

Fixed Income Research

KDN PP 16084/10/2012 (030859)



MALAYSIAN RATING CORPORATION BERHAD
(364803-V)

Fed's tightening cycles: A historical perspective



Economics Research led by:

Nor Zahidi Alias
Chief Economist
+603 2082 2277
zahidi@marc.com.my

In a nutshell

- The present interest rate hike cycle in the United States (US) which has lasted more than 300 days since it started on 16 December 2015 could be the longest cycle since the 1980s. In the past six rate hike cycles since the 1980s, the average interval between the first and second rate hike was only 71 days. The current upward cycle started when the Federal Funds rate (FFR) was raised by 25 basis points (bps) in December 2015 from a historical low of 0.25%. This rate hike cycle is broadly expected to be the shallowest in the past four decades. It is also likely that the FFR will end the cycle at the lowest level when compared with the levels at the end of previous cycles.
- Historical observations in the past four decades shows that the second interest rate hikes by the US Federal Reserve (Fed) were normally accompanied by increases in bond yields with the exception of two cycles: (1) the June 1999–May 2000 cycle, and (2) the June 2004–June 2006 cycle. In the June 1999–May 2000 cycle, 10-year US Treasury (UST) yields rose before the first rate hike took place and this was largely attributed to increasing transparency in communications between the Fed and the market. In the June 2004–June 2006 cycle, UST yields actually declined after the second rate hike on strong demand from China. The March 1984–August 1984 cycle was also unique as the yields declined towards the end of the cycle due to growing concerns that the Fed's aggressive FFR hikes could dampen economic growth.
- The UST yield curve tends to flatten during FFR hike cycles as demand for long-term bonds increases. Flatter yield curves also suggest that short-term bonds are more positively correlated to changes in the FFR. Sudden yield spikes during rate hike cycles usually happened when the FFR hikes took place unexpectedly, causing investors to be caught off guard. Yield spikes also tended to happen more frequently when interest rate increases were large and when the cycles were long. As for the relationship with the movements in US Dollar (USD), contrary to textbook theory, historical observations show that the greenback tends to weaken after the second rate hike.
- In the Malaysian market, yields on Malaysian Government Securities (MGS) in both the June 1999–May 2000 and June 2004–June 2006 FFR cycles showed that MGS yields were edging higher as expectations of higher rates were priced into the market, but the reverse happened after the hike materialised. The rally of MGS post-second FFR hikes can partly be attributed to reduced uncertainty over the Fed's future policy outlook.
- Moving forward, it is highly unlikely that FFR hikes will lead to a large movement in bond yields. One main reason for this is that the Fed is now using its forward guidance to assure markets that future hikes would be gradual and highly dependent on economic data releases. This gives plenty of time for investors to react appropriately if a FFR hike takes place. Upswings on yields in USTs and MGS would also be limited due to negative yielding bonds in other developed markets. The negative bond yield phenomena in Europe and Japan has encouraged search-for-yields behaviour among investors.

The past rate hike cycles

Exhibit 1: US Fed tightening cycles since 1984

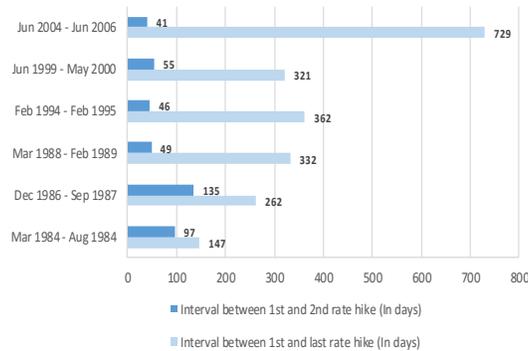
Tightening Cycle	Starting Funds Rate Target (%)	First rate hike date	Interval between 1st and 2nd rate hike (In days)	Series of hikes	Interval between 1st and last rate hike (In days)	Ending Funds Rate Target (%)	Magnitude (bps)
Mar 1984 - Aug 1984	9.500	27-Mar-84	97	3	147	11.750	225
Dec 1986 - Sep 1987	5.875	16-Dec-86	135	5	262	7.250	138
Mar 1988 - Feb 1989	6.500	29-Mar-88	49	12	332	9.750	325
Feb 1994 - Feb 1995	3.000	4-Feb-94	46	7	362	6.000	300
Jun 1999 - May 2000	4.750	30-Jun-99	55	6	321	6.500	175
Jun 2004 - Jun 2006	1.000	30-Jun-04	41	17	729	5.250	425
Dec 2015 - Present	0.250	16-Dec-15	> 300	?	?	?	?
		*Average	71	8	359	7.750	265
		*Median	52	7	327	6.875	263

Source: Bloomberg, MARC Fixed Income Research

- In the past three and a half decades, the average (and median) rate hike cycle lasted less than a year. Except for the June 2004-June 2006 period, each rate hike cycle lasted less than 365 days (one year). Only during the June 2004 rate hike cycle, it lasted about two years (729 days). The average and median number of days between the first and last rate hike were 359 days and 327 days respectively during the three-and-a-half-decade period. Excluding the June 1999-May 2000 period, the number of days between the first and last rate hike has generally increased, meaning that the cycles have become increasingly long. Judging by this, it is not surprising if the current FFR hike cycle will be the longest since the 1980s.
- In the past six cycles, the FFR was raised between 138 bps and 425 bps. The average and median increases were 265 bps and 263 bps respectively. The shortest rate hike cycle was in the March 1984-August 1984 where the FFR was aggressively hiked to combat rising inflation. The largest increase in the FFR coincided with the longest rate hike period which was in June 2004-June 2006, when Alan Greenspan implemented his “measured pace” rate hike before the 2008 crisis. The peak of the FFR at the end of each rate hike cycle has also been declining over the years, except during the June 1999-May 2000 period.
- The present rate hike has lasted more than 300 days since it started on 16 December 2015. Historically, the Fed has never been this reluctant to proceed with a second FFR hike. If the current cycle had closely mimicked the previous cycles, the FFR would have been hiked three to ten times. In addition, the intervals between the first and second rate hikes in the previous FFR hike cycles had been around 71 days on average with the longest recorded in the December 1986-September 1987 period (135 days). What makes this current cycle unique is that the FFR started at a historical low level of 0.25% (0.50% after the December 2015 hike) and the purpose of the tightening this time is to normalise their unprecedented accommodative policy amid divergent global growth. It is broadly expected that the current FFR hike cycle will be the shallowest and would end at the lowest FFR target of all cycles.

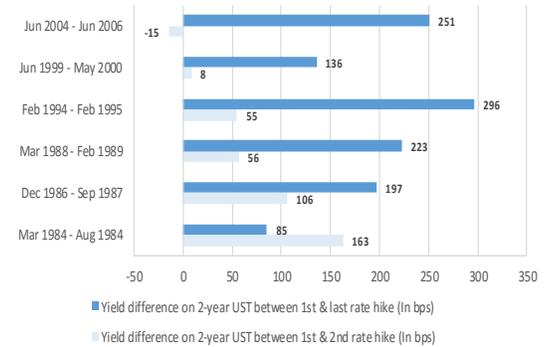
Relationship between UST yields and past FFR hike cycles

Exhibit 2: Length of interest rate hikes comparison



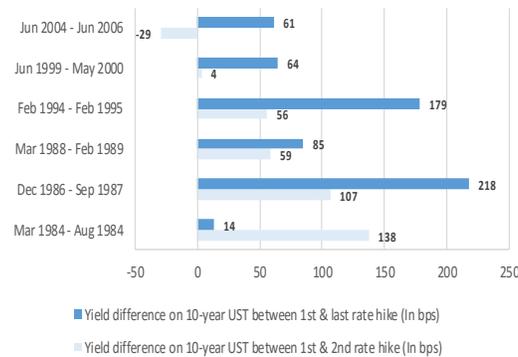
Source: Bloomberg, MARC Fixed Income Research

Exhibit 3: 2-year UST yield movement comparison in rate hike cycles



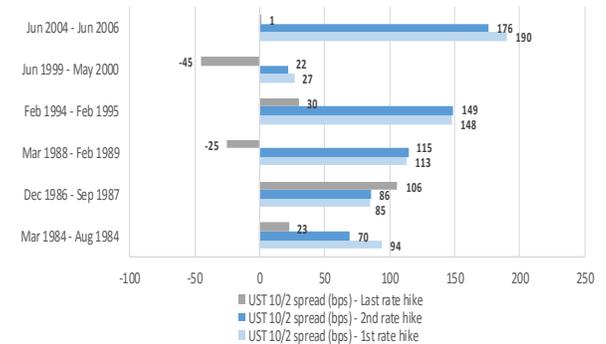
Source: Bloomberg, MARC Fixed Income Research

Exhibit 4: 10-year UST yield movement comparison in rate hike cycles



Source: Bloomberg, MARC Fixed Income Research

Exhibit 5: 10/2 UST spread during the FFR hike cycles



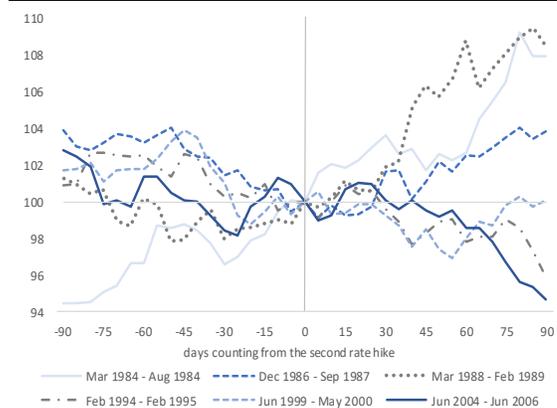
Source: Bloomberg, MARC Fixed Income Research

- In theory, higher interest rates would cause bond yields to rise as their returns would be deemed unattractive by investors as rate hikes take place. In the past six FFR rate hike cycles, the yields on the 10-year UST climbed by an average of 106 bps after the second rate hike, as investors took this as a cue that the Fed was going ahead with its monetary tightening plan. However, yields of the USTs did not exhibit this behaviour between the first and second rate hikes in the June 1999-May 2000 period as well as in the June 2004-June 2006 period. In the June 1999-May 2000 rate hike cycle, UST yields started to rise even before the first rate hike took place as more transparent communication by the Fed had caused investors to price in the impact of the rate hike much earlier. In the June 2004-June 2006 cycle, the yield on 10-year USTs had actually declined after the second rate hike. This unusual market behaviour can partly be explained by the increasing demand for USTs from China which had accumulated a massive amount of reserves. It is also believed that China had been acquiring an increasing amount of USTs in an attempt to prevent an appreciation of its currency vis-à-vis the greenback in order to maintain its export-led growth. China, which held about USD77.5 billion worth of USTs in December 2001, increased its purchases to USD223.8 billion (CAGR: 42%) by December 2004.

- The March 1984-August 1984 FFR hike cycle was also unique as the yield for the 10-year USTs declined towards the end of the cycle. In fact, yields started to drop when the second rate hike was announced by the Fed, after it rose by 138 bps to 13.8% following the first rate hike. Despite subsequent FFR hikes during this cycle, the yield kept declining. We believe that this was primarily due to the growing concerns that the Fed's aggressive FFR hike would dampen US economic growth. This was evidenced from the declining economic momentum which led to a slower GDP growth of 12% quarter-on-quarter in 2Q1984 from 12.4% in the preceding quarter.
- Historically, the yield curve for USTs tends to flatten during the rate hikes, proving that short-term bonds are more positively correlated to interest rate increases when compared to the yield for long-term bonds. This situation occurs as investors offload short-term bonds (i.e. two-year USTs), causing its yield to rise as they deem the return on such instruments unattractive. Investors would then shift towards longer-tenured bonds (i.e. 10-year USTs) to minimise interest rate risks.
- However, in the March 1988-February 1989 and the June 1999-May 2000 cycles, the yield curve for UST had flattened to the point that it inverted where the two-year UST yield was higher than the 10-year UST yield, unlike what had happened during the other four cycles under review. Notably, towards the end of the March 1988-February 1989 cycle, the FFR hikes were less consistent than before. For instance, there were four FFR hikes in February 1989 alone, with increases ranging from 12 bps to 38 bps. We believe that large and sudden rate hikes as well as prolonged rate hike intervals would cause bond yields to spike as investors would be caught off guard by the Fed's sudden move.

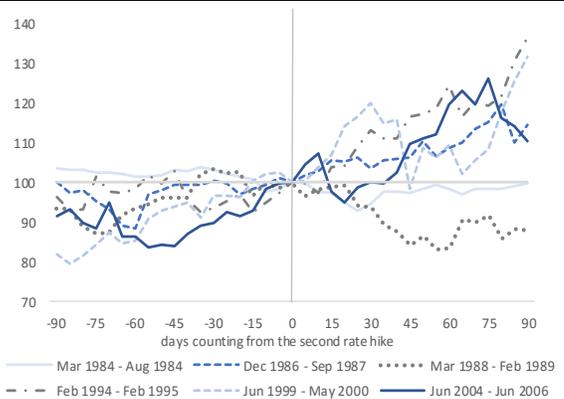
USD and oil price movements

Exhibit 6: Rebased US Dollar Index (DXY), which tracks the USD against six major currencies: before and after the second rate hike



Source: Bloomberg, MARC Fixed Income Research

Exhibit 7: Rebased West Texas Intermediate (WTI), a benchmark in crude oil pricing: before and after the second rate hike

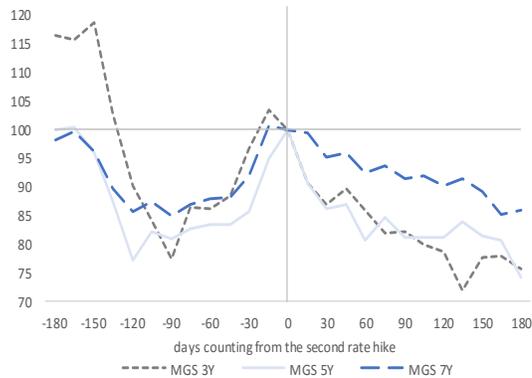


Source: Bloomberg, MARC Fixed Income Research

- The Fed's second interest rate hikes in the past cycles rarely altered the direction in the USD and oil price, reflecting that investors had generally priced in the anticipated effect of the hike even before the lift off. Theoretically, Fed rate hikes serve to enhance the relative attractiveness of US assets, which would strengthen the USD and in turn weigh on the dollar prices of commodities. However, historical observations have shown that this scenario may not necessarily happen as other factors come into play. For example, the most recent three Fed rate hike cycles: (1) the February 1994-February 1995, (2) the June 1999-May 2000 cycle, and (3) the June 2004-June 2006 cycle, saw the USD resuming its downtrend while oil prices moved upward despite the Fed raising the rate for a second time. This is because these cycles coincided with strong global economic growth that generated appreciation pressure on other currencies and greater demand for oil, which offset the dollar rally and lent some support to the oil price.

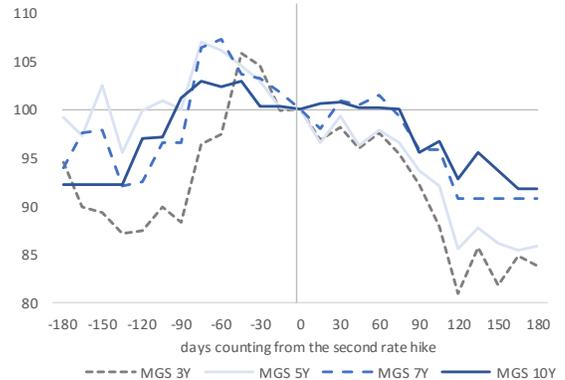
MGS performance

Exhibit 8: Rebased MGS yields, the June 1999-May 2000 cycle



Source: Bloomberg, MARC Fixed Income Research

Exhibit 9: Rebased MGS yields, the June 2004-June 2006 cycle



Source: Bloomberg, MARC Fixed Income Research

- So how did MGS fare during the past episodes of the Fed's second rate hikes? Due to limited data, we will focus on the most recent two Fed tightening cycles: (1) the June 1999-May 2000 cycle, and (2) June 2004-June 2006 cycle. Both cycles showed that MGS yields were edging higher as expectations of higher rates were priced into the market, but the reverse happened after the hike materialised. The rally of MGS post-rate hikes can partly be attributed to reduced uncertainty over the Fed's future policy outlook. In addition, USD weaknesses and upturn in oil prices also helped drive up demand for MGS. The former led the market to perceive that the ringgit, which was pegged to the dollar from 1997 to 2005, was undervalued; and the latter brightened the economic outlook of Malaysia.

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Published and Printed by:

MALAYSIAN RATING CORPORATION BERHAD (Company No.: 364803-V)
5th Floor, Bangunan Malaysian Re, No. 17, Lorong Dungun, Damansara Heights, 50490 KUALA LUMPUR
Tel.: +603 2082 2200 Fax: +603 2094 9397 E-mail: marc@marc.com.my
Homepage: www.marc.com.my