

Compilation and analysis of Taiwan's household debt statistics

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1. Introduction

As clearly illustrated in the U.S. subprime mortgage crisis, where the problems of a relatively small portion of the home mortgage market triggered the most severe financial crisis in the United States since the Great Depression, the financial system is adversely affected by the weakness in the household sector's debt repayment ability. Given the significant implications of household indebtedness for financial stability, proper understanding and assessment of household indebtedness are crucial.

In the past decades, the household sector has played an increasingly important role in the financial system in Taiwan. Household loans extended by all banks as a percentage of total loans of the banking system have significantly risen, to 46.0% as of March 2010 from 40.2% at end-2000. At the same time, loans to private enterprises as a percentage of total loans have stagnated at around 40%, and loans to government agencies have decreased by 6.5%.

For policymakers, the concern is whether financial stability is affected by greater household indebtedness. By observing the recent development of household debt and the early warning indicators, we probe into the core issues behind the increase in household borrowing. This paper looks at Taiwan's household debt situation and analyzes the potential threats likely to have an adverse impact on its credit quality. Finally, we present the government's recently adopted policies, designed to take preemptive actions against these problems in order to maintain financial stability.

This paper is organized as follows. Section Two introduces the compilation of Taiwan's household debt statistics. Section Three describes household debt quality and its implications for financial stability. Section Four discusses the potential threats of household debt. Section Five presents the government's policy measures. Section Six concludes the paper.

2. Compilation of Taiwan's household debt statistics

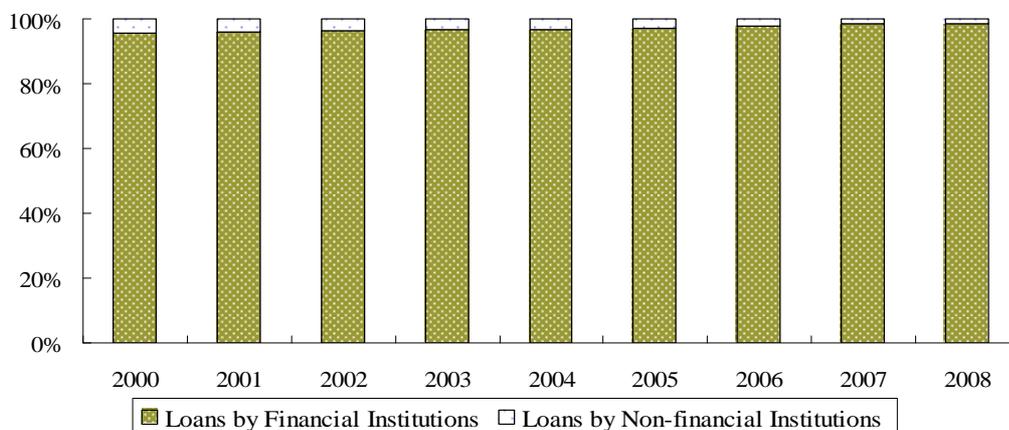
Household debt² is composed of loans extended by financial institutions and loans by non-financial institutions. In Taiwan, loans by financial institutions account for more than 95% of household debt, as depicted in Figure 1. The financial institutions that are allowed to extend loans to households include commercial banks, community financial institutions, postal savings institutions, insurance companies, securities companies, and investment and trust

¹ Department of Economic Research, Central Bank of the Republic of China (Taiwan) (CBC). The views expressed in this paper are those of the author and not necessarily those of the Central Bank of the Republic of China (Taiwan).

² Household debt includes loans to households and non-profit institutions. Households consist of individuals in general, including self-employed individuals, as well as individuals engaged in farming, forestry, fishing, animal husbandry and other sideline occupations. The term non-profit institutions refers to those engaged in social welfare and cultural activities, such as charitable institutions, trade unions, private schools, and welfare institutions annexed to various organizations.

companies. Among these, commercial banks account for the majority of the financial sources of household debt. The statistical information comes from the financial statistics, which are compiled on a monthly basis by the CBC after receiving the financial data prepared and submitted by the various financial institutions.

Figure 1: Sources of Household Debt

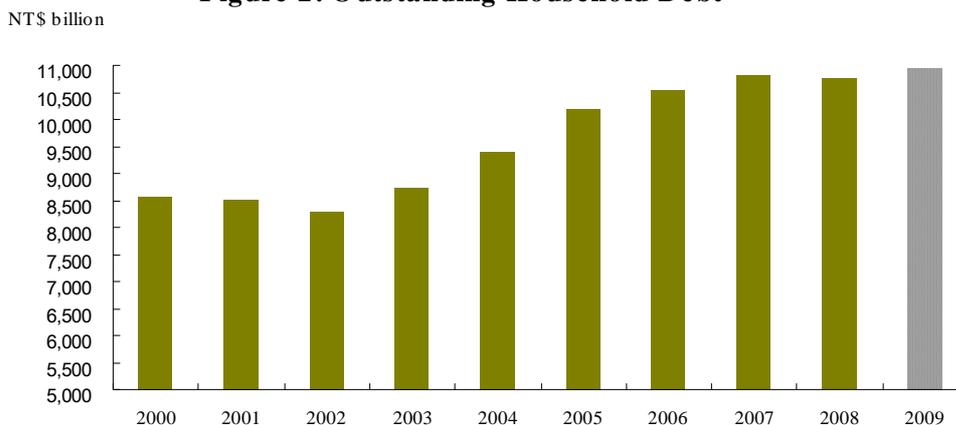


Source: Flow of Funds Statistics, CBC.

Loans by non-financial institutions refer to loans extended by the government and by public and private enterprises. The data sources for loans by non-financial institutions are from annual surveys on financial conditions of the government and of public and private enterprises, which are conducted by the Economic Research Department of the CBC.

Figure 2 shows the outstanding household debt between 2000 and 2009. Since 2000, the piling up of household debt in Taiwan slowed as the housing market turned into a recession and banks' lending attitude became conservative due to a build-up of non-performing loans. Total household debt began a steady rise in 2003, due to falling interest rates, the extension of the government's preferential mortgage programs, and active expansion of consumer finance activities by banks. As of end-2009, outstanding household debt had reached NT\$10.95 trillion.

Figure 2: Outstanding Household Debt



Note: Household debt in 2009 is the author's estimate.

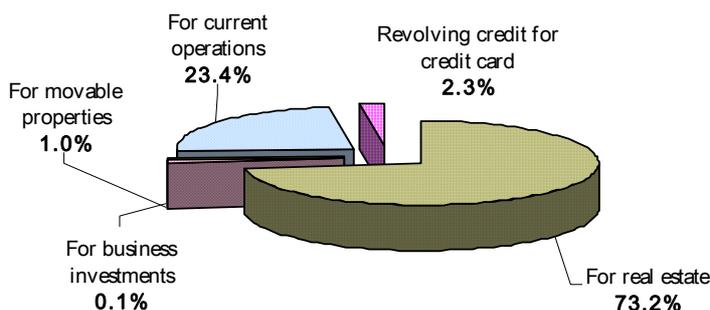
Source: Flow of Funds Statistics, CBC.

Taiwan's household debt is presented in the Flow of Funds Report on a yearly basis. Since most of the total household debt is extended by all banks, whose statistical information is

compiled on a monthly basis, we can look at the loans by all banks to gain an instant understanding of the development of total household debt.

For households, housing investment has been the major motive for borrowing. According to the monthly financial statistics for the first quarter of 2010, the biggest share of household loans extended by all banks went to the purchase of real estate³ (73.2%), followed by working capital loans⁴ (23.4%) and revolving balances of credit cards (2.3%) (Figure 3).

Figure 3: The Purpose of Household Loans by All Banks in Q1 2010

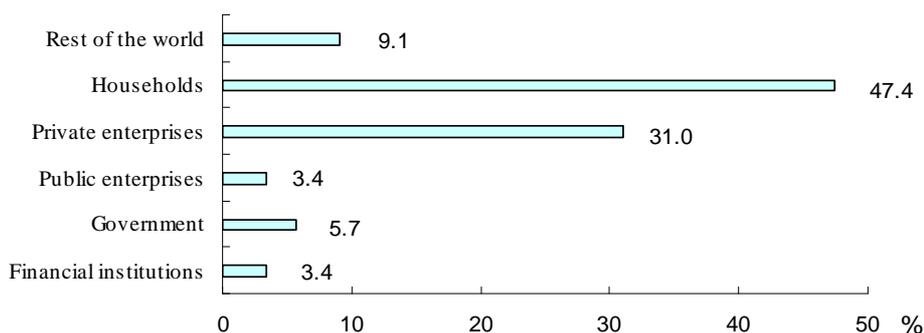


Source: Financial Statistics Monthly, CBC.

3. Household debt quality and its implications for financial stability

Household loans make up the largest portion of loans extended by financial institutions, representing 47.4% of the total as of end-2008 (Figure 4). Therefore, the quality of household debt is crucial to banks' performance and financial stability. For this reason, policymakers should pay greater attention to the growing household debt.

Figure 4: Loans by Financial Institutions in 2008, by Sector



Source: Financial Statistics Monthly, CBC.

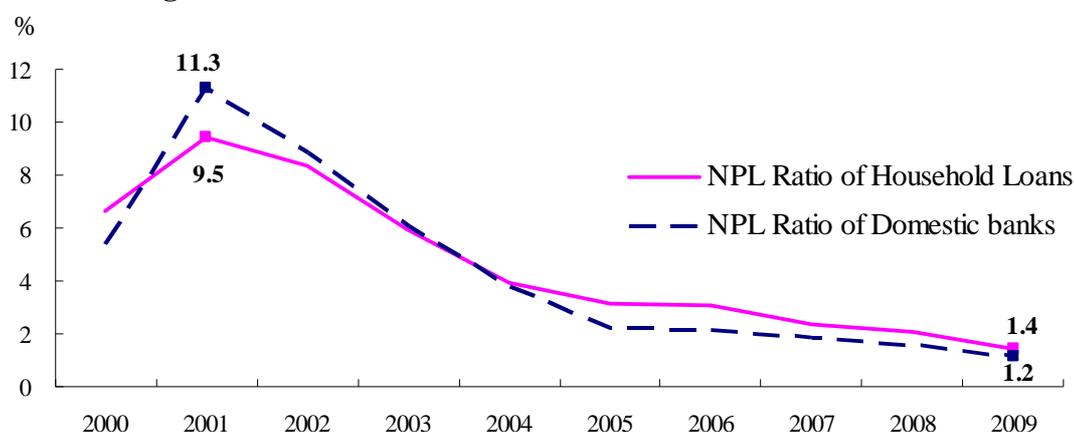
³ Includes loans for purchasing premises and fixed assets. Loans for construction and house repair and improvement are also included.

⁴ Includes loans for purchasing material and paying overhead costs. Other small loans and loans to individuals for financing their own business are also included.

Figure 5 shows the non-performing loan (NPL) ratio of household loans, which is defined as non-performing loans of households divided by total household loans. The ratio reflects the quality of household debt. The burst of the global IT bubble in 2001 adversely impacted Taiwan's export sector, weakened domestic demand and created more cyclical unemployment.⁵ The rising unemployment rate and the poor state of the economy imposed strains on the housing markets, causing housing prices to remain at their lowest levels during 2001, as depicted in Figure 6.

Since more than 70% of household debt goes to the purchase of real estate, a serious slump in the housing market resulted in a rising NPL ratio of household loans, peaking at 9.5% at end-2001. To prevent falling house prices from hampering economic and financial stability, the government actively adopted measures to restrain supply and stimulate demand in the housing market.⁶ Since these measures gradually began to take effect, the housing market has been on an upturn since the second half of 2003. At the same time, the global economy also continued its recovery. Therefore, the NPL ratio of household loans has declined, reaching its lowest level, 1.4%, at end-2009.

Figure 5: NPL Ratio of Household Loans and Domestic Banks



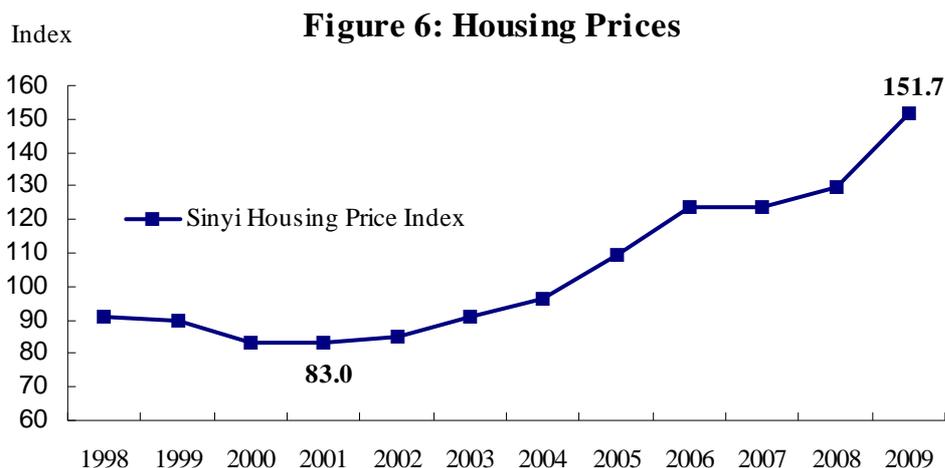
Sources: 1. Calculated by the author based on the Monthly Credit Statistics from the Joint Credit Information Center.

2. Financial Statistics Monthly, CBC.

1. NPL ratio of household loans = non-performing household loans / household loans × 100.
2. Beginning Jan. 1993, the figures include the data of DBUs, OBUs and overseas branches of domestic banks and medium business banks, but exclude the data of Agricultural Bank of Taiwan. Beginning Dec. 2001, the figures represent the broadly defined NPL ratios released by Financial Supervisory Commission, which include loans under surveillance.

⁵ Due to the shift of production base overseas, especially to low-cost China, by Taiwanese businesses, structural unemployment has risen since 1996.

⁶ For example, the government provided interest subsidies for home buyers to encourage financial institutions to make preferential housing loans.



Source: Sinyi Realty Inc.

Sinyi Housing Price Index is released by Sinyi Realty Inc., showing the housing prices in the secondary market.

4. The potential threats of household debt

A previous study⁷ (2010) by the author uses the error correction model to analyze the influence of leading factors on the quality of Taiwan's household debt under the life-cycle model, with a default option developed by Lawrence (1995). The leading factors include housing price, unemployment rate, interest rate, and household debt to GDP ratio.

That study found that housing price has a negative effect on the NPL ratio of household loans, while the remaining factors have a positive effect. In what follows, we will take a closer look at the leading factors and see whether the potential threats to the credit quality of household borrowing can be mitigated at an early stage.

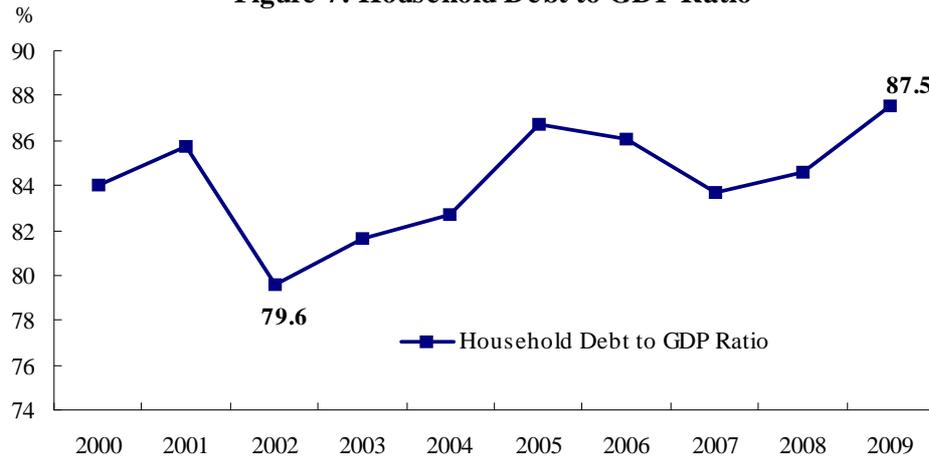
A. The rise in the household debt to GDP ratio indicates a warning of over-expansion in banks' lending to households.

The ratio of household debt to GDP, which is one of the financial soundness indicators published by the IMF, is a measure of the relative development of the financial and real sides of the economy. A higher ratio indicates that the financial side is expanding faster than the real side of the economic system. Overly rapid expansion of household debt tends to impair asset quality and thus worsen the credit quality of household borrowing.

As depicted in Figure 7, the household debt to GDP ratio went up dramatically, to 86.7% at end-2005 from 79.6% at end-2002, then slowed to 83.7% at end-2007. After the global financial crisis, the housing market regained its growth momentum; thus the household debt to GDP ratio rose again, reaching a high of 87.5% at end-2009. Figure 8 shows that the growth in household debt has been driven mainly by the purchase of real estate since 2003. Given the alarming surge in the household debt to GDP ratio, it might be time for policymakers to pay more attention to banks' household lending policies.

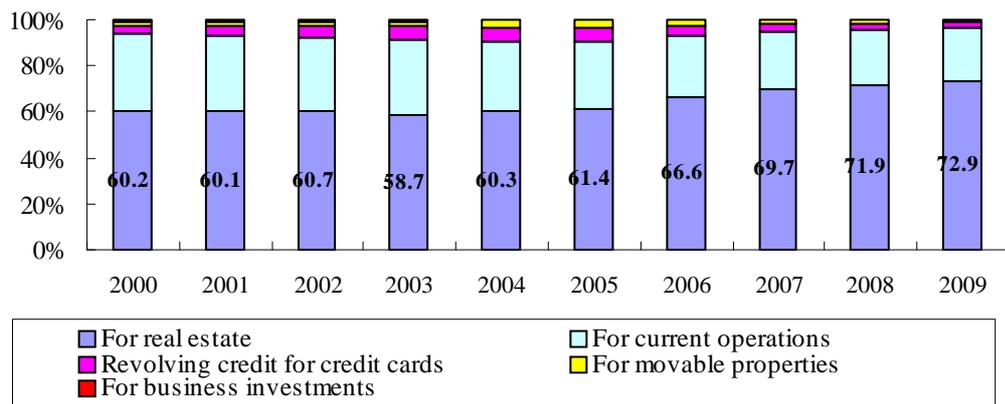
⁷ "Household Indebtedness and Its Implications to Financial Stability in Taiwan," January 2010. This paper is part of the SEACEN research project.

Figure 7: Household Debt to GDP Ratio



Sources: Flow of Funds Statistics, CBC; National Income in Taiwan, Directorate-General of Budget, Accounting and Statistics (DGBAS). Household debt to GDP ratio in 2009 is the author's estimate.

Figure 8: Household Loans Extended by All Banks, by Purpose



Source: Financial Statistics Monthly, CBC.

B. A gradually forming housing bubble in some metropolitan areas is a potential threat.

As mentioned earlier, residential mortgage loans account for the largest share of household borrowing. In addition, the main growth momentum of household debt in the past few years came from the purchase of real estate. Therefore, the performance of the housing market in Taiwan has a great impact on the quality of household debt.

As depicted in Figure 9, beginning in 2003 new housing loans increased and housing prices went up, mainly due to government measures aiming to boost the housing market. However, impacted by the financial crisis in the second half of 2008, the housing market cooled down.

After a series of interest rate cuts and stimulus measures⁸ adopted by the government to bolster the real estate market, the housing market began to rebound.

Figure 9: New Housing Loans by Five Leading Banks and Housing Prices



Source: Financial Statistics Monthly, CBC; Sinyi Realty Inc.

The potential problem for the housing market in Taiwan is that housing prices in some metropolitan areas, such as Taipei City, are too high to be affordable for the general public. Some metropolitan areas might be experiencing a housing bubble, fueled by the repatriation of funds by overseas Taiwanese businesspeople and rampant property speculation on expectations of further trade liberalization across the Taiwan Strait.

Property speculators usually take advantage of the 2- to 3-year grace period, during which the borrowers pay the interest, but not the principal, to increase their leverage. For example, for a monthly repayment of NT\$25,000 (around one-third of households' disposable income per month) during the grace period, one could afford a house priced at over NT\$20 million, instead of a house priced at around NT\$6.3 million through installment payments of both principle and interest, assuming 80% loan-to-value ratio, 20-year maturity and a 1.67% mortgage interest rate. Therefore, even though the growth in the salaries of a majority of the public has failed to keep pace with the surge in property prices, housing prices still continue rising.

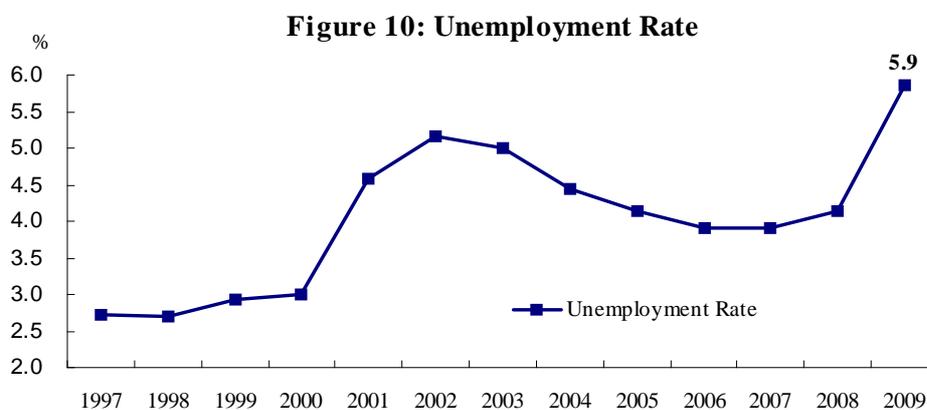
Rising housing prices added to the cost burden on home buyers. The average mortgage burden⁹ and the housing price to annual income ratio hit highs of 28.2% and 7.1, respectively, in the second half of 2009. The cost burden was heaviest in Taipei City, where the mortgage burden and the housing price to annual income ratio stood at 36.1% and 9.1, respectively.

⁸ These stimulus measures included extending the expiration date of construction license permits, offering additional preferential mortgage loans for home buyers, and opening the local real estate market to investors from China.

⁹ Mortgage burden = monthly mortgage repayment / household monthly income.

C. High unemployment rates and future interest rate hikes may cause additional pressure on the credit quality of household borrowing.

Taiwan's unemployment rate has gradually risen since the second half of 2008 due to the global financial crisis. The average unemployment rate reached a record 5.9% at end-2009 (Figure 10). Higher unemployment rates would weaken households' ability to repay debt.



Source: DGBAS.

On the other hand, starting in September 2008, the CBC continuously lowered the discount rate, to 1.25% from 3.625%, in order to help boost domestic demand. However, as the economy gradually recovered, the CBC raised the discount rate by 12.5 basis points, to 1.375% in June 2010, the first interest rate hike since February of last year. Rising interest rates would increase the interest payment pressures on borrowers and thus the probability of defaults.

5. Government policies

Since October 2009, the government has made a series of efforts to rein in the overheated property market by tightening credit for property speculators. The increase in real estate speculation has boosted the housing prices in some major metropolitan areas like Taipei City and in some specific regions, constituting a major threat to the credit quality of household borrowing, with the added potential of increasing the credit risk faced by banks in the future. Because the surge in housing prices was limited to certain major metropolitan areas, the CBC decided to adopt selective credit control measures to curb property speculation.

In October 2009, the CBC actively urged banks to closely monitor mortgage-lending risks. In March 2010, the CBC asked banks to reduce loan-to-value ratios, raise interest rates, and remove grace periods related to loans for investment purposes. Furthermore, in April 2010, the central bank conducted a round of financial examinations of local banks, requesting that they submit reports on their loan packages for property speculators, including the amount of loans, the loan-to-value ratio and loan interest rates, in a bid to rein in skyrocketing housing prices. Home loan interest rates should reflect the cost and risk of capital, so the CBC is keeping an eye on local mortgage lenders to see if they offer unreasonably low interest rates to borrowers.

In June 2010, the CBC announced the Regulations Governing the Extension of Housing Loans in Specific Areas by Financial Institutions, to enhance risk management for real estate loans in order to ensure the sound development of the housing market. It stipulated that financial institutions extending new loans to borrowers who have taken out other outstanding housing loans against collateral located in the Specific Areas¹⁰ shall:

1. Approve loans not exceeding 70% of the value of the collateral,
2. Remove grace periods, and
3. Grant no additional loans against the same collateral for home renovations, as working capital, or for other purposes.

Moreover, to create employment opportunities, the government adopted some expansionary fiscal policies to promote domestic demand, and introduced the 2008-2009 Short-Term Employment Promotion Program, which aimed to provide approximately 46,000 and 56,000 job openings in 2008 and 2009, respectively. Moreover, the 2009-2012 Employment Promotion Program is expected to add 50,000 employment opportunities per year from 2009 to 2012 and to effectively reduce the unemployment rate.

6. Conclusion

The quality of household debt is crucial to banks' performance and financial stability. Household loans in Taiwan make up the largest portion of loans extended by all banks, constituting 46.0% of the total as of March 2010. Hence, proper understanding and assessment of household indebtedness is crucial for financial stability.

The rise in the household debt to GDP ratio indicates a warning that banks' lending to households has expanded too much. The household debt to GDP ratio went up dramatically, to 86.7% at end-2005 from 79.6% at end-2002, then slowed to 83.7% at end-2007. After the global financial crisis, the housing market resumed its growth momentum, which contributed to a rise in Taiwan's household debt and, in turn, to a further rise in the household debt to GDP ratio, which reached 87.5% at end-2009.

The performance of the housing market in Taiwan has a great impact on the quality of household debt. More than 70% of household loans extended by all banks go to the purchase of real estate. Loans by all banks account for the majority of the sources of household debt.

A housing bubble formed gradually in some metropolitan areas, like Taipei City and some specific regions, posing a potential threat to the credit quality of household borrowing and thus increasing the credit risk faced by banks. Given the impact of the global financial crisis in the second half of 2008, the CBC cut the discount rate continuously to boost domestic demand. In addition, Taiwan's government also provided some stimulus measures aimed at underpinning the real estate market. Since the second quarter of 2009, the housing market has begun to rebound, and strong demand for real estate has boosted housing prices. Some metropolitan areas could currently be experiencing a housing bubble.

Since October 2009, the government has made a series of efforts to rein in the overheated property market by tightening credit for property speculators. Because the housing price surge seemed to occur mostly in major metropolitan areas, the CBC adopted selective credit control measures to curb property speculation. In addition, in order to create employment

¹⁰ Specific Areas prescribed in the Regulations include Taipei City and 10 other cities in Taipei County, covering Banciao, Sanchong, Jhonghe, Yonghe, Sinjhuang, Xindian, Tucheng, Lujhou, Shulin, and Sijhih.

opportunities, the government introduced the Short-Term Employment Promotion Program and adopted some expansionary fiscal policies to promote domestic demand.

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