
**Mairs and Power
Growth Fund, Inc.**

Annual Report
December 31, 2009

W1520 First National Bank Building
332 Minnesota Street
St. Paul, Minnesota 55101

TO OUR SHAREHOLDERS

February 23, 2010

Fourth Quarter Results

The Fund experienced a continued recovery along with corporate earnings and the overall economy during the final quarter of 2009. In this regard, the Fund produced a total investment return of 5.6% compared to somewhat greater returns of 8.1% for the Dow Jones Industrial Average and 6.0% for the Standard & Poor's 500 Stock Index. However, a peer group of similar multi-cap core funds reported in the Wall Street Journal showed a roughly comparable average return of 5.4% for the same period.

For the full year 2009, the Fund achieved an investment return of 22.5% compared to returns of 22.7% for the DJIA and 26.5% for the S&P 500. The peer group average return for multi-cap core funds shown in the WSJ was up an impressive 32.0% reflecting a generally much higher exposure to technology stocks which, for the most part, had a very strong performance last year. Longer term performance comparisons are more favorable on a relative basis with the Fund showing a five-year average rate of return of 1.1% compared to a greater 2.0% for the DJIA but a lesser 0.4% for the S&P 500 and 0.9% for the comparable multi-cap core fund peer group.

Recently reported fourth quarter Gross Domestic Product results for the past year were quite a bit better than expected at a positive 5.7% (preliminary basis) even though the final number may be revised downward slightly. While government spending and inventory investment accounted for a major part of the increase, some other signs of underlying strength were evident. Most encouraging was a 13.3% growth in business spending for equipment and software and a 5.7% increase in residential investment. However, overall consumer spending grew only 2.0% reflecting debt repayment and continuing high unemployment levels. Fourth quarter corporate profits are estimated to have shown continued growth on the order of 9-10% from the third quarter due primarily to surging productivity gains.

Interest rates have remained relatively stable at both the short and long ends of the curve despite improving business conditions. High unemployment levels together with the absence of any noticeable inflationary pressures have kept the Federal Reserve from signaling any change in monetary policy.

Stock market gains in the fourth quarter and full year seem to have been a direct result of low interest rates and rising corporate profits. Technology issues led the way with strong earnings growth and rising valuation levels. Many cyclical sectors such as basic industries

TO OUR SHAREHOLDERS (continued)

(metals, mining and forest products) and consumer discretionary (automobiles, internet and catalog retailing) also did well with expectations of continued economic growth. Health care did better in the final quarter as the Obama national health program lost momentum in Congress. The financial sector (banks and insurance) was the worst performing sector reflecting continuing concerns over potential residential and commercial real estate loan losses. Among holdings in the Fund, Corning (+26.1%), Donaldson (+22.8%), Medtronic (+19.5%), Bemis (+14.4%) and G & K Services (+13.4%) did the best while Marshall & Ilsley (-32.5%), ADC Telecommunications (-25.5%), SUPERVALU (-15.6%), MEDTOX Scientific (-14.8%) and Principal Financial Group (-12.2%) fared the worst during the final quarter.

Future Outlook

While the pace of economic growth is expected to moderate from the initial indication of 5.7% for the final quarter of last year, the rate seems likely to average a respectable 3% or more over the next few quarters. Although below past recovery periods, this rate of growth is nevertheless quite in line with historical experience during the post WWII period. Growth should continue to be fueled by such factors as a stimulative fiscal policy, inventory restocking, continued corporate capital spending reflecting a catch-up from past under-spending and rising export demand. However, consumer spending will likely remain disappointing due to sluggish employment growth and a lack of confidence leading to debt repayment and a rising savings rate. With productivity improvement expected to continue at an above average pace, corporate earnings are projected to continue rising at a near “double digit” rate. Corporate earnings also seem likely to continue benefiting from faster foreign growth and currency translation gains resulting from continued weakness in the US dollar.

Although subject to sudden and unanticipated changes, the outlook for interest rates seems subdued for the time being. In this regard, recent Federal Reserve pronouncements suggest no directional changes over the near future absent future corresponding changes in the outlook for inflation and/or the strength of the overall economy. A major uncertainty continues to be the price of energy which could be influenced by changing world events.

Considering the current outlook for corporate earnings and interest rates, the environment for the stock market remains favorable. Moreover, valuation levels (15x S&P 500 estimated

TO OUR SHAREHOLDERS (continued)

earnings of \$70) are historically quite reasonable, especially when measured against the prevailing level of interest rates. Finally, most measures of liquidity suggest ample “buying power” in the hands of investors enabling them to drive prices higher.

William B. Frels
President and Lead Manager

Mark L. Henneman
Vice President and Co-
Manager

Past performance is no guarantee of future results.

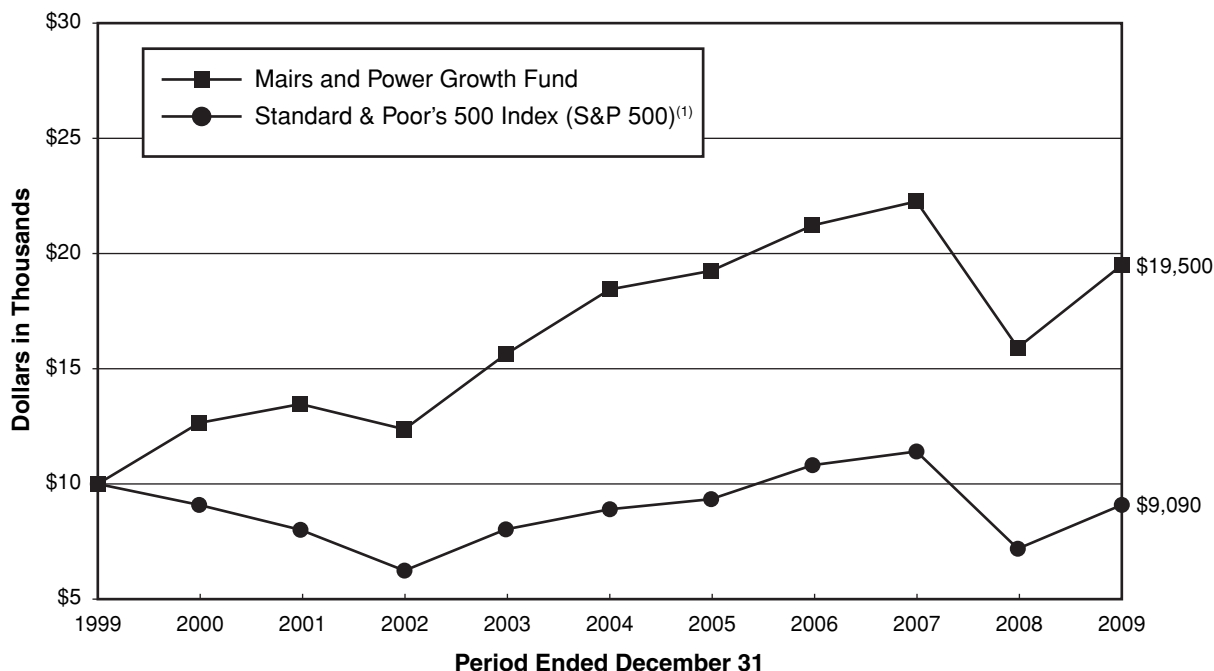
The Fund’s investment objective, risks and expenses must be considered carefully before investing. The prospectus contains this and other important information about the Fund, and it may be obtained by calling Shareholder Services at (800) 304-7404, or visiting www.mairsandpower.com. Read it carefully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

PERFORMANCE INFORMATION (unaudited)

December 31, 2009

Ten years of investment performance (through December 31, 2009)

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 December 31, 2009

	1 year	5 years	10 years	20 years
Mairs and Power Growth Fund	22.52%	1.12%	6.91%	12.48%
S&P 500 ⁽¹⁾	26.46%	0.42%	-0.95%	8.21%

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.

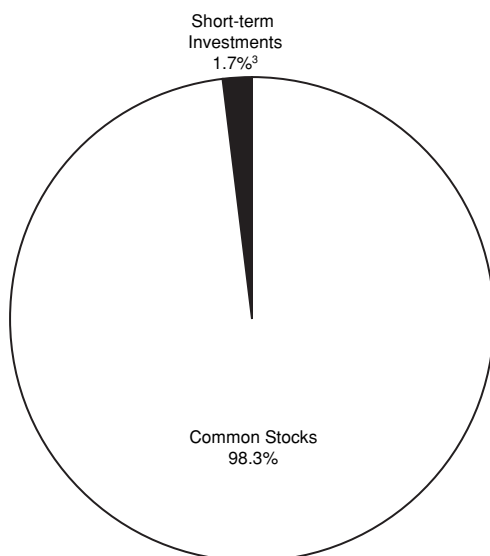
FUND INFORMATION (unaudited)**December 31, 2009****Portfolio Managers**

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	\$63.12
Expense Ratio	0.71%
Portfolio Turnover Rate	3.21%
Sales Charge	None ¹
Fund Inception Year	1958

Portfolio Composition**Top Ten Portfolio Holdings****(Percent of Total Net Assets)²**

3M Co.	5.6%
Medtronic, Inc.	5.1
Emerson Electric Co.	5.0
Ecolab, Inc.	4.5
Target Corp.	4.4
Johnson & Johnson	4.1
Toro Co.	4.1
Valspar Corp.	4.0
Pentair, Inc.	3.9
Donaldson Co., Inc.	3.7

Portfolio Diversification**(Percent of Total Net Assets)**Common Stocks 98.3%

Health Care	20.4%
Basic Industries	15.5
Capital Goods	13.5
Technology	12.9
Financial	12.4
Consumer Cyclical	9.1
Diversified	7.5
Consumer Staple	5.7
Transportation	1.3

Short-term Investments 1.7%³

<u>1.7</u>
100.0%

¹ Although the Fund is no-load, investment management fees and other expenses still apply.

² 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.

³ Represents short-term investments and other assets and liabilities (net).

SCHEDULE OF INVESTMENTS**December 31, 2009**

<u>Shares</u>	<u>Security Description</u>	<u>Fair Value</u>
	COMMON STOCKS 98.3%	
	BASIC INDUSTRIES 15.5%	
2,199,000	Bemis Co., Inc.	\$ 65,200,350
1,950,000	Ecolab Inc.	86,931,000
3,100,000	H.B. Fuller Co. ^(a)	70,525,000
2,850,000	Valspar Corp.	77,349,000
		<hr/>
		300,005,350
	CAPITAL GOODS 13.5%	
110,000	Badger Meter, Inc.	4,380,200
1,690,000	Donaldson Co., Inc.	71,892,600
380,000	Fastenal Co.	15,823,200
2,095,000	Graco Inc.	59,854,150
1,180,000	MTS Systems Corp. ^(a)	33,913,200
2,320,000	Pentair, Inc.	74,936,000
		<hr/>
		260,799,350
	CONSUMER CYCLICAL 9.1%	
500,000	G&K Services, Inc., Class A	12,565,000
1,760,000	Target Corp.	85,131,200
1,880,000	Toro Co. ^(a)	78,602,800
		<hr/>
		176,299,000
	CONSUMER STAPLE 5.7%	
780,000	General Mills, Inc.	55,231,800
1,250,000	Hormel Foods Corp.	48,062,500
480,000	SUPERVALU Inc.	6,100,800
		<hr/>
		109,395,100
	DIVERSIFIED 7.5%	
1,300,000	3M Co.	107,471,000
2,520,000	General Electric Co.	38,127,600
		<hr/>
		145,598,600

SCHEDULE OF INVESTMENTS (continued)**December 31, 2009**

<u>Shares</u>	<u>Security Description</u>	<u>Fair Value</u>
COMMON STOCKS (continued)		
FINANCIAL 12.4%		
1,260,000	Associated Banc-Corp.	\$ 13,872,600
250,000	Marshall & Ilsley Corp.	1,362,500
1,060,000	Principal Financial Group	25,482,400
3,210,000	TCF Financial Corp.	43,720,200
450,000	The Travelers Cos., Inc.	22,437,000
2,850,000	U.S. Bancorp	64,153,500
2,590,000	Wells Fargo & Co.	69,904,100
		<u>240,932,300</u>
HEALTH CARE 20.4%		
870,000	Baxter International Inc.	51,051,600
1,230,000	Johnson & Johnson	79,224,300
500,000	MEDTOX Scientific, Inc. ^{(a) (b)}	3,875,000
2,250,000	Medtronic, Inc.	98,955,000
900,000	Patterson Cos., Inc. ^(b)	25,182,000
2,190,000	Pfizer Inc.	39,836,100
1,200,000	St. Jude Medical, Inc. ^(b)	44,136,000
770,000	SurModics, Inc. ^(b)	17,448,200
160,000	Techne Corp.	10,969,600
400,000	Zimmer Holdings, Inc. ^(b)	23,644,000
		<u>394,321,800</u>
TECHNOLOGY 12.9%		
1,030,000	ADC Telecommunications, Inc. ^(b)	6,396,300
1,860,000	Corning Inc.	35,916,600
1,130,000	Daktronics, Inc.	10,407,300
2,280,000	Emerson Electric Co.	97,128,000
150,000	Fiserv, Inc. ^(b)	7,272,000
1,600,000	Honeywell International Inc.	62,720,000

SCHEDULE OF INVESTMENTS (continued)**December 31, 2009**

<u>Shares</u>	<u>Security Description</u>	<u>Fair Value</u>
	COMMON STOCKS (continued)	
	TECHNOLOGY (continued)	
900,000	Intel Corp.	\$ 18,360,000
660,000	Stratasys, Inc. ^(b)	11,404,800
		<u>249,605,000</u>
	TRANSPORTATION 1.3%	
130,000	C.H. Robinson Worldwide, Inc.	7,634,900
300,000	United Parcel Service, Inc., Class B	17,211,000
		<u>24,845,900</u>
	TOTAL COMMON STOCKS	\$ 1,901,802,400
	(Cost \$1,507,795,355)	
	SHORT-TERM INVESTMENTS 1.6%	
12,721,130	FFI Premier Institutional Fund, 0.18% ^(c)	\$ 12,721,130
19,418,141	First American Prime Obligations Fund, Class Z, 0.05% ^(c)	19,418,141
		<u>32,139,271</u>
	TOTAL SHORT-TERM INVESTMENTS	\$ 32,139,271
	(Cost \$32,139,271)	
	TOTAL INVESTMENTS 99.9%	\$ 1,933,941,671
	(Cost \$1,539,934,626)	
	OTHER ASSETS AND LIABILITIES (NET) 0.1%	<u>1,375,751</u>
	TOTAL NET ASSETS 100.0%	<u>\$ 1,935,317,422</u>

^(a) Affiliated company (Note 5).

^(b) Non-income producing.

^(c) The rate quoted is the annualized seven-day effective yield as of December 31, 2009.

See accompanying Notes to Financial Statements.

STATEMENT OF ASSETS AND LIABILITIES**December 31, 2009****ASSETS**

Investments, at fair value (<i>Note 1</i>):	
Unaffiliated securities (cost \$1,451,412,746)	\$ 1,747,025,671
Affiliated securities (cost \$88,521,880) (<i>Note 5</i>)	186,916,000
	<u>1,933,941,671</u>
Receivable for Fund shares sold	355,678
Receivable for securities sold	2,405,537
Dividends receivable	1,956,526
	<u>1,938,659,412</u>

LIABILITIES

Payable for Fund shares redeemed	1,731,020
Payable for securities purchased	491,470
Accrued investment management fees (<i>Note 2</i>)	985,344
Accrued Fund administration fees (<i>Note 2</i>)	25,604
Accrued expenses and other liabilities	108,552
	<u>3,341,990</u>

NET ASSETS\$ 1,935,317,422**NET ASSETS CONSIST OF**

Portfolio capital	1,541,680,670
Undistributed net realized loss on investments	(370,293)
Net unrealized appreciation of investments	394,007,045
	<u>1,935,317,422</u>

TOTAL NET ASSETS\$ 1,935,317,422

Fund shares issued and outstanding (par value \$0.01 per share; 100,000,000 authorized)	<u>30,662,175</u>
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Net asset value per share	<u>\$ 63.12</u>
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See accompanying Notes to Financial Statements.

STATEMENT OF OPERATIONS**Year Ended December 31, 2009****INVESTMENT INCOME**

Income:

Dividends from unaffiliated securities	\$ 36,731,575	
Dividends from affiliated securities <i>(Note 5)</i>	<u>2,715,495</u>	
TOTAL INCOME		\$ 39,447,070

Expenses:

Investment management fees <i>(Note 2)</i>	10,206,393	
Fund administration fees <i>(Note 2)</i>	198,044	
Fund accounting	227,026	
Directors' compensation <i>(Note 2)</i>	178,602	
Transfer agent fees	970,660	
Custodian fees	124,981	
Legal and audit fees	69,734	
Other expenses	<u>168,209</u>	
TOTAL EXPENSES		<u>12,143,649</u>

NET INVESTMENT INCOME**27,303,421****NET REALIZED GAIN AND NET CHANGE IN UNREALIZED APPRECIATION/DEPRECIATION OF INVESTMENTS *(Note 4)***

Net realized gain on:

Unaffiliated investments sold	<u>7,023,395</u>	
		7,023,395

Net change in unrealized appreciation/depreciation of investments

325,569,563**NET REALIZED GAIN AND NET CHANGE IN UNREALIZED APPRECIATION/DEPRECIATION OF INVESTMENTS****332,592,958****NET INCREASE IN NET ASSETS FROM OPERATIONS****\$ 359,896,379***See accompanying Notes to Financial Statements.*

STATEMENTS OF CHANGES IN NET ASSETS

	Year Ended December 31	
	2009	2008
OPERATIONS		
Net investment income	\$ 27,303,421	\$ 38,590,020
Net realized gain on unaffiliated investments sold	7,023,395	26,652,020
Net change in unrealized appreciation/depreciation of investments	<u>325,569,563</u>	<u>(766,918,026)</u>
NET INCREASE (DECREASE) IN NET ASSETS FROM OPERATIONS	359,896,379	(701,675,986)
DISTRIBUTIONS TO SHAREHOLDERS FROM		
Net investment income	(27,505,837)	(38,608,172)
Net realized gain on investments sold	<u>(7,297,017)</u>	<u>(26,811,353)</u>
TOTAL DISTRIBUTIONS TO SHAREHOLDERS	(34,802,854)	(65,419,525)
CAPITAL TRANSACTIONS		
Proceeds from shares sold	102,214,006	115,434,888
Reinvestment of distributions from net investment income and net realized gains	32,121,519	60,331,296
Cost of shares redeemed	<u>(205,828,713)</u>	<u>(339,092,855)</u>
DECREASE IN NET ASSETS FROM CAPITAL TRANSACTIONS	<u>(71,493,188)</u>	<u>(163,326,671)</u>
TOTAL INCREASE (DECREASE) IN NET ASSETS	253,600,337	(930,422,182)
NET ASSETS		
Beginning of period	<u>1,681,717,085</u>	<u>2,612,139,267</u>
End of period (including undistributed net investment income of \$0 and \$49,115, respectively)	<u>\$ 1,935,317,422</u>	<u>\$ 1,681,717,085</u>
FUND SHARE TRANSACTIONS		
Shares sold	1,941,222	1,738,669
Shares issued for reinvested distributions	545,484	1,119,429
Shares redeemed	<u>(3,852,855)</u>	<u>(5,066,060)</u>
NET DECREASE IN FUND SHARES	<u>(1,366,149)</u>	<u>(2,207,962)</u>

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 December 31, 2009, 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.
- Level 2 – Other significant observable inputs (including quoted prices for similar securities, interest rates, prepayment speeds, credit risk, etc.).

Note 1 – Organization and Significant Accounting Policies (continued)

- 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 December 31, 2009 were classified as Level 1. For detail of investments by major industry classification, please refer to the Schedule of Investments.

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 adopted financial reporting rules regarding recognition and measurement of tax positions taken or expected to be taken on a tax return. 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 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.

Note 1 – Organization and Significant Accounting Policies (continued)

In preparing these financial statements, the Fund has evaluated events and transactions for potential recognition or disclosure through February 23, 2010, the date the financial statements were available to be issued.

Note 2 – Related-Party TransactionsInvestment Management and Fund Administration Fees

Mairs and Power, Inc. 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. was computed at an annual rate of 0.005% of daily net assets. For the year ended December 31, 2009, the Fund incurred \$85,053 in administration fees from Mairs and Power, Inc., and as of December 31, 2009, had an accrued liability of \$8,211 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.

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.

Additionally, U.S. generally accepted accounting principles require that certain components of net assets relating to permanent differences be reclassified between financial and tax reporting. These

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

reclassifications have no effect on net assets or net asset value per share. On the Statement of Assets and Liabilities, the following reclassification, due to dividend reclassifications, was made for the year ended December 31, 2009:

<u>Undistributed Net Investment Income</u>	<u>Undistributed Net Realized Gain (Loss)</u>
\$153,301	(\$153,301)

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 years ended December 31, 2009 and 2008, was as follows:

	<u>2009</u>	<u>2008</u>
Distributions paid from:		
Ordinary income	\$ 27,356,845	\$ 38,608,172
Long-term capital gains	<u>7,446,009</u>	<u>26,811,353</u>
	<u>\$ 34,802,854</u>	<u>\$ 65,419,525</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.

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 of losses on wash sales.

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

Purchases and sales of investment securities, excluding government securities, short-term securities and temporary cash investments, during the year ended December 31, 2009, aggregated \$53,383,780 and \$125,932,512, respectively. No purchases and sales of government securities occurred during the period.

Note 5 – Transactions With Affiliated Companies

The Fund owns 5% or more of the voting securities of the following companies as of December 31, 2009. 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 12/31/09	Dividend Income	Fair Value at 12/31/09
	Balance 12/31/08	Purchases			
H.B. Fuller Co.	3,100,000	-	3,100,000	\$ 837,000	\$ 70,525,000
Medtox Scientific, Inc.	-	500,000	500,000	-	3,875,000
MTS Systems Corp.	1,097,300	82,700	1,180,000	697,095	33,913,200
Toro Co.	1,860,000	20,000	1,880,000	1,181,400	78,602,800
				<u>\$ 2,715,495</u>	<u>\$ 186,916,000</u>

FINANCIAL HIGHLIGHTS

SELECTED DATA AND RATIOS (for a share outstanding throughout year)

	Year Ended December 31,				
	2009	2008	2007	2006	2005
Per Share					
Net asset value, beginning of year	\$52.51	\$76.30	\$77.10	\$71.69	\$70.33
Income from investment operations:					
Net investment income	0.89	1.22	1.04	0.93	0.78
Net realized and unrealized gain (loss)	10.85	(22.93)	2.79	6.40	2.29
Total from investment operations	11.74	(21.71)	3.83	7.33	3.07
Distributions to shareholders from:					
Net investment income	(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	(1.13)	(2.08)	(4.63)	(1.92)	(1.71)
Net asset value, end of year	\$63.12	\$52.51	\$76.30	\$77.10	\$71.69
Total investment return	22.52%	(28.51)%	4.90%	10.24%	4.37%
Net assets, end of year, in thousands	\$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%	0.70%	0.68%	0.69%	0.70%
Ratio of net investment income to average net assets	1.61	1.75	1.26	1.21	1.15
Portfolio turnover rate	3.21	2.42	4.44	4.39	2.77

See accompanying Notes to Financial Statements.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Shareholders and Board of Directors
Mairs and Power Growth Fund, Inc.

We have audited the accompanying statement of assets and liabilities of the Mairs and Power Growth Fund, Inc. (the Fund), including the schedule of investments, as of December 31, 2009, and the related statement of operations for the year then ended, the statements of changes in net assets for each of the two years in the period then ended, and the financial highlights for each of the five years in the period then ended. These financial statements and financial highlights are the responsibility of the Fund's management. Our responsibility is to express an opinion on these financial statements and financial highlights based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements and financial highlights are free of material misstatement. We were not engaged to perform an audit of the Fund's internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Fund's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements and financial highlights, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our procedures included confirmation of securities owned as of December 31, 2009, by correspondence with the custodian and brokers, or by other appropriate auditing procedures where replies from brokers were not received. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements and financial highlights referred to above present fairly, in all material respects, the financial position of the Mairs and Power Growth Fund, Inc. at December 31, 2009, the results of its operations for the year then ended, the changes in its net assets for each of the two years in the period then ended, and the financial highlights for each of the five years in the period then ended, in conformity with U.S. generally accepted accounting principles.

Ernst + Young LLP

Minneapolis, Minnesota
February 23, 2010

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 July 1, 2009 through December 31, 2009 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 07/01/2009	Ending Account Value 12/31/2009	Expenses Paid During Period *
Actual return	\$1,000.00	\$1,214.90	\$3.91
Hypothetical assumed 5% return	\$1,000.00	\$1,021.68	\$3.57

* The Fund’s expenses are equal to the Fund’s annualized expense ratio for the most recent six-month period of 0.70%, multiplied by the average account value over the Fund’s second fiscal half-year, multiplied by the number of days in the Fund’s second fiscal half-year (184 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 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.

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. Once implemented, 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.

DIRECTORS AND OFFICERS (unaudited)

Information pertaining to the Directors and Officers of the Fund is set forth below. The Statement of Additional Information includes additional information about the Fund's Directors and is available without charge, upon request, by calling Shareholder Services at (800) 304-7404.

Name (age) and address¹	Position(s) held with the Fund and length of time served²	Principal occupation(s) during past five years	Number of portfolios in Fund complex overseen by Director	Other directorships held by directors and officers
INTERESTED PRINCIPAL OFFICER WHO IS A DIRECTOR				
William B. Frels (70)	President since June 2004 and Director since 1992	<ul style="list-style-type: none"> • Chairman and CEO of the Investment Adviser (2007-present). • President of the Investment Adviser (2002 to 2007). • Treasurer of the Investment Adviser (1996 to 2007). 	2	N/A
INTERESTED PRINCIPAL OFFICERS WHO ARE NOT DIRECTORS				
Mark L. Henneman (49)	Vice President since 2009	<ul style="list-style-type: none"> • Vice President of the Investment Adviser (2004-present) 	N/A	N/A
Jon A. Theobald (64)	Secretary since 2003; Chief Compliance Officer since 2004	<ul style="list-style-type: none"> • President and Chief Operating Officer of the Investment Adviser (2007 to present). • Chief Compliance Officer of the Investment Adviser (2004 to present). • Executive Vice President and Chief Administrative Officer of the Investment Adviser (2002 to 2007). 	N/A	N/A
Lisa J. Hartzell (64)	Treasurer since 1996	<ul style="list-style-type: none"> • Vice President of the Investment Adviser (2004 to present). • Manager of Mutual Fund Services of the Investment Adviser (1996 to present). 	N/A	N/A

DIRECTORS AND OFFICERS (unaudited) (continued)

Name (age) and address ¹	Position(s) held with the Fund and length of time served ²	Principal occupation(s) during past five years	Number of portfolios in Fund complex overseen by Director	Other directorships held by directors and officers
DISINTERESTED DIRECTORS				
Norbert J. Conzemius (68)	Board Chair since February 2006; Director since 2000	<ul style="list-style-type: none"> Retired Chief Executive Officer, Road Rescue Incorporated. 	2	N/A
Charles M. Osborne (56)	Audit Committee Chair since February 2006; Director since 2001	<ul style="list-style-type: none"> Retired Chief Financial Officer, Fair Isaac Corporation (2004 to 2009). Chief Financial Officer (2000 to 2004), Vice President (2003 to 2004), University of Minnesota Foundation. 	2	N/A
Edward C. Stringer (74)	Director since 2002	<ul style="list-style-type: none"> Retired attorney (2002 to 2005), Briggs and Morgan, P.A. Retired Associate Justice, State of Minnesota Supreme Court (1994 to 2002). 	2	N/A
Bert J. McKasy (67)	Director since September 2006	<ul style="list-style-type: none"> Attorney, Lindquist & Vennum, P.L.L.P (1994 to present). 	2	N/A

¹ Unless otherwise indicated, the mailing address of each officer and director is: W1520 First National Bank Building, 332 Minnesota Street, Saint Paul, MN 55101-1363.

² Each Director serves until his resignation or mandatory retirement age. Each officer is elected annually and serves until his successor has been duly elected and qualified.

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MAIRS AND POWER GROWTH FUND, INC.

Established 1958

A No-Load Fund

For Shareholder Services

Call (800) 304-7404

Or write to:

(via Regular Mail)

c/o U.S. Bancorp Fund Services, LLC
615 East Michigan Street
P. O. Box 701
Milwaukee, WI 53201-0701

(via Overnight or Express Mail)

c/o U.S. Bancorp Fund Services, LLC
3rd Floor
615 East Michigan Street
Milwaukee, WI 53202-0701

For Fund literature and information, visit the Fund's website at:
www.mairsandpower.com

Investment Manager

Mairs and Power, Inc.
W1520 First National Bank Building
332 Minnesota Street
Saint Paul, MN 55101

Custodian

U.S. Bank, N.A.
Custody Operations
1555 North River Center Drive, Suite 302
Milwaukee, WI 53212