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Alpha Performance Verification Services

Independent Verifier’s Report on GIPS® Compliance

TWIN Capital Management, Inc.
McMurray, Pennsylvania

We have examined whether TWIN Capital Management, Inc. (the “Company”) (1) complied with all the composite construction requirements of the Global Investment Performance Standards (GIPS®) on a firm-wide basis for the periods January 1, 2018 through December 31, 2018, and (2) designed its policies and procedures to calculate and present performance results in compliance with the GIPS standards as of December 31, 2018. We have also conducted a performance examination of the Company’s *TWIN Prime Composite* for the periods January 1, 2004 through December 31, 2018.

Management’s Responsibility

The Company’s management is responsible for compliance with the GIPS standards and the design of its policies and procedures and for the compliant presentations.

Verifier’s Responsibility

Our responsibility is to express an opinion based on our examination. We conducted our examination in accordance with the verification procedures set forth in the GIPS standards, including the *Guidance Statement for Verification* and, accordingly, included examining, on a test basis, evidence about the Company’s compliance with the above-mentioned requirements, evaluating the design of the Company’s policies and procedures referred to above, and performing the procedures for a verification set forth by the GIPS standards and such other procedures as we considered necessary in the circumstances. We believe that our examination provides a reasonable basis for our opinion.

Opinion

In our opinion, TWIN Capital Management, Inc. has, in all material respects:

- Complied with all the composite construction requirements of the GIPS standards on a firm-wide basis for the periods January 1, 2018 through December 31, 2018, and
- Designed its policies and procedures to calculate and present performance results in compliance with the GIPS standards as of December 31, 2018.

Also, in our opinion, the compliant presentation of the Company’s *TWIN Prime Composite* for the periods January 1, 2004 through December 31, 2018, has been prepared and presented, in all material respects, in compliance with the GIPS standards.

A verification covering the periods from April 1, 1990 to December 31, 2017 was performed by another verification firm, whose report expressed an unqualified opinion.

This report does not relate to or provide assurance on any specific composite presentation other than the Company’s *TWIN Prime Composite*.

Alpha Performance Verification Services
Michael W. Hultzapfle, CPA, CFA, CIPM
August 1, 2019

TWIN Capital Management Inc.
TWIN PRIME Composite (Wrap Fee Prospective Accounts)
1 January 2004 through 30 September 2019

Year End /Period End	Total Firm AUM (USD millions)	Composite Assets		Performance Results (Percentages)				Wrap Accounts as a % of Composite Accounts
		(USD millions)	Number of Accounts	Composite Gross	Composite Net	Benchmark Return	Composite Dispersion	
1/1/19-9/30/19	1,402.4	939.1	18	18.54	15.95	20.53	N/A	0.3
2018	1,806.7	942.9	21	-5.68	-8.49	-4.78	0.29	0.1
2017	2,059.9	986.4	17	21.24	17.71	21.69	0.30	N/A
2016	1,568.9	585.1	10	13.36	10.03	12.05	0.30	N/A
2015	1,233.0	373.2	8	3.12	0.08	0.92	0.13	N/A
2014	1,061.1	239.5	8	14.84	11.48	13.24	0.67	N/A
2013	948.0	225.7	7	32.05	28.23	33.11	N/A	N/A
2012	1,063.4	66.5	≤5	16.07	12.68	16.42	N/A	N/A
2011	998.8	50.9	≤5	4.29	1.21	1.50	N/A	N/A
2010	947.6	31.2	≤5	14.81	11.45	16.10	N/A	N/A
2009	706.5	0.5	≤5	28.74	25.00	28.43	N/A	N/A
2008	563.3	6.8	≤5	-34.31	-36.32	-37.60	N/A	N/A
2007	832.3	10.6	≤5	8.69	5.49	5.77	N/A	N/A
2006	641.2	11.7	≤5	21.39	17.86	15.46	N/A	N/A
2005	483.0	24.7	≤5	7.35	4.19	6.27	N/A	N/A
2004	319.0	22.3	≤5	16.60	13.19	11.41	N/A	N/A

Past performance is not indicative of future results. Investments are not guaranteed and may decline in value.

N/A.: Information is not statistically meaningful due to an insufficient number of portfolios in the composite for the entire year.

Compliance Statement

TWIN Capital Management Inc. (“TWIN”) claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. TWIN has been independently verified for the periods April 1, 1990 through December 31, 2018.

Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm’s policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. The TWIN Prime Composite has been examined for the periods January 1, 2004 through December 31, 2018. The verification and performance examination reports are available upon request.

TWIN CAPITAL MANAGEMENT INC.
TWIN PRIME COMPOSITE (WRAP FEE PROSPECTIVE ACCOUNTS)
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Definition of the Firm

TWIN is a registered investment adviser, which started business in April 1990. TWIN provides investment management services to institutional and individual investors, offering a variety of growth-oriented investment services by investing primarily in domestic equity securities that it believes will provide attractive returns over the long term. TWIN's start of business, April 1990, coincides with the effective date of firm compliance with the GIPS® standards.

Investment Strategy

TWIN manages the TWIN Prime Portfolio using the TWIN EQUITY Model ("the Equity Model"), a multi-factor valuation model that combines elements of relative value, expected growth, and earnings quality. The output of the Equity Model is an expected residual return, or alpha, for each stock. The Prime Portfolio focuses on the highest alpha candidates from among the large-cap and mid-cap US equity segments, while relaxing the sector and individual stock constraints present in TWIN's enhanced index strategies. Although alpha is the primary driver of the selection process, dynamic size allocation also plays a part. The primary objective is to outperform, on a total return basis net of fees, the Russell 1000 Index. The Composite's creation date was January 1, 2004.

Benchmark

The benchmark for TWIN Prime is the Russell 1000. In August 2019, the benchmark was changed retroactively from a spliced benchmark (using the S&P 500 to the end of June 2006 and the Russell 1000 thereafter). The change reflected refinements to the investment process developed to address changing needs of the primary client. TWIN believes that the Russell 1000 benchmark better captures the reduced emphasis on the largest 50 S&P 500 stocks and the increased role of mid-cap stocks not in the S&P index associated with the refinements.

Benchmarks should be used for purposes of comparison only, and the comparison should not be understood to mean that there will necessarily be a correlation between TWIN's returns and the benchmark's returns. Furthermore, the volatility of the benchmark may be materially different from TWIN's actual portfolio.

Fees

Gross performance figures are presented gross of management fees, custodial fees, and withholding taxes (if applicable), but net of all direct trading expenses. Net of fee performance returns are calculated by deducting a model fee of 3.0%, which represents the highest applicable annual wrap fee in effect for the respective time period, applied monthly. The wrap fee is an all-inclusive or bundled fee based on a percentage of assets under management and may include investment management services, brokerage commissions, portfolio monitoring, consulting services, and custodial services. Wrap fee schedules are provided by independent wrap sponsors and are available upon request from the respective wrap sponsor.

The current separate account fee schedule is: 0.50% on the first \$25 million; 0.35% on the next \$25 million, and negotiable thereafter. Management fees are negotiable, and actual fees incurred by clients may vary.

Calculation Information

Composite performance figures include all discretionary accounts managed within the defined investment style during the periods presented. All performance figures have been computed on a total return basis and reflect the reinvestment of all income. Valuations and returns are

TWIN CAPITAL MANAGEMENT INC.
TWIN PRIME COMPOSITE (WRAP FEE PROSPECTIVE ACCOUNTS)
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Calculation Information, continued

computed and stated in U.S. dollars. Composite dispersion represents the standard deviation (with equal weighting of portfolios) of accounts that have been managed within the investment strategy for the entire year. Policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request.

Minimum Account Size

The current separate account minimum is \$2 million. The current wrap fee account minimum is \$250,000.

Ex-Post Standard Deviation

<u>Year</u>	<u>Composite 3-Yr St Dev (%)</u>	<u>Benchmark 3-Yr St Dev (%)</u>
2011	18.17	19.22
2012	15.06	15.62
2013	12.08	12.43
2014	9.13	9.25
2015	10.35	10.63
2016	10.75	10.84
2017	10.13	10.11
2018	11.21	11.11

Ex-post standard deviation for prior periods is not presented because it is not required by the GIPS standards.

Complete List of Composites Available

A complete listing and description of all composites is available upon request to TWIN. Please contact Sam Gerber (Phone: (724) 942-2000 / E-mail: SamG@twincapital.com / Address: 3244 Washington Rd. Ste. 202, McMurray, PA 15317)

PAST PERFORMANCE IS NOT NECESSARILY INDICATIVE OF FUTURE RESULTS; INVESTMENTS ARE NOT GUARANTEED AND MAY DECLINE IN VALUE.

TWIN Capital Management Inc.
TWIN PRIME Composite
1 January 2004 through 30 September 2019

Year End /Period End	Total Firm Assets (USD millions)	Composite Assets		Performance Results (Percentages)				Non-Fee Paying Portfolios
		(USD millions)	Number of Accounts	Composite Gross	Composite Net	Benchmark Return	Composite Dispersion	
1/1/19-9/30/19	1,402.4	939.1	18	18.54	18.33	20.53	N/A	N/A
2018	1,806.7	942.9	21	-5.68	-5.90	-4.78	0.29	N/A
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2010	947.6	31.2	≤5	14.81	14.46	16.10	N/A	N/A
2009	706.5	0.5	≤5	28.74	28.40	28.43	N/A	100
2008	563.3	6.8	≤5	-34.31	-34.40	-37.60	N/A	N/A
2007	832.3	10.6	≤5	8.69	8.54	5.77	N/A	N/A
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Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm’s policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. The TWIN Prime Composite has been examined for the periods January 1, 2004 through December 31, 2018. The verification and performance examination reports are available upon request.

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TWIN PRIME COMPOSITE
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Investment Strategy

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Benchmark

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Benchmarks should be used for purposes of comparison only, and the comparison should not be understood to mean that there will necessarily be a correlation between TWIN’s returns and the benchmark’s returns. Furthermore, the volatility of the benchmark may be materially different from TWIN’s actual portfolio.

Fees

Gross performance figures are presented gross of management fees, custodial fees, and withholding taxes (if applicable), but net of all direct trading expenses. Net performance figures are calculated by deducting the management fee paid by each account as specified by the applicable investment management agreement. The current separate account fee schedule is: 0.50% on the first \$25 million; 0.35% on the next \$25 million, and negotiable thereafter. Management fees are negotiable, and actual fees incurred by clients may vary.

Calculation Information

Composite performance figures include all discretionary accounts managed within the defined investment style during the periods presented. All performance figures have been computed on a total return basis and reflect the reinvestment of all income. Valuations and returns are computed and stated in U.S. dollars. Composite dispersion represents the standard deviation (with equal weighting of portfolios) of accounts that have been managed within the investment strategy for the entire year. Policies for valuing portfolios, calculating performance, and preparing compliant presentations are available upon request.

Minimum Account Size

The current separate account minimum is \$2 million. For purposes of composite creation, TWIN has excluded all portfolios with less than \$250,000 from the composite calculation.

Non-Fee Paying Portfolios

Some portfolios included in the Prime Composite were not charged a management fee. This has the effect of improving net-of-fees returns for certain periods. At the end of each annual period, the percentage of the Composite represented by non-fee paying portfolios is disclosed

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TWIN PRIME COMPOSITE
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Non-Fee Paying Portfolios, continued

in the table above. Figures are shown only if a composite contains non-fee paying portfolio(s) at the end of an annual period.

Ex-Post Standard Deviation

<u>Year</u>	<u>Composite 3-Yr St Dev (%)</u>	<u>Benchmark 3-Yr St Dev (%)</u>
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