Raffaello Curtatone

Finance 263
Bond Analysis Project
July 2007

The real estate boom it's over. What's next?

Preface

Data collection

This report has been made taking the yields from the Wall Street Journal for all the data except the 3-Mo. Treasury Bill which has been taken from Yahoo.com for the month of July period. The historical data has been extracted from Reuters source except for Emerging Markets (EMBI) Global Index which have been extracted from the Bloomberg source, through the trading room.
An analysis of the collected data will be done for the historical and actual period with determination of the major changes and a comparison with the month of July will be made. The following data have been collected:

A. US Domestic Bond Market
   - ❖ 10-yr. Treasury
   - ❖ High Yield 100 - Merrill Lynch
   - ❖ US Corp AA-rated - Lehman Brothers
   - ❖ US Corp BBB-rated - Lehman Brothers
   - ❖ US Agency -- 10-20 years - Lehman Brothers
   - ❖ GNMA Benchmark - Lehman Brothers
   - ❖ Muni 7-12 years - Merrill Lynch
   - ❖ Yankee - Lehman

B. International Government Bonds
   - ❖ Canada
   - ❖ EMU
   - ❖ France
   - ❖ Germany
   - ❖ Japan
   - ❖ Netherlands
   - ❖ UK
   - ❖ Emerging Mks (EMBI) Global Index

C. Key Short-Term Interest Rates
   - ❖ Federal Funds (offer)
   - ❖ 3-Mo. Treasury Bill
   - ❖ 3-Mo. Commercial Paper (Dealer)
   - ❖ 3-Mo. LIBOR

D. Equity Indexs (US)
   - ❖ DJIA
   - ❖ Nasdaq Composite
   - ❖ S&P 500
   - ❖ Russell 2000

E. International Equities
   - ❖ Nikkei – Japan
   - ❖ DJ Stoxx 50 - Europe

F. Foreign Exchange Rates
   - ❖ E/US$
   - ❖ Y/US$

Spreads calculation

The calculation of the spreads has been made in basis points for points A, B, and C with the formula (actual day – day before) * 100. For points D through F in terms of relative change with the formula (actual day – day before) / day before. Two sets of graphs have been made for the spreads: one showing the trends and another one for the difference (actual spread) on a day to day basis for the month of July and monthly for the historical data.
The following spreads have been calculated:

A. Term Structure of Interest Rates
   - ❖ 10yr. US Treasury vs. 3-Mo. Bill

B. Credit Differentials
   - ❖ High Yield 100 vs. 10-Yr. Treas.
   - ❖ High Yield 100 vs. AA-rated Corps.
   - ❖ High-Yield 1000 vs. BBB-rated Corps.
   - ❖ BBB-rated Corps vs. AA-rated Corps

C. International Interest Rate Differentials)
(10-Year US Treasury vs. Foreign Government)
   - ❖ Canada
   - ❖ EMU
   - ❖ France
   - ❖ Germany
   - ❖ Japan
   - ❖ Netherlands
   - ❖ UK
   - ❖ Emerging Markets

D. Inter-Market Spread Relationships
   - ❖ Yankee vs. AA-rated Corps
   - ❖ AA-rated Corps vs. Munis
   - ❖ GNMA vs.10-yr. Treasury
   - ❖ GNMA vs. AA-rated Corps
   - ❖ US Agency vs. 10-yr Treasury

Market monitoring

To help analyze the scenario upon which the yields have been moving, some of the economic indicators have been recorded together with the hypothetical effect on the bond market, following the general rule "strong economy = bad news for the bond market; weak economy = good news for the bond market".
Below essentially what has been monitored:

A. Economic Indicators
   - ❖ ISM, Non farm payrolls, Employment reports, Average hourly earnings, etc.

B. Treasury Supply
   - ❖ Type, amount, auction details.

C. Federal Reserve Policy

Historical Situation

The 2000-2005 period has been characterized from the boom of the real estate market. Prior and especially after 9/11 the economy was going down and it performed poorly up to 2005. A lot of investors seeing the economy so weak decided to put their money in the real estate market since the brick has been the best investment at least to protect the money from inflation.

The Federal Reserve which lowered interest rate to pump up the economy also contributed to the real estate boom attracting a lot of home borrowers. I have my personal view on this point and I think a lot of people made a mistake buying the house just because interest rates were low. In fact our parents bought the house with mortgages even at 15% interest rate, but they were paying it in 10 years. Today we purchase houses with the mortgage at 5% interest rate, but we'll have to pay it for 30 years. Although it doesn't make any difference in terms of interest paid, it does make difference in how many years we have to share the ownership of the house with the bank.

There have been therefore a lot of mortgages given to all kind of borrowers of any credit score and that's the reason why today we are still counting the losses of the sub-prime mortgage baked securities.

Actual Situation

Through Friday, 133 of the 500 S&P 500 companies have reported. That is, of course, only 26.6% of the total. It is too early to jump to conclusions, but the early data are not as strong as recent quarterly trends.

The percentage of firms beating estimates is running below historical averages. About 59% of the companies have reported earnings above the average Wall Street estimates. Last quarter at this time the percentage was close to 65%. In recent years, most quarters have ended up between 62% and 65%.

The percentage of companies reporting below estimates is a surprisingly large 21%. Normally, that figure finishes the quarter near 15%.

The degree of the earnings beats is also not all that impressive. There have been only a small percentage of firms beating estimates by more than 10%. (source Yahoo.com)

The actual situation is quite undetermined. Surely the house market is precipitating, that's the reason why mortgage baked securities are still paying the burden of giving away the money to people with bad credit when housing market is going down.

The economy is going up, but it is not performing as good as in the previous year same period. The Fed is concerned with inflation and it looks like the interest rates are going to be stable for a while, so the economy will have to growth on its own. Looking foresees, the situation is as usual.

The emerging markets are growing with the same risk of before. A portfolio manager wouldn't keep in its bundle more than the necessary of these bonds. Euro a bit overpriced might suggest getting ready to sell Euro-denominated securities, in case the lost of a couple of percent points is seen as a problem. That's why we would say for the bond market lets leave everything as it is or slightly change what is your investment overseas.

Executive Summary

Annexes

Major changes over 2000-2007

One of the most important changes over the first part of this period regards the low performance of the short term interest rates set from the government to pump up the economy. After the second part of 2006, the slope of the term structure was downward (see Annex I). Since the inverted yield curve is an unusual shape, economists try to give an explanation for this phenomenon. The optimistic view says that in the past we had a higher demand of short term public debt from foreign investors; therefore according to the offer/demand law, the price went up for short term public debt with respect to the long term one. The pessimistic branch claims that 9 out of 10 times the yield curve has had this shape, predecessor of recession (that's the reason why later interests are lower). What will be the outcome of this event, only time will tell.

Credit differentials have confirmed the trend from a weak economy to a moderately strong economy (see annexes II to V). In fact, in a weak economy, an investor would have asked for more over the risk free investment (Treasury securities) for a corporate bond for extra concern. Presently, the same investor is willing to ask for less over the risk free investment, in accordance with the relatively good shape of the economy.

The strong US economy has attracted investors from all over the world, especially from Japan who is dealing with a very low government interest rate (see annexes VI to XII). Japan is in fact desperately seeking to bust its economy from a long period of recession.

The other international investment, which is no longer seen from the investor as risky as it was until the end of 2002, is the emerging markets. We know that when we talk about emerging markets lately we are mostly referring to Asian countries. Probably investors are seeing these countries, with particular respect to China, as robust economies already, having decreased the extra yield demanded to bear the risk of investing the money on the emerging markets (annex XII).

Internally the only one change that needs to be mentioned is the diminishing spread trend between treasury securities and mortgage baked securities until 2004 (the year when the real estate boom stopped), subsequently increased in consideration of the sub-prime mortgage securities problem (annexes XIV to XVI).

Performances over 2000-2007

Until 2004 mortgage baked securities performed as well. During years 2000-2003 we heard a lot of funds, normally out of real estate assets, declaring to start or increase their percentages in these collaterals.

At the same time, emerging markets were over performing. It is almost useless to say that in year 2000 investing in Asian markets would have given high returns even having put the money in the weirdest asset.

In the second part of this period (after 2004) however the spread over the US treasury has been reduced (see annex XII). Treasury note overall has given its yield, the one you are expected to get from a risk free investment. Good to know this, until government securities will be considered “risk free”.

Comparison of July 2007 with historical data

The most important elements to be considered are the term structure, and what will be the next move of the Federal Reserve. For now the market has been waiting for the government to lower interest rates to help the economy. However, the Fed seems to be more concerned about inflation.

The situation on the credit differentials is approximately the same as January 2004 with the average industry paying 350-400 basis points more than 10-year treasury. Compared to the corporate bonds (AA and BBB rated – lately under revision from the rating companies) the spread over the treasury has increased. This is the effect of the reduced trust of the investors in some of the bundled assets behind certain products, especially in view of a moderate economic performance.

Looking at the graph inter-market spread relationship of historical data (annexes XIV and XV) it is possible to see the convergence around 2004 and the divergence after that year, up to today. Presently, the last trend is actually getting wider after the sub-prime news.

Internationally the spread was reflecting the poor economic performance for the historical data and it is now in July 2007 confirming the moderate growth (annexes VI to XII and XXI to XXIX). The 10-year Treasury note was at the end of July decreasing its yield and narrowing the spread with the international securities. This could lead to a disinvestment from the foreigners in the US securities seeing the US market not so profitable (except from Japan which still has a very low yield.

What to buy today

The yield curve is again flat. It would be recommended to buy securities with a higher convexity since the interest rates are expected to be volatile. In fact, as of now, the Fed has assured that it is its intention to keep interest rates at the same level because they are concerned about inflation, but the question is how long it will stand? What about if the economy starts slowing down? Will the Fed be pushed from the need to pump up the economy?

In terms of international markets, it would be preferable to buy from the emerging markets. Furthermore the UK is growing and is considered the benchmark of the Euro area. Hence the future would probably see a growth in the securities of these countries, especially if the US securities will keep going down.

What to sell today

As discussed earlier, the international spreads are getting narrow (annexes XXII to XXVIII except for Japan) and therefore foreign investors might not see anymore profitable purchasing to US securities.

The decrease of the 10-year Treasury and the increase of the high yield 100 have increased the spread for mortgage baked securities. Even though 350 basis points look like a lot, keeping these kind of securities (unless the assets of the pool are well known) it is very risky especially considering all the problems related to the sub-prime mortgages.

Securities with higher volatility, in view of interest rate fluctuation should be kept. If the economy will slow down, the Fed will no longer keep interest rate as high. In fact, one of the properties of the option-free bonds, related to its convexity, states that if the yield decreases, investors will realize a capital gain greater than the capital loss in case the yield increases (lee likely to happen). For securities with embedded options like callable bonds this might not be true if the option is “in the money”.

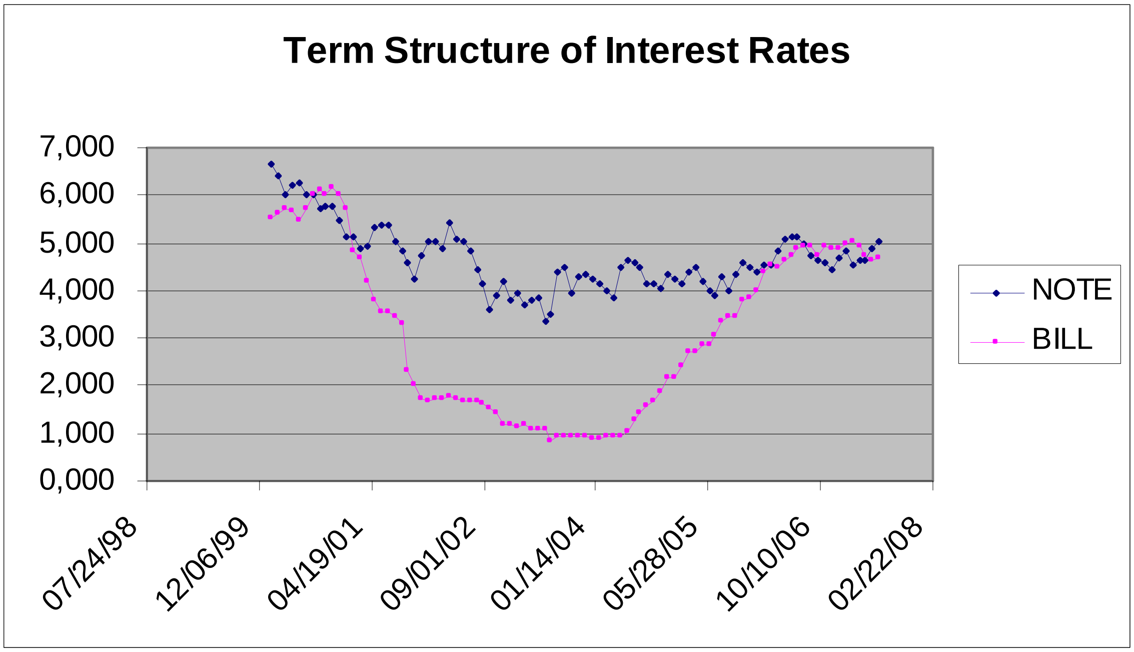
Conclusions

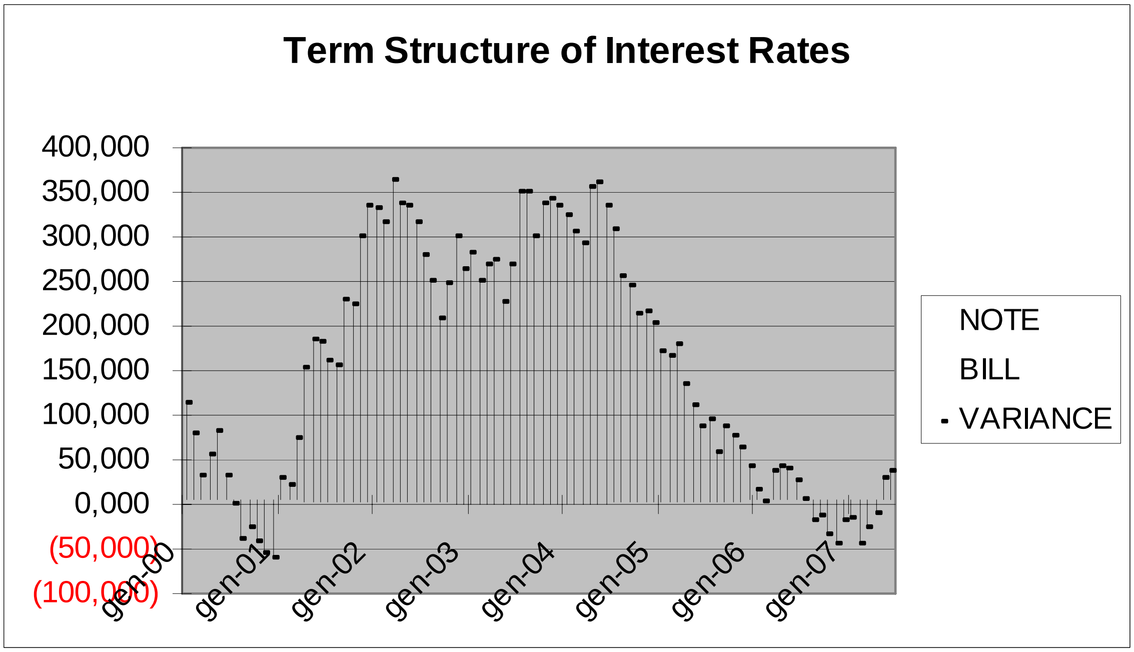
The stock market is not performing as well and the bond market is not doing any better. The overall situation is “hold”.

Maybe is it just a contingency period and seems that the stock and the bond market are converging into a low performance. A general pessimistic view of this situation would lead you to think that the more the securities are baked with risky assets or issued with companies not in outstanding shape, the more the debt market behaves like the stock one.

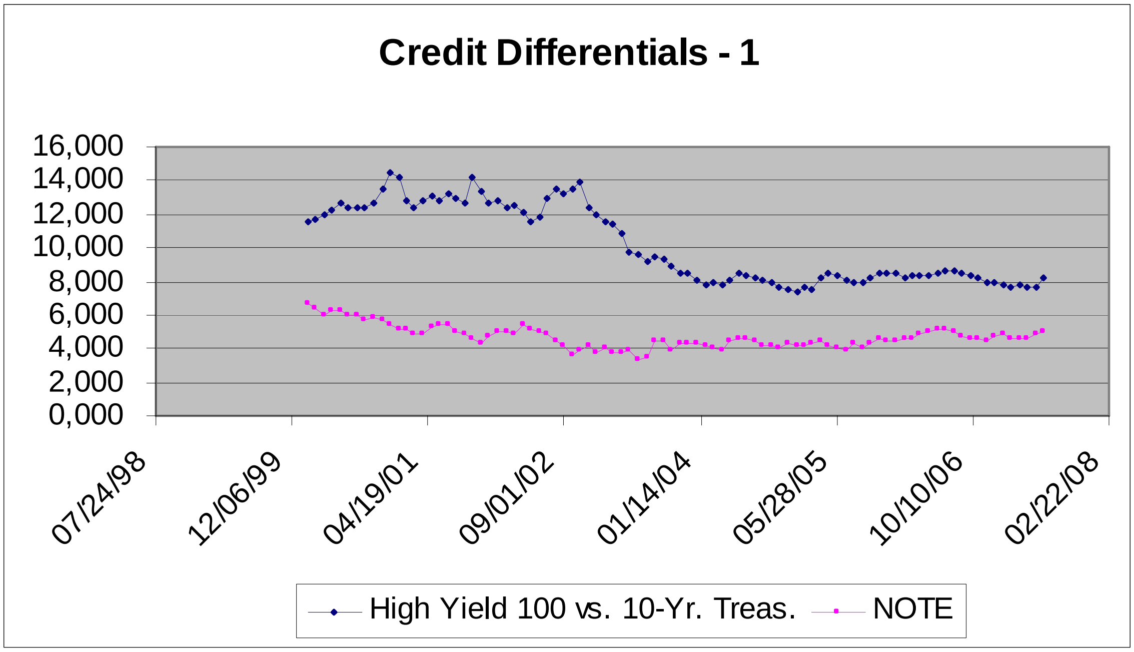
The Fed is still firm on its concern about inflation and for now they will keep the interest rates as they are. Most likely they will have to turn them down if the economy will not catch up soon. In that case the excess of liquidity will not be favored and thus causing more concern.

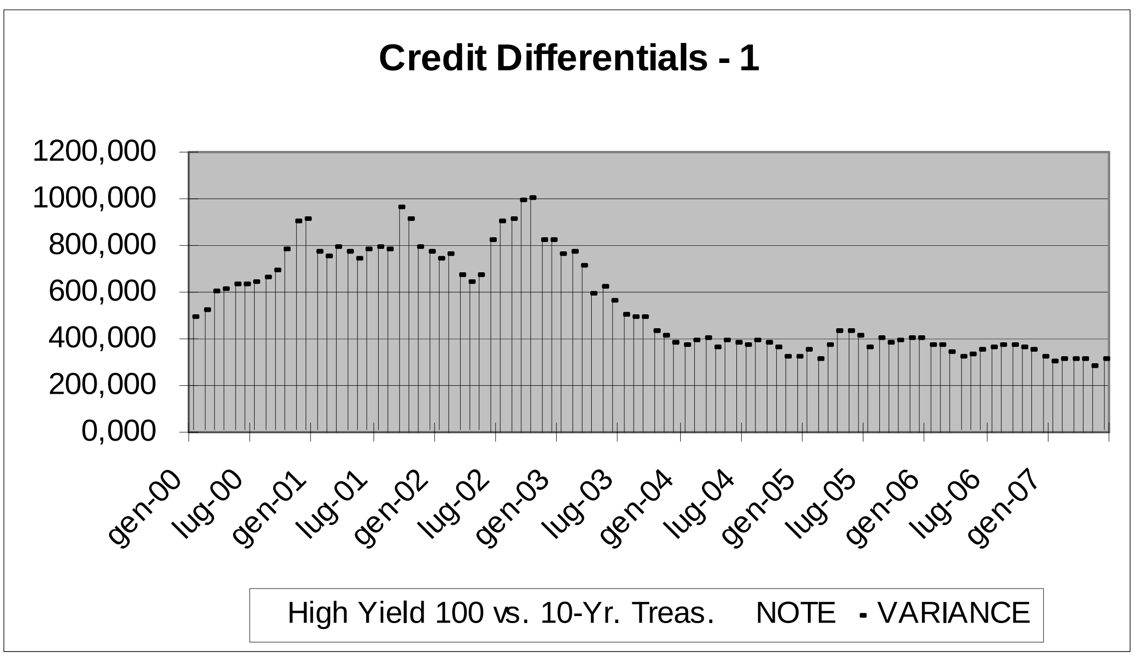
Annex I – Term Structure of Interest Rates - Historical



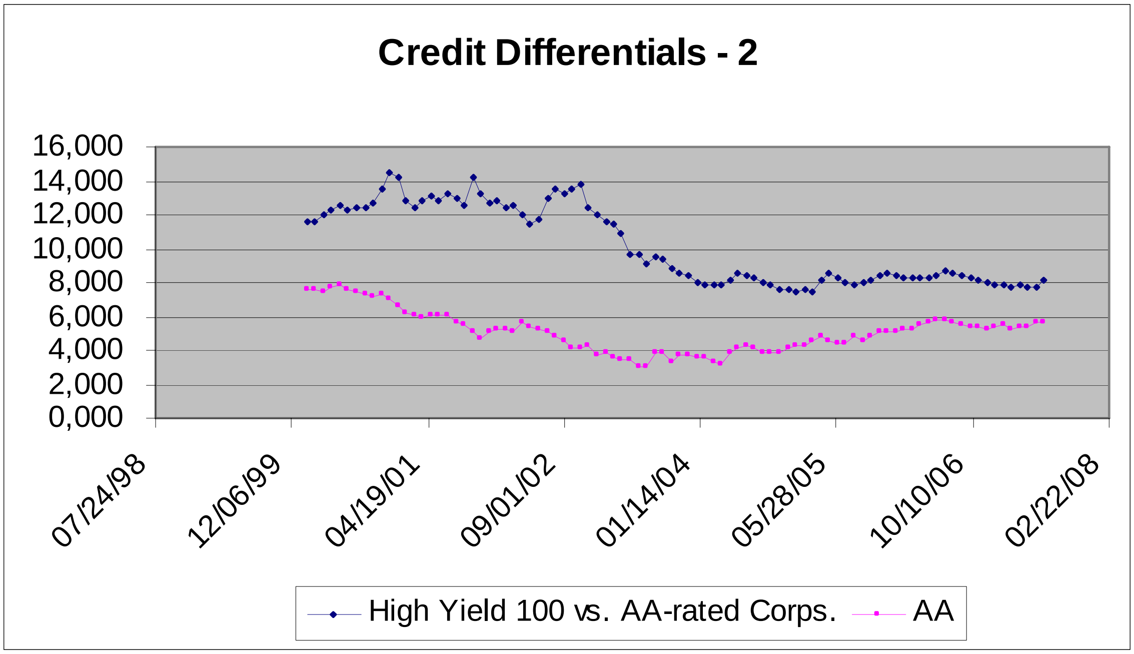


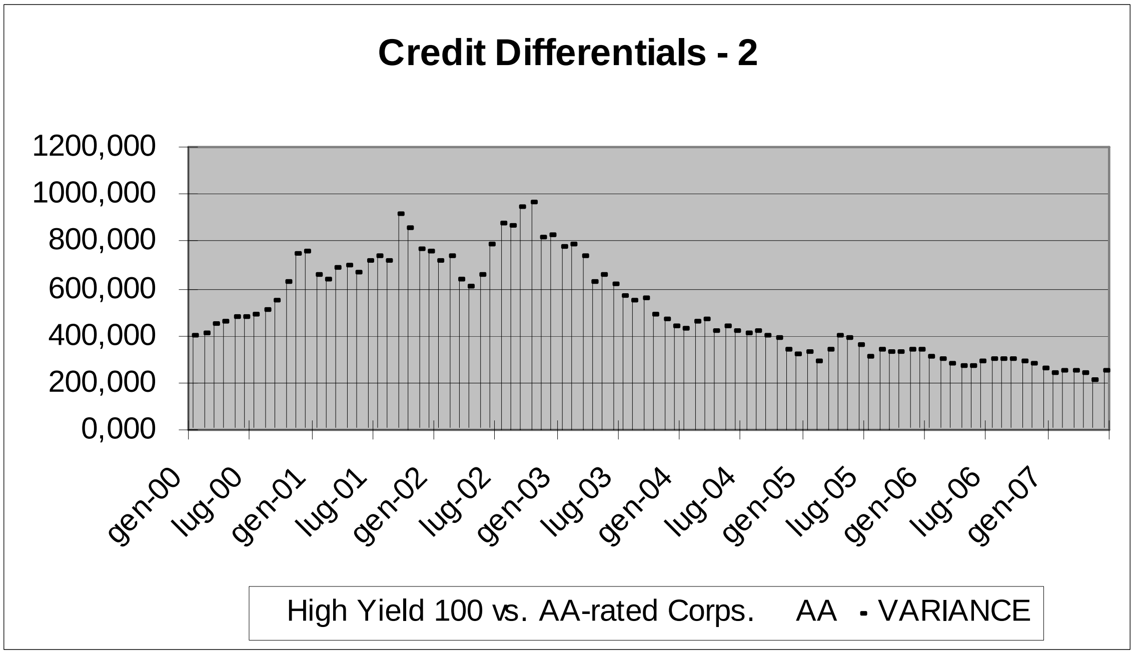
Annex II – Credit Differentials 1 - Historical



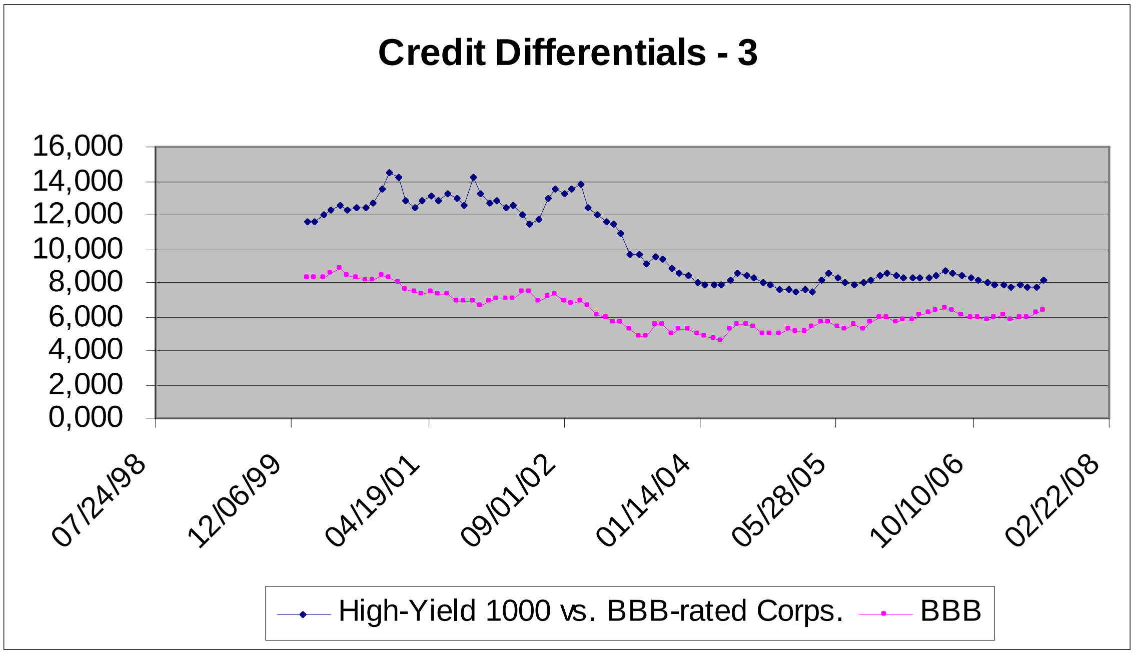


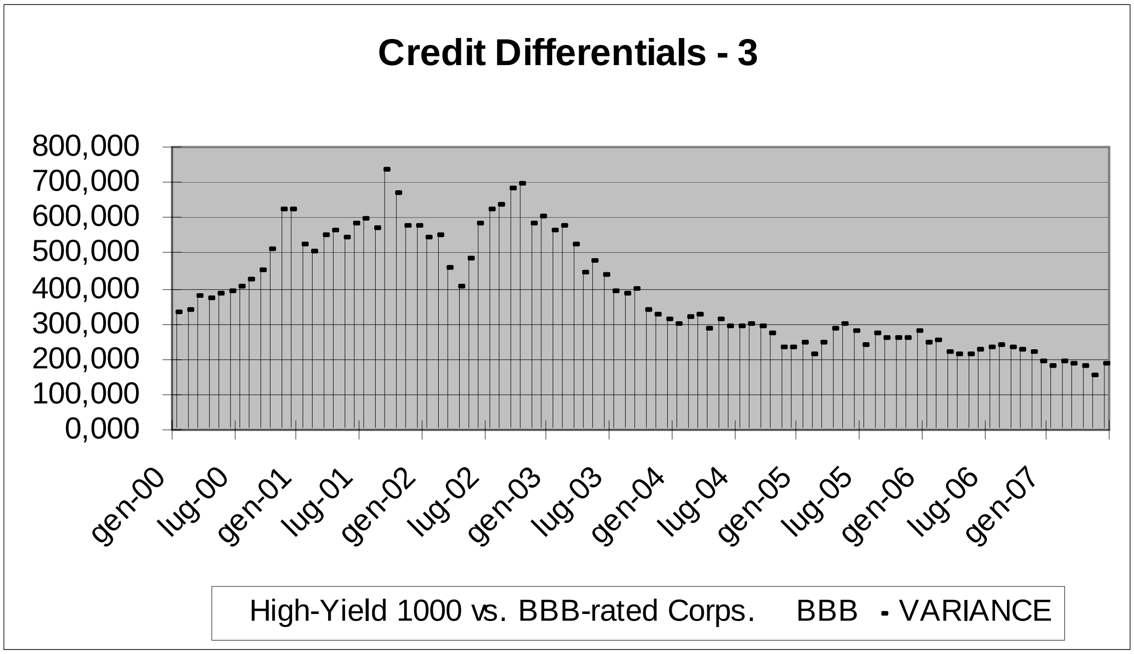
Annex III – Credit Differentials 2 - Historical



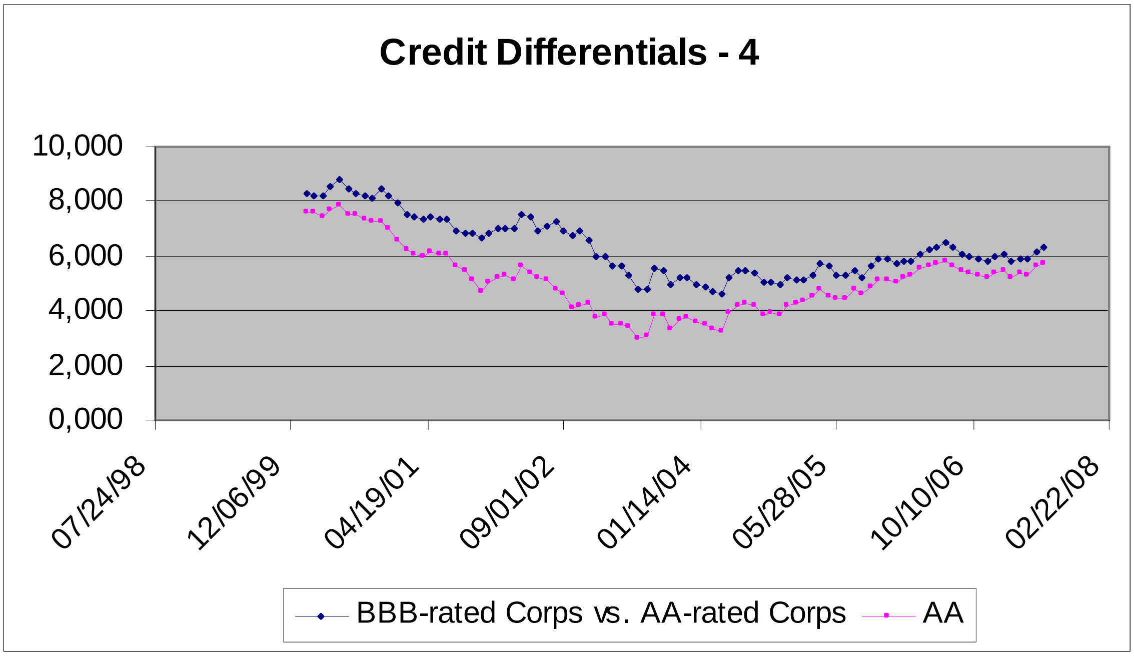


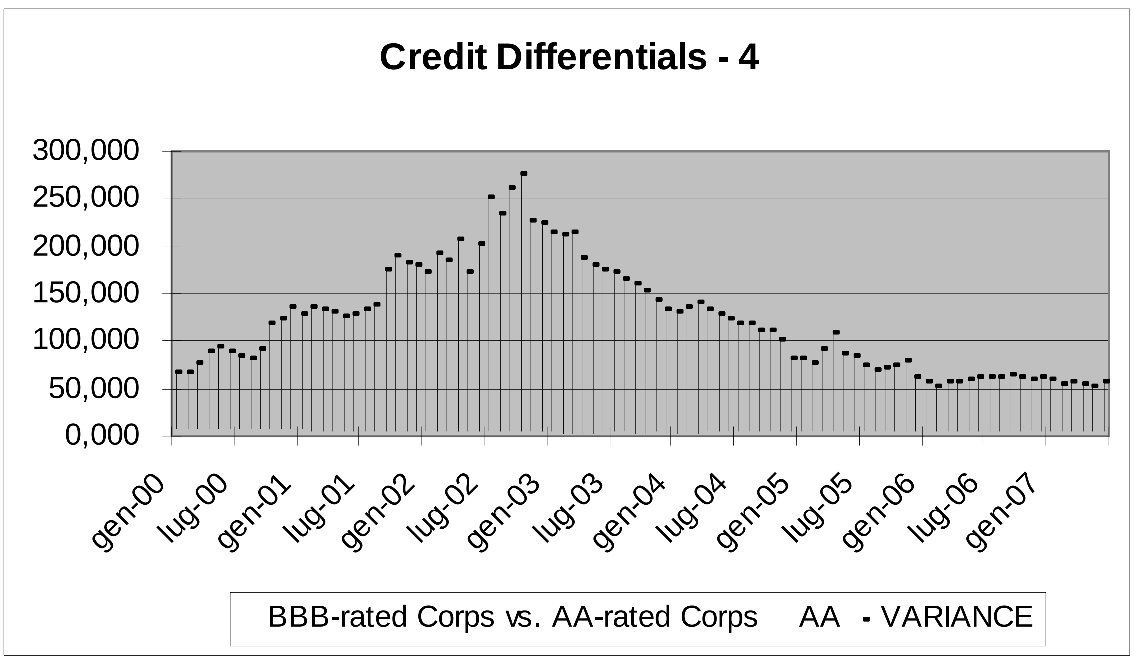
Annex IV – Credit Differentials 3 - Historical



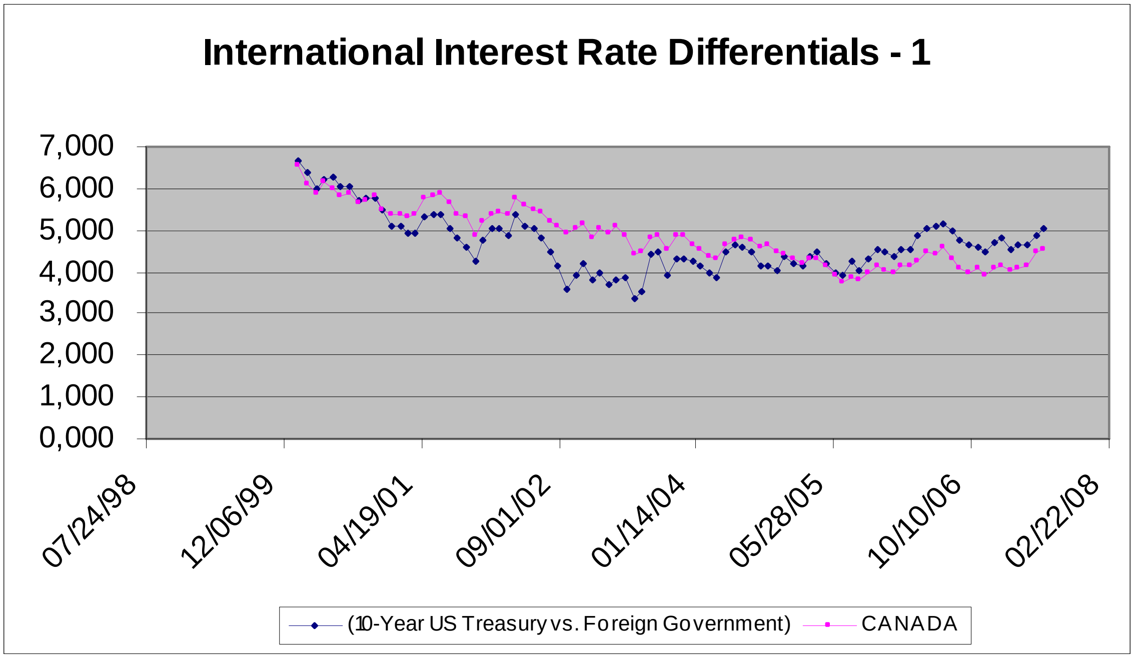


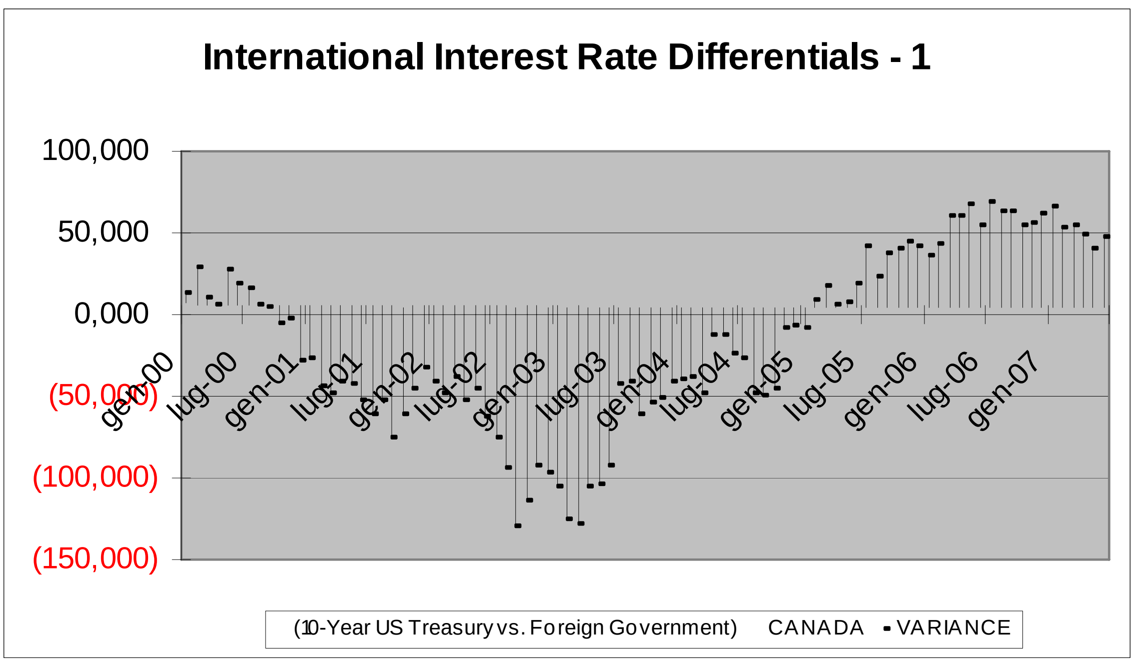
Annex V – Credit Differentials 4 - Historical





Annex VI – International Interest Rate Differentials 1 - Historical





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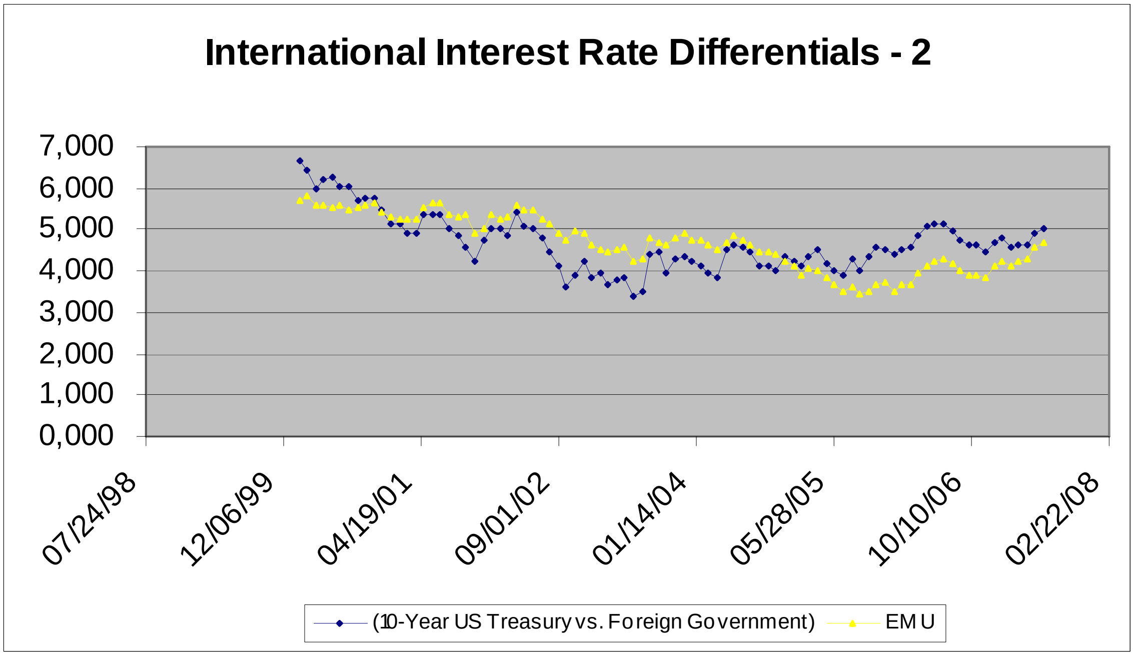
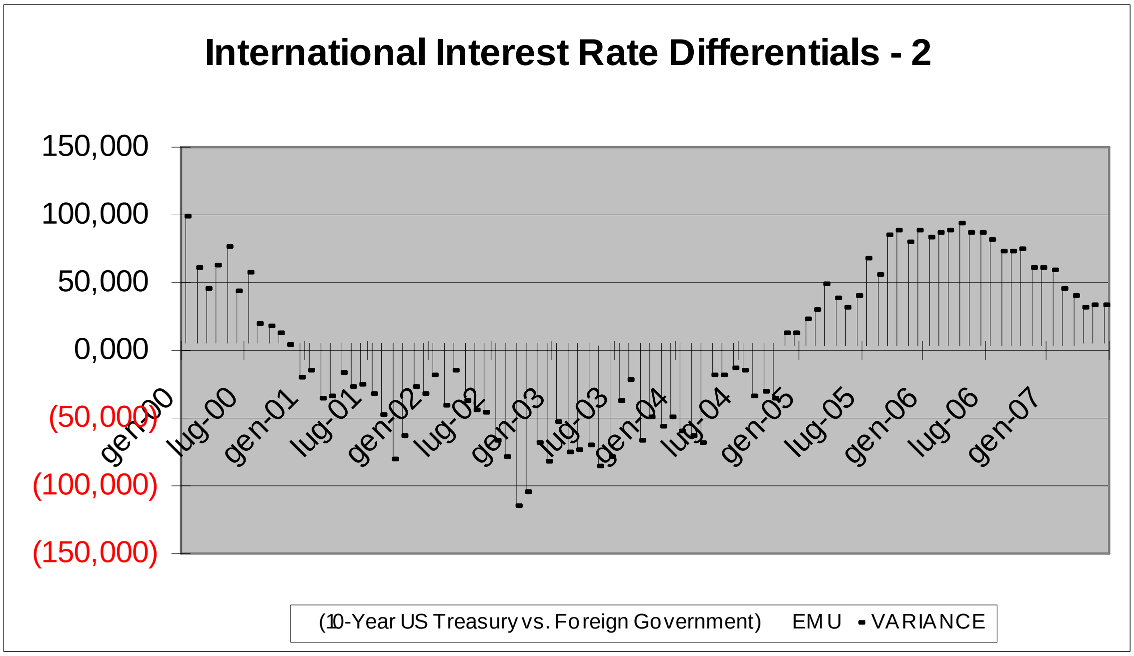
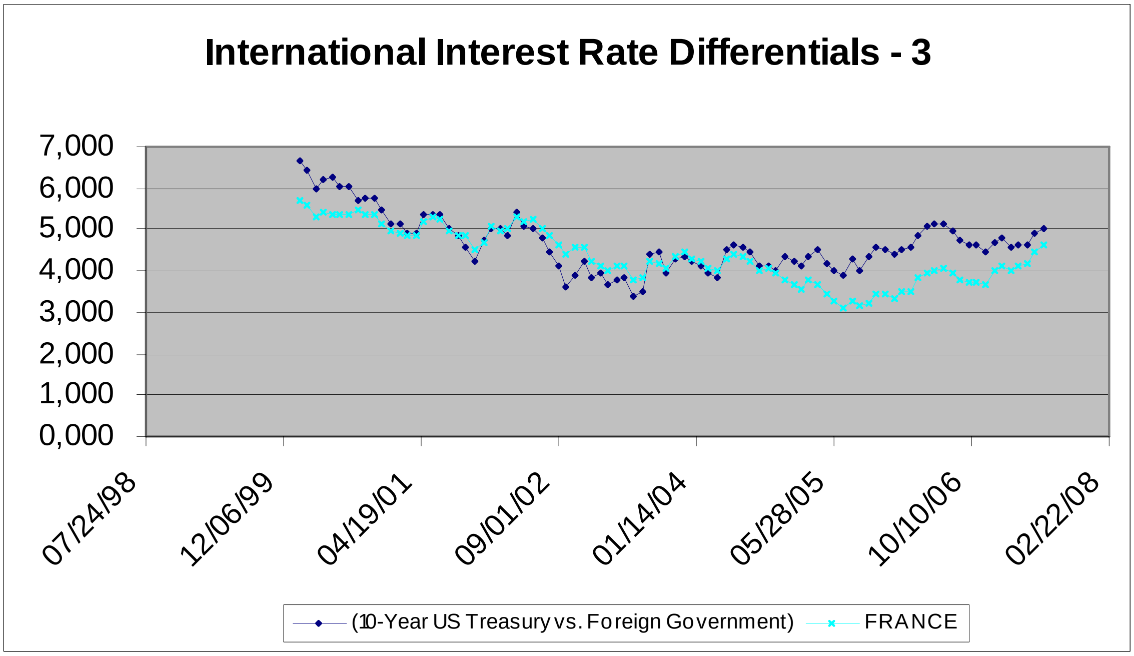
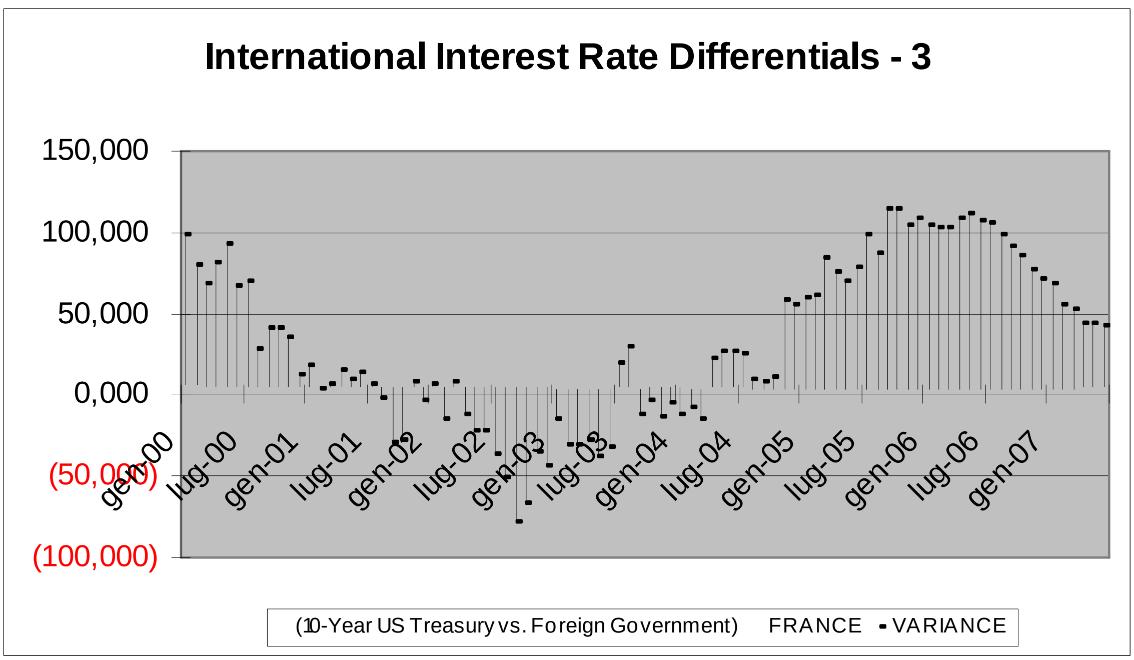


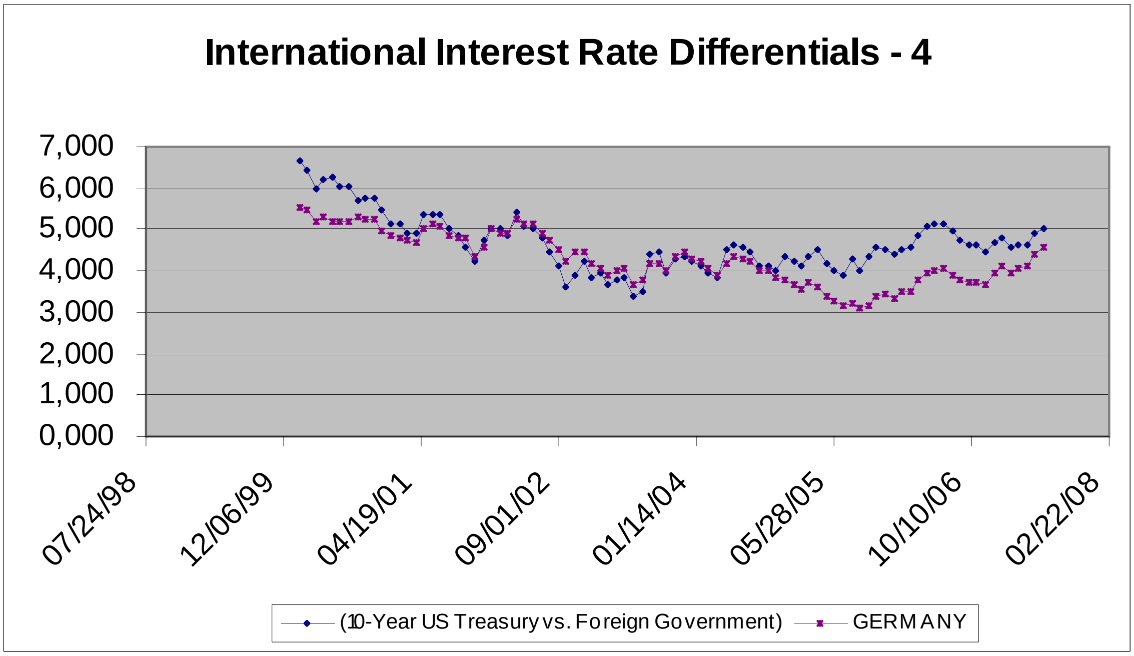


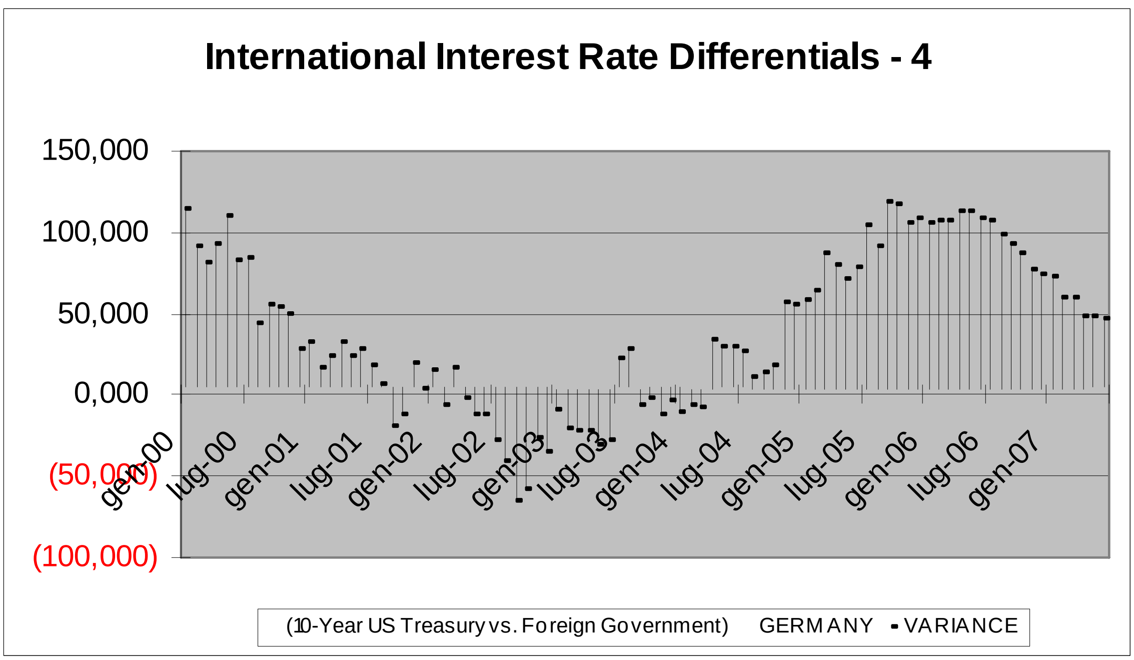
Annex VIII – International Interest Rate Differentials 3 - Historical



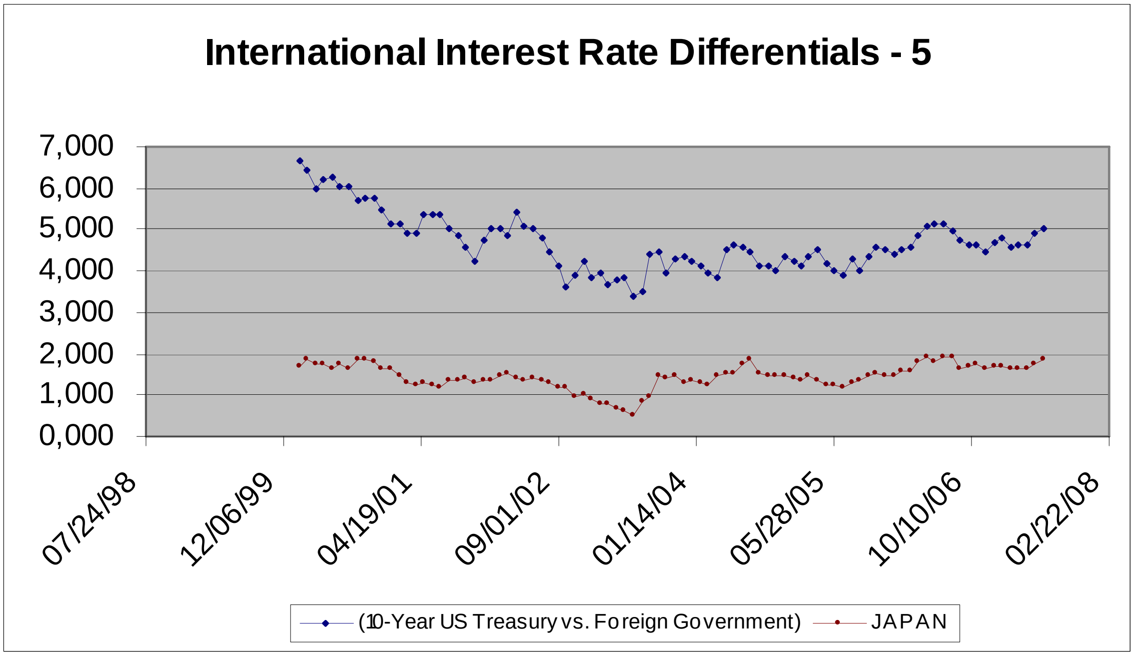


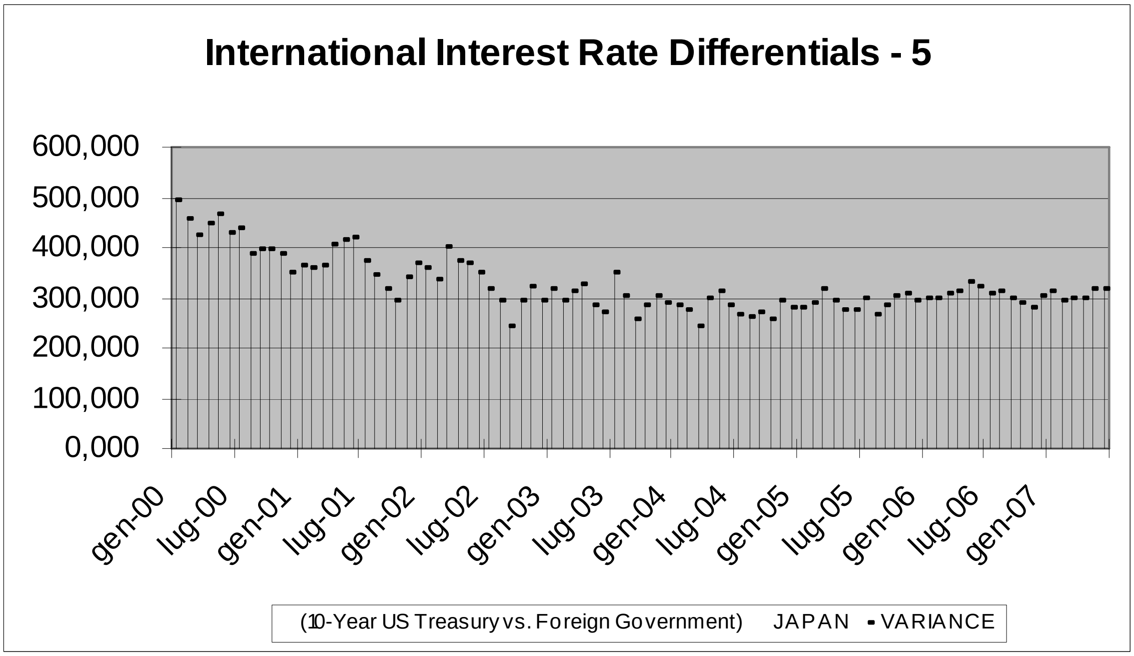
Annex IX – International Interest Rate Differentials 4 - Historical



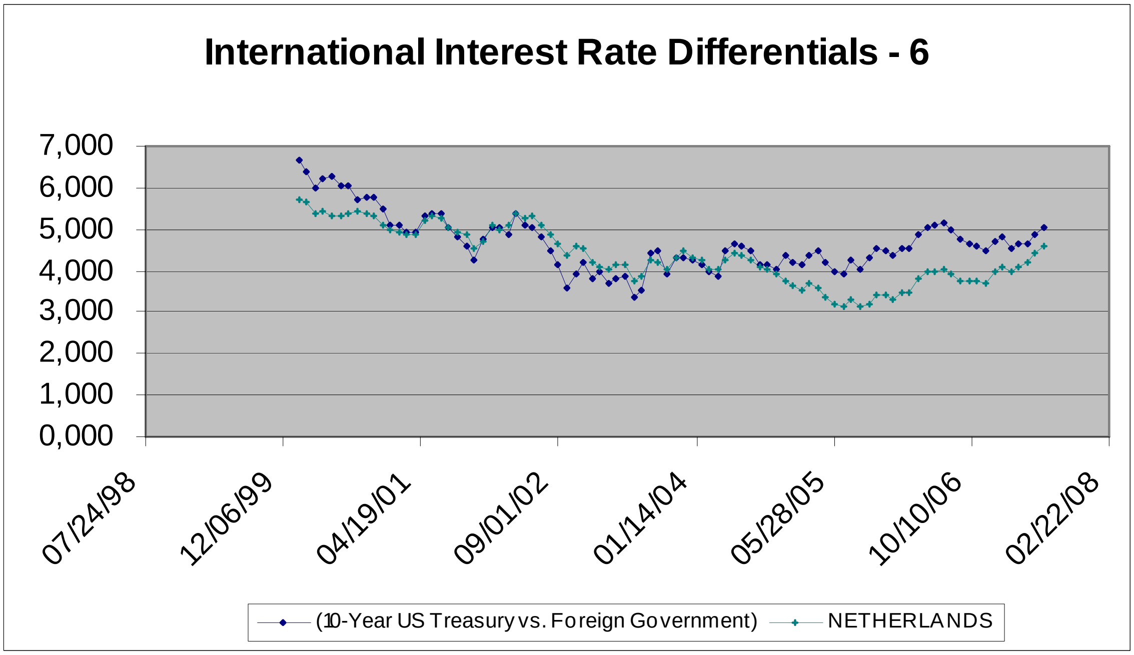


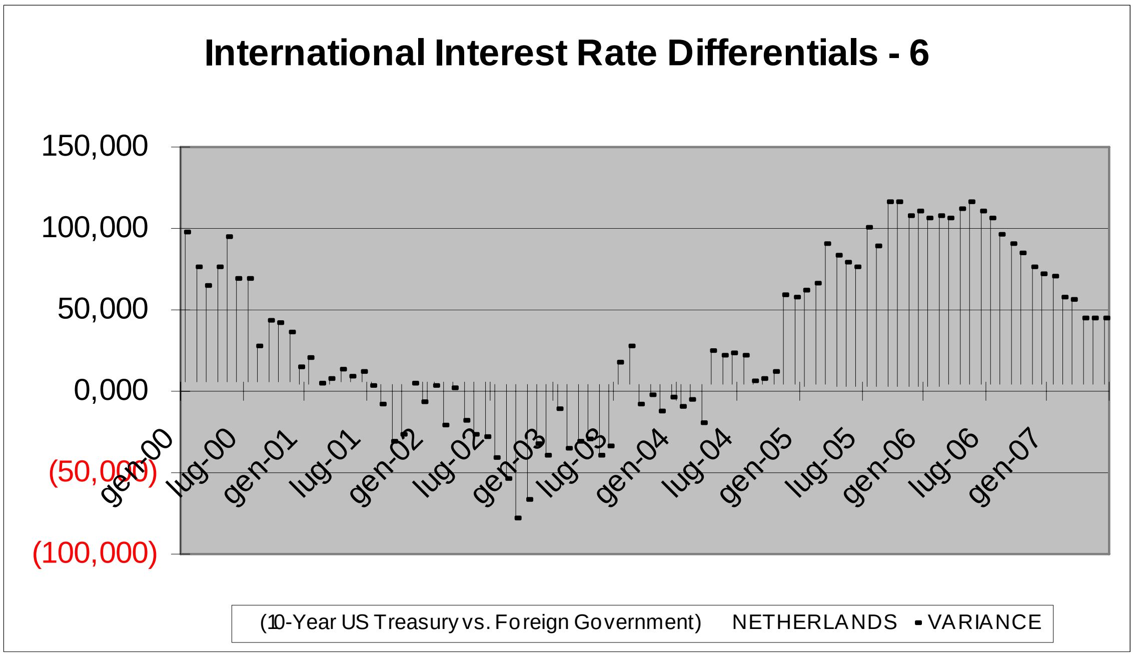
Annex X – International Interest Rate Differentials 5 - Historical



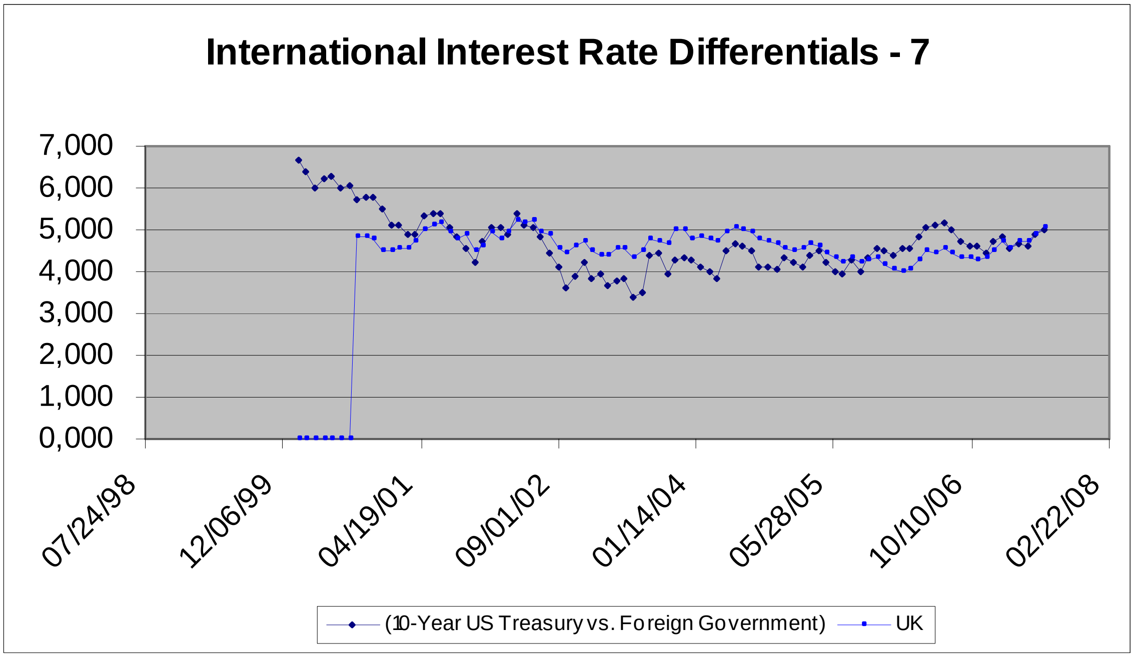


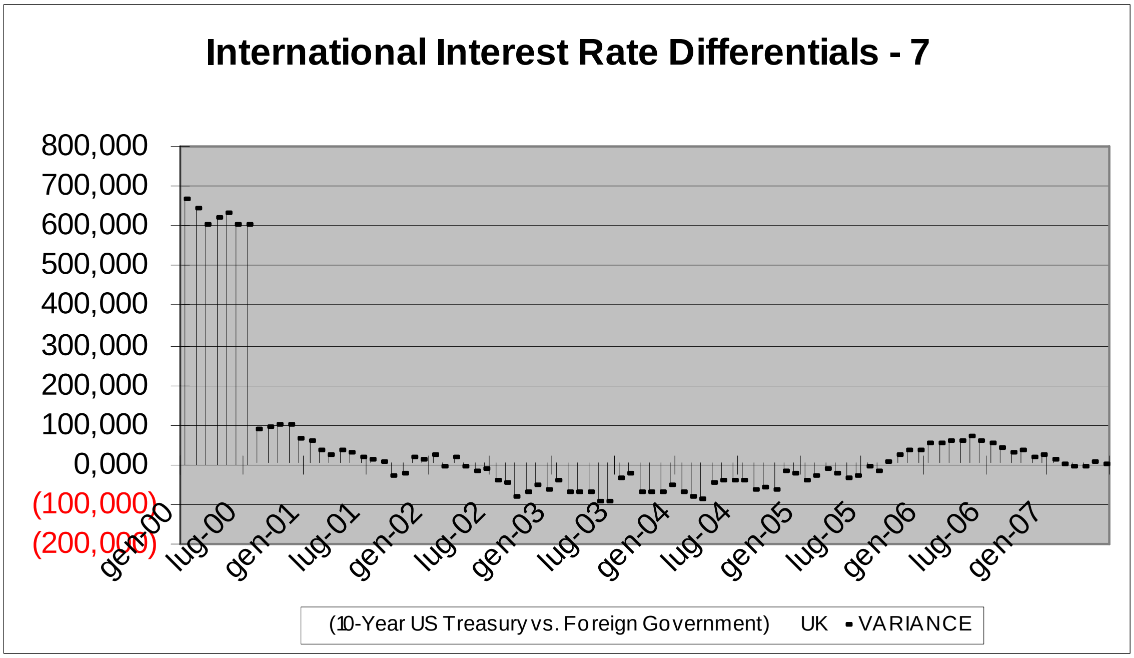
Annex XI – International Interest Rate Differentials 6 - Historical





Annex XII – International Interest Rate Differentials 7 - Historical





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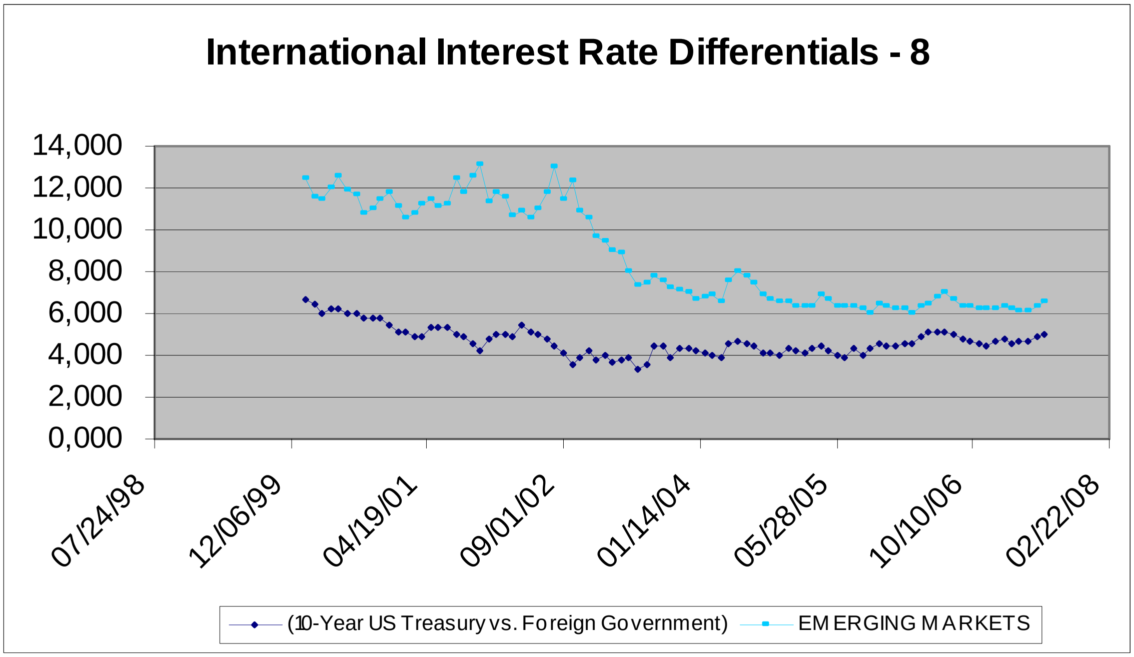
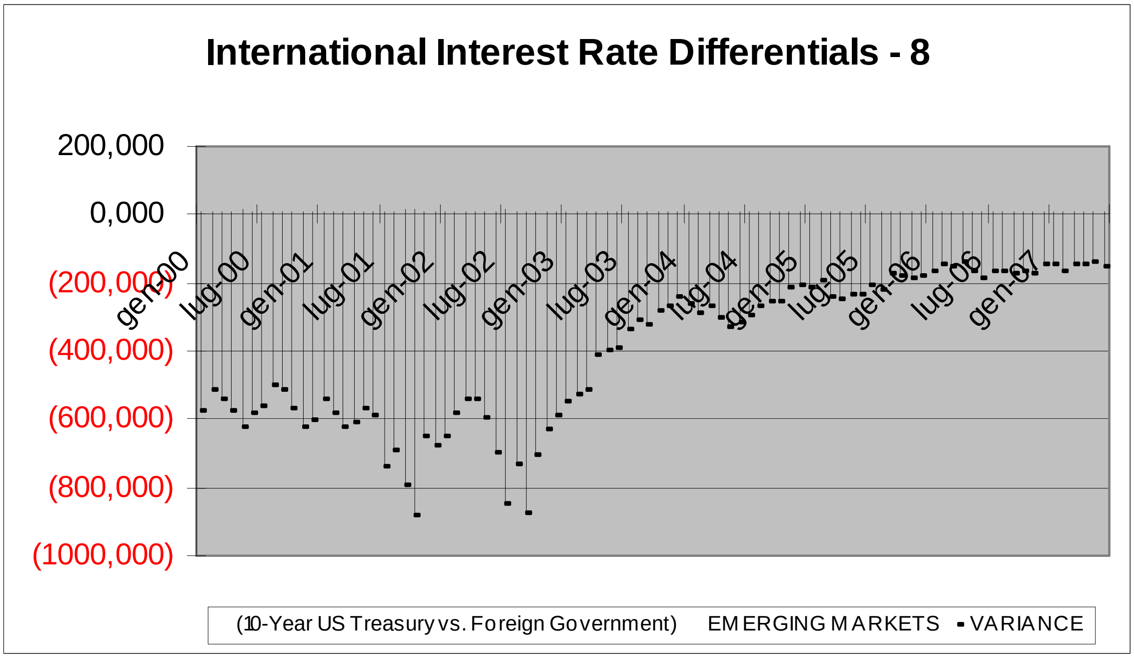
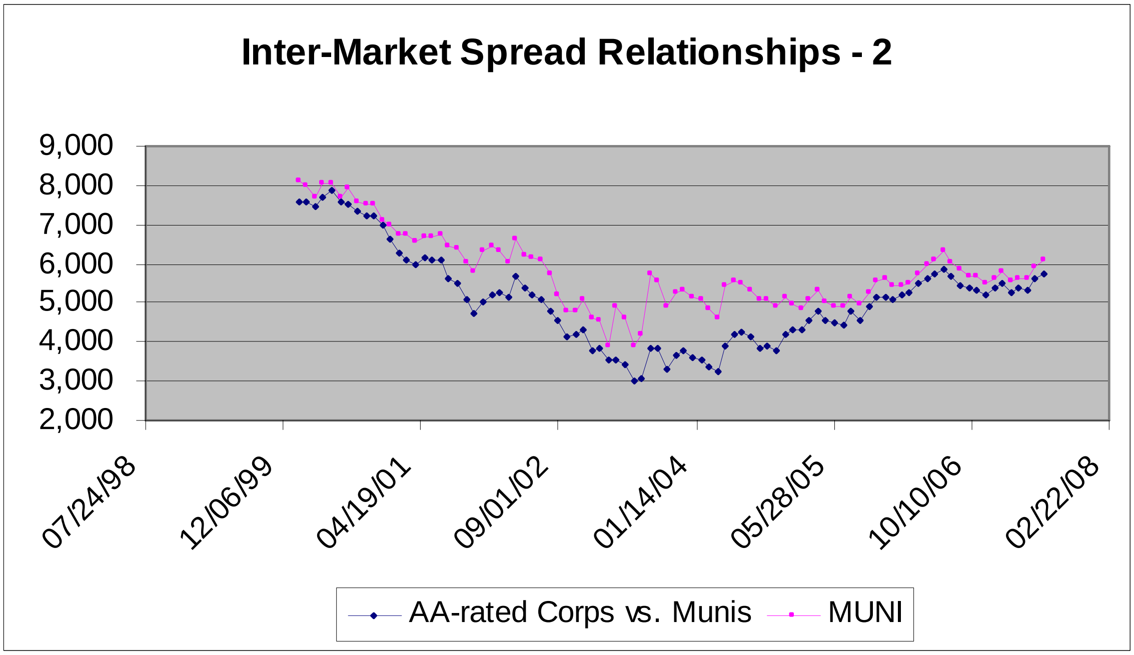
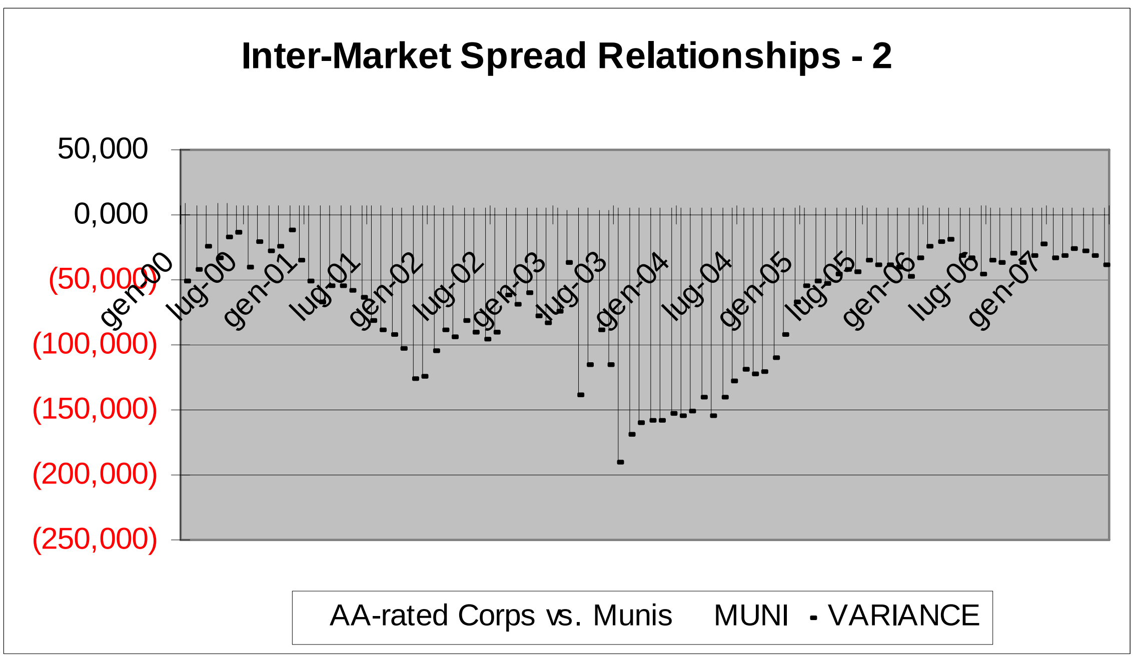


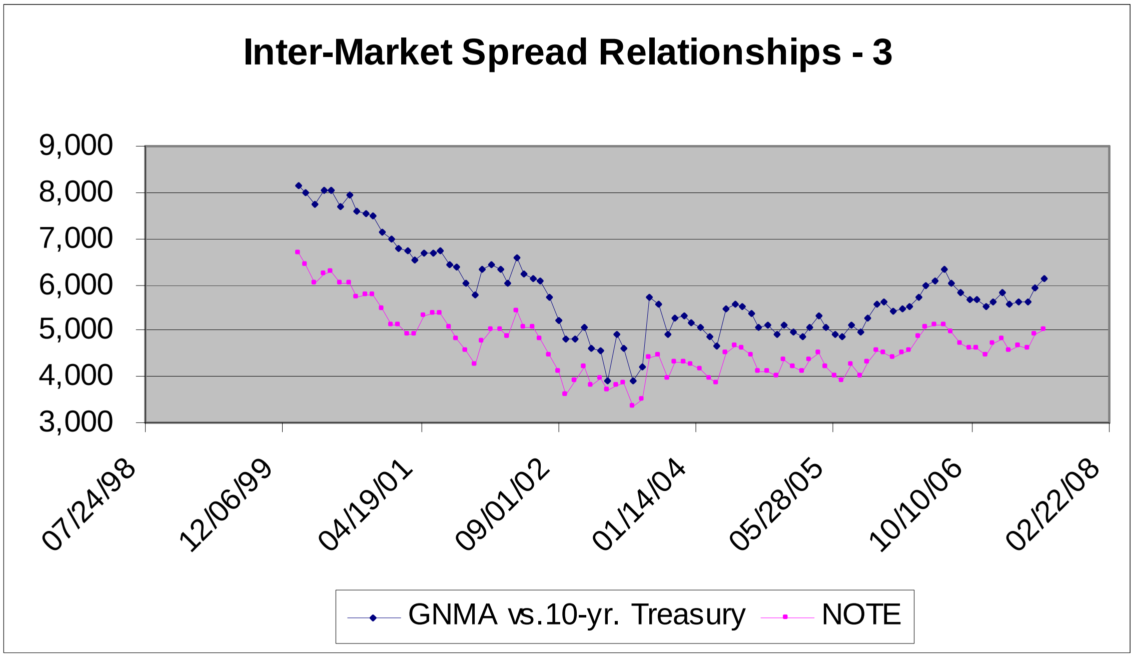


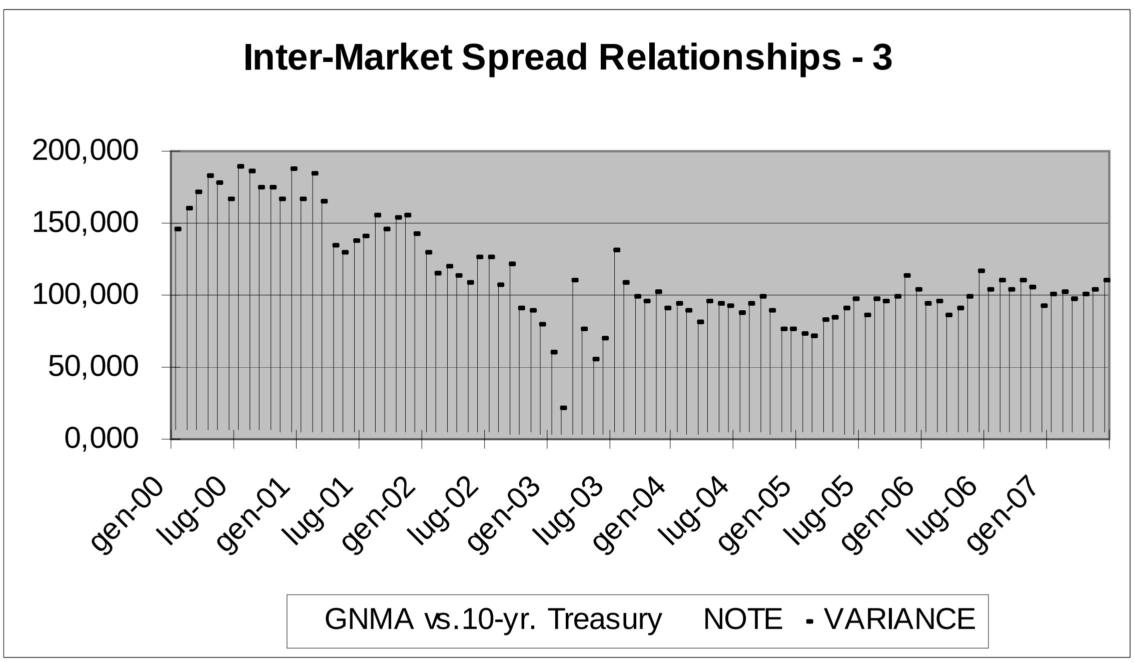
Annex XVI – Inter-Market Spread Relationship 2 - Historical





Annex XV – Inter-Market Spread Relationship 3 - Historical





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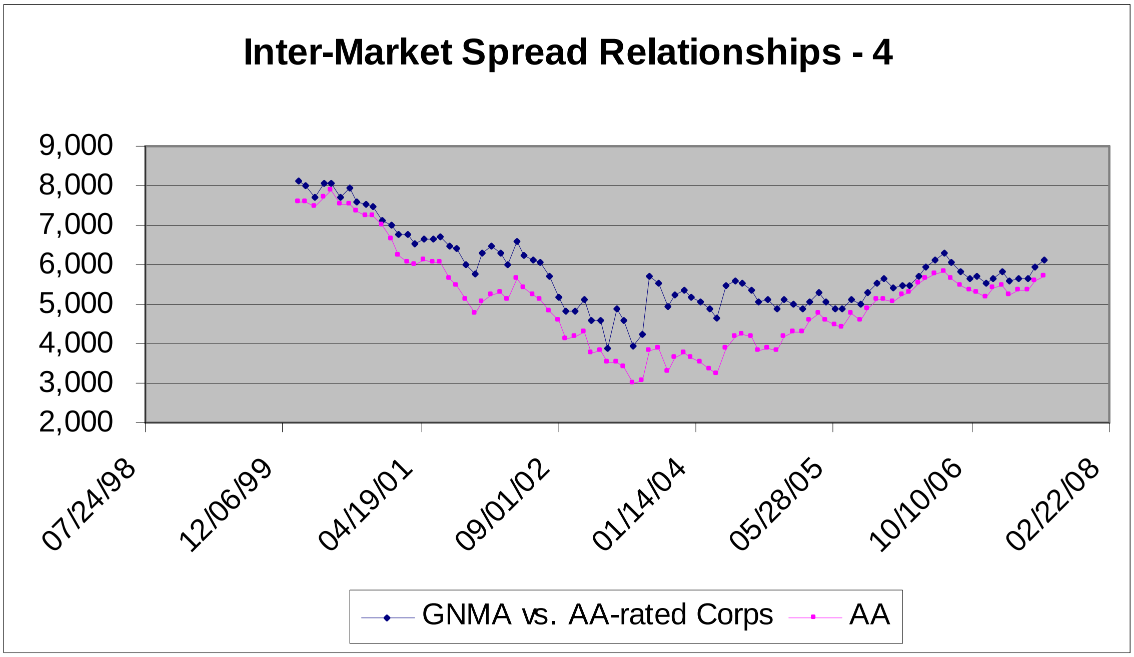
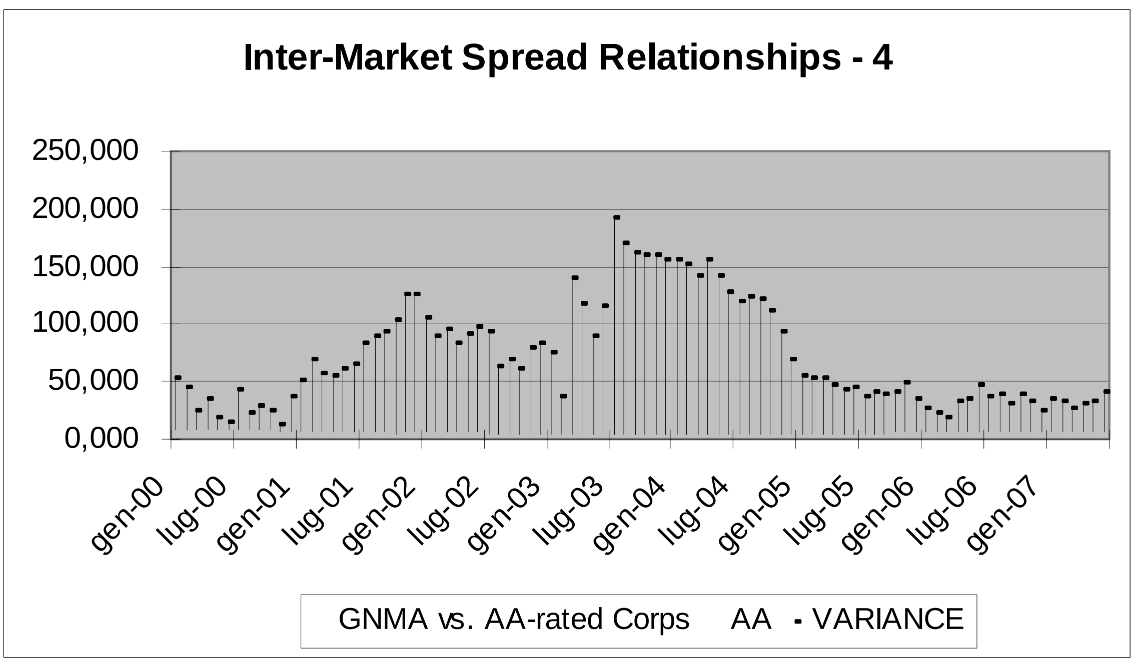
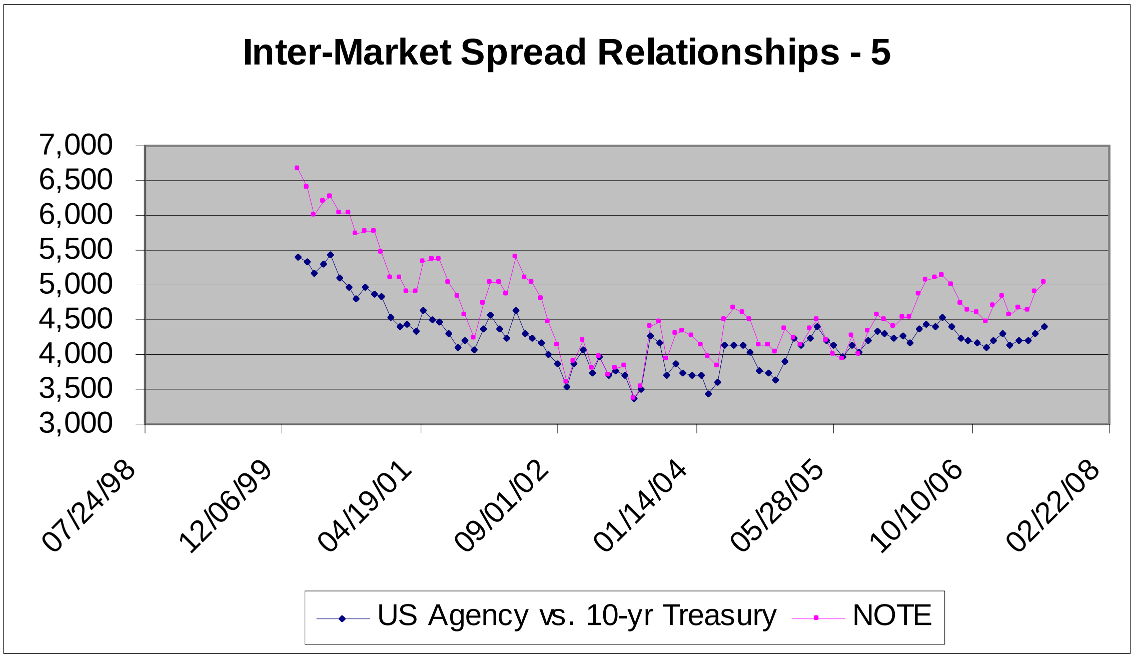
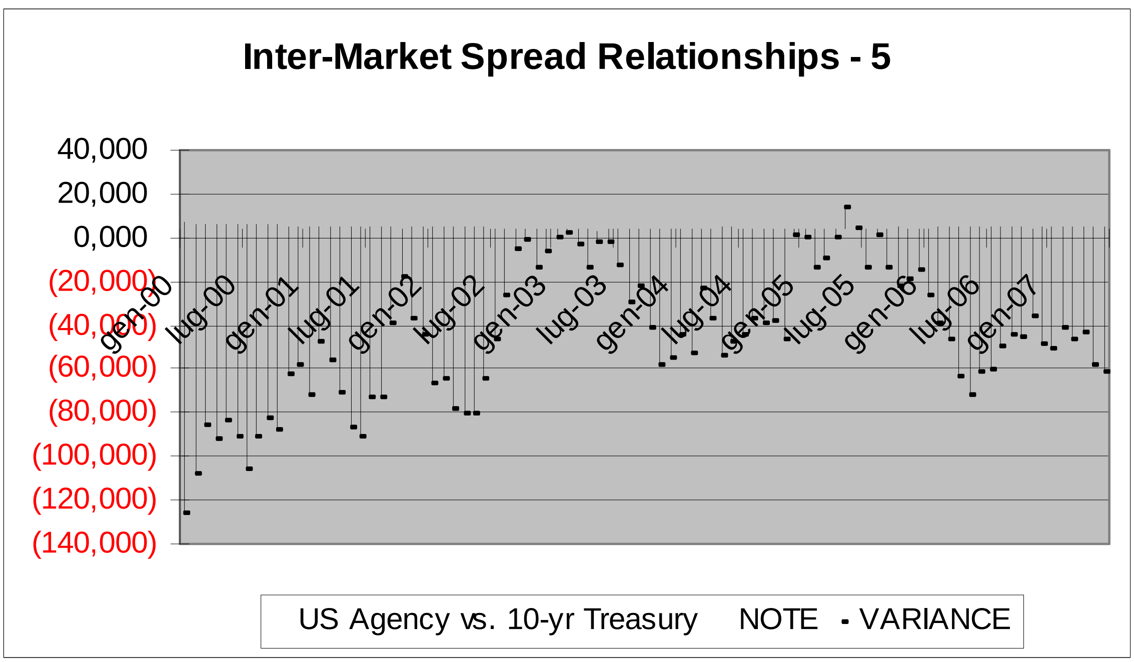


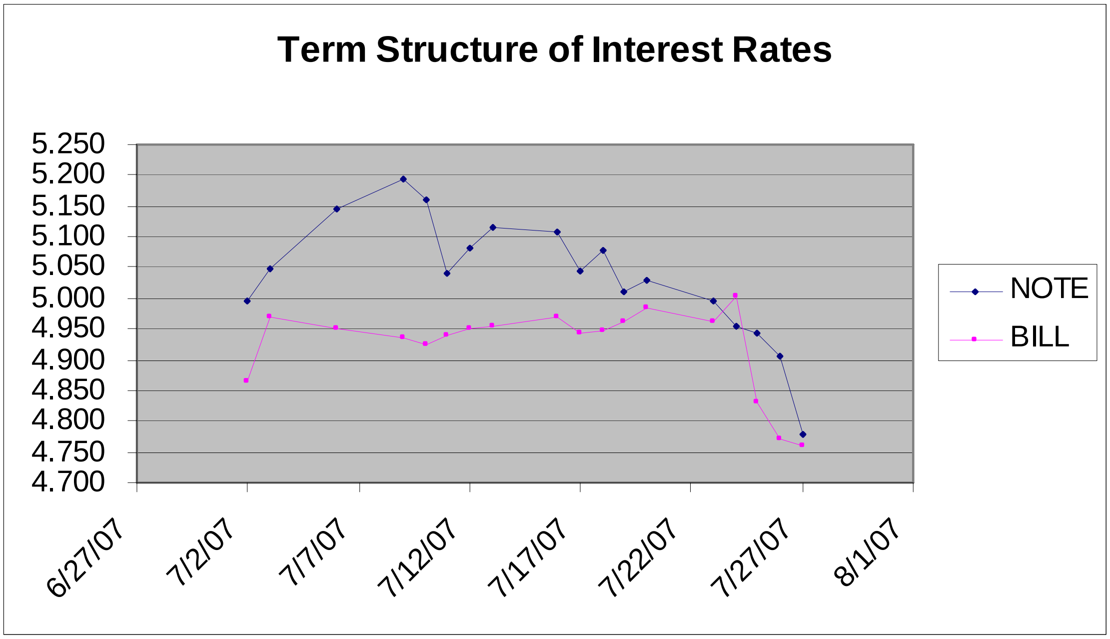


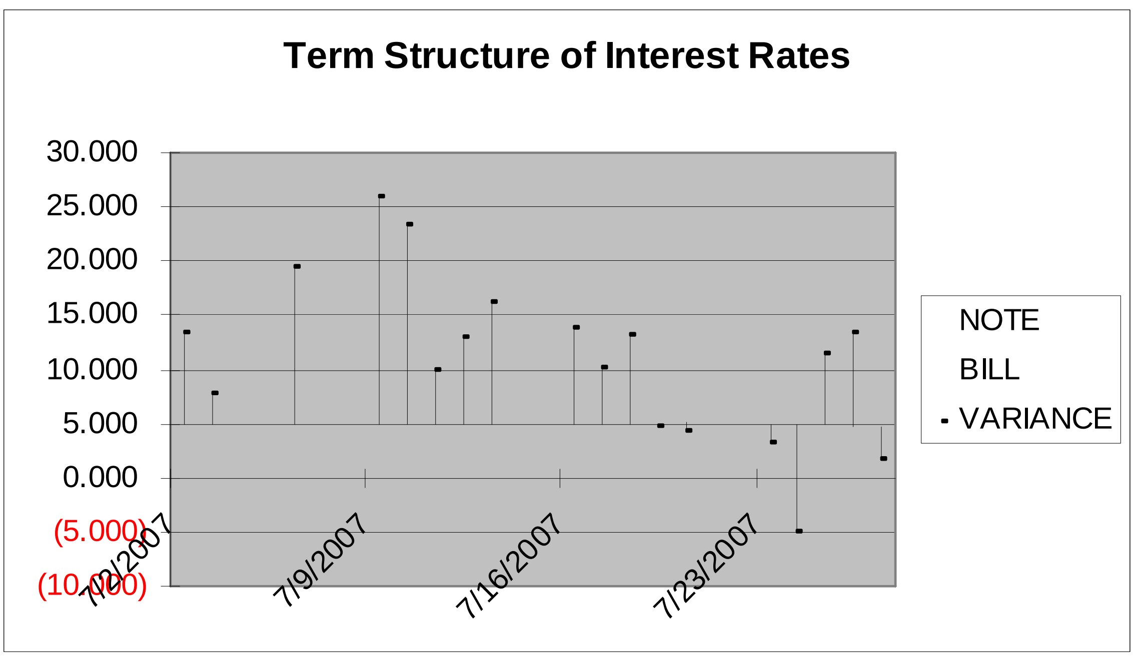
Annex XVII – Inter-Market Spread Relationship 5 - Historical



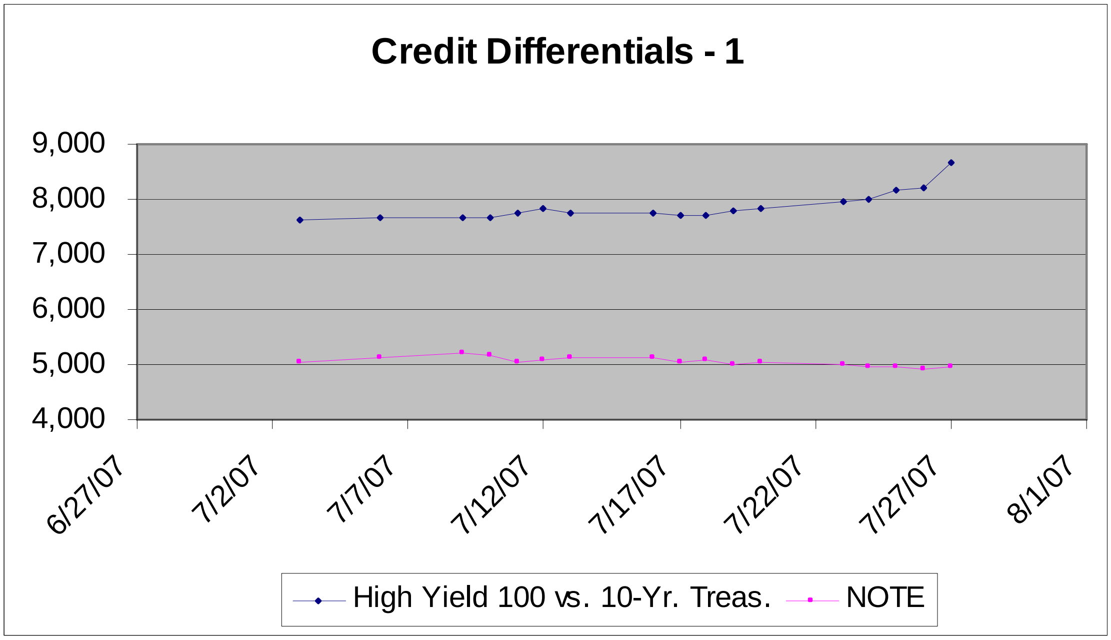


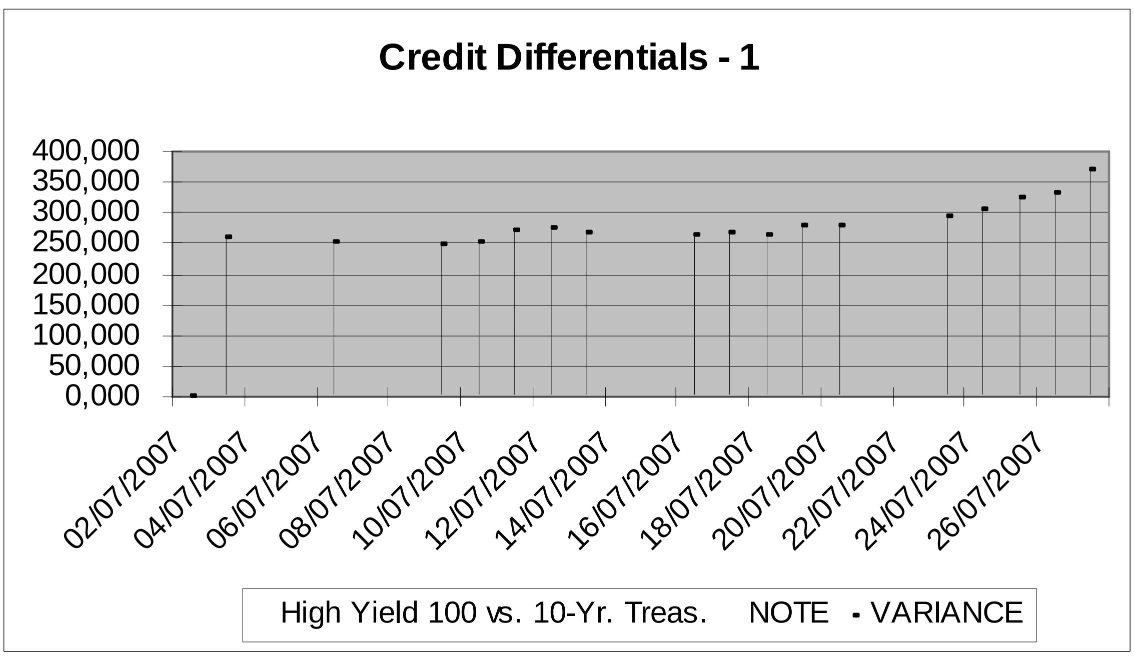
Annex XVIII – Term Structure of Interest Rates – July '07



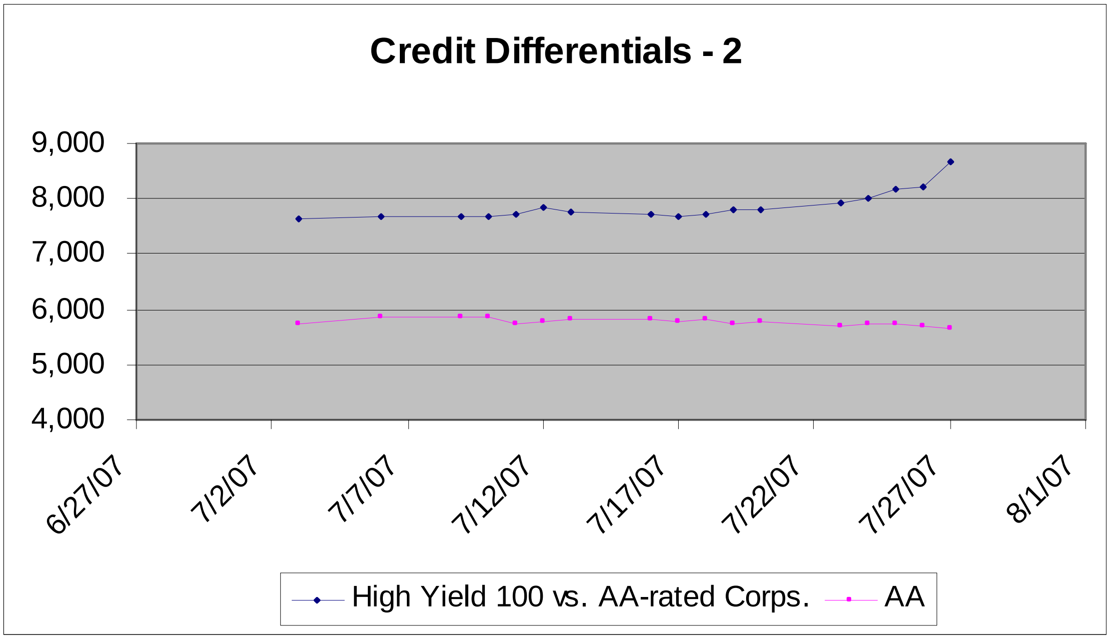


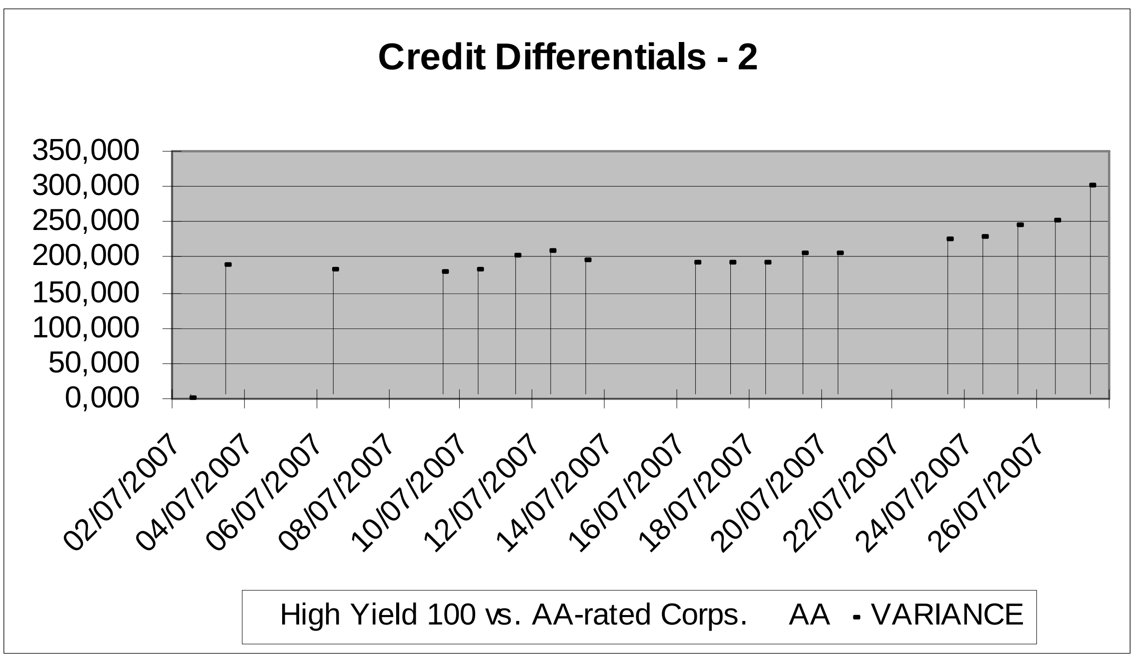
Annex XIX – Credit Differentials 1 – July '07



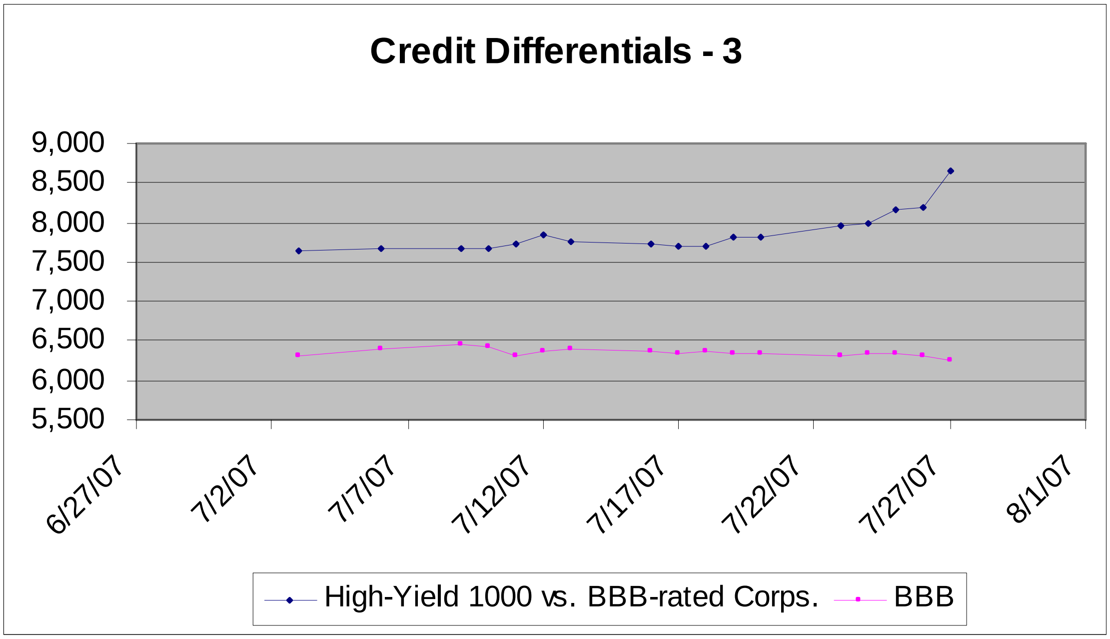


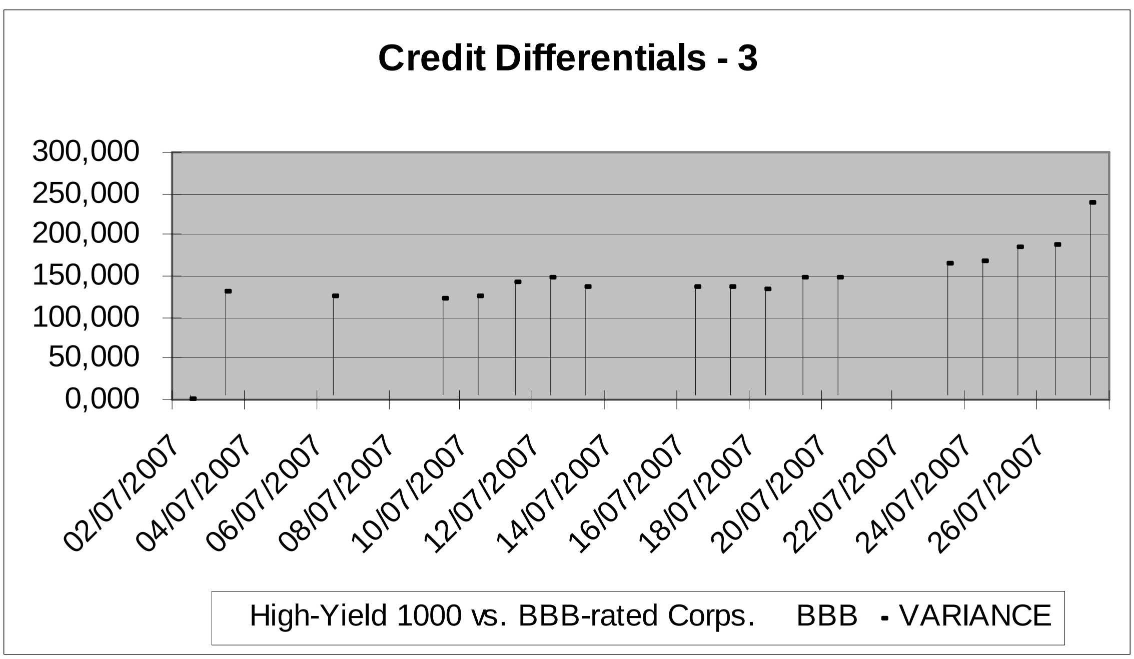
Annex XX – Credit Differentials 2 – July '07





Annex XXI – Credit Differentials 3 – July '07





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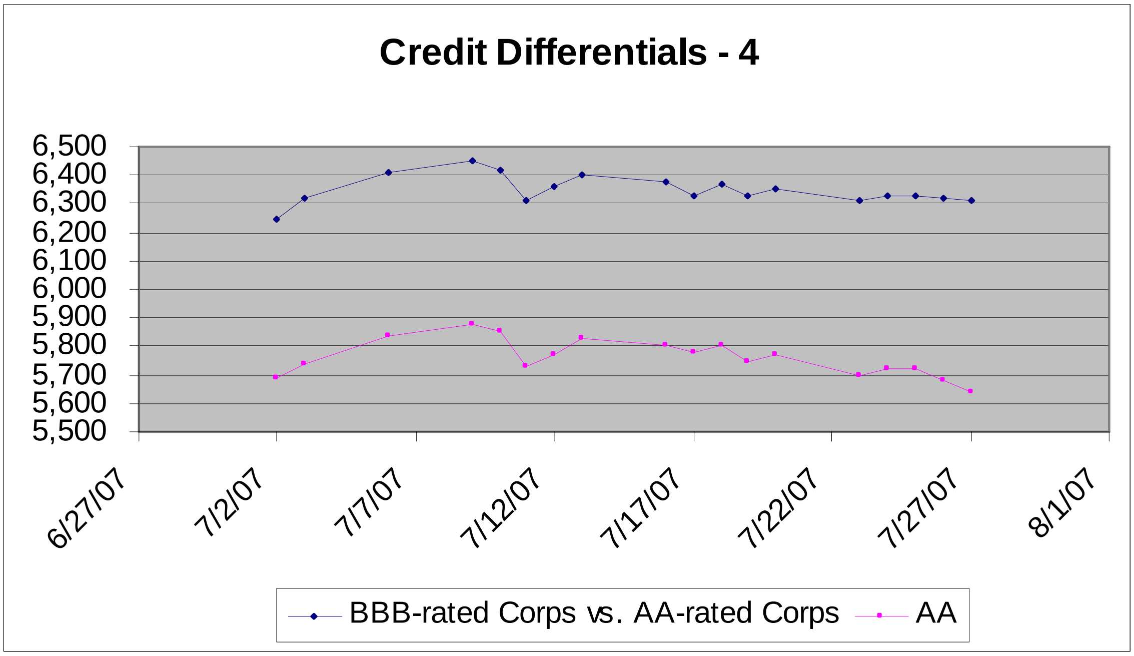
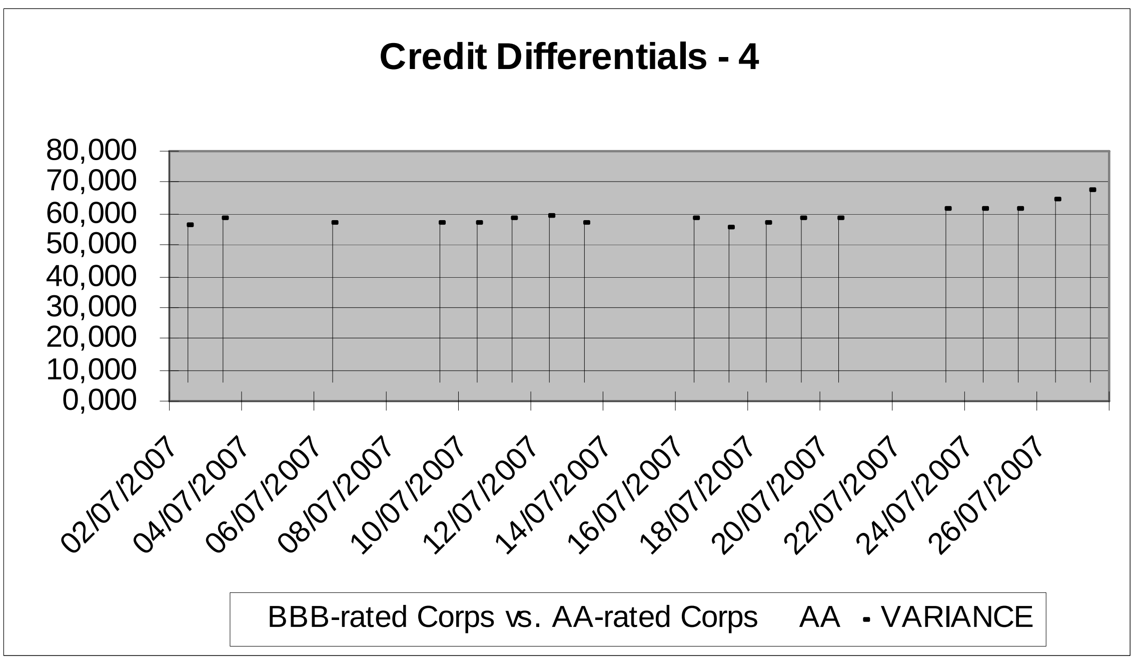
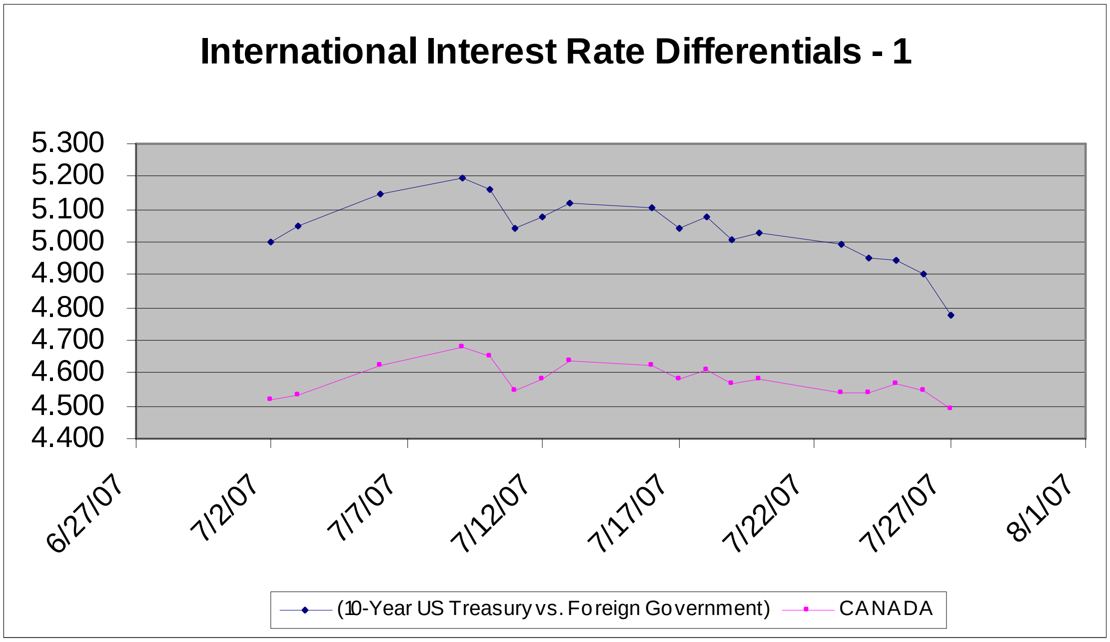
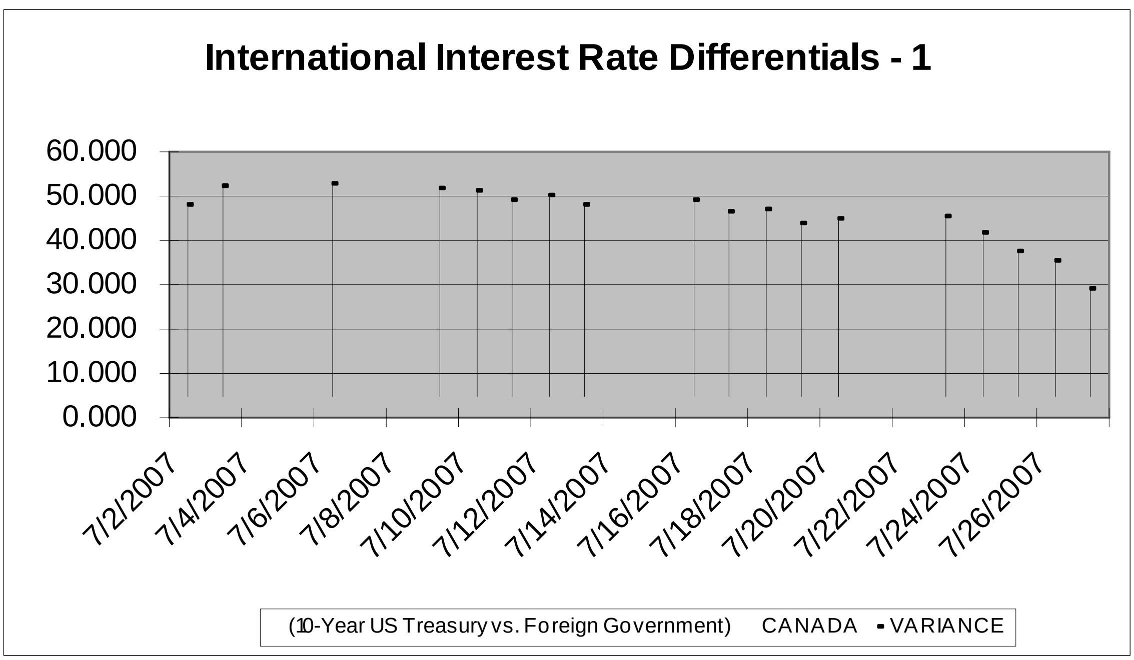


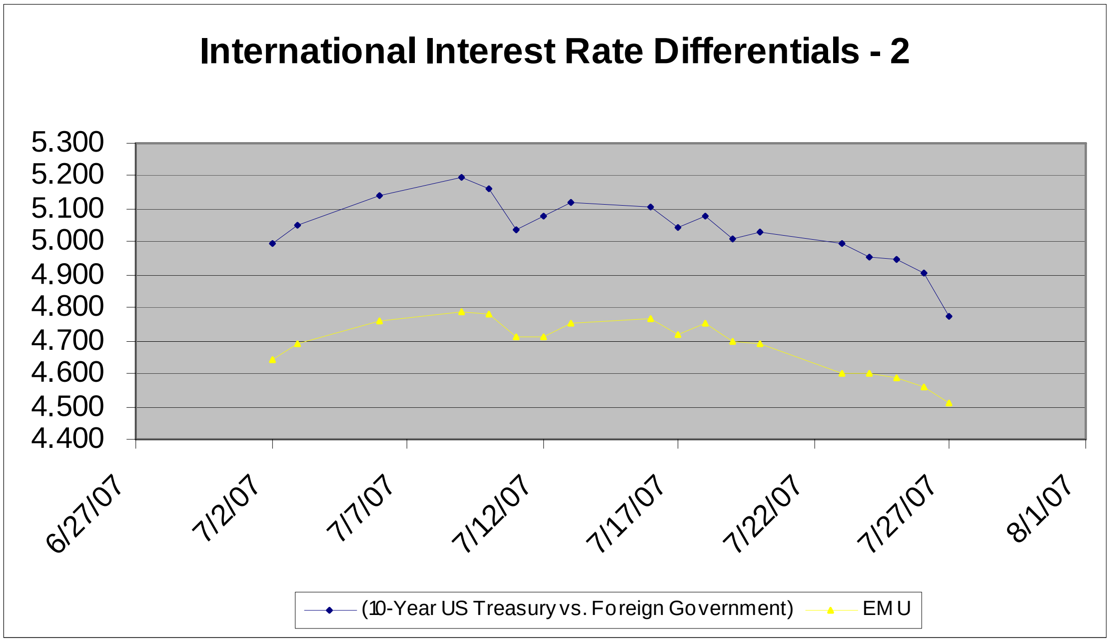


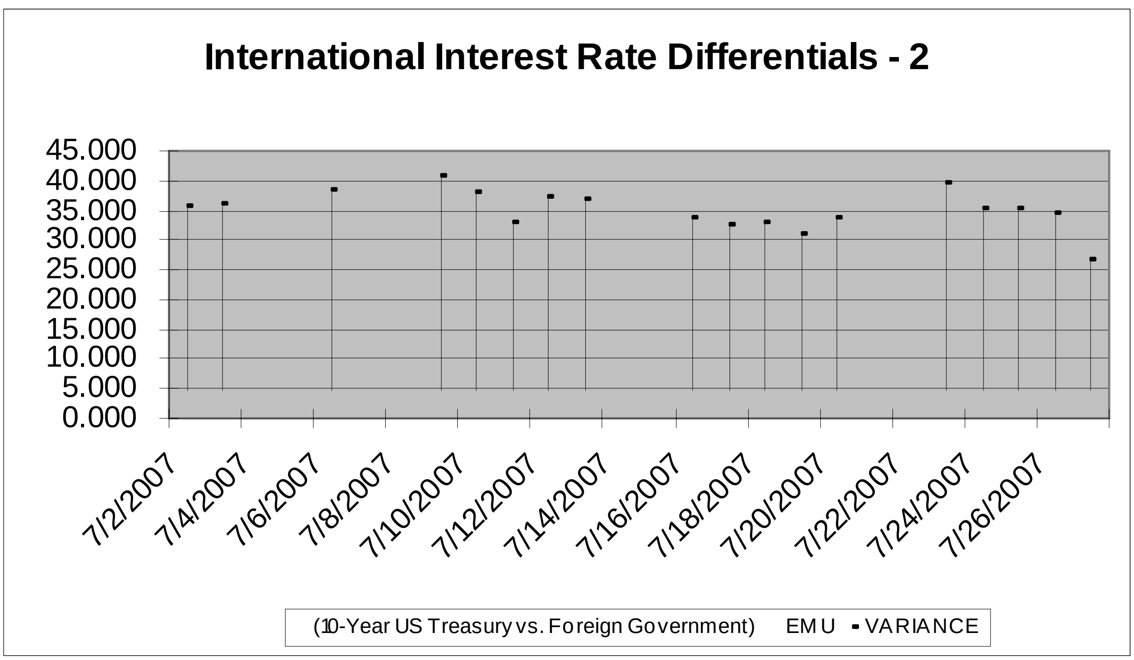
Annex XXIII – International Interest Rate Differentials 1 - July '07



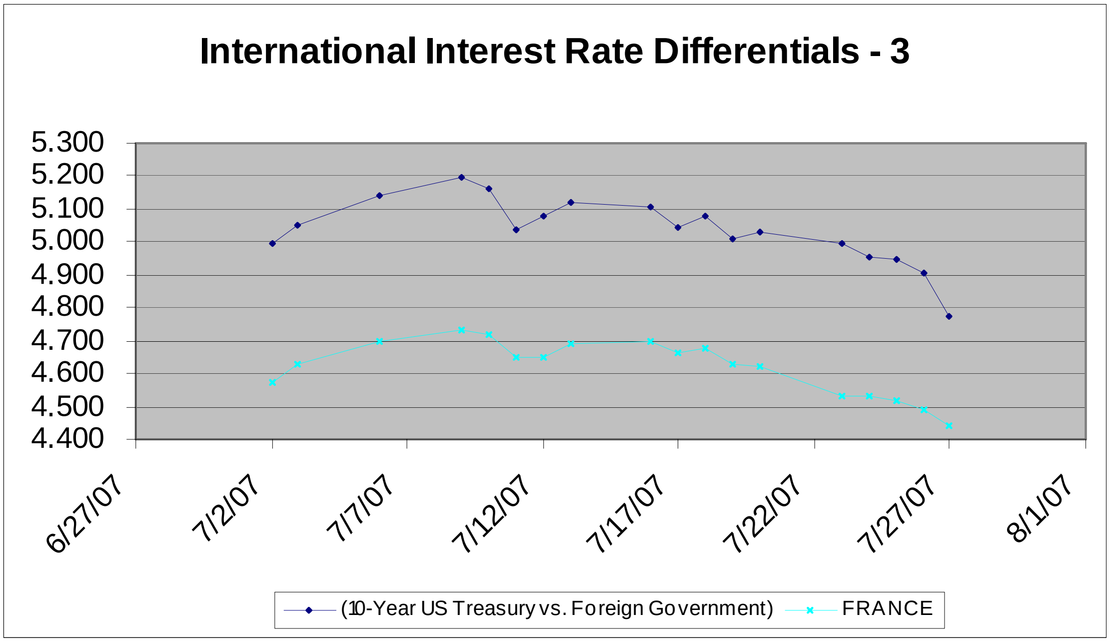


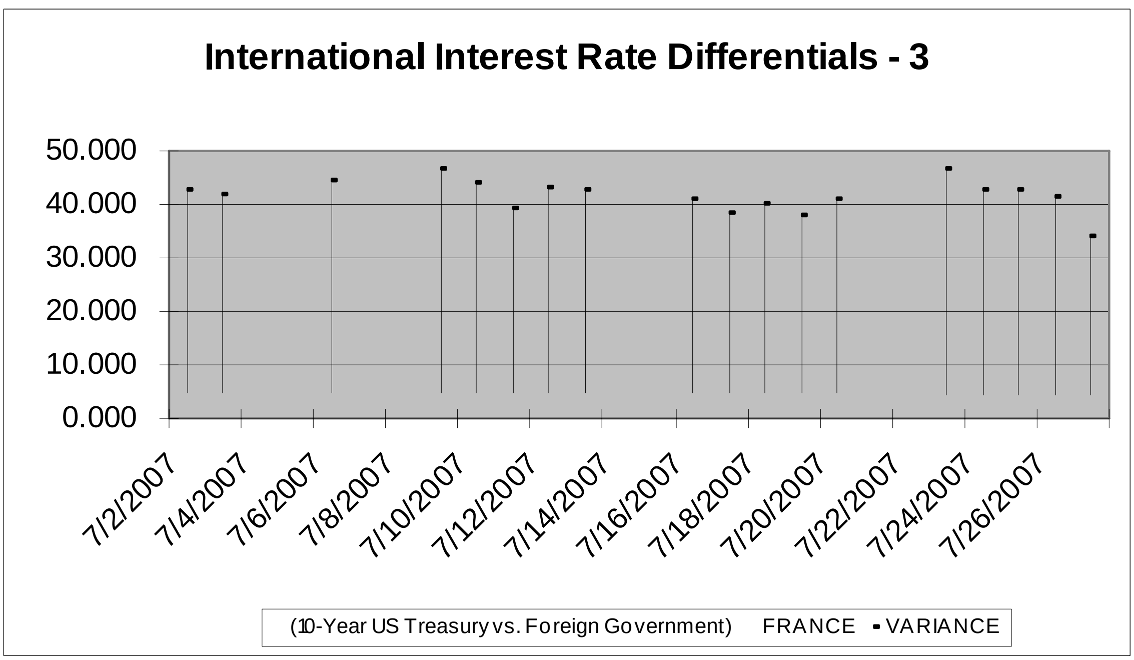
Annex XXIV – International Interest Rate Differentials 2 - July '07



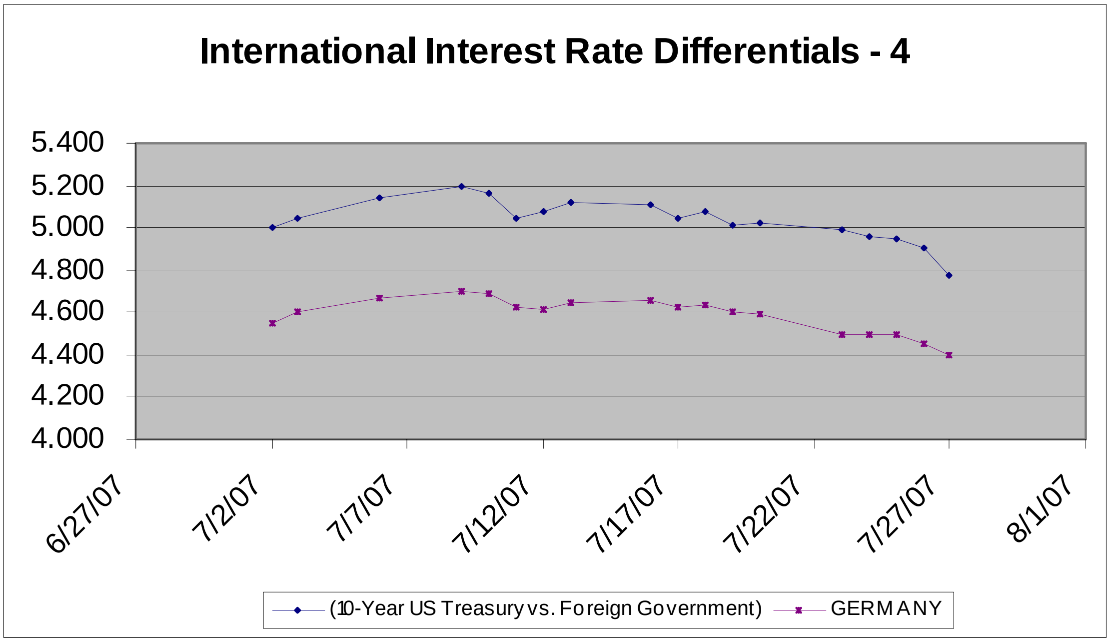


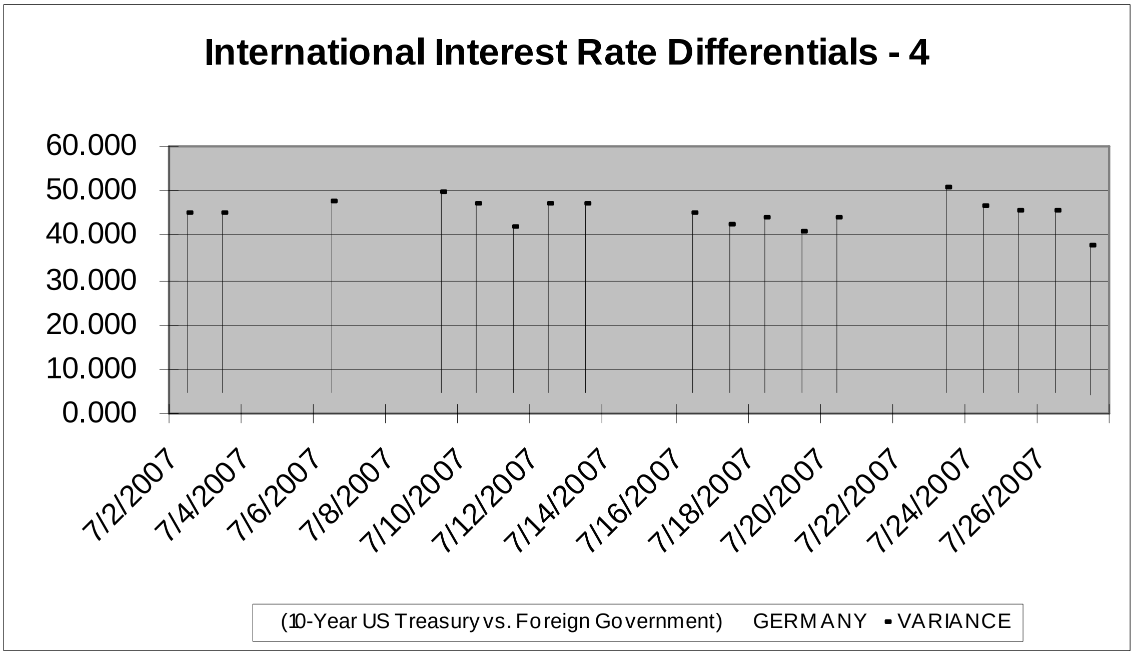
Annex XXV – International Interest Rate Differentials 3 - July '07



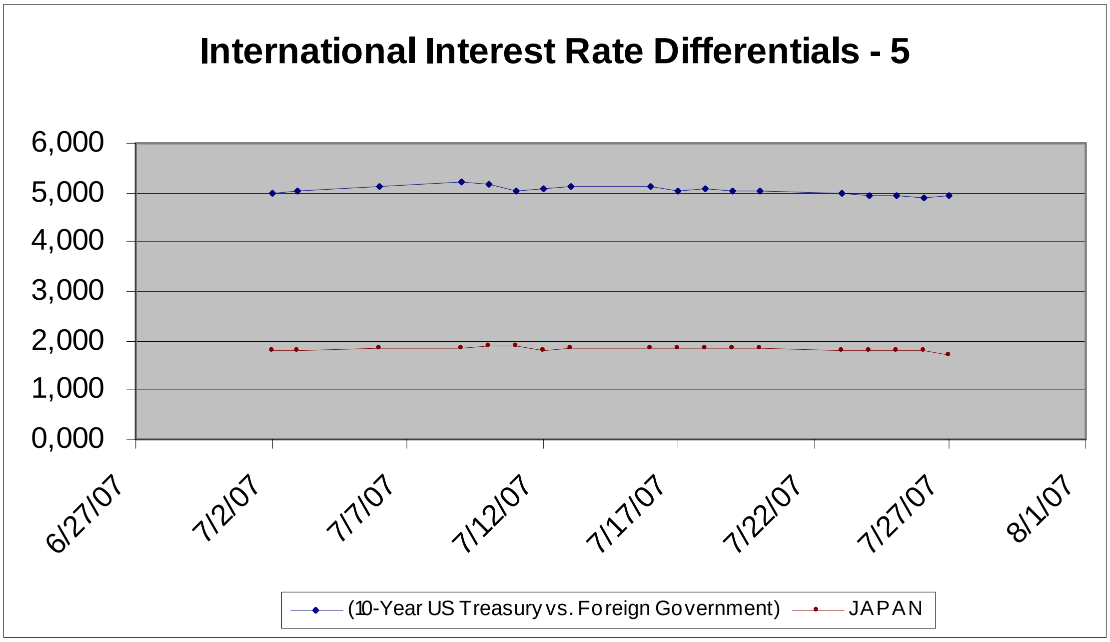


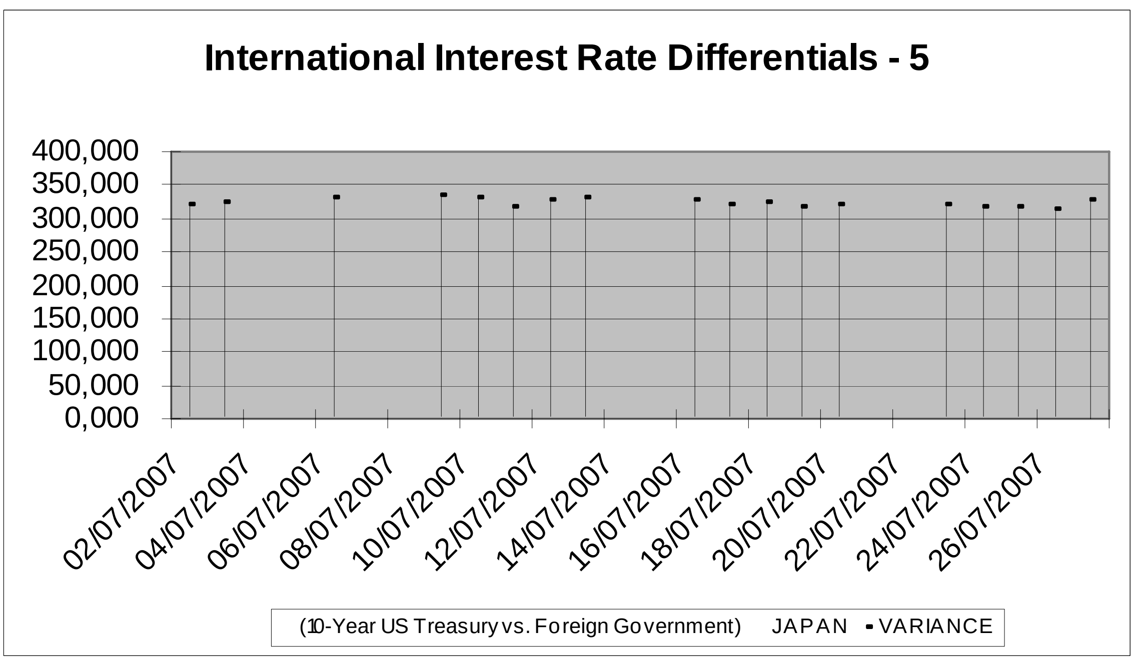
Annex XXVI – International Interest Rate Differentials 4 - July '07



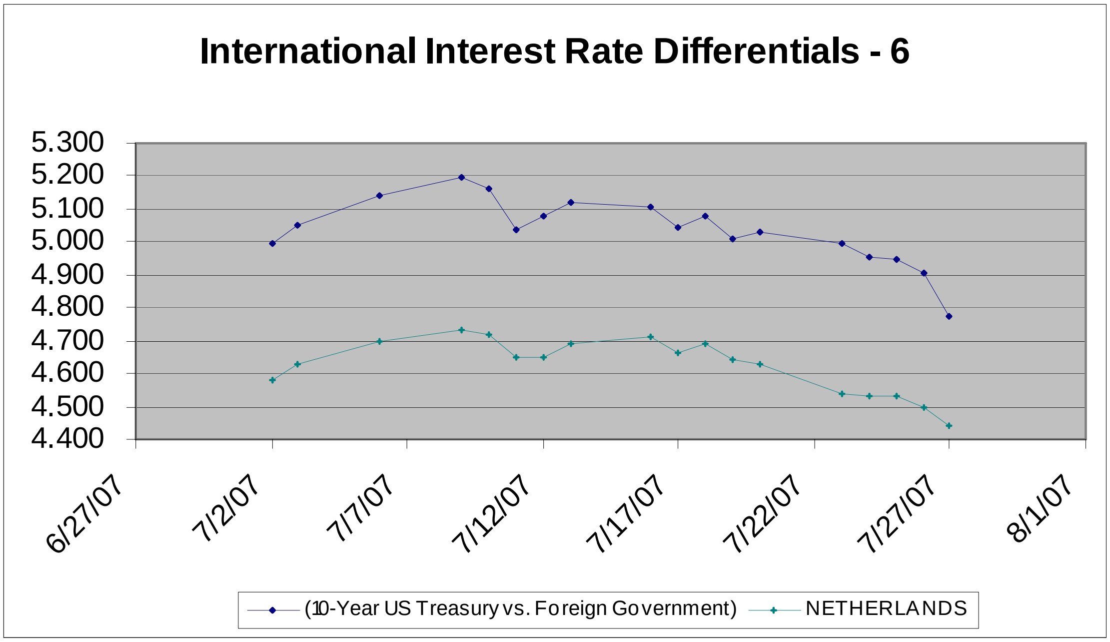


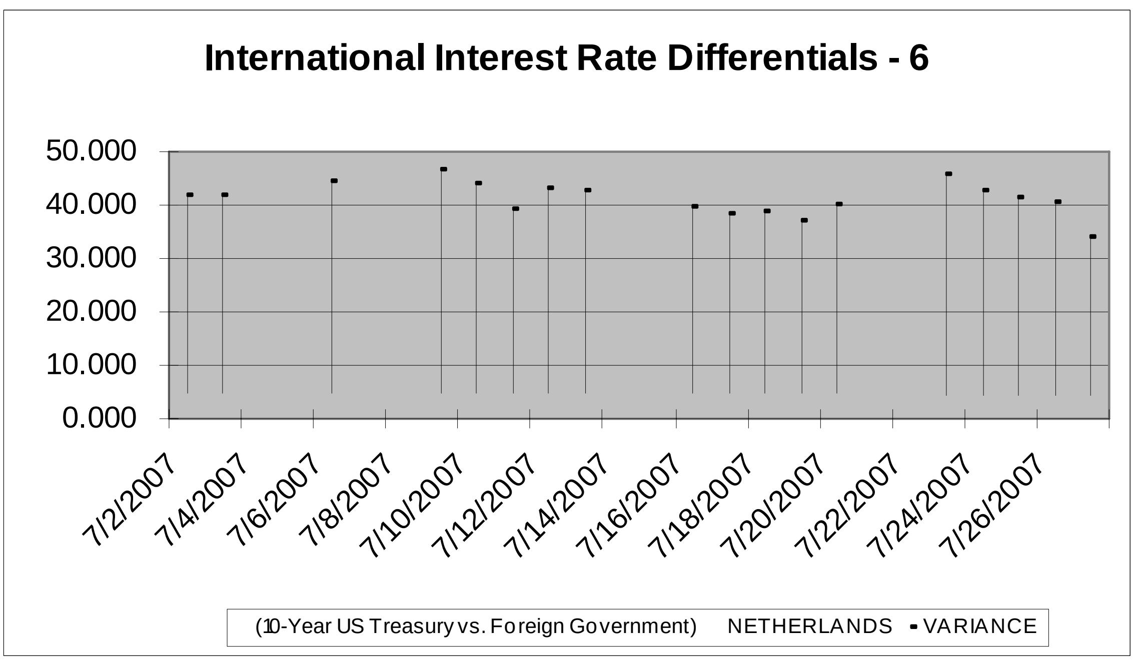
Annex XXVII – International Interest Rate Differentials 5 - July '07



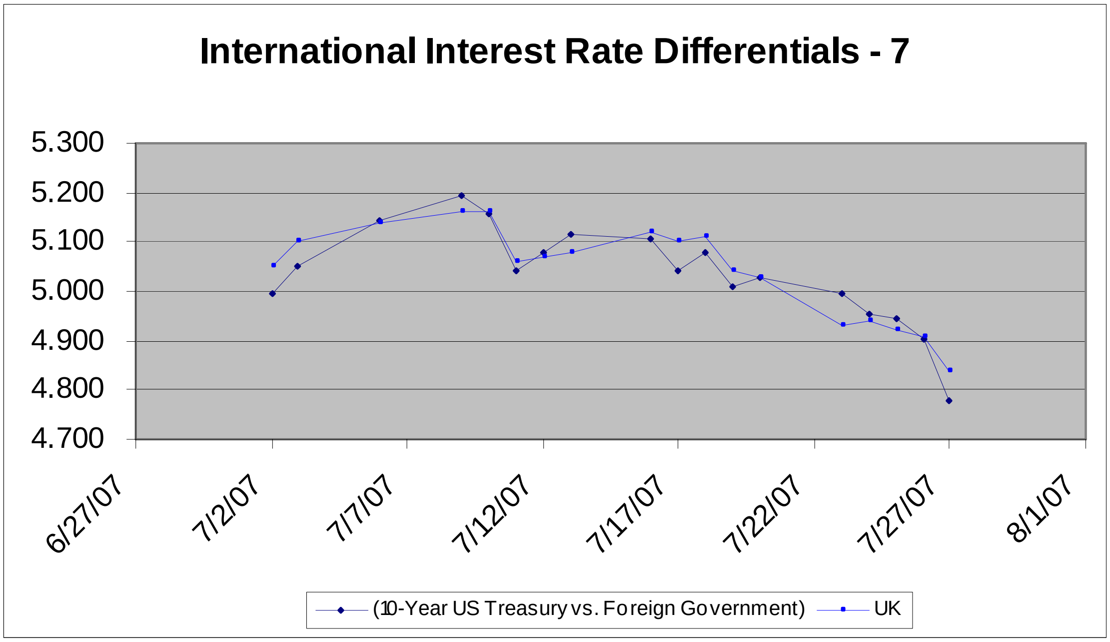


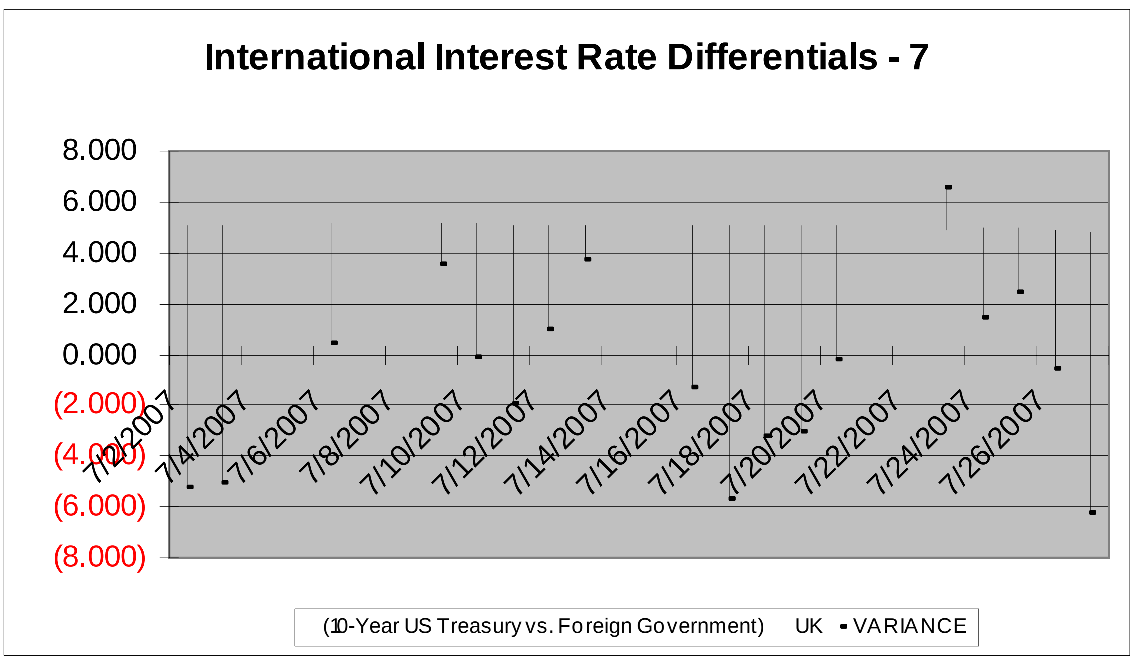
Annex XXVIII – International Interest Rate Differentials 6 - July '07



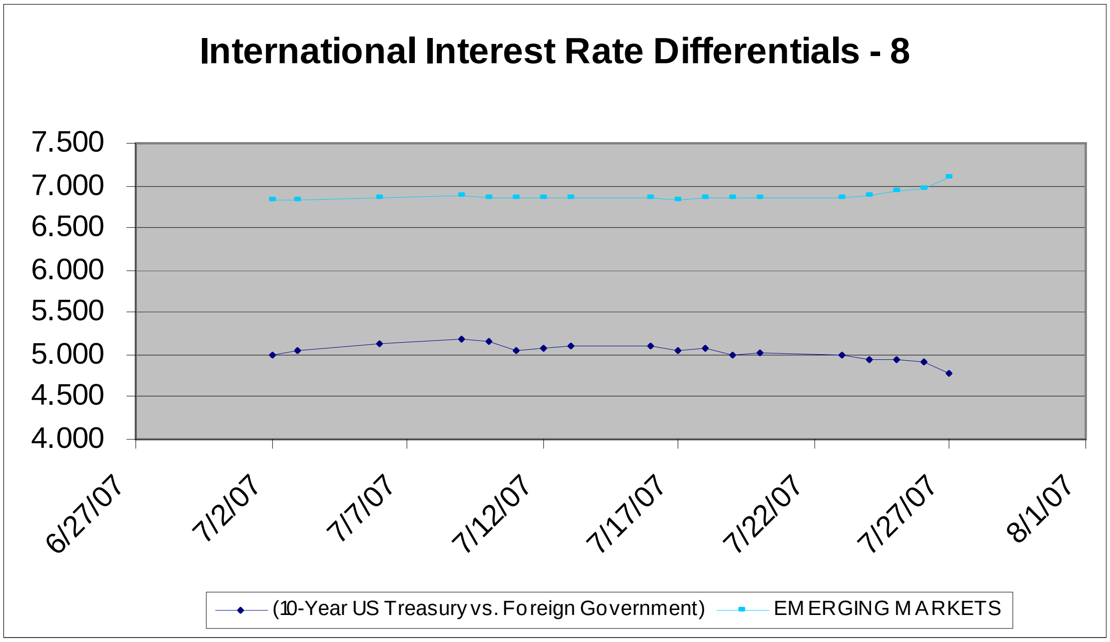


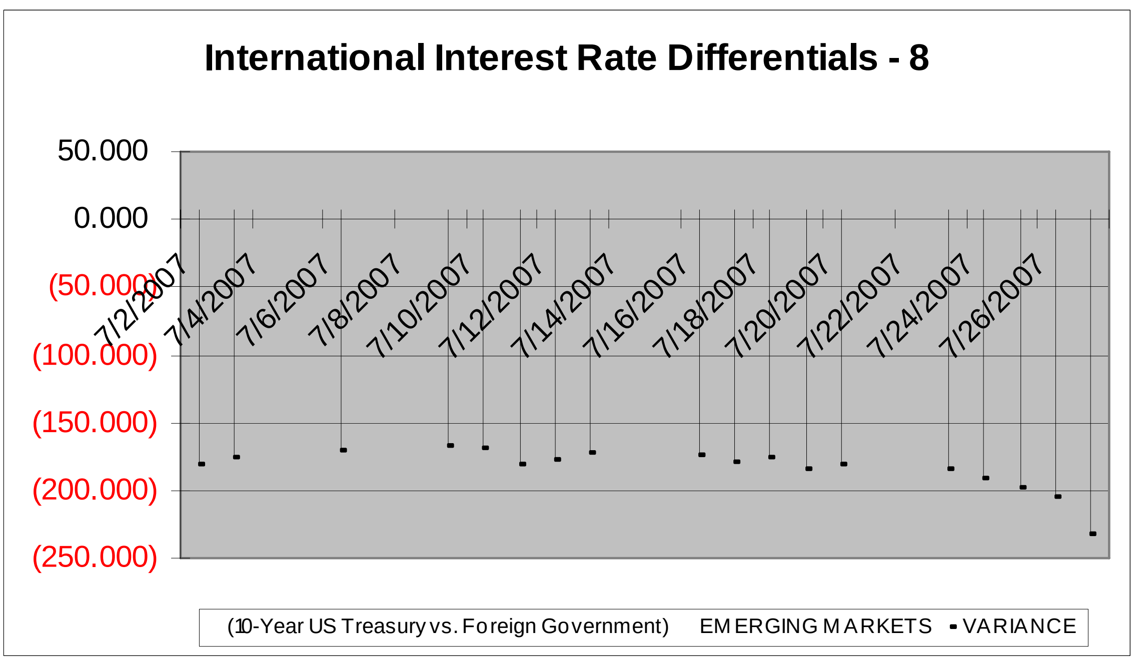
Annex XXIX – International Interest Rate Differentials 7 - July '07



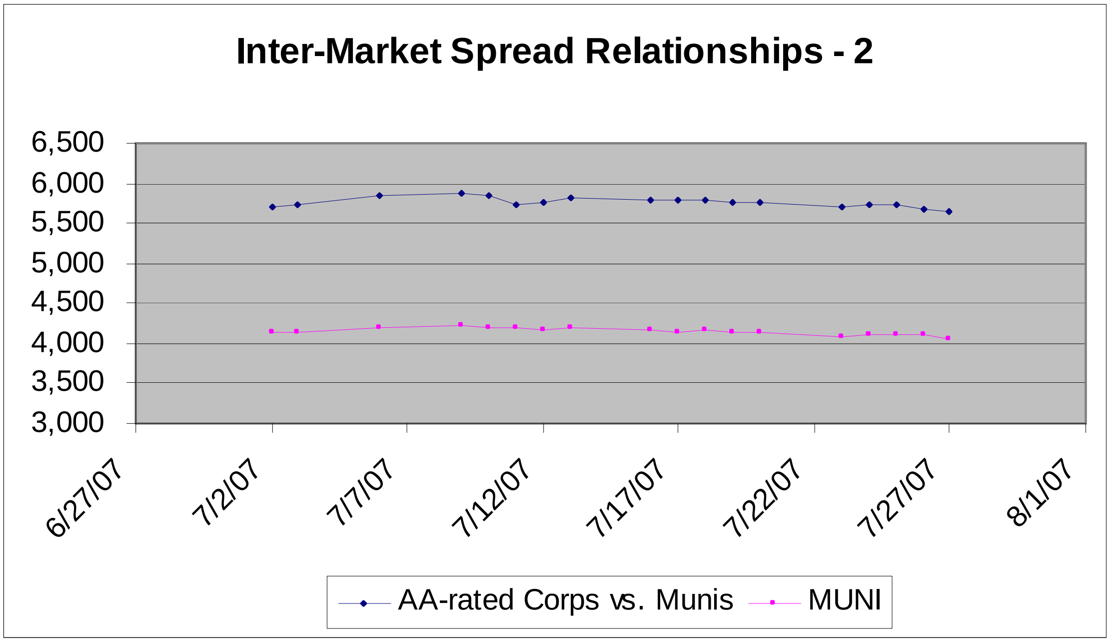


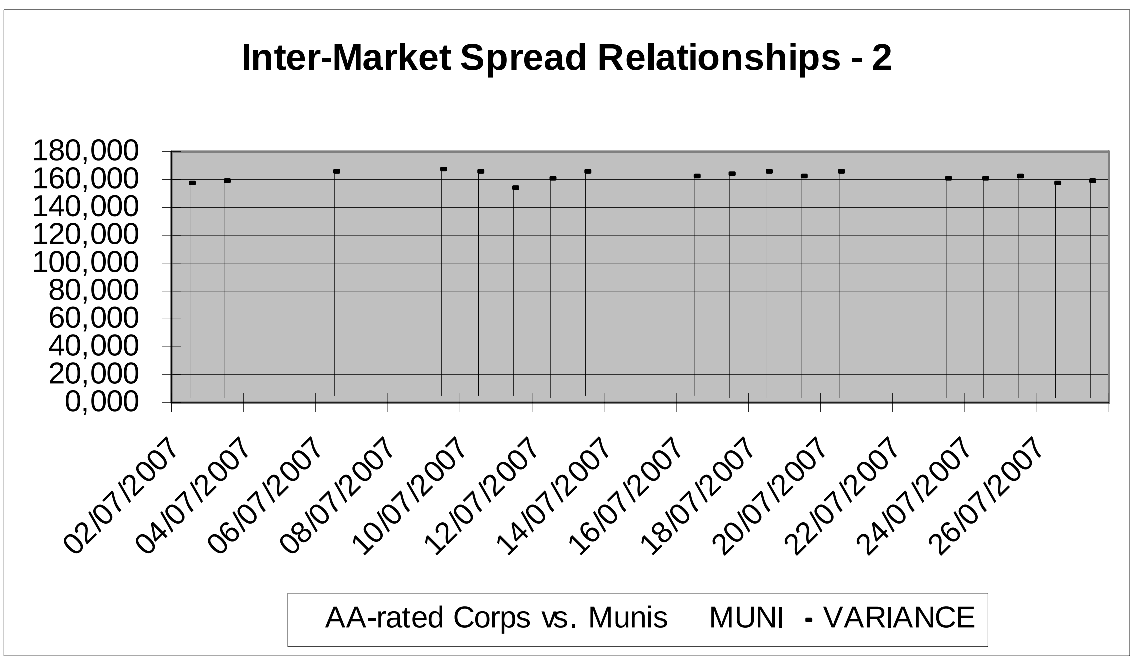
Annex XXX – International Interest Rate Differentials 8 - July '07



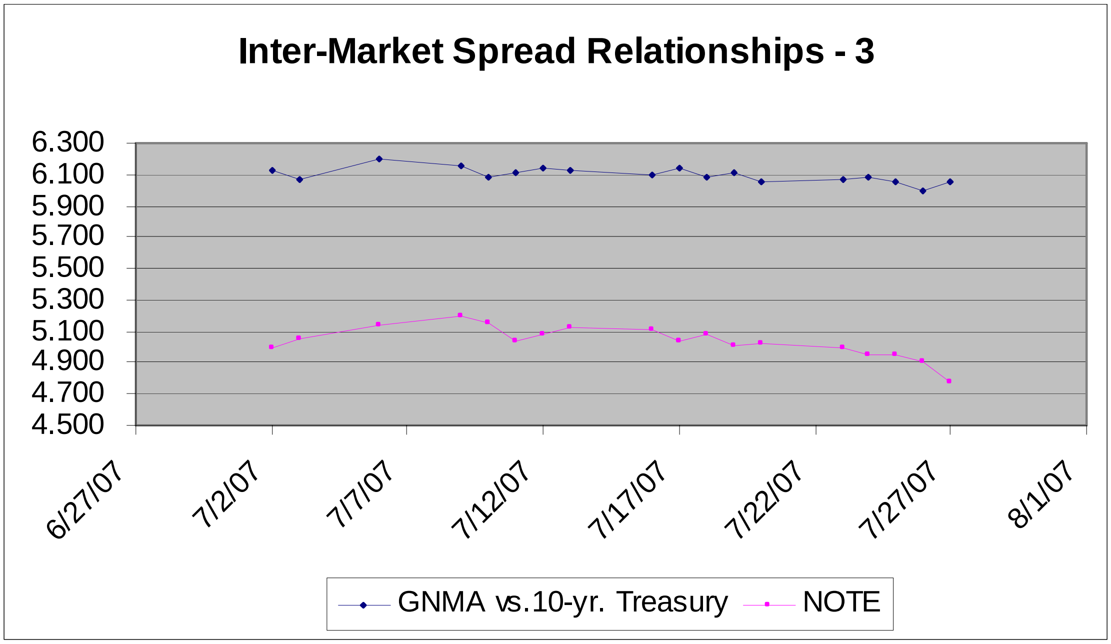


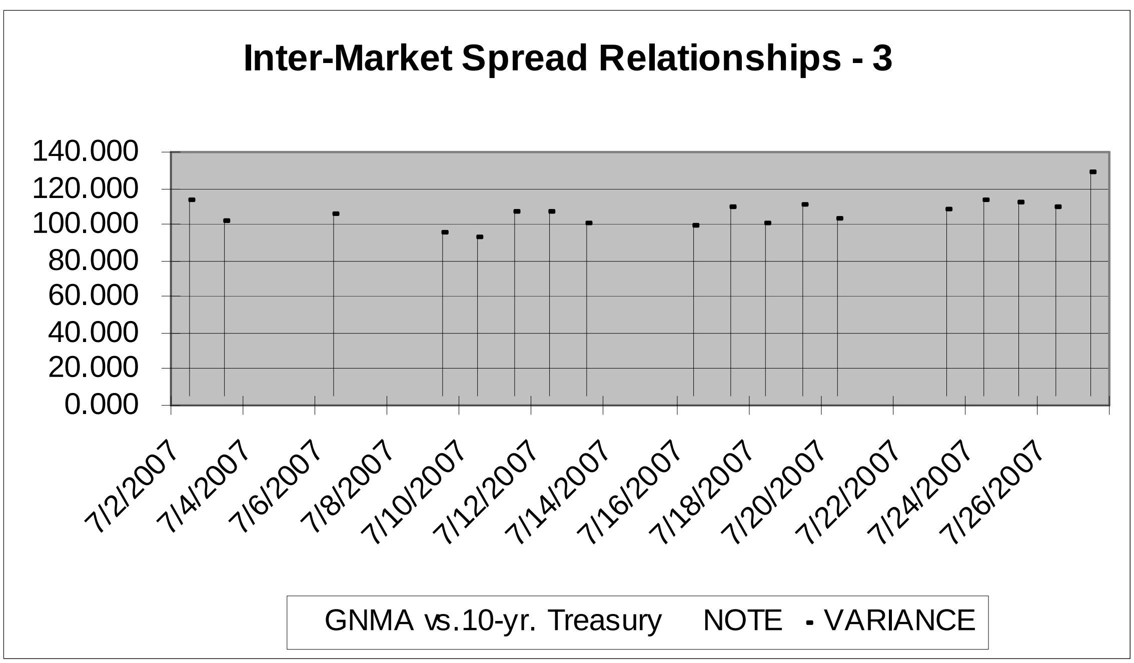
Annex XXXI – Inter-Market Spread Relationship 2 - July '07



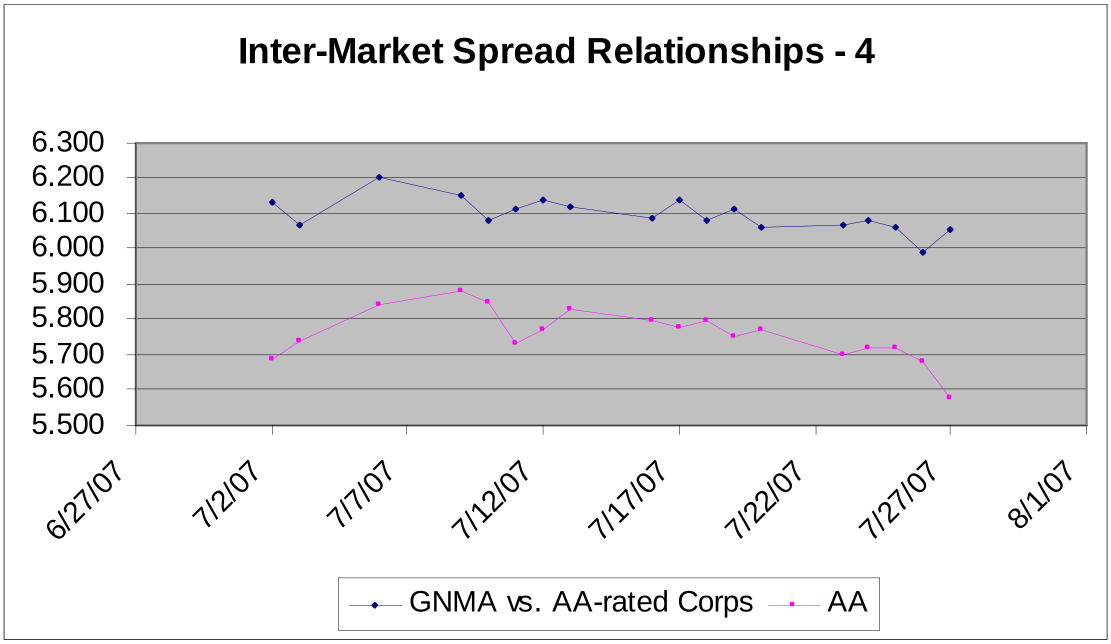


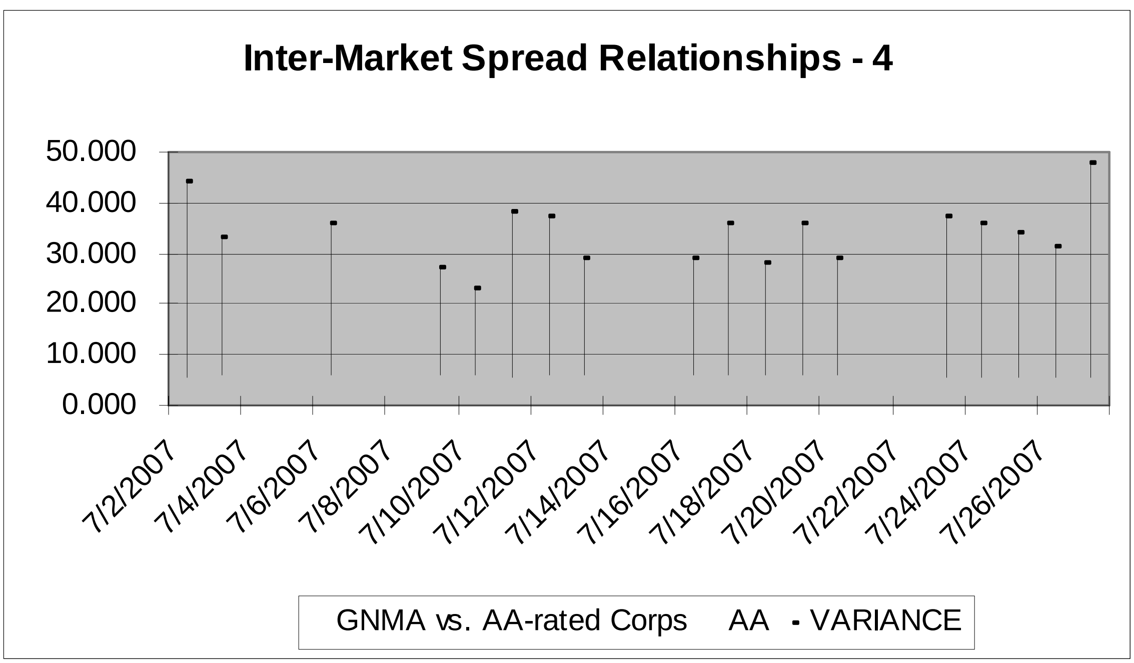
Annex XXXII – Inter-Market Spread Relationship 3 - July '07





Annex XXXIII – Inter-Market Spread Relationship 4 - July '07





Annex XXXIV – Inter-Market Spread Relationship 5 - July '07