



2014

Investing in Asian Hedge Funds:  
Opportunities and Challenges

Benjamin Low | Chee Loong Chong  
Mark Dalton | Jwo Shyang Soh



CAMBRIDGE ASSOCIATES LLC

Copyright © 2014 by Cambridge Associates LLC. All rights reserved. Confidential.

This report may not be displayed, reproduced, distributed, transmitted, or used to create derivative works in any form, in whole or in portion, by any means, without written permission from Cambridge Associates LLC (“CA”). Copying of this publication is a violation of U.S. and global copyright laws (e.g., 17 U.S.C. 101 et seq.). Violators of this copyright may be subject to liability for substantial monetary damages. The information and material published in this report are confidential and non-transferable. Therefore, recipients may not disclose any information or material derived from this report to third parties, or use information or material from this report, without prior written authorization. This report is provided for informational purposes only. It is not intended to constitute an offer of securities of any of the issuers that may be described in the report. No part of this report is intended as a recommendation of any firm or any security, unless expressly stated otherwise. Nothing contained in this report should be construed as the provision of tax or legal advice. Past performance is not indicative of future performance. Any information or opinions provided in this report are as of the date of the report and CA is under no obligation to update the information or communicate that any updates have been made. Information contained herein may have been provided by third parties, including investment firms providing information on returns and assets under management, and may not have been independently verified. CA can neither assure nor accept responsibility for accuracy, but substantial legal liability may apply to misrepresentations of results made by a manager that are delivered to CA electronically, by wire, or through the mail. Managers may report returns to CA gross (before the deduction of management fees), net (after the deduction of management fees), or both.

Cambridge Associates, LLC is a Massachusetts limited liability company with offices in Arlington, VA; Boston, MA; Dallas, TX; and Menlo Park, CA. Cambridge Associates Fiduciary Trust, LLC is a New Hampshire limited liability company chartered to serve as a non-depository trust company, and is a wholly-owned subsidiary of Cambridge Associates, LLC. Cambridge Associates Limited is registered as a limited company in England and Wales No. 06135829 and is authorised and regulated by the Financial Conduct Authority in the conduct of Investment Business. Cambridge Associates Limited, LLC is a Massachusetts limited liability company with a branch office in Sydney, Australia (ARBN 109 366 654). Cambridge Associates Asia Pte Ltd is a Singapore corporation (Registration No. 200101063G). Cambridge Associates Investment Consultancy (Beijing) Ltd is a wholly owned subsidiary of Cambridge Associates, LLC and is registered with the Beijing Administration for Industry and Commerce (Registration No. 110000450174972).



CAMBRIDGE ASSOCIATES LLC

---

Executive Summary	1
Industry Background	2
Asian Hedge Fund Strategies: Exploring Challenges and Opportunities	5
A Framework for Evaluating Managers	16
Conclusion	21
Appendix A: Short-Selling Conditions by Country	22
Appendix B: Market Liquidity in Asia	23
List of Figures	
1. Asian Hedge Fund Universe Size	2
2. Fund Lifespan	3
3. Asian Hedge Fund Universe Breakdown	4
4. Risk/Return Analysis	5
5. Universe of Stocks Eligible for Shorting	6
6. Percentage of the Universe of Stocks in which a Fund Can Invest at Various AUM Levels	7
7. Cumulative Emerging Markets Fund Flows	8
8. Universe Size and Sell-Side Coverage	9
9. Total Number of Hedge Funds by Geography	9
10. Insolvency Regimes	10
11. Asia ex Japan High-Yield Country Breakdown	11
12. Merger Transactions	12
13. Regional Deal Breaks as a Percentage of Total Deals	13
14. Spin-offs by Deal Value	13
15. Foreign Exchange Market Turnover by Currency	15
16. A Framework for Evaluating Managers	20

- ◆ The Asian hedge fund universe is more heavily skewed toward equity managers compared to global indexes, and also has higher returns and volatility. Capital markets development has led to a growing trend of diversification toward event driven, fixed income, macro, and multi-strategy funds. The industry is dominated by large firms managing the majority of assets.
- ◆ Long/short equity and macro strategies currently present the most interesting prospects. Opportunities exist within long/short equity because the investable universe is larger than both western Europe and the United States, and a growing number of stocks are being sold on exchanges outside Asia where shorting is permissible. Macro managers have a wide opportunity set in the region. We are less excited about event-driven and liquid credit strategies. Should investors be comfortable with managers that specialize in the less-liquid credit spectrum, this can be an attractive space to explore.
- ◆ For investors interested in Asia-focused hedge funds, the following factors are key considerations when evaluating managers:
  - ◆ Proficient operational staff;
  - ◆ Limited fund capacity that ensures efficient capital deployment into investment opportunities with the most compelling risk-reward *vis-à-vis* attracting and incenting the right talent;
  - ◆ Appropriate fund liquidity terms that fit the profile of the strategy adopted and the underlying securities selected also attract the appropriate investor base;
  - ◆ An experienced investment team, preferably with local language capabilities; and
- ◆ A robust investment process and prudent portfolio construction that seeks to mitigate the impact of elements such as basis risk, liquidity constraints, and unintended risks. ■

Asia’s economic development continues to attract global investors’ interest. Yet, investing in Asia-focused hedge funds has proved challenging due to illiquidity, shorting constraints, and underdeveloped legal systems. Moreover, Asia consists of many diverse economies and heterogeneous cultures, each presenting unique challenges and at different stages of economic and financial market evolution.

In this report we:

- ◆ Provide a historical perspective and current snapshot of the Asian hedge fund industry;
- ◆ Highlight market constraints and other challenges that limit the effectiveness of traditional hedge fund strategies;
- ◆ Consider, given these constraints, what strategies are implementable at this time; and
- ◆ Discuss best practices in areas of organization, investment strategy/process, and risk management.

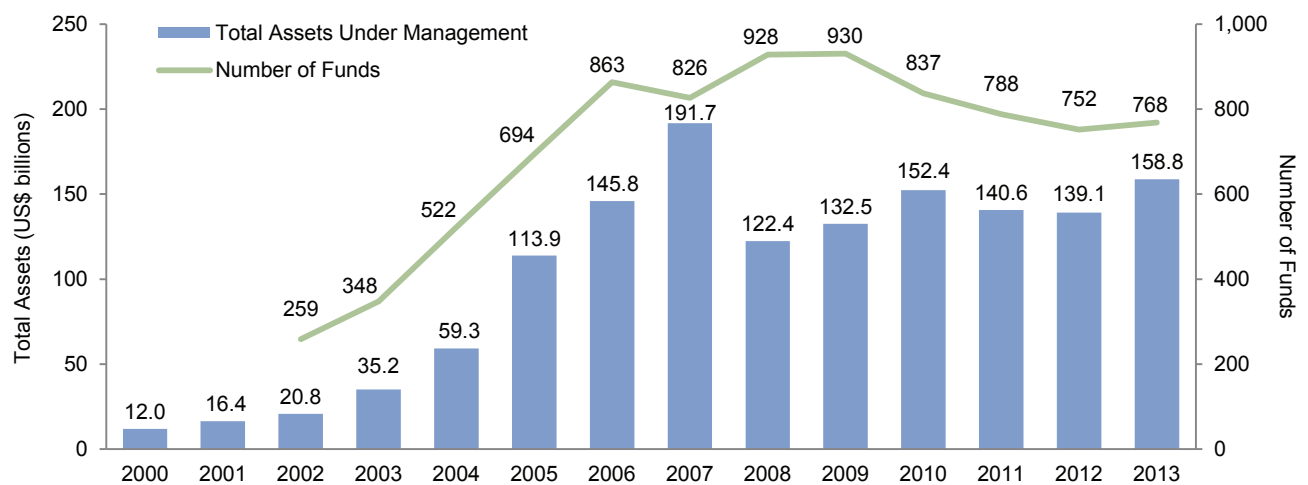
We define Asian hedge funds as strategies that predominantly invest in the Asia Pacific region, including Australia and New Zealand. The fund manager need not be physically based in Asia. We focus on four prominent strategies: long/short equity, credit, event-driven, and global macro.

### Industry Background

Asia-focused hedge fund strategies surfaced in the 1980s, many exclusively focused on Japan as Japan’s capital markets experienced rapid advancement. In the 2000s, several managers began broadening their geographical exposure to other Asian markets, particularly Hong Kong, Singapore, and South Korea.

The Asian hedge fund industry has experienced significant growth in the last ten years. The number of funds nearly tripled from 259 to 768 between 2002 and 2013, while assets under management (AUM) increased approximately seven fold in the same period (Figure 1). The industry reached its peak in 2007 with AUM

**Figure 1. Asian Hedge Fund Universe Size 2000–13**



Source: Asiahedge.

at \$192 billion. The global financial crisis of 2008 impacted the growth of the industry as AUM shrank that year to a post-crisis low of \$122 billion through a combination of investor redemptions and underperformance. The majority of investment flows into Asia-focused hedge funds have historically been from funds-of-funds. In terms of actual number of funds, the industry saw significant new launches prior to 2008, but since then has experienced a rise in the number of closures.

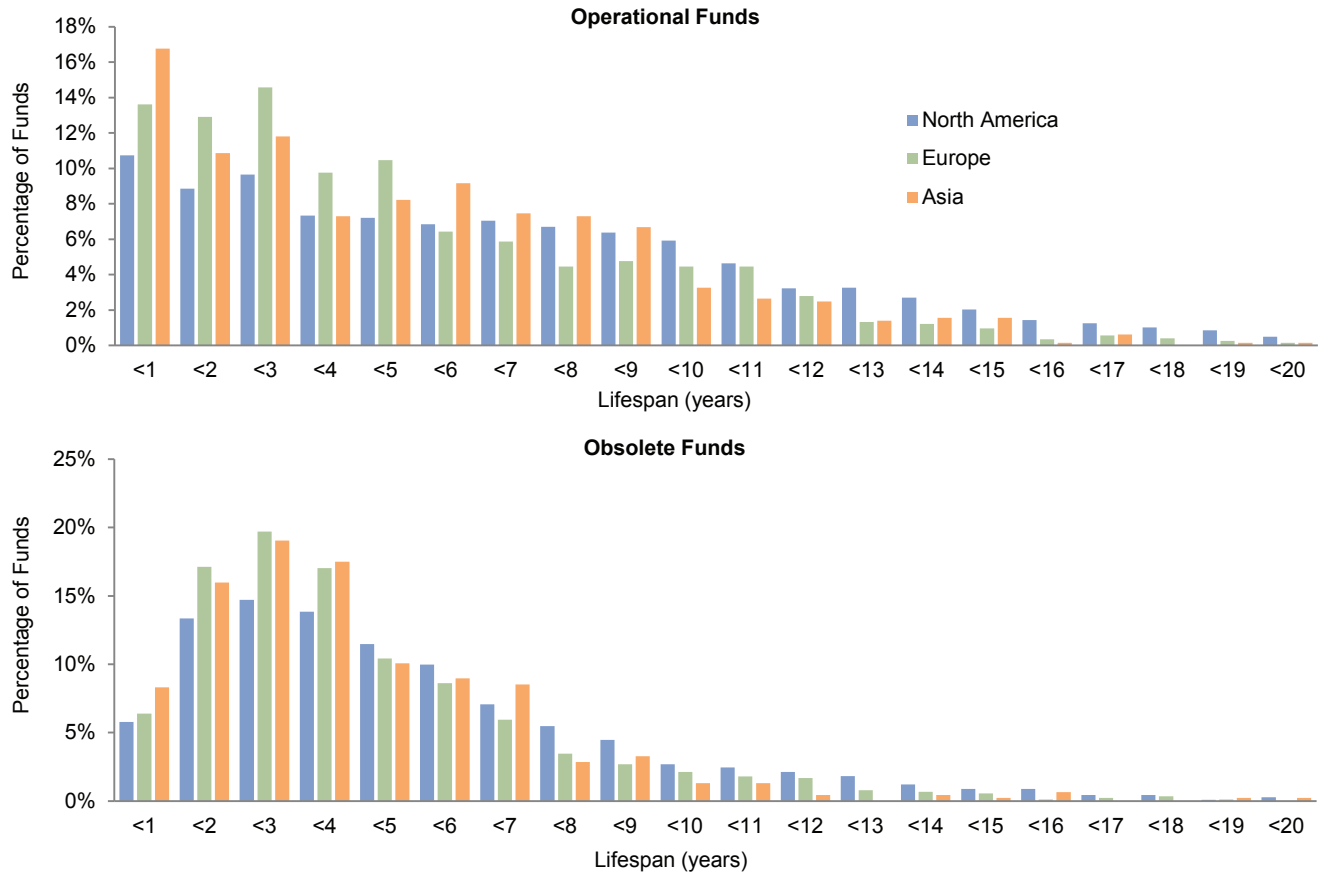
Compared to North American peers, the Asian hedge fund industry comprises a higher proportion of younger funds and surviving is more

arduous judging by the higher percentage of fund closures before the five-year mark (Figure 2). Failure to grow assets meaningfully is one key reason for closure, but in several instances funds with more than \$1 billion in AUM closed for a variety of reasons including underperformance, poor portfolio construction, overuse of leverage, illiquidity mismanagement, or regulatory penalties.

Similar to the situation in the United States and Europe, the Asian hedge fund industry is populated mainly by small funds with only a few large firms managing assets above \$500 million. Long/short equity has always been the

**Figure 2. Fund Lifespan**

As of July 31, 2013



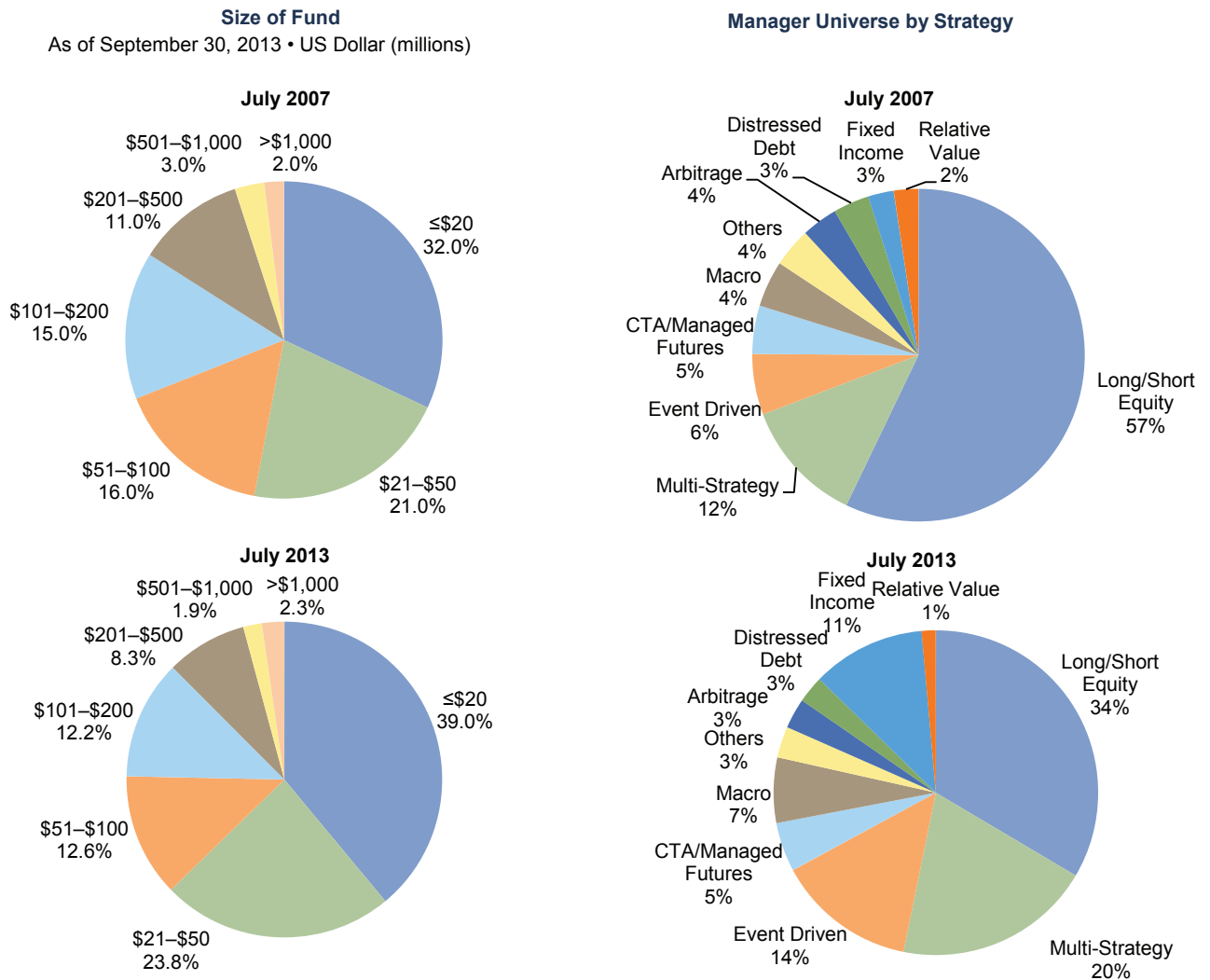
Source: Eurekahedge.

most popular strategy due to the relative ease in implementation, although development in capital markets has resulted in a growing trend of diversification toward other strategies such as event-driven, fixed income, multi-strategy, and macro funds (Figure 3).

Over five- and ten-year periods, the Asian hedge fund universe as measured by the ABN Eureka hedge Asia Index has delivered higher absolute returns versus the corresponding

global ABN Eureka hedge Index as well as global and Asian bond indexes. Returns are similar to global and Asian equities, and especially strong over the past five years, while volatility is low (Figure 4). Asian hedge funds had a higher Sharpe ratio (a measure of the return earned for each unit of risk taken) over these time periods than equities and bonds, but lower than global hedge funds. The Asian hedge fund universe is more heavily skewed toward equity managers than the global hedge

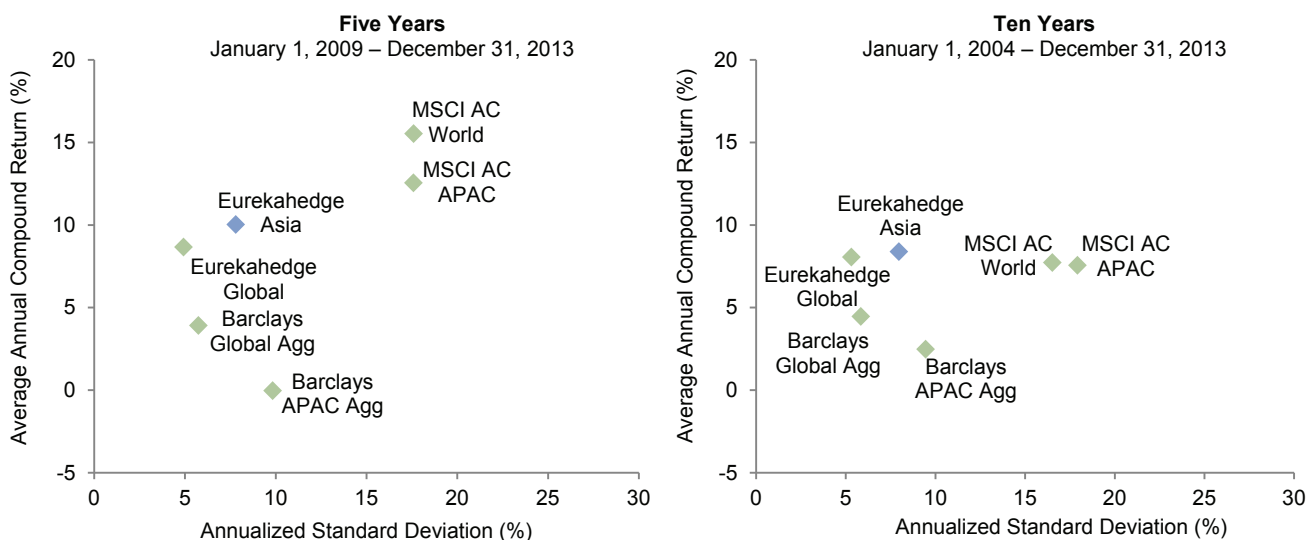
**Figure 3. Asian Hedge Fund Universe Breakdown**



Source: Eureka hedge.

**Figure 4. Risk/Return Analysis**

As of December 31, 2013



Index	Sharpe Ratios	
	Five-Year	Ten-Year
Eureka hedge Global	1.69	1.18
Eureka hedge Asia	1.25	0.85
Barclays Global Aggregate	0.68	0.49
MSCI All Country World	0.91	0.44
MSCI All Country Asia Pacific	0.75	0.41
Barclays Asian Pacific Aggregate	0.03	0.13

Sources: Barclays, BofA Merrill Lynch, Eureka hedge, Federal Reserve, and MSCI Inc. MSCI data provided "as is" without any express or implied warranties.

fund indexes, resulting in higher returns and higher volatility versus the global index. These high returns for Asian hedge funds based on the Eureka hedge index likely paint a rosier picture than investors experienced due to higher survivorship bias, greater inconsistency in managers' reporting data, and pervasiveness of managers that were too small for institutional allocations.

## Asian Hedge Fund Strategies: Exploring Challenges and Opportunities

### Long/Short Equity<sup>1</sup>

**Challenges.** The combination of enhanced ability to implement versus other traditional hedge fund strategies and a less covered market makes long/short equity one of the more compelling opportunities as well as the most

<sup>1</sup> Our analysis focuses specifically on funds running relatively balanced long and short books, steering away from long-biased strategies, which often struggle to differentiate from traditional long-only because of limited shorting capability.



prevalent Asia-focused strategy. However, managers investing in Asia face regulatory hurdles, limited and expensive stock borrowing, more illiquidity, and higher market volatility versus investing in the United States or Europe. These factors have combined to make sustainable short alpha very rare in Asian markets.

**Regulatory constraints** continue to exist in most Asian markets, although developed markets such as Australia, Hong Kong, and Japan provide better shorting access (Figure 5). Common constraints range from outright bans (Sri Lanka and Vietnam), periodic bans (South Korean financials during the Lehman crisis), and highly restricted shorting lists (Indonesia, Malaysia, and Thailand).

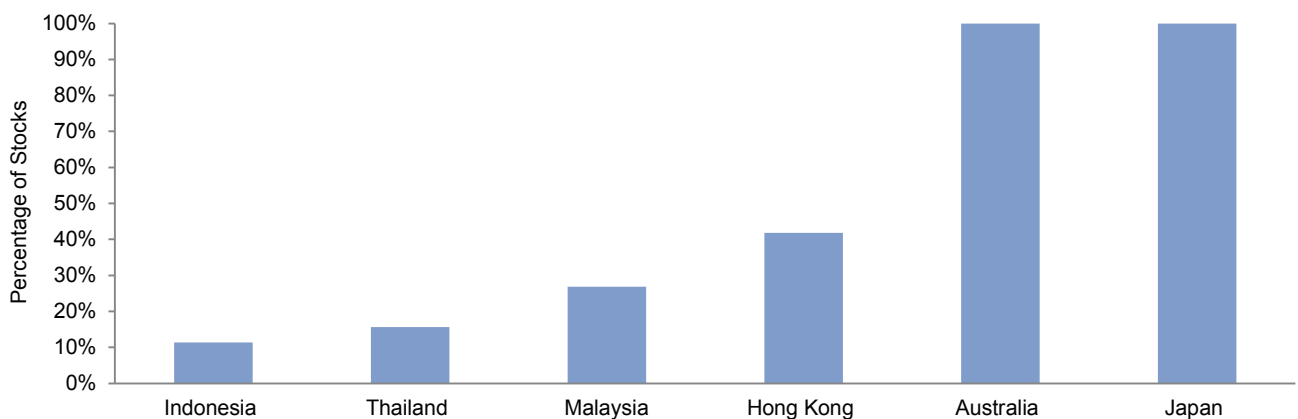
Of the larger markets in Asia, India and onshore China (A-shares) have been particularly difficult markets to implement single name shorts. Short selling was first permitted in China in 2012 and, beginning in September 2013, investors could short from a pool of 287 stocks representing about two-thirds of total market capitalization. That said, there remains no practical way to implement individual stock shorts in A-shares due to the high cost

of borrow and limited availability of stock borrowing. In reality, investors wishing to short Chinese stocks do so mainly via Chinese companies listed on the Hong Kong Stock Exchange or international exchanges in North America and Europe. Yet, many of the Chinese companies listed on the Hong Kong Stock Exchange are state-owned enterprises that might not be allowed to fail, providing limited upside when shorting those stocks.

Shorting in India is less cumbersome but remains restrictive. As opposed to traditional stock borrow, swaps on stock futures are the instruments of choice. The availability of such shorting instruments is practically confined to large-cap equities, thus creating potential basis risk for India-focused short equity strategies. There are ongoing initiatives and efforts to provide greater short-selling access in both markets, but we expect adoption to be slow.

Even in markets with fewer regulatory restrictions, **costly and limited borrowing options** further impede long/short equity managers' ability to effectively exploit the market inefficiencies and dislocations in Asia. Data from UBS for the first quarter 2011 through third

**Figure 5. Universe of Stocks Eligible for Shorting**



Sources: Bursa Malaysia, Hong Kong Stock Exchange, Indonesia Stock Exchange, and World Federation of Exchanges.  
Note: Data are as of March 2014.

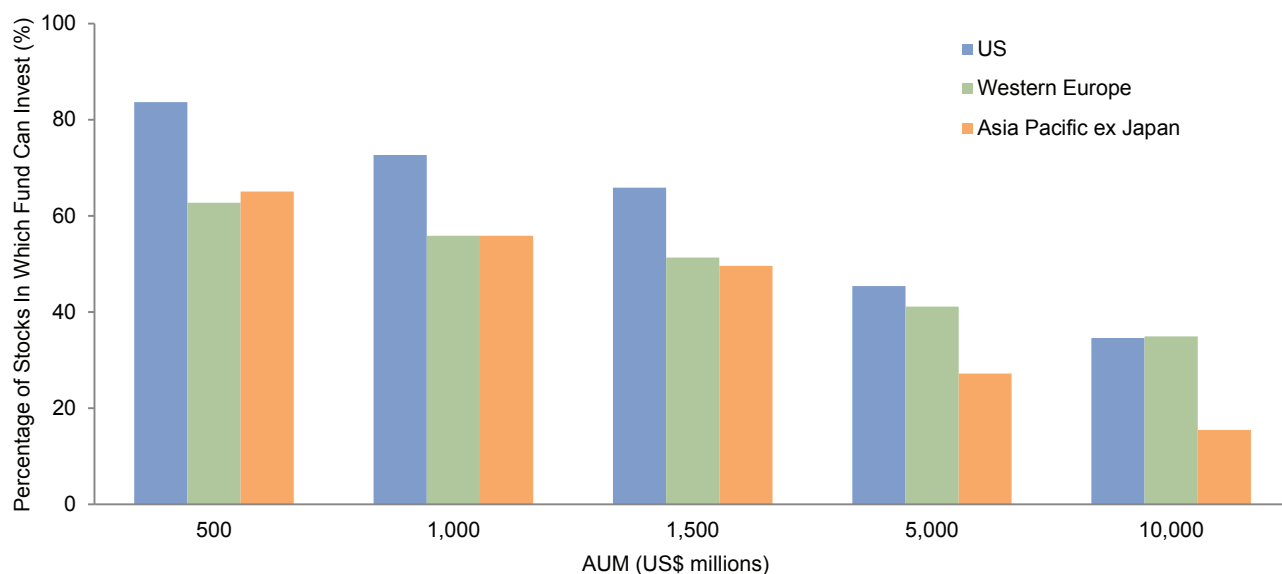
quarter 2013 show a wide range in the cost of shorting between various regions. Comparing shorting costs between Asia and the United States shows a spread that ranges from 36 bps to 134 bps, and the same comparison between Asia and Europe ranges from 20 bps to 142 bps. Anecdotal evidence from other prime brokerages also corroborates that, on average, cost of borrow in Asia is higher relative to developed markets. Borrowing opportunities are more readily available in large-cap companies and/or major index names. Developed equity markets in Australia and Japan pose less of a concern in these respects. Appendix A provides more detail on short-selling conditions by country.

**Liquidity** is an issue that impacts both the long and short book. Figure 6 highlights that Asian markets have more liquidity constraints

relative to developed markets at almost every level of AUM. The liquidity problem has in part resulted from a much lower free float in Asia, given the existence of government ownership (most prominent in Chinese state-owned enterprises and Singapore government-linked entities), family/founder shares (Hong Kong, India, Indonesia, and Malaysia), and cross shareholdings (Japan). Additionally, complex holding structures or voting share classes intended to protect majority shareholders can disadvantage minority shareholders and make activist strategies less practical.

The liquidity issue becomes more acute when a stock short position faces the prospect of an extended trading suspension due to regulatory investigation. In such cases, managers often find it difficult to exit the position and at the same time incurring escalating borrowing costs

**Figure 6. Percentage of the Universe of Stocks in Which a Fund Can Invest at Various AUM Levels**  
Theoretical Analysis



Source: Bloomberg L.P.

Notes: This analysis assumes managers have a 40-stock portfolio, have equal position sizing in which each stock is 2.5% of the portfolio and the managers' position represents no more than a 5% ownership stake in the company, and require 60 days' notice to liquidate. Volatility based on a 20-day average. The universe of stocks includes only those with a market cap greater than \$100 million as of September 2013.

if they did not negotiate a fixed rate. We have observed managers opt to side-pocket the entire investment while waiting for a resolution of the regulatory investigation, thereby cascading the illiquidity risk to end investors.

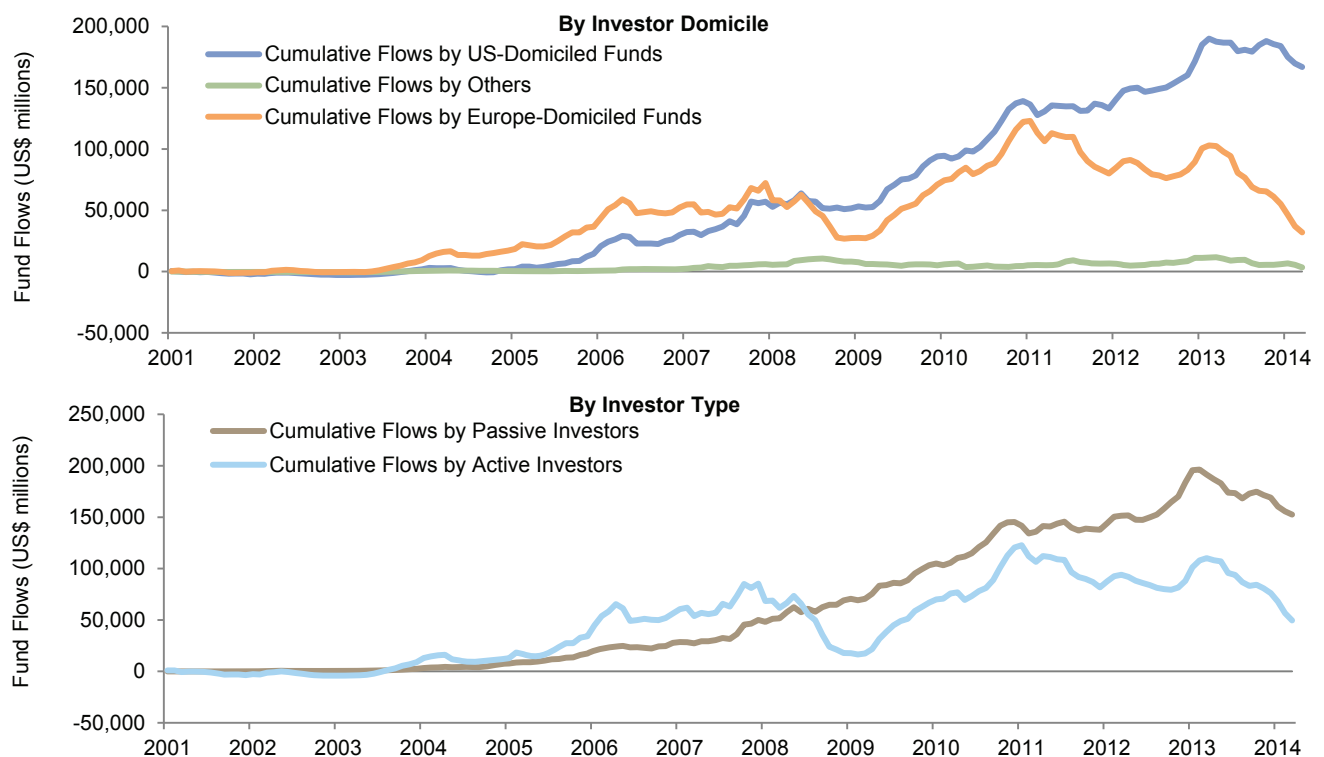
Heightened *market volatility* resulting in sudden, sharp price fluctuations and short-term price dislocations makes fundamental stock picking difficult, a problem emerging markets investors face generally. Holding on to high-conviction shorts in some Asian emerging markets can be dangerous, reflecting the old adage “the markets can be irrational longer than you can remain solvent.” Some of the increased market volatility can be explained by the investor mix—the greater presence of foreign investors relative to local investors and the larger portion

of passive versus active investors in emerging markets (Figure 7). The larger presence of non-local investors sometimes means that negative international developments can result in a bigger sell-off in Asian markets as foreign investors seek liquidity by exiting Asian investments for non-fundamental reasons.

**Opportunity Set.** Despite the challenges, we are cautiously optimistic regarding the implementation of long/short equity strategies, depending on the quality of the manager. First, the investible universe in the Asia-Pacific region, in terms of number of companies, is larger than the combination of Western European and US exchanges (Figure 8), although we are also cognizant of the liquidity constraints highlighted in Figure 6. The broad

**Figure 7. Cumulative Emerging Markets Fund Flows**

January 31, 2001 – March 31, 2014



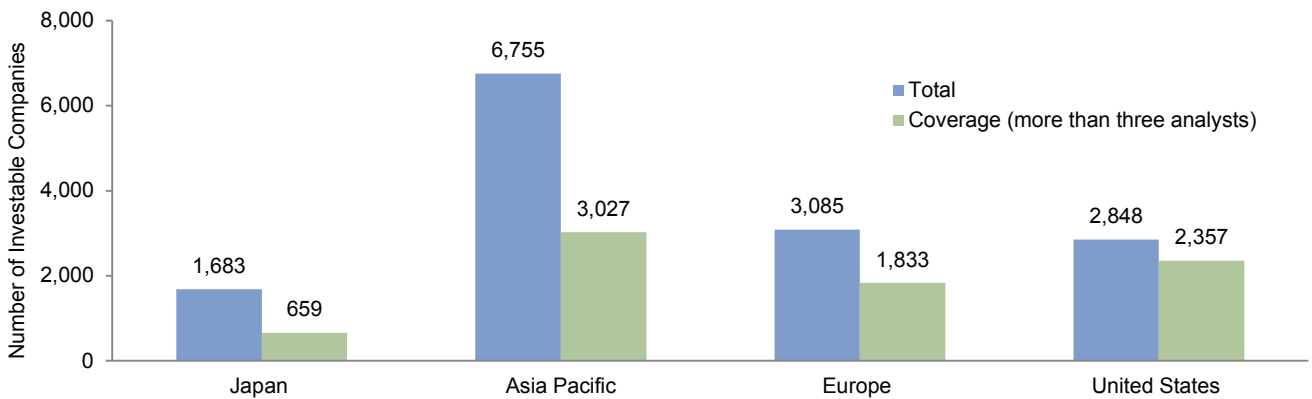
Source: EPFR Global.

opportunity set coupled with lower sell-side coverage (Figure 8), augers well for fundamental-driven, competent long/short equity managers to seek out the winners and losers in Asian equity markets. Second, progress on the regulatory front, albeit slow, will continue to create and support short-selling opportunities. However, Asian investors must further engage in stock lending to create a deeper pool of viable short opportunities.

We are most excited by the attractive manager supply dynamic in Asia. Despite its size and degree of inefficiency, Asia currently supports a much smaller pool of professional managers relative to Western markets (Figure 9). The intense competition for ideas and name overlap that epitomizes Western-focused managers is significantly less frequent in Asia, giving managers a larger pool of opportunities from which to generate returns.

**Figure 8. Universe Size and Sell-Side Coverage**

As of November 2013

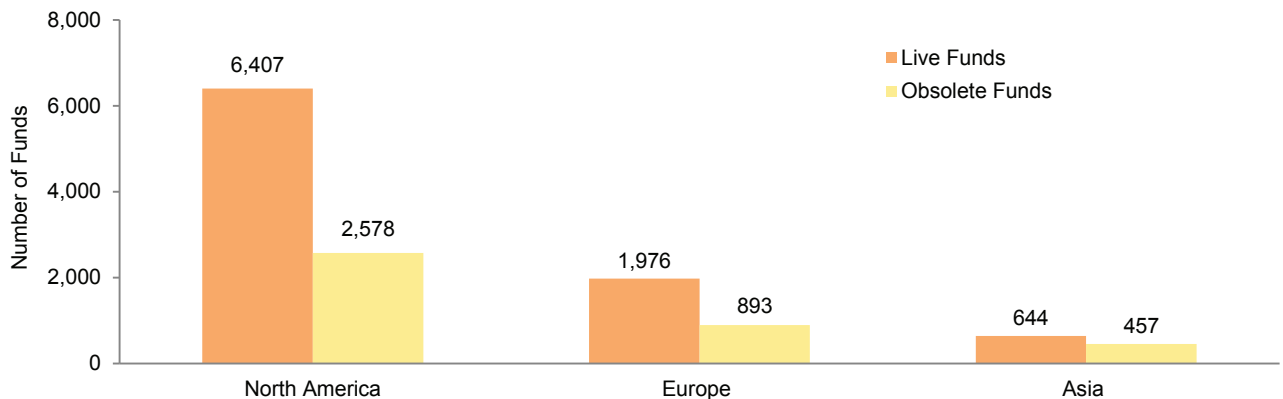


Source: Bloomberg L.P.

Note: Universe includes companies with market capitalizations above US\$200 million.

**Figure 9. Total Number of Hedge Funds by Geography**

As of June 2013



Source: Eurekahedge.

## Credit Opportunities<sup>2</sup>

**Challenges.** Many of the hedge fund managers that classify themselves as credit focused tend to invest in the high-yield or investment-grade market versus the more traditional hedge fund strategies focused on higher risk but potentially higher returning “distressed” or “stressed” opportunities. Thus, the potential for equity-like returns is low. Moreover, a balanced long/short credit strategy is difficult to execute due to the scarcity and illiquidity of single-name credit default swaps (CDS). The depth and breadth of the convertible bond market has also

shrunk post-2008, providing less opportunity for convertible arbitrage.

Investing in distressed credit remains difficult to implement in Asia for two main reasons. First, limited enforceable creditor rights in several jurisdictions can lower recovery values in credit default situations. Figure 10 analyzes credit protections for several Asian countries. Solid creditor protection exists in Australia, Hong Kong, and Singapore, but is limited in China and Indonesia, the two largest high-yield markets in Asia. Investors buying Chinese high-yield debt primarily invest in the offshore bonds, which are often structurally subordinate to onshore creditors. Indonesia has a distinctly weak legal framework. Second, Asia’s default rates for both investment-grade and speculative-grade bonds are lower than global equivalents,

<sup>2</sup> Our analysis includes products with a portfolio that pursues an array of investing strategies in credit instruments. These products include those that employ long/short credit strategies, capital structure arbitrage, and investments in structured credit, distressed securities, and direct lending.

**Figure 10. Insolvency Regimes**

	← Opportunity → Maturity →														
	IDN	VNM	PHL	China	IN	THA	TW	MYS	KR	JP	HK	SNG	AUS	UK	US
Judiciary	1.0	1.0	1.5	3.0	2.0	2.0	3.0	2.0	3.0	3.0	3.0	4.0	5.0	5.0	6.0
Statutory Framework	1.0	1.0	3.0	2.0	3.0	3.0	2.0	4.0	3.0	3.0	3.0	4.0	4.0	4.0	5.0
Regulatory Contribution	1.0	2.0	1.0	2.0	1.0	2.0	1.0	3.0	2.0	3.0	3.0	3.0	4.0	4.0	4.0
Practical Enforcement	1.0	1.0	2.0	1.0	2.0	3.0	3.0	2.0	4.0	3.0	4.0	4.0	5.0	5.0	5.0
Accounting Standards	1.0	1.0	2.0	1.0	2.0	2.0	3.0	3.0	2.0	4.0	4.0	4.0	5.0	5.0	5.0
Corporate Governance	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	4.0	3.0	3.0	4.0	4.0	4.0
Debtor Behavior	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	3.0	4.0	4.0	4.0
Inter-Creditor Behavior	2.0	2.0	2.0	2.0	2.0	2.0	3.0	2.0	3.0	3.0	4.0	4.0	4.0	4.0	5.0
Distressed Debt															
Prof Support	2.0	2.0	1.0	2.0	1.0	3.0	2.0	3.0	3.0	4.0	5.0	4.0	5.0	5.0	5.0
Home Court Advantage	1.0	2.0	2.0	2.0	2.0	2.0	3.0	2.0	1.0	4.0	4.0	4.0	3.5	5.0	5.0
Political Risk	1.0	2.0	1.0	2.0	2.0	1.0	2.0	1.0	2.0	3.0	4.0	4.0	5.0	5.0	5.0
<b>Score (Max: 55)</b>	<b>13.0</b>	<b>16.0</b>	<b>17.5</b>	<b>20.0</b>	<b>21.0</b>	<b>24.0</b>	<b>26.0</b>	<b>26.0</b>	<b>27.0</b>	<b>37.0</b>	<b>40.0</b>	<b>41.0</b>	<b>48.5</b>	<b>50.0</b>	<b>53.0</b>
	← Volatility → Certainty →														

Source: White & Case.

Notes: This table displays an analysis published by White & Case, an Asian law firm, in February 2009. Each nation was rated on a scale of one to six, with one representing nations exhibiting weak and low-functioning regimes, and six representing strong and well-functioning regimes. Used with permission.

according to Moody's data, which leaves a smaller investible universe for fund managers.

The Asian high-yield debt market is heavily skewed toward China and Indonesia in the corporate segment (Figure 11). Moreover, sector broadness is minimal; China's high-yield bond market is dominated by property companies, and electronics and natural resources form the bulk of high-yield issues in Indonesia. Japanese companies typically shun high-yield issues, making for limited opportunities. The Japanese high-yield names tend to be "fallen angels"—former investment-grade bonds since downgraded to high-yield status.

**Opportunity Set.** One broad credit opportunity in Asia is the continued global bank

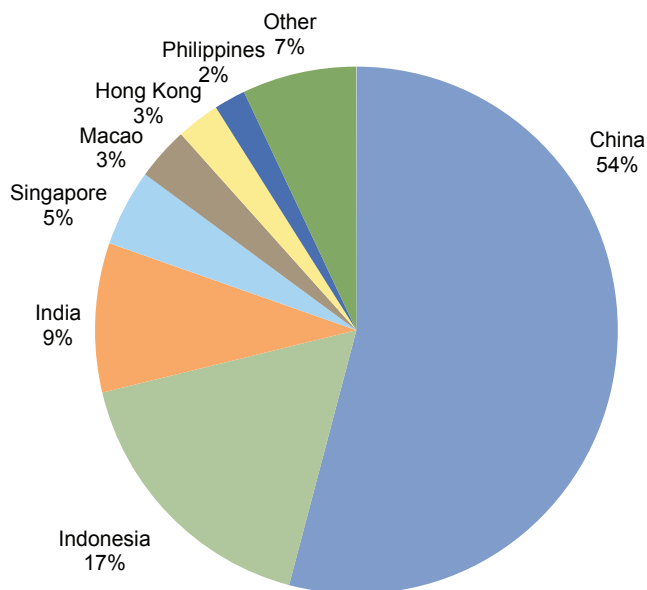
deleveraging. As a result, local companies are finding financing more challenging through traditional means and are turning to alternative sources such as mezzanine financing, special situations, or bridge loans from financial intermediaries. These investments typically have durations of one to five years with little to no secondary market to transact prior to maturity. Thus, we view these opportunities as more prudently implemented in drawdown funds that more appropriately align fund terms with the duration of the investments. We would avoid managers that are implementing these investments in a hedge fund vehicle due to the illiquidity risk.

### Event Driven<sup>3</sup>

Event-driven strategies exist in Asia, but traditional event opportunities are significantly less common than in other regions. Traditional event investing generally includes distressed credit, which, as discussed earlier, is problematic to execute via a hedge fund vehicle in Asia. The Asian-focused fund vehicles of event-driven Western managers tend to apportion more of their portfolios to equity trades than the global flagship funds. Moreover, those equity trades include softer catalyst investments that share more similarities with long/short equity. Some Asian event funds also place a higher emphasis on capital market transactions such as initial public offerings or secondaries. We are less enthusiastic about these strategy developments as softer catalyst investing may not be a core competency for these managers and capital market trades can be cyclical with low barriers to entry.

**Figure 11. Asia ex Japan High-Yield Country Breakdown**

As of December 31, 2013



Source: BofA Merrill Lynch.

Notes: Asian high-yield market represented by the BofA Merrill Lynch Asian Dollar High Yield Corporate Index. Other category includes Malaysia, Mongolia, South Korea, Sri Lanka, Taiwan, Thailand, and Vietnam.

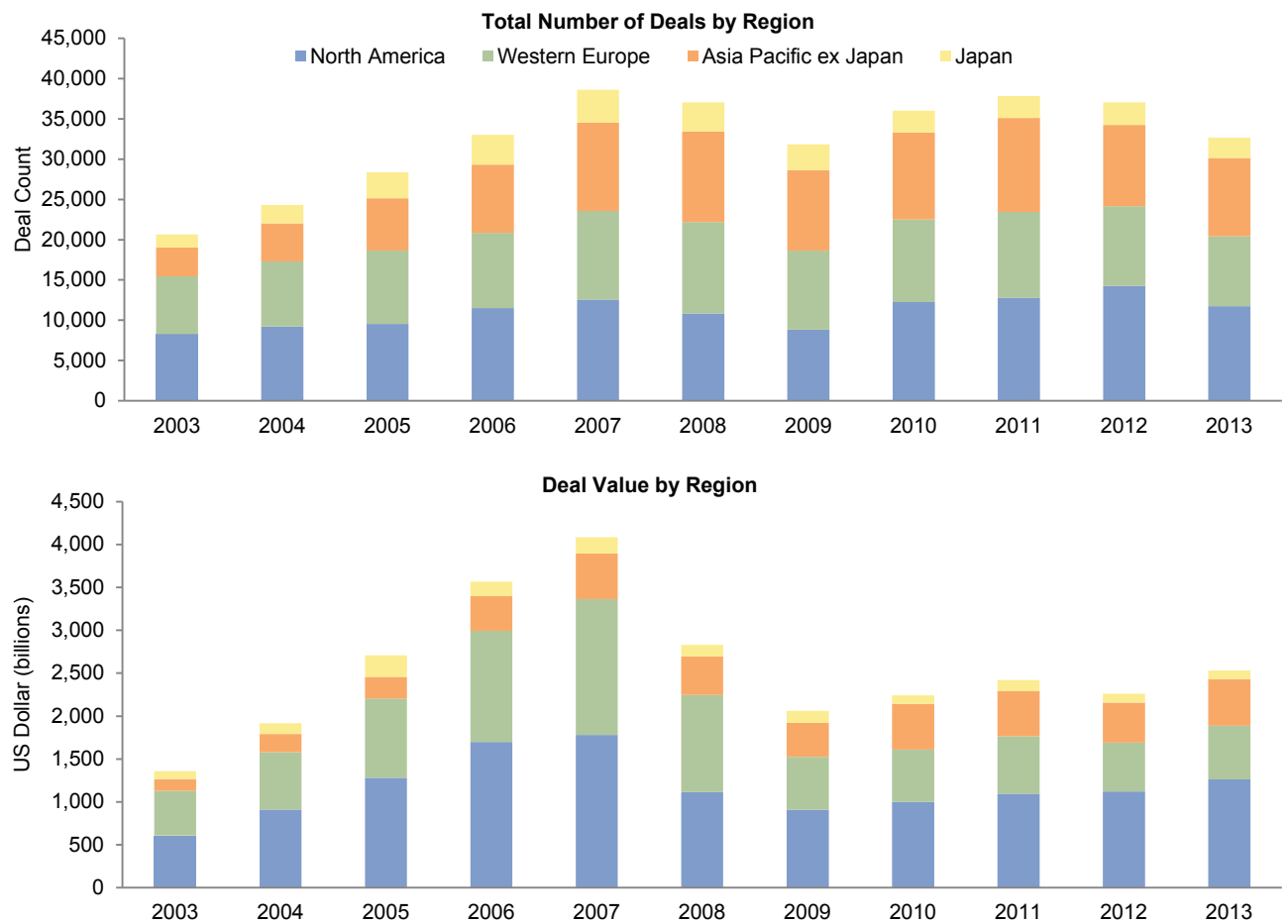
<sup>3</sup> Our analysis includes products with a multi-strategy portfolio that seeks to exploit security mispricing caused by mergers & acquisitions, spin-offs, tracking stocks, accounting write-offs, reorganizations, bankruptcies, share buybacks, and special dividends.

**Challenges.** A core event-driven strategy, merger arbitrage,<sup>4</sup> is implemented in Asia but limited by the number of merger transactions and average deal size (Figure 12). In 2013, for example, the average deal size in Asia Pacific ex Japan was \$56 million, less than half the average deal size in North America (\$107 million). Deal breaks as a percentage of total deals are also much higher in Asia compared

to other regions (Figure 13). Digging deeper into Chinese merger & acquisition transactions, many of the transactions are between state-owned enterprises, usually resulting in lower spreads because of the transactional certainty. Australian companies have been a source of merger transactions related to the mining boom, but announced merger deals with attractive spreads are often already in global event-driven or multi-strategy portfolios. While instances of deal breaks in Japan are lower compared to the rest of Asia, market value and number of deals are much smaller than devel-

<sup>4</sup> Our analysis includes strategies that attempt to capture equity price spreads in companies expected to be bought out by other companies in announced stock-for-stock, stock-for-cash, or stock-for-stock-and-cash deals.

**Figure 12. Merger Transactions**  
2003–13

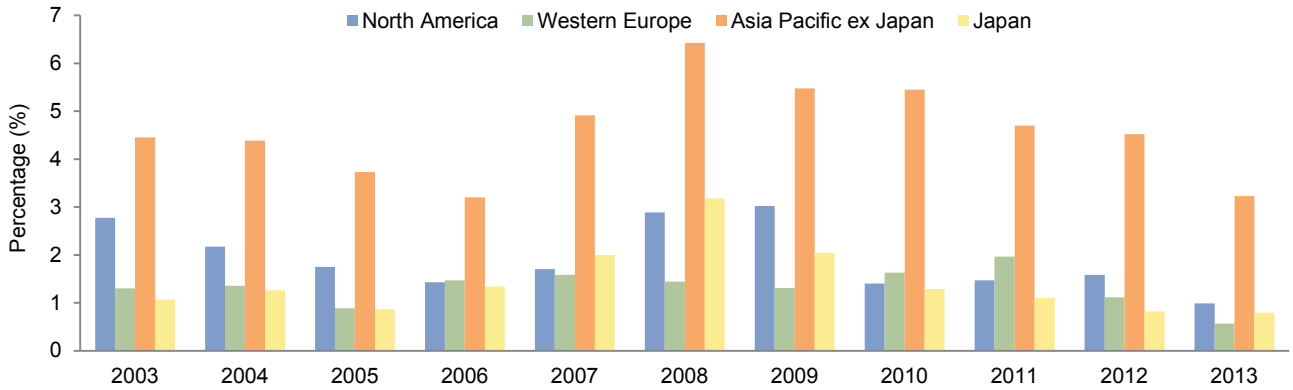


Source: Dealogic.

Notes: Data for 2013 are through December 31. Dealogic updates its database on a regular basis, therefore historical data may change.

**Figure 13. Regional Deal Breaks as a Percentage of Total Deals**

2003–13



Source: Dealogic.

Notes: Data for 2013 are through December 31. Dealogic updates its database on a regular basis, therefore historical data may change.

oped Western markets. Investing in spin-offs, a common equity event strategy, is also a comparatively small opportunity set in Asia (Figure 14), with Japan in particular having few actual deals.

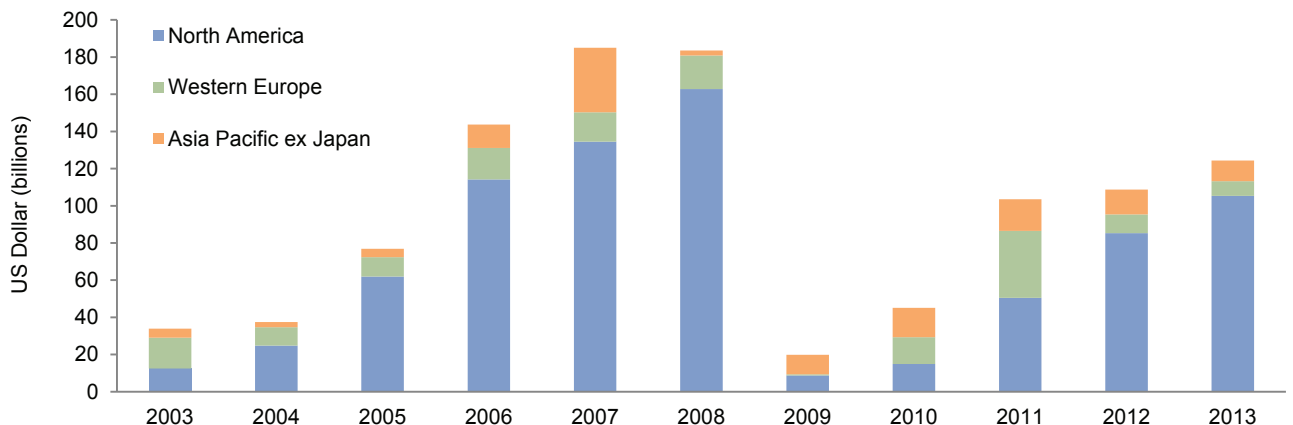
Hedging Asian event trades is also difficult as typical hedging tools in developed markets like CDS and equity index hedges are not as easy to execute in Asia because of inadequate availability and liquidity. For example, US-based managers might buy CDS on a high-yield index to hedge credit trades or buy S&P 500

put options or short futures to hedge equity trades. In Asia, CDS on Asian high yield are not readily available, and Asian equity index hedging options are limited as well.

**Opportunity Set.** The opportunity set is currently weak for traditional event-driven managers and, similar to our expectations for the credit-focused strategies, we expect the opportunity set to remain somewhat limited in the intermediate term.

**Figure 14. Spin-offs by Deal Value**

2003–13



Source: Dealogic.

Notes: Data for 2013 are through December 31. Dealogic updates its database on a regular basis, therefore historical data may change. Japan had spin-offs only in 2003, valued at \$1.3 billion.



## Macro<sup>5</sup>

Asia's first prominent encounter with global macro hedge funds occurred around the mid-1990s. Hedge funds' role in the Asian financial crisis was a point of contention as hedge funds were criticized for speculating against the fixed exchange rate regimes in southeast Asia. Dr. Mahathir Mohamad, former Malaysian prime minister, publicly criticized hedge funds and singled out George Soros as partially responsible for the Asian currency crisis, due to Soros' short positions in the Thai baht and Malaysian ringgit. Macro strategies are generally globally focused and not geographically centric, betting on global macroeconomic developments by trading a broad array of instruments. The Asia-focused funds tend to primarily trade Asian currencies, rates, fixed income, and equities, but will have exposure to markets outside Asia.

**Challenges.** Liquidity is key for macro managers to take outsized bets and the Asia-focused macro managers face greater illiquidity compared to their global counterparts. Asian currency trading is a prevalent strategy given Asia's market share of the foreign exchange market<sup>6</sup> and the amount of foreign reserves held by Asian central banks. Of the world's ten

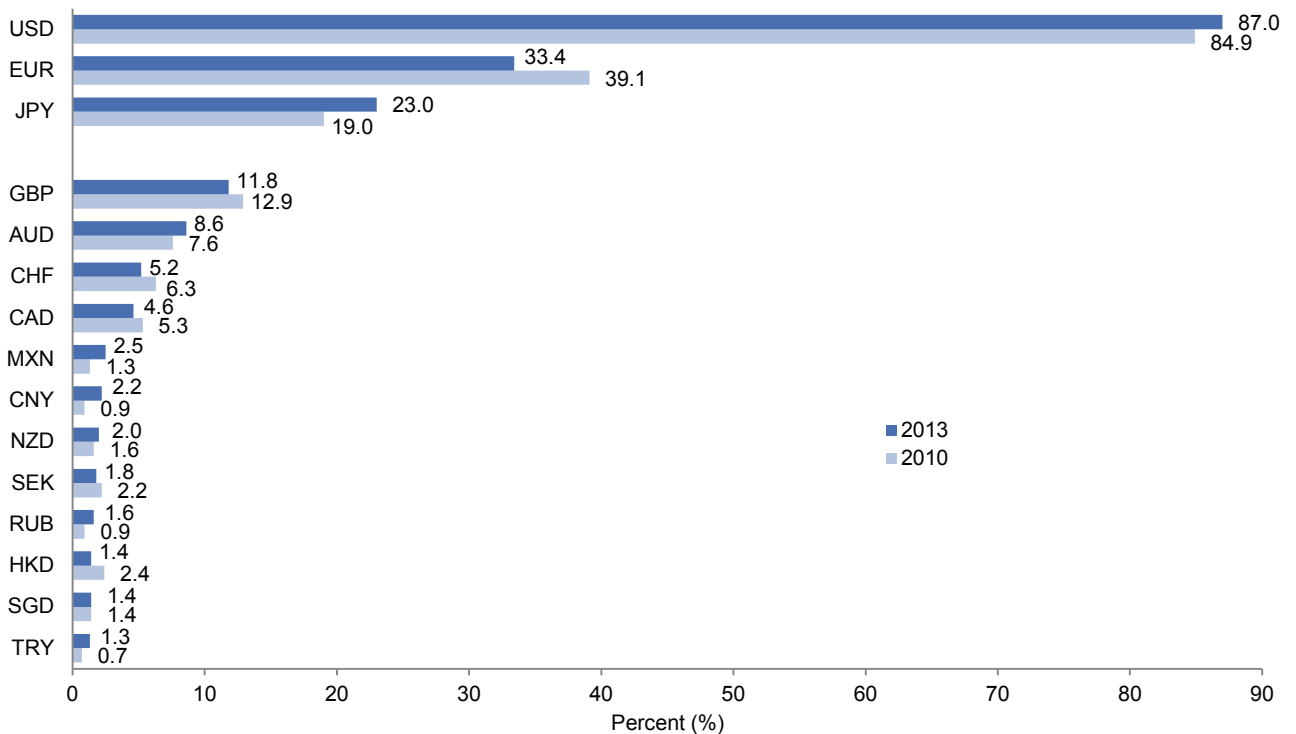
most-actively traded currencies, four are Asian currencies (Figure 15). Currencies that are less liquid include the Indian rupee, Indonesian rupiah, Malaysian ringgit, and Thai baht, limiting bets in these currencies. Asian rates are more challenging to trade than currencies due to higher illiquidity, especially when considering the restrictions in fixed income trading in onshore China.

Market liquidity across the various geographies differs by a wide margin. The emerging economies such as Indonesia, the Philippines, Sri Lanka, and Vietnam tend to have less-developed instruments and weaker liquidity. For example, none of these countries has an active interest rate–swap market. On the flip side, countries such as China (both CNY and CNH), Hong Kong, Singapore, and South Korea provide ample liquidity, though each ticket size is comparatively smaller than that in the United States and Europe. For example, Malaysia, Singapore, South Korea, and Thailand have a daily trading volume of approximately \$100 million to \$150 million of interest rate swaps/non-deliverable forwards, but the average trade size ranges between \$2 million to \$5 million. Given the smaller average trade size, one should expect fund managers to have higher trading volumes and turnover with their portfolios. Appendix B provides more detail on market liquidity for each of these countries.

**Opportunity Set.** Several factors make macro one of the more compelling opportunity sets in Asia. First, managers can trade more than ten distinct currencies. Second, the renewed investor focus on Japan through Abenomics provides ample opportunities for macro managers to invest in currencies, equities, and rates in a deeply liquid market. Third, Asia's emergence as an economic power provides advantages to managers in the region. Faster-

<sup>5</sup> Our analysis includes products with a portfolio that takes a macroeconomic approach and invests opportunistically across financial markets, currencies, geographic regions, and commodities. These products take positions based on expected changes in interest rates, currency movements, monetary policies, and macroeconomic indicators.

<sup>6</sup> According to the 2013 Triennial Central Bank Survey for Foreign Exchange Turnover conducted by the Bank for International Settlements, the top four Asian centers accounted for 18.1% of global foreign exchange trading. Asia accounted for half the top six global FX trading centers, namely Singapore (5.7%, 3rd), Japan (5.6%, 4th), and Hong Kong (4.1%, 5th). London (40.9%) maintained its status as the leading global FX trading center while New York (18.9%) trailed by a significant margin.

**Figure 15. Foreign Exchange Market Turnover by Currency**

Source: Bank for International Settlements.

Notes: Data from the BIS Triennial Central Bank Survey, 2013. Data are shown on a net-net basis of daily averages during April.

growing Asian economies are expected to be the engine of world economic growth as their share of global output rises. Fourth, the divergence in the monetary policy path of the G4 and Asian economies presents potential alpha for managers with local knowledge. Fifth, the talent pool is fairly robust. Asian office openings by several well-known global macro managers have helped to identify and nurture talent. Additionally, the closure of banks' proprietary trading desks in Asia in response to the Dodd-Frank Act and the Volcker Rule has contributed to the talent pool. Last, but not least, are the continuing financial sector reforms in China, especially the increased efforts to internationalize the Chinese currency. The renminbi has become the ninth most actively traded currency as daily turnover increased

nearly four-fold from \$34 billion in 2010 to \$120 billion in 2013.

## A Framework for Evaluating Managers

Despite the challenges, we continue to find Asian hedge fund managers that can be attractive additions to portfolios. We recommend a framework for evaluating Asia-focused managers with three core components: organization, investment process, and risk management.

### Organization

Organizational stability is a critical component of any hedge fund manager evaluation globally, but is especially important when researching Asian hedge fund managers as these managers generally place less emphasis on organizational structure and operations.

**Operations.** Due to the relative immaturity of the Asian hedge fund industry, hiring experienced operational staff can be difficult. Moreover, many of the fund assets are relatively smaller, resulting in less money to spend on operational talent and systems. Finally, the importance of robust operations is generally less understood by the managers. Often, Asia-focused managers will have one staff member serving as chief operating officer, chief financial officer, and investor relations head without a dedicated compliance function. Reviewing internal controls and systems is absolutely essential.

**Assets Under Management.** Managing fund capacity can be a tricky balance between organizational stability and preserving the firm's ability to access inefficiently researched areas of the market without taking on too much liquidity risk. In general, Asia-focused funds have less flexibility to grow assets due to their constrained opportunity sets.

For example, at \$1 billion AUM, Asia-focused funds can theoretically invest in less than 50% of the Asian equity universe without taking

significant illiquidity risk (Figure 6). Thus, we view an AUM range between \$250 million and \$1 billion as striking the most prudent balance of business viability and compelling opportunity set. With the limited opportunity set of credit and event-driven strategies, we are cautious as well in recommending funds exceeding \$1 billion in assets. Multi-strategy funds may run higher assets due to the implementation of several underlying investment strategies. Global macro funds have the most flexibility in increasing AUM due to the enhanced liquidity of their core strategies.

**Liquidity Terms.** To attract investors, Asia-focused funds tend to offer more-liquid terms than funds in the United States and Europe, even though liquidity is worse. Stringent liquidity terms of course benefit the manager, but when smartly structured, help protect investors. These funds naturally recruit investors with a long-term focus and patience, allowing for a more stable investor base and proper alignment with fundamentally based strategies. In long/short equity and event-driven strategies, we find managers with at least rolling annual lock-ups on the investment anniversary the most prudent option as this structure guards against investors redeeming all at once. Managers offering quarterly liquidity are less compelling, but an investor-level gate (of 25% or less) can provide adequate protection. In credit, as discussed, our view is that these opportunities are best accessed through a called-capital vehicle rather than a commingled hedge fund structure. Macro funds can offer more liquid terms.

**Investor Base.** The investor base must consist of committed long-term investors that understand the investment process. As noted earlier, the majority of investment flows into Asia-focused hedge funds have historically

been from funds-of-funds, which tend to favor more liquid terms to meet the needs of their end investors in the United States and Europe. However, because of the less-stable capital of funds-of-funds and geographic challenges of due diligence for US and European investors, Asia-focused hedge funds can experience appreciable outflows if they have periods of underwhelming performance. General partner or internal capital investment can be the strongest evidence of proper alignment of interests akin to managers “eating their own cooking.” For newer funds, internal capital investment might be a smaller percentage of total assets. In these cases, managers should demonstrate that they are investing the majority of their liquid net worth.

**Transparency.** Asia-focused hedge fund managers generally offer lower transparency into the investment process than US- and Europe-focused managers. Transparency has improved, but more often than not does not meet Cambridge Associates’ requirements. At a minimum, managers must offer names of top positions (both long and short), access to the investment team, and insight into fund operations including access to operational heads and third-party service providers.

### Investment Process

**Geographic Focus.** We are mindful of the trade-offs between a diversified regional strategy and a country-specific strategy, but we believe, on balance, the diversification and enhanced flexibility of a regional fund outweigh the specialization of single-country funds. Individual Asian countries can quickly reduce opportunity sets due to policy changes or be overwhelmed by country-specific macro factors. For example, South Korea’s ban on shorting in 2008 and 2011 caused several managers to stop all investments until South

Korea eliminated the ban. Japan-focused funds might be an exception due to Japan’s market-leading depth and breadth. However, before the recent excitement over Abenomics, the Japanese hedge fund industry had been decimated by Japan’s long economic malaise and many funds that started as Japan-only funds in the 1990s broadened their investment mandate to include other Asian countries.

**Investment Team.** Implementing an effective pan-Asian strategy demands an experienced and talented investment team that can prudently assess a diverse opportunity set. Local language skills and knowledge are additive only if the investment process is sound. We are wary of funds that emphasize their large “on the ground” investment teams in isolation without proof of value. A few Asia-focused funds we recommend consist of investment teams that are quite small (less than five people), but implement successful strategies through a disciplined investment framework. Moreover, we are agnostic about location of investment team, but do prefer the entire team to be based in one location. In our experience the prospective benefit of on-the-ground research via a satellite office is outweighed by the communication and management challenges. On the surface, an investment team based outside of Asia might seem less than ideal, but managers based in the United States and Europe can overcome the geographic challenge with a robust investment process and frequent trips to the region.

**Primary Research.** A longer-term focus on fundamental investing is currently in short supply in Asia and managers that do proprietary research versus relying on the sell-side or “relationships” create sustainable advantages. The general enforcement of insider trading laws in Asia is more lax versus the United States, potentially providing more

leeway for information sharing, which results in some Asia-focused managers discussing their contacts with government officials or companies as a selling point. We recommend that investors demonstrate prudent skepticism of managers emphasizing connections as their investment edge and instead focus on managers that can provide evidence of primary sourcing and research depth through due diligence reports, channel checks, and granular discussions of investment ideas.

### Risk Management

Investors should seek managers with prudent portfolio construction resulting in disciplined risk management. Because the majority of Asia-focused hedge funds suffer from poor portfolio construction, investors can efficiently narrow the due diligence universe by evaluating portfolio exposures including net and gross, basis risk, position and country concentration, and liquidity.

**Net and Gross Exposure.** Relative to the United States and Europe, the overall Asian hedge fund universe tends to apply a wider range of net and gross exposure and thus returns may be driven by the manager's ability to market time, a skill that may not necessarily result in sustained success over time. Managers that generate most of their alpha from individual security selection provide the highest probability of long-term viability. Thus, we search for funds that de-emphasize market timing through consistent net exposure ranges and reduced gross exposure (a leverage measure). On average, a fund's total gross exposure should be lower than developed markets counterparts due to the higher illiquidity and volatility in Asia. In Asia-focused long/short equity, we prefer managers that run total gross exposures between 100% and 150% and net exposures between 20% and 50% as these exposure ranges emphasize security

selection versus leverage utilization and market beta. For credit and event-driven managers in the region, we may be more comfortable with higher net exposures due to the lack of practical shorting options, but are even more concerned with high gross exposure due to the higher illiquidity of those strategies. Macro strategies can prudently manage larger gross exposures than the other strategies, but again at a reduced level to their global peers.

**Basis Risk.** Higher basis risk—the measurement of mismatch between long and short exposures resulting from differences in instruments, countries, market cap, or sectors—generally exists in Asia-focused funds compared to developed market-focused funds due to differences in market development. For example, when attempting to invest long/short in India, managers can only efficiently short the large-cap names through the futures markets. Therefore, unless the manager only invests in large-cap names on the long side, the basis risk may increase the overall risk to the portfolio. Managers that find interesting long positions in less developed markets like Indonesia, the Philippines, and Thailand cannot effectively hedge those positions, so concentration in these countries must be watched. It is very difficult to mitigate all basis risk, especially in Asia. However, investors should make sure that it is somewhat limited and regularly monitored.

**Concentration.** Concentration risk relates to individual position and country sizing. In terms of position sizing, we are interested in managers that take fairly concentrated bets on the long side, but less enthusiastic when individual position sizes approach 10%. On the short side, we like to see individual position sizes range from 1% to 3% due to the riskier nature of shorts and the liquidity of the Asian markets. With regards to country concentration, much of

the portfolio exposure should be focused in the developed Asia-Pacific markets like Australia, Hong Kong, Japan, and South Korea due to increased liquidity and hedging options.

**Liquidity.** The most crucial aspect in evaluating Asian hedge fund managers is assessing liquidity risk. As we have illustrated in our strategy analysis, liquidity constrains the implementation of several traditional hedge fund strategies in Asia. Even in long/short equity where liquidity is less of an issue, strategies can appear to be more liquid than they actually are because the market caps might appear comfortably liquid but the actual outstanding free floats are small when compared to the United States and Europe. Investors must constantly monitor fund liquidity as the liquidity profiles of Asia-focused funds can quickly change and should not only be monitored at the security-specific level, but also at the individual country level.

**Unintended Risk.** Managers investing in Asia are more likely to face unintended risks. The depth and breadth of the markets and the availability of instruments to express their trade ideas curtail the ability for managers to maneuver themselves nimbly through various market cycles. Options to hedge investments are limited, notwithstanding the costs of implementing an effective hedge. The high cost of currency hedges in developing nations such as India may create a higher hurdle when deciding to invest in the country. The idiosyncratic political risk in each country adds to the challenges of investing within the region, hence managers tend to marry macro overviews with their fundamental analysis. Some managers may over-hedge the portfolio to minimize the downside risk as a result of a macro call that may cap the upside. The lack of an institutional-quality homegrown investor base leaves Asian markets somewhat at the mercy of overseas

investors. The May 2013 US announcement of QE tapering, which led to an exodus of capital across the region, especially in the developing Asian economies, underscored that these markets are highly susceptible to the developments in Western countries.

Figure 16 summarizes the core components of the framework and what to look for.

Figure 16. A Framework for Evaluating Managers

Core Components		What to Look For
Organization	Operations	Recognition of importance of robust operations and access to evaluate internal controls and systems
	AUM	Balance between organizational stability and firm's ability to access inefficiently researched areas, typically found at AUM of \$250mm – \$1bn
	Liquidity Terms	Smartly structured liquidity terms that are aligned with the strategy and underlying securities selected as well as the likely needs of investors
	Investor Base	Stable base with alignment of interests; for newer funds, managers should show they are investing majority of their liquid net worth
	Transparency	Funds that offer names of top positions (long and short), access to the investment team, operational heads, and third-party service providers
Investment Process	Geographic Focus	Regional funds offer diversification and enhanced flexibility that typically outweigh the specialization of single-country funds
	Investment Team	Experienced and talented team based in one location
	Primary Research	Evidence of primary sourcing and research depth through due diligence reports, channel checks, and granular discussions of investment ideas
Risk Management	Net and Gross Exposures	Consistent net exposure ranges (20%–50%) and reduced (relative to US/Europe-focused funds) gross exposure (100%–150%)
	Basis Risk	Funds that regularly monitor the risk and seek to limit it, recognizing that basis risk is higher in Asia
	Concentration	Concentrated bets on the long side with individual position sizes less than 10%; a 1% to 3% position size range on the short side
	Liquidity	Funds that allow monitoring at the country and security level
	Unintended Risk	Funds with awareness of the various risks they face including limited hedging, idiosyncratic political risks, and limited domestic investor base

## Conclusion

The long-term potential for Asia-focused hedge funds is promising as the opportunity set continues to expand and legal and regulatory frameworks continue to be put in place. We remain cautious on broad implementation in the near term as liquidity and governance drawbacks persist and in most cases outweigh the benefits of geographic diversification and market inefficiency. For those constructing diversified portfolios or hedge fund programs, we would recommend only allocating to Asia-focused hedge funds that meet the investor's global hurdle for organization, investment process, and risk management.

All things considered, long/short equity and macro strategies present the most interesting prospects, while we are less excited about event-driven and liquid credit strategies. Should investors be comfortable with managers that specialize in the less-liquid credit spectrum, this can be an attractive space to explore.

For investors interested in Asia-focused hedge funds, the following factors are key considerations when evaluating managers:

- ◆ Proficient operational staff;
  - ◆ Limited fund capacity that ensures efficient capital deployment into investment opportunities with the most compelling risk-reward *vis-à-vis* attracting and incenting the right talent;
  - ◆ Appropriate fund liquidity terms that fit the profile of the strategy adopted and the underlying securities selected also attract the appropriate investor base;
  - ◆ An experienced investment team, preferably with local language capabilities; and
- ◆ A robust investment process and prudent portfolio construction that seeks to mitigate the impact of elements such as basis risk, liquidity constraints, and unintended risks. ■



### Appendix A. Short-Selling Conditions by Country

Country	Short Access via	Remarks
Australia	Cash and swaps	<ul style="list-style-type: none"> <li>One of the largest short markets in Asia</li> </ul>
Domestic China	N/A	<ul style="list-style-type: none"> <li>Very limited lending market</li> <li>Accessible through local brokers</li> <li>Foreign investors currently unable to participate</li> </ul>
Hong Kong	Cash and swaps	<ul style="list-style-type: none"> <li>Borrow tends to be concentrated in financials, consumer discretionary, and industrials</li> <li>Uptick rule: No short sale below best current ask price</li> <li>Approved list of eligible shorts published by HK Exchange</li> <li>Holders above threshold required to report</li> </ul>
India	Futures via swaps and (recently) cash	<ul style="list-style-type: none"> <li>Illiquid onshore lending market</li> <li>Offshore single stock swaps not permitted</li> <li>Funds use swaps on futures for short exposure</li> <li>Recent developments allow for cash shorts on 160 blue chip companies</li> </ul>
Indonesia	Swaps only	<ul style="list-style-type: none"> <li>Short selling banned from Oct 2008 to April 2009</li> <li>Approved short list published by IDX (52 names as of May 2014)</li> <li>Limited supply, concentrated in large-cap index stocks</li> <li>Activity focused on resources, mining, and financials</li> </ul>
Japan	Cash and swaps	<ul style="list-style-type: none"> <li>Naked short selling prohibited</li> <li>Holders above threshold required to report</li> <li>Uptick rule: No short sale below last price</li> </ul>
Malaysia	Swaps only	<ul style="list-style-type: none"> <li>Regulated short selling reinstated in 2006, after being abolished in 1998</li> <li>Approved short list published by Bursa Malaysia</li> <li>Uptick rule: Order must be higher than last done price</li> </ul>
Philippines	Swaps only	<ul style="list-style-type: none"> <li>Limited liquidity, restricted mainly to large-cap stocks</li> <li>Uptick rule: Short sale only at price higher than last sale price</li> </ul>
Singapore	Cash and swaps	<ul style="list-style-type: none"> <li>Relatively liquid short sale market</li> </ul>
South Korea	Cash and swaps	<ul style="list-style-type: none"> <li>Liquid short market, most interest in financial, tech, shipping, and ship building</li> <li>Uptick rule: Shorts placed at last traded price or higher</li> <li>No naked shorts</li> </ul>
Sri Lanka	None	<ul style="list-style-type: none"> <li>Short selling is not allowed</li> </ul>
Taiwan	Cash and swaps	<ul style="list-style-type: none"> <li>Ample short supply in large caps, less so in small and mid caps</li> <li>Short interest historically concentrated in finance and technology</li> <li>Short sell volume limited to 20% of 30-day average trading volume</li> <li>Uptick rule: Borrowed stocks can be sold only at or above previous close</li> </ul>
Thailand	Cash and swaps	<ul style="list-style-type: none"> <li>Short selling only allowed for stocks in SET 100</li> <li>Foreign investors are limited to "foreign" line of shares</li> </ul>
Vietnam	None	<ul style="list-style-type: none"> <li>Short selling is not allowed</li> </ul>

Source: Data obtained from Bursa Malaysia, Indonesia Stock Exchange, World Federation of Exchanges, and various prime brokerage sources as of March 2014.

## Appendix B. Market Liquidity in Asia

As of December 31, 2013

Country	Government Bonds	FX Forward	Non-Deliverable Interest Rate Swaps	Cross-Currency Swaps
China	Bid/offer spread: 2 bps – 3 bps Daily turnover: CNY30 bn – 40 bn Buying volume in single day: US\$10 mm – 20 mm (with minimal market impact)	Daily volume: US\$3 bn Average trade size: US\$10 mm Spread: 40 bps – 60 bps	Daily volume: US\$300 mm Average trade size: US\$15 mm Liquid tenors: 1 yr – 5 yrs Available tenors: 1 yr – 10 yrs	Daily volume: US\$50 mm – 100 mm Average trade size: US\$20 mm Liquid tenors: 1 yr – 5 yrs Available tenors: 1 yr – 10 yrs
CNH	Bid/offer spread: 20 bps – 30 bps Daily turnover: CNH50 mm Buying volume in single day: CNH50 mm (with minimal market impact)	Daily volume: US\$6 bn Average trade size: US\$10 mm Spread: 20 bps – 30 bps	Daily volume: US\$15 mm Average trade size: US\$10 mm – 15 mm Bid-offer spread: 15 bps Liquid tenors: 1 yr – 5 yrs	Daily volume: US\$350 mm Average trade size: US\$10 mm – 20 mm Liquid tenors: Up to 5 yrs Available tenors: Up to 10 yrs
Hong Kong	Bid/offer spread: 10 bps Daily turnover: HKD2.5 bn Buying volume in single day: US\$10 mm (with minimal market impact)	Daily volume: US\$4 bn Average trade size: US\$50 mm Spread: 10 bps	Daily volume: US\$200 mm Average trade size: US\$15 mm Liquid tenors: Up to 10 yrs Available tenors: Up to 15 yrs	Daily volume: US\$50 mm – 100 mm Average trade size: HKD100 mm Liquid tenors: Up to 10 yrs Available tenors: Up to 15 yrs
India	Bid/offer spread: 1 bp – 2 bps Daily turnover: INR100 bn – 150 bn Buying volume in single day: US\$100 mm (with minimal market impact)	Daily volume: US\$4 bn – 4.5 bn Average trade size: US\$5 mm Spread: 2 bps	Daily volume: US\$50 mm – 100 mm Average trade size: US\$2 mm – 5 mm Available tenors: Up to 1 mth – 5 yrs Liquid tenors: Up to 1 mth – 10 yrs	Daily volume: US\$2 mm – 5 mm Average trade size: US\$1 mm – 2.5 mm Liquid tenors: 1 mth – 1 yr Available tenors: 1 mth – 10 yrs
Indonesia	Bid/offer spread: 5 bps – 15 bps Daily turnover: IDR4 tn – 5 tn Buying volume in single day: US\$5 mm (with minimal market impact)	Daily volume: US\$500 mm – 700 mm Average trade size: US\$5 mm Spread: 10 bps	N/A	Daily volume: US\$2 mm – 5 mm Average trade size: US\$1 mm – 2 mm Liquid tenors: 1 yr – 5 yrs Available tenors: 1 yr – 10 yrs
Malaysia	Bid/offer spread: 2 bps – 4 bps Daily turnover: MYR1 bn – 3 bn Buying volume in single day: US\$70 mm – 100 mm (with minimal market impact)	Daily volume: US\$1.25 bn – 1.75 bn Average trade size: US\$10 mm Spread: 3 bps – 20 bps	Daily volume: US\$100 mm – 150 mm Average trade size: US\$2 mm – 5 mm Available tenors: Up to 1 yr – 10 yrs Liquid tenors: Up to 1 yr – 5 yrs	Daily volume: US\$2.5 mm – 5 mm Average trade size: US\$1 mm – 2.5 mm Liquid tenors: 1 yr – 5 yrs Available tenors: 1 yr – 10 yrs
Philippines	Bid/offer spread: 5 bps – 15 bps Daily turnover: PHP13 bn Buying volume in single day: US\$5 mm (with minimal market impact)	Daily volume: US\$0.7 bn – 1 bn Average trade size: US\$10 mm – 20 mm Spread: 2 bps – 5 bps	N/A	Daily volume: US\$2.5 mm – 5 mm Average trade size: US\$1 mm – 2.5 mm Liquid tenors: 1 yr – 5 yrs Available tenors: 1 yr – 10 yrs
Singapore	Bid/offer spread: 3 bps Daily turnover: SGD1.29 bn Buying volume in single day: US\$100 mm (with minimal market impact)	Daily volume: US\$5 bn (>1 w) Average trade size: US\$50 mm Spread: 1 bps – 4 bps	Daily volume: US\$100 mm – 150 mm Average trade size: US\$2 mm – 5 mm Liquid tenors: Up to 1 yr – 10 yrs Available tenors: Up to 1 yr – 20 yrs	Daily volume: US\$25 mm – 50 mm Average trade size: US\$2.5 mm – 5 mm Liquid tenors: 1 yr – 10 yrs Available tenors: 1 yr – 20 yrs

## Appendix B. Market Liquidity in Asia (continued)

As of December 31, 2013

South Korea	Bid/offer spread: 1 bp – 2 bps Daily turnover: KRW9 tn – 11 tn Buying volume in single day: US\$100 mm (with minimal market impact)	Daily volume: US\$4 bn – 5 bn Average trade size: US\$5 mm Spread: 50 bps	Daily volume: US\$100 mm – 150 mm Average trade size: US\$2 mm – 5 mm Liquid tenors: Up to 1 yr – 10 yrs Available tenors: Up to 1 yr – 20 yrs	Daily volume: US\$25 mm – 50 mm Average trade size: US\$2.5 mm – 5 mm Liquid tenors: 1 yr – 5 yrs Available tenors: 1 mth – 20 yrs
Sri Lanka	Bid/offer spread: 10 bps Daily turnover: LKR1 bn Buying volume in single day: US\$3 mm (with minimal market impact)	Daily volume: US\$50 mm Average trade size: US\$1 mm Spread: 20 bps – 50 bps	N/A	N/A
Taiwan	Bid/offer spread: 0.1 bp – 2 bps (on-the-run) Daily turnover: TWD30 bn – 60 bn Buying volume in single day: US\$60 mm (with minimal market impact)	Daily volume: US\$2.5 bn – 3 bn Average trade size: US\$10 mm Spread: 10 bps	Daily volume: US\$130 mm – 170 mm Average trade size: US\$15 mm Liquid tenors: Up to 1 yr – 5 yrs Available tenors: Up to 1 yr – 10 yrs	Daily volume: US\$30 mm – 50 mm Average trade size: US\$10 mm – 20 mm Liquid tenors: 1 yr – 5 yrs Available tenors: 1 yr – 10 yrs
Thailand	Bid/offer spread: 3 bps – 6 bps Daily turnover: THB10 bn – 88 bn Buying volume in single day: US\$40 mm – 60 mm (with minimal market impact)	Daily volume: US\$1 bn Average trade size: US\$20 mm – 50 mm Spread: 1 bp – 3 bps (6–12 months)	Daily volume: US\$100 mm – 150 mm Average trade size: US\$2 mm – 5 mm Liquid tenors: Up to 1 yr – 5 yrs Available tenors: Up to 1 yr – 10 yrs	Daily volume: US\$2.5 mm – 5 mm Average trade size: US\$1 mm – 2.5 mm Liquid tenors: 1 yr – 5 yrs Available tenors: 1 yr – 10 yrs
Vietnam	Bid/offer spread: 20 bps – 30 bps Daily turnover: VND100 bn – 400 bn Buying volume in single day: US\$5 mm – 10 mm (with minimal market impact)	Daily volume: US\$50 mm Average trade size: US\$2 mm Spread: 10 bps – 100 bps	N/A	N/A

Source: HSBC.