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If you have any questions about the contents of this Brochure, please contact us at [info@capitalcastle.com](mailto:info@capitalcastle.com).

This brochure serves as a replacement to Part II of Form ADV Uniform Application for Investment Adviser Registration, which gives information about the investment adviser firm CapitalCastle Investment Group Ltda. and its business for the prospective Clients. This information has not been approved or verified by any governmental authority. Registration of an investment adviser does not imply that the adviser possesses a certain level of skill or training.

Additional information about CapitalCastle Investment Group Ltda. is also available on the SEC's website at [www.adviserinfo.sec.gov](http://www.adviserinfo.sec.gov). CRD number (#174738).

## Item 2 – Material Changes

CapitalCastle Investment Group Ltda. (or simply CapitalCastle) is a newly registered investment adviser with the Securities Exchange Commission (SEC). Therefore this Brochure is a new document and there are no material changes to be reported. In the future, this Item will discuss only specific material changes that are made to the Brochure.

In accordance with the SEC Rules, Clients will receive a summary of any materials changes to the Brochure, and any subsequent versions of the Brochure within 120 days of the close of CapitalCastle's fiscal year, which is December 31. We may also provide updated disclosure information about material changes on a more frequent basis without charge. Currently, anyone may request the Brochure by contacting us at +(549) 11 2190 1423, [info@capitalcastle.com](mailto:info@capitalcastle.com) or simply downloading it from <http://capitalcastle.com/>

### Item 3 - Table of content.

Item 1 - Cover page .....	1
Item 2 – Material Changes .....	2
Item 3 – Table of Contents .....	3
Item 4 – Advisory Business.....	5
Description of Advisory Business .....	6
Legal concepts that apply to the advisory agreement .....	7
Item 5 – Fees and Compensation.....	8
Item 6 – Performance Based Fees and Side-by-Side Management .....	9
Performance Fee .....	9
Legal concepts .....	10
Item 7 – Types of Clients .....	11
Item 8 – Methods of Analysis, Investment Strategies and Risk of Loss .....	12
Investment Philosophy.....	12
Portfolio Construction and Risk Management.....	13
CapitalCastle’s risk management principles and practices: .....	13
Item 9 – Disciplinary Information.....	17
Item 10 - Other Financial Industry Activities and Affiliations .....	18
Item 11 - Code of Ethics, Participation or Interest in Client Transactions and Personal Trading .....	19
Other Investment Accounts .....	19
Item 12 - Brokerage Practices .....	21
Item 13 - Review of Accounts.....	22
Item 14 – Client Referrals and Other Compensation .....	23
Item 15 – Custody .....	24
Item 16 - Investment Discretion.....	25
Item 17 - Voting Client Securities.....	26
Item 18 - Financial Information.....	27
Item 19 – References .....	28
1. Models used by CapitalCastle to manage clients’ accounts: .....	28
○ Modern Portfolio Theory .....	28

○ Beta based measurement of the portfolio.....	28
○ GARCH and ARCH models .....	28
○ TIMS margin methodology:.....	29
2. CORRELATION.....	29
3. Volatility as a measure of risk, and its effect in performance .....	30
4. Volatility as a measure of opportunity in markets.....	30
5. Short positions .....	31
a. Short premium strategies .....	31
6. Leverage .....	31
7. Hedging practices and concepts.....	32
8. Adjustments .....	33
9. Definition of financial derivative .....	33

## Item 4 – Advisory Business

*NOTE: We encourage our clients or potential clients to read the item 19 “References” in order to get a more deep understanding of the technical terms used to describe our strategy. There are 8 terms described in detail in item 19 “references”.*

CapitalCastle Investment Group Ltda. (the “Investment Adviser” or simply “CapitalCastle”) is a newly federal covered Investment advisory firm that started as a private investment club in 2011, with the objective of giving to its members an investment vehicle where they have control over their capital, based on the principle that successful investors have a deep knowledge of how their investments work, how it makes money for the investor and more important, the principle that investors must have control over their investments. Another fundamental element of the philosophy of the club, that remains as a pillar in CapitalCastle’s Investment philosophy and corporate culture, is the belief that the vast majority of investors will not achieve financial goals in the long term, mostly because of their tendency to invest and act in the same way or direction that most of other market participants do, they go with the crowd. Our approach focuses on taking contrarian positions to what is known by conventional wisdom as “the correct way to invest”. We have developed this philosophy through the years and combining the expertise of each partner of the firm, based mostly on actual investments, on experience but mostly because traditional investing have only proved to lead the majority of retail investors into financial mediocrity at best, or even worst financial problems. The model was successful and it attracted new members for the club, which eventually derived in the decision of offering the investment advice to the new members.

The principles of the club remained after the official formation of the investment adviser. We offer customized advisory services helping our clients to allocate their capital at the same time we teach our principles so each investor know exactly why CapitalCastle recommends each investment. CapitalCastle offers mainly a managed and segregated accounts structure taking the investor through a process where he/she gets involved in the management by receiving updates about the basic principles of our strategy at the same time our portfolio management team invests the money in the account; this tries to engage the client with the investments decision more than just sending the statements. We also offer several events, conferences, and courses where the directors of the Investment adviser transmit to the clients the nature of the financial investments, and giving them tools so they can make better decisions through their career as investors. CapitalCastle also offers advisory services to clients using pooled investment vehicles such as investment companies.

CapitalCastle charges to the clients based on their financial status in a highly personalized agreement and in accordance with the policies of the firm: To high net worth individuals, with experience in investing, pooled investment vehicles and institutional investors a management fee plus a performance fee. To our clients with limited experience and capital our standard procedure is to charge a flat monthly fee based on the size of the account.

CapitalCastle Investment Group Ltda. Is a Uruguay based limited liability company, owned by 4 partners (owners with 25% or more of the company): Pablo Mayans Cirigliano, Juan Di Feo, Nicolas Medina and Nicolas Galarza Ricci, all citizens of Argentina.

Our advisory services are based on the same strategies and concepts that all the owners apply to their own investments. We specialize in quantitative investing where we apply statistical and proprietary models<sup>1</sup> developed through the years, to the clients' portfolios looking to make active adjustments<sup>8</sup> to the positions in order to decrease the long term volatility<sup>3</sup> and seeking the market neutrality. This means that we look to have returns completely uncorrelated<sup>2</sup> to the common market investment benchmarks, just like the S&P 500 Index.

How active we make adjustments<sup>8</sup> in the accounts depends on the objectives of the client, and they are strictly taken into account when creating an investment plan for the account. The frequency of the adjustments<sup>8</sup> can be as closed to each other as 10 per day, to a minimum of 1 per month. Thanks to these adjustments<sup>8</sup>, and using derivatives<sup>9</sup>, we create income for the portfolio that offsets the possible drawdowns (depreciation of the account's value from a previous maximum value) and increases the effect of the positive volatility<sup>3</sup>.

We offer to our clients a full time team with expertise in mathematical finance and statistical investing models, to execute trades on behalf of our clients. That is why we offer mainly discretionary management services.

Because of the principles of our strategies our clients may not impose any limitation to the type of securities we use to build their portfolios, however they will understand every investment and adjustment<sup>8</sup> we make thanks to our educational support.

Please contact Nicolas Galarza Ricci, Chief Compliance Officer, if you have any questions about this Brochure. Additional information about CapitalCastle is available on the Internet at [www.adviserinfo.sec.gov](http://www.adviserinfo.sec.gov). You can search this site by a unique identifying number, known as a CRD number. The CRD number for CapitalCastle Investment Group Ltda. is #174738.

## Description of Advisory Business

CapitalCastle manages accounts for every person looking to diversify an investment portfolio by adding quantitative and active investing vehicles at the same time that adds expertise to the decisions about capital allocation thanks to our work to educate clients in the principles that gave we believe, lead to success in investing.

The vast majority of our clients are high-net worth persons that (1) have speculative capital for the principle purpose of investing and (2) are fully cognizant of the possible high risks associated with such investments. CapitalCastle's investment program (described below and in Item 8 of this Brochure) focuses on the global derivatives<sup>9</sup> markets, applying our proprietary financial models<sup>1</sup> to

achieve uncorrelated<sup>2</sup> returns with respect to the market benchmarks, and in line with the objectives of the client, taking into account return needs and expectations, and risk tolerance.

CapitalCastle will create a customized investment plan for the potential client before signing an Investment Advisory Agreement, and will apply all the tools available to the firm in order to meet those goals, and equally important, to keep the client's portfolio inside the determined risk limits.

### **Legal concepts that apply to the advisory agreement**

Investment account assets shall consist of (i) all such cash and investments of the Client as the Client may place under the supervision of CapitalCastle from time to time, plus (ii) all investments, reinvestments and proceeds of the sale thereof, including, without limitation, all dividends and interest on investments, and all appreciation thereof and additions thereto, less depreciation thereof and withdrawals therefrom (the "Investment Account Assets"). Although most of our clients choose the "segregated accounts structure" this concept applies also to pooled investment vehicles.

In its full and absolute discretion and without any obligation on its part to give prior notice to the Client, CapitalCastle shall have sole, complete and full power and authority to invest and reinvest all of the Investment Account Assets in such securities as CapitalCastle in its sole and absolute discretion shall consider to be in the best interest of the Client.

In connection therewith, CapitalCastle shall have sole, complete and full power and authority to: (i) issue orders for the Managed Account to a broker or dealer; (ii) instruct the Custodian to exercise or abstain from exercising any option, privilege or right held in the Managed Account; (iii) monitor the correct collection of income on the Managed Account by the Custodian; and (iv) take any other action with respect to securities or other property in the Managed Account as needed to serve the best interest of the Client. CapitalCastle shall further be free to make investment changes regardless of the resulting rate of portfolio turnover, when it, in its sole discretion, shall determine that such changes will promote the investment objective of the Managed Account.

CapitalCastle reserves the right to advise Clients with respect to any other type of investment deemed appropriate based on the Client's stated goals and objectives. CapitalCastle may also provide advice on any type of investment held in a Client's Investment Account Assets at the inception of the advisory relationship or with respect to any investment for which the Client requests advice.

CapitalCastle does not guarantee any specific level of performance, the success of any investment decision or strategy that CapitalCastle may use, or the success of CapitalCastle's overall management of the Client. The Client understands that investment decisions made for the Client by CapitalCastle are subject to various market, currency, economic, political and business risks, and that those investment decisions will not always be profitable. Clients are responsible for notifying CapitalCastle of any changes to their financial situation or investment objectives.

## Item 5 – Fees and Compensation

CapitalCastle’s fees are negotiable on a case-by-case basis and mutually agreed upon depending on the level and scope of services that you require. These fees can be any one or a combination of the following: asset based fee (percentage of assets), a flat dollar fee or a project based fee. The entire scope and rate of these fees are defined within your Investment Advisory Agreement.

Investment Management Fees are calculated and due quarterly and only payable in arrears (not in advance). CapitalCastle will invoice you directly for services rendered and you can choose the better way to complete the payment, from a variety of methods that CapitalCastle will inform opportunistically.

CapitalCastle’s Investment Management Fees are for advisory services only and are separate from compensation paid to independent money managers, custodians, record-keepers, mutual funds, brokers and other service providers as well as other fees which include taxes, trading fees and other transfer fees. CapitalCastle does not sponsor a wrap-program in which all of these services would be included in our fee. We believe that it is a best practice and matter of moral integrity to disclose all fees you have paid to our firm. We will disclose such payments and any other compensation created from our relationship with you. Detailed historical fee information for your account is available upon request.

Even though the fees charged to clients are negotiable and determined on a case-by-case basis, the basic agreement is based on the following:

Clients pay CapitalCastle a management fee (the “Management Fee”) based on a percentage of the value of the Investment Account Assets, as determined by the Custodian. The Management Fee will be negotiated with the clients before signing any Investment Advisory agreement and will be calculated and paid quarterly in arrears (March 31, June 30, September 30 and December 31).

A pro rata Management Fee is charged to a Client with respect to any amounts permitted to be invested during any calendar quarter. The Management Fee is assessed pro rata in the event the advisory agreement is executed at any time other than the first day of a calendar quarter and with respect to any amounts permitted to be invested at any time other than the first day of a calendar quarter.



## Item 6 – Performance Based Fees and Side-by-Side Management

In some instances, CapitalCastle Investment Group Ltda. manages accounts that pay a regular quarterly investment management fee as described above as well as a quarterly fee based on a percentage of realized and unrealized profits (“performance fee”). This arrangement may cause an inherent conflict of interest as it may give CapitalCastle more of incentive to take greater risks or direct investments that are perceived to have higher return potential to the accounts that pay a performance fee versus the accounts that pay only a regular investment management fee. CapitalCastle attempts to mitigate this conflict by monitoring and enforcing trading guidelines. These guidelines are reviewed and monitored by the client as well as CapitalCastle’s investment professionals.

### Performance Fee

If the Client is a Qualified Client, a performance-based incentive fee (the “Performance Fee”) is assessed with respect to the Investment Account Assets. This performance based fee is negotiable in a case-by-case basis; however the standard agreement will be based on the following:

The Performance Fee shall equal twenty percent (20%) of the excess, if any, of the Net Capital Appreciation (as defined below) of the Investment Account Assets over any Accumulated Net Capital Depreciation (as defined herein). The computation of the Performance Fee is to be made starting on the signature of the agreement with each client, quarterly and one hundred percent (100%) of the estimated Performance Fee, if any, shall be payable by first week (5 business days) of the next quarter.

“Net Capital Appreciation” means the excess, on a US\$-adjusted basis, of (i) the total of all realized and unrealized gains and dividend and interest income, over (ii) the total of all realized and unrealized losses and expenses, all determined on the accrual basis of accounting. “Accumulated Net Capital Depreciation” means the sum of the Net Capital Depreciation (as defined below) for all quarters for which Net Capital Depreciation exists since the last previous date as of which a Performance Fee was payable (i.e., a “loss carry-forward” from prior period(s)/quarter(s)). “Net Capital Depreciation” means the excess of the (i) total of all realized and unrealized losses and expenses, over (ii) the total of all realized and unrealized gains and dividend and interest income. “Expenses” include, without limitation, the Base Fee, dividends paid, any amounts of dividend or interest income withheld as taxes, and interest paid (including interest on capital to fund the Account). Unrealized gains or losses shall be calculated based upon prices at which open positions are valued in the ordinary course at the close of business at the end of the quarter. Realized gains and losses shall be calculated on the actual net purchase or sale prices paid or received.

## Legal concepts

If at any time during or following the term of the Investment advisory Agreement, gains or income used to calculate the Performance Fee are subsequently required to be surrendered or otherwise expended as a result of an adjudication or a settlement of allegations to the effect that such gains or income were obtained in violation of applicable law, the Investment Manager shall be liable to return any excess of the Performance Shares previously paid over the amount of Performance Fees which would have been due the Investment Manager in the absence of the activity that gave rise to such surrender.

## Item 7 – Types of Clients

CapitalCastle Investment Group Ltda. offers investment advisory services mostly to any individual (high-net-worth individual or not), and pooled investment vehicles such as any investment company.

In order to be a client of ours generally a person has to accept a fully discretionary account management since it is our most developed service. CapitalCastle manages accounts for Clients that represent they (1) have speculative capital for the principle purpose of investing and (2) are fully cognizant of the possible high risks associated with such investments.

## Item 8 – Methods of Analysis, Investment Strategies and Risk of Loss

*NOTE: We encourage our clients or potential clients to read the item 19 “References” in order to get a more deep understanding of the technical terms used to describe our strategy. There are 8 terms described in detail in item 19 “references”; It will be a perfect and more detailed complement to item 8 “Methods of Analysis, Investment Strategies and Risk of Loss”.*

CapitalCastle’s approach to investing is based on the philosophy of contrarian positioning, going against the crowd by incrementing our exposure as most of investors look to reduce it. We execute this philosophy using quantitative and statistical trading strategies to find the optimal allocation to get the best risks/rewards relation. We use as the foundation of our approach the latest academic developments in the field of finance, such as the models<sup>1</sup> that the Nobel price Harry Markowitz developed to select investments inside a list of opportunities finding the optimal allocation for each asset in a way that the expected return is the optimal for a given risk tolerated (the modern portfolio theory). We combined this theory with pricing models for derivatives<sup>9</sup>, options and several newly accepted concepts for measuring risks like TIMS, which is an algorithm for calculating portfolio margin requirements and facilitating risk management.

The combination of these tools allows us to seek market neutrality with respect to the usual market benchmarks (such as the S&P500). This means that the vast majority of the portfolios managed by CapitalCastle will have uncorrelated returns with the rest of the market.

This lack of correlation<sup>2</sup> can be used by our clients as a diversification of their portfolios or (as the directors and owners of the firm do) as the principal method for investing their capital. This approach, if performs as it is expected because of the models, will deliver the much better risk (volatility<sup>3</sup>) –reward ratio, and in the long run improve the returns at the same time it limits the down-side risk and volatility<sup>3</sup> (volatility like the witnessed by traditional investment vehicles in the financial crisis of the last decade).

To achieve this, CapitalCastle uses mainly derivatives<sup>9</sup> (option contracts) to build positions, and from time to time would buy or sell stock in order to hedge<sup>7</sup> the risks in the portfolio.

### Investment Philosophy.

We base our investment decisions on the current market conditions measured by us mainly on the market volatility<sup>4</sup>. We try to be on the contrary side of the common wisdom about investing, since we increase the portfolios exposure in the markets as the volatility<sup>4</sup> increases. Because of this our clients should expect seeing a more significant part of the account invested when markets get more volatile and seeing their accounts invested in cash and cash equivalent instruments (including money market instruments, such as bankers acceptances, certificates of deposit, commercial paper, short term corporate or government obligations denominated in various currencies) when the volatility<sup>4</sup> in the markets falls.

## Portfolio Construction and Risk Management

CapitalCastle investment Group Ltda. will try to take advantage of opportunities in the market when most of the investors are trying to convert their positions into cash by liquidating assets in the market, at the same time we seek the preservation of capital (by staying in cash) when most of investors buy financial assets. In the long term this approach will show to our clients, higher returns when the majority of market benchmarks are losing value and more modest/lower returns (not necessarily losses) when market benchmarks are increasing in value. In the long term this will give to the portfolios a much better risk/reward relation, that translate into a better way of preserving capital and hedging against other investments a client may have. This doesn't mean that we keep an inverse correlation<sup>2</sup> with the market benchmarks, but positive correlation with the volatility<sup>4</sup> of markets. Our goal is a statistical correlation<sup>2</sup> close to 0 (zero) to the markets.

### CapitalCastle's risk management principles and practices:

- **Financial instruments of choice:** As we explained we want to have the bigger returns when the majority of participants in the markets are having loses, and having modest returns (looking the preservation of capital) when markets indexes are increasing in value. This is achieved by measuring the volatility<sup>4</sup> in the markets, looking to increase our investments when it has a peak and taking advantage of the normalization of volatility (which happens when markets rally again). We do it by trading options, a financial derivative<sup>9</sup>.

Options' prices depend on many variables, but the one of the principals is the volatility<sup>4</sup>. More volatility<sup>4</sup> equals higher prices for options, and vice versa. It is the one statistical variable in the markets that in the long term returns to a mean, so we sell options premium (the option price) when volatility<sup>4</sup> and prices are high, and buy them when it falls (we explain in greater detail the general bases for opening and closing trades below). This is called a *short premium* approach. This business approach is similar to an insurance company's business plan and it is explained in more detail on item 19 "references", 5 (a).

- **Characteristics and risks of the strategy:** This kind of strategy creates an income to the portfolio; the income is generated by the selling of the options contracts in the market. This income generates a *positive drag* in the portfolio which helps achieving positive returns in the long run, even having drawdowns in some periods. But, if we are selling contracts in the market, and it gives us income, what is the trade-off, or the risks associated?

We base our entries on statistical models<sup>1</sup> that measure possible market situations for the future and assign each one a probability of occurrence. We look to make money the majority of the time based on this. The moments when we are going to face drawdowns

are those when a movement in the market exceeded the projections and can be classified statistically as an “abnormal” movement; *for example we can say that a movement in the markets had a 3% to 5% theoretical probability of happening, and therefore it is abnormal.*

We look to make money inside an 80% probability range. We look to make money 80% of the time; generating income and profits that offset the losses we are going to have 20% of the time. Because of this we can say that the risks we face are those of a statistical abnormal movement.

The one concept the investor must understand is that large movements in the markets that may happen, for example, 25% of the time still happen and in those times the portfolio may show losses. It also must be understood that having profits most of the time does not necessarily mean that the net result will be positive, since it is completely possible that one losing position takes away the profits from 2 or more other positions. The strict application of our risk management systems (described below) looks to keep those drawdowns inside the maximum risk tolerated by the client at the same time that looks to give the clients a positive net result.

In the financial markets there is a concept called *tail risk* that refers to the risk that events that in theory had little probability of happening, may happen more frequently than expected. Since our strategy would be affected in a negative way because of this risk CapitalCastle’s managers put special care to mitigate this risk opening every position in a minimal size relative to the portfolio, through the diversification among global markets and the use of positions for hedging<sup>7</sup>.

- **Risk Management:** As described in more detail in the item 19, references, we use the latest developments in financial engineering and modeling to measure the theoretical maximum loss. We do it by measuring the relations between every position of the portfolio (correlations<sup>2</sup>), their individual volatilities<sup>3</sup>, and the size of each position. The results would be a maximum loss computed for any level of probabilities, for example:
  - *For a probability of 68% maximum loss of 0.5% for a week.*
  - *For a probability of 99% we have a maximum loss of 3% for a week.*

CapitalCastle uses the computation of maximum loss at exactly 99.75% probability as our measure for risk. This means that according to the computations, that maximum loss number would be seen in the portfolio less than 0.25% of the time; *or about 1 out of 400 months.*

*Our clients must understand that this numbers are based on theoretical financial models that just as any other model are based on a number of assumptions. If the reality of markets results in any way different than expected or assumed, the numbers and computations will lose precision.*

*This doesn't mean that there will be losses or profits if reality turns out to be different than expected, but that the numbers will not be exact. In the 0.25% of the time example, we could see that reality was 2 out of 400 months; 8 out of 400 months; or 1 out of 500 months. Since we are aware of the limitations of using a model as a sole reason for making an investment we work constantly on improving the models, formulas and concepts, as well as our conservative risk policies to keep the possible deviation from theory as smaller as possible. You can read more about the assumptions used by us and the solutions we apply in the item 19 – References.*

- ***Entries and exists:*** The basic premise for opening positions has already been described, but in order to summarize them: We wait until the option contracts market show a generalized increment in prices, which occurs when assets prices are falling because most of the investors are liquidating positions in order to go back to cash (this happens when investor have fear of declining), and the volatility<sup>4</sup> of the market increases, as well as the demand of hedging/protection products like options (that we sell). We do this when the statistical financial models tell us that the prices on determined options market are too high relative to historical and theoretical levels.

Then we hold the positions, making adjustments<sup>8</sup> to the whole portfolio to keep the risk inside the pre-determined levels chosen by the investor, waiting for the short<sup>5</sup> position to decrease in value, giving to the portfolio unrealized profits.

Once our statistical models compute a theoretical price for our position, that equals the market price we proceed to close the position and every adjustment<sup>8</sup> we may have made to control the risk, and that is when the portfolio realizes a profit.

- ***Disclosure about investment strategies in financial markets:*** we have already explained this before in the document, investing in securities involves risk of loss that clients should be prepared to bear.

*It is also important to note that since our strategies need of an active or frequent participation of the managers, it may be possible that expenses such as brokerage costs affect the performance. In CapitalCastle we believe that another way to serve to our clients is to work actively in finding the best conditions for their investments, that is why we recommend to our clients the use of brokers that charge a significant amount less than the competition, especially for actively managed accounts like the ones we offer. It is also important to disclose that all the decision we make on behalf of our clients are based on research, experience and good faith; if we increase the brokerage costs because of an active management approach, we do it because we believe that those actions will improve the results to our clients. CapitalCastle's owners and partners invest their own capital in the same way recommended to our clients. CapitalCastle Investment Group Ltda. is not*

*affiliated with any broker / dealer. We recommend what we believe is the best to meet clients' goals.*

*Finally we have explained that the principal type of securities used in the portfolios managed by CapitalCastle is option contracts, which are leveraged<sup>6</sup> derivative products. Leverage could increase returns but also risks in some cases. We work really actively in order to ensure that leveraged is used only to reduce risk, and include this goal into our models, but as explained before models may have discrepancies with reality and investor must be aware of that.*



## **Item 9 – Disciplinary Information**

Neither CapitalCastle Investment Group nor any of its owners have been involved in any legal or disciplinary events. No disciplinary events have been recorded by the any state or the SEC. CapitalCastle does not have any current Clients. No prospective Client has threatened CapitalCastle or its owners with disciplinary activities

## **Item 10 - Other Financial Industry Activities and Affiliations**

CapitalCastle Investment Group Ltda. has no other financial industry activities or affiliations at this time.

## **Item 11 - Code of Ethics, Participation or Interest in Client Transactions and Personal Trading**

CapitalCastle has adopted a Code of Ethics (the “Code”) pursuant to Rule 204A-1 of the Investment Advisers Act and Rule 17j-1 of the Investment Company Act. CapitalCastle’s Code sets forth standards of ethical and business conduct expected of access persons and addresses conflicts that may arise from personal trading by CapitalCastle personnel to ensure that CapitalCastle’s fiduciary obligations to its clients are met as well as compliance with federal securities laws. The Code includes a personal trading policy and policies and procedures to detect and prevent insider trading. Additionally, the Code defines material, nonpublic information and the restrictions on trading on any such knowledge. The Code also includes policies and procedures on serving as officers, trustees and/or directors of outside organizations and participating in outside business activities. Additionally, the Code sets forth specific restrictions and limitations as to which employees may make political contributions, as well as preclearance requirements for certain political contributions.

All CapitalCastle personnel must acknowledge understanding and agree to comply with the Code initially upon employment and must certify on an annual basis that they have read and understand the code and have complied with it. Clients or prospective clients may obtain a copy of the Code upon request.

Conflicts of Interest Clients or investors should carefully consider the conflicts of interest described here and in the Agreement, as applicable.

### **Other Investment Accounts**

The Client understands that CapitalCastle or any of its owners may take actions for their own accounts that differ from advice given to or action taken for the Client since the decision to take any position is based on the individual client’s goals and risk tolerance. CapitalCastle is not obligated to buy, sell or recommend for the Client any security or other investment that CapitalCastle or any of its owners may buy, sell or recommend for their own accounts. The Agreement does not limit or restrict in any way CapitalCastle or any of its owners from buying, selling or trading in any securities or other investments for their own accounts.

Conflicts of interest may arise in the allocation of investment opportunities among accounts that CapitalCastle advises. CapitalCastle will seek to allocate investment opportunities believed appropriate for the Client’s account and other accounts advised by CapitalCastle among such accounts equitably and in a manner consistent with the best interests of all accounts involved. But, there can be no assurance that a particular investment opportunity that comes to the attention of CapitalCastle will be allocated in any particular manner.

Additionally, the Code requires access persons to submit transactions reports and initial and annual holding reports showing all transactions in which the person has, or by reason of such transaction acquires, any direct or indirect beneficial ownership in covered securities, with limited exceptions for securities such as shares of mutual funds. This enables CapitalCastle to determine with reasonable assurance any indications of front-running or other appearance of a conflict of interest.

## Item 12 - Brokerage Practices

In determining the brokers and dealers through whom securities transactions for client accounts are to be executed, CapitalCastle seeks to negotiate a combination of the most favorable commission and the best price obtainable on each transaction (generally defined as best execution). Consequently, CapitalCastle selects brokers and dealers primarily on the basis of their execution, trading expertise and service capabilities. There may be occasions when the transaction costs charged by the broker/dealer may be greater than those which another broker/dealer may charge if CapitalCastle determines, in good faith, that the amount of such transaction costs are reasonable in relation to the value of the brokerage and research services provided by the executing broker. The broker/dealer selected by CapitalCastle doesn't make available to the adviser other products or services that benefit CapitalCastle that may not directly benefit its clients' accounts. We do not direct clients to a particular brokerage firm in return for any products, research or other services. CapitalCastle Investment Group does not receive client referrals from any brokerage firm nor do we recommend a particular brokerage firm based on receiving such referrals. In addition we do not permit, recommend, request or require that our clients direct us to a specific brokerage firm to execute transactions.

## Item 13 - Review of Accounts

CapitalCastle monitors and reviews all the clients' accounts on a continuous basis using proprietary software and software offered by the broker/dealer to do so. The account review includes monitoring for account restrictions, consistency with investment objectives and strategy descriptions. Adjustments<sup>8</sup> may be triggered by material changes in variables such as the client's individual circumstances, or the market, political or economic environment. Clients receive monthly accounts statements directly from the Custodian. CapitalCastle urges clients to carefully review official custodial records.

Even though CapitalCastle usually informs to its clients about the status of the accounts, market conditions, and other variables that can affect the client's investments in a monthly basis, the adviser must inform about this information at least quarterly, at the same time the statements for the clients' account is sent.

## **Item 14 – Client Referrals and Other Compensation**

CapitaCastle does not receive compensation (sales awards or other prizes) from anyone who is not a client in return for providing investment advice to our clients. In addition, CapitaCastle does not directly or indirectly compensate any person who is not a supervised person for client referrals.

## Item 15 – Custody

Custody of the Client's assets will be maintained at the Broker/dealer selected by the client under the recommendation of CapitalCastle. The Client agrees to inform CapitalCastle immediately if it is dissatisfied with CapitalCastle's decisions or actions, or if it is dissatisfied with Broker/dealer's handling of the Investment Account. The Client authorizes CapitalCastle to give the Custodian instructions for the purchase, sale, conversion, redemption, exchange or retention of any security, cash or cash equivalent or other investment for the Client.

CapitalCastle shall at no time have custody or physical control of any of the Investment Account Assets and it is the responsibility of the Client to reach an agreement with the Custodian.

CapitalCastle will not deduct any fee or charge directly from the client's account, but instead will invoice directly to the client. The client will choose among the different payment methods we accept.



## Item 16 - Investment Discretion

CapitaCastle receives discretionary authority, in writing, from the client at the outset of an advisory relationship to select the identity and amount of securities to be bought or sold. In all cases, however, such discretion is to be exercised in a manner consistent with the stated investment objectives for the particular client account. When selecting securities and determining amounts, CapitaCastle observes the investment policies, limitations and restrictions specified on the investment plan created for the client.

## Item 17 - Voting Client Securities

The Client agrees that CapitalCastle shall not have the authority or the responsibility to vote proxies on the Client's behalf for securities held in the Client's account. CapitalCastle is authorized and directed to instruct the Custodian to forward promptly to the Client copies of all proxies and shareholder communications relating to securities held in the Client's account (other than materials relating to legal proceedings). The Client agrees that CapitalCastle will not be responsible or liable for any proxies where it or the Custodian has not received such proxies or related shareholder communications on a timely basis. CapitalCastle shall not be required to advise the Client or act for the Client in any legal proceedings, including bankruptcies or class actions, involving securities held in the Client's account.

## Item 18 - Financial Information

Registered investment advisers are required in this Item to provide you with certain financial information or disclosures about their financial condition if they require prepayment of advisory fees of \$1200 or more per client, six months or more in advance. Since CapitalCastle doesn't require any payment in advance this item is not applicable. CapitalCastle Investment Group Ltda. has no financial commitment that impairs its ability to meet contractual and fiduciary commitments to clients, and has not been the subject of a bankruptcy proceeding.

## Item 19 – References

1. **Models used by CapitalCastle to manage clients' accounts:** CapitalCastle base the strategies used to advise clients on statistical financial models used traditionally to find optimal investment allocations, and theoretical prices for derivatives<sup>9</sup> (such as option contracts). Below we describe briefly the main models used by our portfolio management team:

- **Modern Portfolio Theory:** (<http://www.investopedia.com/>) MPT suggests that it is possible to construct an "efficient frontier" of optimal portfolios, offering the maximum possible expected return for a given level of risk. It suggests that it is not enough to look at the expected risk and return of one particular stock. By investing in more than one stock, an investor can reap the benefits of diversification, particularly a reduction in the riskiness of the portfolio. MPT quantifies the benefits of diversification.

*Dangerous assumptions in this model: Even though this theory is in the core of our strategy we've identified a lot of possible flaws when the assumptions are tested in reality. We list the most important below, followed by the solutions we applied.*

- *Past correlations<sup>2</sup>, volatilities<sup>2; 3</sup> and returns are representative of future correlations, volatilities and returns: It is well known that this assumption may be a problem when facing reality but the solution is not well known. CapitalCastle uses proprietary models to identify these variables for each asset traded on our clients' portfolios through different market environments, and use each metric in accordance with the current environment.*
- **Beta based measurement of the portfolio:** (<http://www.investopedia.com/>) Beta is a measure of the volatility, or systematic risk, of a security or a portfolio in comparison to the market as a whole. Beta is used in the capital asset pricing model (CAPM), a model that calculates the expected return of an asset based on its beta and expected market returns.
  - Beta works better when the formula used to compute it is customized. Beta can tell us the risk of a single position in relation with a benchmark, for example the S&P500. To do this Beta uses Correlation and Volatility. As we explained before correlations are not a measure you can compute without context around it; the same happens with volatility measures. That is why we use our own proprietary formulas to find correlations between positions and volatility as inputs in the beta calculation. This gives us an edge by telling our managers how to adjust portfolio to always changing market conditions.
- **GARCH and ARCH models:** ARCH and GARCH models have become important tools in the analysis of time series data, particularly in financial applications. These

models are especially useful when the goal of the study is to analyze and forecast volatility.

This document will not be able to explain the models, but we mention it so the interested client, potential client, or investor can research about these models by his own, since there is plenty of information starting with the internet. These models represent one of the latest steps taken by econometrics in the last years.

- **TIMS** **margin** **methodology:** (<https://www.sec.gov/rules/proposed/s71601/milligan1.htm>) is the only portfolio margining system specifically developed to margin securities, securities options, and security-based futures.

Since it is a risk based margining system, we use its bases to categorize our positions in different groups, giving some investments (like those in diversified funds, like ETFs) a greater weight in the account, and other (like individual stock's positions) less weight.

TIMS methodology gave us only the most basic idea of how to differentiate from type to type of security, as well as how they correlate<sup>2</sup> and offset to each other, but the development of the actual algorithms used by our managers was in charge of our team, and it is proprietary information. However the understanding of how TIMS works can help the client or investor being aware of the concepts behind our portfolio construction practices. It helps us to create a portfolio where each position is risk adjusted equal to other positions.

2. **CORRELATION:** In the world of finance, correlation is a statistical measure of how two securities move in relation to each other. Correlations are used in advanced portfolio management and it is computed into what is known as the correlation coefficient, which ranges between -1 and +1. Perfect positive correlation (a correlation co-efficient of +1) implies that as one security moves, either up or down, the other security will move in lockstep, in the same direction. Alternatively, perfect negative correlation means that if one security moves in either direction the security that is perfectly negatively correlated will move in the opposite direction. If the correlation is 0, the movements of the securities are said to have no correlation; they are completely random relative to each other.
  - a. The only problem with this coefficient is that it changes constantly in the market, from time to time it can vary from a negative number (negative correlation) to a positive one (positive correlation), the question then arises, which number is the correct? It is hard to get to the answer in this document, but for illustrative purposes: one method consists in taking as much past data possible to compute correlation. The problem we see is that inside that period the market had multiples changes and conditions. Some sort of "average" of all those periods' conditions will not tell us how the security will correlate to others in the next *year or quarter, for example*.

We have created proprietary algorithms to determine in which type of market conditions we are right now, and extract the data from the same type of conditions in the past.

3. **Volatility as a measure of risk, and its effect in performance:** When we talk about Volatility in this document we usually talk about 2 different references about it, first of all the volatility as a measure of risk. It is a safe assumption that if an investor puts all his/her money into well diversified portfolios of stocks in the market with no leverage, just buying and holding, he will not lose all the money. There is no possibility of that, since the market as a whole cannot lose all its value. So, if an investor cannot lose all the money invested in the market as a whole, what is the risk? The risk is the volatility that exists while the investor has his/her money invested in the securities.

- a. All crises that the financial markets have witnessed through the years did nothing but adding volatility to investors who kept their money in the markets, since the markets recovered the value lost just with the pass of time, and in the long run giving long term investors a net increase in value. The only problem is that for a given decline, the markets have to increase a greater percentage value in order to return to its original prices.

For example, if a fund's shares is trading at \$100 and losses 10% (now trading at \$90) it has to gain 11.11% in order to return to \$100. In the same way if that fund increases 10% (now trading at \$110) it is needed a decline of only 9.09% in order to return to \$100. It is because of this that we say "volatility hurts returns" and in order to optimize returns an investor should look to decrease the volatility of his/her portfolio. CapitalCastle keeps the goal of reducing volatility as high priority. All the models and algorithms used by our managers are seeking to hedge<sup>7</sup> the volatility of each portfolio in order to increase returns in the long run. CapitalCastle uses proprietary models to measure the volatility of each position and based on correlations and the volatility of the whole portfolio in a continuous basis in order to keep it inside the clients' risk/volatility tolerance levels.

4. **Volatility as a measure of opportunity in markets:** In the previous item we talked about realized volatility, about realized risk. But when we talk about the volatility that affects the prices of options (the principal security traded by our portfolio management team) we are talking about future volatility. But it is safe to say that predicting the future is impossible. What it is used in finance as an approximation is called "Implied Volatility" that measures the expectations of the market as a whole, for future volatility. Numerous studies have proved that implied volatility is a good predictor of future volatility ([link](#)) and we base the clients' portfolios exposure on the level of Implied Volatility in the market. It is measured by indexes like the VIX (<http://finance.yahoo.com/q?s=%5E^VIX>).

We see this increase in implied volatility, and therefore options prices increase, as an opportunity to include in our portfolio relatively expensive assets by selling them short<sup>5</sup>, and to add an edge to the already profitable system.

5. **Short positions:** We can say that when a financial transaction is being executed, there are 2 sides, the buyer and the seller. The buyer will be paying money in exchange of the security bought, resulting in a DEBIT in the account. This kind of position is the most common known for investors, and will make a profit when market prices increase. In the case of the seller account, it will exchange a security for the money of the buyer. This will result in a CREDIT in the account.

Now, there are sometimes where the seller doesn't actually own the security before selling it. When this happens the seller can borrow that security sold creating a credit in the account, but in order to keep that credit the seller has to return the securities borrowed. To do that, he/she has to re-buy the same security at market price to cover that position. If the security is bought at a lower price than originally sold, seller will have a profit.

We can do the same with options, but instead of borrowing the security, we *write* the contract. In order to close the position we would have to re-buy that contract originally sold at market price. If we buy it at a lower price than the price we sold it at, we will realize a profit.

The basic and common use for the term is for positions where the short seller will make a profit when the market prices decline. It would be the exact opposite of buying a stock in the market (where the buyer makes a profit as the prices increase).

- a. **Short premium strategies:** Based on the previous concept we use a short premium strategy, where we take as our core positions the selling of option contracts creating income. In this case the accounts managed by us work similar to an insurance company, where protection is sold to clients (in this case the contracts are sold in the open market), and the work of the management team is to manage the risks assumed with each contract sold.

In order to do we use software and algorithms. When those tools have a measure of the portfolio risk that exceeds the levels wanted by the client, then our management team executes a hedge with other financial instruments in the open market to take the risk back to the accepted levels.

6. **Leverage:** The concept is applied when an investor controls an asset, a security, using only a fraction of the market price of it. An easy way to understand the concept is when a person buys a piece of real state with a down payment of a fraction of the actual value of the asset. The other part is usually financed by a loan of money. That is leverage.

In financial markets a similar situation is presented when the broker loans money to a client so the client can buy more securities than he could using only the capital in the account.

The usual effect of leverage is an increase in returns but also an increase in losses. There is another effect of leverage when used properly, which is lower volatility; we will explain this below.

Options give to the buyers and sellers leverage in a different way. Instead of receiving a loan, the options trader/investor is leveraged because the options price (price) which is a small percentage of the value of the underlying asset, gives control over the entirety of that stock/index/future.

In order to explain how leverage can decrease risk and volatility, we will assume that we are talking about a leverage based on a loan.

*Example: A fund starts operations with \$100 MM assets under management. It is allocated through a big number of companies' shares and it is 100% invested (no cash left). If we assume that each position is highly correlated with each other, and the whole portfolio with the market, we can expect that the fund will see volatility similar to the market volatility.*

*Now, the fund will take out a loan for \$100 MM more (leverage 2:1). The managers could decide to invest the loan into other companies that are highly correlated to the positions in the portfolio. In this case the volatility for the fund will be the double than before, and therefore its risk. The other option is that the manager uses, for example 80% of the loan, to take short positions that are also highly correlated to the already opened trades; this will leave us with a portfolio composed like this: 100% long positions (highly correlated to the market as a whole), 80% short positions (highly correlated to the market as a whole), and 20% cash. This equals to a net 20% exposure on the long side, and 20% cash.*

*This is an oversimplified example, but shows how a 2:1 leverage can result in a 80% reduction in risk in comparison with a leverage-free fund.*

In CapitalCastle, we use leverage in order to hedge<sup>7</sup> the positions and achieve an effect similar to the one described above.

7. **Hedging practices and concepts:** It is the practice of making an investment or taking a position to reduce the risk of an adverse movement in other position. We gave an example of this when explaining leverage, when explained how a fund can *hedge* the portfolio by taking related, highly correlated short positions. CapitalCastle will always take positions that are hedged with a highly correlated opposite position. We do it in order to reduce the volatility of portfolio and optimize returns.



8. **Adjustments:** As we explained, the portfolios we manage are based on options transactions. We actively manage the accounts in order to keep all the core positions hedged, in order to reduce risk in case of adverse movements (risks we talked about in item 8 of this document, like abnormal movements or *tail risk*). Taking into account that option contracts are complex securities which prices are determined by numerous variables, we have to open and close the entirety or part of the hedging positions in order to keep the portfolio inside the desired risk levels.
- This opening and closing of positions with the objective of maintaining risk levels is called “adjustments” in this document.
9. **Definition of financial derivative:** (<http://www.investopedia.com/>) a derivative is a contract between two or more parties whose value is based on an agreed-upon underlying financial asset, index or security. Common underlying instruments include: bonds, commodities, currencies, interest rates, market indexes and stocks.