
Mairs and Power Growth Fund, Inc.

Semi-Annual Report June 30, 2010

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St. Paul, Minnesota 55101

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TO OUR SHAREHOLDERS

August 19, 2010

Second Quarter Results

After starting out relatively strong, early second quarter stock market gains quickly became losses as investors became increasingly concerned about the durability of the economic recovery. The Fund experienced a disappointing negative return of -9.0% for the second quarter, only slightly better than comparable negative returns of -9.4% for the Dow Jones Industrial Average and -11.4% for the Standard & Poor's 500 Stock Index. The Fund also did modestly better than a peer group Lipper Multi-Cap Core Fund Index, which produced an average negative return of -10.8%.

Second quarter weakness more than offset first quarter gains resulting in a first half negative return of -1.8% for the Fund. Comparable returns for the DJIA and S&P 500 were less favorable at -5.0% and -6.7%, respectively. The peer group Lipper Multi-Cap Core Fund Index turned in a negative return of -5.7% for the period.

Recently reported second quarter economic growth, as measured by Gross Domestic Product, came in at 2.4% (preliminary basis) compared to a first quarter gain of 3.7% (revised). Consumer spending continued to be the major area of disappointment showing modest growth of only 1.6%. Business spending remained strong, showing a surprising 17.0% rate of growth. Government spending was also a positive contributor during the period. Corporate earnings continued to be a bright spot, increasing an estimated rate of 25% or more, a result of productivity gains and a growing contribution from foreign sources.

Interest rates continued to trend lower in response to expansionary Fed policy and a deteriorating level of confidence in the direction of the domestic economy. Because short-term interest rates have been at historically low levels for some time, most of the recent decline has occurred at the longer end, resulting in a general flattening over the entire length of the interest rate curve.

As one might expect, the recent weakness in the stock market due to economic concerns has been most pronounced in the more cyclically sensitive industry groups, while less sensitive groups have held up much better. In this regard, such sectors as basic industries (building products, chemicals, metals & mining and paper & forest products), consumer cyclicals (automotive, household durables and retail) and technology (communications equipment,

TO OUR SHAREHOLDERS (continued)

electronic equipment & instruments and internet software & services) performed the worst, while consumer staples (food, beverage and household products), certain areas of health care (life sciences and technology) and utilities did the best. Among holdings in the Fund, MEDTOX Scientific (+20.0%), Fastenal (+4.6%), TCF Financial (+4.2%), Ecolab (+2.2%) and Valspar (+2.2%) performed best, while SUPERVALU (-35.0%), Baxter Int'l (-30.2%), SurModics (-21.6%), General Electric (-20.8%) and G & K Services (-20.2%) fared the worst.

Future Outlook

While many economic indicators have shown recent weakness, we remain confident that the overall U. S. economy will continue to grow, albeit at a reduced rate in the second half, and on into 2011, thus avoiding a “double dip” recession. This assumes, however, that major less developed foreign economies (Brazil, China, India, Indonesia and Mexico) continue to show above average rates of growth in the 5-10% range, because export demand will become a more important factor in helping the U. S. economy continue on a slow growth path. Growth in some of the more important developed economies, mainly in Europe, could also surprise on the upside similar to the second quarter when results exceeded overly pessimistic forecasts.

Important indicators suggesting that the domestic economy may not be as bad as some economists make it out to be include automobile sales, private sector job growth and various manufacturing and services indexes. Business spending also seems likely to continue outpacing consumer spending in light of competitive pressures both here and abroad, the need to replenish inventories and the fact that corporations have plenty of cash to spend. While consumer spending may remain subdued until the overall employment picture improves, some modest growth seems likely in response to government support programs and wage and benefit increases.

Although corporate earnings growth will likely slow from the torrid rate in recent periods (25%+ estimated for the second quarter), growth could remain above average for a number of quarters to come. Such factors as continuing productivity improvement, faster foreign growth, and favorable currency exchange rates should all benefit reported corporate earnings.

Prospects for the stock market seem quite promising, considering the outlook for corporate earnings together with the historically low level of interest rates. Valuation levels also appear quite reasonable (14 x estimated 2010 S&P 500 earnings), especially when compared with other similar past periods. Finally, volatility seems likely to remain relatively high given the

TO OUR SHAREHOLDERS (continued)

increasing presence of computerized trading programs and shorter time horizons for many investors.

William B. Frels
President and Lead Manager

Mark L. Henneman
Vice President and
Co-Manager

Past performance is no guarantee of future results.

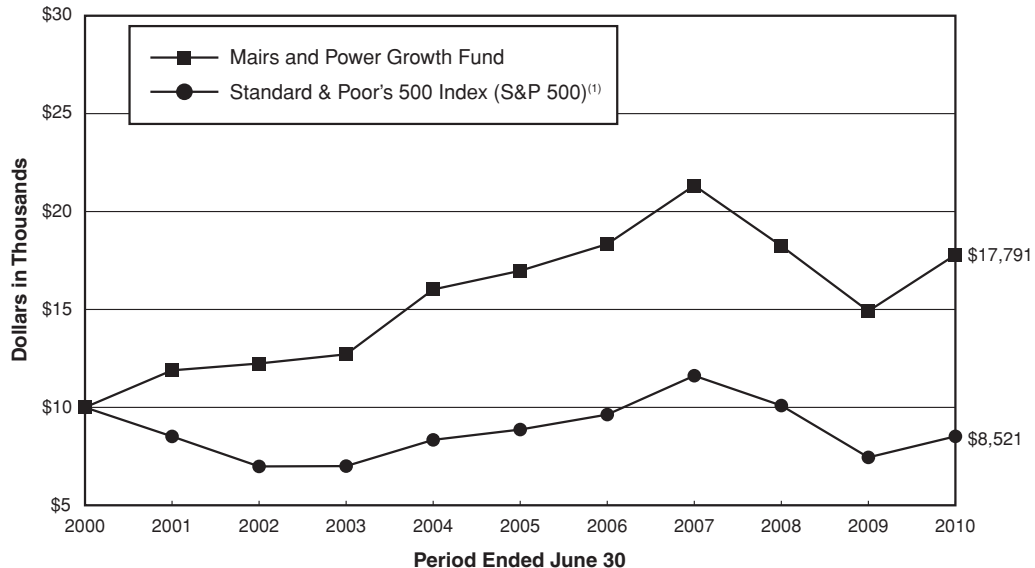
The Fund's investment objective, risks and expenses must be considered carefully before investing. The prospectus contains this and other important information about the Fund, and it may be obtained by calling Shareholder Services at (800) 304-7404, or visiting www.mairsandpower.com. Read it carefully before investing.

PERFORMANCE INFORMATION (unaudited)

June 30, 2010

Ten years of investment performance (through June 30, 2010)

This chart illustrates the performance of a hypothetical \$10,000 investment made in the Fund 10 years ago.



Average annual total returns for periods ended June 30, 2010

	1 year	5 years	10 years	20 years
Mairs and Power Growth Fund	19.27%	0.94%	5.93%	11.94%
S&P 500 ⁽¹⁾	14.43%	-0.79%	-1.59%	7.67%

Performance data quoted represents past performance and does not guarantee future results. All performance information shown includes the reinvestment of dividend and capital gain distributions, but does not reflect the deduction of taxes that a shareholder would pay on Fund distributions or the redemption of Fund shares. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance of the Fund may be lower or higher than the performance quoted. For the most recent month-end performance figures, visit the Fund's website at www.mairsandpower.com or call Shareholder Services at (800) 304-7404.

⁽¹⁾ The S&P 500 is an unmanaged index of 500 common stocks that is generally considered representative of the U.S. stock market.

FUND INFORMATION (unaudited)

June 30, 2010

Portfolio Managers

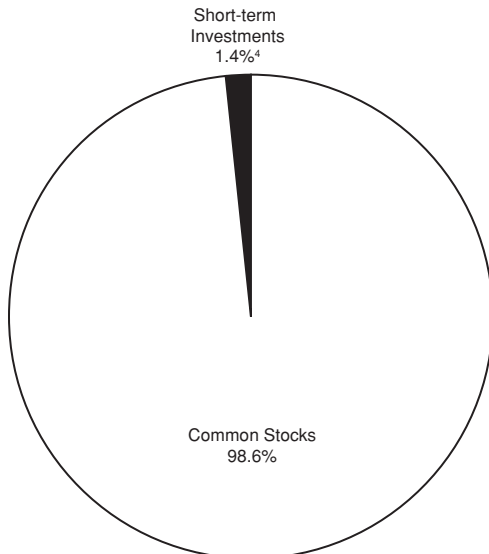
William B. Frels, lead manager since 2004
Co-manager since 1999
University of Wisconsin, BBA Finance 1962

Mark L. Henneman, co-manager since 2006
University of Minnesota, MBA Finance 1990

General Information

Fund Symbol	MPGFX
Net Asset Value (NAV) Per Share	\$61.57
Expense Ratio	0.71% ¹
Portfolio Turnover Rate	0.98%
Sales Charge	None ²
Fund Inception Year	1958

Portfolio Composition



Top Ten Portfolio Holdings

(Percent of Total Net Assets)³

3M Co.	5.1%
Ecolab Inc.	5.0
Medtronic, Inc.	4.5
Valspar Corp.	4.5
Target Corp.	4.4
Toro Co.	4.2
Emerson Electric Co.	4.2
Pentair, Inc.	4.0
Johnson & Johnson	3.8
U.S. Bancorp	3.6

Portfolio Diversification

(Percent of Total Net Assets)

Common Stocks 98.6%

Health Care	19.0%
Basic Industries	16.1
Capital Goods	14.3
Financial	13.0
Technology	12.2
Consumer Cyclical	9.2
Diversified	7.2
Consumer Staple	6.2
Transportation	1.4

Short-term Investments 1.4%⁴

1.4
100.0%

¹ Ratio has been annualized for the six month period ended June 30, 2010.

² Although the Fund is no-load, investment management fees and other expenses still apply.

³ All holdings in the portfolio are subject to change without notice and may or may not represent current or future portfolio composition. The mention of specific securities is not intended as a recommendation or offer for a particular security, nor is it intended to be a solicitation for the purchase or sale of any security.

⁴ Represents short-term investments and other assets and liabilities (net).

SCHEDULE OF INVESTMENTS (unaudited)**June 30, 2010**

<u>Shares</u>	<u>Security Description</u>	<u>Fair Value</u>
	COMMON STOCKS 98.6%	
	BASIC INDUSTRIES 16.1%	
2,185,000	Bemis Co., Inc.	\$ 58,995,000
1,940,000	Ecolab, Inc.	87,125,400
2,950,000	H.B. Fuller Co. ^(a)	56,020,500
2,620,000	Valspar Corp.	78,914,400
		<hr/>
		281,055,300
	CAPITAL GOODS 14.3%	
140,000	Badger Meter, Inc.	5,416,600
1,440,000	Donaldson Co., Inc.	61,416,000
370,000	Fastenal Co.	18,570,300
2,095,000	Graco, Inc.	59,058,050
1,180,000	MTS Systems Corp. ^(a)	34,220,000
2,170,000	Pentair, Inc.	69,874,000
		<hr/>
		248,554,950
	CONSUMER CYCLICAL 9.2%	
500,000	G&K Services, Inc., Class A	10,325,000
1,570,000	Target Corp.	77,196,900
1,490,000	Toro Co.	73,188,800
		<hr/>
		160,710,700
	CONSUMER STAPLE 6.2%	
1,560,000	General Mills, Inc.	55,411,200
1,200,000	Hormel Foods Corp.	48,576,000
350,000	SUPERVALU Inc.	3,794,000
		<hr/>
		107,781,200
	DIVERSIFIED 7.2%	
1,130,000	3M Co.	89,258,700
2,570,000	General Electric Co.	37,059,400
		<hr/>
		126,318,100

SCHEDULE OF INVESTMENTS (unaudited) (continued)**June 30, 2010**

<u>Shares</u>	<u>Security Description</u>	<u>Fair Value</u>
	COMMON STOCKS (continued)	
	FINANCIAL 13.0%	
1,260,000	Associated Banc-Corp.	\$ 15,447,600
1,060,000	Principal Financial Group	24,846,400
3,040,000	TCF Financial Corp.	50,494,400
320,000	The Travelers Cos., Inc.	15,760,000
2,850,000	U.S. Bancorp	63,697,500
1,930,000	Wells Fargo & Co.	49,408,000
460,000	Western Union Co.	6,858,600
		<hr/>
		226,512,500
	HEALTH CARE 19.0%	
1,000,000	Baxter International Inc.	40,640,000
1,130,000	Johnson & Johnson	66,737,800
522,500	MEDTOX Scientific, Inc. ^{(a) (b)}	6,426,750
2,180,000	Medtronic, Inc.	79,068,600
900,000	Patterson Cos., Inc.	25,677,000
1,810,000	Pfizer Inc.	25,810,600
1,200,000	St. Jude Medical, Inc. ^(b)	43,308,000
800,000	SurModics, Inc. ^(b)	13,128,000
160,000	Techne Corp.	9,192,000
400,000	Zimmer Holdings, Inc. ^(b)	21,620,000
		<hr/>
		331,608,750
	TECHNOLOGY 12.2%	
1,030,000	ADC Telecommunications, Inc. ^(b)	7,632,300
1,860,000	Corning Inc.	30,039,000
1,210,000	Daktronics, Inc.	9,075,000
1,660,000	Emerson Electric Co.	72,525,400
160,000	Fiserv, Inc. ^(b)	7,305,600
1,600,000	Honeywell International Inc.	62,448,000

SCHEDULE OF INVESTMENTS (unaudited) (continued)**June 30, 2010**

<u>Shares</u>	<u>Security Description</u>	<u>Fair Value</u>
	COMMON STOCKS (continued)	
	TECHNOLOGY (continued)	
880,000	Intel Corp.	\$ 17,116,000
310,000	Stratasys, Inc. ^(b)	7,613,600
		<u>213,754,900</u>
	TRANSPORTATION 1.4%	
120,000	C.H. Robinson Worldwide, Inc.	6,679,200
300,000	United Parcel Service, Inc., Class B	17,067,000
		<u>23,746,200</u>
	TOTAL COMMON STOCKS	\$1,720,042,600
	(cost \$1,379,474,474)	
	SHORT-TERM INVESTMENTS 1.5%	
26,643,771	First American Prime Obligations Fund, Class Z, 0.09%, ^(c)	\$ 26,643,771
	(cost \$26,643,771)	<u>26,643,771</u>
	TOTAL INVESTMENTS 100.1%	\$1,746,686,371
	(cost \$1,406,118,245)	
	OTHER ASSETS AND LIABILITIES (NET) (0.1)%	<u>(969,145)</u>
	TOTAL NET ASSETS 100.0%	<u><u>\$1,745,717,226</u></u>

^(a) Affiliated company (Note 5).

^(b) Non-income producing.

^(c) The rate quoted is the annualized seven-day effective yield as of June 30, 2010.

See accompanying Notes to Financial Statements.

STATEMENT OF ASSETS AND LIABILITIES (unaudited)**June 30, 2010****ASSETS**

Investments, at fair value (<i>Note 1</i>):	
Unaffiliated securities (cost \$1,346,029,365)	\$ 1,650,019,121
Affiliated securities (cost \$60,088,880) (<i>Note 5</i>)	96,667,250
	<u>1,746,686,371</u>
Receivable for Fund shares sold	658,837
Receivable for securities sold	233,760
Dividends receivable	1,883,724
	<u>1,749,462,692</u>

LIABILITIES

Distribution payable	463,296
Payable for Fund shares redeemed	1,326,327
Payable for securities purchased	488,488
Accrued investment management fees (<i>Note 2</i>)	903,506
Accrued Fund administration fees (<i>Note 2</i>)	70,676
Accrued expenses and other liabilities	493,173
	<u>3,745,466</u>

NET ASSETS\$ 1,745,717,226**NET ASSETS CONSIST OF**

Portfolio capital	\$ 1,384,096,536
Undistributed net investment income	(409,508)
Undistributed net realized gain on investments	21,462,072
Net unrealized appreciation of investments	340,568,126
	<u>340,568,126</u>

TOTAL NET ASSETS\$ 1,745,717,226

Fund shares issued and outstanding (par value \$0.01 per share; 100,000,000 authorized)	<u>28,353,566</u>
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Net asset value per share	<u><u>\$ 61.57</u></u>
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See accompanying Notes to Financial Statements.

STATEMENT OF OPERATIONS (unaudited) Six Months Ended June 30, 2010

INVESTMENT INCOME

Income:

Dividends from unaffiliated securities	\$ 16,366,953
Dividends from affiliated securities <i>(Note 5)</i>	<u>1,390,200</u>

TOTAL INCOME \$ 17,757,153

Expenses:

Investment management fees <i>(Note 2)</i>	5,800,825
Fund administration fees <i>(Note 2)</i>	114,534
Fund accounting	98,427
Directors' compensation <i>(Note 2)</i>	88,564
Transfer agent fees	505,944
Custodian fees	69,909
Legal and audit fees	60,770
Other expenses	<u>145,413</u>

TOTAL EXPENSES 6,884,386

NET INVESTMENT INCOME **10,872,767**

NET REALIZED GAIN AND NET CHANGE IN UNREALIZED APPRECIATION/DEPRECIATION OF INVESTMENTS *(Note 4)*

Net realized gain on:

Unaffiliated investments sold	11,677,406
Affiliated investments sold <i>(Note 5)</i>	<u>10,154,959</u>

21,832,365

Net change in unrealized appreciation/depreciation
of investments

(53,438,919)

NET REALIZED GAIN AND NET CHANGE IN UNREALIZED APPRECIATION/DEPRECIATION OF INVESTMENTS

(31,606,554)

NET DECREASE IN NET ASSETS FROM OPERATIONS

\$ (20,733,787)

See accompanying Notes to Financial Statements.

STATEMENTS OF CHANGES IN NET ASSETS

	Six Months Ended June 30, 2010 (Unaudited)	Year Ended December 31, 2009
OPERATIONS		
Net investment income	\$ 10,872,767	\$ 27,303,421
Net realized gain on investments sold	21,832,365	7,023,395
Net change in unrealized appreciation/depreciation of investments	<u>(53,438,919)</u>	<u>325,569,563</u>
NET INCREASE (DECREASE) IN NET ASSETS FROM OPERATIONS	(20,733,787)	359,896,379
DISTRIBUTIONS TO SHAREHOLDERS FROM		
Net investment income	(11,282,275)	(27,505,837)
Net realized gain on investments sold	<u>-</u>	<u>(7,297,017)</u>
TOTAL DISTRIBUTIONS TO SHAREHOLDERS	(11,282,275)	(34,802,854)
CAPITAL TRANSACTIONS		
Proceeds from shares sold	56,985,380	102,214,006
Contribution from Adviser (Note 2)	1,192,737	-
Reinvestment of distributions from net investment income and net realized gains	10,357,756	32,121,519
Cost of shares redeemed	<u>(226,120,007)</u>	<u>(205,828,713)</u>
DECREASE IN NET ASSETS FROM CAPITAL TRANSACTIONS	(157,584,134)	(71,493,188)
TOTAL INCREASE (DECREASE) IN NET ASSETS	(189,600,196)	253,600,337
NET ASSETS		
Beginning of period	<u>1,935,317,422</u>	<u>1,681,717,085</u>
End of period (including undistributed net investment income of \$(409,508) and \$0, respectively)	<u>\$ 1,745,717,226</u>	<u>\$ 1,935,317,422</u>
FUND SHARE TRANSACTIONS		
Shares sold	858,666	1,941,222
Shares issued for reinvested distributions	167,228	545,484
Shares redeemed	<u>(3,334,503)</u>	<u>(3,852,855)</u>
NET DECREASE IN FUND SHARES	(2,308,609)	(1,366,149)

See accompanying Notes to Financial Statements.

Note 1 – Organization and Significant Accounting Policies

The Mairs and Power Growth Fund, Inc. (the Fund) is registered under the Investment Company Act of 1940 (as amended) as a diversified, no-load, open-end management investment company. The objective of the Fund is to provide shareholders with a diversified portfolio of common stocks, which have the potential for above-average, long-term appreciation.

Significant accounting policies of the Fund are as follows:

Security Valuations

Security valuations for fund investments are furnished by independent pricing services that have been approved by the Fund's Board of Directors (the Board). Investments in equity securities listed on an original exchange are stated at the last quoted sales price if readily available for such securities on each business day. Other equity securities traded in the over-the-counter market and listed equity securities for which no sale was reported on that date are stated at the last quoted bid price. Debt obligations with 60 days or less remaining until maturity may be valued at their amortized cost, which approximates fair value.

Securities for which prices are not available from an independent pricing service, but where an active market exists, are valued using market quotations obtained from one or more dealers that make markets in the securities or from a widely used quotation system. When market quotations are not readily available, or where the last quoted sale price is not considered representative of the value of the security if it were to be sold on that day, the security will be valued at fair value as determined in good faith by the Fair Valuation Committee appointed by the Board, pursuant to procedures approved by the Board. Factors that may be considered in determining the fair value of a security are fundamental analytical data relating to the security, the nature and duration of any restrictions on the disposition of the security, and the forces influencing the market in which the security is purchased or sold. As of June 30, 2010, no securities in the Fund were valued using this method.

Fair Valuation Measurements

The Fund has adopted authoritative fair valuation accounting standards which establish a definition of fair value and set out a hierarchy for measuring fair value. These standards require additional disclosures about the various inputs and valuation techniques used to develop the measurements of fair value and changes in valuation techniques and related inputs during the period. These inputs are summarized in the three broad levels listed below:

- Level 1 – Quoted prices in active markets for identical securities.

NOTES TO FINANCIAL STATEMENTS (unaudited) (continued) June 30, 2010

Note 1 – Organization and Significant Accounting Policies (continued)

- Level 2 – Other significant observable inputs (including quoted prices for similar securities, interest rates, prepayment speeds, credit risk, etc.).
- Level 3 – Significant unobservable inputs (including the Fund’s own assumptions in determining the fair value of investments).

The inputs or methodology used for valuing securities are not necessarily an indication of the risk associated with investing in those securities. All of the inputs used to value the Fund’s net assets as of June 30, 2010 were classified as Level 1. For detail of investments by major industry classification, please refer to the Schedule of Investments. There were no transfers between level one and level two securities.

In January 2010, new accounting guidance was issued that requires enhanced disclosures about fair value measurements in the financial statements effective for fiscal years and interim periods beginning after December 15, 2010. Management expects that adoption of this guidance will have no impact on the Fund’s net assets or results of operations.

Security Transactions and Investment Income

Security transactions are recorded on the date on which securities are purchased or sold. Dividend income and corporate action transactions are recorded on the ex-dividend date and interest income is recorded on an accrual basis. Realized gains and losses are reported on an identified cost basis.

Income Taxes

The Fund is a “regulated investment company” as defined in Subtitle A, Chapter 1, subchapter M of the Internal Revenue Code (the Code), as amended. No provision has been made for federal income taxes as it is the intention of the Fund to comply with the provisions of the Code applicable to regulated investment companies and to make distributions of income and realized gains sufficient to relieve it from all or substantially all excise and income taxes.

The Fund has reviewed all open tax years and major jurisdictions and concluded that there is no impact on the Fund’s net assets and no tax liability resulting from unrecognized tax benefits relating to uncertain income tax positions taken or expected to be taken on a tax return. Generally, tax authorities can examine all tax returns filed for the last three years.

Basis of Presentation

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make estimates and assumptions that affect the reported

NOTES TO FINANCIAL STATEMENTS (unaudited) (continued) June 30, 2010

Note 1 – Organization and Significant Accounting Policies (continued)

amount of net assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported results of operations during the reporting period. Actual results could differ from those estimates.

In preparing these financial statements, the Fund has evaluated events and transactions for potential recognition or disclosure through the date the financial statements were available to be issued. This evaluation did not result in any subsequent events that necessitated recognition or disclosures.

Note 2 – Related-Party Transactions

Investment Management and Fund Administration Fees

Mairs and Power, Inc. (the Adviser) provides investment management and fund administration services to the Fund under written agreements approved by the Board. The Fund is charged an investment management fee paid to Mairs and Power, Inc. computed at an annual rate of 0.60% of daily net assets up to \$2.5 billion, and 0.50% of daily net assets in excess of \$2.5 billion. The fund administration fee paid to Mairs and Power, Inc. is computed at an annual rate of 0.00375% of daily net assets. For the six months ended June 30, 2010, the Fund incurred \$36,255 in administration fees from Mairs and Power, Inc., and as of June 30, 2010, had an accrued liability of \$5,647 for administration fees payable to Mairs and Power, Inc.

Directors' Compensation

Directors' compensation is paid to individuals who are disinterested directors of the Fund. No compensation is paid to the owners of Mairs and Power, Inc., including principal officers who are not directors of the Fund and William B. Frels, who is an interested director and officer of the Fund.

Contribution from Adviser

On May 21, 2010, the Fund received a contribution from the Adviser related to prospect services and other expenses paid by the Fund from 1980-2009, which were in violation of the Investment Company Act of 1940. The amount of the contribution, as disclosed in the Statement of Changes in Net Assets, was \$1,192,736 or \$0.04 per share based upon shares outstanding as of May 21, 2010.

NOTES TO FINANCIAL STATEMENTS (unaudited) (continued) June 30, 2010

Note 3 – Indemnifications

In the normal course of business, the Fund enters into contracts that contain general indemnifications to other parties. The Fund's maximum exposure under these contracts is unknown as this would involve future claims that may be made against the Fund that have not yet occurred. However, based on experience, the Fund expects the risk of loss to be remote.

Note 4 – Distributions Paid, Distributable Earnings and Investment Transactions

Net investment income and net realized gains (losses) may differ for financial reporting and tax purposes because of temporary or permanent book/tax differences. To the extent these differences are permanent, reclassifications are made to the appropriate equity accounts in the period that the difference arises. The Fund's tax basis net realized gains (losses) are determined only at the end of each fiscal year. As a result, no reclassifications were made as of June 30, 2010.

Income and capital gain distributions are determined in accordance with income tax regulations, which may differ from U.S. generally accepted accounting principles. In addition, due to the timing of dividend distributions, the fiscal year in which the amounts are distributed may differ from the year that the income or realized gains (losses) were recorded by the Fund.

The tax character of distributions paid during the six months ended June 30, 2010 and the fiscal year ended December 31, 2009, was as follows:

	<u>2010</u>	<u>2009</u>
Distributions paid from:		
Ordinary income	\$ 11,282,275	\$ 27,356,845
Long-term capital gains	<u>-</u>	<u>7,446,009</u>
	<u>\$ 11,282,275</u>	<u>\$ 34,802,854</u>

The Fund designated as long-term capital gain dividend, pursuant to Internal Revenue Code Section 852(b)(3), the amount necessary to reduce the earnings and profits of the Fund related to net capital gain to zero for the tax year ended December 31, 2009.

NOTES TO FINANCIAL STATEMENTS (unaudited) (continued) June 30, 2010

Note 4 – Distributions Paid, Distributable Earnings and Investment Transactions (continued)

At December 31, 2009, the components of accumulated earnings (losses) on a tax basis were as follows:

Cost of investments	<u>\$ 1,540,415,396</u>
Gross unrealized appreciation	\$ 584,139,947
Gross unrealized depreciation	<u>(190,613,672)</u>
Net unrealized appreciation	<u>\$ 393,526,275</u>
Undistributed ordinary income	\$ -
Undistributed long-term capital gains	<u>110,477</u>
Total distributable earnings	<u>\$ 110,477</u>
Total accumulated earnings	<u>\$ 393,636,752</u>

The difference between book basis and tax basis unrealized appreciation is attributable primarily to the tax deferral losses on wash sales.

Purchases and sales of investment securities, excluding government securities, short-term securities and temporary cash investments, during the six months ended June 30, 2010, aggregated \$18,394,555 and \$168,476,807, respectively. No purchases and sales of government securities occurred during the period.

Note 5 – Transactions With Affiliated Companies

The Fund owned 5% or more of the voting securities of the following companies during the period January 1, 2010 through June 30, 2010. As a result, these companies are deemed to be affiliates of the Fund as defined by the Investment Company Act of 1940. Transactions during the period in these securities of affiliated companies were as follows:

Security Name	Share Activity			Balance 06/30/10	Dividend Income	Fair Value at 06/30/10
	Balance 12/31/09	Purchases	Sales			
H.B. Fuller Co.	3,100,000	-	150,000	2,950,000	\$ 427,800	\$ 56,020,500
MEDTOX Scientific, Inc.	500,000	22,500	-	522,500	-	6,426,750
MTS Systems Corp.	1,180,000	-	-	1,180,000	354,000	34,220,000
Toro Co. ⁽¹⁾	1,880,000	-	390,000	1,490,000	608,400	73,188,800
					<u>\$ 1,390,200</u>	<u>\$ 169,856,050</u>

⁽¹⁾ Issuer was not an affiliate as of June 30, 2010.

FINANCIAL HIGHLIGHTS

SELECTED DATA AND RATIOS

(for a share outstanding throughout each period)

	Six months ended 06/30/10 ⁽¹⁾	2009	2008	2007	2006	2005
	Year Ended December 31,					
	(unaudited)					
Per share						
Net asset value, beginning of period	\$63.12	\$52.51	\$76.30	\$77.10	\$71.69	\$70.33
Income from investment operations:						
Net investment income	0.39	0.89	1.22	1.04	0.93	0.78
Net realized and unrealized gain (loss)	(1.58)	10.85	(22.93)	2.79	6.40	2.29
Total from investment operations	(1.19)	11.74	(21.71)	3.83	7.33	3.07
Distributions to shareholders from:						
Net investment income	(0.40)	(0.89)	(1.22)	(1.04)	(0.91)	(0.78)
Net realized gains on unaffiliated investments sold	-	(0.24)	(0.86)	(3.59)	(0.99)	(0.93)
Return of capital	-	-	-	-	(0.02)	-
Total distributions	(0.40)	(1.13)	(2.08)	(4.63)	(1.92)	(1.71)
Contribution from Adviser (Note 2)	0.04	-	-	-	-	-
Net asset value, end of period	\$61.57	\$63.12	\$52.51	\$76.30	\$77.10	\$71.69
Total investment return	(1.82)%⁽²⁾	22.52%	(28.51)%	4.90%	10.24%	4.37%
Net assets, end of period, in thousands	\$1,745,717	\$1,935,317	\$1,681,717	\$2,612,139	\$2,694,315	\$2,522,769
Ratios/supplemental data:						
Ratio of expenses to average net assets	0.71%	0.71%	0.70%	0.68%	0.69%	0.70%
Ratio of net investment income to average net assets	1.12	1.61	1.75	1.26	1.21	1.15
Portfolio turnover rate	0.98	3.21	2.42	4.44	4.39	2.77

⁽¹⁾ For the six months ended June 30, 2010, all ratios have been annualized except total investment return and portfolio turnover.

⁽²⁾ For the six months ended June 30, 2010, 0.07% of the Fund's total return was a result of a contribution as described in Note 2 to the financial statements from the Adviser related to prospect services and other expenses paid by the Fund. Excluding the contribution, total investment return would have been (1.89)%.

See accompanying Notes to Financial Statements.

FUND EXPENSES (unaudited)

As a shareholder of the Fund, you incur ongoing expenses for the operation of the Fund (e.g., asset-based charges, such as investment management fees). The Fund is a “no-load” mutual fund. As a result, shareholders pay no commissions, fees, or expenses associated with sales representatives or sales charges.

This example is intended to help you understand your ongoing costs (in dollars) of investing in the Fund and to compare these costs with the ongoing costs of investing in other mutual funds. The table below reports the Fund’s expenses during the period January 1, 2010 through June 30, 2010 and includes the costs associated with a \$1,000 investment.

Actual Expenses

The first line in the table below may be used to estimate the actual expenses you paid over the reporting period. You can do this by dividing your account value by \$1,000 and multiplying the result by the expense shown in the table below. For example, if your account value is \$8,600, divided by \$1,000 = \$8.60. Multiply the result by the number in the first line under the heading entitled “Expenses Paid During Period.” By doing this you can estimate the expenses you paid on your account during this period.

Hypothetical Example

The second line of the table below provides information about hypothetical account values and hypothetical expenses based on the Fund’s actual expenses and an assumed return of 5% per year before expenses, which is not the Fund’s actual return. The results may be used to provide you with a basis for comparing the ongoing costs of investing in the Fund with the costs of investing in other funds. To do so, compare this 5% hypothetical example with the 5% hypothetical examples that appear in the shareholder reports of other funds. Please note that this hypothetical example may not be used to estimate the actual ending account balance or expenses you paid during the period.

	Beginning Account Value 01/01/2010	Ending Account Value 6/30/2010	Expenses Paid During Period *
Actual return	\$1,000.00	\$ 981.80	\$3.49
Hypothetical assumed 5% return	\$1,000.00	\$1,021.27	\$3.56

* The Fund’s expenses are equal to the Fund’s annualized expense ratio for the most recent six-month period of 0.71%, multiplied by the average account value over the Fund’s first fiscal half-year, multiplied by the number of days in the Fund’s second fiscal half-year (181 days), divided by 365 days.

PROXY VOTING (unaudited)

Proxy Voting Policies and Procedures that the Fund uses to determine how to vote proxies relating to portfolio securities is available (i) without charge, upon request, by calling Shareholder Services at (800) 304-7404 and requesting a copy of the Statement of Additional Information (SAI) and (ii) on the Securities and Exchange Commission's (SEC's) website at www.sec.gov (access Form N-1A).

Information on how the Fund voted proxies relating to portfolio securities during the most recent 12-month period ended June 30 is available at www.mairsandpower.com and on the SEC's website at www.sec.gov.

DISCLOSURE OF PORTFOLIO HOLDINGS (unaudited)

The Fund files a complete schedule of portfolio holdings on Form N-Q for the first and third quarter-ends and on Form N-CSR for the second and fourth quarter-ends with the SEC. The Fund's Forms N-Q and N-CSR are available on the SEC's website at www.sec.gov. Forms N-Q and N-CSR may also be reviewed and copied at the SEC's Public Reference Room in Washington, D.C. Information on the operation of the Public Reference Room may be obtained by calling (800) SEC-0330.

The schedule of portfolio holdings is also printed in the Fund's semi-annual and annual reports to shareholders, which is available without charge by calling Shareholder Services at (800) 304-7404 or by visiting www.mairsandpower.com.

A complete copy of the Fund's portfolio holdings will also be available on or about 15 days following each quarter-end on the Fund's website at www.mairsandpower.com.

RE-APPROVAL OF INVESTMENT ADVISORY CONTRACT (unaudited)

The Fund's Board of Directors (the Directors) unanimously approved the renewal of the Advisory Contract between the Fund and Mairs and Power, Inc. (the Manager) at a Fund Board Meeting held on May 18, 2010.

In preparation for the May 18, 2010 Board Meeting, the Manager provided the Directors with extensive materials, including investment performance data, fee and expense comparisons with other mutual funds having similar investment objectives, and profitability information concerning the Manager. The independent Directors discussed the materials and the proposed renewal of the Advisory Contract in a private session with legal counsel present, but with no representatives of

RE-APPROVAL OF INVESTMENT ADVISORY CONTRACT (unaudited) (continued)

the Manager being present. In reaching their decision to renew the Fund's Advisory contract with the Manager, the Directors considered all factors they believed to be relevant. Each of these factors and the conclusions reached by the Directors with respect to these factors that helped form the basis for the decision to renew the Advisory Contract with the Manager will be discussed below.

Investment Performance

The Directors considered the investment results for the Fund compared to those for mutual funds with similar investment objectives as determined by Morningstar and with two securities indices – the Dow Jones Industrial Average and the S&P 500. In addition to the materials received by the Directors before the May 18, 2010 Board Meeting, the Directors receive detailed performance information at each regular Board Meeting during the year. At the May 18, 2010 Meeting, the Directors reviewed the comparative performance information over 1, 3, 5 and 10 year periods ending with the quarter preceding the meeting. Based upon their review, the Directors concluded that the Fund's investment performance has been in the upper tier of Morningstar's peer group of mutual funds with similar investment objectives over all four of those time periods, has exceeded index performance over most of those time periods, and has been satisfactory.

Management Fee

In evaluating the level of the management fee paid to the Manager, the Directors considered both the level of the Fund's management fees and overall expenses compared to those of other similar mutual funds, as well as the quality and quantity of advisory and other services provided by the Manager. The management fee paid to the Fund Manager of 60 basis points (0.6 of 1%) on the first \$2.5 billion of assets and 50 basis points (0.5 of 1%) on assets above \$2.5 billion is below the average for mutual fund managers generally, and is also below the average for actively managed mutual funds in Morningstar's peer group and for a group of competitive funds identified by the Manager. Additionally, the Directors noted that the Growth Fund's total expense ratio of 0.71 at December 31, 2009 is well below the average total expense ratio of actively-managed funds in its Morningstar peer group and for the group of competitive funds identified by the Manager.

The Directors also considered the fees the Manager charges its non-mutual fund advisory clients (Advisory Clients) with investment objectives similar to those of the Fund. The fee rates payable by the Manager's Advisory Clients range from being exactly the same as the fee paid by the Fund to being lower than the fee paid by the Fund (the Manager's larger Advisory Clients, many of which are institutional clients, fall into this latter category). The Manager provided the Directors with information about the differences in the scope of services provided to its Advisory Clients

RE-APPROVAL OF INVESTMENT ADVISORY CONTRACT (unaudited) (continued)

compared with those it provides to the Fund. The level of investment decision-making is considerably higher with respect to the Fund, as cash flows result in purchase and sale decisions being made by the Manager for the Fund virtually every trading day of the year. Other differences include the fact that the Manager provides the Fund with office facilities and Fund Officers. Having considered all of these factors, the Directors concluded that the nature and extent of services provided to the Fund merit higher management fees than those paid by the Manager's Advisory Clients.

With respect to the quality and extent of the Manager's services provided to the Fund, the solid performance record over the most recent 1, 3, 5 and 10 year periods stands out, along with the Fund's "B" Morningstar rating for stewardship (most recent available rating). The Directors also took into account the Manager's ongoing response to regulatory compliance requirements under Rule 38a-1, along with a satisfactory annual review of the Fund's Compliance Program which was completed on October 31, 2009 and presented to the Directors at the December 15, 2009 Board Meeting, and the Manager's response to a material compliance matter that arose after that date. The Directors concluded that overall they were satisfied with the nature, extent and quality of services provided by the Manager under the existing Advisory Contract. They further concluded that the Fund's management fee is fair and reasonable for the services provided and the risks assumed by the Manager.

Costs of Services Provided and Profitability to the Manager

At the request of the Directors, the Manager provided profitability information for the most recent three calendar years (the Manager changed to a December 31 fiscal year from its previous June 30 fiscal year effective December 31, 2007). The information addressed the Manager's overall profitability and also broke it down between the Manager's advisory business and the Manager's mutual fund business. The profitability of the mutual fund business was further broken down between the two funds advised by the Manager – the Mairs and Power Growth Fund and the Mairs and Power Balanced Fund. The Directors reviewed the Manager's assumptions and methods of allocation used. The Manager stated its belief that the methods of allocation used are reasonable, while acknowledging that there do not appear to be commonly accepted standards for making these kinds of profitability determinations. The Directors believe that the Manager should be entitled to earn a reasonable level of profits for the services it provides to the Fund. Based on their overall review, the Directors concluded that the Manager's level of profitability from its relationship with the Fund is reasonable.

RE-APPROVAL OF INVESTMENT ADVISORY CONTRACT (unaudited) (continued)

Other Benefits to Fund Manager

The Directors considered that the Manager's advisory business benefits from informal soft dollar arrangements whereby the Manager receives proprietary investment research services from broker/dealers that execute the Fund's purchases and sales of securities. The Directors received and reviewed information concerning the Fund's Brokerage Committee and the method by which Fund brokerage is allocated based upon the internally rated quality of brokerage and research services. The Directors reviewed the Fund data for the one-year period ending March 31, 2010 showing the dollar amount of commissions allocated among the broker/dealers used by the Manager for Fund brokerage services and proprietary research. Similar data showing the dollar amount of commissions allocated is provided to the Directors at each regular Board Meeting during the year. The Directors recognized that the profitability of the Manager's advisory business would be lower if it did not receive proprietary research for soft dollars in connection with the Fund's brokerage activity. While difficult to measure, it was concluded by the Directors that the benefit the Manager receives in this way is fairly modest, particularly given the Fund's very low portfolio turnover rate. The Directors noted that the Manager derives reputational benefits from its association with the Fund as well.

Economies of Scale

The management fee of 60 basis points (0.6 of 1%) which the Manager has been paid for more than twenty-five years has always been towards the low end of the mutual fund advisory management fee range. The Manager's approach has been to keep costs to the Fund as low as reasonably possible, including the cost of management fees. At the same time, the Manager believes, and the Directors concur, that it is entitled to earn reasonable returns on its mutual fund business. The Manager acknowledges that while it is difficult to pinpoint the economies of scale to be realized in a Fund the size of Mairs and Power Growth at any particular asset level, there is no question that such economies exist. Accordingly, the Manager, under the terms of the advisory contract renewed by the Directors on May 19, 2005, established a breakpoint at the \$2.5 billion asset level which became effective on July 1, 2005. The breakpoint reduced the management fee applicable to assets managed in excess of \$2.5 billion from 60 basis points (0.6 of 1%) to 50 basis points (0.5 of 1%). The Directors reaffirmed their conclusion that establishing this breakpoint at \$2.5 billion formed a reasonable basis for having management fee levels reflect economies of scale for the benefit of Fund shareholders. The total assets of the Growth Fund exceeded \$2.5 billion for the first time in December of 2005 and for the most part stayed above the breakpoint throughout 2007. The Fund's assets dropped below the breakpoint early in 2008 and have remained below it as of the printing of this Semi-Annual Report.

HOUSEHOLDING (unaudited)

In an effort to decrease costs, the Fund intends to reduce the number of duplicate Summary Prospectuses and Annual and Semi-Annual Reports you receive by sending only one copy of each to those addresses shared by two or more accounts and to shareholders reasonably believed to be from the same family or household. If you would like to discontinue householding for your accounts, please call Shareholder Services at 800-304-7404 to request individual copies of these documents. Once notification to stop householding is received, the Fund will begin sending individual copies thirty days after receiving your request. This policy does not apply to account statements.

PRIVACY POLICY (unaudited)

Mairs and Power Funds, in having created a relationship with its shareholders, has established a policy which sets forth the commitment of the Funds to maintain a shareholder's private information in a confidential manner, securing personal and financial data.

In the normal process of doing business with its shareholders, Mairs and Power Funds collects nonpublic personal information about its shareholders. This information is collected from the application or other forms, correspondence, or conversations, including but not limited to, account number and balance, payment history, parties to transactions, cost basis information, and other financial information.

We do not disclose any nonpublic personal information about our shareholders, past or present, to nonaffiliated third parties, such as consultants or accountants, except as authorized by shareholders or required by law. Third parties that perform administrative services on the Funds' behalf, such as our transfer agent and custodian, will receive nonpublic personal information about our shareholders. These entities will use this information only to provide required services for shareholders, and are not permitted to share or use this information for any other purpose. We maintain physical, electronic, and procedural safeguards that comply with federal standards to guard our nonpublic personal information. We will not under any circumstances disclose any information, public or nonpublic, about our present or former shareholders to any third parties for the purpose of marketing.

In the event that shareholders hold shares of the Fund(s) through a financial intermediary, including, but not limited to, a broker-dealer, bank, or trust company, the privacy policy of such financial intermediary governs how nonpublic personal information would be shared with nonaffiliated third parties.

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MAIRS AND POWER GROWTH FUND, INC.

Established 1958

A No-Load Fund

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