Hybrid ARM Components

As primary mortgage rates have been on the rise, renewed interest in Adjustable Rate Mortgages (ARMs) has emerged. While hybrid ARM issuance by the GSEs has been modest in recent years, mainly due to 30-year fixed rates reaching historical lows, this small sector of the mortgage market has been gaining the attention of many participants, including borrowers, lenders, and investors. The purpose of this commentary is to provide a detailed overview of hybrid ARMs and is divided into several sections for easy reference. The first section explains the mechanics of ARM loans and what factors drive borrower preference. The next section discusses issuance volumes, pricing methodology, and hedging strategies of ARM pools. The final section summarizes current market dynamics and the fundamental impact that rising interest rates has had on the hybrid ARM market.

I. ARMS 101

The Mechanics of an Adjustable Rate Mortgage

An Adjustable Rate Mortgage, or an “ARM” is a mortgage loan where the interest rate paid by the borrower adjusts on an annual* basis. The rate adjustment depends on the index, margin, and cap structure, each of which is explained in detail below. An ARM can also be referred to as a 1-year ARM. A “hybrid” ARM however, is a loan that has an initial fixed-rate period, usually for 3, 5, 7, or 10 years, after which it adjusts annually. By offering borrowers several different fixed rate periods, hybrid ARMs are the most popular type of Adjustable Rate Mortgages. Due to their popularity, hybrid ARMs will be the primary focus of this commentary.

*While some ARMs reset semi-annually, the majority of ARM loans are issued with an annual reset period.

ADJUSTMENT PERIOD

The initial rate on a hybrid ARM is fixed for a specified period. For instance, on a 5/1 hybrid ARM, the first digit, “5” refers to the initial fixed rate period, while the second digit “1” refers to the subsequent adjustment period. After 5 years, the rate on a 5/1 ARM will adjust higher or lower depending on the index and cap structure (explained below). The rate will then adjust annually for the remaining life of the loan.

INDEX

The index is a benchmark interest rate to which a loan’s margin (see section below on margin) is added when calculating the new rate paid by a borrower when the hybrid ARM loan adjusts. While there are many different benchmarks, the most common is LIBOR, or London Interbank Offered Rate. LIBOR is the interest rate at which banks can borrow funds, in large size, from other banks in the London interbank market. LIBOR is set on a daily basis by the British Bankers’ Association and terms range from overnight to one year. The 1-year LIBOR rate is the most common index used for conventional hybrid ARMs.
MARGIN AND NET MARGIN

The margin on an ARM is defined as the percentage rate that is added to the index to determine a hybrid ARM’s new interest rate at each rate adjustment (called the “fully-indexed interest rate”). As mentioned above, the most widely used index is LIBOR and the most common margin on a hybrid ARM indexed to LIBOR is 2.25%. Therefore, when a hybrid ARM's rate adjusts, the new rate is calculated by adding the margin (2.25%) to the index rate (1-year LIBOR) and rounding to the nearest 1/8th percent. This new rate (subject to caps – see section below) remains on the loan until the next reset.

Net margin is important to investors and is used when ARM loans are pooled into Agency MBS securities. When pools are created, both a guaranty fee charged by the GSE and servicing fee charged by the servicer must be subtracted from the margin. The remaining net margin is added to the benchmark index rate (1-year LIBOR), which determines the coupon rate that is passed through to the investor of the MBS pool.

CAP STRUCTURE

The interest rate cap structure identifies the maximum amount by which a loan’s rate can adjust, up or down. There are three parts to a typical cap structure: the initial adjustment cap, the periodic adjustment cap and the lifetime adjustment cap. The initial adjustment cap is the maximum amount by which the rate can be adjusted (up or down) at its first adjustment at the end of its initial fixed period. The periodic adjustment cap is the maximum amount by which the rate can be adjusted at the end of each subsequent period following the initial fixed period. Finally, the lifetime cap is the maximum amount by which the rate can be adjusted over the entire life of the loan.

The most common cap structures on hybrid ARMs are 2/2/6, 2/2/5 and 5/2/5. The 2/2/6 cap structure is most commonly seen on the 3/1 hybrid ARM product. 2/2/5 and 5/2/5 are common on the 5/1 hybrid ARM product. Lastly, 7/1 and 10/1 hybrid products generally have 5/2/5 cap structures.

NOTE: Please refer to the outline distributed on 8/13/2013 which describes the difference between 2/2/5 and 5/2/5 cap structures, specifically for 5/1 hybrid ARMs.

FLOOR

The interest rate floor on an ARM is simply defined as the lowest rate to which the interest rate can adjust at any point during the life of the loan. Most Fannie Mae ARM plans do not have an explicit floor, but the interest rate cannot decline below its stated margin. The most common margin value for 1-year LIBOR indexed ARMs is 2.25%. Therefore, the borrower’s rate could not adjust any lower than 2.25%. For easy reference, please refer to the Fannie Mae Standard ARM Plan Matrix here: Fannie Mae ARM Matrix

LOOKBACK PERIOD

The lookback period identifies the number of calendar days the servicer “looks back” from the ARM’s reset date to calculate the new interest rate on the loan. The most common lookback period on Fannie Mae ARMs is 45 days. Therefore, if the reset date is September 1, the servicer would use the index value from July 18th to calculate the new rate and payment on the loan.

OVERVIEW CONCLUDED: EXAMPLE

Now that the definitions of index, cap structure, floor, margin, and lookback have been provided, an example is shown below to show the mechanics of each component.

- Assumptions:
  - Product: 5/1 ARM
  - Index: 1-year LIBOR
  - Initial Fixed Rate: 3.50%
  - Cap Structure: 2/2/5
• Margin: 2.25%
• Floor: 2.25%
• Lookback Period: 45 days
• First Adjustment Date: 9/1/2013
• First Payment Date: 9/1/2008

In this example, the loan’s rate is 3.5% for the first 5 years until the first adjustment on September 1. The initial adjustment cap of 2% means that at the first adjustment at the end of the 5-year initial fixed rate period, the rate could adjust as high as 5.50% or as low as 2.25%, which is the floor. The periodic adjustment cap is also 2%, so if the rate adjusted to 5.50% at the first adjustment, it could adjust to a maximum of 7.50% and a minimum of 3.50% at the next adjustment a year later. The lifetime adjustment cap is 5.0%, so the maximum the rate could reach in our example is 8.5% (initial rate + lifetime cap).

In order to calculate what the rate will adjust to on September 1, the servicer looks back 45 days from the adjustment date, which is July 18. On July 18, the 1-year LIBOR value was 0.681%. Finally, the margin is added to the index value to get 2.931% (0.681% + 2.25%). The calculated rate is then rounded to the nearest 1/8th, so the new adjusted rate to the borrower becomes 2.875% on September 1.

For guidance on specific ARM plans, please refer to section B2-1.3-02 of the Fannie Mae Selling Guide.

II. Drivers of Renewed Interest in Hybrid ARMs & Borrower Profile

Renewed Interest

STEEP YIELD CURVE

The US Treasury curve is commonly referred to as the “yield curve.” When measuring the steepness of the treasury or yield curve, one would take the difference between the 10yr UST note yield and the 2yr UST note yield. On August 1, 2013, the 10yr yield was ~2.71% while the 2yr yield was ~0.33%. Therefore, the curve was 2.38% or 238 bps steep (2.71% - .33% = 2.38%). On January 2 of this year, the 10yr yield was 1.84% vs a 2yr yield of 0.26%, leaving the curve 158 bps steep. Obviously, the curve has steepened since the beginning of the year.

In general, the steeper the curve, the more ARM origination picks up. Why? 30-year mortgages are more correlated with the longer end of the yield curve (i.e. the 7-year or longer part of the curve). In contrast, given that most hybrid ARMs are indexed to the 1-year Treasury or 1-year LIBOR rates and they adjust for the first time in 3 to 10 years (3/1, 5/1s, 7/1s, and 10/1s are the most common), they are usually more correlated with the shorter end of the curve. The steeper the curve, the larger the difference between long term and short term rates which usually translates into a larger difference between 30-year mortgage rates and hybrid ARM rates. The larger the difference between the two, the more likely a borrower will opt for a hybrid ARM as opposed to a 30-year fixed rate loan.

DIFFERENCE IN RATE VS 30YR FIXED RATE PRODUCT

Historically, borrowers tended to prefer hybrid ARMs when the rate differential between the hybrid ARM product and a 30-year fixed rate loan was ~1.0% (100 bps) or greater. However, at the beginning of the year, the rate differential was closer to 125 – 150 bps, but hybrid ARM production remained limited. Why? Presumably because the absolute rate on the 30-year fixed rate loan was hovering in the 3.50% - 3.75% range. Borrowers may have preferred to lock in a fixed rate for 30 years at historical lows vs. taking a lower rate in the 2.25% – 2.50% range on a hybrid ARM that would likely adjust to a higher rate in the future. Today, 30-year rates are in the 4.5% to 4.75% range and interest in hybrid ARMs is beginning to pick up despite the fact that the rate differential has dropped to 100 bps from the 125–150 bps range seen earlier this year. (See section on market dynamics below to understand why rate differential has decreased).
**Borrower Profile**

**WEALTH MANAGEMENT PRODUCT**

One of the reasons hybrid ARMs are considered by borrowers is the potential use as a wealth management product. The initial rate for a hybrid ARM is generally lower than a standard 30-year fixed rate mortgage, so the monthly principal and interest payment is lower. Financially savvy borrowers may consider hybrid ARMs in order to make a lower monthly mortgage payment and invest the money saved elsewhere.

**AFFORDABILITY AND PURCHASING POWER**

Affordability and purchasing power have historically driven interest in hybrid ARMs as well. Obviously, a lower initial rate translates into a lower payment which makes hybrid ARMs a very attractive product from an affordability standpoint. Alternatively, when comparing a hybrid ARM to a 30-year fixed rate loan, a borrower could borrow more money on the hybrid ARM and maintain the same principal and interest payment incurred on the 30-year fixed rate loan given the lower rate.

Although affordability and purchasing power are viable motivators for borrowers, underwriting standards have become more stringent in recent years reducing the use of hybrid ARMs solely for these purposes. For example, for hybrid ARMs with fixed rate terms of 5 years and less, the borrower must qualify on the greater of the fully indexed rate or the note rate (initial rate) + 2.0%. For hybrid ARMs with fixed rate terms of 7 to 10 years, the borrower must qualify on the greater of the fully indexed rate or the note rate. See [Fannie Mae Selling Guide B2-1.3-02](#) and/or [DU Release Notes Version 9.1](#) for reference.

**Summary**

As mentioned above, borrower preference for hybrid ARMs tends to be influenced by the ability to use them as a wealth management tool, affordability, purchasing power, the absolute level of fixed interest rates, and the interest rate differential between 30-year fixed rate mortgages vs. hybrid ARMs. Given that 30-year fixed interest rates have been at historical lows for most of the past year, hybrid ARM origination has remained extremely low.

**III. Hybrid ARM Volumes – MBS Issuance & Application share**

**MBS Issuance**

According to eMBS, hybrid ARM issuance remains quite low. In July, hybrid ARM issuance represented only ~3.6% of overall MBS issuance. Nevertheless, issuance volumes were largest in 7/1s, followed by 5/1s and despite the meager volumes, hybrid ARM issuance is trending higher.

*The chart below shows standard Fannie Mae, Freddie Mac and Ginnie Mae 3/1, 5/1, 7/1 & 10/1 hybrid ARM MBS issuance by product from August 2012 through July 2013. Source: eMBS.*
Application Share

According to Freddie Mac’s Primary Mortgage Market Survey, since 2008 the share of hybrid ARM applications has averaged only 6.2% of mortgage applications. By contrast, however, ARM share averaged nearly 27% of applications between 2003 and 2007. (Note, a larger selection of ARM products were available in 2007 and prior and likely contributed to the larger percentage of applications. Therefore, today’s market may not see the same number of borrowers shift to ARMs or hybrid ARMs). See: Freddie Mac Refi and ARM Share Data

IV. Pricing of MBS Hybrid ARMs

Main Attributes

In the absence of a TBA market, hybrid ARM MBS pools are priced based on the composition of their main attributes and unique characteristics. The main attributes of a hybrid ARM pool that are evaluated are agency, product, index, coupon and cap structure.

- **Agency**: The term agency identifies the guarantor of the security: Fannie Mae, Freddie Mac or Ginnie Mae.

- **Product**: Product is synonymous with the fixed rate term. An example of the product is a 5/1.

- **Coupon**: Bloomberg defines coupon as the interest rate stated on a bond. In other words, the coupon is the interest rate at which the investor (bond holder) will be paid. The coupon may also be referred to as the net coupon. In fixed rate MBS space, coupons are quoted on the half or whole coupon, for example, 3.5% 4.0% or 4.5%. In ARM MBS space, coupons are generally presented in weighted average form. In other words, an ARM MBS pool is generally a WAC (weighted average coupon) pool. Therefore it is not uncommon to see an ARM MBS pool with a coupon of 3.47% or a 3.53% etc. Note, in order for a lender to calculate a coupon, the lender must subtract the MBS g-fee and servicing amount from the weighted average of the borrower note rates which is also referred
to as the GWAC (gross weighted average coupon). GWAC may also be referred to as the gross WAC or gross coupon.

- **Cap Structure**: Cap structure was defined earlier and is generally 2/2/6, 2/2/5 or 5/2/5 depending upon product
- **Example**: An example of the main attributes may look like this: Fannie 5/1 LIBOR 3.47% net coupon with 2/2/5 caps.

**Unique Characteristics**

Even if two pools have the same agency, product, cap structure and the same/similar coupon, pricing can still vary significantly depending on the underlying loan composition of each pool. Below is a list of several of the standard characteristics that investors analyze when trading/pricing hybrid ARM MBS pools.

- **Pool size**: Pools over $10 million tend to receive a greater amount of liquidity.
- **Loan balance**: Higher loan balances tend to prepay faster and investors look carefully at the percentage of higher conforming-balance loans (over $417k).
- **Number of Loans**: The greater the number of loans in a pool, the smaller the affect that a single loan paying off has on the whole pool.
- **Margin**: Pricing can differ for non-standard margins. Currently, the standard margin on LIBOR indexed ARMs is 2.25%. This may also be referred to as the gross margin.
- **Net Margin**: As defined earlier, in conjunction with the index, net margin is used to determine the coupon that gets paid to the investor at each adjustment so investors scrutinize carefully. Note, in order for a lender to calculate the net margin, the lender must subtract the MBS g-fee and servicing amount from the gross margin.
- **GEO**: GEO is short for geography. Certain states tend to prepay faster/slower so pricing can vary depending upon state concentration.
- **GWAC**: By comparing the GWAC to current, comparable interest rates, investors seek to evaluate the refinance incentive of the loans in the pool. The higher the GWAC, the more likely the borrower may refinance at a lower rate, which can lead to faster prepay speeds.
- **Note Rate Distribution**: This term describes the difference between loans with the highest and lowest note (interest) rates in a pool. A wide note rate distribution could make a pool less attractive to an investor as higher note rates would likely pay off sooner than lower note rates, causing the weighted average coupon to decrease more quickly as the pool seasons, a phenomenon known as “coupon drift”. Pools with this wide coupon dispersion are referred to as a “barbell.” Typically, investors prefer to purchase a pool with no more than a 50 basis points difference between the highest note rate and the lowest note rate.
- **Age**: Age is also referred to as “seasoning.” Seasoned pools may trade differently than new pools since borrowers tend to refinance their loans as they approach their reset dates. Hence, prepay speeds on seasoned pools can be much faster than newer issues.
- **TPO Percentage**: Third-Party Origination indicates that it was not originated directly by a lender. TPO pools may have a tendency to prepay faster than traditional retail pools, so pricing can be drastically different.
**Difference in MBS Agency Execution**

For lenders who issue agency hybrid ARM securities, the pricing may vary between a Fannie Mae MBS and a Freddie Mac MBS. One of the main differences between the two agencies is the stated payment delay, which can notably impact price execution.

Bloomberg defines the **stated delay** as the number of days in the accrual period plus the number of days between the end of the accrual period and the coupon payment to the investor. Fannie ARM pools remit payments to investors on the 25th of the month, while Freddie ARM pools remit payments on the 15th of the following month. Therefore, the difference in delay between the two agencies is 20 days.

Assuming the same net coupon, Freddie ARM pools will normally trade at a lower price than Fannie ARM pools because the investor in the Freddie ARM pool has to wait 20 additional days to receive the monthly interest payment. In today's low interest rate environment, the delay is currently worth approximately 3.5/32s. In a higher interest rate environment, however, the additional 20-day delay makes the foregone reinvestment income by the investor in Freddie pools even more valuable. Therefore, based solely on delay, the price difference will be even larger.

**MBS Pricing Conventions**

Pricing for hybrid ARMs is often quoted as a Z or N Spread. Z spread is defined as the zero volatility spread to the US Treasury curve while the N spread is the static spread to a single point on the swap curve. When quoting any instrument as a spread over a benchmark curve, the tighter (or lower) the spread, the higher the price and the wider (or higher) the spread, the lower the price. Said another way the term “tighter” is synonymous with outperformance while the term “wider” is synonymous with underperformance.

**V. Hedging Hybrid ARMs**

**Cross Hedging**

Unlike the fixed rate market, there is no TBA market for hybrid ARMs which makes hedging the interest rate risk a much more difficult task. Below are a few examples of products that have been used to cross hedge against a hybrid ARM pipeline. (Cross hedging is the practice of taking an offsetting position in one product to hedge against the price movement of the other product).

- Fannie 15-year TBA (Dwarfs) – the practice of shorting dwarfs (selling 15yr Fannie TBA) on a duration-weighted basis vs. the hybrid ARM position/pipeline
- U.S. Treasuries – the practice of shorting certain tenors of Treasuries (usually 2-year, 5-year, 7-year or 10-year) or combination thereof on a duration weighted basis vs. the hybrid ARM position/pipeline
- Interest Rate Swaps – the practice entering into an agreement to pay a fixed interest rate and receiving a floating interest rate vs. the hybrid ARM position/pipeline
- Eurodollar Futures – the practice of shorting Euro Dollar Future contract(s) vs. the hybrid ARM position/pipeline.

By definition, a cross-hedge is not a perfect hedge because it introduces basis risk. Basis risk is the possibility that for a given movement in interest rates, the change in value of a hybrid ARM position will not be perfectly offset by the change in value of its hedge instrument, which can result in a loss. So, while many hedging strategies are utilized, few are perfect.

**Forward Sales**

Given that lenders face this same dilemma when hedging a hybrid ARM pipeline, some lenders choose to sell **stipulated pools forward**. While this practice eliminates basis risk, it creates some other challenges. First, since
there is no TBA market in hybrid ARMs, liquidity may suffer for smaller pools. As a general guide, investor pricing improves on pool sizes of $10 million or larger.

Second, it may be difficult for some lenders to meet the stipulations of the forward trade. If loans fall out of the pipeline and new loans are substituted, the substituted loans may not carry the same interest rates as the original loans. Therefore, the GWAC (gross weighted average coupon) of the pool could fall outside of the trade’s stipulated variances. Common examples of the stipulated variances that are associated with an ARM forward trade are:

- +/- 2 months WALA (weighted average loan age)
- +/- 10 bps Net Margin
- +/- 10 bps GWAC
- +/- 2% UPB tolerance (unpaid principal balance)

Next, if a lender cannot make delivery of a hybrid ARM pool at the time of settlement, it may be difficult to move settlement out to a later month. Unlike the fixed rate TBA market where a lender generally can execute a dollar roll and extend the settlement of a fixed rate trade, the lender must negotiate with the investor with whom the trade was originally done if a change in the settlement date is needed. Since investor needs vary, the cost to extend the settlement to the following month may be prohibitive.

The final challenge introduced in selling stipulated hybrid ARM pools forward is the need to perform yield maintenance. Yield maintenance is generally performed right before settlement, and is the standard practice of adjusting a pool’s price up or down given any difference between what was traded (sold forward) and what is being delivered. Typically, this includes differences in GWAC, Margin or WALA (weighted average loan age).

It is important to note that if WALA, Margin and/or GWAC fall outside the original trade stipulations, the investor has the right to reprice the deal. Most UPB differences will either be handled by a pair off for an under delivery or an acceptance of the over-delivery at the original trade price or at some price concession. Larger under/over-deliveries must be handled on a case by case basis. Therefore, lenders must be very diligent about managing their deliveries into forward stipulated trades.

VI. How Current Market Dynamics Have Shaped the Hybrid ARMs Market

Recent Hybrid ARM Performance

As previously mentioned, hybrid ARMs have remained a very small segment of the mortgage market for quite some time. Given the lack of supply in this sector, strong demand for shorter-duration assets earlier this year led to a significant tightening in ARM Z spreads. However, as the market began selling off in May, a dramatic widening in ARM Z spreads took place. As liquidity for hybrid ARMs began to disappear, obtaining accurate price points became difficult. The graph below displays the recent widening in 5/1 Z spreads that quickly occurred once the selloff was underway. Although hybrid ARM Z spreads have managed to tighten marginally over the last few weeks, both pricing and hedging remain extremely difficult in this tenuous environment.
The red line (left axis) shows where Z spreads on Agency 5/1 hybrid ARMs with 5/2/5 caps have been observed over the last 12 months and the blue line (right axis) shows where the 5-year U.S. Treasury yield has been observed over the same time period. Source: Fannie Mae Trading Desk and Bloomberg.

**The Impact of Rising Interest Rates**

The above graph shows how much widening has recently taken place in hybrid ARMs. However, hybrid ARMs were not the only sector to re-price so quickly. Fixed rate MBS also came under significant pressure. For example, according to Bloomberg, on May 1, FN 30-year 3.5s were priced at 106-18+, but, by the end of July, had declined to 100-30. This selloff was largely based on the expectations that the Fed would soon be ending its quantitative easing program. (*Please see commentary from 8/6 titled “An Update on the Recent Volatility in the Mortgage Market” for more details.*)

Earlier this year, hybrid ARMs had been viewed as a generally liquid product based on the way they had been trading, but the dramatic market sell off forced a repricing of the liquidity premium. (Remember, there is no TBA market for hybrid ARMs so they are not viewed as nearly as liquid as fixed rate loans/pools that are eligible for TBA delivery).

As the selloff continued and Z spreads began to widen in earnest, there was both outright selling of hybrid ARM pools as well as sharp contraction of investment appetite from a number of typical hybrid ARM investors:

- First, **REITs**, who have historically been large buyers of hybrid ARMs, became large sellers into the sharp selloff. Because many REITs are often highly leveraged, lower MBS valuations led to margin...
calls. As a result, REITs sold MBS, including hybrid ARMs, in order to make payment on these obligations.

- Meanwhile, money managers have been noticeably absent buyers in the hybrid ARM market as they manage redemptions in their bond funds.
- In addition, bank portfolio demand in the new issue hybrid ARM market has been limited and some banks may be filling their shorter duration investment needs with their own origination. This has eliminated the need to purchase pools in the secondary market.

Often times, significant widening in hybrid ARM spreads (Z and/or N spread) occur at times when the market is repricing, and the significant selloff was an important catalyst in this latest market repricing. While Z spreads on hybrid ARMs have recently stabilized and even begun to tighten, spreads remain much wider than where they began this year. However, despite better valuations and wider Zs vs. the beginning of the year, many of these hybrid ARM investors have been slow to re-enter the hybrid ARM market.

VII. Conclusion

There are many moving parts and special considerations when dealing with hybrid ARMs. Hybrid ARMs can be complex, and the lack of a TBA market makes hedging a challenge. Pricing can also be a challenge as factors such as TPO and other characteristics can have a significant impact on price. Appropriately pricing and hedging an ARM pipeline requires expertise and access to liquidity. Underwriting guidelines and public perception have also changed since the last time hybrid ARMs made up a significant portion of MBS issuance and/or mortgage applications. Underwriting guidelines are stricter and the public perceives hybrid ARMs as riskier products. The truth is there is a trade off with any hybrid ARM loan. Generally, a borrower benefits from a lower rate/payment during the fixed rate portion of the loan but is at risk of the rate adjusting higher after the fixed rate period.

Additionally, the sell off has caused 30-year fixed rates to increase significantly and although hybrid ARM rates have also risen, they still sit ~100 bps below their 30-year counterparts. Although the rate differential of 100 bps has significantly shifted borrower preference to the hybrid ARM product in the past, it is doubtful that same difference will cause the same type of shift in today’s market given tighter underwriting, reduced product offerings and public sentiment. Nevertheless, lenders prefer to give borrowers options so offering hybrid ARM products in today’s environment will likely persist.

Z spreads are significantly wider today vs. where they started the year but material investor demand has not returned yet. Investors have many factors to consider including more global factors such as the direction of interest rates. With the market poised for Fed tapering, investors must prepare themselves for higher rates. If higher rates are on the horizon, investors may prefer to wait and invest later at higher yields.

The challenges listed above are common to all lenders as they contend with in the hybrid ARM market. Therefore, any company considering a secondary execution strategy in hybrid ARMs should carefully consider the above. We are happy to help so please call the Capital Markets Sales Desk at 800-752-0257 with any questions.

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