

Japanese investments in 19 companies operating in Amazon and Boreal Biomes

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Tipping-Element Companies (TE19), publically listed on stock markets, included in this dataset (updated September 2018)

| Biome | Sector | Country of operations | Company name |
|--------------|----------------------|-----------------------|---|
| Amazon | Beef | Brazil | JBS |
| | | | Marfrig Global Foods |
| | | | Minerva |
| Amazon | Soy | Brazil | Archer Daniels Midland (ADM) |
| | | | Bunge |
| Boreal | Wood, pulp and paper | Russia | International Paper (parent of Ilim Group) |
| | | | Joint-stock Financial Corporation Sistema (parent of Segezha Group) |
| | | | Mondi plc (parent of Mondi Syktyvkar) |
| | | | Mondi Ltd. (parent of Mondi Syktyvkar) |
| Boreal | Wood, pulp and paper | Canada | Canfor ⁽¹⁾ |
| | | | Louisiana-Pacific |
| | | | Hokuetsu Kishu Paper (parent of Alberta-Pacific) |
| | | | Marubeni (parent of Daishowa-Marubeni) |
| | | | Nippon Paper Industries (parent of Daishowa-Marubeni) |
| | | | Norbord (merged with Ainsworth in 2015) |
| | | | Rayonier (acquired operator <i>Tembec</i>) |
| | | | <i>Resolute Forest Products</i> ⁽¹⁾ |
| | | | West Fraser |
| Weyerhaeuser | | | |

Notes:

(1) These companies do not have any Japanese-based shareholders, as of 2017-12-31 (source: Thomson Reuters EIKON)

Table 1: Japanese investments in the TE19 (2017-12-31), by “Investor Type”

| Investor Type | # Unique investors | Total value (USD) of shares held | Total value (JPY) of shares held | % Japan shares ⁽¹⁾ | % Total TE19 share value ⁽²⁾ |
|---------------------------|--------------------|----------------------------------|----------------------------------|-------------------------------|---|
| Asset Manager | 30 | \$1,810,767,630.18 | ¥204,007,705,004.07 | 36.22% | 1.75% |
| Bank | 17 | \$1,554,955,879.15 | ¥175,187,017,373.65 | 31.11% | 1.50% |
| Non-Financial Corporation | 76 | \$814,355,796.85 | ¥91,748,302,986.63 | 16.29% | 0.79% |
| Insurance Company | 7 | \$708,958,140.60 | ¥79,873,817,488.87 | 14.18% | 0.68% |
| Brokerage Firm | 3 | \$82,852,656.82 | ¥9,334,483,392.36 | 1.66% | 0.08% |
| Holding Company | 3 | \$27,094,340.18 | ¥3,052,547,475.78 | 0.54% | 0.03% |
| TOTAL | 136 | \$4,998,984,443.78 | ¥563,203,873,721.35 | 100.0% | 4.83% |

Notes:

- 1) Percentage of total shares in the TE19 companies held by Japanese-based investors as of 2017-12-31. Total estimated value of \$4,998,984,443.78 according to Thomson Reuters Eikon database. Calculated estimated value in Japanese Yen (JPY) of ¥563,203,873,721.35 (historic exchange rate of 112.663658 JPY / USD, source: x-rates.com).
- 2) Percentage of total shares in the TE19 companies that were publically trading as of 2017-12-31. Total shares have estimated value of \$103,523,543,771.81 according to Thomson Reuters Eikon database. Calculated estimated value in Japanese Yen (JPY) of ¥11,663,341,130,455.20 (historic exchange rate of 112.663658 JPY / USD, source: x-rates.com).

Table 2: Japanese investments in the TE19 (2017-12-31), per Biome

| Biome of interest | Investor Type | # investors | Total Value (USD) | % all Japanese TE19 investments |
|-----------------------|---------------------------|-------------|---------------------------|---------------------------------|
| Amazon, Brasil (beef) | Asset Manager | 5 | \$994,929.14 | 0.0199% |
| | TOTAL | 5 | \$994,929.14 | 0.0199% |
| Amazon, Brasil (soy) | Bank | 3 | \$134,179,343.88 | 2.6841% |
| | Asset Manager | 18 | \$80,316,886.62 | 1.6067% |
| | Brokerage Firm | 1 | \$3,654,844.56 | 0.0731% |
| | Insurance Company | 3 | \$1,948,248.72 | 0.0390% |
| | TOTAL | 25 | \$220,099,323.78 | 4.4029% |
| Boreal, Canada | Asset Manager | 27 | \$1,654,989,815.87 | 33.1065% |
| | Bank | 16 | \$1,253,654,273.72 | 25.0782% |
| | Non-Financial Corporation | 76 | \$814,355,796.85 | 16.2904% |
| | Insurance Company | 6 | \$703,729,659.53 | 14.0775% |
| | Brokerage Firm | 3 | \$77,608,865.70 | 1.5525% |
| | Holding Company | 3 | \$27,094,340.18 | 0.5420% |
| | TOTAL | 131 | \$4,531,432,751.85 | 90.6471% |
| Boreal, Russia | Bank | 5 | \$167,122,261.55 | 3.3431% |
| | Asset Manager | 16 | \$74,465,998.55 | 1.4896% |
| | Insurance Company | 5 | \$3,280,232.35 | 0.0656% |
| | Brokerage Firm | 1 | \$1,588,946.56 | 0.0318% |
| | TOTAL | 27 | \$246,457,439.01 | 4.9302% |
| Notes: | | | | |

Table 3: Japanese investors in the TE19 (2017-12-31) – investor type, value (JPY) of shares held, % total Japanese investments, % total investments in TE19

| Investor Name ⁽¹⁾ | “Investor Type” (for visual) | Total Value (USD) | % Investor Portfolio | % Japanese Shares ⁽²⁾ | % Total TE19 Shares ⁽³⁾ |
|--|------------------------------|-------------------|----------------------|----------------------------------|------------------------------------|
| Sumitomo Mitsui Trust Bank, Limited | Bank | \$643,918,611.90 | 0.43% | 12.88% | 0.6151% |
| Asset Management One Co., Ltd. | Asset Manager | \$520,459,321.42 | 0.53% | 10.41% | 0.4972% |
| BlackRock Japan Co., Ltd. | Asset Manager | \$400,270,967.66 | 0.59% | 8.01% | 0.3824% |
| Nomura Asset Management Co., Ltd. | Asset Manager | \$368,861,120.97 | 0.24% | 7.38% | 0.3524% |
| Mitsubishi UFJ Trust and Banking Corporation | Bank | \$327,337,486.03 | 0.25% | 6.55% | 0.3127% |
| Sompo Japan Nipponkoa Insurance Inc | Insurance company | \$315,670,380.10 | 4.79% | 6.31% | 0.3016% |
| Mizuho Bank, Ltd. | Bank | \$303,059,833.93 | 0.86% | 6.06% | 0.2895% |
| Meiji Yasuda Life Insurance Company | Insurance company | \$287,133,598.64 | 1.03% | 5.74% | 0.2743% |
| Mitsubishi Corp | Non-Financial Corporation | \$228,890,721.40 | 1.40% | 4.58% | 0.2187% |
| Nikko Asset Management Co., Ltd. | Asset Manager | \$165,452,849.62 | 0.25% | 3.31% | 0.1581% |
| Daiwa Asset Management Co., Ltd. | Asset Manager | \$140,788,758.26 | 0.20% | 2.82% | 0.1345% |
| Mizuho Trust & Banking Co., Ltd. | Bank | \$114,608,338.27 | 1.45% | 2.29% | 0.1095% |
| Mitsubishi UFJ Kokusai Asset Management Co., Ltd. | Asset Manager | \$90,945,276.68 | 0.24% | 1.82% | 0.0869% |
| Aeon Co Ltd | Non-Financial Corporation | \$90,226,061.70 | 0.75% | 1.80% | 0.0862% |
| Nippon Life Insurance Company | Insurance company | \$57,710,397.65 | 0.09% | 1.15% | 0.0551% |
| Rengo Co Ltd | Non-Financial Corporation | \$57,137,525.67 | 9.02% | 1.14% | 0.0546% |
| Nippon Paper Industries Co., Ltd. Employees | Non-Financial Corporation | \$56,350,754.16 | 100.00% | 1.13% | 0.0538% |
| Mitsui Life Insurance Company Limited | Insurance company | \$42,016,669.45 | 3.88% | 0.84% | 0.0401% |
| Sumitomo Mitsui Banking Corp | Bank | \$37,086,532.52 | 0.16% | 0.74% | 0.0354% |
| Mitsubishi UFJ Morgan Stanley Securities Co., Ltd. | Brokerage Firm | \$35,854,502.06 | 0.47% | 0.72% | 0.0343% |
| Hokuetsu Kishu Paper Company Ltd. Holdings Association | Non-Financial Corporation | \$33,897,003.80 | 100.00% | 0.68% | 0.0324% |
| Citizen Watch Co Ltd | Non-Financial Corporation | \$31,597,716.40 | 13.56% | 0.63% | 0.0302% |
| NORINCHUKIN BANK | Bank | \$28,296,665.82 | 0.31% | 0.57% | 0.0270% |

| | | | | | |
|---|---------------------------|-----------------|---------|-------|---------|
| Okamoto Industries Inc | Non-Financial Corporation | \$27,154,095.20 | 19.50% | 0.54% | 0.0259% |
| Daishi Bank Ltd | Bank | \$26,983,840.20 | 3.26% | 0.54% | 0.0258% |
| Hokuetsu Bank Ltd | Bank | \$26,971,339.00 | 10.10% | 0.54% | 0.0258% |
| Kawasaki Kami Unyu KK | Non-Financial Corporation | \$26,790,071.60 | 100.00% | 0.54% | 0.0256% |
| Nomura Securities Co., Ltd. | Brokerage Firm | \$24,797,652.50 | 0.12% | 0.50% | 0.0237% |
| Mizuho Securities Co., Ltd. | Brokerage Firm | \$22,200,502.26 | 0.58% | 0.44% | 0.0212% |
| Konica Minolta Inc | Non-Financial Corporation | \$21,971,922.00 | 10.17% | 0.44% | 0.0210% |
| Sumitomo Warehouse Co Ltd | Non-Financial Corporation | \$21,910,917.60 | 2.73% | 0.44% | 0.0209% |
| Nissay Asset Management Corp. | Asset Manager | \$21,105,335.08 | 0.26% | 0.42% | 0.0202% |
| INVESCO Asset Management (Japan) Ltd. | Asset Manager | \$20,188,183.47 | 0.53% | 0.40% | 0.0193% |
| Sumitomo Mitsui Trust Asset Management Co., Ltd. | Asset Manager | \$19,517,551.59 | 0.22% | 0.39% | 0.0186% |
| Nisshin Seifun Group Inc | Holding Company | \$19,297,816.00 | 2.47% | 0.39% | 0.0184% |
| Japan Pulp and Paper Co Ltd | Non-Financial Corporation | \$18,603,608.56 | 11.12% | 0.37% | 0.0178% |
| Ebara Corp | Non-Financial Corporation | \$18,002,986.40 | 19.82% | 0.36% | 0.0172% |
| Sumitomo Mitsui Asset Management Company, Limited | Asset Manager | \$17,168,962.74 | 0.11% | 0.34% | 0.0164% |
| Showa Denko KK | Non-Financial Corporation | \$15,942,024.30 | 5.32% | 0.32% | 0.0152% |
| State Street Global Advisors (Japan) Co., Ltd. | Asset Manager | \$15,443,249.10 | 0.37% | 0.31% | 0.0148% |
| Resona Bank, Ltd. | Bank | \$12,680,980.09 | 0.17% | 0.25% | 0.0121% |

Notes:

- (1) Investors with total shareholdings representing less than (0.01%) of total TE19 shares have been excluded.
- (2) Percentage of total shares in the TE19 companies held by Japanese registered investors as of 2017-12-31. Total estimated value of \$4,998,984,443.78 according to Thomson Reuters Eikon database. Calculated estimated value in Japanese Yen (JPY) of ¥563,203,873,721.35 (historic exchange rate of 112.663658 JPY / USD, source: x-rates.com).
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