Thornburg Investment Management
2300 North Ridgetop Road
Santa Fe, New Mexico 87506

**PRODUCT OVERVIEW**
Thornburg International Growth ADR Strategy invests in a selection of quality growth stocks that management believes will have growing revenues and earnings. A flexible mandate allows the Strategy to pursue long-term performance using a broad approach to geography, investing style, and market capitalization. The Strategy can invest in companies of any size, from large, well-established firms to small, emerging growth franchises. Management uses traditional fundamental research to evaluate securities and make buy/sell decisions. The Strategy typically makes equity investments in three types of companies: Growth Industry Leaders, Consistent Growth Companies, and Emerging Growth Companies. Thornburg’s investment thesis is built on a variety of factors including competitive dynamic. Their portfolio is relatively concentrated, typically holding between 50-65 stocks. Thornburg evaluates their performance relative to the MSCI All Country World Ex-US Growth Index. They seek to achieve outperformance relative to the benchmark, while taking on risk that is less than or equal to the benchmark, over a full market cycle.

**TARGET PORTFOLIO CHARACTERISTICS**
- Number of stock holdings: 35 to 55
- Average dividend yield: Below the S&P 500
- Cash level over market cycle: 75 to 150%
- Risk (standard deviation): Above the S&P 500
- Capitalization: —
- Emerging markets exposure: —

**PORTFOLIO’S EQUITY SECTOR WEIGHTINGS**
- **Energy**: Thornburg: 2.28, Index**: 0.00, Thornburg: 2.70
- **Materials**: 0.00
- **Industrials**: 6.05, 0.00, 5.23
- **Consumer Discretionary**: 21.95, 0.00, 26.42
- **Consumer Staples**: 8.67, 0.00, 9.62
- **Health Care**: 13.03, 0.00, 11.82
- **Financials**: 3.93, 0.00, 4.22
- **Information Technology**: 23.44, 0.00, 14.61
- **Communication Services**: 14.62, 0.00, 15.26
- **Utilities**: 0.00
- **Miscellaneous**: 0.00
- **Real Estate/REITs**: 0.00
- **Cash/Cash Equivalents**: 6.03, 0.00, 10.12

**PORTFOLIO STATISTICS**
- Number of stock holdings: 45
- Dividend Yield: 1.0%
- Wtd avg portfolio beta: 1.16
- Mega capitalization ^: 0.0%
- Large capitalization ^: 0.0%
- Medium capitalization ^: 0.0%
- Small capitalization ^: 0.0%
- Micro capitalization ^: 0.0%

**PORTFOLIO’S TOP FIVE EQUITY HOLDINGS**
- **ALIBABA GROUP HOLDING-SP ADR**: 5.6%
- **TENCENT HOLDINGS LTD-UNSP ADR**: 4.0%
- **ASTRAZENECA PLC-SPONS ADR**: 3.8%
- **TAIWAN SEMICONDUCTOR-SP ADR**: 2.7%
- **LONZA GROUP AG-UNSPON ADR**: 2.7%

**% PROCESS BASED ON**
- 0: Country Weightings
- 0: Currency Decision
- 0: Currency Hedge
- 0: Industry/Sector Selection
- 0: Asset Allocation
- 100: Issue Selection

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**If this profile shows related performance, see the section titled “Related Performance” in the disclosures for important information about the performance shown prior to the inception of the Morgan Stanley Select UMA Program. The subsequent pages contain important disclosures and a glossary of terms. Information as of December 31, 2019, unless otherwise noted and is subject to change.**
**MANAGER'S INVESTMENT PROCESS**

- The strategy generally considers the entire non-US equity universe. Regardless of how an idea is generated, it is then subjected to the same research/rejection process before entering the portfolio. Research methods include financial statement analysis, discussions with senior management of the subject companies, and research of the company’s competitors, suppliers and customers. The investment team evaluates many qualitative factors, which are even more critical to the ultimate investment decision.
- Several members of the investment team are involved throughout the investment process but the portfolio managers are responsible for the final investment decision, which is made by evaluating the following criteria: Portfolio Fit, Upside/Downside expectations, Diversification/Portfolio Construction - correlation to other portfolio risks/opportunities, Industry/Sector, Categories, Growth Industry Leaders, Consistent Growth Companies, Emerging Growth Companies, Geographic Region
- Stocks may be sold for the following reasons—all equally important in the execution of their process: 1) target price achieved; 2) change in the business or industry fundamentals, or determination that our investment thesis is no longer valid; and 3) more attractive investment opportunities.

**RISK CONSIDERATIONS**

Equity securities prices may fluctuate in response to specific situations for each company, industry, market conditions and general economic environment. Companies paying dividends can reduce or cut payouts at any time. Strategies that invest a large percentage of assets in only one industry sector (or in only a few sectors) are more vulnerable to price fluctuation than portfolios that diversify among a broad range of sectors. Investing in securities entails risks, including: International investing should be considered one component of a complete and diversified investment program. Investing in foreign markets entails greater risks than those normally associated with domestic markets such as foreign political, currency, economic and market risks. Growth investing does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations. Value investing does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

**PORTFOLIOS COUNTRY WEIGHTINGS %**

<table>
<thead>
<tr>
<th>Country</th>
<th>12/19</th>
<th>06/19</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>15.44</td>
<td>14.82</td>
</tr>
<tr>
<td>United States</td>
<td>14.55</td>
<td>15.00</td>
</tr>
<tr>
<td>Germany</td>
<td>10.01</td>
<td>10.90</td>
</tr>
<tr>
<td>France</td>
<td>9.84</td>
<td>10.28</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>9.00</td>
<td>15.66</td>
</tr>
<tr>
<td>Japan</td>
<td>6.97</td>
<td>7.75</td>
</tr>
<tr>
<td>Netherlands</td>
<td>6.67</td>
<td>3.01</td>
</tr>
<tr>
<td>Macau</td>
<td>4.49</td>
<td>4.57</td>
</tr>
<tr>
<td>Ireland</td>
<td>4.49</td>
<td>4.34</td>
</tr>
<tr>
<td>Australia</td>
<td>4.20</td>
<td>3.33</td>
</tr>
</tbody>
</table>

*As of 09/30/2019. Information as of 12/31/2019 is not yet available.
*Total may not equal 100% due to rounding.
**Index : MSCI AC Wld xUS Nt

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### RISK/RETURN ANALYSIS - 5 YEARS ENDING 12/31/19

<table>
<thead>
<tr>
<th>Return Rate (%)</th>
<th>STD</th>
<th>ROR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thornburg (Gross)</td>
<td>16.24</td>
<td>7.32</td>
</tr>
<tr>
<td>Thornburg (Net)</td>
<td>16.19</td>
<td>4.80</td>
</tr>
<tr>
<td>MSCI AC Wld xUS Nt</td>
<td>11.89</td>
<td>5.51</td>
</tr>
<tr>
<td>90-Day T-Bills</td>
<td>0.46</td>
<td>1.05</td>
</tr>
</tbody>
</table>

### PORTFOLIO'S QUARTERLY RETURNS (%)

<table>
<thead>
<tr>
<th>Quarter 1</th>
<th>Quarter 2</th>
<th>Quarter 3</th>
<th>Quarter 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Net</td>
<td>Gross Net</td>
<td>Gross Net</td>
<td>Gross Net</td>
</tr>
<tr>
<td>2010</td>
<td>6.31</td>
<td>7.69</td>
<td>15.95</td>
</tr>
<tr>
<td>2011</td>
<td>4.79</td>
<td>8.15</td>
<td>7.81</td>
</tr>
<tr>
<td>2012</td>
<td>9.32</td>
<td>8.54</td>
<td>4.10</td>
</tr>
<tr>
<td>2013</td>
<td>12.43</td>
<td>13.57</td>
<td>11.64</td>
</tr>
<tr>
<td>2014</td>
<td>14.22</td>
<td>13.57</td>
<td>11.64</td>
</tr>
<tr>
<td>2015</td>
<td>-14.59</td>
<td>-15.10</td>
<td>-0.35</td>
</tr>
<tr>
<td>2016</td>
<td>-10.60</td>
<td>-9.33</td>
<td>-4.10</td>
</tr>
<tr>
<td>2017</td>
<td>-9.04</td>
<td>-9.61</td>
<td>-1.33</td>
</tr>
<tr>
<td>2018</td>
<td>-3.91</td>
<td>-7.91</td>
<td>8.75</td>
</tr>
<tr>
<td>2019</td>
<td>-2.69</td>
<td>-3.28</td>
<td>10.37</td>
</tr>
</tbody>
</table>

### INVESTMENT RESULTS

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Rates of Return (%)</th>
<th>9 Year - Ending 12/31/19</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thornburg (Gross)</td>
<td>25.00</td>
</tr>
<tr>
<td></td>
<td>Thornburg (Net)</td>
<td>23.58</td>
</tr>
</tbody>
</table>

### RISK VOLATILITY (%)

<table>
<thead>
<tr>
<th>Return Rate (%)</th>
<th>STD</th>
<th>ROR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thornburg (Gross)</td>
<td>16.71</td>
<td>7.32</td>
</tr>
<tr>
<td>Thornburg (Net)</td>
<td>16.65</td>
<td>4.80</td>
</tr>
<tr>
<td>MSCI AC Wld xUS Nt</td>
<td>12.13</td>
<td>5.51</td>
</tr>
<tr>
<td>90-Day T-Bills</td>
<td>0.53</td>
<td>1.05</td>
</tr>
</tbody>
</table>

### PORTFOLIO DIVERSIFICATION - R²(INCEPTION THROUGH 12/14+)

<table>
<thead>
<tr>
<th>Thornburg vs. MSCI AC Wld xUS Nt</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.79</td>
</tr>
</tbody>
</table>

1. Statistics are calculated using gross of fee performance only.
2. MSCI AC Wld xUS Nt was used as the primary benchmark and the 90-Day T-Bills Index as the risk-free benchmark.

See important notes and disclosures pages for a discussion of the sources of the performance data used to calculate the performance results and related analyses shown above.
IMPORTANT NOTES AND DISCLOSURES

COMPOSITE DISCLOSURES

The disclosures provided below apply to performance information in this profile, if any. Past performance is not a guarantee of future results. Actual individual account results may differ from the performance shown in this profile. There is no guarantee that this investment strategy will achieve its intended results under all market conditions. Do not rely upon this profile as the sole basis for your investment decisions.

Performance results in this profile are calculated assuming reinvestment of dividends and income. Returns for more than one calendar year are annualized and based on quarterly data. Returns for periods of less than a calendar year show the total return for the period and are not annualized. No representation is being made that any portfolio will or is likely to achieve profits or losses similar to those shown. Returns will fluctuate and an investment upon redemption may be worth more or less than its original value. Performance shown does not reflect the impact of fees and expenses of the underlying mutual fund and ETFs, as applicable.

Sources of Performance Results and Other Data: The performance data and certain other information for this strategy (including the data on page 1 of this profile) may include one or more of the following: (i) the performance results of a composite of Morgan Stanley accounts managed by the third party investment manager, (ii) the performance results for accounts and investment products managed by the third party investment manager, in the same or a substantially similar investment strategy of the applicable Morgan Stanley program, and/or (iii) in the case of Model Portfolio Strategies, the Model Portfolio Provider’s results in managing accounts outside of the Morgan Stanley Select UMA program, prior to Model Portfolio Strategy’s inception in the Morgan Stanley Select UMA program. For periods through June 2012, the Fiduciary Services program operated through two channels – the Morgan Stanley channel and the Smith Barney channel and any performance and other data relating to Fiduciary Services accounts shown here for these periods is calculated using accounts in only one of these channels. Please note that the Fiduciary Services program was closed on January 2, 2018. Although the Fiduciary Services and Select UMA programs are both Morgan Stanley managed account programs, the performance results and other features of similar investment strategies in the two programs may differ due to investment and operational differences. Performance in one program is not indicative of potential performance in the other. For example, the individual investment strategies in Select UMA program accounts may contain fewer securities, which would lead to a more concentrated portfolio. The automatic rebalancing, wash sale loss and tax harvesting features of the Select UMA program, which are not available in Fiduciary Services, also could cause differences in performance. In addition, any performance results included in this profile that are based on a third party investment manager’s accounts that are not part of the Morgan Stanley program accounts or institutional accounts that are part of the Model Portfolio strategy may differ due to investment and operational differences as well. As such, performance results of the third party investment manager's composites and the third party Model Portfolio Strategies may deviate from those of Select UMA accounts managed in the same or a substantially similar investment strategy. For example, in the case of Model Portfolio Strategies, Morgan Stanley, as the investment manager, may deviate from the Third Party Model Portfolios.

Focus List, Approved List, and Watch Status:

Global Investment Manager Analysis (“GIMA”) uses two methods to evaluate investment products in applicable advisory programs. In general, strategies that have passed through a less comprehensive evaluation process may be placed on the “Not Approved” status. Sometimes an investment product may be evaluated using the Focus List process and then placed on the Approved List instead of the Focus List.

Overlay Managers or Executing Sub-Managers (“managers”) in some of Morgan Stanley’s Separately Managed Account (“SMA”) programs may affect transactions through broker-dealers other than Morgan Stanley or our affiliates. If your manager trades with another firm, you may be assessed costs by the other firm in addition to Morgan Stanley’s fees. Those costs will be included in the net price of the security, not separately reported on trade confirmations or account statements. Certain managers have historically directed most, if not all, of their trades to outside firms. Information provided by managers concerning trade execution away from Morgan Stanley is summarized at: www.morganstanley.com/wealth/investmentsolutions/pdfs/adv/sotresponse.pdf. For more information on trading and costs, please refer to the ADV Brochure for your program(s), available at www.morganstanley.com/ADV, or contact your Financial Advisor/Private Wealth Advisor.

The portfolio may, at times, invest in exchange-traded funds (ETFs), which are a form of equity security in seeking to maintain continued full exposure to the broad equity market.

ADDITIONAL DISCLOSURES

The information about a representative account is for illustrative purposes only. Actual account holdings, performance and other data will vary depending on the size of an account, cash flows within an account, and restrictions on an account. Holdings are subject to change daily. The information in this profile is not a recommendation to buy, hold or sell securities.

Actual portfolio statistics may vary from target portfolio characteristics.

The Model Portfolio Provider or Investment Manager may use the same or substantially similar investment strategies, and may hold similar portfolios of investments, in other portfolios or products it manages (including mutual funds). These may be available at Morgan Stanley or elsewhere, and may cost an investor more or less than this strategy in Morgan Stanley’s Select UMA program.

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Morgan Stanley investment advisory programs may require a minimum asset level and, depending on your specific investment objectives and financial position, may not be suitable for you. Investment advisory program accounts are opened pursuant to a written client agreement.

The investment manager acts independently of, and is not an affiliate of, Morgan Stanley Smith Barney LLC.

Diversification does not guarantee a profit or protect against a loss.

No obligation to notify
Morgan Stanley has no obligation to notify you when information in this profile changes.

Sources of information
Material in this profile has been obtained from sources that we believe to be reliable, but we do not guarantee its accuracy, completeness or timeliness. Third party data providers make no warranties or representations relating to the accuracy, completeness or timeliness of the data they provide and are not liable for any damages relating to this data.

No tax advice
Morgan Stanley and its affiliates do not render advice on legal, tax and/or tax accounting matters to clients. Each client should consult his/her personal tax and/or legal advisor to learn about any potential tax or other implications that may result from acting on a particular recommendation.

Not an ERISA fiduciary
Morgan Stanley is not acting as a fiduciary under either the Employee Retirement Income Security Act of 1974, as amended, or under section 4975 of the Internal Revenue Code of 1986, as amended, in providing the information in this profile.

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INDEX DESCRIPTIONS

90-Day T-Bills
The 90-Day Treasury Bill is a short-term obligation issued by the United States government. T-bills are purchased at a discount to the full face value, and the investor receives the full value when they mature. The difference of discount is the interest earned. T-bills are issued in denominations of $10,000 auction and $1,000 increments thereafter.

MSCI AC Wld xUS Nt
The MSCI ACWI Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets. The MSCI ACWI consists of 46 country indexes comprising 23 developed and 23 emerging market country indexes. The developed market country indexes included are: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong Kong, Ireland, Israel, Italy, Japan, Netherland, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States. The emerging market country indexes included are: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates (as of June 2014). This index is excluding the United States. Performance is showing net withholding tax. Net total return indices reinvest dividends after the deduction of withholding taxes, using (for international indices) a tax rate applicable to nonresident institutional investors who do not benefit from double taxation treaties.

S&P 500
The S&P 500 Total Return has been widely regarded as the best single gauge of the large cap U.S. equities market since the index was first published in 1957. The index has over $5.58 trillion benchmarked, with index assets comprising approximately $1.31 trillion of this total. The index includes 500 leading companies in leading industries of the U.S. economy, capturing 75% coverage of U.S. equities. This index includes dividend reinvestment.

Indices are unmanaged and have no expenses. You cannot invest directly in an index.

GLOSSARY OF TERMS

Alpha is a mathematical estimate of risk-adjusted return expected from a portfolio above and beyond the benchmark return at any point in time.

American Depositary Receipts (ADRs) are receipts for shares of a foreign-based corporation held in the vault of a U.S. bank.

Average Portfolio Beta is a measure of the sensitivity of a benchmark or portfolio's rates of return to changes against a market return. The market return is the S&P 500 Index. It is the coefficient measuring a stock or a portfolio's relative volatility.

Beta is a measure of the sensitivity of a portfolio's rates of return to changes in the market return. It is the coefficient measuring a stock or a portfolio's relative volatility.

Bottom-Up Stock Selection Emphasis primarily on individual stock selection. Considerations of economic and industry factors are of secondary importance in the investment decision-making process.

Capitalization is defined as the following: Mega (Above $100 billion), Large ($12 to $100 billion), Medium ($2.5 - $12 billion), Small ($0.5 - $2.5 billion) and Micro (below $0.5 billion).
Distribution Rate is defined as the most recent distribution paid, annualized, and then divided by the current market price. Distribution rate may consist of investment income, short-term capital gains, long-term capital gains, and/or returns of capital.

Dividend Yield is defined as the most recent distribution paid, annualized, and then divided by the current market price. Distribution rate may consist of investment income, short-term capital gains, long-term capital gains, and/or returns of capital.

Downside Risk is a measure of the risk associated with achieving a specific target return. This statistic separates portfolio volatility into downside risk and upside uncertainty. The downside considers all returns below the target return, while the upside considers all returns equal to or above the target return.

Duration is a measure of price sensitivity expressed in years.

High Grade Corporate Bonds are corporate bonds from issuers with credit ratings of AA or AAA.

Information Ratio is a measure of the investment manager's skill to add active value against a given benchmark relative to how stable that active return has been. Essentially, the information ratio explains how significant a manager's alpha is. Therefore, the higher the information ratio, the more significant the alpha.

Investment Grade Bonds are those rated by Standard & Poor's AAA (highest rated), AA, A or BBB (or equivalent rating by other rating agencies or, in the case of securities not rated, by the investment manager).

Price/Book Ratio (P/B) weighted average of the stocks' price divided by book value per share. Book value per share is defined as common equity, including intangibles, divided by shares outstanding times the adjustment factor.

Price/Cash Flow Ratio a ratio used to compare a company's market value to its cash flow. It is calculated by dividing the company's market cap by the company's operating cash flow in the most recent fiscal year (or the most recent four fiscal quarters); or, equivalently, divide the per-share stock price by the per-share operating cash flow.

Price/Earnings Ratio (P/E Ratio) shows the multiple of earnings at which a stock sells. Determined by dividing current stock price by current earnings per share (adjusted for stock splits). Earnings per share for the P/E ratio are determined by dividing earnings for past 12 months by the number of common shares outstanding. The P/E ratio shown here is calculated by the harmonic mean.

Price/Sales Ratio determined by dividing current stock price by revenue per share (adjusted for stock splits). Revenue per share for the P/S ratio is determined by dividing revenue for past 12 months by number of shares outstanding.

R2 (R-Squared)/Portfolio Diversification indicates the proportion of a security's total variance that is benchmark-related or is explained by variations in the benchmark.

Sharpe Ratio measures the efficiency, or excess return per unit of volatility, of a manager's returns. It evaluates managers' performance on a volatility-adjusted basis.

Standard Deviation is a statistical measure of historical variability or spread of returns around a mathematical average return that was produced by the investment manager over a given measurement period. The higher the standard deviation, the greater the variability in the investment manager's returns relative to its average return.

Top-Down/Economic Analysis Emphasis primarily on macroeconomic trends as opposed to bottom-up stock selection.

Tracking Error represents the standard deviation of the difference between the performance of the investment strategy and the benchmark. This provides a historical measure of the variability of the investment strategy's returns relative to its benchmark.

U.S. Treasury Bonds are marketable, fixed interest U.S. government debt security with a maturity of more than 10 years. Treasury bonds make interest payments semi-annually and the income that holders receive is only taxed at the federal level.

Volatility is a measure of risk based on the standard deviation of the asset return. Volatility is a variable that appears in option pricing formulas, where it denotes the volatility of the underlying asset return from now to the expiration of the option. There are volatility indexes. Such as a scale of 1-9; a higher rating means higher risk.