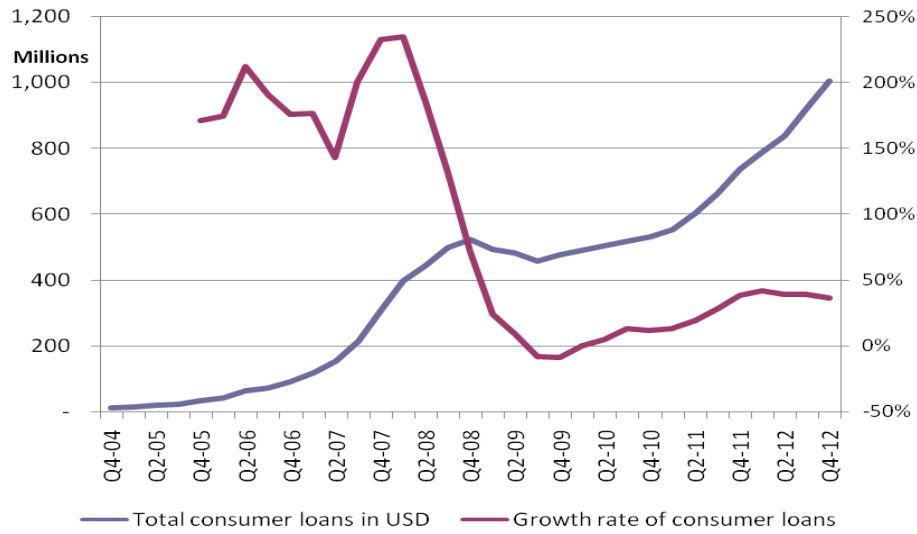
in the presence of uncertainty following the shocks. Lorenzoni (2008) and Krishnamurthy (2010) identified from the channel from fire sales or forced sales that increasing unemployment as a result of shock reduces household's ability to service their debt, leading to increase in household's defaults, foreclosures, abrupt sales of foreclosed properties at distressed prices, and ultimately a quick undershooting of house price. The decrease in house price reduces economic activity and forms self-reinforcing contractionary spirals. The house burst and fire sales also affect the balance sheet of the financial institutions and firms and tighten credit supply for productive investment. In severe case, the continuing deterioration of banks' balance sheet will create vulnerability of the banking system and lead to banking crisis.

Overall, despite the widely accepted benefit of consumer loans for relaxing the consumption and investment spending constraints, the literature identified, from past experience, the possible implications that high consumer loans have a negative implication for the financial stability and economic activity, particularly through the burst of housing markets, given generally large proportion of housing borrowing to the total household borrowing. In Cambodia, coupled with strong housing price increase, rapid development of consumer loans, particularly housing loans, gives a noteworthy observation and case study of its potential implication on the stability of the banking system, which is dominant in Cambodia. To all my knowledge, this paper provides the first attempt to study in depth on the implication of consumer loans on financial stability in Cambodia.

### **3. Consumer Loans and its Development in Cambodia**

Consumer loans in Cambodia are at its nascent stage, starting to develop within the last decade from a very low base, after the banking reform in 1998-2000. The growth has been very high with an average rate of 177 percent during 2005-2008 before Cambodia's economy were affected by the global financial crisis in late 2008, as shown in Figure 1. However, the growth significantly drop in 2009 and turned negative in late 2009 for 3 quarters, as the result of tightened credit condition in the banking system and consumers' increased cautiousness on spending. It quickly recovered back and now sustain at 32 percent on average in the past 2 years.

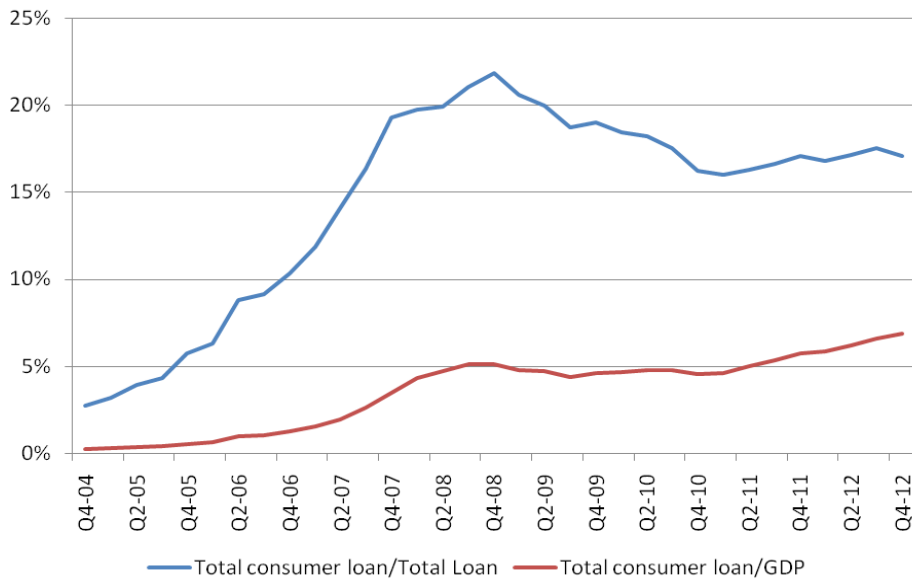
**Figure 1: Consumer Loans**



Source: National Bank of Cambodia

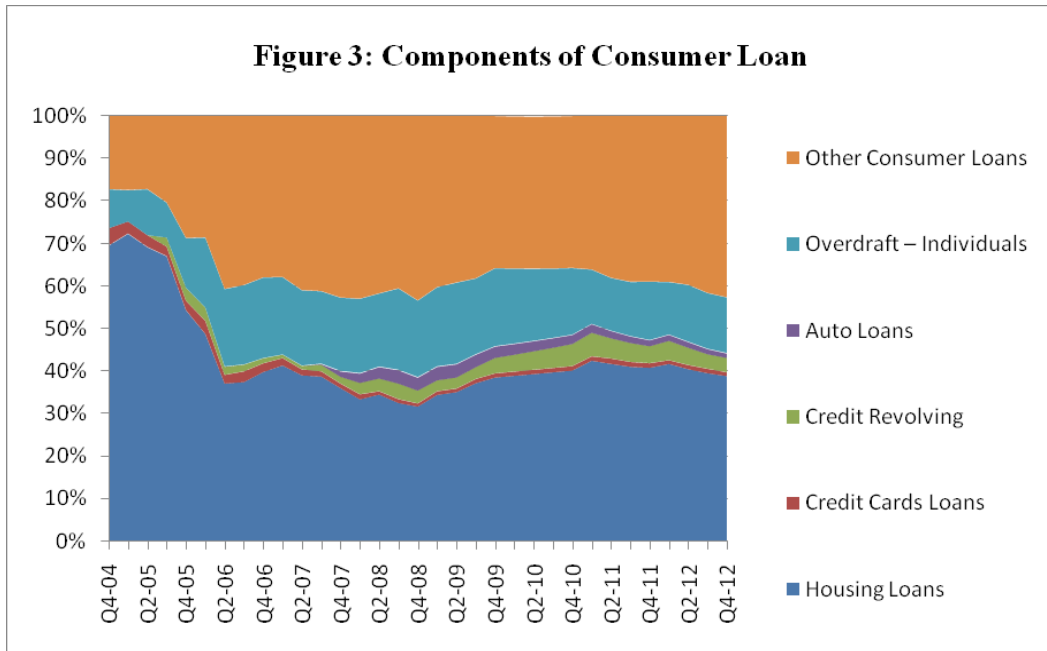
Despite such a fast development, the size of consumer loan still represents a small share. Figure 2 demonstrated that the share of consumer loan to GDP was around 7 percent, continuously increasing from less than 1 percent in 2004. Relative to total loans, its share increased from less than 5 percent in 2004 and reached the peak at 22 percent in end 2008, before dropping back and staying relatively constant at 17 percent in the present.

**Figure 2: Ratio of Consumer Loan to Total Loan and GDP**



Source: National Bank of Cambodia

In Cambodia, consumer loans are classified into housing loans, overdraft facilities, credit revolving, credit card loans, auto loans, and others. Figure 3 shows that among its components, housing loans stand the largest proportion, followed by overdraft facilities and credit revolving, while the auto loans and credit card loans remain a small share.



Source: National Bank of Cambodia

The share of housing loans stood at 70 percent in 2004 and then gradually decreased to around 40 percent from 2006. However, the size of housing loans increased rapidly with an average of almost 70 percent from 2005 to 2012. For banks and other financial institutions, housing loan has relatively low risks compared to other consumer loans, as collaterals are required to get the loans and lower risk weight are put in accordance with the Basel principles compared to others, suggesting that the banks have lower cost of setting aside the required amount of capital.

The fast development of housing loans in Cambodia can be translated into high demand and supply of housing loan. Cambodia's economy has registered a remarkable growth in the past decade at an average rate of 8 percent, resulting in continuous increase in the income and size of the middle class. This good economic achievement, coupled with the continued macroeconomic and political



stability, provides a positive outlook and expectation for the country and thus is a factor explaining higher demand for housing loans. Moreover, the change of family structure in Cambodia also contributes to higher demand for housing loans, as more newly-wedded couples prefer to move out and live in a separate house from their parents. On the supply side, the number of banks has reached 39, almost double compared to that in 2006, and most of the new entries are internationally big banks that bring along with them financial innovation and induce competition in the banking industry in Cambodia. The growing size of the banks and their competition, together with the growing financial literacy, have led to high growth of financial intermediation and supply of new financial products, including housing and other consumer loans. In addition, as a result of more competition, the average interest rate on housing loans has steadily fallen to 10 percent from 15 percent in mid-2000s. The fall of interest rate means cheaper cost of housing loans and thus creates higher demand.

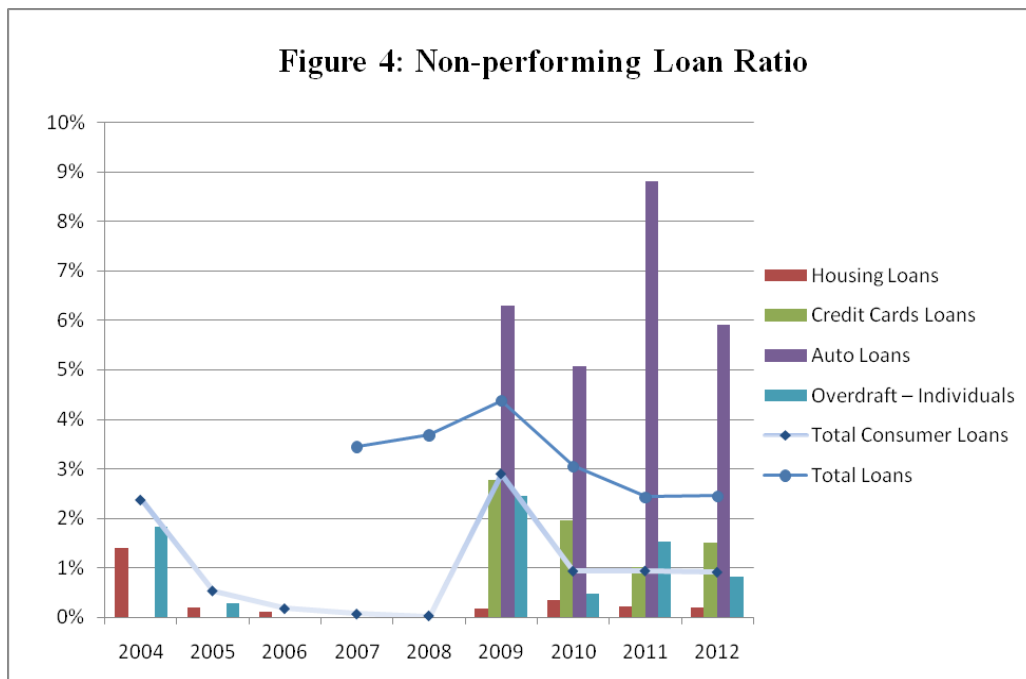
The overdraft facilities and credit revolving are the second and third largest components of the consumer loans, capturing around 13 percent and 3.4 percent, respectively. Overdraft facilities allow consumers to over-withdraw from their bank account, making the account balance fall below zero. The revolving credit facility allows the borrower to drawdown, repay and re-draw loans advanced to it of the available capital during the term of the facility.

The credit card loan and auto loan is growing but still at the groundwork stage compared to other loans. Credit card loan represents only 1 percent of the total consumer loans. As of December 2012, the number of issued credit cards is only 18,198 cards, decreased by 14.7 percent compared to 2011. The auto loan in Cambodia is not widely used, as its share consists of 1 percent of the total consumer loans.

The continuing minor share of credit card and auto loan as well as other consumer loans may mainly be reflected by people's behavior towards borrowing. In Cambodia, cultural norms around borrowing have delineated borrowing purposes into two categories: investment and consumption. Borrowing for consumption such as purchasing furniture, TVs, and other consumer durables is often perceived to be negative, while the borrowing for investment in houses, property, and businesses is viewed to be positive and prosperous. This behavior will likely shift over time as newer generations express their interest in such consumer loans, in line with better economic prospect and better financial literacy. On the supply side, the establishment of a centralized credit bureau in 2012 which allows credit

information sharing on borrowers will provide more incentives for banks to offer such loans, thereby fostering the development in the sector.

Looking at the non-performing loans (NPL) on consumer loans, it has been low at around 1 percent in the past 3 years, though it was as high as 2.9 percent in 2009, as shown in Figure 4. The NPL ratio on consumer loans was lower than that of the total in the banking sector which was 2.5 percent in 2012 and 4.5 percent in 2009. Of its components, the housing loans have the lowest NPL ratio at less than 0.5 percent over the past decade. This very low NPL ratio of housing loans can be mainly explained by conservative approach taken by banks, as the loan-to-value ratio for housing loan is less than 50 percent. The auto loans have the highest NPL ratio at 5.2 percent on average in the past 5 years, followed by the credit card loans which have 1.5 percent NPL ratio. However, they represent a very minor share of the consumer loans.



Source: National Bank of Cambodia

#### 4. Housing Finance and Consumer Credit: Implication on Banking Stability

The fast development of consumer credit can represent a new trend of financial product development and overall reflects the Cambodia’s past economic achievement and positive outlook. However, experiences show that the fast

development might create potential risks when households becomes increasingly leveraged and financial sector exposes itself too much to housing or real estate sector, which undermine the financial stability as well as macroeconomic stability. This section provides analysis on whether the current development of consumer loans can be a threat or not.

#### **4.1. Methodology**

Stress test is conducted to investigate the importance and potential risks of consumer loans on banking system stability in Cambodia. Stress testing is one of the increasingly popular tools for regulatory and supervisory authorities to identify and assess the vulnerability of banks' asset portfolio to major changes to exceptional events or scenarios. It helps the banks and supervisory authorities to identify the sensitivity of the banks' portfolio to different such risks as credit risks, liquidity risks, market risks, operational risks, etc.

We conduct the static stress testing by assessing the vulnerability of banks' solvency to the performance of the banks' consumer loan portfolio under various scenarios, particularly in the case where defaults on consumer loans or its components happen. Specifically, we answer the question of what if there is default on consumer loans or its components, how much the current level of solvency ratio will decrease. For the analysis, we use the aggregate-level banking data from 2004 to 2012, obtained from the National Bank of Cambodia.

This stress test method embeds some underlying assumptions. Firstly, given the use of aggregate data, we assume a standardized banking system; that is, when we stress test the scenario of 1 percent default on consumer loans, the method implicitly assumes that NPL on consumer loans will increase uniformly by 1 percent in every bank. Secondly, the method assumes the zero interconnectedness between banks and banks. When there is a shock or negative event happens to a bank, there is no effect or spillover to other banks. This assumption might not be unrealistic in the case of banking system in Cambodia, as there is no formal interbank market and banks do not involve significantly with interbank lending. Thirdly, the method is static stress test, capturing only the effect of a stress in just one-time period. So, this assumption excludes the case where the default on one consumer loan might give incentives for other consumers to default on their loans subsequently. Again, this assumption is ignorant in the factual situation, since the consumer loans, particularly the housing loans, are attached to the collaterals and are given by considering the income and wealth of the borrowers. Also, this

assumption can be addressed when we consider various scenarios with different default rates, including the extreme case with all consumer loans are default.

## 4.2. Results

The results of the stress test show that the current level of consumer loans do not have any potential impact and threat to the Cambodia's banking system. Table 1 shows the impact on capital adequacy ratio (CAR) if the NPL on consumers increase. As NPL on consumer loan increase by 1 percent, the CAR of the whole banking system will decrease by 0.077 percentage point, which is trivial. The current CAR of the whole banking system is also strong enough which is at around 28 percent. If we look at the housing loans, the main components of consumer loans, the impacts are even much smaller. 1 percent increase in NPL on housing loan will lead to only 0.032 percentage point decrease in CAR of the banks. For credit card loans, auto loans, and other consumer loans, the effect is quite negligible.

**Table 1: Percentage Point Decrease of Capital Adequacy Ratio, as of June 2012**  
(as a result of 1% increase in NPL)

|                         | <b>Total Banks</b> | <b>Top 10</b> | <b>Top 5</b> |
|-------------------------|--------------------|---------------|--------------|
| Housing Loans           | 0.032              | 0.035         | 0.039        |
| Credit Cards Loans      | 0.001              | 0.001         | 0.001        |
| Credit Revolving        | 0.004              | 0.004         | 0.004        |
| Auto Loans              | 0.001              | 0.001         | 0.001        |
| Overdraft – Individuals | 0.009              | 0.010         | 0.012        |
| Other Consumers Loans   | 0.030              | 0.033         | 0.037        |
| Total Consumer Loan     | 0.077              | 0.083         | 0.094        |

*Source: Author's calculation*

By classifying further into top 10 and top 5 banks, the impact sensitivity is higher in housing loans and total consumer loans, compared to the total banks, as these top banks stand as the major providers of consumer loans. However, still the impact of the default on the housing loan and total consumer loan is very limited.

Given another perspective to look at the importance of consumer loans on banking system, Table 2 indicates the required NPL ratio on consumer loans to reach minimum CAR, which is 15 percent required by the National Bank of

Cambodia. For the total banking system, it takes more than 180 percent of consumer loan defaults to cause the CAR to fall below 15 percent. However, the result of the stress test shows less resilience for the top-10 and top-5 banks. For banks in the top 10, they will need to raise the capital if the consumer loans default by more than 60 percent, while for the top 5 banks, the capital will need to be raised if more than 42 percent of the consumer loans default. Still it is rare and unusual for the consumer loan to default by this much.

**Table 2: Required NPL Ratio on Consumer Loan to reach minimum CAR requirement (15 percent), as of June 2012**

|                         | <b>Total Banks</b> | <b>Top 10</b> | <b>Top 5</b> |
|-------------------------|--------------------|---------------|--------------|
| Housing Loans           | 430                | 145           | 101          |
| Credit Cards Loans      | >500               | >500          | >500         |
| Credit Revolving        | >500               | >500          | >500         |
| Auto Loans              | >500               | >500          | >500         |
| Overdraft – Individuals | >500               | 491           | 343          |
| Other Consumers Loans   | 459                | 155           | 108          |
| Total Consumer Loan     | 179                | 61            | 42           |

*Source: Author's calculation*

Even in the case of bad economic situation where Cambodia's economy suffered from the global financial crisis in 2008-2009 and the burst of housing price bubble, the NPL on consumer loans was at the highest rate of 2.9 percent in late 2009, relatively low compared to the overall NPL ratio, which was 4.5 percent.

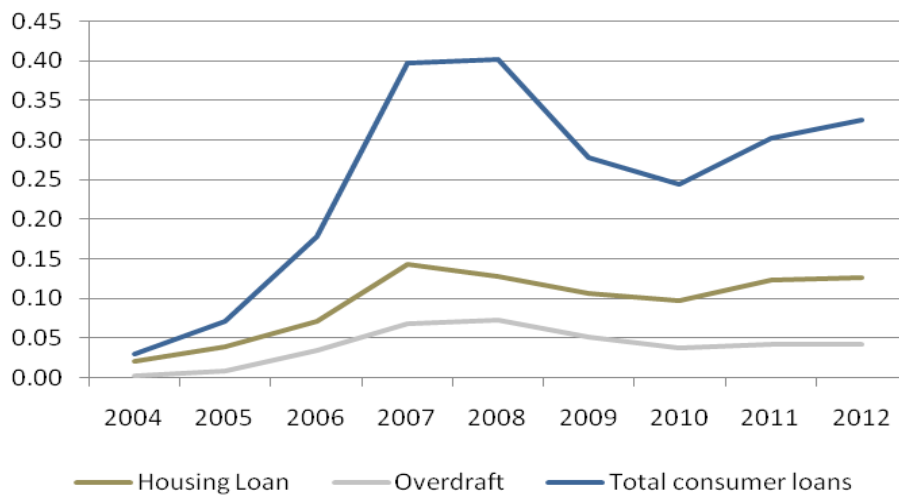
Of the main components of the consumer loans, the current level of housing loans is insignificant to be a threat to the banking system, as even though all the housing loans get defaults in the extreme case scenario, the banks' CAR is still higher than the minimum required ratio. The same conclusion is also obtained with the top-10 and top-5 banks. For the credit card loans, auto loans, and overdraft, the result show even minor importance and it takes several times of the current loans to default for CAR to fall to the minimum required level.

Figure 5 shows the elasticity of CAR with respect the NPL ratio over time. For the total consumer loans, the elasticity of CAR had increased sharply by 2007 during the booming periods before the impacts of the global financial crisis and the burst of the housing bubbles in Cambodia. During that time, the banking

sector showed fast development in terms of credit growth, number of bank entries, and new financial products. The credit grew at the average rate of more than 50 percent during 2004-2008, and the number of banks has increased to 39 as of 2012, almost twice as much as that in 2006. New banks entered and took strong competitive actions in giving loans, absorbing deposits, and introducing new financial products.

However, the elasticity started falling in late 2008 and jumped back again in 2010 when the economy recovered from the negative impacts of the financial crisis and credits revived again strongly. As of end 2012, the elasticity is 0.32, implying that 1 percent increase in NPL on consumer loans will decrease the CAR by 0.32 percent. Still, the elasticity is lower than that during the pre-crisis period.

**Figure 5: Elasticity of CAR with Respect to NPL Ratio**



*Source: Author's calculation*

Figure 5 also suggests that the elasticity of CAR with respect to NPL on housing loans is relatively minor and has been stable with the fluctuation between 0.1 and 0.15 for the last 5 years, and the elasticity with respect to NPL on overdraft and other component of consumer loans was even petty.

Overall, the results of the stress test suggest that the current level of consumer loans has an insignificant implication on the banking stability in Cambodia. This current position can be explained by the relatively small proportion of the consumer loans at this early-stage development of financial services in the banking sector, as well as the currently strong capital base of the banking sector.

The result also reveals the gradually increasing importance of the consumer loans on the banking conditions with respect to the fast development of financial products and strong credit growth in the banking system, in line with the continued macroeconomic stability and positive economic prospect of the country.

## **5. Concluding Remarks**

Evidence from the recent financial crisis has prompted closer investigation of many countries into the development of consumer loans or household indebtedness to prevent the potential risk buildup in the financial system. The analysis of this paper found that the current level of consumer loans provided by banks in Cambodia pose little threat to financial stability, given still relatively small share of consumer loans to total loans and sufficient capital base of the banks. This finding is supported by the stress test result as well as the experience during the recent global financial crisis which shows that the consumer loan quality and performance is insignificantly affected.

The current level of consumer loans in Cambodia might reflect the consequence of positive development in the banking system and economy as a whole rather than a threat to the banking stability to be concerned. Increasing use of loan by households on the positive side improves their quality of life by helping them smooth their lifetime consumption and make their purchase especially houses whose price is usually on the upside trend easier. Moreover, from the banks' perspectives, development of consumer loans help banks diversify their loan portfolio by not just concentrating to business or corporate loans.

Despite the current insignificance of the consumer loans to the banking stability, for a regulatory and supervisory purpose, vigilance rather than complacency is needed against the continued increasing size of the consumer loans. The discipline of "prevention is better than cure" should be borne in mind. In this sense, the surveillance work should not be ignored but strengthened in the good times in order to prevent the risk buildup as this sector loans surge. The surveillance work should be expanded to monitor the fast development of household indebtedness and particularly its indebtedness on housing loans, as excessive indebtedness creates vulnerability to financial instability.

Of course, sufficient surveillance work needs good quality and timely data. Nakornthab (2010) suggested that 3 areas of data collection is needed which are centralized household credit information system, better loan classification, and

household-level data, in order to offer a complete picture of the loan exposure of the banking system and the household leverage. In Cambodia, with the presence of a centralized credit information bureau established in 2012 and loan classification, the data at household level is needed in addition. This household level data is useful to capture the complete picture of household leverage, particularly to non-bank lenders, since in the developing country like Cambodia, access to banking finance is still relatively low, and many people still rely on informal financing methods including money lending, loan shark, and so on.

Another area is to enhance the risk assessment framework. As a number of indicators are already in place including new loans, NPL, delinquency rates, and so on. However, such indicators are backward looking in nature. This underscores the need to develop forward looking risk assessment tools such as stress testing and simulation exercises that provides a glimpse into the future and the interactions among agents in the financial and real sectors. To strengthen this, the supervisory capacity has to be continuously strengthened.

Although not currently necessary, to prevent risk buildup in the banking system as a result of excessive consumer loans, at some point in the future, macro-prudential policy, which has been gaining prominence, can be considered in complement with micro-prudential policy. Macro-prudential policy tools include loan-to-value ceilings on housing loans, cap on maximum loan amounts and minimum income requirements for credit card holders. They are proved to be effective but costs and benefits of each policy need to be cautiously analyzed.

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