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Implications of a Federal Funds Rate Hike on Asian Securities

The prospect of a higher U.S. federal funds rate can make U.S. cash and short duration Treasurys look more attractive vs. risky assets. The effect of higher U.S. short rates is felt across all asset classes, regardless of the pattern of cash flows or currency of denomination. We can expect some market reallocation out of risky assets and into risk-free assets. But why does the market seem to fear a wholesale shift out of risky assets and why might that view be unjustified? This month, we examine the ways in which an initial rate change impulse in the U.S. could affect security values in the U.S. and Asia.

A Framework for Considering the Effects of a U.S. Rate Hike on the Yield Curve

All else equal, a higher U.S. federal funds rate makes both bonds and equities look less attractive, but all else is rarely equal.

The fear of a rate hike is powered by the tacit assumption that rates along the entire yield curve will rise in tandem. Only such a parallel upward shift would raise discount rates on all cash flows from risky assets (e.g. equities and corporate bonds). Consequently, the present value of those assets would decline, if cash flows stay the same.

Importantly, the Federal Reserve holds sway over only short-term rates through its setting of the federal funds rate. This policy rate may be affected more by Federal Open Market Committee assessments of economic growth than by inflation.

Moreover, this short rate is a weak lever on longer rates. Rates at longer maturities embed the compounded effect of expected future real rates, expected inflation and a term risk premium that captures the volatility of these factors. Market anticipation of higher future inflation, or the possibility of inflation surprises, will be expressed as higher long-term interest rates. The Fed's credibility anchors these market expectations, and the loss of that credibility is perhaps the biggest risk to long-term rates.

In rate hike cycles over the past 20 years, Fed credibility may have been enhanced by the very act of raising rates in the first place. One indication is in the flattening of the U.S. yield curve. In each cycle, short rates rose more than long rates. Interestingly, in two of the past four hike cycles, the longer part of the curve (10-year to 30-year) *declined* in yield.

A parallel shift in the yield curve is as rare as receiving the equity market's long-term average annual return in any single year. Most likely, a future federal funds rate hike will not translate into higher rates all along the curve.

As seen in Figure 1, only the 1994 rate hike cycle saw an upward shift in the entire yield curve, yet yields at longer maturities rose less than those at the front end.

Figure 1. YIELD CHANGE IN U.S. TREASURYS, 1 YEAR AFTER BEGINNING OF HIKES (%)

Date of Fed Hike	3m	2y	5y	10y	30y
2/4/1994	2.67	2.86	2.11	1.62	1.27
3/25/1997	-0.20	-0.72	-1.01	-1.13	-1.04
6/30/1999	1.01	0.68	0.38	0.10	-0.19
6/30/2004	1.85	0.84	-0.14	-0.71	-1.11

Changes in yield percentages relate to each bond of each maturity, 1-year after the hike starts.
Source: Bloomberg

This small sample of rate hike cycles indicates that at the very least, it is possible for long-term rates to decline following a rate hike. Once the Fed takes the first step to dampen inflation, expected inflation all along the yield curve declines. This effect can cause nominal yields to decline at longer maturities when the compounded effects of lower expected inflation overtake higher expected short rates.

What Happened After the Previous Rate Hike Cycle?

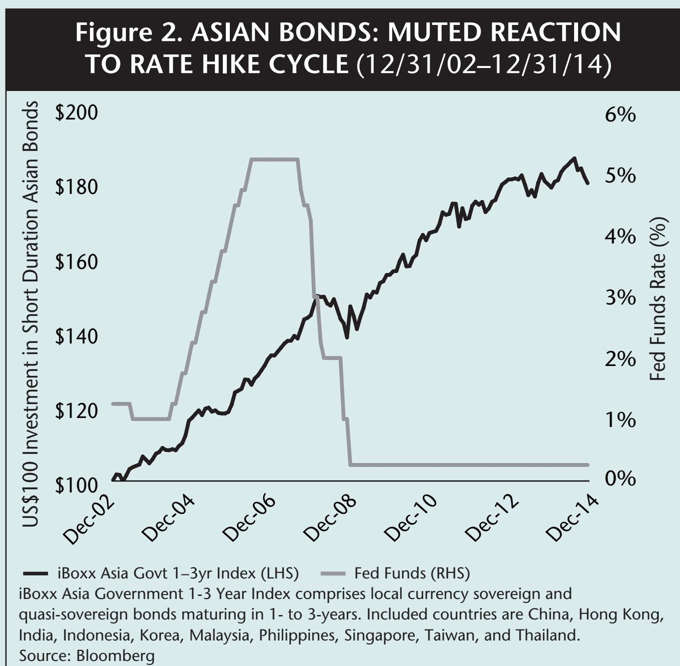
Do risky assets sell off following a federal funds rate hike? To ground the discussion, let's look at Asian sovereign bond returns (in USD terms) during the last federal funds rate hike cycle. In June 2004, the Fed embarked on the first of 17 rate hikes, staged in increments of 25 basis points (0.25%). By the time the cycle reversed into a rate cut cycle in August 2007, Asian bonds had generated a return of 27.8% (8.1% annualized).[1]

Figure 2 shows the steady march forward of Asian bonds through the last hike cycle.

1 Short duration Asian sovereign bonds are the focus here. The U.S. federal funds rate is an overnight rate, so we want to minimize the effect of expected inflation differentials between the U.S and Asian economies, which tend to dominate return differentials at longer maturities.

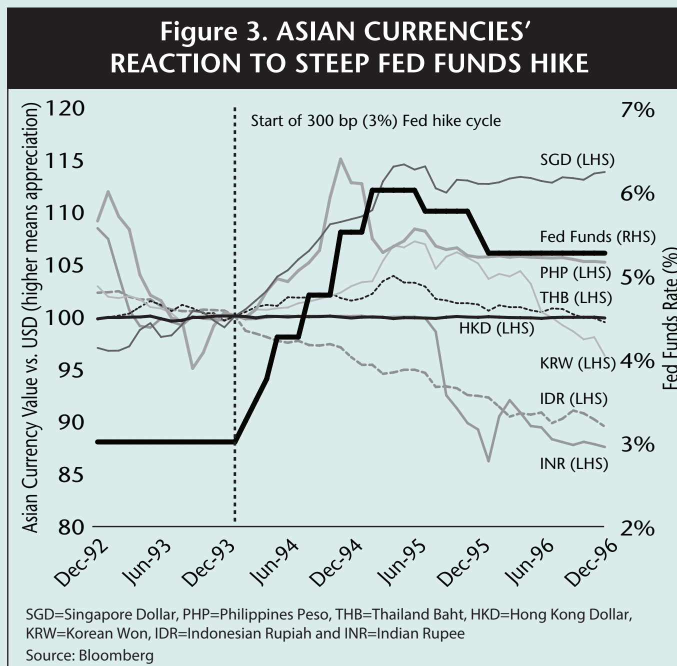
"A rise in the U.S. short rate does not necessarily result in higher rates anywhere along an Asian yield curve."

Figure 2. ASIAN BONDS: MUTED REACTION TO RATE HIKE CYCLE (12/31/02–12/31/14)



iBoxx Asia Government 1-3 Year Index comprises local currency sovereign and quasi-sovereign bonds maturing in 1- to 3-years. Included countries are China, Hong Kong, India, Indonesia, Korea, Malaysia, Philippines, Singapore, Taiwan, and Thailand.
Source: Bloomberg

Figure 3. ASIAN CURRENCIES' REACTION TO STEEP FED FUNDS HIKE



SGD=Singapore Dollar, PHP=Philippines Peso, THB=Thailand Baht, HKD=Hong Kong Dollar, KRW=Korean Won, IDR=Indonesian Rupiah and INR=Indian Rupee
Source: Bloomberg

Asian equities also rallied (33.2% annualized for the MSCI AC Asia ex Japan Index) as did the S&P 500 Index (10.4% annualized). Even intermediate U.S. Treasurys generated a 3.7% annualized return over that period.[2]

And Currencies?

The standard narrative is that a U.S. rate hike draws investors to the U.S. because of higher rates on dollar deposits. Alternatively, maybe a rate hike ratifies a view that the economy is on the path to sustained growth, boding well for U.S. equities. Then, the liquid and open U.S. capital markets absorb international investments, increasing demand for the dollar, and hurting Asian currencies.

Let's look at the historical record in Figure 3. The June 1994 experience shows relatively stable Asian currencies leading up to the hike, and strengthening in aggregate after the start of the hike.

From the start of the 1994 hike cycle until the beginning of the tightening cycle, Asian currencies gained 3.7% on average. Asian currencies were not hurt either in the 2004–2006 hiking cycle, when they gained 12.4% on average.

Higher returns on Asian bonds (vs. lower yielding U.S. Treasurys) were enhanced, not negated, by currency movements. Asian local bond total return outperformance (coupon + price return + currency appreciation) occurred during a 425 basis point (4.25%) rise in U.S. federal funds over the 2004–2006 cycle.

2 Source: Barclays Intermediate U.S. Treasury Index, 6/30/04-8/31/07.

Double Duration of Asian Bonds

Asian local currency bonds are sensitive to changes in both global and local rates. Sovereign bonds issued by more globally integrated countries should be expected to be more sensitive to changes in global rates. That's the theory, but in practice, sovereign bond sensitivity to global rates (with U.S. rates being the proxy for global rates in this discussion) is time varying. In many cases, local rates evolution is completely disconnected from whatever is happening in the U.S., Europe, or Japan.

Historically, Asian local currency bonds have been more sensitive to the particulars of their national economies and monetary policies. In June 2005, one year after the U.S. started the rate hike cycle, the ENTIRE Korean yield curve had shifted DOWN 40–55 basis points (0.40–0.55%). That occurred in the context of a 225 basis points (2.25%) rise in U.S. federal funds over that period.

The Korean capital markets are relatively well-integrated, so a 3% price rise in the Korean 10-year Treasury bond may have surprised pundits who assumed that developed Asia bonds moved in lockstep with U.S. federal funds. It may have surprised them even more to see the 21% total return of that bond (price + coupon + currency return).

A rise in the U.S. short rate does not necessarily result in higher rates anywhere along an Asian yield curve. Even the U.S. Treasury curve does not move in lockstep with the U.S. short rate—the 10-year U.S. Treasury fell 70 basis points (0.70%) in yield in the first 12 months of the 2004–2006 cycle.

“The tightening bias of the Federal Reserve stands in stark contrast to the loosening bias of Asian central banks.”

Non-USD sovereign bonds have both global duration and local currency duration. Asian bond sensitivity to changes in global rates varies. It is higher when Asian business and credit cycles are in sync with global cycles. A synchronized global recovery, for instance, would raise real rate and inflation pressures everywhere, including Asia. In general, Asian local currency bonds are more sensitive to local currency durations, i.e. the bond’s price sensitivity with respect to a change in local interest rates.

Over the long run, this is one reason that unhedged Asian local currency bonds may offer diversification benefits.

Asian Equity Duration

The effect of higher U.S. rates on Asian equities is as nuanced, but in a different way. Theoretically, the market value of equity should represent the present value of free cash flows to equity holders. If cash flows remain stable, a higher discount rate should depress the present value of those cash flows. As long-lived assets, equity markets, in aggregate, should have a high sensitivity to interest rate changes, yet even in the U.S., they have short empirical durations.

When we consider the sensitivity of Asian equities to rates changes, whose rates are we talking about? In fact, Asian equity price sensitivity to instantaneous changes in U.S. rates is zero. Their sensitivity to instantaneous changes in their local rates is also zero. It would be an unwise investor who makes equity decisions based on a day’s change in interest rates.

Equity sensitivity to rates changes is expressed over longer horizons, reflecting a secular change in both the interest rate environment and larger macroeconomic cycle. Though it should be clear by now that a rise in U.S. short rates does not imply a general rise in yields in either the U.S. or Asia, let’s assume that the yield curve does rise in parallel in all global curves. Under that unlikely scenario, how should Asian equities fare?

Future cashflows from any given company can be decomposed into: (1) present value of in-place operating assets, assuming no growth; (2) present value of growth opportunities. The first component should have a large duration because it is economically a risky bond with fixed cash flows. The second component should be somewhat immunized against higher rates (or higher inflation) because of the inherently greater pricing power of projects yet to be undertaken.[3]

Highly levered firms with little pricing power and high dividends would be most vulnerable to a rate hike. Regulated electric utilities are a good example. Less vulnerable are sectors such as equity Real Estate Investment Trusts (REITs) and telecoms which, despite their generally high dividends, can raise prices with inflation. Least vulnerable are unlevered high-growth firms.

The average equity has much more of its value attached to the present value of growth opportunities than to the value of existing operating assets. Since growth opportunities (hence pricing power) dominates the valuation, it makes sense that equities have lower empirical duration than would be expected from a standard discounted dividend model analysis of discount rate effects on valuation.

Assuming that Asian firms benefit from higher economic growth than developed market counterparts, a higher portion of their intrinsic value lies in growth opportunities. Therefore, Asian equities should be less sensitive to higher interest rates. Of course, a fuller treatment would explore the effects of credit concerns arising from leverage, foreign currency liabilities, higher investment income from higher rates (e.g. banks and insurers), etc.

What Can We Expect This Time Around?

While the coming rate cycle in the U.S. may result in a different experience, a review of history is useful in addressing the reflexive fear that a rate hike cycle necessitates negative returns in worldwide, specifically Asian, risk assets.

What we can be more certain about is that Asian fixed income is more strongly tethered to changes in local policy rates, and less so by global rates. In turn, Asian policy rates are determined under different business cycles, inflation environments, and economic growth parameters. This is important to note, because a key difference this time is that the U.S. and Asian economies are on different growth and monetary policy trajectories.

The U.S. continues to recover while most of Asia is treading water. The tightening bias of the Federal Reserve stands in stark contrast to the loosening bias of Asian central banks. Core inflation in most Asian countries is declining, giving policy makers more leeway in cutting rates, which many Asian monetary authorities have taken advantage of this year.

In summary, while we can’t say for certain what the effect of a U.S. rate hike will be on financial markets, the historical data appear to debunk several myths about how they will react when the Fed finally does raise rates. Equities do not necessarily decline in price. Bonds do not necessarily decline in price, all along the curve. And the U.S. dollar doesn’t necessarily appreciate.

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3 For more, refer to “Resolving the Equity Duration Paradox,” Leibowitz and Kogelman, 1993.

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