

PROSPECTUS

April 29, 2022

GABELLI CAPITAL ASSET FUND

A Portfolio of Gabelli Capital Series Funds, Inc.

As permitted by regulations adopted by the Securities and Exchange Commission, paper copies of the Fund's annual and semiannual shareholder reports will no longer be sent by mail, unless you specifically request paper copies of the reports. Instead, the reports will be made available on the Fund's website (www.guardianlife.com), and you will be notified by mail each time a report is posted and provided with a website link to access the report. If you already elected to receive shareholder reports electronically, you will not be affected by this change and you need not take any action. To elect to receive all future reports on paper free of charge, please contact your financial intermediary, or, if you invest directly with the Fund, you may call 800-221-3253. Your election to receive reports on paper will apply to all funds held in your account if you invest through your financial intermediary or all funds held within the fund complex if you invest directly with the Fund.

The Securities and Exchange Commission has not approved or disapproved the shares described in this Prospectus or determined whether this Prospectus is accurate or complete. Any representation to the contrary is a criminal offense.

SUMMARY

Investment Objectives

The Fund's primary goal is to seek growth of capital. The Fund's secondary goal is to produce current income.

Fees and Expenses of the Fund:

This table describes the fees and expenses that you may pay if you buy and hold shares of the Fund. Fee and expense information does not reflect separate account or variable insurance contract fees and charges. If such fees and charges were reflected, fees and expenses would be higher than those shown.

Shareholder Fees (fees paid directly from your investment):

There are no Shareholder Fees.

Annual Fund Operating Expenses (expenses that you pay each year as a percentage of the value of your investment):

Management Fees	0.75%
Administrative Services Fee	0.25%
Other Expenses	<u>0.28%</u>
Total Annual Fund Operating Expenses	<u>1.28%</u>

Expense Example

This example is intended to help you compare the cost of investing in the Fund with the cost of investing in other mutual funds.

The example assumes you invest \$10,000 in the Fund for the time periods shown and then redeem all of your shares at the end of those periods. The example also assumes that your investment has a 5% return each year and that the Fund's operating expenses remain the same. Although your actual costs may be higher or lower, based on these assumptions your costs would be:

<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>10 Years</u>
\$130	\$406	\$702	\$1,545

Portfolio Turnover

The Fund pays transaction costs, such as commissions, when it buys and sells securities (or "turns over" its portfolio). A higher portfolio turnover rate may indicate higher transaction costs and may result in higher taxes when the Fund's shares are held in a taxable account. During the most recent fiscal year, the Fund's portfolio turnover rate was 6% of the average value of its portfolio.

Principal Investment Strategies

The Fund invests primarily in equity securities of companies (common stock, preferred stock, and securities that may be converted at a later time into common stock) that are selling in the public market at a significant discount to their "private market value." Private market value is the value that Gabelli Funds, LLC, (the "Adviser"), believes informed investors would be willing to pay for a company. The Adviser considers factors such as price, earnings expectations, earnings and price histories, balance sheet characteristics, and perceived management skills. The Adviser also considers changes in economic and political outlooks as well as individual corporate developments. The Fund may invest in companies of any size and from time to time may invest primarily in

companies with large, medium, or small market capitalizations. The Adviser will sell any Fund investments that lose their perceived value when compared with other investment alternatives.

Holders of equity securities only have rights to value in the issuer after all issuer debts have been paid, and they could lose their entire investment in a company that encounters financial difficulty. The Fund may also buy warrants, which are rights to purchase securities at a specified time at a specified price.

The Fund may also use the following techniques as principal investment strategies:

- **Corporate Reorganizations.** Subject to the diversification requirements of its investment restrictions, the Fund may invest up to 35% of its total assets in securities for which a tender or exchange offer has been made or announced and in the securities of companies for which a merger, consolidation, liquidation, or similar reorganization proposal has been announced. The Adviser will only invest in such securities if it is likely that the amount of capital appreciation will be significantly greater than the added expenses of buying and selling securities on a short term basis. The 35% limitation does not apply to the securities of companies that may be involved in simply consummating an approved or agreed upon merger, acquisition, consolidation, liquidation, or reorganization.
- **Foreign Securities.** The Fund may invest up to 25% of its total assets in the securities of non-U.S. issuers.

Principal Risks

You may want to invest in the Fund if:

- you are a long term investor
- you seek both growth of capital and some current income
- you believe that the market will favor value over growth stocks over the long term
- you wish to include a value strategy as a portion of your overall investments

The Fund's share price will fluctuate with changes in the market value of the Fund's portfolio securities. An investment in the Fund is not a deposit of a bank and is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. When you sell Fund shares, they may be worth less than what you paid for them; you may lose money by investing in the Fund.

The principal risks of investing in the Fund are:

- **Convertible Securities Risk.** Convertible securities provide higher yields than the underlying common stock, but generally offer lower yields than nonconvertible securities of similar quality. The value of convertible securities fluctuates in relation to changes in interest rates and, in addition, fluctuates in relation to the underlying common stock.
- **Coronavirus ("COVID-19") and Global Health Events.** COVID-19 and concerns about its rapid spread and infections have severely impacted business activity in virtually all economies, markets, and

sectors and negatively impacted the value of many financial and other assets. The duration of the COVID-19 outbreak and its effects cannot be determined with certainty. These events could have a significant impact on the Fund's performance, as well as the performance and viability of issuers in which it invests.

- **Credit Quality Risk.** Lower rated convertible securities are subject to greater credit risk, greater price volatility, and a greater risk of loss than investment grade securities.
- **Equity Market Risk.** The price of equity securities may rise or fall because of changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors, or industries selected for the Fund's portfolio or the securities market as a whole, such as changes in economic, global health, or political conditions. When the value of the Fund's securities goes down, your investment in the Fund decreases in value.
- **Financial Services Risk.** The Fund invests in securities issued by financial services companies. Financial services companies can be significantly affected by changing economic conditions, demand for consumer loans, refinancing activity and intense competition, including price competition. Profitability can be largely dependent on the availability and cost of capital and the rate of consumer debt defaults, and can fluctuate significantly when interest rates change; unstable and/or rising interest rates may have a disproportionate effect on companies in the financial services sector.
- **Foreign Securities Risk.** Investments in foreign securities involve risks relating to political, social, and economic developments abroad, as well as risks resulting from the differences between the regulations to which U.S. and foreign issuers and markets are subject. These risks include expropriation, differing accounting and disclosure standards, currency exchange risks, settlement difficulties, market illiquidity, difficulties enforcing legal rights, and greater transaction costs.
- **Interest Rate Risk, Maturity Risk, and Credit Risk.** Interest rate risk is the risk that fixed income securities will decline in value because of changes in interest rates. Given the historically low interest rate environment in the U.S., risks associated with rising interest rates are heightened. Recent and potential future changes in government policy that could affect interest rates and current conditions may result in a rise in interest rates, which in turn may result in a decline in the value of investments held by the Fund. The negative impact on fixed income securities from any interest rate increases could be swift and significant. The magnitude of the increase or decline will often be greater for longer term debt securities than shorter term debt securities. It is also possible that the issuer of a debt security will not be able to make interest and principal payments when due.
- **Issuer-Specific Risk.** The value of an individual security or particular type of security can be more volatile than the market as a whole and can perform differently from the market as a whole. The Fund could lose all of its investment in a company's securities.
- **Large-Capitalization Risk.** Larger, more established companies may be unable to respond quickly to new competitive challenges such as changes in technology and consumer tastes. Many larger companies

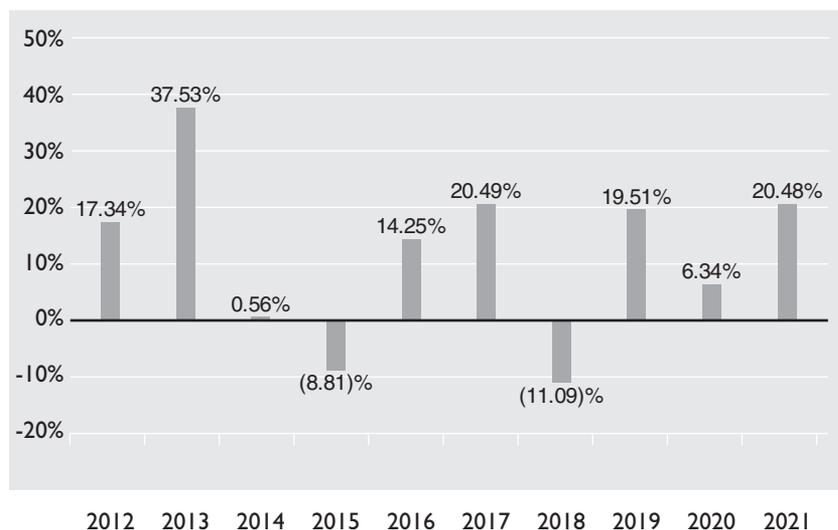
also may not be able to attain the high growth rate of successful smaller companies, especially during extended periods of economic expansion.

- **Management Risk.** If the portfolio manager is incorrect in his assessment of the growth prospects of the securities the Fund holds, then the value of the Fund's shares may decline.
- **Market Risk.** The risk that the securities markets will move down, sometimes rapidly and unpredictably based on overall economic conditions and other factors. Local, regional or global events such as war, acts of terrorism, the spread of infectious illness or other public health issues, recessions, or other events could have a significant impact on the Fund's investments.
- **Merger Risk.** In general, securities of companies which are the subject of a tender or exchange offer or a merger, consolidation, liquidation, or reorganization proposal sell at a premium to their historic market price immediately prior to the announcement of an offer for the company. However, it is possible that the value of securities of a company involved in such a transaction will not rise and in fact may fall, in which case the Fund would lose money. It is also possible that the Adviser's assessment that a particular company is likely to be acquired or acquired during a specific time frame may be incorrect, in which case the Fund may not realize any premium on its investment and could lose money if the value of the securities declines during the Fund's holding period.
- **Sector Risk.** Although the Fund does not employ a sector focus, its exposure, from time to time, to specific sectors will increase based on the Adviser's perception of available investment opportunities. If the Fund focuses on a particular sector, the Fund may face an increased risk that the value of its portfolio will decrease because of events disproportionately affecting that sector. Furthermore, investments in particular sectors may be more volatile than the broader market as a whole.
- **Small and Mid-Capitalization Risk.** Risk is greater for the securities of small and mid-capitalization companies (including small unseasoned companies that have been in operation less than three years) because they generally are more vulnerable than larger companies to adverse business or economic developments and they may have more limited resources. The securities of small and mid-capitalization companies also may trade less frequently and in smaller volume than larger companies. As a result, the value of such securities may be more volatile than the securities of larger companies, and the Fund may experience difficulty in purchasing or selling such securities at the desired time and price.

Performance

The bar chart and table that follow provide an indication of the risks of investing in the Fund by showing changes in the Fund's performance from year to year, and by showing how the Fund's average annual returns for one year, five years, and ten years compared with those of a broad based securities market index. As with all mutual funds, the Fund's past performance does not predict how the Fund will perform in the future. Updated information on the Fund's results can be obtained by visiting www.gabelli.com.

GABELLI CAPITAL ASSET FUND
(Total Returns for the Years Ended December 31)



Performance information does not reflect separate account or variable insurance contract fees and charges. If such fees and charges were reflected, the Fund's returns would be lower than those shown. During the periods shown in the bar chart, the highest return for a quarter was 23.47% (quarter ended December 31, 2020), and the lowest return for a quarter was (29.75)% (quarter ended March 31, 2020).

Average Annual Total Returns (for the years ended December 31, 2021)	Past One Year	Past Five Years	Past Ten Years
Gabelli Capital Asset Fund	20.48%	10.41%	10.74%
Standard & Poor's ("S&P") 500 Index (reflects no deduction for fees, expenses or taxes)	28.71%	18.47%	16.55%

Management

The Adviser. Gabelli Funds, LLC

The Portfolio Manager. Mr. Mario J. Gabelli, CFA, Chairman, Chief Investment Officer — Value Portfolios of the Adviser, has served as portfolio manager of the Fund since its inception on May 1, 1995.

Purchase and Sale of Fund Shares

You may invest in the Fund only by purchasing certain variable annuity and variable insurance contracts ("Contracts") issued by various insurance companies ("Insurance Companies"). The Fund continuously offers its shares to the Insurance Companies' separate accounts at the net asset value per share ("NAV") next determined after a proper purchase request has been received by the Insurance Companies. The Insurance Companies then offer to owners of the Contracts ("Contract-owners") units in separate accounts which directly correspond to shares in the Fund. The Insurance Companies submit purchase and redemption orders to the Fund based on allocation instructions for premium payments, transfer instructions, and surrender or partial withdrawal requests which

are furnished to the Insurance Companies by such Contract-owners. The Fund redeems shares from the Insurance Companies' separate accounts at the NAV next determined after receipt of a redemption order from the Insurance Companies.

Because the Fund's shares are offered exclusively to insurance company separate accounts that fund certain insurance contracts, the Fund is dependent on the rights, ability, and willingness of these participating insurance companies to limit frequent trading in Fund shares.

Tax Information

The Fund expects that distributions will generally be taxable as ordinary income or long term capital gains to shareholders who are holding the shares in a taxable account. Distributions made by the Fund to an insurance company separate account, and exchanges and redemptions of Fund shares made by a separate account, ordinarily do not cause the corresponding contract owners to recognize income or gain for federal income tax purposes. For more information, turn to "Dividends, Distributions, and Taxes."

INVESTMENT OBJECTIVES, INVESTMENT STRATEGIES, AND RELATED RISKS

Investment Objectives

The primary investment objective of the Fund is growth of capital, and current income is a secondary objective. The investment objectives of the Fund are fundamental and may not be changed without shareholder approval.

Investment Strategies and Related Risks

The Fund's assets will be invested primarily in a broad range of readily marketable equity securities of: common stock, preferred stock, and securities that may be converted at a later time into common stock, that are selling in the public market at a significant discount to their "private market value." Private market value is the value that the Fund's Adviser believes informed investors would be willing to pay for a company. The Adviser considers factors such as price, earnings expectations, earnings and price histories, balance sheet characteristics, and perceived management skills. The Adviser also considers changes in economic and political outlooks as well as individual corporate developments. The Fund may invest in companies of any size and from time to time may invest primarily in companies with large, medium, or small market capitalizations. The Adviser will sell any Fund investments that lose their perceived value when compared with other investment alternatives. Holders of equity securities only have rights to value in the issuer after all issuer debts have been paid, and they could lose their entire investment in a company that encounters financial difficulty. The Fund may also buy warrants, which are rights to purchase securities at a specified time at a specified price.

The Fund may also use the following techniques as principal investment strategies:

- **Corporate Reorganizations.** Subject to the diversification requirements of its investment restrictions, the Fund may invest up to 35% of its total assets in securities for which a tender or exchange offer has been made or announced and in the securities of companies for which a merger, consolidation, liquidation, or similar reorganization proposal has been announced. The Adviser will only invest in such securities if it is likely that the amount of capital appreciation will be significantly greater than the added expenses of buying and selling securities on a short term basis. The 35% limitation does not apply to the securities of companies that may be involved in simply consummating an approved or agreed upon merger, acquisition, consolidation, liquidation, or reorganization.
- **Defensive Investments.** When adverse market or economic conditions occur, the Fund may temporarily invest all or a portion of its assets in defensive investments. Such investments include high grade debt securities, obligations of the U.S. government and its agencies and instrumentalities, and high quality short term money market instruments. When following a defensive strategy, the Fund will be less likely to achieve its investment goal.
- **Foreign Securities.** The Fund may invest up to 25% of its total assets in the securities (common stock, preferred stock, and securities that may be converted at a later time into common stock) of non-U.S. issuers.

The Fund may also engage in other investment practices in order to achieve its investment objectives. These are discussed in the Statement of Additional Information (“SAI”), which may be obtained by calling 800-Gabelli (800-422-3554), or your financial intermediary.

The principal risks of investing in the Fund are:

- **Convertible Securities Risk.** The Fund may invest in convertible securities which may include both convertible debt and convertible preferred stock. Such securities may be converted into shares of the underlying common stock at either a stated price or stated rate. Therefore, convertible securities enable the holder to benefit from increases in the market price of the underlying common stock. Convertible securities provide higher yields than the underlying common stock, but generally offer lower yields than nonconvertible securities of similar quality. The value of convertible securities fluctuates in relation to changes in interest rates and, in addition, fluctuates in relation to the underlying common stock. While no securities investment is without some risk, investments in convertible securities generally entail less risk than the issuer’s common stock; however, the extent to which such risk is reduced depends in large measure upon the degree to which the convertible security sells above its value as a fixed income security. A convertible security may be subject to redemption at the option of the issuer at a price established in the convertible security’s governing instrument. If a convertible security held by the Fund is called for redemption, the Fund will be required to permit the issuer to redeem the security, convert it into underlying common stock, or sell it to a third party. Investments by the Fund in convertible debt securities are not subject to any ratings restrictions, although the Adviser will consider such ratings, and any changes in such ratings, in its determination of whether the Fund should invest and/or continue to hold the securities. The credit standing of the issuer and other factors may have an effect on a convertible security’s investment value. Convertible securities rank senior to common stock in a corporation’s capital structure, but are usually subordinated to comparable non-convertible securities. Convertible securities are subject to interest rate risk and credit risk and are often lower-quality securities.
- **Coronavirus (“COVID-19”) and Global Health Event Risk.** As of the filing date of this prospectus, there is an outbreak of a highly contagious form of a novel coronavirus known as “COVID-19.” COVID-19 has been declared a pandemic by the World Health Organization and, in response to the outbreak, the U.S. Health and Human Services Secretary has declared a public health emergency in the United States. COVID-19 had a devastating impact on the global economy, including the U.S. economy, and resulted in a global economic recession. Many states issued orders requiring the closure of non-essential businesses and/or requiring residents to stay at home. The COVID-19 pandemic and preventative measures taken to contain or mitigate its spread have caused, and are continuing to cause, business shutdowns, cancellations of events and travel, significant reductions in demand for certain goods and services, reductions in business activity and financial transactions, supply chain interruptions and overall economic and financial market instability both globally and in

the United States. Such effects will likely continue for the duration of the pandemic, which is uncertain, and for some period thereafter. While several countries, as well as certain states, counties, and cities in the United States, began to relax the early public health restrictions with a view to partially or fully reopening their economies, many cities, both globally and in the United States, continue to experience, from time to time, surges in the reported number of cases and hospitalizations related to the COVID-19 pandemic. Recurring COVID-19 outbreaks, newly discovered variant and sub-variant strains of the virus and increases in cases can, and has, led to the re-introduction of restrictions and business shutdowns in certain states, counties, and cities in the United States and globally, and could continue to lead to the re-introduction of such restrictions elsewhere. Even after the COVID-19 pandemic subsides, the U.S. economy and most other major global economies may continue to experience a substantial economic downturn or recession, and our business and operations, as well as the business and operations of our portfolio companies, could be materially adversely affected by a prolonged economic downturn or recession in the United States and other major markets.

The current economic situation and the unprecedented measures taken by state, local and national governments around the world to combat the spread of COVID-19, as well as various social, political and psychological tensions in the United States and around the world, may continue to contribute to severe market disruptions and volatility and reduced economic activity, may have long-term negative effects on the U.S. and worldwide financial markets and economy and may cause further economic uncertainties in the United States and worldwide. The prolonged continuation or further deterioration of the current U.S. and global economic downturn could adversely impact the Fund's portfolio. It is difficult to predict how long the financial markets and economic activity will continue to be impacted by these events and the Fund cannot predict the effects of these or similar events in the future on the U.S. economy and securities markets.

Despite actions of the U.S. federal government and foreign governments, the uncertainty surrounding the COVID-19 pandemic and other factors has contributed to significant volatility in the global public equity markets and global debt capital markets, including the net asset value of the Fund's shares. These events could have, and/or have had, a significant impact on the Fund's performance, net asset value, income, operating results and ability to pay distributions, as well as the performance, income, operating results and viability of issuers in which it invests.

It is virtually impossible to determine the ultimate impact of COVID-19 at this time. Further, the extent and strength of any economic recovery after the COVID-19 pandemic abates, including following any intensifying of the pandemic, is uncertain and subject to various factors and conditions. Accordingly, an investment in the Fund is subject to an elevated degree of risk as compared to other market environments.

- **Credit Quality Risk.** Lower rated convertible securities are subject to greater credit risk, greater price volatility, and a greater risk of loss than investment grade securities. There may be less of a market for lower rated convertible securities, which could make it harder to sell them at an acceptable price.
- **Equity Market Risk.** The price of equity securities may rise or fall because of changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors or industries selected for the Fund's portfolio or the securities market as a whole, such as changes in economic or political conditions. Equity securities are subject to "stock market risk" meaning that stock prices in general (or in particular, the prices of the types of securities in which the Fund invests) may decline over short or extended periods of time. When the value of the Fund's securities goes down, your investment in the Fund decreases in value.
- **Financial Services Risk.** The Fund invests in securities issued by financial services companies. Financial services companies can be significantly affected by changing economic conditions, demand for consumer loans, refinancing activity and intense competition, including price competition. Profitability can be largely dependent on the availability and cost of capital and the rate of consumer debt defaults, and can fluctuate significantly when interest rates change; unstable and/or rising interest rates may have a disproportionate effect on companies in the financial services sector. Financial services companies are subject to extensive government regulation, which can change frequently and may adversely affect the scope of their activities, the prices they can charge and the amount of capital they must maintain, or may affect them in other ways that are unforeseeable. In the past, financial services companies in general experienced considerable financial distress, which led to the implementation of government programs designed to ease that distress.
- **Foreign Securities Risk.** Risks of investing in foreign securities include currency risks, future political and economic developments and possible imposition of foreign withholding taxes on income payable on the securities. In addition, there may be less publicly available information about a foreign issuer than about a domestic issuer, and foreign issuers may not be subject to the same accounting, auditing and financial recordkeeping standards and requirements as domestic issuers.
- **Interest Rate Risk, Maturity Risk, and Credit Risk.** Interest rate risk is the risk that fixed income securities will decline in value because of changes in interest rates. Given the historically low interest rate environment in the U.S., risks associated with rising interest rates are heightened. Recent and potential future changes in government policy that could affect interest rates and current conditions may result in a rise in interest rates, which in turn may result in a decline in the value of investments held by the Fund. The negative impact on fixed income securities from any interest rate increases could be swift and significant. The magnitude of the increase or decline will often be greater for longer term debt securities than shorter term debt securities. It is also possible that the issuer of a debt security will not be able to make interest and principal payments when due.

- **Issuer-Specific Risk.** The value of an individual security or particular type of security can be more volatile than the market as a whole and can perform differently from the market as a whole. The Fund could lose all of its investment in a company's securities.
- **Large-Capitalization Risk.** Larger, more established companies may be unable to respond quickly to new competitive challenges such as changes in technology and consumer tastes. Many larger companies also may not be able to attain the high growth rate of successful smaller companies, especially during extended periods of economic expansion.
- **Management Risk.** If the portfolio manager is incorrect in his assessment of the growth prospects of the securities the Fund holds, then the value of the Fund's shares may decline. In addition, the portfolio manager's strategy may produce returns that are different from other mutual funds that invest in similar securities.
- **Market Risk.** The risk that the securities markets will move down, sometimes rapidly and unpredictably based on overall economic conditions and other factors. Local, regional or global events such as war, acts of terrorism, the spread of infectious illness or other public health issues, recessions, or other events could have a significant impact on the Fund's investments.
- **Merger Risk.** In general, securities of companies which are the subject of a tender or exchange offer or a merger, consolidation, liquidation, or reorganization proposal sell at a premium to their historic market price immediately prior to the announcement of an offer for the company. However, it is possible that the value of securities of a company involved in such a transaction will not rise and in fact may fall, in which case the Fund would lose money. It is also possible that the Adviser's assessment that a particular company is likely to be acquired or acquired during a specific time frame may be incorrect, in which case the Fund may not realize any premium on its investment and could lose money if the value of the securities declines during the Fund's holding period. The Fund's return also could be adversely impacted to the extent that the Adviser's strategies fail to identify companies for investment by the Fund that become the subject of a merger or similar transaction that results in an increase in the value of the securities of those companies. Moreover, publicly announced mergers and similar types of transactions may be renegotiated or terminated, in which case the Fund may lose money. In addition, if a transaction takes a longer time to close than the Adviser originally anticipated, the Fund may realize a lower than expected rate of return.
- **Sector Risk.** Although the Fund does not employ a sector focus, the percentage of a Fund's assets invested in a particular sector can increase from time to time based on the Adviser's perception of available investment opportunities. If the Fund invests a significant portion of its assets in a particular sector, the Fund will be subject to the risk that companies in the same sector are likely to react similarly to legislative or regulatory changes, adverse market conditions, increased competition, or other factors affecting that market segment. In such cases, the Fund would be exposed to an increased risk that the value of its overall portfolio will decrease because of events that disproportionately and

negatively affect that sector. In addition, investments in a particular sector may be more volatile than the broader market as a whole, and the Fund's investments in such a sector may be disproportionately susceptible to losses.

- **Small and Mid-Capitalization Risk.** Risk is greater for the securities of small and mid-capitalization companies because they generally are more vulnerable than larger companies to adverse business or economic developments and they may have more limited resources. The securities of small and mid-capitalization companies also may trade less frequently and in smaller volume than larger companies. As a result, the value of such securities may be more volatile than the securities of larger companies, and the Fund may experience difficulty in purchasing or selling such securities at the desired time and price. In general, these risks are greater for small capitalization companies than for mid-capitalization companies.

Portfolio Holdings. A description of the Fund's policies and procedures with respect to the disclosure of the Fund's portfolio securities is available in the SAI, which may be obtained by calling 800-Gabelli (800-422-3554), your financial intermediary, or free of charge through the Fund's website at www.gabelli.com.

MANAGEMENT OF THE FUND

The Adviser. Gabelli Funds, LLC, with its principal offices located at One Corporate Center, Rye, New York 10580-1422, is a New York limited liability company that serves as investment adviser to the Fund. The Adviser makes investment decisions for the Fund and continuously reviews and administers the Fund's investment program and manages the Fund's operations under the general supervision of the Fund's Board of Directors (the "Board" or the "Directors"). Additionally, the Adviser oversees the Fund's third party service providers. The Adviser also manages several other open-end and closed-end investment companies in the Gabelli family of funds ("Gabelli Fund Complex" or "Fund Complex"). The Adviser is a wholly owned subsidiary of GAMCO Investors, Inc. ("GBL"), a publicly held company listed on the NYSE.

As compensation for its services and the related expenses borne by the Adviser, for the fiscal year ended December 31, 2021, the Fund paid the Adviser an annual fee equal to 0.75% of the value of the Fund's average daily net assets.

The Shareholder Servicing Agent. The Guardian Insurance & Annuity Company, Inc. ("GIAC"), located at 7 Hanover Square, New York, New York 10004, serves as the Shareholder Servicing Agent to the Fund. GIAC provides various administrative services, including maintenance of books and records, determinations and reconciliations with respect to Fund purchase and redemption orders, and telephone support for contract owners with respect to inquiries about the Fund as well as provides information to the Adviser with respect to relevant insurance laws, regulations and related matters and IRS regulations with respect to variable contracts, for 0.25% of the Fund's average daily net assets.

The Portfolio Manager. Mr. Mario J. Gabelli, CFA, is primarily responsible for the day to day investment management of the Fund. Mr. Gabelli is Chairman and Chief Executive Officer of GBL and

Executive Chairman of Associated Capital Group, Inc.; Chief Investment Officer — Value Portfolios of GBL, Gabelli Funds LLC, and GAMCO Asset Management Inc., another wholly owned subsidiary of GBL; Chief Executive Officer and Chief Investment Officer of GGCP; and an officer or director of other companies affiliated with GBL. Mr. Gabelli serves as portfolio manager for and is a director of several funds in the Gabelli Fund Complex. The Adviser relies to a considerable extent on the expertise of Mr. Gabelli, who may be difficult to replace in the event of his death, disability, or resignation.

The Fund's SAI provides additional information about Mr. Gabelli's compensation, other accounts managed by him, and his ownership of securities in the Fund.

INDEX DESCRIPTION

The **S&P® 500 Index** is a widely recognized, unmanaged index of common stock prices. The Index figures do not include any deduction for fees, expenses, or taxes. You cannot invest directly in the S&P® 500 Index.

PURCHASE AND REDEMPTION OF SHARES

You may invest in shares of the Fund only by purchasing certain Contracts issued by the Insurance Companies. The Fund continuously offers its shares to the Insurance Companies' separate accounts at the NAV next determined after a proper purchase request has been received by the Insurance Companies. The Insurance Companies then offer to Contract-owners units in separate accounts which directly correspond to shares in the Fund. The Insurance Companies submit purchase and redemption orders to the Fund based on allocation instructions for premium payments, transfer instructions, and surrender or partial withdrawal requests which are furnished to the Insurance Companies by such Contract-owners. The Fund redeems shares from the Insurance Companies' separate accounts at the NAV next determined after receipt of a redemption order from the Insurance Companies.

Because the Fund's shares are offered exclusively to insurance company separate accounts that fund certain insurance contracts, the Fund is dependent on the rights, ability, and willingness of these participating insurance companies to limit frequent trading in Fund shares.

A summary of the policies followed by GIAC to limit frequent trading, as stated in the current prospectuses for the variable contracts offered by GIAC, follows. GIAC Contract-owners will be informed of material updates to these policies by GIAC as necessary. Other insurance company separate accounts that offer Fund shares to their Contract-owners are required to adopt policies with respect to frequent trading, as described in the prospectus for those contracts.

If transfer activity violates GIAC's established parameters, GIAC will apply restrictions that it reasonably believes will prevent any harm to other Contract-owners, and may apply the restrictions to contracts it believes to be related. The restriction that GIAC currently applies is to limit the number of transfers to not more than once every thirty days. Restrictions that GIAC may impose include limiting the frequency of transfers, imposing fees on transfers in excess of a specified number, limiting or restricting electronic or telephone transaction privileges, or refusing a transaction request believed to have a harmful effect. These

restrictions may be changed at any time and without prior notice. GIAC will not grant waivers from or make exceptions to these restrictions. However, the limits and restrictions are subject to GIAC's ability to monitor transfer activity, which may be limited by operational and technological systems, as well as by its ability to predict strategies employed by Contract-owners to avoid detection. As a result, despite GIAC's efforts to prevent frequent transfers, there can be no assurance that it will be able to detect and/or deter frequent transfers, and consequently, there can be no assurance that excessive trading in Fund shares will not occur. As a result, some Contract-owners may be able to engage in market timing while other Contract-owners are harmed by such activity.

The Fund reserves the right to reject a purchase order for any reason with or without prior notice to the insurance company separate account. In particular, the Fund reserves the right to reject a purchase order from any insurance company separate account that in its opinion has not taken effective steps to detect and prevent frequent purchases and sales of Fund shares.

During certain market conditions, the Fund may pay your redemption proceeds wholly or partially in portfolio securities. Payments would be made in portfolio securities only in instances where the Fund's Board (or its delegate) believes that it would be in the best interest not to pay redemption proceeds in cash. A redemption in kind would be a taxable event to you on which you would realize capital gain or capital loss (subject to possible limitations of deductibility). Please see "Purchase and Redemption of Shares" in the SAI for additional information.

Customer Identification Program. Federal law requires the Fund to obtain, verify, and record identifying information, which may include the name, residential, or business address, date of birth (for an individual), social security or taxpayer identification number, or other identifying information, for each investor who opens or reopens an account with the Fund. As a result, your broker-dealer may request this information from you. Applications without the required information may be rejected or placed on hold until the Fund verifies the account holder's identity.

The Fund's policies and procedures may be modified or terminated at any time upon notice of material changes to shareholders and prospective investors.

The accompanying prospectus for a variable annuity or variable life insurance policy describes the allocation, transfer, and withdrawal provisions of such annuity or policy.

PRICING OF FUND SHARES

The Fund's NAV is calculated on each Business Day. A Business Day is any day the NYSE is open for business. The NYSE is open Monday through Friday, but currently is scheduled to be closed on New Year's Day, Martin Luther King, Jr. Day, Presidents' Day, Good Friday, Memorial Day, Juneteenth, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day and on the preceding Friday or subsequent Monday when a holiday falls on a Saturday or Sunday, respectively.

The Fund's NAV is determined as of the close of regular trading on the NYSE, normally 4:00 p.m., Eastern Time. The NAV is computed by dividing the value of the Fund's net assets, *i.e.*, the value of its securities and other assets less its liabilities, including expenses payable or accrued but excluding capital stock and surplus, by the total number of its shares outstanding at the time the determination is made. The Fund uses market quotations in valuing its portfolio securities. Securities traded primarily on foreign exchanges are valued at the closing price on such exchange immediately prior to the close of the NYSE. The price of Fund shares for purposes of purchase and redemption orders will be based upon the calculation of the NAV next made after the time as of which the purchase or redemption order is received in proper form. Because the Fund may invest in foreign securities that are primarily listed on foreign exchanges that trade on weekends or other days when the Fund does not price its shares, the NAV of each class of shares may change on days when shareholders will not be able to purchase or redeem the Fund's shares.

Equity securities listed or traded on a nationally recognized securities exchange or traded in the U.S. over-the-counter market where trades are reported contemporaneously and for which market quotations are readily available are valued at the last quoted sale or a market's official closing price at the close of the exchange's or other market's regular trading hours, as of or prior to the time and day as of which such value is being determined. Portfolio securities traded on more than one national securities exchange or market are valued according to the broadest and most representative market as determined by the Adviser. If there has been no sale on the day the valuation is made, the securities are valued at the mean of the closing bid and ask prices on the principal market for such security on such day. If no ask prices are quoted on such day, then the security is valued at the closing bid price on the principal market for such security on such day. If no bid or ask prices are quoted on such day, the Fund's accounting agent will notify the Adviser and the security will be valued based on written or standing instructions from the Adviser and/or the Pricing Committee.

Equity securities that are primarily traded on foreign markets, except for those that trade primarily in Latin America or South America, are generally valued at the preceding closing values of such securities on their respective exchanges. Equity securities which are primarily traded in Latin American or South American markets are valued each day approximately at the time of the close of regular trading on the NYSE as though such time were the close of trading on such Latin American or South American market and such Latin American or South American market were a U.S. market. When the NYSE is open, but the foreign market on which an equity security primarily trades is closed, such as for a foreign national holiday, the security will generally be valued at the last available closing value (subject to the Fair Value Procedures adopted by the Board) using the prevailing exchange rate as described below. If some event occurs affecting or likely to affect the price of an equity security or group of equity securities to a significant extent including but not limited to material market movement, changes in market conditions after a foreign market closes, but prior to 4:00 p.m. Eastern Time, or a company development, such as a material business development, dividend declaration, stock split or rights offering, and if

adequate and timely information relating to the event is not available or is not taken into account by the pricing service, the Adviser should review the pricing furnished by the pricing service to determine whether it is appropriate in the circumstances. In such case, the Adviser will obtain market quotations from another source or will make a fair value determination of such securities using other appropriate value measurements and such information will be presented to the Board for ratification at its next scheduled meeting. If the primary market for such an equity security suspends or limits trading or price movements, whether for the market as a whole or the particular security, and trading also occurs on a secondary market which has not suspended or limited trading or price movement, valuation will be based on information from the secondary market provided by the Adviser. If all markets on which such an equity security have suspended trading, the Adviser will fair value such security as provided above. Information that becomes known after the close of the NYSE, normally 4:00 p.m. Eastern time, on any business day may be assessed in determining net asset value per share after the time of receipt of the information, but will not be used to retroactively adjust the price of the security determined earlier or on a prior day.

Initial public offering securities are initially valued at cost. Upon commencement of trading, these securities are valued like any other equity security.

Debt obligations (including convertible debt) for which market quotations are readily available are valued at the average of the latest bid and ask prices. If there were no ask prices quoted on such day, the security is valued using the closing bid price. Such debt obligations are valued through prices provided by a pricing service approved by the Board.

Assets and liabilities denominated in foreign currencies will be translated into U.S. dollars at the prevailing exchange rates as provided by an appropriate pricing service. Forward currency exchange contracts will be valued using interpolated forward exchange rates. Prevailing foreign exchange rates and forward currency foreign exchange rates may generally be obtained on a consistent basis at approximately 11:00 a.m. Eastern time, which approximates the close of the London Exchange. As available and as provided by an appropriate pricing service, translation of foreign security and currency market values will also occur with the use of foreign exchange rates obtained at the close of the NYSE, normally 4:00 p.m. Eastern time.

Certain securities are valued principally using dealer quotations. Futures contracts are valued at the closing settlement price of the exchange or board of trade on which the applicable contract is traded.

OTC futures and options on futures for which market quotations are readily available will be valued by quotations received from a pricing service or, if no quotations are available from a pricing service, by quotations obtained from one or more dealers in the instrument in question by the Adviser.

Securities and other assets for which market quotations are not readily available are fair valued as determined by the Board. Fair valuation methodologies and procedures may include, but are not limited to: analysis and review of available financial and non-financial information

about the company; comparisons with the valuation and changes in valuation of similar securities, including a comparison of foreign securities with the equivalent U.S. dollar value American Depositary Receipt securities at the close of the U.S. exchange; and evaluation of any other information that could be indicative of the value of the security. Fair value represents a good faith approximation of the value of a security.

DIVIDENDS, DISTRIBUTIONS, AND TAXES

The Insurance Companies' separate accounts generally automatically reinvest, at NAV, any dividends and capital gain distributions paid by the Fund in additional shares of the Fund. There is no fixed dividend rate, and there can be no assurance that the Fund will pay any dividends or realize any capital gains. However, the Fund currently intends to pay dividends and capital gain distributions, if any, on an annual basis. Contract-owners who own units in a separate account corresponding to shares in the Fund will be notified when distributions are made.

The Fund will be treated as a separate entity for federal income tax purposes. The Fund has qualified and intends to continue to qualify as a "regulated investment company" under the Internal Revenue Code of 1986, as amended, in order to be relieved of federal income tax on the portion of its net investment income and net realized capital gains that it distributes to separate accounts. To qualify, the Fund must meet certain relatively complex income, distribution, and diversification tests. The loss of such status would result in the Fund being subject to federal income tax on its taxable income and gains at corporate income tax rates.

Federal tax regulations require that mutual funds that are offered through insurance company separate accounts meet certain diversification and investor control requirements to preserve the tax deferral benefits provided by the variable contracts that are offered in connection with such separate accounts. The Adviser intends to diversify the Fund's investments and to comply with applicable investor control rules in accordance with those requirements. If the separate accounts were to fail to meet the investor control requirements or were otherwise to fail to qualify as a regulated investment company for any taxable year, income allocable to the Contracts associated with the separate accounts would be taxable currently to the holders of such Contracts and income from prior periods with respect to such Contracts could also be taxable, most likely in the year of failure.

The Fund's distributions will generally be taxable as ordinary income or long term capital gains to shareholders who are holding the shares in a taxable account. A portion of the Fund's dividends may be eligible for tax treatment as qualified dividends, which are taxed at the federal rates applicable to long term capital gains. Reinvested dividends and distributions are taxable to the same extent as if received in cash.

Distributions made by the Fund to an insurance company separate account, and exchanges and redemptions of Fund shares made by a separate account, ordinarily do not cause the corresponding contract owners to recognize income or gain for federal income tax purposes.

The prospectuses for the Contracts describe the federal income tax treatment of distributions from such Contracts to Contract-owners.

This is only a summary of important federal tax law provisions that can affect the Fund. Other federal, state, or local tax law provisions may also affect the Fund and its operations. The Statement of Additional Information contains a further discussion of tax matters affecting the Fund and its shareholders. Anyone who is considering allocating, transferring, or withdrawing monies held under a Contract to or from the Fund should consult a qualified tax adviser.

SPECIAL INFORMATION ABOUT THE FUND

The Fund offers its shares to both variable annuity and variable life insurance policy separate accounts. Due to differences of tax treatment and other considerations, the interests of various Contract-owners participating in the Fund may conflict. However, the Fund does not anticipate that this arrangement will disadvantage any Contract-owners. The Fund's Board monitors events for the existence of any material irreconcilable conflict between or among Contract-owners. If a material irreconcilable conflict arises, one or more separate accounts may withdraw their investments in the Fund. This could possibly force the Fund to sell portfolio securities at unfavorable prices. The Insurance Company will bear the expenses of establishing separate portfolios for variable annuity and variable life insurance separate accounts if such action becomes necessary; however, ongoing expenses that are ultimately borne by Contract-owners would likely increase due to the loss of the economies of scale that would result from the smaller size of the separate portfolios.

FINANCIAL HIGHLIGHTS

The Financial Highlights table is intended to help you understand the financial performance of the Fund for the past five fiscal years. The total returns in the table represent the percentage amount that an investor would have earned or lost on an investment. This information has been audited by Ernst & Young LLP, independent registered public accounting firm, whose report, along with the Fund's financial statements and related notes, is included in the Fund's annual report, which is available upon request.

FINANCIAL HIGHLIGHTS

Selected data for a share of capital stock outstanding throughout each year:

	Year Ended December 31,				
	2021	2020	2019	2018	2017
Operating Performance:					
Net asset value, Beginning of Year	\$ 17.99	\$ 17.95	\$ 16.45	\$ 20.83	\$ 19.55
Net investment income(a)	0.09(b)	0.02	0.06	0.07	0.06
Net realized and unrealized gain/(loss) on investments and foreign currency transactions	3.60	1.11	3.15	(2.40)	3.95
Total from investment operations	3.69	1.13	3.21	(2.33)	4.01
Distributions to Shareholders:					
Net investment income	(0.10)	(0.03)	(0.07)	(0.07)	(0.06)
Net realized gain on investments	(2.35)	(1.06)	(1.64)	(1.98)	(2.67)
Return of capital	—	—	—	—	(0.00)(c)
Total distributions	(2.45)	(1.09)	(1.71)	(2.05)	(2.73)
Net Asset Value, End of Year	\$ 19.23	\$ 17.99	\$ 17.95	\$ 16.45	\$ 20.83
Total Return †	20.48%	6.34%	19.51%	(11.09%)	20.49%
Ratios to Average Net Assets and Supplemental Data:					
Net assets, end of year (in 000's)	\$82,615	\$77,121	\$82,272	\$78,205	\$104,422
Ratio of net investment income to average net assets	0.43% (b)	0.15%	0.34%	0.33%	0.26%
Ratio of operating expenses to average net assets	1.28% (d)	1.32%	1.28% (e)	1.26%	1.23% (f)
Portfolio turnover rate	6%	2%	1%	1%	2%

† Total return represents aggregate total return of a hypothetical investment at the beginning of the year and sold at the end of the year including reinvestment of distributions and does not reflect the applicable sales charges.

(a) Per share data are calculated using the average shares outstanding method.

(b) Includes income resulting from special dividends. Without these dividends, the per share income amounts would have been \$0.07 and the net investment income ratio would have been 0.33%.

(c) Amount represents less than \$0.005 per share.

(d) Ratio of operating expenses includes advisory fee reduction on unsupervised assets. For the year ended December 31, 2021, there was no impact on the expense ratio.

(e) The Fund incurred tax expense during the year ended December 31, 2019, the effect of which was minimal.

(f) During the year ended December 31, 2017, the Fund received reimbursements of custody expenses paid in prior years. There was no impact on the expense ratio.

GABELLI CAPITAL ASSET FUND

For more information about the Fund, the following documents are available free upon request:

Annual/Semiannual Reports:

The Fund's Semiannual and audited Annual Reports to shareholders contain additional information on the Fund's investments. In the Fund's Annual Report, you will find a discussion of the market conditions and investment strategies that significantly affected the Fund's performance during its last fiscal year.

Statement of Additional Information (SAI):

The SAI provides more detailed information about the Fund, including its operations and investment policies. It is incorporated by reference, and is legally considered a part of this prospectus.

You can obtain free copies of these documents and prospectuses of other funds in the Gabelli Fund Complex, or request other information and discuss your questions about the Fund by mail, toll free telephone, or the Internet as follows:

Gabelli Capital Series Funds, Inc.

One Corporate Center Rye, NY 10580-1422

Telephone: 800-GABELLI (800-422-3554)

www.gabelli.com/CapitalAssetFund

You can also review and/or copy the Fund's prospectus, annual and semiannual reports, and SAI at the Public Reference Room of the SEC in Washington, DC. You can obtain text-only copies:

- For a fee, by electronic request at publicinfo@sec.gov, by writing to the Public Reference Section of the SEC, Washington, DC 20549-1520, or by calling 202-551-8090.
- For information on the operations of the Public Reference Section please call 202-551-8090.
- Free from the EDGAR Database on the SEC's website at www.sec.gov.

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