Carry Trade and Financial Crisis

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Introduction

The recent financial crisis that occurred in 2007 has brought about many changes to the financial market and global economy. The crisis has triggered huge losses to industries, banks and financial centers, which have never been seen before since the Great Depression. Millions of workers were laid off across the world and thousands of factories were forced to shut down due to the depressed economy. In this paper, the author is going to analyze the relationship between the current financial crisis and carry trade. Carry trade is a very popular investment method pursued by major players in the financial world.

Carry trade mainly exists in the foreign exchange market; it was originally utilized by currency speculators to short low yield currency and invest in high yield currency. However in the last decade this kind of investment had became so enormous that the cheap funding currency had been invested in various financial instruments.

In chapter 1 the author will firstly provide a general background of carry trade, such as its characteristics, history and how it had been interacting with the past financial crisis. In chapter 2 the author will elaborate on how carry trade is affected by the current financial crisis. In chapter 3, the author will present major consequences that have been brought about by carry trade and its implications on the current financial crisis. In chapter 4 the author will provide a summary and conclusion.

Chapter 1

General background of carry trade

1.1 What is carry trade

During the last ten years, financial institutions and retail traders have long been enjoying the profit of borrowing money in one currency with low or zero interest rate and invest the fund into another currency or financial instrument with higher yields. By engaging in this kind of investment, they could easily earn a spread of the yield differential. This kind of the investment is called carry trade. However this kind of investment carries enormous risk. This risk is generally reflected in the foreign exchange market. When it is time to repay the loans, borrowers need to make sure the funding currency does not have an increased value against the currency that he is investing. The Japanese Yen seems to be their favorite funding currency because over years Yen has been
traditionally undervalued and has a relative stable exchange rate against other currencies. In Japan there is high level of high saving rate, the Japanese government tries to stimulate the economy out of depression and deflation by encouraging export. In this sense a cheap domestic currency is also important for the growth for the Japanese economy.

When bankers or financial speculators have borrowed the cheap Yen-dominated fund, there is a broad range of financial product that can be invested. Besides simply exchanging it into other high yield currencies like Australian or New Zealand dollar, they could also invest in real estates, bonds, stock or commodities which were dominated in a strong currency. In short, carry trade has become a major source of low-cost funds for the world, with money flowing into everything from Wall Street stocks, to main-street home mortgages, to emerging-market bonds and stocks. The Yen carry trade amplifies the already serious distortions in the global economy. Japanese excess liquidity is aggravating asset inflation and bubbles across the world.

Players in the carry trade include individual Japanese retail traders, pension funds, insurance funds, international hedge funds, banks and other speculators. Nobody knows for sure how big the market for the carry trade is. Estimates run from $350 billion, according to Japanese banks, to over $1 trillion (based on future and options contracts in the Chicago Mercantile Exchange). That is 10 times the size of Malaysia’s GDP.

1.2 History of carry trade

The first modern wave of Yen carry trade was originated in the late 1980s when many traders borrowed Yen to exchange for the higher yielding currencies that had participated in the European Monetary System mechanism. At that time a lot of Japanese investors also invested heavily in the US real estate market which increased the speed of the Yen depreciation. When the Japanese economy experienced a lost decade in the 1990s, financial institutions in Japan were forced to retrieve their capital from overseas which marked the beginning of the collapse of the first wave of Yen carry trade. The Yen enjoyed a dramatic appreciation of nearly 20% against major currencies in 1990, but that was only the beginning. It proceeded to rise another 6% in 1991 and then depreciated slightly in the first several months of 1992. The first sign for the collapse of the Yen carry trade occurred in September 1992, when Great Britain was forced to exit the ERM mechanism (it proceeded to fall from US$2 to US$1.40 in the next three months). While the Yen initially held on (and even declined), this was not to be – as Sweden followed with its own devaluation in November 1992 – followed by Spain, Portugal and Ireland. By the end of 1992, Western Europe was severely hit (as many countries that had chosen to remain within the ERM had to raise their interest rates dramatically
in order to keep up with the rise in German interest rates following its reunification). Speculative outflows started occurring at the beginning of 1993, and eventually turned into a torrent by the summer. The first modern Yen carry trade was now over, and the next Yen carry trade would not occur until the summer of 1995. From the beginning of 1993 when the Yen (100) traded at US$0.80, the Yen would eventually end up 50% higher at US$1.20 by the summer of 1995.

The second great Yen carry trade began in the summer of 1995 and it did not end until October 1998 – when the Yen ended its decline by rising 15% in a week! This was mainly because of the panic in the financial market. In 1997 major hedge funds initiated their speculative attack on the Asian financial market. Thailand, Indonesia and South Korea were badly affected by the crisis. During the crisis, economy in the US and Japan was also severely weakened. In October 1997 the Dow Jones industrial plunged 554 points because of the deteriorating Asian market. The Asian financial crisis also triggered the 1998 Russian default and together with the collapse of the Long-Term Capital Management hedges fund. Investors across the world all tried to deleverage their positions to avoid further losses. Risky investment like carry trade was certainly to be abandoned. The Yen rose 15% against the dollar in a week.

1.3 How is the latest carry trade originated?

The recent wave of carry trade came after the 1998 financial crisis and didn’t end until 2007. For this decade, global financial market experienced a steady growth. The Japanese Yen also has a depreciation trend against major currencies. This was mainly because of the monetary policy carried out by the Bank of Japan. The Japanese economy has always been hunted by deflation since the early 1990s. On March 19, 2001, the Bank of Japan and the Japanese government tried to eliminate deflation in the economy by reducing interest rates. Another important factor that has contributed to the low exchange rate in Japan is the household high saving rate and a lack of domestic consumption. Japanese government has to find its way of growth by exporting, so a low exchange rate is also for the great interest of the Japanese exporters. At the same time, the US desperately needed funds to finance its housing bubbles, central banks in Europe, Australia and New Zealand which were devoted to combat inflations offered much higher interest rate. Trillions of Yen fled out of Japan in seeking for higher returns. With the development of electronic trading platform, retail investors all around the world could enjoy the profit of shorting Yen. International banks, hedge fund and various financial institutions all borrowed Yen often in a leveraged bias to invest in high yield financial products.
1.4 Financial factors affecting carry trade

The first factor that can have an impact on the carry trade is the interest rate differential. The interest rate differential is said to be the most important driving force behind carry trade speculation. Let’s take the interest rate differential between the US and Japan, for example. In Japan, from February 1999 until July 2006, the key interest rates were near zero due to the quantitative easing policy carried out by the Bank of Japan. During this period, carry trade enjoyed a long and stable growth. When the Bank of Japan raised its key short-term interest rate to 0.25% in July 2006 and to 0.5% in February 2007, we have witnessed a corresponding unwind of the carry trade. According to some investors, the diminishing benefits of the yen carry trade with the monetary tightening policy initiated by the Bank of Japan may facilitate the market’s meltdown; higher rates in Japan might have implied that investors started borrowing less money and investing less elsewhere. In the US, on the other hand, since the end of June 2006, the FED has kept the federal fund (FF) rate at 5.25%, and the dollar is then the target currency for the yen carry trade. However, the speculation for the FF rate cut has gained momentum due to the economic deceleration. Thus, the quick unwinding of the carry trade is likely to bring about the market dislocation.

The second factor that can have an impact on the risky carry trade is the change in investors’ sentiments regarding risk-taking. The speculative investors in the international monetary market (IMM) have been using leverage in borrowing yen and buying other assets. Therefore, if investors’ sentiment goes down, they may sell more US stocks, foreign stocks, and other assets, and the unwinding of such trades will definitely have an impact on the markets. Klitgaard and Weir (2004) analyzed the weekly net speculative foreign exchange data between 1993 and 2004. They found a strong contemporaneous relationship between weekly changes in speculators’ net positions and exchange rate moves. Mogford and Pain (2006) also conducted a similar analysis, using the weekly data between January 1993 and January 2006. The movement of carry trade is also linked to the stock price. Mogford and Pain (2006) also found a strong contemporaneous relationship between weekly changes in speculators’ net positions and the S&P 500.
Chapter 2

How is carry trade affected by the financial crisis?

2.1 Subprime Contagion

The first unwind of the carry trade can be traced back to early summer of 2007. On 11th July, Standard and Poor’s places 612 securities backed by subprime residential mortgages on a credit watch. In the US, there is a countrywide warning by the financial companies of a “difficult condition”. Equity market also experienced remarkable volatility seeing the liquidation by Bear Stearns of two hedge funds that invest in various types of mortgage-backed securities. The fear of the financial turmoil was finally met on August 16 where the Dow Jones lost 167 points suffering the biggest points drop in five years and erased almost 6% of its value during the last five days.

August 16 also marks the first setback on carry trade. A lot of currency traders suffered great losses. This was largely due to risk averse sentiment among worldwide investors. "Credit crunch" as subprime mortgage backed securities are discovered in portfolios of banks and hedge funds around the world, from BNP Paribas to Bank of China. Many lenders stop offering home equity loans and "stated income" loans. Huge losses were incurred in fixed income and equity portfolios. Investors tried to reduce their exposure to risk such as carry trade. Figure 1 shows this first carry trade unwinds as measured by Deutsche Bank’s Carry Index. Deutsche Bank computes the returns to a portfolio that is long the three highest yielding currencies and short the three lowest yielding currencies across the developed markets. Figure 2 which displays the most popular carry trade pair AUD-JPY also confirms this trend.

According to a report by financial times “Due to the uncertainty about the broader impact of the subprime problem, volatility in the foreign exchange markets has surged, leading many investors to unwind their positions.

“The hedge funds have panicked,” says a managing partner at a large US hedge fund. Funds are shying away from risk because "our mentality today is you have no idea what is going to happen in the world”.

Whenever the yen has appreciated against the dollar or sterling in the past, Japanese retail currency traders have mitigated the movement by moving in to sell the currency. For example, the last time the yen strengthened rather quickly - during the Chinese market wobbles in March - Japanese currency margin traders happily came back to sell more yen, helping to keep a lid on the currency’s rise.
However, this time the unwinding of the carry trade is occurring with such force that individuals, who borrow about 10 times their own funds to trade, have been forced to unwind as they face automatic stop-loss limits, says Tohru Sasaki, chief foreign exchange strategist at JP Morgan in Tokyo.

Many investors were forced to cut their losses once the yen hit Y115 to the US dollar, says Tsuyoshi Ueda, an official at gaitame.com, which provides services to individual forex traders.

Mr Sasaki estimates that of the Y7,000bn ($61bn, €45bn, £31bn) in yen short positions through margin trading, day traders bought back yen to the tune of Y3,800bn in just one week.”

The August unrest was quickly handled by the FED. Billions of fresh capital was poured to Wall Street. The FOMC members reassured the investors by reducing the federal funds rate. The financial market again gained strength from the boost of the government. The carry trade also welcomed a short rebound thanks to the optimism among the investors.

2.2 Bank losses, liquidity shrinking and drop in commodity prices

This optimism however came to an abrupt halt in November as pressure in the financial market intensified. Big banks like Citigroup and Swiss bank revealed great losses. Banks were no longer willing to lend money to each other. Despite the fact that the FED was still generously printing money to increase the money supply, liquidity in the interbank funding market still faced great challenge. Figure 3 reflects the 3-month interbank rate over the OSI spread in Euro, US dollar and Sterling. The rate began to shoot sharply since the November 2007. The spread of the sterling and the US dollar both reached 100 basis points. The Euro also reached a historical high level but still remained within the 100 basis points level. Such a drastic increase cannot be simply explained by technical year-end liquidity effects. It reflects a complete panic and a lack of trust among major lending banks in developed countries. The liquidity problem was so significant that troubled banks in developed countries have to ask for help for other emerging markets. Citigroup announced on November 26, 2007, that it had raised $7.5bn in new capital from the Abu Dhabi Investment Authority, albeit at ‘junk’ rates of 11 percent. At the same time hedge fund managers also suffered great losses. According to the US hedge fund research, the industry lost 2.6% of its investors’ capital in the first 29 days of November. A lot of small sized funds had to liquidate their positions. Because of the “big bank effect” and more losses are revealed on the subprime mortgages, most investors in November are in a state of loss. They chose to cash out their positions and invest on more secure assets like gold and US treasury bills. All of these contributed to an enormous uncertainty
and risk aversion among investors. Risky investment strategy like carry trade was certainly being dumped. As is shown clearly in Figure 1 and Figure 2, carry trade experienced great setback in November 7, 2007. AUD-JPY dropped from a local high of 106.05 to 96.17 losing about 9 percent of its value. The downfall of the carry trade in November could also be traced to the reduced interest rate differential between the Japanese Yen and other high yield currencies. During the September FOMC meeting, federal funds rate in the US was first cut of 50 basis points to 4.75 percent. This number was again voted by the FOMC members to be decreased by 25 basis points in October.

Another reason that attributed to this carry trade unwind could be found in the fall of commodity prices in November. High yield currencies like Australian dollar and Norwegian kroner (NOK) are closely related to the value of commodities. These currencies are often referred to as commodity currency as a result of the abundant natural resources in these countries. As the commodity prices fell, the value of these currencies was also threatened.

Financial times reports a very interesting story during the unwind of this carry trade "A lot of foreign exchange trading internet sites in Japan reflects that the Japanese investors have now curbed their short-yen positions, after suffering considerable pain. This is important, since the investment power of Mrs Watanabe - the stereotypical Japanese retail investor - can have a sizeable impact on the overall foreign exchange market. (Although I am told that Mrs Watanabe herself may not be to blame; apparently most activity now occurs on Japanese trading internet platforms late at night, or when salary men get home.)

Outside Japan, the latest IMM data suggests that global investors now have 30,000 net long contracts in the yen, versus the dollar. This is a startling 218,000 swing from the extreme short position seen in June. Meanwhile, there is anecdotal evidence that hedge funds have been cutting their yen shorts, as risk appetite fades. Indeed, the South Korean press has even suggested that the South Korean central bank has recently rethought its yen positions."

2.3 Bear Stearns: too big to fail

On early March, rumors began to circulate that Bear Stearns was troubled by liquidity problems. Despite the reassurances by top directors, Bear’s counterparties including its clients and lenders began to move away their business from the troubled company. Bear was also downgraded by major rating agencies like Moody's, S&P, and Fitch. This implies that the firm will have to put up additional collateral to meet the requirements of a credit-default
swap triggered by the downgrades-collateral it didn’t possess. Investors all around the world were worried. If Bear Stearns failed to meet its financial commitment, the consequences would be devastating. The company at that time holds $13 trillion in derivative contracts globally; any sort of credit event would have been catastrophic and would trigger series of credit default in the financial world. Bear’s clients’ assets would also have been frozen in case of bankruptcy. The panic spread so quickly to the financial market that on March 10, Dow Jones has suffered the worst losses since October 2006, falling more than 20% from its peak just five months prior. On the following day Goldman Sachs allegedly informed hedge fund clients that they would assume no further exposure to Bear Stearns and, by the end of the day, banks were no longer willing to issue credit protection against Bear’s debts. At this crucial moment, the Federal Reserve Bank of New York had to step in to facilitate JPMorgan Chase to take over Bear Stearns. Bear Stearns was finally bailout by FED via JPMorgan. The deal was officially closed on March 24 when JPMorgan offered $10 per share to take over Bear Stearns.

When we look back to evaluate this bailout, it seems to be a very decisive action taken by the Federal Reserve to ensure financial stability. As is shown in Figure 1-2 before the takeover, markets conditions were deteriorating as fears over the potential failure of a large investment bank and the ripple effects that would have spread into the financial markets. Investors were retrieving their risky investment like carry trade. But once it was clear that Bear Stearns would be taken over by JPMorgan and was considered to be too big to fail by the FED, market fears were somehow relieved and the returns to the carry trade were again bounce into the positive territory during the summer period. Figure 2 illustrates that volatility in the carry trade was increasing because of the fear of a potential bankruptcy. Volatility spiked to a peak on March 17 and then began to decline after the offer to buy Bear Stearns.

The second quarter of 2008 was a period when many investors thought that the financial market was once again returning to normality. Central banks all around the world were cooperating to alleviating financial stress. For the carry trade market, this was a period when risk appetite was climbing and speculators were building positions that reflected their view that it was getting safer to speculate in the foreign exchange market. As summer came to an end, no one expected that the storm was lying just ahead.

2.4 Peak of the crisis

After the peaceful summer of 2008, the financial crisis soon witnessed its most dramatic moment in September. Beginning with bankruptcy of Lehman Brothers on September 14, 2008, the financial market entered into the real phase marked by extreme volatility, dramatic drops of major firms in market
values and unveiling of huge losses by worldwide financial institutions. Unlike Bear Stearns, Lehman Brothers was generally regarded as a victim by the Federal Reserve to bear the losses himself. Lehman had first contacted Bank of America and Barclays was trying to arrange a sale. However seeing the huge losses associated with the subprime mortgage business both banks declined the deal. The bankruptcy eroded a crisis across the industry that has never been seen before.

On September 16, the large insurer American International Group (AIG), a significant participant in the credit default swaps markets, suffered a liquidity crisis following the downgrade of its credit rating. The Federal Reserve, at AIG’s request, and after AIG had shown that it could not find lenders willing to save it from insolvency, created a credit facility for up to US$85 billion in exchange for a 79.9% equity interest, and the right to suspend dividends to previously issued common and preferred stock. Later on, Iceland almost claimed to go bankrupt as the country’s three largest banks, and in effect financial system, collapsed. Many financial institutions in Europe also faced the liquidity problem that they needed to raise their capital adequacy ratio. As the crisis developed, stock markets fell worldwide, trillions of dollars vanished. Despite the bailout plan initiated by major world economies to rescue the troubled financial system, financial institutions were still haunted by liquidity problems. The financial market was so deteriorated that the global financial system almost collapsed. While the market turned extremely pessimistic, the British government launched a 500 billion pound bailout plan aimed at injecting capital into the financial system. As a result of huge losses accrued due to the crisis, the British government nationalized most of the financial institutions in trouble. Many European governments followed suit, as well as the US government. Stock markets appeared to have stabilized as October came to an end. In addition, the falling prices due to reduced demand for oil, coupled with projections of a global recession, brought the 2000s energy crisis to temporary resolution. In the Eastern European economies of Poland, Hungary, Romania, and Ukraine the economic crisis was characterized by difficulties with loans made in hard currencies such as the Swiss franc. As local currencies in those countries lost value, making payment on such loans became progressively more difficult.

September 2008 also marks the collapse of the carry trade as reflected in figure 1-2. The market began to react very violently in the early September as is shown in Figure 2 when investors were worried about the possible bankruptcy of major financial institutions. After the Lehman’s failure, volatility rose to such levels that made the earlier peaks in the financial crisis looked so insignificant in comparison. There was a great fear across the financial market as to where the losses were hiding and who would be next victim. The U.S. government had demonstrated that the market’s belief in major institutions being “too big to
"fail" was misplaced. The failure of Lehman added an entirely new understanding to the perceptions of risk.

2.5 Carry trade come back?

As the global economy becomes more stabilized, we are seeing a strong come-back of the carry trade. However at this time, it is not only the Yen that is regarded as the base currency but also the US dollar that has been found its unique advantage. As is shown in the graph, we have seen a dramatic decrease in the real value of dollar and the Federal Funds Rate since 2007. Compared with Yen, the US dollar is more secure and liquid. Investors all round the world are now borrowing dollar at almost zero interest rate to invest in various asset classes. In 2009, Australia and New Zealand raised interest rates to 3.75 percent and 2.50 percent respectively, and this had many traders selling US dollars in order to buy aussie and kiwi dollars.

<table>
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<tr>
<th>Currency Pair</th>
<th>Rate as of Jan 1, 2009</th>
<th>Rate as of Jan 1, 2010</th>
<th>*Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUD / USD</td>
<td>0.6539</td>
<td>0.8929</td>
<td>36.54%</td>
</tr>
<tr>
<td>NZD / USD</td>
<td>0.5786</td>
<td>0.7255</td>
<td>25.39%</td>
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<td>USD / CAD</td>
<td>1.2184</td>
<td>1.0505</td>
<td>15.98%</td>
</tr>
</tbody>
</table>

* reflects the percentage change in the value of the non-USD currency compared to USD


The US stock market has also been boosted by the dollar carry trade since March 2009. The Federal Reserve has also repeatedly sent clear signal to the speculators that the interest rate will remain low for an extended period.

As to the question how will carry trade perform in 2010? It will largely depend on the strength of recovery of the global economy and the financial stability. The recent debt crisis in Greece has also triggered great volatility in the financial market. There are also countries in Europe like Italy, Spain and Portugal that faces stress from the huge debt burden. As we have seen that the fiscal crisis of the west has started in Greece, the origin of western civilization. Soon it will cross the channel to Britain. But the key question remains when that crisis will reach the last bastion of western power, on the other side of the Atlantic.
Chapter 3

How is the financial crisis affected by carry trade?

3.1 Carry trade and liquidity

Before we address the effect of carry trade on global liquidity, it is important to know the definition of monetary liquidity. Monetary liquidity is the result of the interplay between money supply and money demand. When economy is booming, people need more money to facilitate trade, which means the demand for money is increasing. Meanwhile if a fixed money supply is out of proportion to a given fixed purchasing power of money, the consequence is a shortage of money. An increase in the supply of money on the other hand, given a certain demand for money and for a fixed purchasing power of money will result in a surplus of money or an increase in monetary liquidity. A change in monetary liquidity doesn't affect all goods and asset prices immediately. There exists a time lag for the monetary liquidity to take effect. For example, an increase in monetary liquidity, after a short time lag, will increase the value of financial assets. As time goes by, liquidity begins to pour into other industries, which results in the lift of prices of goods in these industries. Finally, as a general increases in prices across industries the surplus of liquidity shrinks.

When referring to monetary liquidity we always talk of a surplus or a deficit within a certain currency like the US dollar, the Euro or the Japanese Yen. Since we are mainly dealing here with various currencies, it is obvious that these currencies cannot be treated as a whole. So when we are saying that there is an increase in global monetary liquidity, we are unconsciously indicating that there is such a thing as unified global currency. However as each country has its own currency and monetary policy, goods and assets are also priced according to a certain currency within its own national boundaries. Such a total could not make any sense. Likewise when we are addressing the liquidity effect, it could only exist in a particular market characterized by a particular currency.

Because it is not the duty for Japan to issue US dollars, Japan is unable to determine the overall supply of dollars, nor can Japan alter the total demand for dollars. So from this respect, we can see that the Japanese liquidity cannot have any effect on the US liquidity. In the same sense, Japan also has little power to change the global monetary liquidity.

Despite this conclusion, Japanese monetary policy still caused an undesirable process in the allocation of scarce world resources. The zero-interest rate policy initiated by the BOJ has caused a misallocation of resources by
supporting various asset classes like the stock market. Because borrowers only need to pay quite a limited amount of interest to the Japanese Banks, they could easily invest the Japanese Yen into other high yielding assets all around the world given a stable exchange rate. This kind of act undoubtedly pumps more Yen into the market. But we must bear in mind; this extra money is only going to increase the Japanese monetary liquidity because the dominated currency is Yen. For example, when an American investor has borrowed Yen and exchanges it into US dollar to invest in Dow Jones, when the time is ripe, he has to repay the loan in Yen not US dollar. The fall of the Yen carry trade will increase the value of Yen and make it difficult for the investors to engage in such activities and thus undermine the value of these assets.

The state of monetary liquidity in a given country and the state of its pool of real funding is the most crucial thing to the stock market in many countries. Let’s take United States for example, US dollar liquidity will count much and hold ground as long as the liquidity is there and the pool of real funding is growing there. In that case the Yen carry trade will not take much effect.

The unwinding of the Yen carry trade cannot alter the other countries' liquidity as well. All other things being equal, carry trade can weaken Japanese liquidity. The unwinding of the Yen carry trade could increase the value of Yen and make it more difficult for foreign investors to lend money from the Japanese bank. Because given a certain amount of Yen they could only exchange it for little other foreign currency and when it is time to repay the loan, they are not sure if the profit got from investing other financial assets could compensate the increased value of Yen despite the low yield that they have to pay for the interest. In this way, less money is lent from the Japanese Banks and the monetary liquidity is reduced.

So in this respect, the unwind of the carry trade has only limited impact on the global monetary liquidity because its major consequences are contained within Japan. The financial crisis on the other hand, has caused more damages on the carry trade than vice versa.

3.2 Carry trade creates enormous volatility in the financial market.

It has been recognized that carry trade is an important source of fund that helps to build assets bubbles in the financial world. Many speculators in Japan as well as in other countries use this kind of cheap fund to invest in overseas high yield assets like real estate, various bond, stocks, commodity or other high yield currencies like Australian dollar. This kind of investment is always found in a leveraged basis so that small retail carry trader could also engage in
this high risky and lucrative investment. However when the value of the underlying assets decreased as in the case of the US stock market, carry trader carrying with leverage would have to liquidate his position to meet margin calls. This in turn causes the market to tumble further. Because of years of low-interest policy carried out by the Bank of Japan, Japan holds 6,000 billion US dollars of foreign assets, and it is by far the world largest creditor nation. Thousands of Japanese pension fund, hedge fund and other financial institutions use carry trade to invest in foreign financial assets. When the global financial crisis comes into play, stocks, bonds, real estate and commodities all faces unwind. The Japanese credit holders thus have great incentive to sell these assets and these incentives as mentioned above are closely related to the risk sentiment for all investors. When news comes like the possible bankruptcy of an important global financial player, investors across the world become more risk averse and have an incentive to dump risky assets like the Yen funded assets. We cannot say it is the carry trade that causes the tumble of the financial crisis, but rather to put it that carry trade aggravates the volatility in the financial market. As is shown in Figure 4, the carry trade is closely related to the return of Dow Jones. When Lehman Brother declared bankruptcy in September 2008 and Dow Jones experienced its worst tumble, the value of Yen also increased dramatically.

Another consequence brought about by the fall of carry trade is currency speculation against Yen carried out by some vicious currency speculators or hedge fund managers. Because of the tumble of the financial assets cross the world, currency speculators expect more people would rush to repay their loans funded by Japanese Yen. On the foreign exchange market usually with a heavily carried leverage, these currency speculators would short sell other currencies and buy the Japanese Yen. Such acting causes great volatility in the foreign exchange market. The rise in Yen against other currencies makes the Japanese exporters less competitive in the world market. This is very detrimental for the Japanese economy in the time of financial crisis as the Japanese economy is mostly dominated by the export sector. This also helps to introduce the author’s next part-- the impact of carry trade on the Japanese economy.

3.3 Carry trade unwind deteriorates the Japanese economy

It is well known that the big exporters like Sony, Toyota and Honda are a big contributor for the Japanese GDP and employment. Economics and policy makers have also been aware of Japan’s excessive reliance on export. However as the carry trade tumbles and Yen experiences a dramatic increase in value, it reduces the competitiveness of the Japanese exporter especially in time of financial crisis when foreign demand is low. As the Yen is soaring, exporter like Sony and Toyota have to bear more cost when pricing their
product. As reported by BBC January 29 2009: Sony made its first annual loss in 2009 since 14 years ago. As the global economy slows down together with the appreciation of the Yen, a stronger Yen makes Japanese products less competitive and cuts into the value of overseas earnings. A Nikkei survey of almost 1000 non-financial companies that had reported in 2008 found a 26 per cent average forecast profit decline, year-on-year.

Manufacturers, however, experienced a 32 per cent contraction. The auto sector, one of the most internationally exposed, suffered an average 59 per cent decline.

Because of low profitability from the big companies, more workers have to be laid off and this is what the Japanese government most wants to avoid. Here is a report by Guardian: “The jobless rate rose to 5.7% in July from 5.4% a month earlier. Unemployment was at its highest level since records began in 1953, surpassed the previous record of 5.5% in April 2003 and was expected to rise as high as 6% next year. Core consumer prices fell 2.2% as concern mounted that the world's second biggest economy is caught in a deflationary spiral. Japanese households are becoming increasingly defensive as the environment surrounding wages and employment turns severe. Household spending fell 2% in June in a further sign that the boost provided by one-off cash handouts as part of Aso’s record ¥25tn (£163bn) stimulus program was beginning to wear off. The rise to a record high in the jobless rate was expected but the worsening job and income situation highlights worries about the Japanese economy heading into a double dip as the government stimulus runs out,”

Conclusions

The financial crisis that started in 2007 has great impact on the world economy. In the first chapter of this paper we have reviewed how the carry trade was affected by the crisis. That is, the first wave of panic began in August 2007 when the toxic subprime turmoil spilled over into the currency market, which caused great losses both in global stock market and the carry trade. The next huge sell-off of carry trade started in November 2007, which was triggered by bank losses and deleveraging of financial institutions. The interbank rate was so high at that time that major banks faced huge liquidity problems. Other factors like troubled hedge fund and the drop of commodities prices also contributed to the sell-off of the carry trade. Then in March 2008, the rumor that Bear Stearns would go bankrupt caused great volatility in the financial market. However as Bear Stearns was treated by Fed as “too big to fail” and was taken over by JP Morgan, financial market again returned to normality.
The peak of the crisis appeared in September 2008 which was marked by the fall of Lehman Brothers. The consequences brought about by the bankruptcy of Lehman Brothers were unlike anything that had proceeded in this period which was marked by extreme volatility, dramatic drops of major firms in market values and unveiling of huge losses by worldwide financial institutions. Investors all round the world lost trust in the financial market and risky investment like carry trade faced greatest unwind.

In the second chapter, an analysis is made to show how the financial crisis is affected by carry trade. The zero-interest rate policy initiated by the BOJ has caused an undesirable allocation of world liquidity. During the last decade, cheap Yen dominated funds have supported various asset classes like stock, bond and commodities. When the carry trade collapses, monetary liquidity in Japan becomes less active. The fall of the carry trade also aggravates the volatility in the financial market. This is largely due to the heavily leveraged carry trade position that has been invested into various asset classes. When the value of the underlying asset decreases, carry trader has to liquidate their positions to meet margin call. This in turn causes the market to tumble further. As the Yen increases in value, the Japanese economy is also badly hurt. It is well known that the export sector makes up a big contribution for the growth of the Japanese economy. The increased value in Yen reduces the competitiveness of the Japanese exporter and all these causes the labor market in Japan to deteriorate.
Figure 9

3-Month Interbank Rate - OIS Spread (%)
03/01/2006 - 06/12/2007

Source: Haver.com & GSI
Figure 4

Unwinding “Yen carry” Trades Unravels Dow Industrials

Source http://www.economicshelp.org/uploaded_images/CarryTrade1-709824.png


