

# **Compilation and Analysis of Taiwan's Household Debt Statistics**

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## **Abstract**

Almost globally, a low interest rate environment has helped households to take on more debt. For policymakers, the concern is whether financial stability is affected by greater household indebtedness. As clearly illustrated in the U.S. subprime mortgage crisis, the financial system is adversely affected by the weakness in the household sector's debt repayment. This paper describes the compilation of Taiwan's household debt statistics and analyzes the potential threats that may affect credit quality. Finally, we present the government's recent policies adopted to create employment opportunities and to maintain financial stability.

# Compilation and Analysis of Taiwan's Household Debt Statistics

Huei-Jung Fang<sup>1</sup>

## 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 40% or so 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 increasing 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 recent government's policies adopted to take preemptive actions against these problems to maintain the 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 on 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 debt<sup>2</sup> is composed of loans extended by financial institutions and

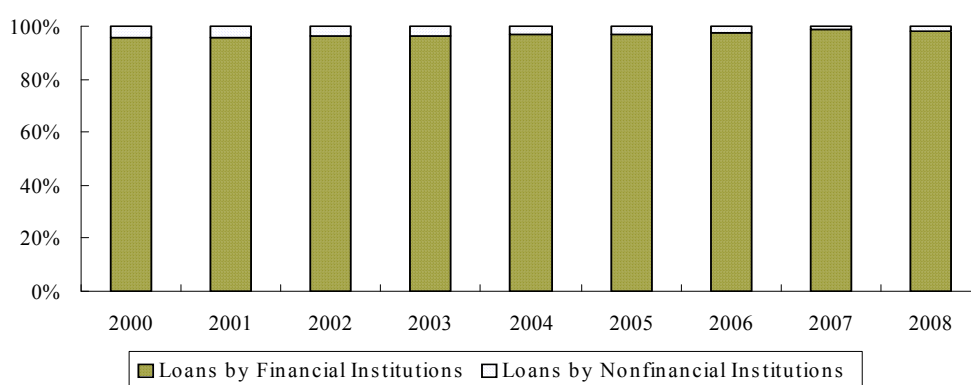
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<sup>1</sup> Department of Economic Research, Central Bank of the Republic of China (Taiwan) (CBC). The views expressed in this paper are those of the author and not necessarily those of the Central Bank of the Republic of China (Taiwan).

<sup>2</sup> 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. Non-profit institutions

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 companies. Among them, commercial banks account for the majority of the financial sources of household debt. The statistical information come 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.

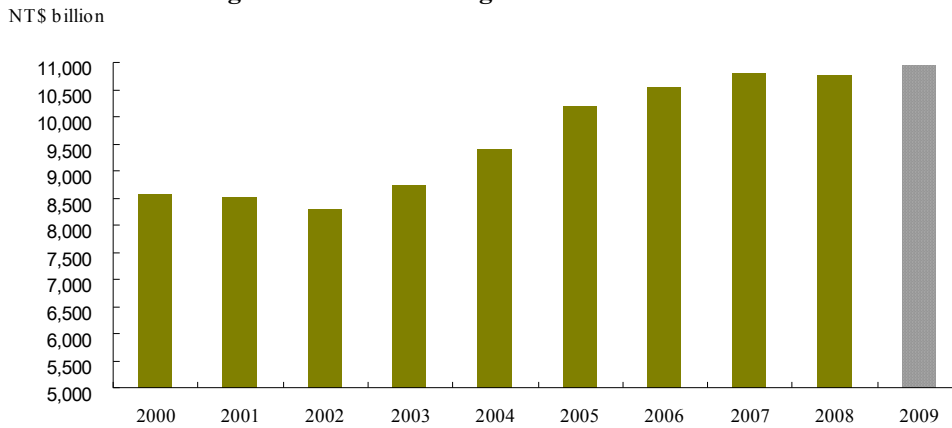
Loans by non-financial institutions refer to loans extended by the government, public and private enterprises. The data sources of the loans by non-financial institutions are from annual surveys on financial conditions of the government, public and private enterprises, which are conducted by the Economic 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 down 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, the outstanding household debt reached NT\$10.95 trillion.

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refer to those engaged in social welfare and cultural activities, such as charitable institutions, trade unions, private schools, and welfare institutions annexed to various organizations.

**Figure 2: Outstanding Household Debt**

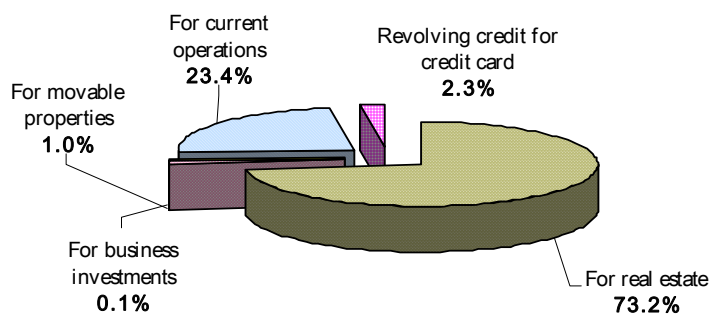


Note: Household debt in 2009 is the author's estimate.  
Source: Flow of Funds Statistics, CBC.

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 have 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 in the first quarter of 2010, the biggest share of household loans extended by all banks went to the purchase of real estate<sup>3</sup> (73.2%), followed by working capital loans<sup>4</sup> (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.

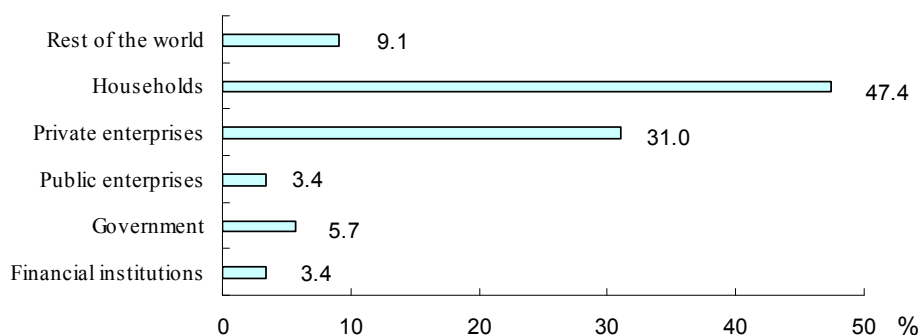
<sup>3</sup> Includes the loans for purchasing premises and fixed assets. The loans for construction and house repair and improvement are also included.

<sup>4</sup> Includes the loans for purchasing material and paying overheads. In addition, other small amount loans and loans to individuals for financing their own business are also included.

### 3. Household debt quality and its implications on financial stability

The household loans make up the largest portion of loans extended by financial institutions, with a percentage of 47.4% as of end-2008 (Figure 4). Therefore, the quality of household debt is crucial to banks' performance and financial stability. This is why the policymakers should pay more attention to growing household debt.

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



Source: Financial Statistics Monthly, CBC.

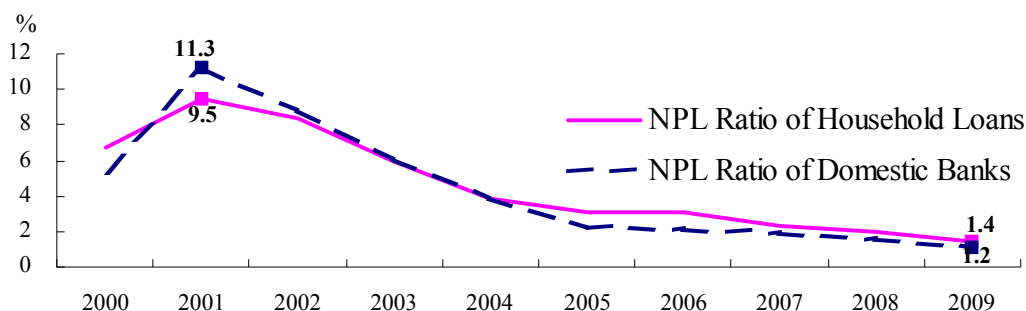
Figure 5 shows the non-performing loan (NPL) ratio of household loans, which is defined as non-performing loans of households divided by total household loans. The ratio reflects the quality of household debt. The burst of the global IT bubble in 2001 had an adverse impact on Taiwan's export sector, weakened domestic demand and created more cyclical unemployment<sup>5</sup>. The rising unemployment rate and a poor state of the economy imposed strains on the housing markets and thus housing prices lingered at the lowest levels in 2001, as depicted in Figure 6.

Since more than 70% of household debt goes to the purchase of the real estate, a serious slump in the housing market resulted in rising NPL ratio of household loans that peaked 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<sup>6</sup>. As these measures gradually took 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 recovering. Therefore, the NPL ratio of household loans has declined and came to the lowest level at 1.4% in end-2009.

<sup>5</sup> Due to the shift of production base overseas, especially to low-cost China, by Taiwanese businesses, the structural unemployment has picked up since 1996.

<sup>6</sup> For example, the government provided interest subsidies for homebuyers to encourage financial institutions to make preferential housing loans.

**Figure 5: NPL Ratio of Household Loans and Domestic Banks**

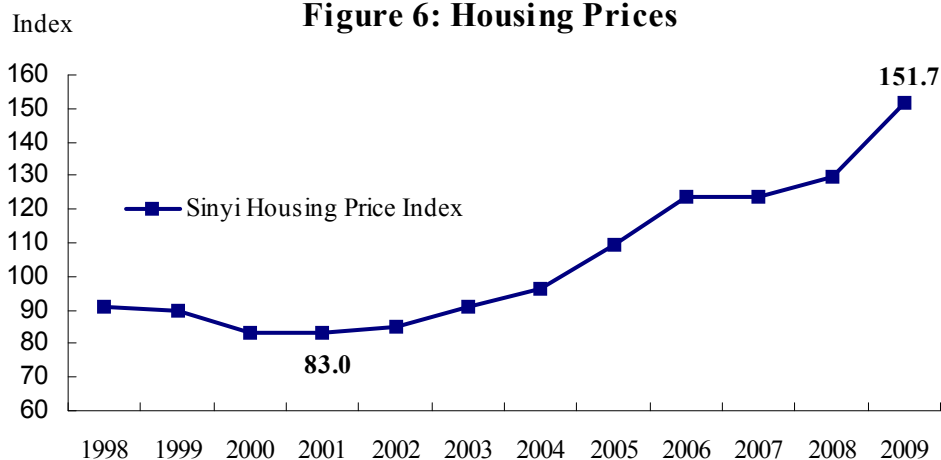


Sources: 1. Calculated by the author based on the Monthly Credit Statistics from the Joint Credit Information Center.

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 the Financial Supervisory Commission, which include loans under surveillance.

**Figure 6: Housing Prices**



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 study<sup>7</sup> (2010) of the author uses the error correction model to analyze the influence of the 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

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

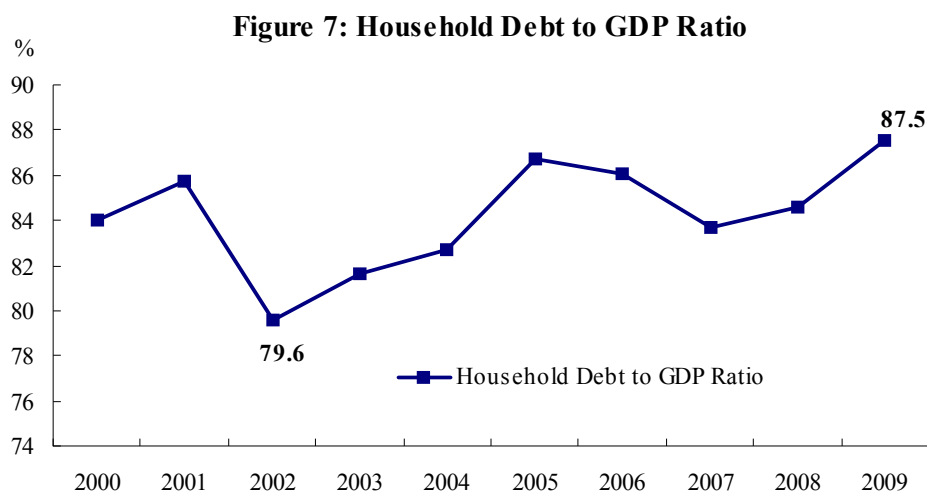
factors include the housing price, unemployment rate, interest rate, and household debt to GDP ratio.

That study found the housing price has a negative effect on the NPL ratio of household loans, while the rest of the other factors have a positive effect. The following will take a closer look at the leading factors and see if we can mitigate the potential threats to the credit quality of household borrowing in an early stage.

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

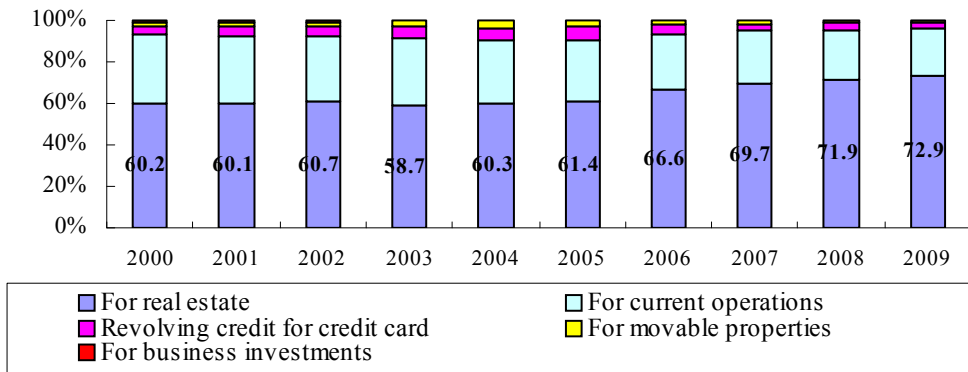
The ratio of the household debt to GDP, which is one of the financial soundness indicators published by the IMF, is a measure of the relative development of the financial and real sides of the economy. A higher ratio indicates the expansion on the financial side is faster than the one on the real side in the economic system. Overly rapid expansion of household debt tend 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, and then slowed down to 83.7% at end-2007. After the global financial crisis, the housing market regained its growth momentum and thus the household debt to GDP ratio rose again to reach a high level at 87.5% at end-2009. Figure 8 shows growth of household debt has been driven mainly by the purchase of the real estate since 2003. Given the alarming surge of the household debt to GDP ratio, it might be time for policymakers to pay more attention to the banks' lending policy for households.



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 housing bubble formed gradually in some metropolises is a potential threat.**

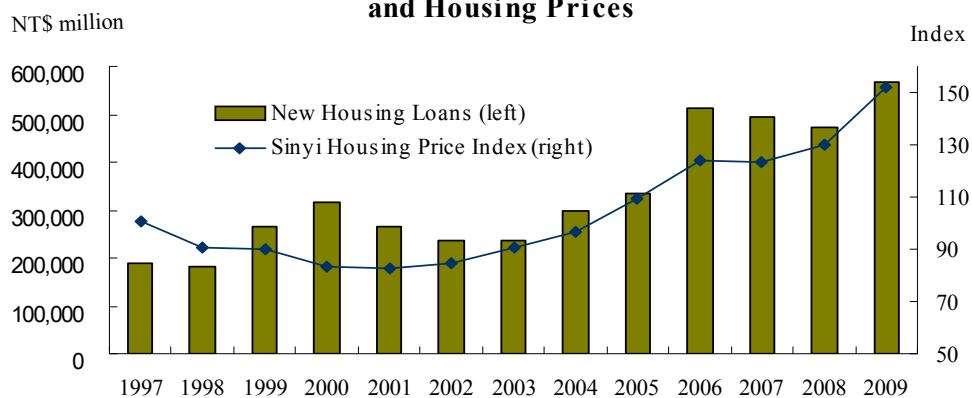
As mentioned earlier, residential mortgage loans account for the largest share of household borrowing. In addition, the main growth momentum of household debt in the past few years came from the purchase of the real estate. Therefore, the performance of the housing market in Taiwan has a great impact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

As depicted in Figure 9, from 2003 new housing loans increased and the housing price went up, mainly due to a low interest rate environment (Figure 10) and 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 (Figure 10) and stimulus measures<sup>8</sup> adopted by the government to bolster the real estate market, the housing market has begun its rebound and the housing price has risen to a record high.

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

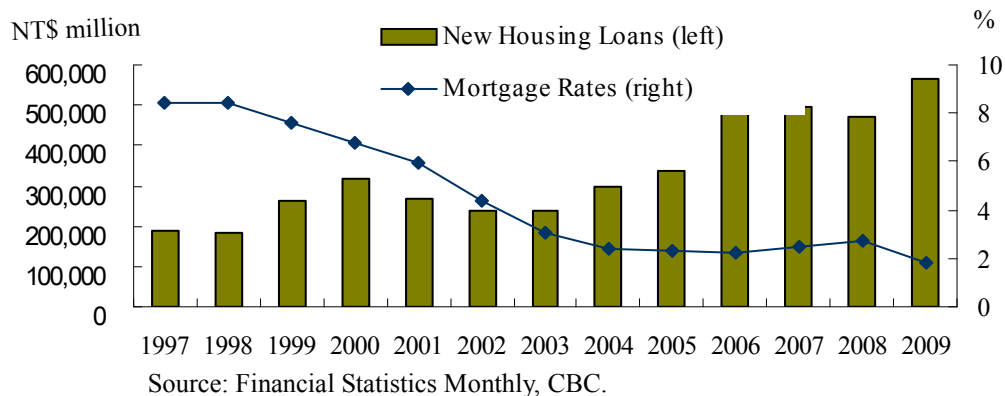


**Figure 9: New Housing Loans by Five Leading Banks and Housing Prices**



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

**Figure 10: New Housing Loans and Mortgage Rates by Five Leading Banks**



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

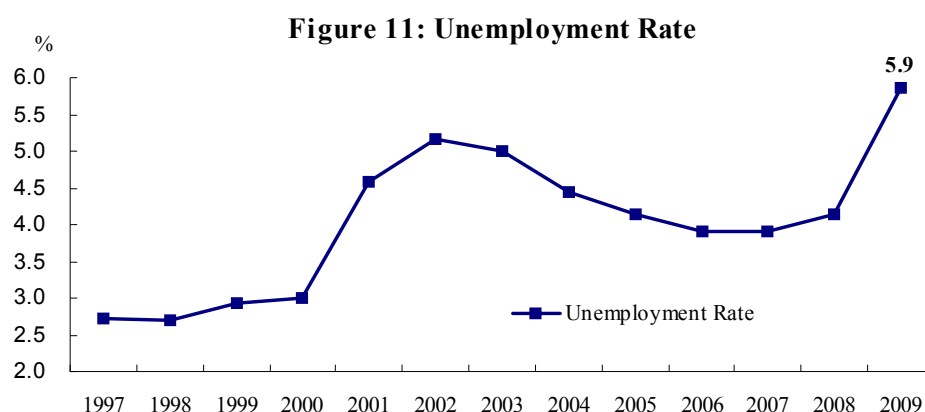
The property speculators usually take advantage of the 2- to 3-year grace period, during which the borrowers pay the interest but not the principal to increase their leverage. For example, for a monthly repayment of NT\$25,000 (around one-third of households' disposable income per month) during the grace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

Rising housing prices added to the cost burden on homebuyers. The average mortgage burden ratio<sup>9</sup> and housing price to annual income ratio hit a high of 28.2% and 7.1 times, respectively, in the second half of 2009. The cost burden was heaviest in Taipei City, where the mortgage burden ratio and house price to annual income ratio stood at 36.1% and 9.1 times, respectively.

<sup>9</sup> Mortgage burden ratio = monthly mortgage repayment / household monthly income.

### C. High unemployment rate 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 11). Higher unemployment rate would weaken the ability of the households debt repayment.



Source: DGBAS.

On the other hand, since September 2008, the CBC had lowered the discount rate continuously to 1.25% from 3.625% in order to help boost domestic demand. However, as the economy has recovered gradually, the CBC raised the discount rate by 12.5 basis points to 1.375% in June 2010, which is the first interest rate hike since February 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 increasing real estate speculation has boosted the housing prices in some major metropolises like Taipei City and some specific regions, which becomes a great threat to the credit quality of household borrowing and may thus increase the credit risk faced by banks in the future. Because the surge in housing prices

was limited to some major metropolises, 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 on 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 to ensure 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 Areas<sup>10</sup> 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.

Besides, 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

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<sup>10</sup> 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.

employment opportunities per year from 2009 to 2012 and effectively reduce the unemployment rate.

## **6. Conclusion**

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

The rising of 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, and then slowed down 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 a further rise in the household debt to GDP ratio to reach 87.5% at end-2009.

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

A housing bubble formed gradually in some metropolises, 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. Impacted by 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 aiming to underpin the real estate market. Since the second quarter of 2009, the housing market has begun its rebound and the strong demand for the real estate has boosted the housing prices. Some metropolises might be experiencing a housing bubble now.

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 metropolises, the CBC adopted selective credit control measures to curb property speculation. In addition, to create employment opportunities, the government introduced the Short-Term Employment Promotion Program and adopted some expansionary fiscal policies to promote domestic demand.

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