関西大学『社会学部紀要』第48巻第１号，2016，pp.1-24 ISSN 0287－6817

The Global Financial Tidal Wave and its Influence on the East Asian Economy

Akira TAKAMASU

Abstract

In this article, I first clarify the basis of the development of the crisis in the structure of the US housing loan market. Next, I discuss the sequence of the events marking the progress of the crisis, including the collapse of the subprime loan market, the bankruptcy of mortgage banks, the bail-out of Freddie Mac, Fannie Mae, and AIG by the US government, the economic crisis of Iceland and developing nations, and the downfall of GM and Chrysler. In the latter half of the paper, I analyze the impact of the crisis on the East Asian economy. In conclusion, let me consider the implications of this crisis and the outlook of the world economy.

Keywords: Lehman shock, subprime loan, shadow banking system, East Asian economy

Introduction

The financial crisis of 2007-08 that was triggered by the US subprime loan problem spread to the global financial market. It started with the bankruptcy of mortgage banks in 2007, and was followed by a sequence of economic events, including the bail-out of Government Support Enterprises（Freddie Mac and Fannie Mae）by the US government, the disappearance of five large investment banks, enormous losses and the management crisis of giant commercial banks. The impact of the crisis spread to the real economy in the form of a credit shrinkage, declining stock prices, and depression of consumption. The real economy has been struggling with rising unemployment and a negative growth rate. The crisis is not confined to the United States, but extends to European nations, and has also had a detrimental effect on developing nations.

In this article, I first clarify the basis of the development of the crisis in the structure of the US housing loan market. Next, I discuss the sequence of the events marking the progress of the crisis, including the collapse of the subprime loan market, the bankruptcy of mortgage banks, the bail-out of Freddie Mac, Fannie Mae, and AIG by the US government, the economic crisis of Iceland and developing nations, and the

downfall of GM and Chrysler. In the latter half of the paper, I analyze the impact of the crisis on the East Asian economy. In conclusion, let me consider the implications of this crisis and the outlook of the world economy.

When I wrote the first draft of this article in February 2009, we could not exactly understand the reasons why the crisis happened and could not predict the consequences of the crisis. There were not enough books and studies written on the crisis. However, recently a lot of books and articles have been published and the causes and the processes of the expansion of the crisis have been gradually clarified. Among these studies, Attali (2008), Stiglitz (2010) and Krugman (2012) point out insufficient financial regulations and unsuitable financial policies as the fundamental causes of the crisis. Financial Crisis Inquiry Commission (2011) contains a mass of testimonies of the people who worked in the financial institutions concerning the crisis. Ueda (2010) gives a comprehensive analysis of the crisis including some econometric analyses. Hattori (2011) points out the fundamental problems of the market-oriented economic policies. M. Ito (2010) compares the financial crisis of 2007-2008 with the Great Depression of 1929, the Collapse of the Bubble Economy of 1990 in Japan and the Asian Economic Crisis of 1997. This book analyzes the fundamental instability of the global financial system.

The Housing loan market in the United States

The global economic crisis of 2007-08 is rooted in the subprime loan crisis in the United States. A subprime loan is the one whose interest rate is higher than the prime rate. It is offered to an individual who does not qualify for a loan at the prime rate due to their poor credit history. The rising default rate of this type of loan triggered the current financial crisis. Therefore, to understand the causes of the finance crisis, we should first briefly explain the structure of the US housing loan market.

The housing loan balance of the United States was approximately 10 trillion dollars at the end of 2007. Housing loans are classified into three categories, according to the borrower's risk. These are Prime, Alt-A (Alternative A), and Subprime.

A borrower's risk is measured using a FICO score[1] (300 points - 850 points) developed by the Fair Isaac Company. A loan is considered 'prime' if the borrower's score is over 680 points and 'subprime', if the borrower's scores is below 660 points or 620 points. If necessary documents, including income verification, are not available, even though the borrower's score meets the criteria of a prime loan, the loan is considered to be 'Alt-A'. As shown in Table 1, the total balance of the prime loans was 7.5 trillion dollars, and those of Alt-A and subprime loans, 1.4 trillion dollars and 1.1 trillion dollars, respectively.

Table 1 Balance of Housing Loan in the United States

Types of Loans	Balance
Prime	7.5 trillion
Alt-A	1.4 trillion
Subprime	1.1 trillion

Source: MBA (Mortgage Bankers Association)

Housing loans are lent by mortgage banks, commercial banks, and savings and loan associations (S&L) (Fig. 1). Among these, mortgage banks raise capital from the government-supported enterprises (Fannie Mae and Freddie Mac, referred to subsequently as GSEs or Agencies), commercial banks, and investment banks, etc., taking commissions. In the US, the largest percentage of housing loans is provided by these mortgage banks.

In the US, approximately 60 percent of the mortgages is securitized and issued in the form of residential Mortgage Backed Securities (MBSs). Mortgages are sold by mortgage banks, commercial banks, and S&Ls to Agencies (Fannie Mae, Freddie Mac, and Ginnie Mae[2]) and investment banks, etc. In principle, however, agencies only buy prime loans. Alt-As and subprime loans are bought by private investment banks etc.

1) FICO is an analytics software company and was founded in 1956. The FICO score was first introduced in 1986 and is used by the vast majority of banks and credit grantors.

2) The Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac) are government-sponsored enterprises (GSEs) and the Government National Mortgage Association (Ginnie Mae) is a wholly owned government corporation.

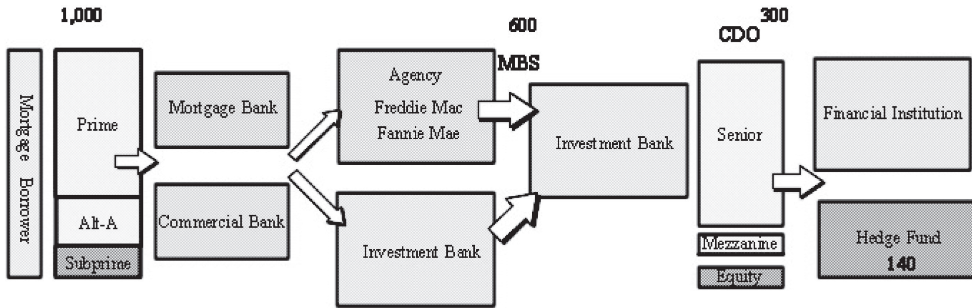

Fig. 1 Structure of housing loan market in the United States (in billion of U.S. dollars)

Mortgages are securitized as MBSs by Agencies and investment banks, and are sold to investment banks and other financial institutions. The majority of MBSs are issued and guaranteed by the Agencies. These are called Agency MBSs. Other MBSs are securitized by private financial institutions. (The ratio of private MBSs (Non-Agency MBSs) increased rapidly during the expansion of the real estate bubble after 2003.)

Investment banks re-securities MBSs bought from Agencies and other financial institutions, and repackage them as CDOs (Collateralized Debt Obligation). CDOs are complex instruments that combine the three kinds of mortgages (Prime, Alt-A and Subprime), as well as other loans including the auto loans and the consumers' loans. There are classes of CDOs, according to the size of the risk and return: (1) Senior (low-risk low-return), (2) Mezzanine (medium-risk and medium-return), and (3) Equity (high-risk and high-return). Among these, Senior CDOs are evaluated as high-ranking AAAs, and the Mezzanine CDOs are ranked as BB. These CDOs are bought by hedge funds and financial institutions for speculative purpose (Fig. 1). Hedge funds own about the half of these and the rest are owned by banks, asset managers and insurance companies, respectively holding 25%, 20%, and 10% (Fig. 2).

Among these financial institutions, consumer banks are regulated by the Federal Reserve Board (FRB), and investment banks are regulated by The Securities and Exchange Commission (SEC). However, Structured Investment Vehicles (SIVs) that are established by commercial and investment banks, as well as their subsidiary hedge funds, are not regulated. These SIVs and hedge funds are referred to as a "Shadow Banking System". (Fig. 3) The Shadow Banking System buys MBSs and CDOs that

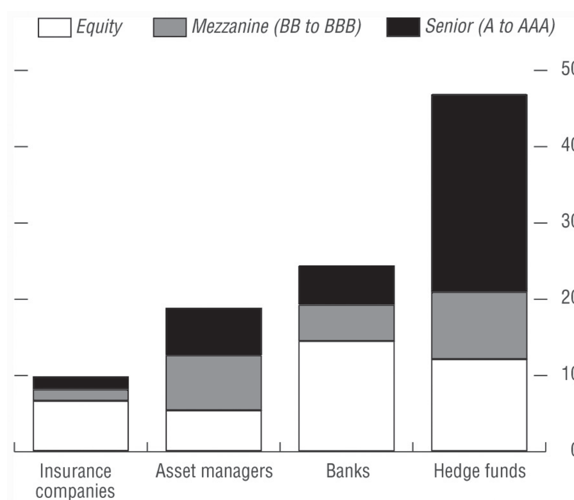

Fig. 2 Buyers of CDO (percentage)
Source: IMF, *Global Financial Stability Report*, Oct 2007, p.15

yield long-term high interest rates, issues commercial papers (ABCP[3]) using the CDOs as collateral, borrows short term inter-bank (between the financial institutions) money at low interest rate, and again buys CDOs. In this way, hedge funds and SIVs can have tens of times as many transactions as they could with their own capital. This mechanism enables large transactions using relatively small amounts of one's own capital, and is called the "Principle of Leverage". It is important to note that the existence of this "Shadow Banking System[4]" was an important factor in the worsening of the global financial crisis.

For instance, let us assume that a hedge fund's capital is 10 billion dollars, and the difference between short- and long-term interest rates is 4%. If the hedge fund uses only its own capital, the expected profit is only 400 million dollars. However, if the fund, by using "leverage", is able to invest ten times the amount it could using its own capital alone, the profit would be 4 billion dollars, or a return on investment of 40%. However, a problem arises if the hedge fund suffers a loss. If the fund loses half of its 100 billion dollar investment, i.e. 50 billion dollars, it stands to owe five times as much

3) Asset-backed commercial paper (ABCP) is a form of commercial paper that is collateralized by other financial assets. It is used for short-term financing needs.
4) "Globally, shadow banking was $65 trillion in 2011, compared to $26 trillion in 2002, or on average 25% of financial assets and 111% of aggregate GDP." (Claessens S. et. al (2012, p. 6))

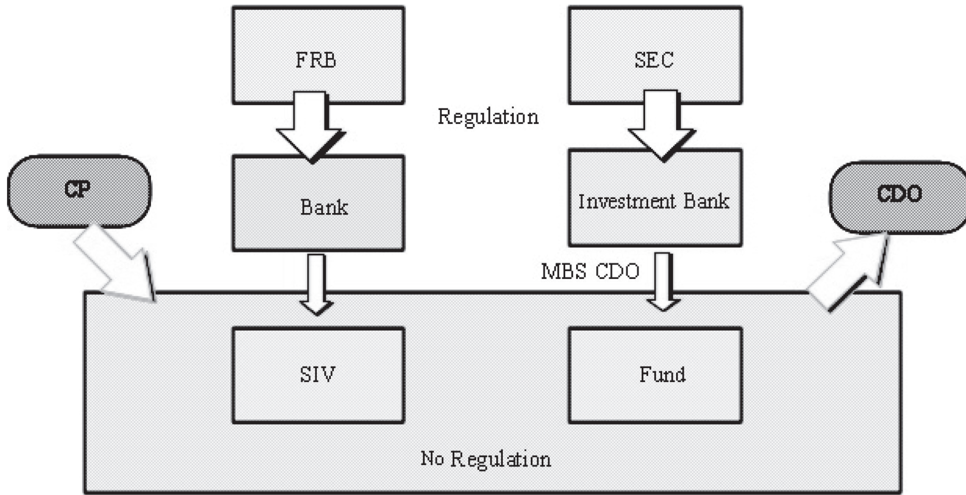

Fig. 3 "Shadow Banking System"
Source: Kaneko-David, *The Global Financial Crisis*, p.11

as it owns and the fund would become insolvent.

The Real Estate Bubble and Its Collapse

Among the three types of housing loans, the proportion of the subprime loans expanded rapidly in 2004. What was the reason for this expansion? One reason was the fall in US interest rates. In the early 2000's, the collapse of the IT bubble and the 9.11 attacks in 2001 fueled anxiety about a coming recession, which led the FRB to reduce the interest rate. As a result, the FF rate (Federal Funds Rate) fell to 1% (Fig. 4). The oversupply of capital in the financial market ensuing from such a monetary expansion spilled over into the housing loan market. During this period, enterprises raised capital by direct financing through the issue of stocks and bonds.

Another reason for the increase in subprime loans was the appearance of a new-type loan which enabled low-income borrowers to have a reduced payment in the early stages of the loan repayment. For the majority of subprime loans of this type, interest rate is fixed for the first two years and allowed to fluctuate thereafter. This contrasts with the majority of prime loans, which generally have 30-year fixed interest

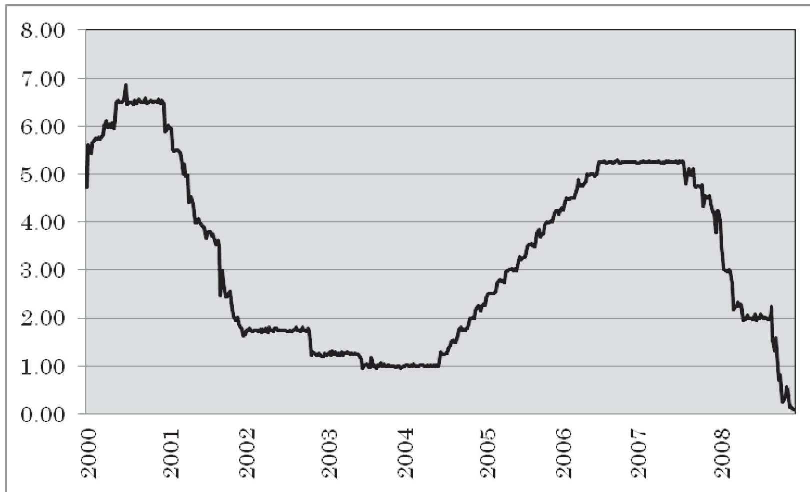

Fig. 4 FF rate (%)
Source: FRB

rates. Furthermore, the ultimate type of low-payment loan, called an Interest Only (IO) loan appeared during this time. With this type of loan, borrowers were only required to pay the interest in the first few years. Consequently, while over 70% of prime loans have a 30-year fixed interest rate, the majority of subprime loans are adjustable-rate over the long-term, with 54.8 having two-year fixed interest rates and 6.6% with three-year fixed rates (Fig. 5). In the latter subprime loans, since the interest rate increases after two or three years, sometimes drastically, borrowers are often no longer able to pay their mortgages and they must sell or go into foreclosure.

Because real estate prices in the US had been on an upward trend since 1990 (Fig. 6), these new loan types encouraged lower-income individuals to take out housing loans as soon as possible. These borrowers believed that if they could pay their subprime loans for several years, they could refinance with a prime loan, and even if they could no longer pay their mortgage, they could always profit by selling off their homes.

The rapid expansion of the housing market due to the inflow of capital and the ready availability of subprime loans caused a sharp price increase in house prices starting in 2004 which could be called a "bubble". Fig. 6 shows the percentage change

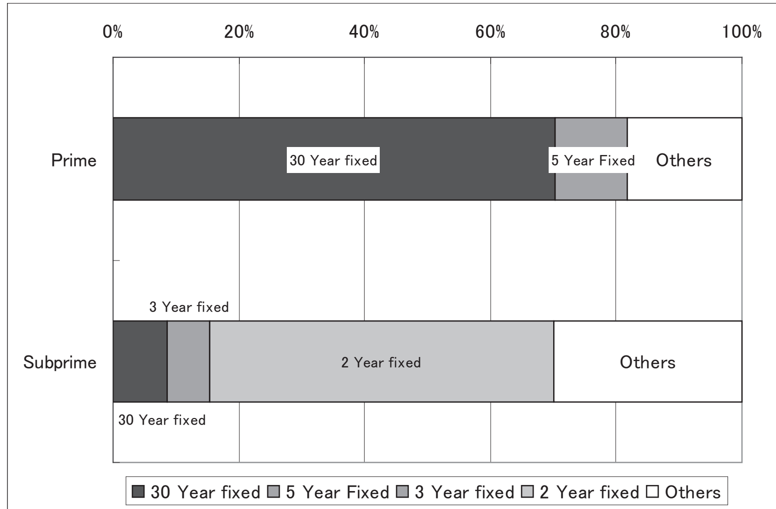

Fig. 5 Types of Prime and Subprime Loan
Source: Kurahashi-Kobayashi, *A Correct Way of Thinking for the Subprime Loan Problem*, p.60

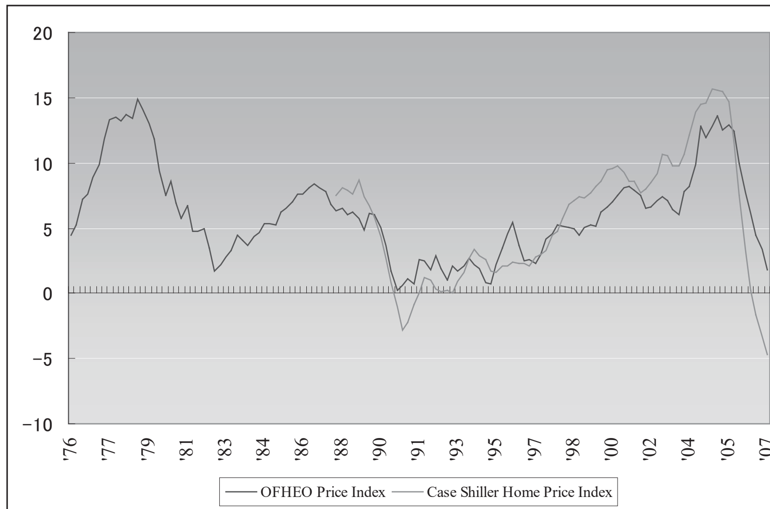

Fig. 6 House Price Indices (compared with the previous year)%
Source: Office of Federal Housing Enterprise Oversight and S&P/Case-Shiller Home Price Indices

in the house price index over the past three decades. Both the Case-Shiller and OFHEO house price indices[5)] indicate that housing prices rose by a rate of 10% over the previous year from 2002 to the first half of 2006, but that the rate decreased rapidly starting the end of 2006, falling below zero in 2007.

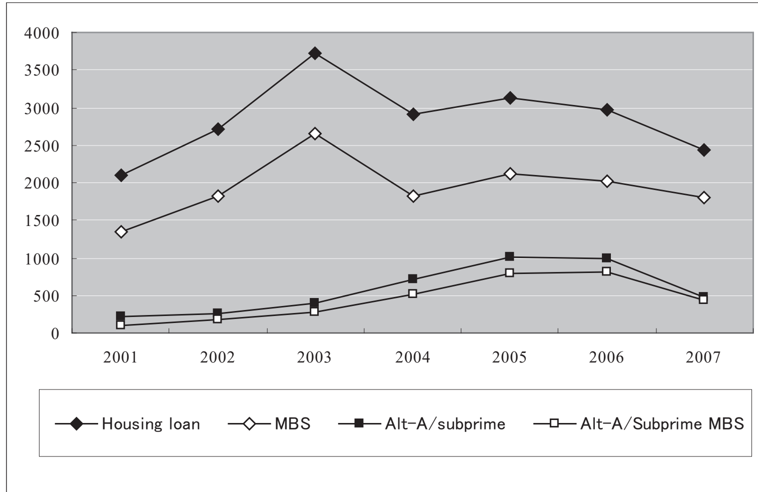

Fig. 7 Amounts of Housing Loans (in billion of U.S. dollars)
Source: Inside Mortgage Finance Publications, *Mortgage Stability Annual 2008*

Fig. 7 shows the total dollar amounts of housing loans, MBS issues, Alt-A/Subprime loans, and the level of securitization of Alt-A/Subprime. We can see that the total value of housing loans reached a maximum in 2003, while the total and the relative proportion of Alt-A/Subprime loans peaked in 2004 and 2005. Moreover, it is evident that the securitization rate for the Alt-A/Subprime loans is very high (note the proximity of the Alt-A/Subprime MBS line to that of the Alt-A/Subprime).

The Alt-A and subprime loans enable banks and other lenders to lend money to individuals who otherwise would have had difficulty getting financing. The financial crisis might not have occurred if houses prices had kept increasing. However, the

5) The US Federal Housing Finance Agency (formerly Office of Federal Housing Enterprise Oversight a.k.a. OFHEO) publishes the HPI (House Price Index), a quarterly broad measure of the movement of single-family house prices.

housing market bubble collapsed in 2006.

The interest rate of the majority of subprime loans was fixed for the first two or three years and became adjustable after that. The FF interest rate, which was 1% in January 2004, gradually rose to 5.25% by January 2007. As a result, the average interest rate of all housing loans also increased, as did the percentage of delinquent loans (Fig. 8). At the same time, the bubble collapsed, and the house price index fell precipitously, eventually showing negative growth in 2007 (Fig. 6). The percentage of delinquent subprime loans rose rapidly (Fig. 8). It is natural that this tendency should be the most remarkable in the floating rate at the subprime.

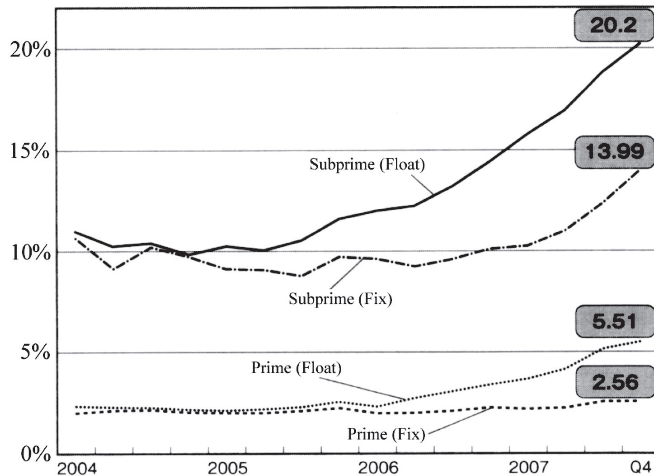

Fig. 8 Percentage of Delinquent Housing Loans
Source: Kurahashi and Kobayashi 'Idea with correct subprime problem' p.77

The rise in the percentage of delinquent loans, including housing loans, was a fatal blow to highly leveraged financial institutions. In addition, investment banks and hedge funds suffered massive losses as the prices of securities held by these institutions fell drastically due to the downward adjustment of MBS and CDOs values by the credit rating agencies.

As an example, the following table shows the drop in the value of assets between the 2nd quarter and third quarters of 2008 announced by Lehman Brothers on

September 10 (*Weekly Diamond*, October 11, 2008). The standard price is 100 in this table. Such a drastic drop in its holdings, to one third its previous value, ultimately led to the failure of Lehman Brothers.

	Q2		Q3
Alt-A	63	→	39
Subprime	55	→	34
CDO	35	→	29

The IMF published an estimate of their losses in the *Global Financial Report* issued in April and October, 2008 (Table 2).

According to Table 2, the estimated total loss in housing loans was 225 billion

Table 2 Estimates of Potential Writedowns in the Financial Sector for April and October, 2008 (in billions of US dollars)

	Writedowns on US loans			Writedowns on US Loans				
	Outstanding loans	April estimated losses	October estimated losses	Banks	Insurance	Pensions/ savings	GSE and Government	Other Hedge funds
Subprime	300	45	50	35-40	0-5	0-5		10-15
Alt-A	600	30	35	20-25	0-5	0-5		5-10
Prime	3,800	40	85	25-30	0-5	0-5	45-55	0-5
Commercial real estate	2,400	30	90	60-65	5-10	0-5		10-20
Consumer Loans	1,400	20	45	30-35	0-5	0-5		10-15
Corporate Loans	3,700	50	110	80-85	0-5	0-5		25-30
Leveraged Loans	170	10	10	5-10	0-5	0-5		0-5
Total for loans	12,370	225	425	255-290	5-40	0-35	45-55	60-100

	Losses on Related Securities			Losses on Securities				
	Outstanding loans	April estimated losses	October estimated losses	Banks	Insurance	Pensions/ savings	GSE and Government	Other Hedge funds
ABS	1,100	210	210	100-110	40-45	35-55	10-15	10-25
ABS CDOs	400	230	290	145-160	55-75	30-45	15-20	15-30
Prime MBS	3,800	0	80	20-25	10-15	10-20	20-25	0-5
CMBS	940	210	160	80-90	20-25	15-35	10-20	15-20
Consumer ABS	650	0	0					
High-grade Corporate debt	3,000	0	130	65-75	20-30	20-35		5-20
High-yield Corporate Debt	600	30	80	45-50	10-15	15-20		5-15
CLOs	350	30	30	15-20	0-5	0-5		5-10
Total for Securities	10,840	720	980	470-530	155-210	125-215	55-80	55-125
Total	23,210	945	1,405	725-820	160-250	125-250	100-135	115-225

Source: IMF, *Global Financial Report*, October, 2008

Table 3 Estimates of US Potential Writedowns in the Financial Sector 2007-2010 (in billion of U.S. dollars)

United States	Outstanding loans	Estimated Writedowns Oct. 2008	Estimated Writedowns April 2009
Loans			
Residential mortgage	5,117	170	431
Consumer	1,913	90	187
Consumer mortgage	1,914	45	272
Corporate	1,805	120	98
Foreign	2,669		80
Total for loans	13,507	425	1,068
Securities			
Residential mortgage	6,940	590	990
Consumer	640	160	223
Commercial mortgage	677		96
Corporate	4,790	240	335
Total for securities	13,047	980	1,644
Total for loans and securities	26,554	1,405	2,712

Source: IMF, *Global Financial Stability Report April 2009*

Table 4 Estimates of US Banks Writedowns, 2007-2010 (in billions of U.S. dollars)

	Estimated Holdings	Estimated Writedowns
Loans		
Residential mortgage	2,981	230
Consumer	1,115	195
Consumer mortgage	1,114	100
Corporate	1,104	72
Foreign	1,745	57
Total for loans	8,059	654
Securities		
Residential mortgage	1,495	189
Consumer	142	0
Commercial mortgage	196	63
Corporate	1,115	48
Government	580	0
Foreign	975	71
Total for securities	4,502	371
Total for loans and securities	12,581	1,025

Source: IMF, *Global Financial Stability Report Oct. 2009*

dollars in April and increased to 425 billion dollars in October. The total loss on related securities was 720 in April and increased to 980 billion dollars in October. The total losses amounted to 945 billion dollars in April and 1.405 trillion dollars in October. Needless to say that there is a fear that this total may continue to grow with the

increase in delinquencies.

Losses have increased since the October, 2008 report. In the Global Financial Report of April, 2009, the total losses were estimated at 2.712 trillion (Table 3). In the latest report, published in October, 2009, there was almost no change in the estimated loss although this report only estimated the potential loss by US banks, indicating the crisis may finally have reached bottom (Fig. 4).

From the Problem of Subprime Loans to the Current Financial Crisis

The delinquency of subprime loans has driven the investment banks who bought them from mortgage banks and securitized them as well as the hedge funds who profited from the purchase of MBSs and CDOs to bankruptcy. In addition, stock prices fell dramatically, a credit shrinkage was triggered, and it damage was caused to the real economy. Let us trace the development of the recent crisis.

2006

The price of the housing market in the United States begins to fall precipitously in 2006.

December: Mortgage banks that deal primarily in subprime loans begins to struggle. The mortgage bank Ownit Mortgage Solutions files for bankruptcy.

2007

April. 2: New Century Financial Co., No. 2 in volume in the subprime loan market, files for bankruptcy.

June 15: Bear Stearns, one of the major investment banks, provides 3.2 billion dollars for the relief of its subsidiary hedge fund.

July: Moodies and S&P (a credit rating agency) lowers its ratings of subprime-related securities.

July 19-20: Bernanke, Chairman of the FRB, testifies in the Congress that the losses due to the financial crisis may amount to 50-100 billion dollars.

August 6: American Home Mortgage files for bankruptcy.

August 9: BNP Paribas, a French bank, refuses cancellation requests from investors for its three subsidiary investment funds. Financial anxieties are actualized (“Paribas Shock”).

September 7: Countrywide Financial, one of the biggest housing loan companies in the United States, announces that it will cut 10,000-12,000 employees by the end of 2007 (Countrywide Financial is acquired by the Bank of America for four billion dollars)

September 15: The Northern Rock Bank in Britain encounters a run on the bank. (It is nationalized in February, 2008)

2008

March: Bear Stearns is practically bankrupt and is acquired by JP Morgan Chase for 2.1 billion U.S. dollar.

March 27: the FRB establishes the TSLF (Term Securities Lending Facility) which relieves financial institutions by exchanging MSBs etc. for Treasury Securities (the government bonds), totaling approximately 400 billion U.S. dollar.

September 7: Fanny Mae and Freddie Mac (GSE or Agency) are placed under the control of the US government, which decides to implement the Preferred Stock Purchase Agreement of 200 billion U.S. dollar.

September 15: Lehman Brothers, the fourth largest investment bank in the US, goes bankrupt. (with total assets of 639 billion U.S. dollar and total debts 613 billion U.S. dollar) The Dow-Jones shows a drop of 504 dollars. Merrill Lynch is sold to the Bank of America. AIG, the biggest insurance company in the United States, receives an 85 billion U.S. dollar loan from the government.

September 21: Goldman Sachs and Morgan Stanley, the largest and second largest investment banks, respectively, are transferred to bank holding companies. (Marking the disappearance of the five largest US investment banks)

October 3: “The Emergency Economic Stabilization Act of 2008” (the bailout of the U.S. financial system) is enacted, authorizing the government to spend up to 700 billion U.S. dollar to purchase non-performing assets of financial institutions.

October 6: Iceland declares a state of financial emergency.

November 14-15: A G-20 Leaders Summit is convened to discuss Financial Markets and the World Economy.

December: Automakers GM and Chrysler receive bridge loans of 17.4 billion U.S. dollar from the government.

2009

February 17: A $787 billion package of spending and tax cuts (the American Recovery and Reinvestment Act) is signed by President Obama.

February 26: President Obama releases a proposed budget which would bring the 2009 budget deficit to $1.75 trillion U.S. dollar.

February 27: US government takes a 36% equity stake in Citigroup. US Department of Commerce announces that GDP growth fell by an annual rate of 6.2 percent in the fourth quarter of 2008.

March 2: The US government decides to provide an additional 30 billion U.S. dollar to bailout AIG.

In the context of this sequence of events, the bankruptcy of Lehman Brothers on September 15, 2008 has an especially important meaning. In contrast to Bear Stearns

Fig. 9 Dow Jones Industrial Average

and the two GSEs (Fanny Mae and Freddie Mac), Lehman Brothers was not "bailed out" by the government and this resulted in significant repercussion in the stock market. One consequence was that the Dow Jones index fell precipitously following this event (Fig. 9) and did not recover to the level existing before until the end of 2012. It is not surprising that commercial banks have been reluctant to loan money, since the value of their property has fallen dramatically and they have suffered significant losses due to the subprime loan crisis ("Credit crunch"). The shrinkage of the financial market has also had a variety of impacts on the real economy. Moreover, effects have been felt not only in the United States, but around the globe, with the fall in stock prices in other countries leading to similar problems of unemployment, credit shrinkage and recession.

It is important to consider why the government chose to bail out AIG, while it did not choose to bail out Lehman Brothers. AIG received relief because it is the US's largest insurance company and it sold a large volume of CDS (Credit Default Swap) that served as collateral for corporate bonds or securities, in case these could not be repaid due to bankruptcy etc. In 2007, the value of CDS worldwide reached 62 trillion dollars. It was feared that failure of the AIG-guaranteed CODs would lead to a dangerous collapse in global confidence of the market.

Global impacts (of the US Financial Crisis)

The financial crisis that originated in the United States has spread to the whole world. Among advanced countries worldwide, Britain has suffered the greatest losses. The government announced a bank-rescue plan on October 8, 2008 whereby they would inject up to 50 billion pounds into financial institutions. They also announced a second plan on October 13, calling for the injection of 37 billion pounds into three major banks, including the Royal Bank of Scotland (RBS). Iceland that had achieved rapid economic growth through promotion of the financial sector was severely impacted by the financial crisis. Geir Haarde, Prime Minister of Iceland, declared a state of emergency on October 6, 2008, saying "In the worst case, there is a danger that the nation will go bankrupt along with its banks." Iceland government nationalized all private banks, and

sold off overseas assets.

The financial crisis has also had a serious impact on the rising nations. The IMF and World Bank decided to support Pakistan, Belarus, Iceland, Ukraine, Hungary, Serb, and Kirgiz, immediately following the IMF's decision to support Iceland.

Table 5 Indices of developing nations

	Current Account / GDP	Short-Term Foreign Debt / Foreign Reserves	Loans from Foreign Banks / GDP	Total outstanding loans for domestic private sector / GDP
Iceland	-8.0		267.9	
Hungary	-5.5	0.9	54.1	18.0
Poland	-5.0	0.8	17.1	29.5
Estonia	-11.2	0.2	78.7	21.5
Ukraine	-7.6	1.0	9.5	63.9
Pakistan	-6.9	12.1	-4.8	21.6
Vietnam	-13.6	14.5	10.2	63.9
China	9.8	6.9	-1.1	17.5

Source: *Weekly Economist*, December 9, 2008, p.20

The IMF considers these countries -- Iceland, Central and East European countries, and Baltics, etc. -- to be facing financial crisis. The common features of these countries are that they borrow from foreign countries even though their current balance is a deficit, and the balance of their domestic credits to the domestic private sector is large compared with GDP. Table 5 lists the countries having these features. The figures of concern from the IMF's standpoint are highlighted in gray.

Impacts on Asian economies

Finally, I would like to discuss the impacts of the global financial crisis on Asian economy. First of all, Asia has experienced relatively fewer losses directly linked to the subprime loan crisis. The total losses of the World's 100 biggest banks, as of May, 2008, are reported to be 379 billion dollars. Losses in the US and selected Asian countries are presented in Table 6. The total losses in Asia, excluding Japan, amount to only 10.8 billion dollars, or less than 3% of the 379 billion dollars. The current loss figure is expected to be larger, because of additional losses which were not previously disclosed and newly incurred losses since May, 2008. (These may include losses

associated with securities that were issued by Lehman Brothers.) In any case, the total loss experienced by Asian countries is not as large as that of EU nations.

Table 6 Losses in Asian Economies Associated with the Subprime Crisis (in billion of U.S. dollars)

US	Japan	Korea	China	Malaysia	Total Asia
157.7	8.7	0.4	2.8	0.1	19.5

Source: Asian Development Bank, *The US Financial Crisis, Global Financial Turmoil, and Developing Asia: Is the Era of High Growth at an End?*, Dec. 2008, p.25.

In spite of the relatively small direct impact of the global financial crisis, the GDP growth rates of Asian economies dropped rapidly in the latter half of 2008 as is indicated in Table 7. China's GDP growth rate dropped to 6.2% in the first quarter of 2009 and those of the ASEAN 4 nations, namely Thailand, Malaysia, Indonesia and Philippines respectively dropped to -7.0, -6.2, 4.5 and 1.0%. The Asian economies most impacted by the crisis were Newly Industrialized Economies (NIEs). The GDP growth rate of Singapore, Taiwan, Hong Kong and Korea dropped to -8.9%, -8.1%, -7.9% and -4.2%. However, the GDP growth rates of the Emerging Asia nations (China, Thailand, Malaysia, Indonesia, the Philippines, Vietnam and Asian NIEs), as a whole, did not fall below zero even during the worst period of Q1 in 2009. Thus, the impact of the global financial crisis on East Asian economies, compared to developed countries and other regions of the world, was not a severe.

The primary reason for the rapid decrease in the GDP growth rates in Asia was the fall in exports to advanced countries. There is a strong correlation between the level of the Asian exports and the non-oil imports of G3 nations (US, EU and Japan). As the economic growth of G3 declines, the level of their non-oil imports falls, and, with it, the level of Asian exports. Thus, it is apparent that, in the current crisis, the decrease in GDP growth rates of the G3 nations caused the fall in the exports of Asian economies. As indicated in Table 8, the export growth rate of Asian economies in Q3 and Q4 of 2009 are all less than -20%.

The declines in Asian NIEs GDP growth rates resulting from the decreases in exports are bigger than those of ASEAN 5 and China, because Asian NIEs have a greater dependency on exports (Table 9). T. Ito (2010) conducted a regression analysis and show the positive correlation between the GDP decrease and the export

Table 7 Annual GDP growth rate (compared to the previous year, %)

	Korea	Taiwan	Hong Kong	Singapore	Thailand	Malaysia	Indonesia	Philippines	China	Vietnam	India	Japan
2008 Q1	5.5	7.6	7.2	8.1	6.3	7.5	6.2	3.9	10.6	7.5	8.5	1.4
Q2	4.4	5.7	4.2	3.2	5.2	6.7	6.4	3.7	10.1	6.5	7.3	-0.1
Q3	3.3	-1.2	1.2	-0.3	3.1	5.1	6.4	4.6	9.0	6.5	7.2	-0.6
Q4	-3.3	-7.5	-2.6	-3.7	-4.1	0.2	5.0	2.8	6.8	6.2	6.1	-4.7
2009 Q1	-4.2	-8.1	-7.9	-8.9	-7.0	-6.2	4.5	1.0	6.2	3.1	5.8	-9.4
Q2	-2.1	-6.6	-3.4	-2.0	-5.2	-3.9	4.1	1.6	7.9	3.9	6.1	-6.6
Q3	1.0	-1.4	-2.0	1.9	-2.8	-1.2	4.2	0.5	9.1	4.3	7.9	-5.6
Q4	6.3	8.8	2.5	5.3	5.9	4.6	5.4	1.4	10.7	5.5	7.3	-0.5
2010 Q1	8.7	13.1	7.9	16.5	12.0	10.3	5.7	8.4	11.9	5.9	9.4	4.9
Q2	7.6	12.9	6.4	19.8	9.2	9.4	6.2	8.9	10.3	6.1	8.8	4.4
Q3	4.5	11.6	6.6	10.6	6.6	5.5	5.8	7.3	9.6	6.6	8.4	6.0
Q4	4.9	6.2	6.4	12.5	3.8	5.0	6.9	6.1	9.8	6.8	8.3	3.3
2011 Q1	4.3	7.4	7.6	10.2	3.2	5.2	6.5	4.9	9.7	5.4	7.8	0.0
Q2	3.5	4.6	5.1	2.0	2.7	4.3	6.5	3.6	9.5	5.6	7.5	-1.6
Q3	3.6	3.5	4.0	6.0	3.7	5.7	6.5	3.2	9.1	5.8	6.5	-0.5
Q4	3.4	1.2	3.0	4.0	-8.9	5.3	6.5	4.0	8.9	5.9	6.0	-0.3
2012 Q1	2.8	0.6	0.7	1.5	0.4	5.1	6.3	6.5	8.1	4.8	5.1	3.4
Q2	2.4	-0.1	0.9	2.3	4.4	5.6	6.4	6.0	7.6	4.8	5.5	3.9
Q3	1.6	0.7	1.5	0.0	3.1	5.3	6.2	7.2	7.4	5.1	5.3	0.2
Q4	1.5	4.0	2.8	1.5	19.1	6.5	6.1	7.1	7.9	5.4	4.5	0.4

Source: IMF, *International Financial Statistics*

Table 8 Export Growth Rate (compared to the previous year, %)

	Korea	Taiwan	Hong Kong	Singapore	Thailand	Malaysia	Indonesia	Philippines	China	Vietnam	India	Japan
2008 Q1	17.4	17.5	10.7	21.2	23.1	19.6	31.9	2.8	21.4	69.0	45.9	20.5
Q2	23.1	18.5	8.1	26.4	28.2	29.1	29.6	5.5	22.4	60.1	49.0	17.6
Q3	27.0	8.0	5.6	21.2	26.1	21.4	27.9	4.1	23.0	22.7	61.2	12.9
Q4	-9.9	-24.7	-1.8	-13.9	-10.7	-12.9	-5.6	-22.3	4.3	-8.9	7.4	-10.0
2009 Q1	-25.2	-36.7	-21.5	-32.7	-20.7	-28.9	-31.8	-36.8	-19.7	-37.2	-25.8	-40.6
Q2	-21.1	-32.0	-12.4	-30.8	-26.2	-33.3	-26.2	-28.9	-23.4	-24.8	-29.6	-34.0
Q3	-17.6	-20.9	-13.8	-22.4	-17.7	-26.4	-19.3	-21.5	-20.3	-1.5	-31.8	-24.5
Q4	11.7	16.9	-2.0	11.8	11.7	10.1	23.9	6.0	0.2	31.9	14.7	-1.0
2010 Q1	35.8	52.5	25.8	38.3	31.6	44.8	54.3	43.0	28.7	41.5	61.6	48.3
Q2	33.1	46.2	23.9	36.6	41.4	32.5	36.8	33.5	40.9	21.8	29.0	40.8
Q3	22.7	27.1	27.4	27.3	21.9	21.5	27.7	40.3	32.2	14.5	30.9	28.3
Q4	23.8	20.9	14.2	22.4	20.8	12.8	28.9	21.8	24.9	15.6	42.4	19.4

IMF, *International Financial Statistics*

Table 9 Exports Dependency (Exports/GDP, %)

	Korea	Taiwan	Hong Kong	Singapore	Thailand	Malaysia	Indonesia	Philippines	China	Vietnam	India	Japan
2007	41.9	72.1	208.0	217.7	69.2	106.2	29.4	43.3	38.4	76.9	20.4	16.0
2008	53.0	73.0	212.4	233.2	71.7	99.5	29.8	36.9	35.0	77.9	23.6	16.1

IMF, *International Financial Statistics*

dependency rate. China also experienced a decline in exports but the decrease in the growth rate was offset by massive public investment and increased fixed capital formation in 2009.

The robustness of the Chinese economy has become the driving force behind the recovery of the Asian economies. Almost every Asian economy demonstrated greater growth in Q4 of 2009 than in Q1 of the same year. This recovery has also resulted in the re-appreciation of exchange rates starting in March, 2009 (Table 10), following a precipitous fall after September, 2008. In addition, stock prices in almost every Asian economy have been on an upward trend starting in March, 2009.

Thus, as a whole, Asian economies were in the process of recovery in 2010. It is evident that the current global economic crisis is more severe than the Asian economic crisis in 1997. This is because the impacts of the 1973 crisis were limited to Asia and these did not lead to serious problems in the real economy. Thus, it remains unclear how soon the Asian economies will recover. However, the governments of

Table 10 Exchange Rates of Asian Economies (local currency/US dollar)

	Korea	Taiwan	Hong Kong	Singapore	Thailand	Malaysia	Indonesia	Philippines	China	Vietnam	India	Japan
2008 Jan	942.54	32.37	7.80	1.43	30.43	3.27	9400	40.78	7.24	15987	39.28	107.92
2009 Jan	1352.27	33.33	7.76	1.49	34.90	3.57	11148	47.11	6.84	17477	48.71	90.35
2010 Jan	1139.67	31.90	7.76	1.40	33.05	3.38	9275	46.00	6.83	18474	45.90	91.22
2011 Jan	1119.14	29.11	7.78	1.29	30.56	3.06	9035	44.19	6.60	19497	45.38	82.63
2012 Jan	1142.18	30.01	7.76	1.28	31.55	3.11	9055	43.55	6.32	20976	51.11	76.93
2013 Jan	1066.76	29.09	7.75	1.23	30.06	3.04	9652	40.72	6.22	20843	54.24	89.10

IMF, *International Financial Statistics*

Table 11 Official Unemployment Rates in Selected Asian Countries (%)

Economy	2006	2007	2008	2009
China, People's Republic of	4.8	4.0	3.3	5.1
Hong Kong, China	4.8	4.0	3.3	5.1
Indonesia	10.5	9.8	8.5	8.1
Korea, Republic of	3.2	3.2	3.0	3.8
Malaysia	3.3	3.2	3.0	4.0
Philippines	8.2	7.4	8.0	7.5
Singapore	2.2	2.5	1.8	3.0
Taipei, China	3.8	3.9	3.8	5.1
Thailand	1.9	1.6	1.7	2.1
Viet Nam	4.8	4.6	4,6	N.A.

ADP, *Key Indicators for Asia and the Pacific 2009*, p.9

Asian economies studied the bitter experiences of 1997 and correspond quickly by implementing fiscal and monetary policies. Moreover, since each economy held sufficient foreign exchange reserves, exchange rates were not severely disturbed.

After 2008, the most serious problem experienced in the real economy is an increase in the unemployment rate of almost all Asian economies (Table 11). The increase in unemployment has a particularly severe impact for low income populations. Moreover, it is not clear whether unemployment rates will decrease concurrent to recovery of GDP growth rates and stock prices.

What went wrong?

What were the causes of the global financial and economic crises? As is evident from the discussion above, the root causes are deregulation of financial markets, speculative transactions and derivative dealings developed by financial engineering.

However, I think that the more essential problem lies in economic theory that places excessive trust in the regulating ability of the market mechanisms (monetarism) and economic policies based on monetarism. This economic theory whose influence has been increasing in the US since the introduction of "Reaganomics" in the 1980's has gained prominence since the election of the Bush administration in 2000. The belief in the self-correcting nature of market mechanisms has led to the weakening of regulation and oversight of financial markets, and increasing income inequality.

It is reasonable to conclude that the financial crisis in 2007-8, which resulted from the overextension of subprime loans to lower income brackets, clearly shows the defects of such economic theory and an economic system built on such thought. To say that the subprime crisis resulted from "making loans to people to whom such loans should not have been made" is not incorrect, but the more essential problem is the system that produces such low-income populations and that loans money to them. It can be argued that not dealing with social inequalities inevitably brings about economic instability.

Iceland chose to build their economy on the financial sector, and Central and East European countries chose to rely heavily on foreign investments to support their rapid

development and goal of westernization. But these countries were in the middle of the financial crisis after 2008. This illustrates the importance of maintaining a balance in the process of economic development. The demise of several major financial institutions in the United States indicates that the days of globalization, funded by financial capital of the United States and backed by the IMF, may be coming to an end.

What is the future of the World economy?

The direct influences of the 2007-8 economic crisis came to an end in 2010. However, under the influence of the crisis, the US economy is still in stagnation. The economies of EU countries also fell into a serious depression due to the financial crisis of some member countries such as Greece and Spain. As Hattori (2001) points out, the US economy seems to follow the failure of the Japanese economy after 1990's. As the former chairman of the Federal Reserve, Mr. Bernanke, who once recommended Japan to take a drastic monetary relaxation policy to escape from the stagnation, was forced to take the same policy in the US. Although the monetary relaxation policy is necessary under this kind of situation, it alone cannot increase money demand and thus cannot escape from the deflation. We also need to execute massive financial policies to increase the domestic demand as Krugman (2012) proposed. However, the US, EU countries and Japan all are facing a budget deficit problem and cannot execute effective fiscal policies. Thus, it is quite probable that these economies will be caught up in the stagnation for a long period of time. To avoid such a situation, we should restore the consumption demand in our society by revitalizing the middle class.

On the other hand, Asian economies have not suffered as directly or as severely as those of the US and Europe from the financial crisis. The biggest problem that Asian countries are now facing is a recession caused by a decrease in exports. To avoid a further recession, it is necessary for Asian countries to reduce income inequalities in their own countries and take a more balanced approach to the economic development.

References

Asian Development Bank, *The US Financial Crisis, Global Financial Turmoil, and Developing Asia: Is the Era of High Growth at an End?*, December, 2008.

Asian Development Bank, *Key Indicators for Asia and the Pacific 2009*, 2009.

Asian Development Bank, *Asian Economic Monitor December 2009*, 2009.

Attali, Jacqes, *After the Crisis: How did this happen?*, ESKA Publishing, 2010.

Financial Crisis Inquiry Commission, *Financial Crisis Inquiry Report*, Public Affairs, 2011.

Claessens, Stijn, Zoltan Pozsar, Lev Ratnovski, and Manmohan Singh, "Shadow Banking: Economics and Policy", *IMF Staff Discussion Note*, 2012.

Hattori, S., *US which follows Japan's Failure*, NTT Publishing, 2011.（服部茂幸『日本の失敗を後追いするアメリカ』NTT出版、2011年。）

IMF, *Global Financial Report*, Oct. 2007.

IMF, *Global Financial Report*, Oct. 2008.

Ito, Masanao, *Why Financial Crisis repeats?*, Junposha, 2010.（伊藤正直『なぜ金融危機はくり返すのか』旬報社、2010年。）

Ito, Takatoshi., "The Impact of the Global Financial Crisis on Asia and the Measures of the Governments", in Ueda（2010）.（伊藤隆敏「第4章　世界金融危機のアジアへの影響と政策対応」植田（2010）所収。）

Kaneko, Masaru and Andrew De Wit, *The Global Financial Crisis*, Iwanami booklet No.740, Iwanami Shoten, October, 2008.（金子勝・アンドリュー・デヴィット『世界金融危機』岩波ブックレット、2008年。）

Kurahashi Toru and Masahiro Kobayashi, *A Right Way to think the Subprime Loan Problem*, Chuou Koron Shinsha, April, 2008.（倉橋透・小林正宏『サブプライム問題の正しい考え方』中公新書、2008年。）

Krugman, Paul, *The Return of Depression Economics*, W. W. Norton, 2008.

Krugman, Paul, *End This Depression Now!*, W. W. Norton, 2012.

Stiglitz, E. J., Freefall: *America, Free Markets, and the Sinking of the World Economy*, W. W. Norton, 2010.

Ueda, Kazuo ed., *A Full Picture of the World Financial and Economic Crisis*, Keio University Press, 2010.（植田和男編著『世界金融・経済危機の全貌』慶応義塾大学出版会、2010年。）

Ueda, Kazuo, "An Overview of the Global Financial and Economic Crisis", in Ueda（2010）（植田和男「序章　世界金融・経済危機オーバービュー」植田（2010）所収。）

Weekly Diamond, October 11, 2008.（週刊『エコノミスト』2008年10月11日。）

Weekly Economist, December 9, 2008.（週刊『エコノミスト』2008年12月９日。）

Weekly Economist, January 20, 2009.（週刊『エコノミスト』2009年1月20日。）

―2016.5.14受稿―