FIRST QUADRANT

FQ INSIGHT:

The Underutilized Return Opportunity

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Today, most institutional investors attach very low return expectations to traditional asset classes. These low return expectations magnify the pressures investors feel as the risk of failing to reach a return objective rises. Even more concerning, without strong returns, the risk of losing money (rather than just underperforming expectations) increases. Understandably, then, demand for investments with lower month-to-month, mark-to-market volatility (such as private equity, real estate and infrastructure) has increased, along with the value of investments that can diversify the portfolio without too much of a performance drag.

This is a market environment ripe for alternative investments. In practice, however, many common alternative assets have failed to provide sufficient return or meaningful diversification. Instead, they tend to deliver higher beta during periods of market stress, while reducing portfolio liquidity and adding significant cost. We find that investors need strategies that are cost-effective, deliver substantial net-of-fee returns, are easy to implement and leverage, don't jeopardize portfolio liquidity - particularly in times of stress - and provide meaningful diversification to potentially reduce the risk of loss at the portfolio level. While such characteristics can be found in a subset of alternative investments, we believe active currency offers an underutilized, comprehensive solution to these needs.

Currency is often viewed as a source of pesky, uncompensated risk in portfolios that hold international securities. This risk-focused view, while important and understandable, shifts focus away from currency's return potential. Other underlying risk factors, meanwhile, have become common alpha strategies. For example, duration in fixed income strategies has been analyzed as a risk to be managed, but also embraced as a risk factor to time and mine for alpha. The same opportunity has often been passed over when it comes to currency. Few investors, we believe, can afford not to take advantage of this underutilized opportunity that has the potential to add uncorrelated return and reduce active management fees, without compromising liquidity.

In this note, we discuss the myriad benefits of having an active currency allocation within your portfolio:

- True source of incremental return
- Potentially uncorrelated with traditional asset classes
- Excellent source of diversification
- No disruption to existing managers or asset allocation
- Potential to add value independent of international assets
- Capital-efficient implementation
- Lower fees than comparable alternative investments
- Highly liquid investment

Past or simulated performance is no guarantee of future results. Potential for profit is accompanied by possibility of loss.

Currency is the Quintessential Macro Instrument

Investors who manage international equity portfolios already consider currency in the context of risk management of those exposures. Many of these investors focus on currency as a hedging vehicle, perhaps because they conceptualize currency only as a zero-sum game. However, the very nature of currency markets can also work in their favor – active managers often attribute the lack of alpha opportunity to the current lack of dispersion among markets, but this is not true of the currency market. Global macro and fixed income managers have long used currency to augment return. In fact, the excess return offered by international fixed income and macro managers is often predominantly driven by their underlying currency views. Moreover, macro risks have been increasingly relevant in the current environment as central bank divergence, policy shifts, and macro-centered event risk move currency markets. We believe this will continue, if not increase, as countries embark on increasingly different economic paths, creating macro dispersion and opportunities in currency. In that regard, currency is an instrument almost perfectly constructed to provide views on relative movements as, by definition, you sell one country's currency to buy another. It is hard, if not impossible, to find a similar type of expression of macro views in other assets, and as such currencies tend to provide a powerful source of incremental, uncorrelated and potentially diversifying exposures to your portfolio.

The market opportunity is there, but have the active managers been able to take advantage of it?

Active currency managers, on average, have added value over the last 3 and 5 years ending September 30, 2016 with net-of-fee Sharpe ratios of 0.2 and 0.4 respectively, based on the Mercer database which covers over 30 active currency managers. As with all active strategies, the ability to select good managers impacts the outcome significantly, with the upper quartile managers delivering net-of-fee Sharpe ratios of 0.6 and 0.7 over those timeframes.

However, a new investment is of little use if it just adds to or replaces exposures already in the portfolio.

Scalability of Alpha Return in Currency

Active currency brings an almost unrivaled ability to match risk levels to investor preferences. When delivered as an active overlay, the investor can choose the amount of risk for a given notional investment that fits their need. Scaling the active risk of the investment up or down allows the active currency program to fit any asset class or the total portfolio level. The same feature also allows managers to offer different funded vehicles with the same program, same risk-adjusted returns, but different absolute levels of return expectations as alpha returns scale with the level of volatility.

TABLE 01 - CORRELATION TO BARCLAY HEDGE CURRENCY TRADERS INDEX (FEBRUARY 1991 - SEPTEMBER 2016)

	MSCI World Index	Citigroup World Govt Bond Index	Bloomberg Commodity Index	Wilshire Real Estate Securities Index	HFRI Fund of Funds Index
5 years	-0.27	-0.45	-0.43	-0.13	-0.08
Analysis Period	0.00	0.12	-0.04	0.03	0.17

Source: Zephyr Styleadvisor

As shown in Table 01, average currency managers (using the BarclayHedge Currency Traders Index as a proxy) have been able to provide a differentiated return stream with minimal correlation to other asset classes over the long term. Thus, an active currency program may serve as an effective complement to the traditional and alternative strategies in an existing portfolio – and generally with a considerable cost advantage over other alternative assets. With low overall return expectations, the share of fees out of total expected returns can be high, and bringing that share down can have a significant impact on the portfolio outcome over even shorter periods of time. In our experience, currency's incremental impact on asset management fees has been small. In some instances, it has even been negative, as an active currency mandate with little to no beta exposure has replaced a more expensive alternative investment that at times is more positively correlated with the equity market.

This leads us to two final points about value and diversification:

1) While the average manager has made money in currency over the referenced periods, significant value could also be created by the ability to select the best managers.
2) And while average currency managers have provided uncorrelated returns over the long term, further value can likely be created by selecting manager(s) who will stay true to their investment process in the future.

It's about choosing a building block that not only provides best value for money, but also remains steadfast over time. Only then will portfolio construction be truly robust.

Sizing an Active Currency Program

An active currency strategy has an additional, important benefit: it can be implemented in a capital-efficient manner, with little disruption to an existing manager structure or asset allocation. Both larger and smaller plans can create significant active currency programs with only small upfront cash allocations. Currency is one of the few types of investments in which even a small allocation could potentially make a big difference. Moreover, the flexible nature of the underlying instrument allows customized implementation, tailored to the needs and preferences of the individual investor. For example, the size of the program can be tied to or decoupled from the existing exposures in a portfolio. An active currency strategy can also be implemented as a "portable alpha" program, attaching returns to an underlying beta of choice. In each of these cases, a risk target can typically be selected that best suits the investor's comfort level and objectives. In addition, investments in active currency may also be done on a fully funded basis and reside within an investor's alternative or hedge fund allocation. A higher risk-target vehicle will provide the lowest opportunity cost and the largest marginal impact.

First Quadrant's Currency Approach

First Quadrant's approach to currency investing offers a particularly appealing way to enhance a portfolio in need of an additive, diversifying return stream.

We have developed a liquid, alternative investment strategy tailored to be agnostic about the macro environment. It works in a tepid growth environment, and its efficacy is not contingent on a particular inflation or rates environment, the directionality of any one currency or the performance of other risk factors. Instead, First Quadrant's currency approach relies on systematically implementing fundamentally driven views on the evolution of the relative strengths of different economies, rather than currency momentum or currency carry, which tend to perform poorly during periods of market stress. The approach is designed to take advantage of currency as a macro asset, while the transparent nature of the strategy provides information not only about our macro views, but also why we hold them. In other words, an important part of our approach is the insight that accompanies expected performance. We trust that clients find this information useful in establishing their own tactical top-down views.

Our approach specifically targets three main objectives, which are to provide: 1) positive return, 2) uncorrelated return, and – hardest to achieve – 3) return when other markets are down. These objectives drive many of the choices we make in our effort to provide true "alpha," and a return stream with the highest possible marginal contribution to investors' portfolios. We pride ourselves on staying true to the objectives set for the strategy. Our clients typically invest with us not only to produce returns, but to do so in a manner consistent with the stated objectives. We provide a liquid investment (in an otherwise increasingly illiquid portfolio) which has the potential to provide "dry powder" that allows clients to invest in depressed assets during periods of market stress.

Conclusion

An absolute return-oriented currency investment may provide a true incremental source of return that is uncorrelated with traditional asset classes, serving as an excellent source of diversification at a time when diversification is desperately needed. Unlike other alternatives, this can typically be achieved with little disturbance of existing asset allocations and/or underlying managers. As investors have increased allocations to less liquid assets, active currency offers investors a very liquid investment to counter an otherwise increasingly illiquid investor profile. In terms of implementation, while "take it or leave it" propositions abound in many alternative investments, currency investments can be tailored to meet the preferences and needs of each individual investor. Size, risk, leverage, and funding are all easy to customize, and active currency programs are typically offered at a lower fee than comparable alternative investments. Furthermore, First Quadrant's active currency approach offers the potential for even greater incremental return and diversification with a unique approach that is designed to deliver low correlation to other currency and global macro strategies.

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TABLE 02 - PERFORMANCE DURING MARKET STRESS[1] (NOVEMBER 2006 - SEPTEMBER 2016)

	MSCI World Index	Barclay Currency Traders Index	DB FX Momentum USD	DB FX Carry USD	Scaled FQ Macro FX 10% Net[2]
Oct-08	-18.9%	1.4%	14.5%	-14.2%	4.6%
Sep-08	-11.9%	0.3%	1.9%	-7.0%	3.9%
Feb-09	-10.2%	-0.2%	-3.1%	2.3%	-2.2%
May-10	-9.5%	0.8%	-1.7%	-6.9%	6.4%
Jan-09	-8.7%	0.0%	4.3%	-4.3%	1.9%
Sep-11	-8.6%	1.4%	-7.0%	-5.4%	8.4%
May-12	-8.5%	0.9%	4.7%	-5.3%	4.2%
Jun-08	-7.9%	-0.4%	1.3%	-0.8%	1.8%
Jan-08	-7.6%	-0.2%	-1.3%	-1.6%	4.0%
Aug-11	-7.0%	-1.2%	-1.2%	-0.6%	2.5%
AVERAGE	-9.9%	0.3%	1.3%	-4.4%	3.5%

Scaled performance is simulated performance, see Endnotes 2.

Sources: First Quadrant L.P., Zephyr Styleadvisor, and Deutsche Bank dbIQ.

Endnotes

[1]Return of various indices during the 10 worst months of performance of the MSCI World Index for the period Nov. 2006 to Sept. 2016.

[2]FQ Macro FX 10% Risk was derived by scaling the live performance of the Tactical Currency Allocation L/S USD – 2% Risk – Value-Added Composite return to 10% risk, and adding the Ibbotson 30-day T-Bill to reflect a fully funded total return strategy. Scaled performance is considered simulated performance. All simulation is supplemental information to the live composite. Please see Scaled TCA Returns Disclosures and Composite Information and Additional Disclosures: Tactical Currency Allocation Long/Short USD – 2% Risk – Value-Added for further details regarding the live performance used.

Scaled TCA Return Disclosures All scaled returns are considered simulations and are supplemental information to the live composite. (Creation Date: November 2013) Unlike an actual performance record, simulated results do not represent actual trading. Also, since the trades have not actually been executed, the results may have under or over compensated for the impact, if any, of certain market factors, such as lack of liquidity. Simulated trading programs in general are also subject to the fact that they are designed with the benefit of hindsight. No representation is being made that any account will or is likely to achieve profits or losses similar to those shown. Performance returns for periods of less than one year are for the period reported. Scaled TCA performance presented differs from live performance experienced using the strategy for the following reasons: • The scaled performance streams were derived by scaling the live performance of the Tactical Currency Allocation Long/Short USD (2% Risk Value Added) Composite to the risk level as indicated on the presentation. • With exception to scaled value-added performance presented, the scaled total return performance includes a stated cash index return to reflect a fully funded total return strategy, whereas the live composite is a value added strategy and not a total return strategy. Please refer to the Tactical Currency Allocation Long/Short USD (2% Risk Value Added) Composite and disclosures for further information on live performance used in the scaled return simulations. **Investment Management Fees:** Performance results which are presented net of investment management fees are calculated off of the Base + Incentive fee option, i.e. 0.05% per 1.00% of targeted risk and 20% incentive fee. All performance results presented include trading costs. **Market Impact on Returns:** Certain material market or economic conditions can impact the returns of an investment strategy. We have provided below what we believe to be a fair, yet subjective, assessment of those outliers that have significantly and positively impacted the strategy's performance. From August 2008 to January 2009 AUD, EUR, JPY and GBP all experienced pricing moves from more than 15% to nearly 40% against the Dollar. As our model was favorably positioned, we were able to take advantage of these significant pricing moves. The strong decline in EUR and early increase in USD in 2010 favored our short EUR and Long USD positions significantly.

Tactical Currency Allocation Long/Short USD - 2% Risk - Value Added Composite	Value-Added Gross[1]	Value-Added Net[1]	Composite 3-Year Standard Deviation Gross (Annualized)	Benchmark 3-Year Standard Deviation (Annualized)	Number of Portfolios[4]	Composite Dispersion (%)	Total Composite Assets[3,4] (Millions USD)	% of Firm Assets[4]	Total Firm Assets[4] (Millions USD)	Total TCA Strategy Assets[1,4,6] (Millions USD)	Total Firm AUM (Including Notional Values)[1,4,5] (Millions USD)
2006 (Nov - Dec)	+0.5%	+0.4%	–	–	<5	–	2,250	15.6	14,404	11,958	26,301
2007	+0.1%	-0.1%	–	–	<5	–	2,250	15.4	14,594	12,921	31,025
2008	+4.0%	+3.9%	–	–	<5	–	2,250	23.7	9,508	6,884	20,043
2009	+0.9%	+0.7%	2.1%	–	<5	–	2,250	28.6	7,867	5,810	17,342
2010	-0.4%	-0.5%	2.1%	–	<5	–	2,250	26.3	8,558	7,203	18,713
2011	+0.8%	+0.6%	2.1%	–	<5	–	2,250	28.2	7,967	6,591	16,725
2012	+1.6%	+1.5%	2.3%	–	<5	–	2,250	28.5	7,891	7,972	17,104
2013	+1.2%	+1.0%	2.2%	–	<5	–	1,250	12.9	9,702	7,274	17,284
2014	+0.9%	+0.7%	1.9%	–	<5	–	1,250	10.8	11,522	11,696	23,092
2015	-1.0%	-1.1%	1.9%	–	<5	–	900	10.1	8,937	10,392	20,309
2016 (Jan - Nov)[2]	+3.1%	+2.9%	1.8%	–	<5	–	900	9.4	9,618	10,456	22,064

See additional disclosures for important information concerning this composite and the effect of fees. [1]Supplemental Information. [2]All Performance and AUM data is preliminary. [3]Includes market values for fully funded portfolios and the notional values for margin funded portfolios, all actively managed by First Quadrant. [4]At End of Period Reported. [5]Includes market values for fully funded portfolios and the notional values for margin funded portfolios, including both active and passive components, all managed by First Quadrant and non-discretionary portfolios managed by joint venture partners using First Quadrant, L.P. investment signals. First Quadrant is defined in this context as the combination of all discretionary portfolios of First Quadrant, L.P. and its joint venture partners, but only wherein FQ has full investment discretion over the portfolios. [6]Effective December 31, 2012, reflects all actively managed TCA strategy assets, inclusive of currency managed on a constrained, customized, or long-only basis. Prior to December 31, 2012, this figure was restricted to include only assets managed under the standard TCA Long/Short strategy. Includes other TCA composite assets based in foreign currencies for all periods presented.

Tactical Currency Allocation Long/Short USD – (2% Risk – Value Added) Past performance is no guarantee of future results. Potential for profit is accompanied by possibility of loss. GENERAL DISCLOSURES: First Quadrant, L.P. claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. First Quadrant, L.P. has been independently verified for the period 1995-2015. The verification reports are available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation. First Quadrant, L.P. ("FQ" or the "Firm") is defined as the combination of all discretionary portfolios of First Quadrant, L.P. and its joint venture partners, but only wherein FQ has full investment discretion over the portfolios. First Quadrant L.P. is a registered investment adviser and is an affiliate of Affiliated Managers Group, Inc. A complete list and description of the Firm's composites is available upon request. COMPOSITE DETAILS: Composite Description: (Creation Date: May 2012) The portfolios of the Tactical Currency Allocation Long/Short USD – (2% Risk – Value Added) ("TCA L/S – 2%") Composite are unique in that their mandates provide latitude to invest in the strategy with symmetric active investment ranges. Symmetric active investment ranges mean that FQ is allowed to overweight an asset relative to a benchmark by the same amount as FQ is allowed to underweight the same asset. This strategy uses currency futures or forwards, which are based on the movement of the underlying currency. The performance returns exclude the returns on the cash. The TCA L/S – 2% strategy is a value-added strategy, and therefore no composite benchmark is included. Although all portfolios within the composite are managed using the same investment strategy, they may have varying constraints as to how they are managed. The composite returns are shown on a value-added-only basis, since the individual portfolio objectives are designed to generate gains without regard to a specific benchmark. The composite and its historical returns reflect only stand alone mandates which have a USD base currency. Portfolio Criteria: There is no minimum balance requirement for a portfolio to be included in a composite. Portfolios included in the composite may utilize leverage at FQ's discretion. **Calculation Methodology:** Valuations and returns are computed and stated in U.S. dollars. Monthly portfolio returns are time-weighted rates of return using the daily valuation method. Annual portfolio returns are calculated by linking the monthly returns. The dispersion of a composite is calculated using the asset-weighted standard deviation formula. Only portfolios managed for the full calendar year are included in the dispersion calculation. Where a composite contains five or fewer portfolios for a full year, a measure of dispersion is not statistically representative and is therefore not shown. The three-year annualized standard deviation measures the variability of the composite and the benchmark returns (if applicable) over the preceding 36-month period. The standard deviation is not presented for periods in which 36 months of historical composite returns are not available. Policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request. Composite Assets: Composite Assets reflect the notional amount of assets managed to the composite's strategy. FQ believes that the notional amount is the most representative and meaningful figure that expresses our breadth of management in this particular strategy. **Derivatives:** The underlying investment process composing this composite uses derivative instruments to achieve desired returns. Derivatives are financial instruments whose value is derived from another security, an index or a currency. Futures contracts are derivatives that specify a purchase or sale of an asset at a specified price on a specified date in the future. Forward contracts are derivatives that allow the purchase or sale of currency in the future at a currently agreed-upon rate of exchange. There is a risk that a derivative may not perform as expected, thereby causing a loss or amplifying a gain or loss for a portfolio. With some derivatives there is also the risk that the counterparty may fail to honor its contract terms causing a loss for a portfolio. Cash Allocations: Certain managed portfolios may contain more than one product. These products are presented in separate composites. Cash in these portfolios is allocated to each product based upon the actual cash balances maintained in separate cash balances for each product. **Investment Management Fees:** Performance results presented net of investment management fees are based upon actual portfolio investment management fees charged to each portfolio within the composite, and are net of any performance-based fees. These net of fee results also reflect the effect of any negotiated fee arrangements, which are different than FQ's fee schedule. All performance results presented include trading costs. The FQ investment management fee schedule for this strategy, which is negotiable, is risk level dependent. Two fee options are available to investors: 1) the flat fee option or 2) the base + incentive fee option. Flat Fee Option: Portfolios carry a base fee equaling .125% per 1.00% of targeted risk. Base + Incentive Fee Option: Portfolios carry a base fee equaling 0.05% per 1.00% of targeted risk. Additionally, the fee schedule calls for all portfolios to be structured with a 20% incentive fee. **Market Impact on Returns:** From August 2008 to January 2009 AUD, EUR, JPY and GBP all experienced pricing moves from more than 15% to nearly 40% against the Dollar. As our model was favorably positioned, we were able to take advantage of these significant pricing moves.

For index definitions and trademark language used in this publication, please visit **https://www.firstquadrant.com/index-definitions** for further information.

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