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# UNLISTED PROPERTY FUNDS AND THE EMERGING PROPERTY MARKETS

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## 1. Introduction

1.1    Context

High quality real estate is a fundamental necessity for a developed economy.  It provides life-enhancing residential security and with it the potential for domestic saving through owner occupation of capital-preserving assets; it produces industrial and office space for the production and processing of output; and it delivers shopping and leisure facilities for the promotion of domestic consumption and tourism.  While conformity of high quality design and construction may damage valued cultural differentiation, it also breaks down barriers between different lifestyles and introduces the possibility of cross-border trade, bringing with it expertise, skills and economic growth.

The production of high quality real estate needs to be financed through large scale equity and debt capital.  This requires the presence of an international banking system, but also the entrepreneurship represented by equity capital or foreign direct investment (FDI).

For example, Lapoza (2006) traces the essential role real estate development plays in the development of emerging economies.  He finds that foreign real estate capital was a major source of financing domestic property market office construction in Central Europe after the fall of the Berlin Wall in 1989.  By analyzing the correlation of FDI flows to annual construction rates of office buildings, he seeks to explain the location of new or refurbished office buildings in the central business district (CBD) or in non-CBD locations and to test whether there is a positive correlation relationship of FDI flows and new office construction or refurbishment. The results point to the important link between incoming FDI and office construction in domestic city centres.

FDI is greatly supported  by a global boom in international institutional investing. An increased investor appetite for global investment in equities and bonds, and later property, has generated a structural market shift in cross-border investing observable since the mid 1990s.  In the context of this paper, the change has had two main impacts: first, international property investment has boomed; second, indirect property investment (investing through securities and funds) has become commonplace.  Recently both trends have been observable in most European countries with established pension funds.

The recent boom in cross border property investing has been significant.  According to major brokerage houses, cross-border property investment has been growing much more quickly than domestic investment in the last five years.  Running in parallel with this development has been a boom in listed real estate markets, especially in the Real Estate Investment Trust (REIT) format, and in the number and value of unlisted property funds.   The growth of the listed REIT market is largely a matter of public record, but while investing in unlisted real estate vehicles has become an increasingly standard route to attaining international real estate exposure there is little available data describing this trend.

The unlisted sector holds particular interest for this symposium.  Rather than REITs or other forms of listed securities, which tend to focus on and be based in developed

markets, the unlisted fund has acted as an engine delivering capital from the developed world to developing and emerging property markets.

1.2    Objective

This paper sets out to describe the changing nature of global property investment, to provide background information regarding the nature of unlisted property funds and their managers and investors, and especially the role played by unlisted property funds in facilitating cross-border investing.   In particular, it focuses on the development of unlisted funds as intermediary structures carrying institutional capital from developed to developing markets.  It presents the results of new research by UK research firm Property Funds Research (PFR) and the University of Reading which explores the extent to which this new vehicle has been effective in delivering capital to emerging markets.

The research relates the number of funds targeting particular countries and to population and GDP per capita.  It finds that there is a very strong relationship between the popularity of a country for investment through this vehicle format and these independent variables.   More interesting, perhaps, is the identification of outlier countries where the amount of investment is significantly less - or greater - than that predicted by population and GDP per capita.

In this research, we define the emerging markets as the regions outside Europe, Australasia and North America, and focus on the largest 55 countries in these regions by population.  This produces a country cut-off of a minimum of roughly 20 million population and includes Asia, Latin America, Africa and the Middle East.

1.3    Limitations

The paper has several limitations.

We acknowledge the inadequacy of our definition of an emerging or developing market.  For completeness and for the purposes of comparison, we have included all larger Asian markets, not including Australasia, despite the fact that Asia includes such highly mature markets as Japan, Hong Kong and Singapore.

We have not reported the exposure of listed structures such as REITs or AIM property funds to the emerging markets.  Data regarding this will be added in future work.  Nonetheless, it must be said that the unlisted fund market is less constrained than the REIT market, as tax efficient unlisted fund structures can be established for investment in most markets, but a REIT market cannot exist – and capital cannot efficiently be invested – unless local REIT legislation has been passed.   In early 2008, REIT markets in Asia and the emerging regions were limited to Mexico, Singapore, Malaysia, Hong Kong, Taiwan and Korea, although other markets were in the early stages of developing such structures.

The data we use is taken from the PFR unlisted fund universe.  This includes information on single region and funds investing in more than one region or country. We have reported the target exposure of an unlisted fund to a country by taking a simple unweighted division of its fund value (gross asset value, GAV) or estimated GAV (where no GAV figure is reported)) divided between the countries targeted by that fund.  A comprehensive breakdown of the fund universe by specific geographic

allocations will require more maturity in the PFR dataset, especially in the emerging markets.

Finally, we have not completed a full survey of the limits placed on external or foreign investment in developing economies, nor of the exchange controls which may inhibit cross-border investment into those countries.  It is possible that these factors fully explain the outlier countries.  This will be added in further work.  As a partial proxy for this we have used the Jones Lang LaSalle Real Estate Transparency Index (JLL, 2006).

## 2.    Background: the global market

<u>2.1    The value of investable real estate</u>

The value of commercial property owned by institutional investors around the world has been estimated (by DTZ and RREEF, among others) to be around €11$16 trillion at the end of 2006. This is the investable stock, meaning stock that is of sufficient quality to become institutional investment product, and which therefore represents the potential for market growth if owner-occupation rates were to tend to zero.

The value of commercial property owned by institutional investors around the world was estimated by Investment Property Databank (IPD) to be around €2.7 trillion at the end of 2006.   This excludes owner-occupied property, suggesting that the IPD sample represents 25% of the investable stock and that the remaining 75% of that stock is owner-occupied.  This is highly unlikely, as we suggest below.

The IPD measure suggests that some relatively small countries offer sizeable commercial property markets. Australia, Switzerland and Sweden have much more established property markets than would be suggested by the proportion of global GDP that they represent.  On the other hand, the size of the Italian and Spanish property markets is significantly lower than would be suggested by the share of GDP.

This very substantial under-representation of property within the latter countries reflects the relative lack of transparency of these markets, and the generally low levels of information available by comparison to more mature examples, including the lack of penetration by firms such as IPD.  In Asia and the emerging markets of the world, the data inconsistencies are even starker.  For example, we do not know much about the size of the investable property markets in China, India and Pakistan, despite their huge populations and increasingly significant GDP.

Implied owner-occupation ratios are defined as the total non-invested stock as a share of total stock. As a result, more developed markets with a higher degree of investor activity should show lower owner-occupation ratios than less developed markets.  Implied owner-occupation is highest in Asia-Pacific countries, at around 76%, reflecting both the lack of professional investor markets and of a developed services sector, while the ratio is lowest in the USA at 53%. The implied owner occupation in Europe is at around 62%.  Again, we suggest that this is much too high an estimate

The €11 trillion investable stock of property can be broken down to the regional level and further disaggregated by ownership structure (see Table 1).  PFR has made estimates of the gross asset values (GAVs) of stock held in both listed REITs and property companies and unlisted funds.

Publicly available REIT and property company market capitalisation data has been used and grossed up as shown to reflect the use of debt in the capital structure of the typical listed company.   Unlisted fund GAVs have been estimated by PFR using a combination of primary research at the individual fund level using the €1 trillion PFR fund universe (see Table 2) and extrapolation.   The US and hence North American data is a minimum estimate, as PFR data is still being assembled for this region.

According to PFR estimates, the €11 trillion investable market splits as follows. €3 trillion or 28% of the total stock is held by listed and unlisted property vehicles, with 16% held in listed vehicles and 12% in unlisted funds. This is more than the IPD estimate of the entire value of commercial property owned by institutional investors around the world, and questions the IPD estimate, which probably excludes many fund-held properties. The remaining €8 trillion or 72% splits into directly held investment stock and owner-occupied property – which could therefore be much less than the 70-75% level implied in previous measures.

The global market is split by GAV into 40% Europe, 38% North America, 17% Asia and 5% emerging markets (defined for this purpose to exclude China and include India). An estimated minimum global €1.3 trillion is invested in unlisted funds. Within this split, Europe is relatively fully supplied with unlisted product while Asia is under-supplied. Asia, on the other hand, has been well served by the listed sector.

**Table 1: the global property investment universe (€m)**

|  | Europe | Asia | Emerging | North America | Total |
|---|---|---|---|---|---|
| Size of market | 4,343,055 | 2,351,481 | 331,666 | 4,014,287 | 11,042,755 |
| Listed market size | 450,092 | 618,383 | 135,599 | 524,895 | 1,714,618 |
| Unlisted market size | 500,562 | 179,458 | 123,334 | 498,991 (est) | 1,302,347 |
| Direct market size (residual) | 3,392,400 | 1,553,638 | 72,729 | 3,004,755 | 8,023,524 |

*Source: Property Funds Research, RREEF, AME Capital, December 2007*

2.2     The global unlisted property market universe

PFR's estimate of the size of this market is around €1.3 trillion, of which data is held on over €1 trillion (see Figure 1 and Table 2). Table 2 shows how the currently held PFR fund data is distributed by region.

**Table 2: PFR's current vehicle universe**

| Regional focus | Estimated GAV (€m) | Number |
|---|---|---|
| Europe (ex - UK) | 360,954 | 805 |
| Global (pan-region) | 300,223 | 276 |
| UK | 165,997 | 389 |
| North America | 160,582 | 289 |
| Asia | 87,593 | 227 |
| Australasia | 25,757 | 74 |
| Latin America | 10,723 | 69 |
| Africa | 3,724 | 17 |
| Middle East | 1,099 | 14 |
| TOTAL | 1,116,653 | 2,160 |

*Source: Property Funds Research, May 2008*

**Figure 1: growth in the PFR database of unlisted indirect vehicles by GAV (€bn)**
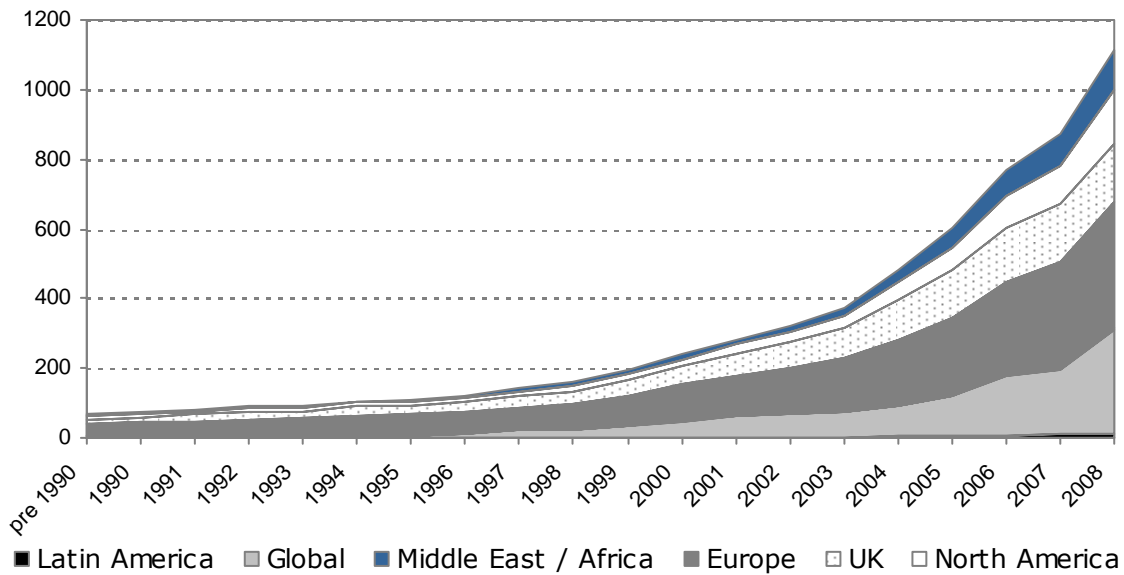


*Source: Property Funds Research, May 2008*

The universe of unlisted property vehicles has grown dramatically over the last ten years with the most dramatic activity being in the last five. In Europe, the number of funds in the PFR Universe has grown on average by over 20% per annum over the past ten years. Over the same period GAV has grown by 10% annually. This explosive growth is demonstrated in Figure 2.

The largest markets in PFR's vehicle universe are those of Europe, the UK and North America (currently under-estimated, as suggested above). However, increasingly the focus has been turning to the emerging markets of Asia, the Middle East, Africa and Latin America. Recently, Asia in particular has begun to experience a similar boom, as shown in Figure 3.

**Figure 2: growth of the European (inc. UK) unlisted indirect market**
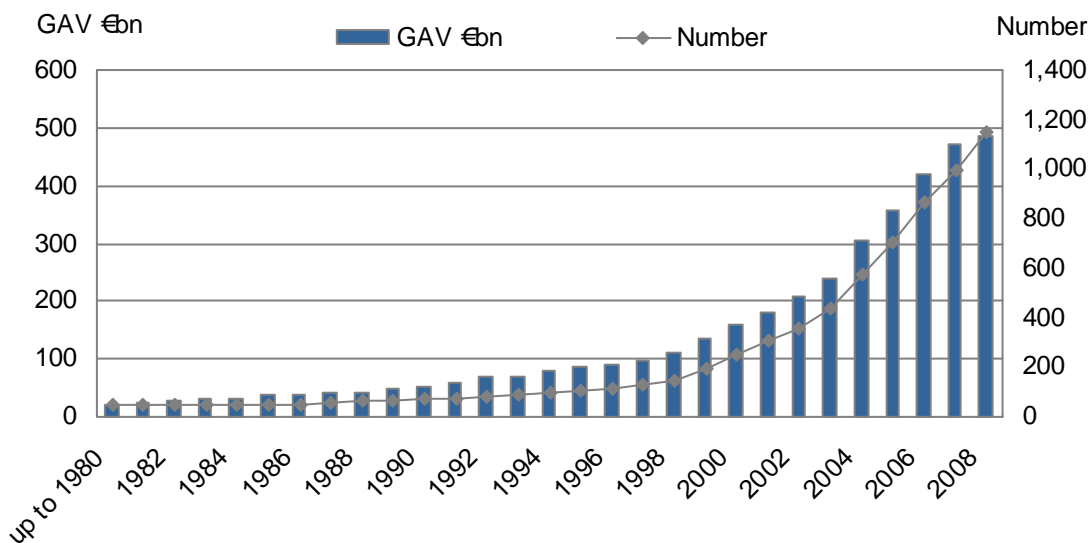


*Source: Property Funds Research, May 2008*

**Figure 3: growth of the Asian unlisted indirect market**
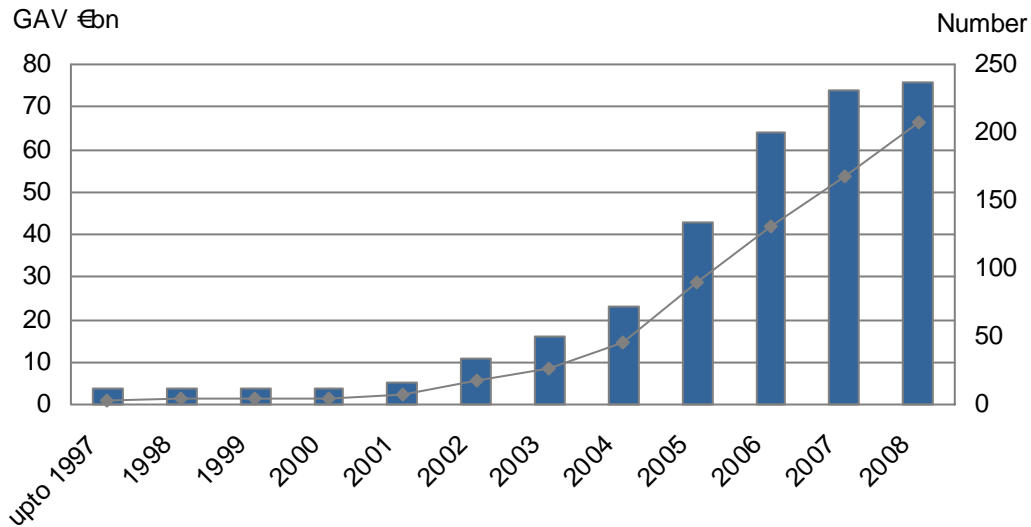
Figure 4 shows that Europe was the most popular target location for funds launched in 2007 by both estimated GAV and number.  North American funds were second most popular in terms of estimated GAV, while global funds surpassed North American funds by number.  Asian funds are becoming increasingly popular with 44 being launched in that year.

**Figure 4: total number of vehicles launched in 2007 by location and value**
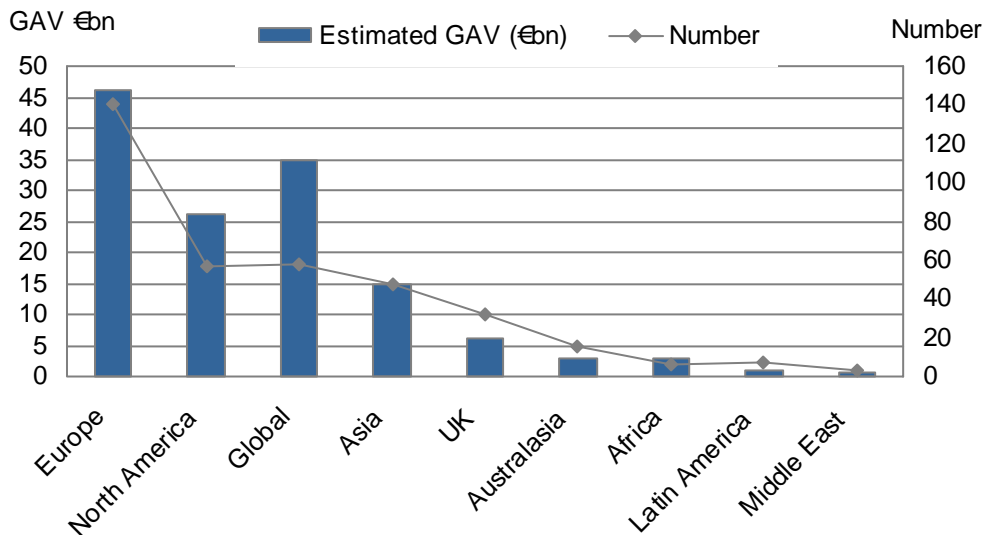
2.3      Fund styles

Funds are differentiated by risk types.  The vehicles included in PFR's universe are classified as being one of three styles; core, value-added and opportunity.  Core funds are low risk funds with no or low gearing, while opportunity funds are higher risk, higher target return funds with high levels of gearing.  Core-plus is sometimes

used as a fourth category, so that fund styles may be described as shown in Figure 5.

**Figure 5:  unlisted fund risk styles**
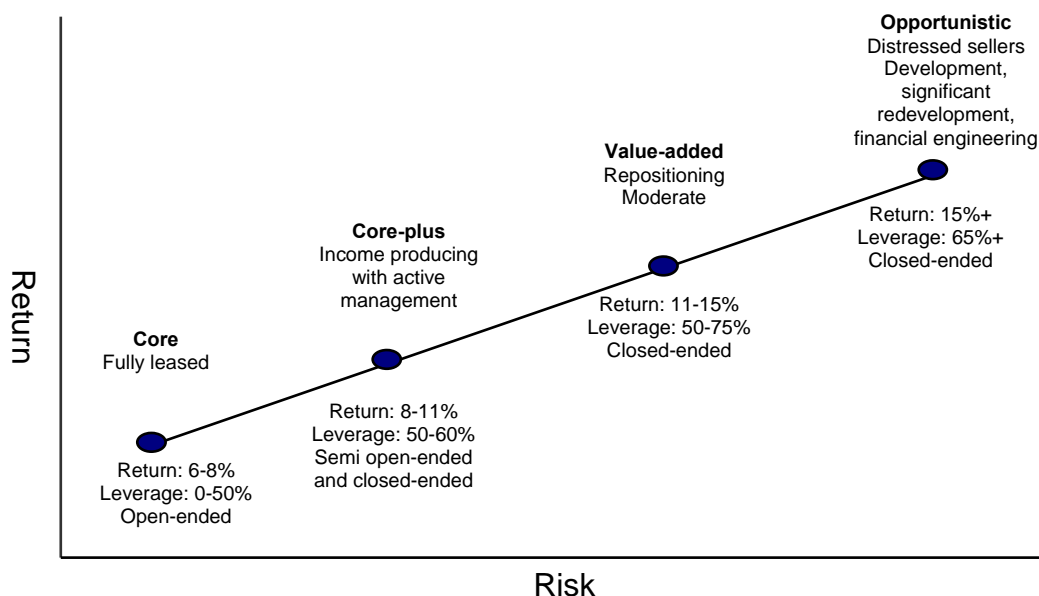


*Source:  CBRE Investors, January 2008*

Until the end of the 1990s European value-added and opportunity funds were barely in existence.  At the beginning of the 1990s core funds accounted for 97% of the market by GAV.  This compares to just over 60% at January 2008.  Opportunity funds experienced rapid growth between 2000 and 2003 but value-added funds then emerged as the style of choice.  The majority of funds launched since 2005 have been value-added.  Core funds tend to have been the style of choice for the more developed markets of Europe, North America and Australasia, while opportunistic funds are a significant fund type in most developing markets (with Africa currently dominated by the developed South African market).

PFR also records permitted gearing based on the level of debt in a vehicle as a percentage of GAV.  Funds have permitted gearing levels ranging up to 85%, although typical gearing levels are far more conservative than this.  Figure 6 illustrates that all vehicle styles carry a lower level of debt than is permitted. Actual gearing levels average 25% for core funds, just below 40% for value-added funds, and just below 55% for opportunity funds.  Permitted gearing levels are around 40%, 55% and 70% respectively.

Vehicles in PFR's universe have a variety of investment restrictions aimed at limiting the risk of a particular portfolio of investments.  Diversified funds may be permitted to invest between 30% and 50% of GAV in a particular sector.  Pan-European funds may have prescribed limits on the countries in which they can invest, which may be anywhere between 30% and 50% of GAV in each country.  Development is limited to anywhere between 10% and 30% of GAV.  There is likely to be some kind of investment restriction based on the amount invested in any single asset, typically in the region of 15% of GAV.  Similarly, income restrictions are likely to be placed on a fund.  Income derived from a single tenant/company is typically limited to around 15% of GAV.

**Figure 6: current and permitted gearing by fund style**
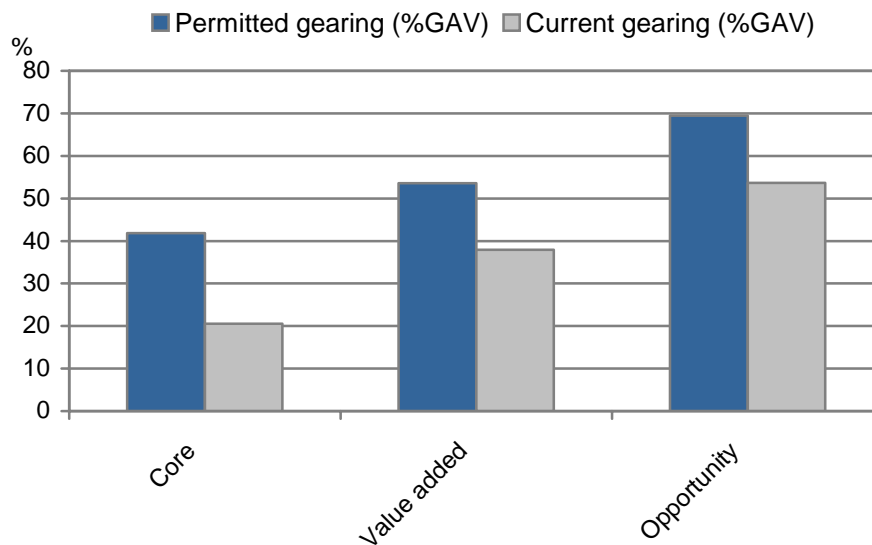


*Source:  Property Funds Research, January 2008*

2.4     International property investors

As suggested in Section 1, the world's top investors are going global.  Of the largest ten global investors known to PFR, most have global investment portfolios with significant use of unlisted funds, or have recently announced plans to invest in global real estate for the first time using unlisted funds (see Table 3).

The listed market has also grown, trebling in size between 2001 and 2006 as the REIT format is applied to more and more countries.  But PFR and INREV (the European Association for Investors in Non-listed Real Estate) surveys suggest that there is a lot of potential for further growth.  More listed and unlisted property funds will inevitably follow to convert the huge pool of government and owner-occupier held property into an investible form. It is largely expected that growth in the creation of funds will continue, supported by booming fund of funds and multi-manager solutions (a form of indirect investment in which a manager is appointed to select funds on behalf of an investor).   Investors are taking more risk in search of maintaining attractive return levels, resulting in an increased appetite for what are called 'value added' (higher risk)  funds.  There is also growing interest in emerging markets on the fringes of Europe, the Middle East and North Africa, Sub-Saharan Africa, South America and Russia.

The recent pace of change in investor attitudes has been rapid.  Taking UK pension funds as an example, in 2000-2005 balanced, unlisted property funds dominated the UK and European markets and domestic multi-manager mandates were common. In 2005-2006, pan-European pension fund mandates became typical.  Global multi-manager mandates started to appear in 2006-2007, and in 2007 the first global listed/unlisted mandates are being agreed.   Meanwhile, increasingly established derivative markets were, by 2007, allowing property hedge funds (such as Reech AiM's Iceberg fund) to create 'market neutral' absolute return funds.  Given time, the standard pension fund mandate will almost certainly become global, and may also develop into a requirement for global listed and unlisted funds as well as permitting long/short solutions to achieve absolute returns.

**Table 3: the largest global investors**

| Capital source | Capital type | Domicile | Total value of fund (€m) | Fund invests in property |
|---|---|---|---|---|
| Abu Dhabi Investment Authority | Government Fund | UAE | 665,407 | Yes (global) |
| Japanese Government Pension Investment Fund | Government Fund | Japan | 569,600 | No |
| TIAA-CREF | Pension Fund | US | 302,740 | Yes (global) |
| Norwegian Government Pension Fund | Government Fund | Norway | 272,831 | Considering global |
| Government of Singapore Investment Corporation (GIC) | Government Fund | Singapore | 229,334 | Yes (global) |
| Caisse des Depots et Consignations | Government Fund | France | 221,000 | Yes |
| Algemeen Burgerlijk Stichting Pensioenfonds | Pension Fund | Netherlands | 218,300 | Yes (global) |
| SAFE – State Administration of Foreign Exchange | Government Fund | China | 213,555 | Not known |
| Saudi Arabian Monetary Agency Foreign Holdings | Government Fund | Saudi Arabia | 208,688 | Not known |
| California Public Employees Retirement System | Pension Fund | US | 195,308 | Yes (global) |

*Source: Property Funds Research, May 2008*

2.5    Global fund managers

Table 4 shows the top 25 global managers of unlisted property funds and the value of the assets held in those funds in Europe, North America, Latin America, Australasia and Asia. The top two are European in origin; the next two are originally US-based; and in total there are 13 Europeans, 10 North Americans and 2 Australians. Significantly, there are no large Asian-based managers.

Most of these are institutional fund managers owned by bank or insurance businesses, but many of the risk takers are property companies. In Asia, this is likely to be where the next phase of growth will come from.

Several global exemplars and models exist of property companies moving into fund management. Popular motivations may be to add high quality earnings to volatile development profits to create value through diversifying a mix of risk styles; to maintain employment for a large asset management team when the core business is challenged by low share prices; to add some new expertise motivated by a more direct interest in new business; or to disinvest from large assets while maintaining an interest in ownership, fee flow and a form of control. Hines is an excellent case study of a pioneer in this field (see Appendix).

**Table 4: the PFR global manager survey, 2008 – top 25 managers – real estate AUM**

| Fund Manager | Total (€m) | Europe (€m) | North America (€m) | Latin America (€m) | Australasia (€m) | Asia (€m) | Africa (€m) |
|---|---|---|---|---|---|---|---|
| ING Real Estate Investment Management | 72,069.0 | 27,591.0 | 34,953.0 | - | 6,987.0 | 2,538.0 | - |
| RREEF Alternative Investments | 61,605.0 | 22,750.0 | 28,862.0 | 5 | 7,796.0 | 2,192.0 | - |
| Pramerica Real Estate Investors | 50,389.7 | 4,063.5 | 42,377.9 | 767.2 | 58.3 | 3,122.8 | - |
| Morley Fund Management Ltd | 42,103.4 | 41,431.5 | - | - | - | 671.8 | - |
| A  A Real Estate Investment Managers | 41,450.0 | 41,300.0 | - | - | - | 150.0 | - |
| LaSalle Investment Management | 34,556.5 | 13,107.8 | 14,465.3 | 332.9 | - | 6,650.5 | - |
| UBS Global Asset Management | 33,085.2 | 16,041.3 | 12,174.2 | - | - | 4,869.7 | - |
| Commerz Real AG | 33,000.0 | | | | | | |
| AEW Capital Management  AEW Europe | 29,675.7 | 15,000.0 | 14,200.0 | - | - | 475.7 | - |
| Hines | 27,576.5 | 2,957.3 | 22,928.8 | 1,272.3 | - | 417.5 | - |
| Brookfield Asset Management | 27,280.7 | 545.2 | 19,097.4 | 2,158.0 | 5,480.0 | - | - |
| PRUPIM | 26,552.9 | 23,823.9 | 1,105.5 | - | 727.9 | 895.7 | - |
| CB Richard Ellis Investors | 25,920.4 | 11,545.5 | 12,775.6 | - | - | 1,559.3 | - |
| Tishman Speyer | 25,317.7 | 4,991.6 | 20,372.7 | 293.8 | - | 159.6 | - |
| Credit Suisse | 21,968.0 | 20,205.2 | 446.7 | 36.3 | 525.3 | 754.4 | - |
| Invesco Real Estate | 21,400.0 | 7,700.0 | 13,700.0 | - | - | - | - |
| BlackRock Inc | 21,138.4 | 4,236.2 | 16,065.3 | - | 837.0 | - | - |
| Standard Life Investments | 18,990.6 | 17,491.9 | 620.1 | 38.1 | 57.1 | 771.1 | 12.2 |
| Legal  General Property | 16,138.7 | 16,138.7 | - | - | - | - | - |
| Hermes Real Estate Investment Management | 16,036.0 | 15,680.0 | 63.9 | 17.7 | 104.7 | 102.0 | 68.0 |

*Source: Property Funds Research, March 2008 (using December 2007 financial data)*

**3.      The emerging and developing markets – are unlisted funds investing?**

3.1      Introduction

In this research, we define the emerging markets as the regions outside Europe, Australasia and North America, and focus on the largest countries in these regions by population.  The regions of interest are therefore Asia, Africa, the Middle East and Latin America.  The relevant countries are shown in Table 5.

3.2      The data and research method

41 of the world's largest 55 countries by population are located outside Europe, Australasia and North America.  Asia includes China and India, which are the world's largest countries by population size.  Africa splits into two broad zones.  Activity in North Africa, connected with the Middle East through religion and proximity, is often driven by the emerging financial centres of Dubai and Abu Dhabi. Sub-Saharan Africa, on the other hand, is led by the mature financial markets of South Africa. Latin America includes the powerful BRIC (Brazil, Russia, India, China) economy of Brazil as its core market.

It is to be expected that there is some link between the size of a country and its attraction to an investor or investment manager.  Interest in China and India, the world's largest countries, is huge.  However, in terms of GDP per capita they remain well behind the developed countries (the USA, the world's third largest country by population, has a GDP per capita of $45,793, 19 times that of China and 47 times that of India: see Table 5) so that in terms of total economic output they are not yet the world's largest economies.  (There is nonetheless little doubt that within 25 years they will be).

It is a combination of population and GDP per capita that will define the gross demand for property and the ability to pay rent to occupy it; and there should therefore be a strong link between the interest in a country defined by the number of funds targeting investment in that market, the population of the country and the GDP per capita.

We set out in this paper to explore that link further by relating the dependent variable – the number of funds targetting a country – and the independent variables of population size and GDP per capita. The data we use is taken from the PFR unlisted fund universe, which includes information on single region and funds investing in more than one region or country.

In addition to the number of funds targeting a country, we have also reported the aggregate exposure of unlisted funds to a single country by taking a simple unweighted division of the fund value (gross asset value, GAV) or estimated GAV (where no GAV figure is reported)) divided between the countries targeted by that fund.  This is a crude way to differentiate between the impact of larger and smaller funds.

Table 5 shows the value for each country of the two independent variables, population size and GDP per capita.

**Table 5: emerging market and Asian countries by population and GDP per capita ($)**

| Country | Population | Rank by population | GDP per capita | Rank by GDP per capita |
|---|---|---|---|---|
| China | 1,315,844,000 | 1 | 2,458 | 105 |
| India | 1,103,371,000 | 2 | 965 | 134 |
| Indonesia | 222,781,000 | 4 | 1,748 | 114 |
| Brazil | 186,405,000 | 5 | 6,679 | 61 |
| Pakistan | 157,935,000 | 6 | 645 | 149 |
| Bangladesh | 141,822,000 | 8 | 469 | 159 |
| Nigeria | 131,530,000 | 9 | 938 | 136 |
| Japan | 128,085,000 | 10 | 34,104 | 23 |
| Mexico | 107,029,000 | 11 | 8,154 | 56 |
| Vietnam | 84,238,000 | 12 | 779 | 140 |
| Philippines | 83,054,000 | 13 | 1,582 | 117 |
| Ethiopia | 77,431,000 | 15 | 221 | 180 |
| Egypt | 74,033,000 | 16 | 1,592 | 116 |
| Iran | 69,515,000 | 18 | 4,252 | 80 |
| Thailand | 64,233,000 | 19 | 3,470 | 90 |
| Congo | 57,549,000 | 23 | 1,802 | 113 |
| Myanmar | 50,519,000 | 24 | 289 | 172 |
| South Korea | 47,817,000 | 25 | 20,020 | 34 |
| South Africa | 47,432,000 | 26 | 6,239 | 65 |
| Colombia | 45,600,000 | 28 | 3,869 | 83 |
| Argentina | 38,747,000 | 30 | 6,094 | 69 |
| Tanzania | 38,329,000 | 32 | 358 | 167 |
| Sudan | 36,233,000 | 33 | 1,262 | 126 |
| Kenya | 34,256,000 | 34 | 799 | 139 |
| Algeria | 32,854,000 | 35 | 3,777 | 86 |
| Morocco | 31,478,000 | 37 | 2,155 | 107 |
| Afghanistan | 29,863,000 | 38 | 311 | 170 |
| Uganda | 28,816,000 | 39 | 368 | 156 |
| Iraq | 28,807,000 | 40 | 2,016 | 109 |
| Peru | 27,968,000 | 41 | 3,540 | 89 |
| Nepal | 27,133,000 | 42 | 333 | 168 |
| Venezuela | 26,749,000 | 43 | 8,719 | 55 |
| Uzbekistan | 26,593,000 | 44 | 726 | 143 |
| Malaysia | 25,347,000 | 45 | 6,648 | 62 |
| Saudi Arabia | 24,573,000 | 46 | 13,568 | 42 |
| Taiwan | 22,894,384 | 47 | 16,431 | 37 |
| Ghana | 22,113,000 | 49 | 649 | 148 |
| Yemen | 20,975,000 | 51 | 1,023 | 131 |
| Sri Lanka | 20,743,000 | 52 | 1,232 | 127 |
| Mozambique | 19,792,000 | 54 | 389 | 163 |
| Syria | 19,043,000 | 55 | 1,516 | 119 |

*Source: Wikipedia, PFR, March 2008*

Table 6 shows the most and least popular countries defined by the number of funds targetting investment and by target GAV. The investors in these funds are broadly distributed but are concentrated in the non-developing and non-Asian markets, primarily the USA, Australia, Canada, the UK and the Netherlands.

**Table 6: emerging market and Asian countries by funds targeting investment**

| Country | Funds targeting | GAV (€m) |
|---|---|---|
| Japan | 137 | 95,675 |
| China | 89 | 30,512 |
| India | 74 | 21,644 |
| South Korea | 44 | 11,736 |
| Mexico | 39 | 11,263 |
| Brazil | 38 | 8,269 |
| Malaysia | 26 | 4,305 |
| South Africa | 16 | 5,188 |
| Thailand | 14 | 1,703 |
| Taiwan | 9 | 924 |
| Vietnam | 9 | 1,438 |
| Philippines | 8 | 2,527 |
| Argentina | 7 | 343 |
| Indonesia | 4 | 482 |
| Saudi Arabia | 3 | 296 |
| Colombia | 2 | 23 |
| Kenya | 2 | 46 |
| Tanzania | 2 | 46 |
| Congo | 1 | 14 |
| Egypt | 1 | 175 |
| Morocco | 1 | 460 |
| Nigeria | 1 | 17 |
| Sudan | 1 | 60 |
| Uganda | 1 | 33 |
| Afghanistan | 0 | 0 |
| Algeria | 0 | 0 |
| Bangladesh | 0 | 0 |
| Ethiopia | 0 | 0 |
| Ghana | 0 | 0 |
| Iran | 0 | 0 |
| Iraq | 0 | 0 |
| Mozambique | 0 | 0 |
| Myanmar | 0 | 0 |
| Nepal | 0 | 0 |
| Pakistan | 0 | 0 |
| Peru | 0 | 0 |
| Sri Lanka | 0 | 0 |
| Syria | 0 | 0 |
| Uzbekistan | 0 | 0 |
| Venezuela | 0 | 0 |
| Yemen | 0 | 0 |

*Source: PFR, March 2008*

Table 7 ranks the markets by population, and also shows GDP per capita, funds targeting and target GAV for each country.

**Table 7: emerging market and Asian countries by population and GDP per capita rank and funds targeting investment (ranked by population)**

| Country | Rank by population | GDP per capita | Funds targeting | GAV (€m) |
|---|---|---|---|---|
| China | 1 | 2,458 | 89 | 30,512 |
| India | 2 | 965 | 74 | 21,644 |
| Indonesia | 3 | 1,748 | 4 | 482 |
| Brazil | 4 | 6,679 | 38 | 8,269 |
| Pakistan | 5 | 645 | 0 | 0 |
| Bangladesh | 6 | 469 | 0 | 0 |
| Nigeria | 7 | 938 | 1 | 17 |
| Japan | 8 | 34,104 | 137 | 95,675 |
| Mexico | 9 | 8,154 | 39 | 11,263 |
| Vietnam | 10 | 779 | 9 | 1,438 |
| Philippines | 11 | 1,582 | 8 | 2,526 |
| Ethiopia | 12 | 221 | 0 | 0 |
| Egypt | 13 | 1,592 | 1 | 175 |
| Iran | 14 | 4,252 | 0 | 0 |
| Thailand | 15 | 3,470 | 14 | 1,703 |
| Congo | 16 | 1,802 | 1 | 14 |
| Myanmar | 17 | 289 | 0 | 0 |
| South Korea | 18 | 20,020 | 44 | 11,736 |
| South Africa | 19 | 6,239 | 16 | 5,188 |
| Colombia | 20 | 3,869 | 2 | 23 |
| Argentina | 21 | 6,094 | 7 | 343 |
| Tanzania | 22 | 358 | 2 | 46 |
| Sudan | 23 | 1,262 | 1 | 60 |
| Kenya | 24 | 799 | 2 | 46 |
| Algeria | 25 | 3,777 | 0 | 0 |
| Morocco | 26 | 2,155 | 1 | 460 |
| Afghanistan | 27 | 311 | 0 | 0 |
| Uganda | 28 | 368 | 1 | 33 |
| Iraq | 29 | 2,016 | 0 | 0 |
| Peru | 30 | 3,540 | 0 | 0 |
| Nepal | 31 | 333 | 0 | 0 |
| Venezuela | 32 | 8,719 | 0 | 0 |
| Uzbekistan | 33 | 726 | 0 | 0 |
| Malaysia | 34 | 6,648 | 26 | 4,305 |
| Saudi Arabia | 35 | 13,568 | 3 | 296 |
| Taiwan | 36 | 16,431 | 9 | 924 |
| Ghana | 37 | 649 | 0 | 0 |
| Yemen | 38 | 1,023 | 0 | 0 |
| Sri Lanka | 39 | 1,232 | 0 | 0 |
| Mozambique | 40 | 389 | 0 | 0 |
| Syria | 41 | 1,516 | 0 | 0 |

*Source: Wikipedia, PFR, March 2008*

## 3.3    Results

GDP per capita and population have been used as independent variables to explain the number of funds targeting an emerging country and the GAV.  Both appear to be correlated with each measure of investment: see Table 8.

**Table 8: regression results by GDP per capita (1)**

| Variables | Correlation coefficient |
|---|---|
| Population and funds targetting | 60.20% |
| Population and GAV | 35.52% |
| GDP and funds targeting | 65.04% |
| GDP and GAV | 72.72% |

Using the number of funds targeting as the dependent variable, Table 9 shows that GDP per capita is a reasonably good explanatory variable, with a correlation coefficient of 65%, an adjusted R-squared of 41% and a t-ratio of around 5.45, indicating significance at greater than the 95% level.

**Table 9: regression results by GDP per capita**

| | |
|---|---|
| Multiple R | 0.650 |
| Adjusted R Square | 0.408 |
| Standard Error | 21.65 |
| Observations | 41 |
| Intercept coefficient | 1.15 |
| X Variable coefficient | 0.0028 |
| Intercept t-ratio | 0.283 |
| X Variable t-ratio | 5.348 |

Table 10 shows that population is a similarly good explanatory variable, with a correlation coefficient of 60%, an adjusted R-squared of 35% and a t-ratio of over 4.7, again indicating significance at greater than the 95% level.

**Table 10: regression results by population (1)**

| | |
|---|---|
| Multiple R | 0.602 |
| Adjusted R Square | 0.346 |
| Standard Error | 22.76 |
| Observations | 41 |
| Intercept coefficient | 5.2 |
| X Variable coefficient | 6.61E-08 |
| Intercept t-ratio | 1.329 |
| X Variable t-ratio | 4.708 |

It is of course possible to combine these variables in one equation by running a multiple regression equation.  Details of the equation are shown in Table 11.  This equation explains 92% of the variation in the number of funds targeting any country. The two independent variables are highly significant.

We also used GAV as the dependent variable in a multiple regression equation relating population and GDP per capita to popularity. The results shown in Table 12

were again powerful, but inferior to those presented in Table 11, probably indicating the imperfection of our GAV measure.

**Table 11: multiple regression results (funds targetting)**

| Variable | Coefficient | Std. Error | t-Statistic |
|---|---|---|---|
| C | -7.86 | 2.343755 | -3.35393 |
| GDP | 0.002976 | 7.16E-09 | 9.898102 |
| POPULATION | 7.09E08 | 0.000281 | 10.59639 |
| **R-squared** | 0.9158 | | |
| **Adjusted R-squared** | 0.8303 | | |

**Table 12 multiple regression results (GAV)**

| Variable | Coefficient | Std. Error | t-Statistic |
|---|---|---|---|
| C | -5729 | 1823.138 | -3.14245 |
| GDP | 2.4856E-05 | 5.57E-06 | 4.460107 |
| POPULATION | 1.8194 | 0.218433 | 8.329088 |
| **R-squared** | 0.8311 | | |
| **Adjusted R-squared** | 0.6745 | | |

3.4    Market transparency

We have not completed a full survey of the limits placed on external or foreign investment in these economies, nor of the exchange controls which may inhibit cross-border investment into those countries.  We may also hypothesise about political risk, currency risk and other related issues.  In 2006, Jones Lang LaSalle published its latest Real Estate Transparency Index, first published in 1999, which has been widely used and quoted.  The Jones Lang LaSalle Real Estate Transparency Index may be useful as a partial proxy for these problems.

This survey-based measure uses judgements about the following:

- availability of investment performance indexes
- market fundamentals data
- listed vehicle financial disclosure and governance
- regulatory and legal factors and
- professional and ethical standards

to arrive at a single index measure whose lowest value of 1.15, indicating transparency, was awarded to Australia and the USA, and whose highest value was 5.

We used the JLL Transparency Index scores across the full range of 41 countries, applying a score of 5 to any not surveyed.  The TI score was correlated negatively and significantly with both the number of funds (correlation 61.2% and a t of over 3.6) and target GAV (correlation 47.1% and a t of over 3.3).  We also related GAV to the main independent variables.  This was also strongly correlated with the explanatory variables, stronger than number of funds.  Results are shown in Table 13.  We also added the JLL index to the other independent variables and marginally improved explanatory power but at the cost of dropping the significance of the index values below that required at the 95% probability level.

**Table 13:   LL transparency index correlations**

| Variables | Correlation coefficient |
|---|---|
| JLL TI and funds targeting | -61.21% |
| JLL TI and GAV | -46.96% |

<u>3.5    Outliers</u>

The outliers are defined as countries whose observed investment does not fit well with predicted investment using population and GDP per capita as drivers.  In these tables, the predicted number of funds targetting the country is compared with the observed number.  The results are shown in Table 14 (those with fewer observed than predicted) and Table 15 (those with more observed than predicted).  These are termed the outlier countries.

**Table 14: countries with more funds targetting than predicted**

| Country | Funds | Predicted | Error |
|---|---|---|---|
| Japan | 137 | 103 | 34 |
| Mexico | 39 | 24 | 15 |
| Brazil | 38 | 25 | 13 |
| Malaysia | 26 | 14 | 12 |
| Vietnam | 9 | 0 | 9 |
| Thailand | 14 | 7 | 7 |
| Philippines | 8 | 3 | 5 |
| Kenya | 2 | 0 | 2 |
| Tanzania | 2 | 0 | 2 |
| Syria | 0 | -2 | 2 |
| South Africa | 16 | 14 | 2 |
| Sudan | 1 | 0 | 1 |
| Uganda | 1 | 0 | 1 |
| India | 74 | 73 | 1 |
| Morocco | 1 | 1 | 0 |

**Table 15: countries with fewer funds targetting than predicted**

| Country | Funds | Predicted | Error |
|---|---|---|---|
| Taiwan | 9 | 43 | -34 |
| Saudi Arabia | 3 | 34 | -31 |
| Venezuela | 0 | 20 | -20 |
| South Korea | 44 | 55 | -11 |
| Iran | 0 | 10 | -10 |
| Indonesia | 4 | 13 | -9 |
| Argentina | 7 | 13 | -6 |
| Algeria | 0 | 6 | -6 |
| Pakistan | 0 | 5 | -5 |
| Colombia | 2 | 7 | -5 |
| Peru | 0 | 5 | -5 |
| China | 89 | 93 | -4 |
| Bangladesh | 0 | 4 | -4 |
| Nigeria | 1 | 4 | -3 |
| Egypt | 1 | 2 | -1 |
| Congo | 1 | 2 | -1 |

The countries receiving significantly more investment than that predicted by the equation are Japan, Mexico, Brazil, Malaysia, Vietnam and Thailand. The outlier countries receiving significantly less investment than that predicted by the equation are Taiwan, Saudi Arabia, Venezuela, South Korea, Indonesia and Iran.

The countries receiving significantly more investment than that predicted by the equation have average JLL TI indicators of 3.09. The countries receiving significantly less investment than that predicted by the equation have average TI indicators of 4.07.

## 4.      Conclusions

An increased investor appetite for global investment has generated a structural market shift observable since the mid 1990s. International or cross-border property investment has boomed, and indirect property investment (investing through securities and funds) has become commonplace.

The boom in the number and value of listed property funds is largely a matter of public record, but for unlisted real estate vehicles, an increasingly standard route to attaining international real estate exposure, there is little available data. In addition, the unlisted sector holds particular interest as it has been the main engine delivering capital to developing and emerging property markets

This paper set out to describe the changing nature of global property investment, and in particular the role played by unlisted property funds in facilitating cross-border investing. It focussed on the development of unlisted funds in general, and in particular their role as intermediary structures carrying capital from developed to developing markets. We defined the developing or emerging markets as the regions outside Europe, Australasia and North America, and focussed on the largest 55 countries in these regions by population.

The investors in the funds we identified as targeting emerging markets are concentrated in the non-developing and non-Asian markets. We found that both GDP per capita and population explain the number of unlisted funds targetting emerging markets. Transparency, as described by the JLL Transparency Index, also appears to have some explanatory power.

There are several interesting outliers, meaning countries whose observed investment does not fit well with predicted investment. Countries with high population and /or GDP per capita and low investment include Taiwan, Saudi Arabia, Venezuela, South Korea, Indonesia and Iran. This list includes some of the world's most populous countries. Countries receiving stronger investment than expected include Mexico, Brazil, Malaysia, Vietnam and Thailand.

The dominance of an active REIT market would explain a shortage of unlisted fund investment in these markets, but there is no REIT market in any of these states. It is suggested, therefore, that these markets suffer from a clear lack of Western capital as well as a low GDP per capita – and these facts may be connected. It may be that political risk explains this shortage of investment, but it may also be suggested - as a value judgement - that the avoidance by international property investors of large parts of the globe is not healthy in promoting economic development and a global mutuality of interest.

High quality real estate is a fundamental necessity for a developed economy. Whether the under-invested markets can command their share of capital in future is unclear and depends on a variety of factors outside the scope of this paper. Nonetheless, the promotion of a mutuality of economic interest is in the best interests of everyone, and it is our view that unlisted property funds have the potential to play a significant part in this process. Continued research will be essential in the drive towards the transparency necessary to attract both entrepreneurial and risk-averse institutional investment.

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