

# Special Report

# Institutional Real Estate, Inc Global Investment Managers 2019

## Prepared by:

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# A lot can change in 10 years

## Real estate's quick, powerful recovery beyond impressive

## by Larry Gray

It was only a short 10 years ago that real estate investors and managers were sorting through the wreckage caused by the global financial crisis. Fund managers were dealing with redemptions, properties were being repriced — in some cases, portfolio values declined 40 to 50 percent — and investors were tightening their purse strings as they focused on managing existing assets rather than making new deals. In short, things were pretty bleak.

Fast forward to today, and the global real estate industry has reached new heights, riding a wave of unprecedented economic expansion in some regions. To provide some perspective to the industry's quick and impressive turnaround, consider that the assets under management of the top 100 real estate investment managers totaled approximately €0.85 trillion in 2008. Based on 2018 data, the top 100 firms now account for AUM of nearly €3.04 trillion, according to *Global Investment Managers 2019*, the annual survey and report produced by Property Funds Research and Institutional Real Estate, Inc. What's more astounding, the top 10 investment managers today have AUM equal to the AUM total of the top 100 firms in 2008.

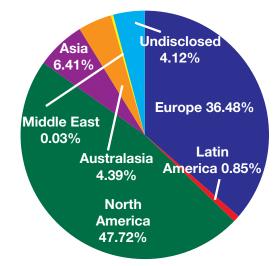
A few more numbers to ponder: the largest investment manager in 2008 — ING Real Estate Investment Management — reported AUM of €65.6 billion; in this year's survey, the industry's largest firm, Blackstone, reported AUM of more than €201.3 billion. The top 10 firms in the industry today represent AUM of more than €1.06 trillion, compared to 2008's corresponding figure of a mere €357 billion.

"The industry has experienced explosive growth since the global financial crisis," says Geoffrey Dohrmann, president and CEO of IREI. "The real estate asset class continues to gain in popularity across the globe, delivering steady income and solid returns in the ongoing low interest rate environment. Investment managers have benefited from a strong flow of new capital and impressive asset appreciation."

"While we are witnessing significant growth in the real estate investment industry, we should also be keenly aware of an undercurrent of consolidation — in a lower-return world, M&A looks like the precursor to some serious scale-based innovation, with an opportunity for managers to use more tech to drive efficiency and manage margins," notes Andrew Baum, chairman of Property Funds Research.

"Managers outside the U.S. suffer a triple disadvantage: (i) very low interest rates and bond yields, driving low core real estate IRRs and producing a high fee proportionate drag; (ii) disaggregated capital sources, with Netherlands-based managers having good access to Netherlands-based institutional capital, German managers to German capital, etc., but less efficiency in capital raising than

#### Assets under management by geographic distribution



Sources: Property Funds Research; Institutional Real Estate, Inc.

the U.S. offers; and (iii) a resulting lack of scale, with the typical pan-European open-ended fund being much smaller than the typical U.S. ODCE fund," adds Baum.

This year's PFR/IREI survey received responses from 206 investment managers, representing an aggregate AUM of approximately €3.23 trillion, up from the 2017 survey's total of €3.06 trillion (based on 197 respondents). The top 10 firms in this year's rankings totaled more than €1.07 trillion of AUM — a 6.1 percent increase from last year — a total that represents 33.5 percent of the entire survey universe. Additional evidence of a concentration of assets in this top-heavy industry: the top 20 firms account for AUM of €1.628 trillion (50.4 percent of the total universe), which is more than the other 185 investment managers in the survey (€1.654 trillion).

Blackstone remains at the top of the rankings for the third consecutive year with AUM of €201.3 billion, an increase of 19.0 percent from the €169.3 billion reported for 2017. Brookfield Asset Management ranked second with AUM of €168.7 billion (up 17.2 percent), and Nuveen Global Real Estate ranked third with AUM of €108.7 billion (up 14.2 percent). Rounding out the top five were Hines (€104.2 billion)

#### Top 100 firms in aggregate (AUM, € trillion)



Sources: Property Funds Research; Institutional Real Estate, Inc.

and CBRE Global Investors (€93.6 billion). (For the complete list of investment managers and their AUM breakouts by geographic region, see the table starting on page 4.)

Looking at total market AUM on a geographic basis, North America-based assets account for approximately 47.72 percent, while Europe represents 36.48 percent. Asia claims 6.41 percent of the assets and Australasia accounts for 4.39 percent, while Latin America registers 0.85 percent.

Brookfield Asset Management ranks as the largest investment manager based on AUM just in North America. The firm manages  $\[ \]$ 127.7 billion in the region. In Europe, the top-ranking manager is Swiss Life Asset Managers, with AUM of  $\[ \]$ 81.0 billion, and in Asia, GLP claims the most assets with AUM of  $\[ \]$ 31.7 billion. In the Australasia region, Dexus ranks No. 1 with AUM of  $\[ \]$ 417.8 billion. PGIM Real Estate oversees the most assets in Latin America, with AUM of  $\[ \]$ 2.8 billion. (For rankings of the top 10 largest investment managers in each region, see page 3.)

The report also ranks real estate managers based on their total AUM in the categories of discretionary separate accounts under management, advisory separate accounts and assets, and indirect real estate investment vehicles. NYL Investors, a subsidiary of New York Life, manages the most capital based solely on discretionary separate accounts, with AUM of €45.5 billion (see page 12). In the category of advisory separate accounts, Principal Real Estate Investors tops the list, with AUM of approximately €35.2 billion (see page 16). And based on indirect real estate investment vehicles, Blackstone ranks highest, with an asset base of €190.4 billion (see page 20). ❖

Larry Gray is editorial director of Institutional Real Estate, Inc

The survey was conducted by U.K.-based Property Funds Research (PFR). PFR is an independent management-owned business that provides confidential research and strategic consulting for investors in European real estate. PFR's foundations are an expert team, a suite of products for underwriting investments in the European market, and access to a unique dataset describing the major investors, vehicles, and managers in the European and global institutional property markets. For more information, please visit www.propertyfundsresearch.com. For additional information on the global fund manager survey, contact Jane Fear at +44 (0)20-3026 3851 or jf@ propertyfundsresearch.com.

# Largest investment managers by region

| TOP 1 | TOP 10 MANAGERS BASED ON EUROPE ASSETS (€M) |           |            |  |  |  |  |  |  |  |
|-------|---|-----------|------------|--|--|--|--|--|--|--|
| Rank  | Investment manager                          | Europe    | Total      |  |  |  |  |  |  |  |
| 1     | Swiss Life Asset Managers                   | 80,961.89 | 80,961.89  |  |  |  |  |  |  |  |
| 2     | AXA Investment Managers – Real Assets       | 69,053.00 | 74,484.00  |  |  |  |  |  |  |  |
| 3     | Blackstone                                  | 52,885.52 | 201,297.72 |  |  |  |  |  |  |  |
| 4     | CBRE Global Investors                       | 50,715.49 | 93,574.88  |  |  |  |  |  |  |  |
| 5     | Credit Suisse Asset Management              | 49,116.70 | 53,914.88  |  |  |  |  |  |  |  |
| 6     | Aberdeen Standard Investments               | 45,022.56 | 46,892.79  |  |  |  |  |  |  |  |
| 7     | Deka Immobilien                             | 40,609.00 | 43,519.00  |  |  |  |  |  |  |  |
| 8     | PATRIZIA AG                                 | 38,524.00 | 40,634.00  |  |  |  |  |  |  |  |
| 9     | M&G Real Estate                             | 34,870.51 | 41,579.51  |  |  |  |  |  |  |  |
| 10    | Aviva Investors                             | 34,672.65 | 35,121.11  |  |  |  |  |  |  |  |

| TOP 1 | O MANAGERS BASED ON NORTH AMERI | CA ASSETS (€  | M)         |
|-------|---------------------------------|---------------|------------|
| Rank  | Investment manager              | North America | Total      |
| 1     | Brookfield Asset Management     | 127,724.47    | 168,710.62 |
| 2     | Hines                           | 79,493.26     | 104,207.67 |
| 3     | Nuveen Global Real Estate       | 76,967.96     | 108,733.66 |
| 4     | MetLife Investment Management   | 70,779.41     | 80,138.78  |
| 5     | J.P. Morgan Asset Management    | 66,108.21     | 73,381.21  |
| 6     | Principal Real Estate Investors | 58,037.00     | 65,100.00  |
| 7     | NYL Investors                   | 47,594.00     | 47,594.00  |
| 8     | PGIM Real Estate                | 45,565.38     | 63,459.83  |
| 9     | Clarion Partners                | 42,368.82     | 42,415.96  |
| 10    | Blackstone                      | 40,541.84     | 201,297.72 |

| <b>TOP 10</b> | MANAGERS BASED ON ASIA ASSETS | (€M)      |            |
|---------------|-------------------------------|-----------|------------|
| Rank          | Investment manager            | Asia      | Total      |
| 1             | GLP                           | 31,686.27 | 54,818.12  |
| 2             | UBS Asset Management          | 15,445.79 | 83,290.43  |
| 3             | IGIS Asset Management         | 14,537.46 | 19,602.36  |
| 4             | Blackstone                    | 12,382.09 | 201,297.72 |
| 5             | Gaw Capital Partners          | 11,902.52 | 15,680.16  |
| 6             | CBRE Global Investors         | 10,911.25 | 93,574.88  |
| 7             | LaSalle Investment Management | 10,777.70 | 56,144.93  |
| 8             | Prologis                      | 8,879.26  | 46,374.21  |
| 9             | Samsung SRA Asset Management  | 8,357.45  | 13,299.77  |
| 10            | PGIM Real Estate              | 7,419.65  | 63,459.83  |

| <b>TOP 10</b> | MANAGERS BASED ON AUSTRALASIA   | ASSETS (€M) |            |
|---------------|---------------------------------|-------------|------------|
| Rank          | Investment manager              | Australasia | Total      |
| 1             | Dexus                           | 17,775.23   | 17,775.23  |
| 2             | Charter Hall                    | 17,461.55   | 17,461.55  |
| 3             | LendLease Investment Management | 14,576.92   | 20,727.52  |
| 4             | AMP Capital Investors Limited   | 13,570.68   | 18,043.40  |
| 5             | ISPT Pty                        | 10,674.37   | 10,674.37  |
| 6             | Queensland Investment Corp.     | 10,236.44   | 13,752.13  |
| 7             | Phoenix Property Investors      | 9,165.45    | 9,165.45   |
| 8             | GPT Funds Management            | 6,988.99    | 6,988.99   |
| 9             | Investa Property Group          | 6,316.91    | 6,316.91   |
| 10            | Brookfield Asset Management     | 5,723.61    | 168,710.62 |

# **Total assets rankings**

|      | Total gross value of real estate as:  | sets under ma | nagement ( | gross, € million | , as at 31 Dece | mber 2018) |             |             |
|------|---------------------------------------|---------------|------------|------------------|-----------------|------------|-------------|-------------|
| Rank | Investment manager                    | Total         | Europe     | North America    | Latin America   | Asia       | Australasia | Middle East |
| 1    | Blackstone                            | 201,297.72    | 52,885.52  | 40,541.84        | _               | 12,382.09  |             | _           |
| 2    | Brookfield Asset Management           | 168,710.62    | 26,334.52  | 127,724.47       | 2,274.78        | 6,421.93   | 5,723.61    | 231.32      |
| 3    | Nuveen Global Real Estate             | 108,733.66    | 29,034.40  | 76,967.96        | 124.82          | 862.43     | 1,744.05    | _           |
| 4    | Hines                                 | 104,207.67    | 19,538.99  | 79,493.26        | 2,479.04        | 2,587.28   | 109.11      | _           |
| 5    | CBRE Global Investors                 | 93,574.88     | 50,715.49  | 31,948.14        | _               | 10,911.25  | _           | _           |
| 6    | UBS Asset Management                  | 83,290.43     | 32,466.43  | 33,824.67        | 229.04          | 15,445.79  | 1,324.51    | _           |
| 7    | Swiss Life Asset Managers             | 80,961.89     | 80,961.89  | _                | _               | _          | _           | _           |
| 8    | MetLife Investment Management         | 80,138.78     | 3,585.19   | 70,779.41        | 710.05          | _          | 5,063.66    | 0.47        |
| 9    | AXA Investment Managers – Real Assets | 74,484.00     | 69,053.00  | 689.00           | _               | 1,406.00   | 3,336.00    | _           |
| 10   | J.P. Morgan Asset Management          | 73,381.21     | 5,301.99   | 66,108.21        | _               | 1,846.18   | 124.82      | _           |
| 11   | AEW Global                            | 65,273.72     | 31,300.45  | 31,694.13        | _               | 1,936.09   | 343.05      | _           |
| 12   | Principal Real Estate Investors       | 65,100.00     | 4,777.00   | 58,037.00        | 34.00           | 465.00     | 1,786.00    | _           |
| 13   | PGIM Real Estate                      | 63,459.83     | 7,681.52   | 45,565.38        | 2,793.28        | 7,419.65   | _           | _           |
| 14   | LaSalle Investment Management         | 56,144.93     | 24,835.75  | 19,456.94        | 18.33           | 10,777.70  | 1,028.28    | 27.93       |
| 15   | GLP                                   | 54,818.12     | 6,372.17   | 14,315.56        | 2,444.12        | 31,686.27  | _           | _           |
| 16   | DWS                                   | 54,513.40     | 26,319.10  | 24,498.50        | _               | 2,016.00   | 1,679.80    | _           |
| 17   | Credit Suisse Asset Management        | 53,914.88     | 49,116.70  | 2,097.03         | 1,108.97        | 888.83     | 703.35      | _           |
| 18   | Invesco Real Estate                   | 51,809.23     | 10,221.66  | 36,085.69        | _               | 5,501.89   | _           | _           |
| 19   | NYL Investors                         | 47,594.00     | _          | 47,594.00        | _               | _          | _           | _           |
| 20   | Aberdeen Standard Investments         | 46,892.79     | 45,022.56  | 1,000.28         | _               | 869.95     | _           | _           |
| 21   | Prologis                              | 46,374.21     | 16,572.57  | 18,138.35        | 2,784.02        | 8,879.26   | _           | _           |
| 22   | Starwood Capital Group                | 45,128.93     | 6,739.66   | 38,121.29        | 102.13          | 165.85     |             | _           |
| 23   | Tishman Speyer Properties             | 44,051.77     | 7,403.06   | 30,086.24        | 1,316.33        | 5,246.13   |             | _           |
| 24   | Deka Immobilien                       | 43,519.00     | 40,609.00  | 1,554.00         | 594.00          | 339.00     | 423.00      | _           |
| 25   | Clarion Partners                      | 42,416.00     | _          | 42,369.00        | 47.14           | _          | _           | _           |
| 26   | M&G Real Estate                       | 41,579.51     | 34,870.51  | 2,095.24         |                 | 4,613.76   | _           | _           |
| 27   | PATRIZIA AG                           | 40,634.00     | 38,524.00  | 1,423.00         | 214.00          | 466.00     | _           | 7.00        |

|      | Total gross value of real estate a             | ssets under ma | nagement ( | gross, € million | , as at 31 Dece | mber 2018) |             |             |
|------|--|----------------|------------|------------------|-----------------|------------|-------------|-------------|
| Rank | Investment manager                             | Total          | Europe     | North America    | Latin America   | Asia       | Australasia | Middle East |
| 28   | Barings  | 39,100.68      | 5,375.32   | 33,633.71        |                 | 76.82      | 14.84       | _           |
| 29   | Colony Capital                                 | 37,969.40      | 6,572.06   | 31,070.88        | 326.46          | _          | _           | _           |
| 30   | Union Investment                               | 37,643.50      | 31,194.70  | 5,230.40         | 377.40          | 604.30     | 236.70      | _           |
| 31   | Heitman  | 36,372.00      | 2,069.65   | 32,076.46        |                 | 554.29     | 1,671.60    | _           |
| 32   | Aviva Investors                                | 35,121.11      | 34,672.65  | _                | _               | 448.45     | _           | _           |
| 33   | Bentall Kennedy                                | 31,667.07      | _          | 31,667.07        |                 | _          | _           | _           |
| 34   | Morgan Stanley Real Estate Investing           | 30,259.95      | 6,351.22   | 21,762.27        | 20.95           | 1,794.68   | 330.83      | _           |
| 35   | Generali Real Estate                           | 30,250.00      | 30,000.00  | _                | _               | _          | 250.00      | _           |
| 36   | BNP Paribas Real Estate Investment Management  | 28,720.00      | 28,600.00  | _                |                 | 120.00     | _           | _           |
| 37   | Greystar Investment Group                      | 28,152.42      | 6,291.86   | 21,490.80        | 369.76          | _          | _           | _           |
| 38   | CIM Capital                                    | 26,606.00      | 26,362.00  | _                | 244.00          | _          | _           |             |
| 39   | LGIM Real Assets                               | 26,039.55      | 26,039.55  | _                |                 | _          | _           |             |
| 40   | Angelo, Gordon & Co.                           | 23,848.50      | 1,895.94   | 19,464.80        |                 | 2,487.77   | _           | _           |
| 41   | BlackRock                                      | 21,271.70      | 7,989.65   | 7,800.23         | 1,755.40        | 3,338.84   | 387.57      | _           |
| 42   | LendLease Investment Management                | 20,727.52      | 984.10     | 246.02           |                 | 4,920.48   | 14,576.92   |             |
| 43   | IGIS Asset Management                          | 19,602.36      | 2,450.39   | 2,551.86         | _               | 14,537.46  | 62.65       | _           |
| 44   | La Française                                   | 19,214.00      | 19,214.00  | _                |                 | _          |             | _           |
| 45   | Commerz Real AG                                | 18,864.79      | 15,985.13  | 2,148.86         | _               | 581.20     | 149.60      |             |
| 46   | Savills Investment Management                  | 18,363.00      | 16,525.00  | 370.00           |                 | 1,285.00   | 183.00      | _           |
| 47   | AMP Capital Investors                          | 18,043.40      | 611.37     | 2,278.18         |                 | 818.64     | 13,570.68   | 764.52      |
| 48   | Dexus  | 17,775.23      | _          | _                |                 | _          | 17,775.23   |             |
| 49   | Cerberus Capital Management                    | 17,633.10      | 10,222.53  | 6,949.51         | 139.40          | 222.24     | 99.42       | _           |
| 50   | Charter Hall                                   | 17,461.55      | _          | _                |                 | _          | 17,461.55   | _           |
| 51   | Schroder Real Estate Investment Management     | 17,322.20      | 16,436.65  | 582.57           | 1.11            | 222.78     | 79.09       | _           |
| 52   | Harrison Street Real Estate Capital            | 15,755.85      | 1,167.94   | 14,587.90        |                 | _          | _           | _           |
| 53   | Gaw Capital Partners                           | 15,680.16      | 1,747.89   | 2,029.75         |                 | 11,902.52  |             |             |
| 54   | Manulife Investment Management                 | 15,168.38      | _          | 13,429.57        |                 | _          | 1,738.82    | _           |
| 55   | Queensland Investment Corp.                    | 13,752.13      | _          | 3,515.68         |                 | _          | 10,236.44   | _           |
| 56   | MEAG MUNICH ERGO Kapitalanlagegesellschaft mbH | 13,419.00      | 11,760.00  | 1,579.00         |                 | 80.00      | _           | _           |
| 57   | Samsung SRA Asset Management                   | 13,299.77      | 2,644.33   | 2,156.33         |                 | 8,357.45   | 141.66      | _           |
| 58   | Rockpoint Group                                | 13,182.10      | 20.78      | 13,161.32        |                 |            |             | _           |

|      | Total gross value of real estate a   | ssets under ma | nagement ( | gross, € million | , as at 31 Dece | mber 2018) |             |             |
|------|--------------------------------------|----------------|------------|------------------|-----------------|------------|-------------|-------------|
| Rank | Investment manager                   | Total          | Europe     | North America    | Latin America   | Asia       | Australasia | Middle East |
| 59   | Northwood Investors                  | 13,124.30      | 3,726.85   | 9,397.45         | _               | _          | _           | _           |
| 60   | Bridge Investment Group              | 12,650.07      | _          | 12,650.07        | _               | _          | _           | _           |
| 61   | Partners Group                       | 12,312.25      | _          | _                | _               | _          | _           | _           |
| 62   | Mirae Asset Global Investments       | 11,984.04      | 1,154.85   | 3,909.72         | 287.18          | 6,035.23   | 597.06      | _           |
| 63   | Stockbridge Capital Group            | 11,799.86      | _          | 11,799.86        | _               | _          | _           | _           |
| 64   | Acore Capital                        | 11,610.62      | _          | 11,610.62        | _               | _          | _           | _           |
| 65   | USAA Real Estate                     | 11,419.28      | 8.73       | 11,410.55        | _               | _          | _           | _           |
| 66   | Bouwinvest Real Estate Investors     | 11,278.00      | 9,214.00   | 1,171.00         | _               | 893.00     | _           | _           |
| 67   | Exeter Property Group                | 10,906.89      | 1,235.15   | 9,671.73         | _               | _          | _           | _           |
| 68   | Walton Street Capital                | 10,749.76      | 187.67     | 8,255.89         | 2,098.45        | 207.75     | _           | _           |
| 69   | ISPT Pty                             | 10,674.37      | _          | _                | _               | _          | 10,674.37   | _           |
| 70   | KBS                                  | 10,124.77      | _          | 10,124.77        | _               | _          | _           |             |
| 71   | Tristan Capital Partners             | 10,112.00      | 10,112.00  | _                | _               | _          | _           | _           |
| 72   | Columbia Threadneedle Investments    | 10,025.06      | 10,025.06  | _                | _               | _          | _           | _           |
| 73   | DTZ Investors                        | 9,974.94       | 9,974.94   | _                | _               | _          | _           | _           |
| 74   | Värde Partners                       | 9,942.33       | _          | _                | _               | _          | _           | _           |
| 75   | Ares Management Corp.                | 9,899.56       | 3,234.09   | 6,665.46         | _               | _          | _           | _           |
| 76   | GreenOak Real Estate                 | 9,485.80       | 3,374.63   | 5,047.98         | _               | 1,063.19   | _           | _           |
| 77   | Kayne Anderson Real Estate           | 9,348.76       | _          | 9,348.76         | _               |            | _           | _           |
| 78   | Phoenix Property Investors           | 9,165.45       | _          | _                | _               | _          | 9,165.45    |             |
| 79   | Syntrus Achmea Real Estate & Finance | 8,978.00       | 8,978.00   | _                | _               | _          | _           | _           |
| 80   | Westbrook Partners                   | 8,966.43       | _          | _                | _               | _          | _           | _           |
| 81   | Quadrant Real Estate Advisors        | 8,780.53       | 519.51     | 8,261.02         | _               | _          | _           | _           |
| 82   | American Realty Advisors             | 8,554.22       | _          | 8,554.22         | _               |            | _           | _           |
| 83   | Royal London Asset Management        | 8,510.17       | 8,510.17   | _                | _               | _          | _           |             |
| 84   | Crow Holdings Capital Partners       | 8,378.79       | _          | 8,378.79         | _               |            | _           | _           |
| 85   | Beacon Capital Partners              | 8,140.05       | _          | 8,140.05         |                 |            |             |             |
| 86   | M7 Real Estate                       | 8,086.00       | 8,086.00   | _                | _               |            | _           | _           |
| 87   | L&B Realty Advisors                  | 8,067.30       | _          | 8,067.30         |                 | _          | _           | _           |
| 88   | CenterSquare Investment Management   | 8,017.59       | 412.01     | 6,947.41         | _               | 529.85     | 128.32      |             |
| 89   | PCCP                                 | 7,856.28       | _          | 7,856.28         |                 | _          | _           | _           |

|      | Total gross value of real estate as                               | sets under ma | nagement ( | gross, € million | , as at 31 Dece | mber 2018) |             |             |
|------|---|---------------|------------|------------------|-----------------|------------|-------------|-------------|
| Rank | Investment manager  | Total         | Europe     | North America    | Latin America   | Asia       | Australasia | Middle East |
| 90   | KGAL Investment Management GmbH & Co.                             | 7,453.00      | 7,406.00   | _                | _               | 47.00      |             |             |
| 91   | Intercontinental Real Estate Corp.                                | 7,438.77      | _          | 7,438.77         | —               | _          | _           | _           |
| 92   | Vesteda   | 7,337.00      | 7,337.00   | _                | _               | _          |             | _           |
| 93   | Cromwell Property Group   | 7,280.00      | 3,720.00   | _                | —               | _          | 3,560.00    | _           |
| 94   | Landmark Partners   | 7,162.14      | _          | _                | _               | _          | _           | _           |
| 95   | Berkshire Residential Investments (Berkshire Group)               | 7,145.56      | _          | 7,145.56         | —               | _          | _           | _           |
| 96   | Hermes Real Estate Investment Management                          | 7,128.93      | 7,128.93   | _                | _               | _          | _           | _           |
| 97   | BMO Real Estate Partners  | 7,100.00      | 7,100.00   | _                | —               | _          | _           | _           |
| 98   | Starlight Investments   | 7,037.58      | _          | 7,037.58         | _               | _          |             |             |
| 99   | GPT Funds Management  | 6,988.99      | _          | _                | —               | _          | 6,988.99    | _           |
| 100  | Lubert-Adler Management   | 6,974.47      | _          | 6,974.47         | _               | _          | _           | _           |
| 101  | GLL Real Estate Partners GmbH                                     | 6,973.00      | 3,743.00   | 2,835.00         | 331.00          | 16.00      | 48.00       | _           |
| 102  | ASB Real Estate Investments, a division of ASB Capital Management | 6,920.38      | _          | 6,920.38         | _               | _          | _           |             |
| 103  | Mesa West Capital   | 6,351.57      | _          | 6,351.57         | —               | _          | _           | _           |
| 104  | Investa Property Group  | 6,316.91      | _          | _                | _               | _          | 6,316.91    | _           |
| 105  | Lionstone Investments   | 6,167.04      | _          | 6,167.04         | _               | _          | _           | _           |
| 106  | Sentinel Real Estate Corp.  | 6,110.30      | 29.68      | 5,945.32         | _               | _          | 135.30      |             |
| 107  | Round Hill Capital  | 5,964.53      | 5,883.35   | 81.18            | _               | _          | _           | _           |
| 108  | A.S.R. Real Estate  | 5,800.00      | 5,800.00   | _                | _               | _          |             | _           |
| 109  | Divco West Real Estate Services                                   | 5,522.05      | _          | 5,522.05         | _               | _          | _           |             |
| 110  | PAG Investment Management   | 5,514.98      | _          | _                | _               | 5,514.98   |             |             |
| 111  | Amvest REIM BV  | 5,306.00      | 5,306.00   | _                | —               | _          | _           | _           |
| 112  | M3 Capital Partners   | 4,975.53      | 2,160.43   | 1,680.33         | 436.45          | 349.16     | 349.16      | _           |
| 113  | Orchard Street Investment Manager                                 | 4,901.14      | 4,901.14   | _                | _               | _          | _           | _           |
| 114  | National Real Estate Advisors                                     | 4,887.37      | _          | 4,887.37         | _               | _          |             | _           |
| 115  | Carroll Org.  | 4,828.88      | _          | 4,828.88         | —               | _          | _           | _           |
| 116  | First Washington Realty   | 4,306.89      | _          | 4,306.89         |                 | _          | _           | _           |
| 117  | Carmel Partners   | 4,083.25      | _          | 4,083.25         |                 | _          |             | _           |
| 118  | Diamond Realty Management   | 4,062.78      | _          | 146.46           | _               | 3,916.32   | _           | _           |
| 119  | Almanac Realty Investors  | 4,045.89      | _          | 4,045.89         |                 | _          |             | _           |
| 120  | Madison Realty Capital  | 4,023.20      | _          | 4,023.20         |                 |            | _           | _           |

|      | Total gross value of real estate as  | ssets under ma | nagement ( | gross, € million | , as at 31 Dece | mber 2018) |             |             |
|------|--|----------------|------------|------------------|-----------------|------------|-------------|-------------|
| Rank | Investment manager   | Total          | Europe     | North America    | Latin America   | Asia       | Australasia | Middle East |
| 121  | GEM Realty Capital   | 4,015.34       | _          | 4,015.34         | _               |            | _           | _           |
| 122  | Madison International Realty   | 4,007.48       | 1,895.94   | 2,111.55         | _               | _          | _           | _           |
| 123  | GTIS Partners  | 3,943.76       | _          | 2,175.27         | 1,768.50        | _          | _           | _           |
| 124  | NREP AB  | 3,930.00       | 3,930.00   | _                | _               | _          | _           | _           |
| 125  | Unite Integrated Solutions   | 3,896.41       | 3,896.41   | _                | _               | _          | _           | _           |
| 126  | ICG-Longbow (ICG PIc)  | 3,727.10       | 3,727.10   |                  |                 |            |             | _           |
| 127  | Blue Vista Capital Management  | 3,580.64       | _          | 3,580.64         | _               | _          | _           | _           |
| 128  | Artemis Real Estate Partners   | 3,511.68       | _          | 3,511.68         | _               | _          | _           | _           |
| 129  | Prima Capital Advisors   | 3,499.46       | _          | 3,499.46         | _               | _          | _           | _           |
| 130  | Pradera  | 3,260.00       | 2,358.00   | _                | _               | 902.00     |             | _           |
| 131  | Canyon Partners Real Estate  | 3,195.69       | _          | 3,195.69         | _               | _          | _           | _           |
| 132  | Niam AB  | 3,102.00       | 3,102.00   |                  | _               | _          |             | _           |
| 133  | Knight Frank Investment Management   | 3,023.56       | 3,023.56   | _                | _               | _          | _           | _           |
| 134  | Realterm   | 2,980.08       | _          | 2,264.30         | _               | 715.78     |             | _           |
| 135  | Equus Capital Partners   | 2,967.86       | _          | 2,967.86         | _               |            | _           | _           |
| 136  | DRC Capital  | 2,938.46       | 2,938.46   | _                | _               |            |             | _           |
| 137  | DIF Management B.V.  | 2,820.00       | 2,100.00   | 600.00           |                 | _          | 120.00      | _           |
| 138  | Hahn Group   | 2,800.00       | 2,800.00   | _                | _               |            |             | _           |
| 139  | Torchlight Investors   | 2,737.41       | _          | 2,737.41         | _               | _          |             | _           |
| 140  | Och Ziff Real Estate Advisors  | 2,249.55       | 149.88     | 2,099.67         | _               |            |             | _           |
| 141  | Rubenstein Partners  | 2,182.25       | _          | 2,182.25         | _               |            | _           | _           |
| 142  | InfraRed Capital Partners  | 2,180.33       | 1,562.32   | _                | _               | 618.01     |             | _           |
| 143  | Hunt Investment Management   | 2,085.53       | 7.16       | 2,078.37         | _               |            | _           | _           |
| 144  | Franklin Resources (Operating worldwide as Franklin Templeton Investments) | 2,052.71       | 461.24     | 907.73           | 1.13            | 667.33     | 15.28       |             |
| 145  | CITIC Capital  | 2,040.84       | 98.64      | _                | _               | 1,942.20   | _           | _           |
| 146  | MaxCap Investment Management   | 2,024.35       | _          | _                | _               |            | 2,024.35    | _           |
| 147  | Wheelock Street Capital  | 1,862.77       | _          | 1,862.77         | _               |            | _           | _           |
| 148  | TGM Associates   | 1,765.88       | _          | 1,765.88         | _               |            | _           | _           |
| 149  | Degroof Petercam Asset Management  | 1,736.00       | 1,736.00   |                  |                 |            |             | _           |
| 150  | EURAMCO Group  | 1,693.00       | 1,453.00   | _                | _               | 143.00     | 97.00       | _           |

|      | Total gross value of real estate ass    | ets under ma | nagement ( | gross, € million | , as at 31 Decen | nber 2018) |             |             |
|------|---|--------------|------------|------------------|------------------|------------|-------------|-------------|
| Rank | Investment manager                      | Total        | Europe     | North America    | Latin America    | Asia       | Australasia | Middle East |
| 151  | Areim AB                                | 1,636.00     | 1,636.00   | _                | _                | _          | _           | _           |
| 152  | Conundrum Capital Corp.                 | 1,630.16     | _          | 1,630.16         | _                | _          |             | _           |
| 153  | Cording Real Estate Group               | 1,521.00     | 1,521.00   | _                | _                | _          | _           | _           |
| 154  | Primevest Capital Partners              | 1,500.00     | 1,500.00   | _                | _                | _          |             |             |
| 155  | Broadshore Capital Partners             | 1,492.66     | _          | 1,492.66         | _                | _          | _           | _           |
| 156  | Avanath Capital Management              | 1,483.93     | _          | 1,483.93         | _                | _          | _           | _           |
| 157  | Western National Group                  | 1,483.93     | _          | 1,483.93         | _                | _          |             | _           |
| 158  | Sarofim Realty Advisors Co.             | 1,395.77     | _          | 1,395.77         | _                | _          |             | _           |
| 159  | LEM Capital                             | 1,370.28     | _          | 1,370.28         | _                | _          | _           |             |
| 160  | Mosser Capital                          | 1,309.35     | _          | 1,309.35         | _                | _          | _           | _           |
| 161  | Altis Property Partners                 | 1,302.39     | _          | _                | _                | _          | 1,302.39    | _           |
| 162  | Long Wharf Capital                      | 1,294.51     | _          | 1,294.51         | _                | _          |             |             |
| 163  | MREC Management                         | 1,263.96     | _          | 1,263.96         | _                | _          | _           |             |
| 164  | Presima                                 | 1,243.08     | 223.39     | 641.35           | _                | 315.46     | 62.88       |             |
| 165  | Threestones Capital Management S.A.     | 1,200.00     | 1,200.00   | _                | _                | _          | _           | _           |
| 166  | Ancala Partners                         | 1,171.00     | 1,171.00   | _                | _                | _          |             |             |
| 167  | GFI Partners                            | 1,136.50     | _          | 1,136.50         | _                | _          | _           | _           |
| 168  | Ascentris                               | 1,101.60     | _          | 1,101.60         | _                | _          | _           | _           |
| 169  | HSI – Hemisfério Sul Investimentos S.A. | 1,016.06     | _          | _                | 1,016.06         | _          | _           | _           |
| 170  | AviaRent Invest AG                      | 1,010.21     | 1,010.21   | _                |                  | _          |             |             |
| 171  | Colliers Capital                        | 998.05       | 998.05     | _                | _                | _          | _           |             |
| 172  | Kairos Investment Management Co.        | 977.65       | _          | 977.65           | _                | _          | _           | _           |
| 173  | JCR Capital Investment Corp.            | 969.79       | _          | 969.79           | _                | _          | _           | _           |
| 174  | Argosy Real Estate Partners             | 967.17       |            | 967.17           | _                | _          |             |             |
| 175  | Pearlmark                               | 960.19       | _          | 960.19           | _                | _          | _           | _           |
| 176  | Pactia                                  | 960.19       | _          | _                | _                | _          | _           | _           |
| 177  | Clearbell Fund Management               | 958.51       | 958.51     | _                |                  | _          | _           | _           |
| 178  | VBI Real Estate Gestão de Carteiras     | 904.15       |            |                  | 904.15           | _          | _           | _           |
| 179  | BKM Capital Partners                    | 888.18       | _          | 888.18           |                  |            |             | _           |
| 180  | CS Capital Management                   | 837.32       | _          | 837.32           | _                | _          | _           | _           |
| 181  | Rynda Property Investors                | 835.00       | 835.00     | _                | _                | _          |             | _           |

|      | Total gross value of real estate ass                  | sets under ma | nagement ( | gross, € million | , as at 31 Dece | mber 2018) |             |             |
|------|---|---------------|------------|------------------|-----------------|------------|-------------|-------------|
| Rank | Investment manager                                    | Total         | Europe     | North America    | Latin America   | Asia       | Australasia | Middle East |
| 182  | Berkeley Partners                                     | 804.20        | _          | 804.20           | _               | _          |             |             |
| 183  | First Property Group                                  | 786.41        | 786.41     | _                | _               |            | _           | _           |
| 184  | Covenant Capital Group                                | 739.43        | _          | 739.43           |                 | _          |             |             |
| 185  | Grubb Properties                                      | 721.89        | _          | 721.89           | _               |            |             | _           |
| 186  | Alex. Brown Realty                                    | 711.06        | _          | 711.06           | _               | _          | _           |             |
| 187  | Equity Estate Holding BV                              | 700.00        | 700.00     | _                | _               | _          |             | _           |
| 188  | Thorofare Capital                                     | 694.67        | _          | 694.67           | _               | _          | _           |             |
| 189  | Pamfleet  | 673.24        | _          | _                | _               | 673.24     | _           | _           |
| 190  | Velocis   | 664.81        | _          | 664.81           | _               | _          |             | _           |
| 191  | Gerrity Group   | 658.17        | _          | 658.17           | _               | _          | _           |             |
| 192  | Greenman  | 610.93        | 610.93     |                  | _               | _          | _           |             |
| 193  | Jaguar Growth Partners                                | 570.88        | _          | 570.88           | _               | _          | _           |             |
| 194  | Omni Partners   | 496.68        | 496.68     | _                | _               | _          | _           |             |
| 195  | Hart Realty Advisers                                  | 462.64        | _          | 462.64           | _               | _          | _           |             |
| 196  | SDI Gestão  | 427.37        | _          | _                | 427.37          | _          | _           |             |
| 197  | Paloma Capital  | 394.80        | 394.80     | _                | _               | _          | _           |             |
| 198  | Novare Fund Manager Limited Incorporated in Mauritius | 368.36        | _          |                  | _               | _          | _           |             |
| 199  | ICE Capital REAM                                      | 363.00        | 363.00     | _                | _               | _          | _           |             |
| 200  | Locust Point Capital                                  | 272.34        | _          | 272.34           | _               | _          | _           |             |
| 201  | Curlew Capital  | 256.20        | 256.20     | _                | _               |            |             | _           |
| 202  | Newcore Capital Management                            | 233.92        | 233.92     |                  | _               | _          | _           |             |
| 203  | Gresham House   | 183.79        | 183.79     | _                | _               | _          | _           | _           |
| 204  | Barwood Capital                                       | 116.40        | 116.40     | _                | _               |            |             | _           |
| 205  | Brasa Capital Management                              | 104.75        | _          | 104.75           | _               | _          | _           | _           |
| 206  | Bayrock Financial and Development Corp.               | 87.29         | _          | 87.29            | _               | _          | _           | _           |

#### **Almanac Realty Investors**

As of 31st March, 2019.

#### **AMP Capital Investors**

These are net figures.

#### Angelo, Gordon & Co.

A region breakdown is not readily available for CMBS and RMBS investments, or for the private equity real estate investments in multi-strategy funds. Those investments are predominately focused in North America and have been 100 percent included in that category. Includes approximately \$1.3 billion (€1.13 billion) of assets managed in multi-strategy commingled funds, separate accounts that invested in real estate and real estate debt (including CMBS and RMBS) and approximately \$542 million (€476 million) of assets managed pursuant to subadvisory consulting arrangements.

#### Ares Management Corp.

Net, equity figures

#### **Argosy Real Estate Partners**

AUM represents the sum of our real estate values plus unfunded equity commitments of \$211 million (€184 million).

#### A.S.R. Real Estate

Net figures

#### Barings

AUM includes debt servicing assets and select asset management advisory clients.

#### **Blackstone**

Total AUM includes global assets under management (€95.5 million).

#### **Canyon Partners Real Estate**

(GAV unrealized investments)

#### Carroll Org.

AUM includes \$1.120 billion (€978 million) of properties under management and \$159 million (€138.9 million) of balance sheet assets.

#### **CBRE Global Investors**

As of March 31, 2019.

#### **Cerberus Capital Management**

The data set herein includes the market value of real estate-related investments which Cerberus Capital Management classifies in the following lines of business: Real Estate, Non-Performing Loans (NPLs), and Mortgage Trading. These figures also include uncalled commitments targeting real estate-related investments.

#### **CITIC Capital**

2225 includes funds which we are the Fund Manager but not necessarily the Asset Manager of the underlying real estate, for all Co-GP Funds — we have taken up our allocated share only as Co-GP although in certain cases we may be the asset manager as well

#### **Crow Holdings Capital Partners**

AUM includes uncalled commitments

#### DIF Management B.V.

AuM does not include equity commitments

#### **Gresham House**

AuM includes capital vet to be deployed.

#### **Hermes Real Estate Investment Management**

As at March 2019.

#### Hines

AuM includes fund and non-fund assets

#### **IGIS Asset Management**

AuM includes 81 joint vehicles worth KRW 18,896,910 million (€14,777 million).

#### Invesco Real Estate

AUM includes 6.254 of Global Securities

#### J.P. Morgan Asset Management

AuM includes c. \$10.0 billion (€8.736 billion) managed in REITs.

#### Landmark Partners

(invested/committed)

#### M7 Real Estate

AUM includes joint ventures worth €5,167 million.

#### **MaxCap Investment Management**

AUM is as of 31st May, 2019, and includes fund and non-fund assets.

#### **MetLife Investment Management**

AuM includes fund and non-fund assets

#### M&G Real Estate

Includes £4.2 billion (€4.66 billion) of assets managed by M&G Investments

#### Morgan Stanley Real Estate Investing

Gross value represents Real Estate Assets Under Management (RE AUM), which represents gross fair market value of the real estate assets managed by Morgan Stanley on behalf of the Firm and its clients, presented at direct ownership interest. RE AUM for certain minority interests represents Morgan Stanley's equity investment in the entity. North America is U.S., Latin America is Brazil and Mexico. and Australasia is Australian investments

#### **Mosser Capital**

AuM includes \$899 million (€785 million) of assets managed with third-party institutional partners.

#### **National Real Estate Advisors**

(Fund-level GAV) Property-Level Gross Asset Value (GAV) is based on property-level unleveraged values for real estate investments. The reported GAV is based on the "as is" value (including properties in development) per the most recent property appraisal, and includes working capital and other adjustments such as lender and capital reserves and construction costs spent. However, the GAV for debt (senior and subordinate loans) investments is reported as the fair value of the loan, as opposed to the fair value of the underlying collateral (property). The GAV (pro rata) at market is the ownership percent interest of the property-level GAV.

a. Fund's Share Property-Level GAV: the fund's share of GAV is reported at the fund's economic interest in the investment, which takes into consideration any applicable preferred returns and/or promoted interests, per the partnership operating agreements (if not wholly owned).

b. Fund-level GAV: fund-level GAV represents the Fund's economic interest in real estate investments, cash, cash equivalents, and other fund assets as defined by National. More information can be provided upon request.

#### Northwood Investors

AUM includes uncalled capital that is under management.

#### NREP AB

Aum includes undrawn commitments of €942 million.

#### Och-Ziff Real Estate Advisors

Total real estate AUM includes an additional \$226.8 million (€198 million) related to vehicles categorized as "Other Real Estate Funds" in the Firm's latest Form 10-K filing, available at www.ozm.com.

#### **Orchard Street Investment Manager**

(UK only)

#### Pactia

As of April 2019.

#### PATRIZIA AG

Includes funds/vehicles in liquidation ( $\sim$ €750 million), balance sheet/principal assets ( $\sim$ €100+ million) and others ( $\sim$ €750 million).

#### **Phoenix Property Investors**

As of September 30, 2018.

#### Realterm

AUM includes \$274 million (€239 million) of real estate owned by the firm's partners and managed by the firm. This real estate is not managed through discretionary separate accounts, advisory separate accounts, collective investment vehicles or listed real estate.

#### **Rockpoint Group**

Numbers may not tie as there are certain Rockpoint-sponsored funds which Rockpoint is not permitted to disclose.

#### **Torchlight Investors**

AUM reflects net value of assets plus available commitments.

#### **USAA Real Estate**

AUM represents the combined fair value of real estate, other assets and uncalled capital commitments less total liabilities for USAA Real Estate (\$12.45 billion [€10.88 billion]) and affiliates, Square Mile Capital Management ("Square Mile"; \$5.07 billion [€4.43 billion]) and Investors Diversified Realty ("IDR", \$1.09 billion [€952 million]). The USAA Real Estate and IDR values are as of 31 December, 2018 while the Square Mile values are as of 30 September, 2018.

#### **Walton Street Capital**

AUM includes a fund that is currently being marketed.

# **Discretionary separate accounts**

|      | Discretionary separate ac                      | count mandat | es by investo | r domicile (gro  | oss, € million   | ı, as at 31 De | cember 2018 | )           |                       |
|------|--|--------------|---------------|------------------|------------------|----------------|-------------|-------------|-----------------------|
| Rank | Fund manager                                   | Total        | Europe        | North<br>America | Latin<br>America | Asia           | Australasia | Middle East | Number<br>of Mandates |
| 1    | NYL Investors                                  | 45,525.23    | 873.77        | 44,319.75        | _                | 331.70         | _           | _           | 10                    |
| 2    | CBRE Global Investors                          | 37,360.12    | 22,258.95     | 10,649.38        | _                | 2,531.41       | 1,920.38    | _           | 256                   |
| 3    | AXA Investment Managers – Real Assets          | 30,598.00    | 30,369.00     | 229.00           | _                | _              | _           | _           | 13                    |
| 4    | M&G Real Estate                                | 24,689.06    | 21,092.29     | _                | _                | 779.73         | 2,817.04    | _           | 23                    |
| 5    | Aviva Investors                                | 23,979.92    | 23,531.47     | _                | _                | 448.45         | _           | _           | 59                    |
| 6    | LaSalle Investment Management                  | 18,169.41    | 12,046.02     | 5,837.08         | 18.33            | 247.90         | 20.08       | _           | 74                    |
| 7    | Bentall Kennedy                                | 17,663.13    | _             | 17,663.13        | _                | _              | _           | _           | 6                     |
| 8    | Prologis                                       | 17,300.65    | 5,565.35      | 7,507.25         | 740.33           | 3,487.72       | _           | _           | 5                     |
| 9    | Invesco Real Estate                            | 13,028.91    | 578.73        | 5,867.63         | _                | 6,582.54       | _           | _           | 23                    |
| 10   | Aberdeen Standard Investments                  | 12,797.55    | 12,512.39     |                  | _                | _              | 18.94       | 266.22      | 44                    |
| 11   | Clarion Partners                               | 11,854.85    | _             | 11,140.82        | _                | 714.03         | _           | _           | 12                    |
| 12   | MEAG MUNICH ERGO Kapitalanlagegesellschaft mbH | 10,690.00    | 10,690.00     | _                | _                | _              | _           | _           | 11                    |
| 13   | DWS  | 10,303.90    | 1,007.90      | 9,179.80         | _                | 116.20         | _           | _           | 137                   |
| 14   | PGIM Real Estate                               | 10,269.67    | 2,857.00      | 4,806.19         | _                | 2,606.48       | _           |             | 33                    |
| 15   | Manulife Investment Management                 | 9,400.26     | _             | 9,400.26         | _                | _              | _           | _           | 1                     |
| 16   | AEW Global                                     | 8,879.14     | 1,063.19      | 7,179.60         | _                | 475.73         | 160.61      | _           | 27                    |
| 17   | LGIM Real Assets                               | 8,609.30     | 8,609.30      | _                | _                | _              | _           | _           | 6                     |
| 18   | UBS Asset Management                           | 8,226.69     | 4,504.39      | 3,722.29         | _                | _              | _           | _           | 15                    |
| 19   | Cerberus Capital Management                    | 7,184.40     | 282.56        | 6,452.13         | _                | 449.72         | _           | _           | 30                    |
| 20   | Principal Real Estate Investors                | 6,522.00     | 899.00        | 3,065.00         | _                | 1,706.00       | 700.00      | 151.00      | 64                    |
| 21   | DTZ Investors                                  | 5,522.70     | 5,522.70      | _                | _                | _              | _           | _           | 9                     |
| 22   | CenterSquare Investment Management             | 5,431.18     | 533.34        | 4,897.84         | _                | _              | _           | _           | 62                    |
| 23   | Heitman  | 5,276.68     | 89.91         | 3,547.47         | _                | 831.87         | 796.08      | 11.35       | 38                    |
| 24   | Orchard Street Investment Manager              | 4,905.60     | 4,700.64      | _                | _                | _              |             | 204.96      | 5                     |
| 25   | BNP Paribas Real Estate Investment Management  | 4,900.00     | 4,900.00      | _                | _                | _              | _           | _           | 31                    |
| 26   | LendLease Investment Management                | 4,489.94     | _             | _                | _                | 2,029.70       | 2,460.24    | _           | 9                     |
| 27   | Schroder Real Estate Investment Management     | 4,464.50     | 4,435.53      | _                | _                | 28.96          | _           | _           | 25                    |

|      | Discretionary separate ac                             | count mandat | es by investor | domicile (gra    | oss, € million   | ı, as at 31 De | cember 2018 | )           |                       |
|------|---|--------------|----------------|------------------|------------------|----------------|-------------|-------------|-----------------------|
| Rank | Fund manager  | Total        | Europe         | North<br>America | Latin<br>America | Asia           | Australasia | Middle East | Number<br>of Mandates |
| 28   | BlackRock   | 4,265.86     | _              | 4,265.86         | _                | _              | _           | _           | 7                     |
| 29   | Columbia Threadneedle Investments                     | 3,212.48     | 3,212.48       | _                | _                | _              | _           | _           | 3                     |
| 30   | Brookfield Asset Management (Public Securities Group) | 3,186.09     | 185.05         | 2,843.91         | _                | _              | 157.12      | _           | 43                    |
| 31   | Bouwinvest Real Estate Investors                      | 3,170.00     | 1,106.00       | 1,171.00         | _                | 893.00         | _           | _           | 3                     |
| 32   | Savills Investment Management                         | 3,073.00     | 3,073.00       |                  | _                | _              | _           | _           | 14                    |
| 33   | Prima Capital Advisors                                | 2,740.91     | _              | 2,740.91         | _                | _              | _           | _           | 21                    |
| 34   | CIM Capital   | 2,655.00     | 2,655.00       | _                | _                | _              | _           | _           | 3                     |
| 35   | Acore Capital   | 2,618.70     | _              | 436.45           | _                | 2,182.25       | _           | _           | 2                     |
| 36   | Credit Suisse Asset Management                        | 2,326.77     | 2,326.77       | _                | _                | _              | _           | _           | 5                     |
| 37   | Amvest REIM BV  | 2,294.00     | 2,294.00       | _                | _                | _              | _           | _           | 2                     |
| 38   | PATRIZIA AG   | 2,237.00     | 948.00         | _                | _                | 1,289.00       | _           | _           | 7                     |
| 39   | Stockbridge Capital Group                             | 2,190.11     | _              | 2,190.11         | _                | _              | _           | _           | 3                     |
| 40   | KBS   | 2,053.06     |                | 2,053.06         | _                |                |             | _           | 6                     |
| 41   | Tishman Speyer Properties                             | 2,016.40     | _              | 436.45           | _                | 1,579.95       | _           | _           | 4                     |
| 42   | Barings   | 2,000.69     | 107.37         | 1,274.43         | _                | 618.89         | _           | _           | 14                    |
| 43   | A.S.R. Real Estate                                    | 2,000.00     | 2,000.00       | —                | _                | _              | _           | _           | 3                     |
| 44   | Angelo, Gordon & Co.                                  | 1,817.38     |                | 1,748.42         | _                | 68.96          | _           | _           | 4                     |
| 45   | ICG-Longbow (ICG Plc)                                 | 1,765.53     | 1,068.23       | _                | _                | _              | _           | 697.30      | 12                    |
| 46   | Avanath Capital Management                            | 1,483.93     |                | 1,483.93         | _                |                |             |             | 4                     |
| 47   | Hahn Group  | 1,450.00     | 1,450.00       | _                | _                | _              | _           | _           | 1                     |
| 48   | J.P. Morgan Asset Management                          | 1,444.65     | _              | 1,444.65         | _                | _              | _           | _           | 4                     |
| 49   | Artemis Real Estate Partners                          | 1,431.56     | _              | 1,431.56         | _                | _              | _           | _           | 4                     |
| 50   | Sentinel Real Estate Corp.                            | 1,388.78     | _              | 1,388.78         | _                | _              | _           | _           | 2                     |
| 51   | Nuveen Global Real Estate                             | 1,387.91     | 834.49         | 553.42           | _                | _              | _           | _           | 6                     |
| 52   | Hines   | 1,311.97     | _              | 799.58           |                  | 487.95         | _           | 24.44       | 10                    |
| 53   | Queensland Investment Corp.                           | 1,187.68     | _              | _                | _                | _              | 1,187.68    | _           | 1                     |
| 54   | Knight Frank Investment Management                    | 1,164.36     | 1,164.36       | _                | _                | _              | _           | _           | 2                     |
| 55   | Ascentris   | 1,101.60     | _              | 1,101.60         | _                | _              | _           | _           | 2                     |
| 56   | National Real Estate Advisors                         | 1,096.36     | _              | 1,096.36         | _                | _              | _           | _           | 1                     |

|      | Discretionary separate ac  | count mandat | es by investor | domicile (gro    | ss, € millior    | ı, as at 31 De | cember 2018 |             |                       |
|------|--|--------------|----------------|------------------|------------------|----------------|-------------|-------------|-----------------------|
| Rank | Fund manager   | Total        | Europe         | North<br>America | Latin<br>America | Asia           | Australasia | Middle East | Number<br>of Mandates |
| 57   | Canyon Partners Real Estate  | 1,086.76     | _              | 1,086.76         | _                | _              | _           | _           | 6                     |
| 58   | Generali Real Estate   | 1,000.00     | 1,000.00       | _                | _                | _              | _           | _           | 2                     |
| 59   | Quadrant Real Estate Advisors  | 978.71       | 33.98          | 459.21           | _                | _              | 485.53      | _           | 5                     |
| 60   | American Realty Advisors   | 937.93       | _              | 937.93           | _                | _              | _           | _           | 14                    |
| 61   | Sarofim Realty Advisors Co.  | 829.26       | _              | 829.26           | _                | _              | _           | _           | 2                     |
| 62   | Starwood Capital Group   | 822.27       | _              | 570.88           | _                | _              | _           | 251.40      | 2                     |
| 63   | Franklin Resources (Operating worldwide as Franklin Templeton Investments) | 782.21       | 345.58         | 243.71           | _                | _              | 192.91      | _           | 12                    |
| 64   | Madison International Realty   | 745.46       | _              | _                | _                | 745.46         | _           | _           | 1                     |
| 65   | Almanac Realty Investors   | 719.18       | _              | 719.18           | _                | _              | _           | _           | 16                    |
| 66   | PAG Investment Management  | 716.65       | _              | _                | _                | 716.65         | _           | _           | 6                     |
| 67   | Exeter Property Group  | 693.08       | _              | 132.68           | _                | 560.40         | _           | _           | 2                     |
| 68   | First Property Group   | 680.59       | 680.59         | _                | _                | _              | _           | _           | 13                    |
| 69   | L&B Realty Advisors  | 679.35       | _              | 679.35           | _                | _              | _           | _           | 4                     |
| 70   | Gaw Capital Partners   | 593.57       | _              | _                | _                | 593.57         | _           | _           | 3                     |
| 71   | Presima  | 591.33       | _              | 411.42           | _                | _              | 179.90      | _           | 5                     |
| 72   | Colliers Capital   | 510.16       | 510.16         | _                | _                | _              | _           | _           | 3                     |
| 73   | Deka Immobilien  | 458.00       | 458.00         | _                | _                | _              | _           | _           | 3                     |
| 74   | Harrison Street Real Estate Capital  | 452.16       | 330.83         | 82.93            | _                | 38.41          | _           | _           | 3                     |
| 75   | Berkeley Partners  | 448.85       | _              | 448.85           | _                | _              | _           | _           | 1                     |
| 76   | Omni Partners  | 411.14       | 145.77         | 265.36           | _                | _              | _           | _           | 5                     |
| 77   | Degroof Petercam Asset Management  | 387.00       | 387.00         | _                | _                | _              | _           | _           | 11                    |
| 78   | JCR Capital Investment Corp.   | 380.15       | _              | 380.15           | _                | _              | _           | _           | 2                     |
| 79   | Hart Realty Advisers   | 285.44       | _              | 285.44           | _                | _              | _           | _           | 1                     |
| 80   | IGIS Asset Management  | 275.50       | _              | _                | _                | 275.50         | _           | _           | 1                     |
| 81   | ASB Real Estate Investments, a division of ASB Capital Management          | 268.44       | _              | 268.44           | _                | _              |             |             | 1                     |
| 82   | Diamond Realty Management  | 263.48       | _              | 8.76             | _                | 254.72         | _           | _           | 3                     |
| 83   | Ancala Partners  | 230.00       | 230.00         | _                | _                | _              |             | _           | 4                     |
| 84   | Newcore Capital Management   | 111.39       | 111.39         | _                | _                | _              | _           | _           | 2                     |

|      | Discretionary separate account mandates by investor domicile (gross, € million, as at 31 December 2018) |        |        |                  |                  |      |             |             |                       |  |  |  |
|------|---|--------|--------|------------------|------------------|------|-------------|-------------|-----------------------|--|--|--|
| Rank | Fund manager  | Total  | Europe | North<br>America | Latin<br>America | Asia | Australasia | Middle East | Number<br>of Mandates |  |  |  |
| 85   | Gerrity Group   | 109.99 | _      | 109.99           | _                | _    | _           | _           | 1                     |  |  |  |
| 86   | Hunt Investment Management  | 104.14 |        | 104.14           | _                | _    | _           | _           | 3                     |  |  |  |
| 87   | Divco West Real Estate Services   | 89.12  | _      | 89.12            | _                | _    | _           | _           | 1                     |  |  |  |
| 88   | HIS – Hemisfério Sul Investimentos S.A.   | 87.29  |        | _                | 87.29            | _    | _           | _           | 1                     |  |  |  |
| 89   | Gresham House   | 32.97  | 32.97  | _                | _                | _    | _           | _           | 1                     |  |  |  |
| 90   | Broadshore Capital Partners   | 8.82   | _      | 8.82             | _                | _    | _           | _           | 1                     |  |  |  |

#### **Almanac Realty Investors**

Please note that these figures are from 31st March, 2019 and contain sidecar vehicles or other single-investor vehicles that are structured as funds of one, and not separate accounts.

#### **Brookfield Asset Management (Public Securities Group)**

Reported for Brookfield Investment Management (Public Securities Group)

#### **CBRE Global Investors**

As of 31 March, 2019.

#### Hines

Does not include third-party real estate

#### **Knight Frank Investment Management**

Two discretionary mandates are semi-discretionary.

#### **LaSalle Investment Management**

Includes sidecar investments but does not include mandates acquired in November 2018 from Aviva Investors' REMM business (following the acquisition to form LaSalle GPS).

#### **National Real Estate Advisors**

Fund's share property-level GAV.

#### PATRIZIA AG

Excludes funds/vehicles in liquidation ( $\sim$ F750 million), balance sheet/principal assets ( $\sim$ F100+ million) and others ( $\sim$ F750 million).

#### **Tishman Speyer Properties**

Asian mandates include GP commitment.

# **Advisory separate accounts**

|      | Advisory separate acc                | counts by inve | stor domicile | (gross, € mil    | lion, as at 31   | December 201 | 18)         |                |                    |
|------|--------------------------------------|----------------|---------------|------------------|------------------|--------------|-------------|----------------|--------------------|
| Rank | Fund manager                         | Total          | Europe        | North<br>America | Latin<br>America | Asia         | Australasia | Middle<br>East | Number of mandates |
| 1    | Principal Real Estate Investors      | 35,206.00      | 1,466.00      | 32,152.00        | _                | 548.00       | 1,059.00    | _              | 78                 |
| 2    | Barings                              | 29,230.80      | 143.16        | 28,483.60        | _                | 604.05       | _           | _              | 13                 |
| 3    | AEW Global                           | 21,781.47      | 10,535.90     | 8,591.08         | _                | 1,291.89     | 527.23      | 835.37         | 31                 |
| 4    | Generali Real Estate                 | 21,000.00      | 21,000.00     | _                | _                | _            | _           | _              | 15–20              |
| 5    | CBRE Global Investors                | 19,902.12      | 9,776.48      | 4,451.79         | _                | 3,404.31     | _           | 2,269.54       | 57                 |
| 6    | Nuveen Global Real Estate            | 18,735.05      |               | 4,740.72         | _                | 1,472.58     | 2,211.93    | _              | 35                 |
| 7    | Credit Suisse Asset Management       | 13,904.14      | 13,849.72     | 54.42            | _                | _            | _           | _              | 10                 |
| 8    | PATRIZIA AG                          | 13,879.00      | 12,254.00     | _                | _                | 1,610.00     | _           | 15.00          | 52                 |
| 9    | Heitman                              | 13,863.40      | 171.09        | 12,998.35        | _                | 693.96       | _           | _              | 19                 |
| 10   | LaSalle Investment Management        | 12,992.24      | 4,285.94      | 4,359.26         | _                | 3,399.07     | 947.97      | _              | 55                 |
| 11   | J.P. Morgan Asset Management         | 12,334.16      | 3,201.80      | 9,132.28         | _                | _            | 0.09        | _              | 19                 |
| 12   | Invesco Real Estate                  | 12,127.20      | 3,193.94      | 5,614.49         | _                | 2,798.52     | 520.25      | _              | 32                 |
| 13   | Savills Investment Management        | 9,132.00       | 8,706.00      | _                | _                | 426.00       | _           | _              | 42                 |
| 14   | Greystar Investment Group            | 8,773.52       | 1,270.94      | 6,454.22         | _                | _            | 360.51      | 687.85         | 135                |
| 15   | Acore Capital                        | 8,612.03       | _             | 8,612.03         | _                | _            | _           | _              | 1                  |
| 16   | DWS                                  | 7,980.00       | 6,770.40      | _                | _                | 1,209.60     | _           | _              | 16                 |
| 17   | Quadrant Real Estate Advisors        | 7,784.73       | _             | 7,784.73         | _                | _            | _           | _              | 2                  |
| 18   | La Française                         | 7,661.00       | 6,175.00      | _                | _                | 1,486.00     | _           | _              | 23                 |
| 19   | Hines                                | 6,971.85       | 2,155.19      | 1,652.40         | _                | 2,261.68     | _           | 902.58         | 15                 |
| 20   | L&B Realty Advisors                  | 6,730.90       | _             | 6,358.61         | _                | 372.29       | _           | _              | 8                  |
| 21   | Aberdeen Standard Investments        | 6,625.45       | 5,787.80      | 171.54           | _                | _            | _           | 666.11         | 30                 |
| 22   | Exeter Property Group                | 6,595.63       | _             | 1,689.06         | _                | 3,391.22     |             | 1,515.35       | 4                  |
| 23   | Syntrus Achmea Real Estate & Finance | 6,310.00       | 6,310.00      | _                | _                | _            | _           | _              | 9                  |
| 24   | USAA Real Estate                     | 6,256.95       | 535.09        | 5,710.51         | _                | _            | _           | 11.35          | 19                 |
| 25   | Samsung SRA Asset Management         | 6,198.99       | 121.25        | _                | _                | 6,077.73     | _           | _              | 57                 |
| 26   | Round Hill Capital                   | 5,883.35       | 347.41        | 5,385.79         | _                | _            | _           | 150.14         | 19                 |

|      | Advisory separate ac                                | counts by inve | stor domicile | (gross, € mil    | lion, as at 31   | <b>December 20</b> <sup>-</sup> | 18)         |                |                    |
|------|---|----------------|---------------|------------------|------------------|---------------------------------|-------------|----------------|--------------------|
| Rank | Fund manager  | Total          | Europe        | North<br>America | Latin<br>America | Asia                            | Australasia | Middle<br>East | Number of mandates |
| 27   | AMP Capital Investors                               | 5,795.96       | 336.01        | 1,355.84         | _                | _                               | 3,339.59    | 764.52         | 9                  |
| 28   | MetLife Investment Management                       | 5,410.23       | 1,752.78      | 3,095.30         | _                | 264.49                          | _           | 297.66         | 20                 |
| 29   | AXA Investment Managers – Real Assets               | 5,233.00       | 1,503.00      | 69.00            | _                | 528.00                          | 2,943.00    | 190.00         | 22                 |
| 30   | M3 Capital Partners                                 | 4,975.53       | _             | 4,975.53         | _                | _                               | _           | _              | 1                  |
| 31   | Lionstone Investments                               | 4,889.11       | 268.85        | 4,620.26         | _                | _                               | _           | _              | 6                  |
| 32   | GLL Real Estate Partners GmbH                       | 4,426.00       | 3,381.00      | _                | _                | 1,045.00                        | _           | _              | 14                 |
| 33   | DTZ Investors                                       | 4,363.13       | 4,363.13      | _                | _                | _                               | _           | _              | 11                 |
| 34   | BNP Paribas Real Estate Investment Management       | 4,300.00       | 4,300.00      | _                | _                | _                               | _           | _              | 47                 |
| 35   | Clarion Partners                                    | 4,098.27       | _             | 2,723.45         | _                | _                               | _           | 1,374.82       | 8                  |
| 36   | Gaw Capital Partners                                | 3,928.05       | 1,631.54      | 1,407.29         | _                | 889.22                          | _           | _              | 15                 |
| 37   | UBS Asset Management                                | 3,901.62       | 2,962.39      | 76.35            | 34.62            | 828.26                          | _           | _              | 14                 |
| 38   | Schroder Real Estate Investment Management          | 3,527.71       | 3,527.71      | _                | _                | _                               | _           | _              | 34                 |
| 39   | PCCP  | 3,519.28       | _             | 3,519.28         | _                | _                               | _           | _              | 22                 |
| 40   | Dexus   | 3,352.69       | _             | _                | _                | _                               | 3,352.69    | _              | 5                  |
| 41   | Investa Property Group                              | 3,138.16       | _             | 2,791.20         | _                | 239.20                          | 107.76      |                | 3                  |
| 42   | BlackRock   | 2,901.52       | 473.98        | 0.87             | _                | 2,426.66                        | _           | _              | 4                  |
| 43   | Sentinel Real Estate Corp.                          | 2,865.73       | 454.78        | 1,921.25         | _                | _                               | 245.28      | 244.41         | 11                 |
| 44   | Beacon Capital Partners                             | 2,816.32       | 351.34        | 1,737.86         | _                | 727.13                          | _           |                | 4                  |
| 45   | BMO Real Estate Partners                            | 2,700.00       | 2,700.00      | _                | _                | _                               | _           | _              | 16                 |
| 46   | Berkshire Residential Investments (Berkshire Group) | 2,591.38       | _             | 979.48           | _                | _                               | 279.50      | 1,332.39       | 6                  |
| 47   | Pradera   | 2,075.00       | 725.00        | _                | _                | _                               | _           | 1,350.00       | 7                  |
| 48   | Stockbridge Capital Group                           | 1,909.03       | _             | 1,909.03         |                  | _                               | _           |                | 4                  |
| 49   | TGM Associates                                      | 1,765.88       | _             | 1,765.88         | _                | _                               | _           |                | 5                  |
| 50   | Tishman Speyer Properties                           | 1,656.76       | 1,438.54      | 218.23           | _                | _                               | _           |                | 4                  |
| 51   | Broadshore Capital Partners                         | 1,483.06       | 224.34        | 654.68           | _                | _                               | _           | 604.05         | 12                 |
| 52   | Manulife Investment Management                      | 1,462.98       | _             | 1,462.98         | _                | _                               | _           | _              | 2                  |
| 53   | KGAL Investment Management GmbH & Co. KG            | 1,448.00       | 1,448.00      | _                | _                | _                               | _           |                | 1                  |
| 54   | Bentall Kennedy                                     | 1,373.07       | 209.50        | 930.51           | _                | _                               | _           | 233.06         | 11                 |
| 55   | Realterm  | 1,341.65       | _             | 1,341.65         | _                | _                               | _           | _              | 3                  |
| 56   | Morgan Stanley Real Estate Investing                | 1,273.56       | 1,273.56      | _                | _                | _                               | _           | _              | 1                  |

|      | Advisory separate ac               | counts by inves | stor domicile | (gross, € mil    | lion, as at 31   | December 20 <sup>.</sup> | 18)         |                |                    |
|------|------------------------------------|-----------------|---------------|------------------|------------------|--------------------------|-------------|----------------|--------------------|
| Rank | Fund manager                       | Total           | Europe        | North<br>America | Latin<br>America | Asia                     | Australasia | Middle<br>East | Number of mandates |
| 57   | Knight Frank Investment Management | 1,149.21        | 327.60        | _                | _                | 753.33                   | _           | 68.28          | 11                 |
| 58   | Hunt Investment Management         | 1,105.70        | 7.16          | 1,098.54         | _                | _                        | _           | _              | 4                  |
| 59   | Cording Real Estate Group          | 1,095.00        | 1,095.00      | _                | _                | _                        | _           | _              | 12                 |
| 60   | MaxCap Investment Management       | 1,076.36        | 184.52        | _                | _                |                          | 891.84      | _              | 5                  |
| 61   | CIM Capital                        | 911.00          | _             | _                | _                |                          | 911.00      | _              | 1                  |
| 62   | Diamond Realty Management          | 910.62          | _             | _                | _                | 910.62                   | _           | _              | 9                  |
| 63   | Altis Property Partners            | 893.07          | _             | _                | _                | _                        | 893.07      | _              | 3                  |
| 64   | CS Capital Management              | 837.32          | _             | 837.32           | _                | _                        | _           | _              | 2                  |
| 65   | Rynda Property Investors           | 835.00          | 835.00        | _                | _                | _                        | _           | _              | 3                  |
| 66   | Blue Vista Capital Management      | 789.71          | _             | 789.71           | _                | _                        | _           | _              | 6                  |
| 67   | Mosser Capital                     | 784.26          | 752.13        | 32.12            | _                | _                        | _           | _              | 9                  |
| 68   | M7 Real Estate                     | 767.38          | 767.38        | _                | _                | _                        | _           | _              | 8                  |
| 69   | CenterSquare Investment Management | 675.62          | _             | 520.25           | _                | _                        | 155.38      | _              | 2                  |
| 70   | PGIM Real Estate                   | 651.10          | 608.85        | _                | _                | 42.25                    |             | _              | 5                  |
| 71   | Northwood Investors                | 629.95          | 629.95        | _                | _                | _                        | _           | _              | 1                  |
| 72   | Primevest Capital Partners         | 582.00          | 582.00        | _                | _                |                          | _           | _              | 2                  |
| 73   | Sarofim Realty Advisors Co.        | 566.51          | _             | 566.51           | _                | _                        | _           |                | 2                  |
| 74   | Hahn Group                         | 500.00          | 500.00        | _                | _                |                          | _           | _              | 2                  |
| 75   | Colliers Capital                   | 487.89          | 487.89        | _                | _                | _                        | _           |                | 1                  |
| 76   | InfraRed Capital Partners          | 482.02          | _             | _                |                  | 339.56                   | _           | 142.46         | 2                  |
| 77   | Mesa West Capital                  | 456.70          | _             | 161.49           | _                | 295.21                   | _           | _              | 6                  |
| 78   | Divco West Real Estate Services    | 400.84          | _             | 400.84           |                  |                          | _           |                | 2                  |
| 79   | Thorofare Capital                  | 391.23          | _             | 391.23           | _                | _                        | _           | _              | 1                  |
| 80   | GTIS Partners                      | 304.64          | _             | 304.64           | _                |                          | _           | _              | 2                  |
| 81   | M&G Real Estate                    | 279.59          | 279.59        | _                | _                | _                        | _           |                | 3                  |
| 82   | Areim AB                           | 273.00          | 273.00        | _                | _                |                          | _           |                | 2                  |
| 83   | Curlew Capital                     | 256.20          | 256.20        | _                | _                | _                        | _           | _              | 2                  |
| 84   | Ancala Partners                    | 246.00          | 246.00        | _                | _                |                          | _           |                | 2                  |
| 85   | ISPT Pty                           | 236.31          | _             | _                | _                | _                        | 236.31      | _              | 1                  |

|      | Advisory separate acc  | counts by inve | stor domicile | (gross, € mil    | lion, as at 31 l | December 20 <sup>.</sup> | 18)         |                |                    |
|------|--|----------------|---------------|------------------|------------------|--------------------------|-------------|----------------|--------------------|
| Rank | Fund manager   | Total          | Europe        | North<br>America | Latin<br>America | Asia                     | Australasia | Middle<br>East | Number of mandates |
| 86   | Clearbell Fund Management  | 213.09         | 213.09        | _                | _                | _                        | _           |                | 2                  |
| 87   | VBI Real Estate Gestão de Carteiras  | 180.69         | _             | _                | 180.69           | _                        | _           | _              | 2                  |
| 88   | Hart Realty Advisers   | 177.20         | _             | 177.20           | _                | _                        | _           | _              | 1                  |
| 89   | Walton Street Capital  | 170.22         | _             | 170.22           | _                | _                        | _           | _              | 1                  |
| 90   | KBS  | 136.17         | _             | 136.17           | _                | _                        | _           | _              | 3                  |
| 91   | Franklin Resources (Operating worldwide as Franklin Templeton Investments) | 119.85         | _             | _                | _                | _                        | 119.85      | _              | 4                  |
| 92   | MREC Management  | 117.75         | _             | 30.46            | _                | 87.29                    | _           | _              | 3                  |
| 93   | Harrison Street Real Estate Capital  | 98.64          | 98.64         | _                | _                | _                        | _           | _              | 1                  |
| 94   | Pearlmark  | 92.09          | 60.67         | 31.42            | _                |                          | _           | _              | 7                  |
| 95   | Deka Immobilien  | 91.00          | 91.00         | _                | _                | _                        | _           | _              | 2                  |
| 96   | DRC Capital  | 56.81          | _             | 56.81            | _                | _                        | _           | _              | 1                  |

#### **CBRE Global Investors**

As of 31 March, 2019.

#### **LaSalle Investment Management**

Includes sidecar investments but does not include mandates acquired in November 2018 from Aviva Investors' REMM business (following the acquisition to form LaSalle GPS).

#### **Greystar Investment Group**

Equity value reported, leverage has beed excluded from US joint ventures and club deals.

#### Hines

Does not include third-party real estate.

#### **MetLife Investment Management**

Number of mandates only represent unaffiliated third-party client mandates.

#### **Tishman Speyer Properties**

Does not include 38 one-off joint ventures which indirectly own either operating property or development property.

#### **MaxCap Investment Management**

As of 31 May, 2019.

#### Mosser Capital

Managed with third party institutional partners

# **Indirect real estate vehicles**

|      | Value and number of vehicles under management (€ million, as at 31 December 2018) |            |                |
|------|---|------------|----------------|
| Rank | Fund manager  | Total GAV  | Total vehicles |
| 1    | Blackstone  | 190,440.59 | 9              |
| 2    | Nuveen Global Real Estate   | 88,609.82  | 58             |
| 3    | UBS Asset Management  | 71,137.54  | 47             |
| 4    | GLP   | 54,730.83  | 22             |
| 5    | PGIM Real Estate  | 52,484.86  | 26             |
| 6    | J.P. Morgan Asset Management  | 50,849.92  | 10             |
| 7    | Starwood Capital Group  | 44,268.25  | 4              |
| 8    | Deka Immobilien   | 42,305.00  | 21             |
| 9    | Tishman Speyer Properties   | 40,378.61  | 16             |
| 10   | AXA Investment Managers – Real Assets   | 38,655.00  | 103            |
| 11   | Credit Suisse Asset Management  | 37,684.21  | 47             |
| 12   | Union Investment  | 37,643.50  | 14             |
| 13   | CBRE Global Investors   | 36,312.64  | 63             |
| 14   | DWS   | 36,229.40  | 155            |
| 15   | AEW Global  | 34,613.89  | 82             |
| 16   | Invesco Real Estate   | 32,113.12  | 18             |
| 17   | Prologis  | 29,073.56  | 4              |
| 18   | Morgan Stanley Real Estate Investing  | 28,983.77  | 15             |
| 19   | Aberdeen Standard Investments   | 27,469.79  | 32             |
| 20   | Clarion Partners  | 26,462.84  | 10             |
| 21   | CIM Capital   | 23,986.00  | 11             |
| 22   | Principal Real Estate Investors   | 23,372.00  | 31             |
| 23   | PATRIZIA AG   | 22,868.00  | 57             |
| 24   | Angelo, Gordon & Co.  | 20,459.03  | 23             |
| 25   | LaSalle Investment Management   | 19,347.83  | 13             |
| 26   | Commerz Real AG   | 18,864.80  | 207            |
| 27   | M&G Real Estate   | 17,541.63  | 17             |
| 28   | Charter Hall  | 17,462.78  | 42             |

|      | Value and number of vehicles under management (€ million, as at 31 December 2018) |           |                |  |  |  |  |  |  |
|------|---|-----------|----------------|--|--|--|--|--|--|
| Rank | Fund manager  | Total GAV | Total vehicles |  |  |  |  |  |  |
| 29   | LGIM Real Assets  | 17,431.36 | 19             |  |  |  |  |  |  |
| 30   | Heitman   | 17,231.92 | 15             |  |  |  |  |  |  |
| 31   | LendLease Investment Management   | 16,053.07 | 13             |  |  |  |  |  |  |
| 32   | Harrison Street Real Estate Capital   | 15,205.05 | 10             |  |  |  |  |  |  |
| 33   | BlackRock   | 14,615.84 | 49             |  |  |  |  |  |  |
| 34   | Dexus   | 14,401.01 | 3              |  |  |  |  |  |  |
| 35   | BNP Paribas Real Estate Investment Management                                     | 13,430.00 | 41             |  |  |  |  |  |  |
| 36   | Rockpoint Group   | 13,182.01 | 8              |  |  |  |  |  |  |
| 37   | AMP Capital Investors Limited   | 12,972.72 | 9              |  |  |  |  |  |  |
| 38   | Bridge Investment Group   | 12,650.07 | 11             |  |  |  |  |  |  |
| 39   | Bentall Kennedy   | 12,630.86 | 4              |  |  |  |  |  |  |
| 40   | Gaw Capital Partners  | 11,752.11 | 10             |  |  |  |  |  |  |
| 41   | Greystar Investment Group (together with its affiliates, "Greystar")              | 11,739.28 | 7              |  |  |  |  |  |  |
| 42   | La Française  | 11,555.00 | 76             |  |  |  |  |  |  |
| 43   | Aviva Investors   | 11,141.14 | 55             |  |  |  |  |  |  |
| 44   | Cerberus Capital Management   | 10,448.70 | 3              |  |  |  |  |  |  |
| 45   | ISPT Pty  | 10,438.18 | 4              |  |  |  |  |  |  |
| 46   | Northwood Investors   | 10,359.66 | 1              |  |  |  |  |  |  |
| 47   | Tristan Capital Partners  | 10,112.00 | 7              |  |  |  |  |  |  |
| 48   | Queensland Investment Corp.   | 10,056.23 | 5              |  |  |  |  |  |  |
| 49   | Ares Management Corp.   | 9,899.21  | 42             |  |  |  |  |  |  |
| 50   | Walton Street Capital   | 9,777.35  | 10             |  |  |  |  |  |  |
| 51   | Kayne Anderson Real Estate  | 9,348.76  | 16             |  |  |  |  |  |  |
| 52   | Schroder Real Estate Investment Management  | 9,329.99  | 19             |  |  |  |  |  |  |
| 53   | Westbrook Partners  | 8,966.43  | 6              |  |  |  |  |  |  |
| 54   | Generali Real Estate  | 8,250.00  | 11             |  |  |  |  |  |  |
| 55   | Bouwinvest Real Estate Investors  | 8,115.00  | 7              |  |  |  |  |  |  |
| 56   | KBS   | 7,935.53  | 6              |  |  |  |  |  |  |
| 57   | Stockbridge Capital Group   | 7,698.98  | 7              |  |  |  |  |  |  |
| 58   | American Realty Advisors  | 7,616.05  | 3              |  |  |  |  |  |  |
| 59   | Intercontinental Real Estate Corp.  | 7,438.77  | 3              |  |  |  |  |  |  |

|      | Value and number of vehicles under management (€ million, as at 31 December 2018) |           |                |  |  |  |  |  |  |  |
|------|---|-----------|----------------|--|--|--|--|--|--|--|
| Rank | Fund manager  | Total GAV | Total vehicles |  |  |  |  |  |  |  |
| 60   | Vesteda   | 7,337.00  | 1              |  |  |  |  |  |  |  |
| 61   | GreenOak Real Estate  | 7,253.89  | 14             |  |  |  |  |  |  |  |
| 62   | Samsung SRA Asset Management  | 7,100.78  | 36             |  |  |  |  |  |  |  |
| 63   | GPT Funds Management  | 6,988.99  | 2              |  |  |  |  |  |  |  |
| 64   | Lubert-Adler Management   | 6,974.47  | 11             |  |  |  |  |  |  |  |
| 65   | Columbia Threadneedle Investments   | 6,812.59  | 5              |  |  |  |  |  |  |  |
| 66   | Crow Holdings Capital Partners  | 6,720.89  | 10             |  |  |  |  |  |  |  |
| 67   | ASB Real Estate Investments, a division of ASB Capital Management                 | 6,651.94  | 2              |  |  |  |  |  |  |  |
| 68   | Barings   | 6,355.15  | 20             |  |  |  |  |  |  |  |
| 69   | Hines   | 6,294.13  | 6              |  |  |  |  |  |  |  |
| 70   | Savills Investment Management   | 6,158.00  | 18             |  |  |  |  |  |  |  |
| 71   | Beacon Capital Partners   | 5,323.12  | 3              |  |  |  |  |  |  |  |
| 72   | USAA Real Estate  | 5,164.08  | 7              |  |  |  |  |  |  |  |
| 73   | Divco West Real Estate Services   | 5,032.09  | 6              |  |  |  |  |  |  |  |
| 74   | MetLife Investment Management   | 5,020.66  | 2              |  |  |  |  |  |  |  |
| 75   | PAG Investment Management   | 4,798.33  | 3              |  |  |  |  |  |  |  |
| 76   | Phoenix Property Investors  | 4,623.40  | 15             |  |  |  |  |  |  |  |
| 77   | IGIS Asset Management   | 4,587.27  | 83             |  |  |  |  |  |  |  |
| 78   | Berkshire Residential Investments (Berkshire Group)                               | 4,554.79  | 7              |  |  |  |  |  |  |  |
| 79   | BMO Real Estate Partners  | 4,400.00  | 10             |  |  |  |  |  |  |  |
| 80   | PCCP  | 4,337.02  | 11             |  |  |  |  |  |  |  |
| 81   | Manulife Investment Management  | 4,305.14  | 4              |  |  |  |  |  |  |  |
| 82   | DIF Management B.V.   | 4,300.00  | 4              |  |  |  |  |  |  |  |
| 83   | Carmel Partners   | 4,083.25  | 7              |  |  |  |  |  |  |  |
| 84   | Madison Realty Capital  | 4,023.20  | 7              |  |  |  |  |  |  |  |
| 85   | Unite Integrated Solutions  | 3,896.41  | 3              |  |  |  |  |  |  |  |
| 86   | A.S.R. Real Estate  | 3,800.00  | 4              |  |  |  |  |  |  |  |
| 87   | National Real Estate Advisors   | 3,791.00  | 1              |  |  |  |  |  |  |  |
| 88   | Royal London Asset Management   | 3,785.02  | 2              |  |  |  |  |  |  |  |
| 89   | Carroll Organization  | 3,712.44  | 3              |  |  |  |  |  |  |  |

|      | Value and number of vehicles under management (€ million, as at 31 December 2018) |           |                       |  |  |  |  |  |  |
|------|---|-----------|-----------------------|--|--|--|--|--|--|
| Rank | Fund manager  | Total GAV | <b>Total vehicles</b> |  |  |  |  |  |  |
| 90   | GTIS Partners   | 3,639.12  | 16                    |  |  |  |  |  |  |
| 91   | Exeter Property Group   | 3,615.55  | 7                     |  |  |  |  |  |  |
| 92   | Almanac Realty Investors  | 3,326.62  | 5                     |  |  |  |  |  |  |
| 93   | Investa Property Group  | 3,178.69  | 1                     |  |  |  |  |  |  |
| 94   | Niam AB   | 3,102.20  | 5                     |  |  |  |  |  |  |
| 95   | Amvest REIM BV  | 3,012.00  | 2                     |  |  |  |  |  |  |
| 96   | NREP AB   | 2,988.00  | 13                    |  |  |  |  |  |  |
| 97   | Equus Capital Partners  | 2,967.86  | 13                    |  |  |  |  |  |  |
| 98   | Diamond Realty Management   | 2,888.68  | 11                    |  |  |  |  |  |  |
| 99   | DRC Capital   | 2,881.98  | 7                     |  |  |  |  |  |  |
| 100  | Blue Vista Capital Management   | 2,790.75  | 7                     |  |  |  |  |  |  |
| 101  | Torchlight Investors  | 2,728.69  | 6                     |  |  |  |  |  |  |
| 102  | MEAG MUNICH ERGO Kapitalanlagegesellschaft mbH                                    | 2,728.00  | 5                     |  |  |  |  |  |  |
| 103  | Syntrus Achmea Real Estate & Finance  | 2,590.00  | 4                     |  |  |  |  |  |  |
| 104  | Rubenstein Partners   | 2,183.12  | 3                     |  |  |  |  |  |  |
| 105  | M7 Real Estate  | 2,151.50  | 13                    |  |  |  |  |  |  |
| 106  | Canyon Partners Real Estate   | 2,108.93  | 3                     |  |  |  |  |  |  |
| 107  | Artemis Real Estate Partners  | 2,080.12  | 4                     |  |  |  |  |  |  |
| 108  | NYL Investors   | 2,069.65  | 4                     |  |  |  |  |  |  |
| 109  | KGAL Investment Management GmbH & Co. KG  | 2,052.00  | 9                     |  |  |  |  |  |  |
| 110  | Och-Ziff Real Estate Advisors   | 2,051.58  | 5                     |  |  |  |  |  |  |
| 111  | CITIC Capital   | 2,040.84  | 8                     |  |  |  |  |  |  |
| 112  | CenterSquare Investment Management  | 1,909.91  | 17                    |  |  |  |  |  |  |
| 113  | ICG-Longbow   | 1,892.51  | 4                     |  |  |  |  |  |  |
| 114  | Wheelock Street Capital   | 1,862.77  | 3                     |  |  |  |  |  |  |
| 115  | Sentinel Real Estate Corp.  | 1,855.79  | 3                     |  |  |  |  |  |  |
| 116  | Brookfield Asset Management (Public Securities Group)                             | 1,828.73  | 4                     |  |  |  |  |  |  |
| 117  | InfraRed Capital Partners   | 1,698.66  | 2                     |  |  |  |  |  |  |
| 118  | Conundrum Capital Corp.   | 1,630.16  | 4                     |  |  |  |  |  |  |
| 119  | Realterm  | 1,614.87  | 6                     |  |  |  |  |  |  |

| Value and number of vehicles under management (€ million, as at 31 December 2018) |  |           |                |  |  |
|---|--|-----------|----------------|--|--|
| Rank  | Fund manager   | Total GAV | Total vehicles |  |  |
| 120   | Western National Group   | 1,483.93  | 3              |  |  |
| 121   | LEM Capital  | 1,370.28  | 3              |  |  |
| 122   | Areim AB   | 1,362.00  | 2              |  |  |
| 123   | Degroof Petercam Asset Management  | 1,339.00  | 5              |  |  |
| 124   | Long Wharf Capital   | 1,294.51  | 3              |  |  |
| 125   | Lionstone Investments  | 1,277.93  | 4              |  |  |
| 126   | GLL Real Estate Partners GmbH  | 1,244.00  | 7              |  |  |
| 127   | Pradera  | 1,185.00  | 4              |  |  |
| 128   | Franklin Resources (Operating worldwide as Franklin Templeton Investments) | 1,150.66  | 7              |  |  |
| 129   | GFI Partners   | 1,136.50  | 38             |  |  |
| 130   | Threestones Capital Management S.A   | 1,120.00  | 3              |  |  |
| 131   | AviaRent Invest AG   | 1,010.17  | 7              |  |  |
| 132   | Kairos Investment Management Co.   | 977.30    | 6              |  |  |
| 133   | HIS – Hemisfério Sul Investimentos S.A.                                    | 928.77    | 5              |  |  |
| 134   | Primevest Capital Partners   | 924.00    | 6              |  |  |
| 135   | Hunt Investment Management   | 875.43    | 6              |  |  |
| 136   | Pearlmark  | 868.36    | 4              |  |  |
| 137   | Hahn Group   | 850.00    | 2              |  |  |
| 138   | Argosy Real Estate Partners  | 782.12    | 6              |  |  |
| 139   | Prima Capital Advisors   | 758.55    | 1              |  |  |
| 140   | Clearbell Fund Management  | 745.42    | 3              |  |  |
| 141   | Covenant Capital Group   | 739.43    | 2              |  |  |
| 142   | VBI Real Estate Gestão de Carteiras  | 723.46    | 4              |  |  |
| 143   | Alex. Brown Realty   | 711.06    | 6              |  |  |
| 144   | Knight Frank Investment Management   | 709.89    | 1              |  |  |
| 145   | Ancala Partners  | 695.00    | 2              |  |  |
| 146   | Grubb Properties   | 677.63    | 9              |  |  |
| 147   | Pamfleet   | 673.24    | 2              |  |  |
| 148   | Velocis  | 664.81    | 2              |  |  |
| 149   | L&B Realty Advisors  | 657.06    | 1              |  |  |

|      | Value and number of vehicles under management (€ million, as at 31 December 2018) |           |                |  |  |
|------|---|-----------|----------------|--|--|
| Rank | Fund manager  | Total GAV | Total vehicles |  |  |
| 150  | Presima   | 651.76    | 7              |  |  |
| 151  | JCR Capital Investment Corp.  | 647.17    | 4              |  |  |
| 152  | Greenman  | 610.93    | 1              |  |  |
| 153  | Jaguar Growth Partners  | 570.88    | 4              |  |  |
| 154  | Gerrity Group   | 548.18    | 1              |  |  |
| 155  | Paloma Capital  | 445.56    | 2              |  |  |
| 156  | SDI Gestão  | 428.49    | 3              |  |  |
| 157  | Cording Real Estate Group   | 426.42    | 4              |  |  |
| 158  | Altis Property Partners   | 409.32    | 3              |  |  |
| 159  | Acore Capital   | 379.89    | 1              |  |  |
| 160  | Novare Fund Manager Limited Incorporated in Mauritius                             | 368.36    | 2              |  |  |
| 161  | ICE Capital REAM  | 363.00    | 5              |  |  |
| 162  | Berkeley Partners   | 355.36    | 2              |  |  |
| 163  | MREC Management   | 342.79    | 3              |  |  |
| 164  | Barwood Capital   | 309.22    | 3              |  |  |
| 165  | Locust Point Capital  | 272.34    | 1              |  |  |
| 166  | Thorofare Capital   | 267.30    | 3              |  |  |
| 167  | MaxCap Investment Management  | 223.82    | 2              |  |  |
| 168  | Newcore Capital Management  | 122.53    | 4              |  |  |
| 169  | Brasa Capital Management  | 104.75    | 1              |  |  |
| 170  | Gresham House   | 91.02     | 1              |  |  |
| 171  | DTZ Investors   | 89.11     | 2              |  |  |
| 172  | Omni Partners   | 85.54     | 2              |  |  |
| 173  | Round Hill Capital  | 81.18     | 1              |  |  |
| 174  | Quadrant Real Estate Advisors   | 16.59     | 2              |  |  |

#### **Almanac Realty Investors**

As of 31 March, 2019.

#### **AMP Capital Investors Limited**

Includes listed AIMS REIT and Precinc.

#### Areim AB

Includes co-investments.

#### Ares Management Corp.

NAV.

#### **Barwood Capital**

GAV represents the end value of the assets post development.

#### Blackstone

Includes commingled real estate funds and co-investment vehicles. Excludes separately managed accounts.

#### **CBRE Global Investors**

As of 31 March, 2019.

#### DIF Management B.V.

Value includes undrawn equity commitments.

#### Hines

Does not include third-party real estate.

#### KGAL Investment Management GmbH & Co. KG

Only institutional funds included, excludes  $\ensuremath{\in} 3,653$  million of retail/private placement vehicles.

#### **LaSalle Investment Management**

Does not include mandates acquired in November 2018 from Aviva Investors' REMM business (following the acquisition to form LaSalle GPS).

#### **MaxCap Investment Management**

As of 31 May, 2019.

#### M&G Real Estate

Includes £3.918 billion (€4.345 billion) listed on the Luxembourg Stock Exchange and £4.075 billion (€4.519 billion) of assets managed by M&G Investments with fund management decisions made by M&G Investments.

#### PATRIZIA AG

Includes all investing and stable unlisted collective real estate investment vehicles managed on behalf of third-party capital as at end of fourth quarter 2018.

#### **Phoenix Property Investors**

As of 30 September, 2018.

#### **Royal London Asset Management**

GAV includes cash held by funds amounting to c. £131 million (€145 million).

#### **Tishman Speyer Properties**

Includes 38 joint ventures which indirectly own either operating property or development property. Excludes AUM owned through separate account vehicles of approximately \$4.2 billion (€3.67 billion).

#### **Torchlight Investors**

Represents the net value of unlisted vehicles and includes available commitments.

#### **Walton Street Capital**

Total value excludes a fund that is currently being marketed.

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# About Institutional Real Estate, Inc

ounded in 1987, Institutional Real Estate, Inc. (IREI) is an H information company focused on providing institutional real estate investors with decision-making tools through its publications, conferences and consulting. IREI publishes a diversified portfolio of news publications, special reports and investment guides for the benefit of the global institutional real estate investment community. Each publication provides subscribers with news, insights and perspective on the trends and events shaping the real estate investment landscape across the globe. The firm publishes a number of special reports, as well as seven regular news publications. The firm's flagship publication, Institutional Real Estate Americas, has covered the industry for nearly 30 years. Other IREI titles include Institutional Real Estate Europe, Institutional Real Estate Asia Pacific, Real Assets Adviser, Institutional Real Estate Newsline, Institutional Investing in Infrastructure and Institutional Real Estate FundTracker.

In 2006, the firm launched a conference and seminar division. IREI's events have gained a stellar reputation and solid following within the industry. The firm's menu of events includes Visions, Insights & Perspectives (VIP) conferences in North America, Europe and Infrastructure as well as IREI Springboard, an event launched in 2014 for young industry executives, and VIP Infrastructure.

On the consulting side, IREI has nearly three decades of experience providing research and advice to the investment-management, brokerage, development and technology communities. In 2017, IREI launched the Institute for Real Estate Operating Companies (iREOC). iREOC is a for-profit, exclusive membership organization designed to benefit the interests of institutional investors, their investment managers, and those real estate operating companies who seek to access and serve institutional capital via structures that are deemed most suitable to investor needs.

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Property Funds Research is an independent management-owned business that provides confidential research, strategic consulting and investment advice for investors in European real estate. PFR's foundations are an expert team, a suite of products for underwriting investments in the European market, and access to a unique dataset describing the major investors, vehicles, and managers in the European and global institutional property markets. Founded in 2001, under its previous name, Oxford Property Consultants (OPC), the firm established the first European and global dataset of unlisted property vehicles, the major sources of capital and investment managers. OPC was sold to CBRE in 2006 and the research and information

business (renamed Property Funds Research) was re-acquired by its management. PFR is now chaired by Andrew Baum, who is also visiting professor of management practice at the Säid Business School, Oxford, and managed by Jane Fear.

PFR's global database includes nearly 3,000 unlisted funds, 1,500 fund managers and 3,000 investors. With this resource, PFR provides high-quality confidential research and strategic consulting for institutional real estate investment managers, investors and industry bodies around the world.

For more information about PFR, please contact Jane Fear at if@propertyfundsresearch.com.

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