The evolution of listed real assets
A fresh look at a rediscovered asset class

Together, the universes of public and private investable real assets are estimated at around $60 trillion\(^1\) – indeed, real assets are an increasingly relevant and important part of the global economy. Many investors are also negatively exposed to price increases in real assets such as real estate, infrastructure and commodities. Even so, investors are often underinvested in real assets relative to their size in the total market portfolio and relative to the investors’ own exposures to price increases. For all investors, real assets offer diversification to traditional stocks and bonds, as exhibited by their historical correlations to financial assets and to each other. To this end, since 2009 Russell has been advocating that Russell clients consider making real assets part of their portfolios.\(^2\)

Exhibit 1. The investable universe for real assets\(^3\)

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Background
Real assets are increasingly an integral component of our institutional clients’ portfolios. This increase extends to a range of investor types, including defined benefit pension plans, nonprofit organizations, and defined contribution plan participants.

A number of active commodities and infrastructure managers have entered the market in recent years, and as a result, Russell’s ability to make assertions about the real assets universes has expanded. With a few more years of knowledge, research and experience in working with active real assets managers, we now add more points to our support for these asset classes. First, we acknowledge the secular case for real assets as a result of growth in developing economies. Second, we identify a compelling growth and income opportunity with real assets. And finally, we highlight that real assets have a strong potential for excess return.

Real assets offer rich active management opportunities with their unique combination of attractive characteristics, including access to growth opportunities supported by long-term strategic trends; differentiated return drivers, such as steady cash flows; a low-beta (or defensive) role in the portfolio; and a unique relationship with inflation.

Why real assets: A recap
Real assets have long represented an important opportunity for capturing attractive returns associated with global growth and development. In more recent years, urbanization and burgeoning middle classes in emerging economies are further bolstering the attractiveness of real assets. Major categories under the real assets umbrella include commodities, real estate investment trusts (REITs), natural resources and listed infrastructure.

URBANIZATION
Societies across emerging economies are shifting from agrarian to more urban cultures wherein goods and services are needed to support economic growth. The populations of these countries are growing at rates that far outpace those of developed countries. For example, China is predicted to have an estimated 130 cities with populations of one million or more by 2025. This represents an additional 25% of the population becoming city dwellers. With this urbanization trend in emerging economies comes increasing demand for materials, construction and transportation. In fact, it is estimated that from 2000 to 2010 the BRIC countries (Brazil, Russia, India and China) represented between 30% and 35% of global economic growth, and that domestic demand from these four countries represented between 35% and 40% of global demand. With their growing and urbanizing populations, emerging markets are also demanding a greater share of global commodities and natural resources output to fuel the growth of their urban centers.

EXPANSION OF THE MIDDLE CLASSES IN EMERGING MARKETS
The urbanization trend in emerging economies is accompanied by growth of the middle classes, which may also fuel demand for real estate, infrastructure and commodities. These growing populations will require more fuel for cars, steel for buildings and concrete for expressways; higher-protein diets (which will in turn mean more demand for agricultural commodities); more durable and non-durable goods; and improvements in energy generation and utilities distribution (e.g., water, electricity). In addition to these factors, increased travel will likely spur demand for better airports and expanded rail systems.

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4 This is not an exhaustive list. See Ross (2009).
6 Goldman Sachs. “Global Themes and Risks” (December 2011).
The Organisation for Economic Co-operation and Development (OECD) predicts that while the middle classes outside North America and Europe represented only about 38% of all spending by middle classes globally in 2009, the figure is predicted to grow to 70% of all global middle-class spending by 2030. The Boston Consulting Group estimates that China will add more than 140 million middle-class households and India 180 million by 2015.

From this perspective, the pressure on commodities, infrastructure and real estate may continue to create attractive investment opportunities for as long as emerging economies continue to grow in size and influence. Investing in real assets may provide investors with exposure to these favorable long-term secular trends.

Why real assets are an income and growth story: The real difference

Real assets offer both growth and income (i.e., yield) to investors.

REAL ASSETS GROWTH

Capital gains, price appreciation or growth for real assets may be an important component of expected returns. While listed real estate and listed infrastructure are well known for income (or yield), the underlying assets also have a history of price appreciation. In the case of collateralized commodities futures (commodities), growth of an investment comes about in a different way. Whether the spot price of commodities grows over time (in either a real or a nominal sense) is entirely up for debate. We have observed that the collection of commodities and the standard practice of rebalancing and rolling commodities futures have offered an historical return, and we expect them to offer future returns without any assumption of dividends or coupons. Commodities can, in this light, be thought of as a “growth” real asset. Ultimately, a small part of commodities’ total return comes from the interest income associated with their collateralization, but in the current low interest rate environment, this portion of commodities’ returns isn’t likely to generate much more than a few basis points of income.

REAL ASSETS INCOME

Whereas commodities are more of a growth story, real estate and listed infrastructure are often closely identified with dividend yields or income generation. These income-oriented real assets have two sources of return: expected income return and the expected price appreciation return noted above. Similarly to those of value stocks, the underlying valuations of REITs and listed infrastructure investments depend largely on cash flows from the underlying companies they represent.

For example, real estate investments generate cash flows through rents. The underlying cash flows – rents from commercial tenants – are often very dependable and persistent, given the often long-term nature of the underlying contracts and leases. Even in the extreme case of bankruptcy, tenants may pay to keep their lights on and give their people a place to work for as long as possible. It is for that reason that the cash flows associated with real estate have historically been very bond-like in their consistency. For 2011, the dividend yield of global REITs was 4.2%, and the dividend yield for the S&P Global Listed

9 See Ross, Leola (September 2010). “Commodities Futures Returns: Reconciling history with expectations.” Russell Research.
Infrastructure Index was 4.7%. In contrast, the dividend yields on the S&P 500 Index and the Russell Global Index were 2.1% and 2.8%, respectively.

While income is also an important part of the return proposition in listed infrastructure, the asset class offers a variety of unique features, including long-lived assets, highly regulated and/or monopolistic income streams and a direct relationship with inflation at the asset level. The underlying companies operate assets with long-term concessions negotiated with local and sovereign governments, allowing for relatively predictable cash flows compared to those associated with broader equities. Moreover, as we’ve detailed in several previous notes, infrastructure is characterized by monopolistic (or near-monopolistic) pricing power for necessary goods. An asset’s attribute of being the only source and a necessary good means that it has highly secure cash flows – and such cash flows have historically translated to relatively high yields for asset owners. Finally, infrastructure cash flows, often regulated by government agencies, may be fee-, toll- or margin-based. Moreover, regulatory agencies and contractual agreements may allow asset owners to periodically reset rates according to a pre-specified price index.

The relatively high dividend yields that result from strong cash flows in real assets lead to two important benefits: diversification and moderated return volatility. Because yield is a material component of the return expectation for real estate and infrastructure, the return patterns of these listed securities are different from return patterns of growth-oriented equity securities. For example, Russell’s forecasted correlation of U.S. listed real estate to U.S. listed equities is 0.60, while our forecasted correlation of global listed infrastructure to global equities is 0.68. The income return of these securities results in a defensive profile to their returns.

Moreover, because income is a consistent component of their returns, these securities may be expected to exhibit lower volatilities than typical equities do. Indeed, our forecasted volatility for equities ranges from 18.5% for U.S. large cap to 26.4% for emerging markets equities, while the forecasted volatility for real assets is 14.4%.

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10 Data as of December 31, 2011.
11 CBRE Clarion Research, FactSet and Bloomberg as of 12/31/11.
12 At the security level or fund level, equity market volatility may dominate inflation-linked cash flows that are experienced by listed infrastructure corporation.
14 For example, a utility may be able to adjust margins upwardly at scheduled intervals to keep pace with cost structures, or a toll road may be able to raise tolls based on a price index. It is often argued that these practices create a contractual inflation-linking for infrastructure assets. The investor should be aware that such linkages are neither direct nor guaranteed, given that publicly listed assets are priced by market participants.
15 Correlations as of June 30, 2012 and are for the 10-year forecast horizon. We do not have a “U.S. listed infrastructure” forecast for comparison. Russell’s Strategic Planning Assumptions are available upon request.
17 Forecasted volatility as of June 30, 2012 for 10-year horizon. Real assets forecast is based on 30% allocated to global listed infrastructure, 30% to global listed real estate and 40% to collateralized commodities futures.
Why active management is important to real assets investing: The case for excess return

When considering the inclusion of new asset classes, it is customary to consider the case for the “beta” that the asset class brings to bear. Evaluating the beta, historical returns and forecasts is useful. Such a case was made in Ross (2009), where the benefits of adding real assets to an equities and fixed income portfolio were illustrated. Three years on, we have more information about another important piece of the real assets puzzle: the alpha. As we mentioned earlier, the number of managers with track records in real assets has grown, and there is more evidence to support the belief that managers can deliver consistent, positive excess returns.

Before delving into alpha, let’s review beta. Many asset classes, sub-asset classes and styles are easily represented by well-constructed indexes. Some examples of such asset classes are in the Russell Global Indexes series. At the other end of the spectrum are a number of asset classes that are either very poorly represented or not represented by indexes at all. One poorly represented asset class is private equity, where various universes may exist, but they fail on all of the criteria below.

Baily (1992) describes a well-constructed index as being:

1. **Unambiguous.** The names and weights of the securities constituting the benchmark are clearly delineated.
2. **Investable.** The option is available to forgo active management and simply invest in the holdings of the benchmark.
3. **Measurable.** The benchmark's return can be calculated on a reasonably frequent basis.
4. **Appropriate.** The benchmark is consistent with the manager’s investment style.
5. **Reflective of current investment opinions.** Current investment knowledge (be it positive, negative or neutral) about the securities that make up the benchmark is available to managers.
6. **Specified in advance.** The benchmark will have been constructed prior to the start of the evaluation period.18

Traditional asset classes have reasonable approximations that may meet many of these criteria but not all of them. For example, the Barclays US Aggregate Bond Index does well on several fronts, but is not investable, due to the OTC nature of many contracts and the infrequent trading and availability of components.

REAL ASSETS BENCHMARKS

The indexes for real assets tend to fall into the “poorly represented” category noted above – reasonable approximations, but not meeting any of the criteria. In Exhibit 2, we show how well the various real assets indexes used in the Ross 2009 analysis meet the criteria above. To varying degrees, the real assets indexes may be appropriate as regards an investment manager’s behavior, and reflective of the current investment options. However, Russell is unlikely to favor managers who are strongly bound by these indexes.

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Exhibit 2. Real assets benchmarks

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Unambiguous</th>
<th>Investable</th>
<th>Measurable</th>
<th>Appropriate</th>
<th>Reflective</th>
<th>Specified</th>
</tr>
</thead>
<tbody>
<tr>
<td>S&amp;P Global Listed Infrastructure Index</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>FTSE EPRA/NAREIT Index</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>DJ UBS Commodity TR Index</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Each of these sub-asset classes have alternative indexes to be considered:

- **Infrastructure**: Dow Jones Brookfield Global Infrastructure Index, UBS Global Infrastructure & Utilities 50-50 Index
- **Commodities**: S&P GSCI™ Total Return Index, Thomson Reuters/Jefferies CRB Commodity Index, Rogers International Commodity Index
- **Real estate**: MSCI US REIT Index

All of these indexes will have shortcomings similar to those of the indexes chosen by Russell to represent these asset classes, and may also lead to additional complications (see Babson [2011], Brunette and Ross [2011], Kayser, Paris and Ross [2011], Paris [2009]).

In light of documented weaknesses in the benchmarks for real assets, it is typical for asset managers in this space to exhibit higher tracking errors than what is typical for equity or fixed income asset managers (Ross, May 2012). In the case of commodities and listed infrastructure, we also expect to see strong excess returns from active management. To demonstrate where real assets’ excess returns lie on the spectrum of excess return forecasts, we show expectations for traditional asset classes in Exhibit 3 to illustrate the range. What is most interesting about our excess return expectations is the percentage of total return we expect from active management. In the case of equities, whether the excess return forecast is more modest (as in the case of U.S. large cap) or more substantial (as in the case of emerging markets), the relative share of excess return is lower than that of marketable real assets. From Exhibit 3, the importance of excess return to Russell’s view of real assets is clear.

Exhibit 3. Forecasts by asset class

<table>
<thead>
<tr>
<th></th>
<th>10-year return forecasts</th>
<th>Excess returns</th>
<th>% of total return from beta</th>
<th>% of total return from active mgmt</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. large cap</td>
<td>6.6</td>
<td>1.15</td>
<td>85%</td>
<td>15%</td>
</tr>
<tr>
<td>Emerging markets</td>
<td>7.7</td>
<td>1.75</td>
<td>81%</td>
<td>19%</td>
</tr>
<tr>
<td>Real assets portfolio</td>
<td>5.0</td>
<td>1.80</td>
<td>74%</td>
<td>26%</td>
</tr>
</tbody>
</table>

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19 Russell’s Strategic Planning Assumptions as of June 2012 available upon request.

20 Russell’s forecasts for excess return are assumed gross of fees.
EXCESS RETURN BY ASSET CLASS

Global real estate
Listed real estate investing is something of a “young adult” in the world of investing. Early investments were regionally focused, and in the last decade, going global was the theme. The advantages of global include the ability to tap into development around the world and to diversify exposures to local markets. While currency exposure is certainly introduced by moving away from the local economy, investors may opt to accept it as a diversifier or hedge it through a currency program.

Throughout this period, real estate benchmarks also evolved from local to global. With that evolution, index providers considered using different security types. For example, in Asia, the REIT structure is less ubiquitous, and real estate development stocks are included in the index. The real estate index is technically replicable, but replication is expensive relative to broad-market equity indexes, and liquidity is a persistent issue. Moreover, these indexes do not fully represent the opportunity set or and leave much room for active managers to pursue excess returns via out-of-benchmark security selection. Given that passive investing in global real estate may be problematic and that active management is forecast to provide 19% of the total return for this asset class, Russell sees real estate as being a potential “rich pond” for active management.

Listed infrastructure
Listed infrastructure is a relatively new asset class. Because of its youth, the benchmarks we have for this category are both weak (as we noted above) and difficult to access on a passive basis. Some exchange-traded funds (ETFs) exist, but they are typically relatively expensive and do not track the benchmark well.

Infrastructure is also an area in which specialized expertise may be well rewarded. As noted above, infrastructure assets have some unique features (including having monopoly or monopoly-like status and being sole providers of necessity goods and services), and they accordingly require highly customized valuation models and dedicated research resources.

One of the special considerations in the active management of listed infrastructure involves defining the investable universe. Listed infrastructure asset managers may choose to be more “pure play” or more “thematic.” Pure-play managers tend to invest in companies that manage infrastructure assets directly, while thematic managers may invest in a variety of securities that are related to infrastructure, but possibly only indirectly. For example, thematic managers might consider a road construction corporate stock to be part of the infrastructure theme, while the pure-play manager would exclude it from its investable universe. By opting for the pure play, an asset manager’s returns will likely exhibit lower correlation and lower beta to global equities than will the thematic manager, and the pure-play manager will have a return profile that is quite different from the thematic manager’s.

Listed infrastructure managers have a variety of levers at their disposal, including investing in out-of-benchmark stocks and in securities that are lightly covered or poorly understood by the street. Understanding details of regulatory regimes throughout the global markets, in each region and sector, is also a significant source of added value for dedicated managers. Because the benchmarks are not particularly good representations of the universe, asset managers have more opportunities for adding value.

Given the unique features of the infrastructure asset class, infrastructure asset managers may have more opportunities for adding value than managers of other risk asset asset classes do. With that in mind, we generally expect a greater percentage of total returns to come from excess returns in the listed infrastructure portion of the portfolio than from excess returns in equities.
Commodities
The most typical way for institutional investors to gain exposure to commodities markets is by using collateralized commodities futures benchmarked to either the S&P Goldman Sachs Commodities Index (GSCI) or the Dow Jones UBS Commodities TR Index (DJ UBS).

The idea of benchmark-relative long-only investing in commodities is relatively new. Indeed, in seeking out track records, Russell has only one or two of such managers with histories longer than 10 years in its manager research universe. Prior to the last 10 years, active commodities investing was largely relegated to hedge funds and speculators.

By contrast, index investing and enhanced index investing has a reasonably long history. Indexers usually entered into swaps (generally in the 20–35 basis points cost range) with investment banks that manage the other side with collateralized commodities futures. Enhanced indexing has gone through a bit of a revolution in the past few years. Prior to 2008, the most typical scenario for enhancing commodities futures was through the collateral. By using enhanced cash rather than Treasuries to collateralize commodities futures, fixed income shops have been able to add 50–75 basis points to their commodities fund returns and essentially cover the cost of the swap. 21

The global financial crisis that began in 2008 suppressed investor appetite for these types of index enhancements. As a result, enhanced indexes now more typically look for their excess return from rolling commodities either early or late (relative to the benchmark) and collateralize with Treasuries. The return from this so-called “roll timing” has persisted for many years and is largely a function of the need for indexers to roll at precise dates.

When commodities managers look beyond roll timing and move into curve trades, spread trading and sector bets to gain excess return, they move from being enhancers to being active managers. Because this field is still quite specialized, such techniques may be lucrative for some commodities investors.

As do managers in the real estate and listed infrastructure markets, commodities managers have unique and often multiple levers they can pull in creating excess returns. As well, because fewer active managers play in this space, some trades may persistently add value for long periods of time. Combining these points with Russell’s experience with commodities active managers, we expect the proportion of total return derived from active commodities managers to be materially higher, at 38%, than most other asset classes.

“BENCHMARK-UNAWARE” ASSET MANAGERS
When benchmarks are less than ideal, it is not surprising to see asset managers “ignoring” them. In both listed infrastructure and commodities, we see material numbers of active managers constructing their portfolios such that they are relatively un-tethered to any index. Generally, these managers will utilize an absolute-return target such as LIBOR or CPI, plus some number of basis points. In the case of real assets, CPI Plus is a strong indicator that the manager acknowledges the client’s interest in tackling inflation risk.

Benchmark-unaware funds have some distinct advantages and disadvantages. The advantages might include lower correlations with equities (this may happen when the benchmark-unaware manager explicitly targets an equity correlation level); a better “hedge” for inflation (particularly when the target is tied to inflation); and a better utilization of the specialized skills of the asset manager. The disadvantages may be difficulty in creating return forecasts and evaluating success. As well, in some cases, the heavier reliance on skill (or alpha) may result in higher fees.

21 Source: Russell’s research and experience in these strategies
Given the limitations of industry benchmarks and the newness of these active manager universes, investors may find that benchmark-unaware managers are well suited to their needs, particularly when diversification and inflation are primary concerns.

Summary and conclusions

The analyses of real assets classes we've seen to date have focused largely on the attributes of indexes and "implied beta." Russell believes that this is only part of the story. Thoughtful implementation of actively managed real assets may provide investors the potential for growth and income opportunities, differentiated return drivers and the benefits of active management. In today’s challenging investing environment, these desirable attributes can go a long way toward ensuring that investors actually achieve their stated investment objectives.

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Investments in infrastructure-related companies have greater exposure to the potential adverse economic, regulatory, political and other changes affecting such entities. Investment in infrastructure-related companies are subject to various risks including governmental regulations, high interest costs associated with capital construction programs, costs associated with compliance and changes in environmental regulation, economic slowdown and surplus capacity, competition from other providers of services and other factors. Investment in non-U.S. and emerging market securities is subject to the risk of currency fluctuations and to economic and political risks associated with such foreign countries.

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