

A primer on
KCG Holdings, Inc.

U.S.-BASED, FINANCIAL SECTOR, SMALL CAP
GICS CODE: 40203020



A new model for
an evolutionary era

Strategic

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Strategic

1

1.1

OVERVIEW

KCG is a securities firm that specializes in trading and is positioned to capitalize on major changes occurring in the capital markets:

- The shift in trading from analog to digital across asset classes and regions
- The market need for alternative liquidity providers as the global banks reduce capital for trade facilitation
- The increasing focus on best execution by market participants and regulators

KCG utilizes intellectual capital, data, trading models, and technology to facilitate the efficient buying and selling of securities among market participants across asset classes and regions. The firm offers trade execution services primarily to banks, brokers, and asset managers responsible for meeting best execution requirements for retail and institutional investors. In addition, KCG provides supplemental liquidity on public and private markets, such as exchanges and alternative trading systems (ATSs).

KCG's relatively modest size belies its considerable presence in the U.S. equity market. The firm develops and applies sophisticated trading technologies to act as an intermediary in the most accessible, competitive, technologically advanced,

and liquid segment of the global securities markets. During an average trading session, KCG accounts for more than 15 percent of consolidated U.S. equity share volume. The firm is expanding in asset classes in which trading remains stubbornly inefficient, resulting in high friction costs for investors who want to deploy capital. In advancing the spread of electronic trading, KCG's activities contribute to better price discovery, deeper liquidity, tighter spreads, and lower trading costs across asset classes for all market participants.

KCG's relatively modest size belies its considerable presence in the U.S. equity market.

KCG's long-term growth is aligned with profound, secular changes in technology, regulations, and competition —already well underway—which are impacting trading among market makers, banks, brokers, exchanges, and ATSs.

Among KCG’s initiatives to diversify and grow revenues:

- Principal trading as a market maker in fixed income, currencies, and commodities (FICC)
- Agency-based algorithmic trading on behalf of asset managers in U.S. equities
- Principal and agency-based trading in European equities

Concurrently, the firm is reengineering trading architecture and support functions to realize greater operational efficiencies and further reduce its cost structure.

1.2

A DECIDEDLY BRIEF (AND RECENT) HISTORY OF TRADING

For more than two hundred years, the majority of all stock trades in the U.S. were executed on a few primary exchanges between member firms.

The dynamics of the U.S. equity market dramatically shifted with the proliferation of networked digital technologies in the mid-1990s, the period in which KCG’s predecessors were formed. Adoption by market participants led to advances in data collection, analysis and distribution, market connectivity, and trade execution. As industry practices changed, so too did regulations governing market structure. A succession of reforms—from Regulation ATS to Decimalization and Regulation NMS—sought to increase competition and efficiencies among markets in order to improve execution quality and lower trading costs.

As the markets decentralized and became more electronic, stock trading dispersed across tens of public and private markets. Greater transparency and more available data allowed the SEC to adopt standard measures of execution quality for retail U.S. equity orders. The changes also enabled asset managers to more closely track transaction costs and create sophisticated analysis

Amid these efforts, KCG plans to continue returning capital to stockholders opportunistically funded by free cash flow.

The markets on which KCG currently trades offer the potential for further growth, yet still represent less than half of the estimated \$5 trillion in average daily notional volume traded globally across asset classes.



Sources: World Federation of Exchanges (2015), Bank for International Settlements

metrics. Gradually, yet surely, transaction costs declined, execution speeds increased, and spreads tightened.

The impact on the exchanges was dramatic. Starting in the early 2000s, the primary exchanges steadily lost market share of secondary trading to market makers and ATSs. In part as a response, the exchanges pursued consolidation, geographic expansion, and diversification of exchange-traded products.

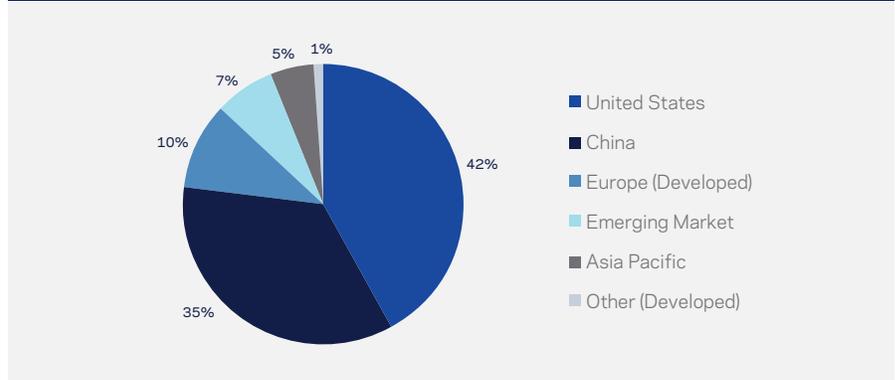
The leading global banks remain the predominant providers of trade execution services. As margins for trading compressed, however, the banks effectively ceded the execution of retail orders, which averaged 837 million U.S. equity shares traded per day in 2016, to independent, technology-driven market makers such as KCG. Regulators and investors have turned attention to the execution of institutional orders, representing approximately \$10 billion in annual commissions for U.S. equities.

In the aftermath of the Financial Crisis of 2008, a movement for market reform and reregulation of the financial sector produced the Dodd-Frank Act, Volcker Rule, Basel Accords, CCAR and MiFID. All of the reforms restrict certain types of trading and increase capital requirements, among other new rules. As implementation alters the economics of trading for the banks, efforts to address profitability are creating openings in the competitive landscape.

In global equities, fixed income, currencies, and commodities, comparable forces are

at work, although a decade behind the evolution of the U.S. equity market. Market participants responsible for generating alpha, meeting best execution requirements, and driving efficiencies in the trade execution process are strongly advocating for greater access to markets, better price transparency, and lower friction costs. Advances in technology, regulation, competition, and accountability will hasten progress.

Average daily volume (ADV) across asset classes by region



Source: World Federation of Exchanges (2015)

TIMELINE

1967

Founding of Instinet as Institutional Networks Corp. to facilitate trading among institutional investors

1970

The SEC creates the Securities Investor Protection Corporation (SIPC) in part in response to the paper crisis slowing the trading and settlement process

1971

Founding of NASDAQ

1982

Founding of Renaissance Technologies, an investment manager specializing in quantitative analysis and trading

1984

Adoption of the SuperDOT system by the NYSE allowing the direct routing of orders to the floor

1986

The deregulation of financial markets in the UK, dubbed the 'Big Bang' for the sudden and far-reaching effects to modernize the LSE and broader system

1988

Expansion of Small Order Execution System (SOES) by NASDAQ allowing the entry of small orders electronically

1990

Launch of The Watcher, a private system providing real-time quotes and electronic trade execution in NASDAQ-listed stocks

1995

Founding of Knight/Trimark, a predecessor to KCG Holdings, Inc., by a consortium of retail brokers

1996

Adoption of Order Handling Rules to enhance quoting and pricing across the U.S. equity market

1996

Founding of Archipelago and Island, among the first electronic communications networks (ECNs)

1998

Adoption of Regulation Alternative Trading System (ATS) allowing registered brokers and exchanges to operate trading systems free of regulatory-imposed volume caps

1999

Founding of GETCO, a proprietary trading firm and predecessor to KCG Holdings, Inc.

1999

Passage of the Graham-Leach-Bliley Act

1999

Switch to all-electronic trading on the Tokyo Stock Exchange

2000

Adoption of SEC Rules 605 and 606 requiring market makers and retail brokers to report metrics on trade execution of retail U.S. equity orders

2001

Creation of Advanced Execution Services (AES) within Credit Suisse offering analytics and tools for global electronic trading

2001

Creation of Archipelago Exchange (ArcaEx) to facilitate electronic trading for exchanges

2001

Inception of decimalization converting the pricing of stocks from decimals (1/16ths) into pennies (0.01)

2001

The London Stock Exchange goes public to fund expansion

2001

Publication of Lord Myners' report on the effect of commissions on fund performance leading the UK's Financial Services Authority (FSA) to require brokers to increase disclosure of fees

2002

Instinet acquires Island

2002

Creation of the Public Company Accountability Oversight Board (PCAOB)

2004

Passage of the Markets in Financial Instruments Directive (MiFID) by the European Union to harmonize regulation of investment services across EU member states

2005

Adoption of Regulation National Market System (Reg NMS) to improve fairness in price execution, the display of quotes, and access to market data

2005

The NYSE acquires Archipelago and NASDAQ acquires Instinet

2008

The NYSE eliminates specialists

2008

Bats Global Markets gains exchange status

2008

Failures of Bear Stearns and Lehman Brothers

2008

Purchases of preferred stock in the major banks by the U.S. Treasury

2008

Coordinated cut in global interest rates by central banks to effectively zero

2010

Flash Crash in the U.S. equity market

2010

Passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act by the U.S. Congress

2010

Establishment of the Financial Stability Oversight Council and Consumer Financial Protection Agency

2010

Adoption of initial Basel III rules on capital requirements for banks

2011

Initiation of Comprehensive Capital Analysis and Review (CCAR) annual stress testing of bank holding companies by the Federal Reserve

2013

Establishment of the Volcker Rule banning proprietary trading by banks

2013

FINRA expands disclosure rules for dark pools

2013

Bats merges with Direct Edge to form one of the largest U.S. equity exchanges

2014

Foreign investors afforded greater access to trading on the Shanghai Stock Exchange

2016

Approval of a Financial Industry Regulatory Authority (FINRA) rule requiring the reporting of trades in U.S. Treasuries

2016

Publication by the Bank for International Settlements (BIS) of the FX Global Code, a set of global principles and practices for the foreign exchange market

1.3**THE KCG MODEL**

KCG is an independent, pure-play, technology-driven intermediary in liquid financial instruments.

KCG engages in principal trading and agency-based trading. KCG makes markets on a principal basis direct to clients, as well as in a supplemental capacity on public and private markets. KCG also acts as an agent

in executing trades, both on behalf of clients and between market participants.

KCG is exceptional among trading firms for the quantitative, technological, and trading resources it puts to work on behalf of banks, brokers, and asset managers. The KCG model is dependent on continuous investment in technology that connects to clients, markets

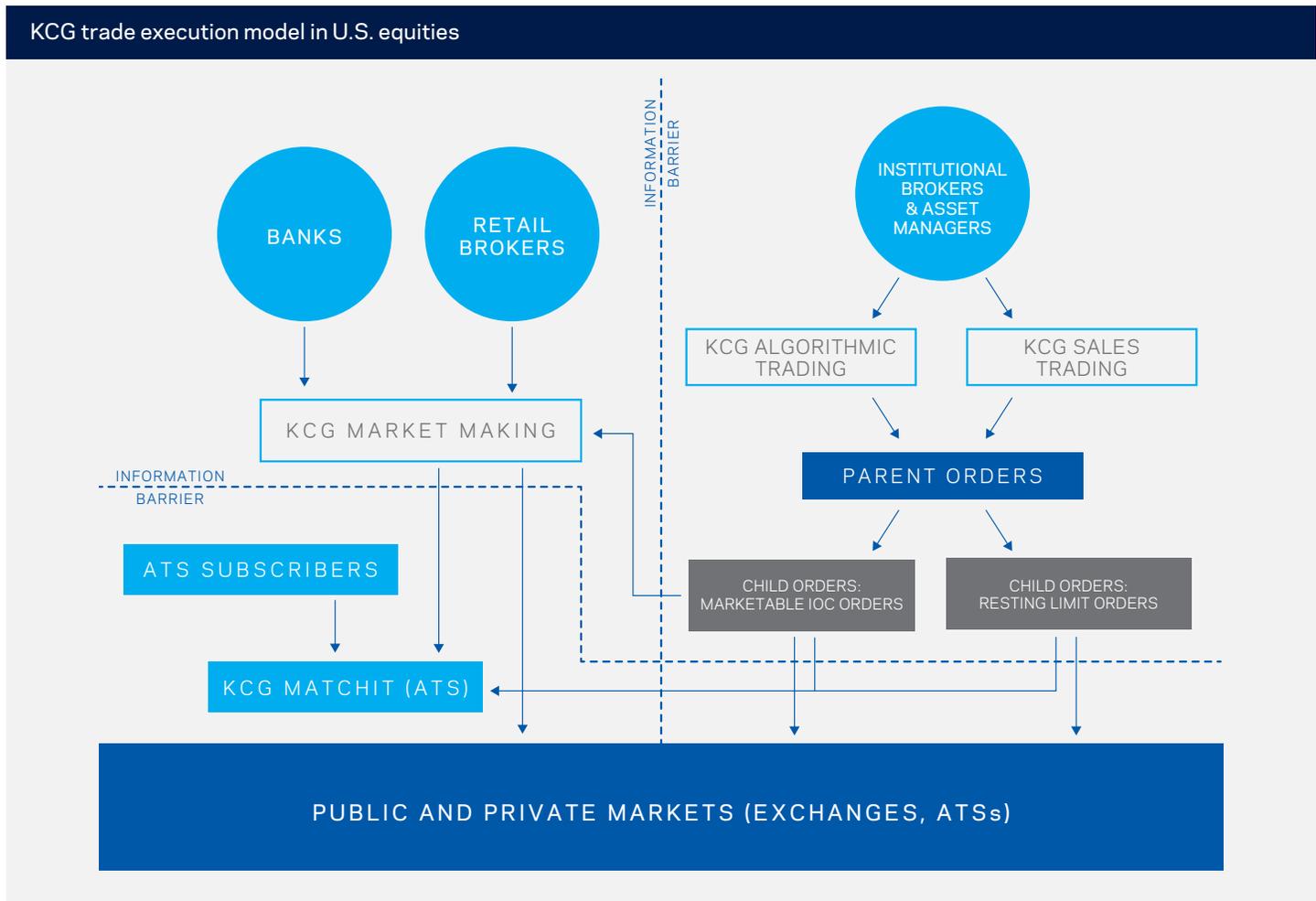
KCG makes markets on a principal basis direct to clients as well as in a supplemental capacity on public and private markets.

and counterparties, interacts directly or indirectly with the maximum number of orders, and creates scale to allow for margin expansion. Layering the right processes on the best technology drives operational excellence. As a public company, KCG has access to the capital markets for funding options that are unavailable to privately held competitors. The firm approaches trading with an emphasis on high turnover as opposed to high leverage.

KCG does not offer additional services, such as investment banking, research or lending, commonly provided by global banks

and institutional brokers. Rather, KCG concentrates on continually delivering best-in-class trade execution to augment returns for retail and institutional investors, as well as to assist clients in meeting their fiduciary duties. KCG's specialization on trading and the use of technology allows the firm to remain strategically small, agile, and responsive, with a low cost structure relative to other securities firms.

KCG is among a set of market makers, brokers, and exchanges driving the proliferation of electronic trading.



Within a market subcategory of public company peers, however, the KCG model is distinguished by the potential to derive revenues in four different ways per asset class:

1. Market making direct to clients
2. Market making on public and private markets
3. Agency-based trading on behalf of clients
4. Agency-based trading among market participants

In contrast, KCG's peers generally focus on a single form of trading or asset class.

In prioritizing asset classes and specific products, KCG considers a few basic characteristics.

Foremost is the current size of the market in terms of average daily volume and the percentage of the total given to electronic trading. The potential benefits of electronic trading for market participants are clear and

measurable. The potential benefits to KCG and firms like it are contingent on attaining efficiencies of scale. An attractive asset class or product presents a critical mass of electronic trading opportunities, ideally with prospects for the growth of both electronic and overall market volume.

The relative difficulty or ease with which market participants can enter and exit a position is also important. As an intermediary, KCG primarily trades liquid financial instruments popular with a broad cross section of market participants. Assets held on KCG's balance sheet are substantially all classified as Level I, the most liquid designation. In an average trading day, KCG turns the balance sheet over roughly ten times per session, in the course of principal trading as a market maker.

In addition, KCG chiefly trades asset classes and products that are cleared through central clearinghouses. A clearinghouse acts as the legal counterparty to buyers and sellers. In addition to reducing counterparty credit risk, securities that are centrally cleared lessen demands on a trading firm's balance sheet.

LEVEL 1

ASSETS HELD ON KCG'S BALANCE SHEET ARE SUBSTANTIALLY ALL CLASSIFIED AS LEVEL I, THE MOST LIQUID DESIGNATION

1.4

COMPETITION

Given KCG's broad trading capabilities and diverse client base, the firm faces off against an array of competitors in different market segments:

- In market making direct to clients, KCG competes for order flow primarily with independent market makers and to a lesser extent the exchanges and internal market making desks within the global banks
- In market making on public and private markets, KCG competes with proprietary trading groups generally comprised of small firms that trade strictly using their own capital
- In agency trading on behalf of clients, KCG competes for order flow primarily with the global banks as well as boutique institutional brokers and specialty electronic brokers

- In agency trading between market participants, KCG competes for order flow with dark pools, exchanges, ATSS, and ECNs, among others

Given the constantly shifting competitive landscape, KCG develops and deploys advanced technologies to create a durable competitive advantage against current competitors, as well as potential emerging ones in each part of the market.

KCG combines agility, speed, and scale with a focus on clients that few firms can match.

1.5

GROWTH STRATEGY

KCG is intent on becoming the world's leading securities firm dedicated exclusively to trading.

KCG starts with a considerable presence in the U.S. equity market. The firm is a reliable partner to leading banks, brokers, and asset managers. KCG is potentially able to derive revenues several ways per asset class.

A number of sweeping, industry-wide trends and regulatory mandates play to KCG's strengths. The proliferation of electronic trading across asset classes and regions, market need for alternative liquidity providers, and increasing focus on best execution are all issues in the markets the KCG model is designed to capitalize on. The pending implementation of MiFID II and the DOL fiduciary rule are expected to further alter the nature of competition.

Under the growth strategy, KCG is building scale in asset classes and regions beyond U.S. equities by providing best execution

through principal and agency-based trading that draws upon the firm's intellectual capital, data, trading models, and technology. KCG's core infrastructure, technology and processes—shared by all teams—will allow the firm to grow revenues without increasing fixed costs. Adding scale with organic growth over time leads to margin expansion.

In executing the strategy, KCG is working to grow revenues in the following areas:

- Principal trading as a market maker in FICC
- Agency-based algorithmic trading on behalf of asset managers in U.S. equities
- Principal and agency-based trading in European equities

KCG's management team believes the growth strategy is aligned with expanding market segments, acknowledged market needs, and urgent client priorities.

1.6

INVESTMENT RATIONALE

1. Categorized among a group of specialized firms emerging as alternatives to the global banks across disciplines
2. A better model for the emerging competitive landscape—an independent, pure-play, execution-only, technology-driven, intermediary for banks, brokers, and asset managers
3. A developer of sophisticated technologies driving the shift in trading from analog to digital across asset classes and regions
4. Prospects for multiyear organic growth direct from core capabilities, requiring minimal additional investment plus greater operational efficiencies
5. A demonstrated record of capital return with strong cash flow generation

Operational

2

2.1

PRINCIPAL TRADING AS A MARKET MAKER

KCG engages in principal trading as a market maker, providing immediate liquidity direct to clients, as well as in a supplemental capacity on public and private markets.

Market making requires sophisticated quantitative analysis, strategy, and programming, as well as advanced trading technologies. KCG generates gains and losses from buying and reselling securities on a principal basis in intervals of seconds, minutes, hours, or days at higher or lower prices. As a rule, KCG focuses on electronic trading in liquid financial instruments

that are centrally cleared, potentially requiring less capital on the balance sheet.

Revenues from market making activities are primarily contained in the “Trading revenues, net” line on the income statement. A portion of revenues from U.S. equity market making runs through the “Commissions and fees” line. Results are contained in the Market Making segment.

2.1.1 MARKET MAKING DIRECT TO CLIENTS

KCG provides clients with immediate liquidity in a range of global equities, ETFs, fixed income, and currencies, frequently at more competitive prices than available from the displayed liquidity in the markets. Among securities firms, KCG is distinguished by the ability to provide customized liquidity to individual clients according to regulatory- and client-defined standards for best execution, through the use of quantitative research and sophisticated trading technology.

KCG is perhaps best known as a leading market maker for retail SEC Rule 605-eligible U.S. equities. In short, KCG is the broker to the retail investor’s broker, covering discount

online brokers, wire houses, banks, private wealth managers, registered investment advisors, certified financial planners, and so on. In an average trading day, KCG handles more than 1 in every 4 market orders placed by retail investors in the U.S.

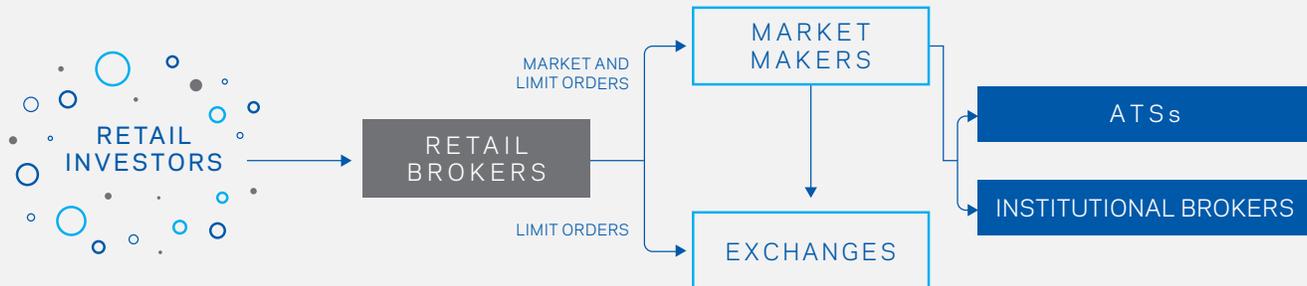
Brokers route orders to market makers rather than stock exchanges or ATSS because market makers assume certain operational risks and can guarantee a level of execution quality for a particular order that a neutral marketplace simply cannot.

KCG competes for order flow primarily with market makers, and to a lesser extent the internal market making desks within

1/4

KCG HANDLES MORE THAN ONE OF EVERY FOUR MARKET ORDERS PLACED BY RETAIL INVESTORS IN THE U.S.

Trade execution process for a retail U.S. equity order



global banks, as well as exchanges and ATSs. In general, clients route orders based on available liquidity, reliability, execution quality, payments for order flow, and client service. Brokers and market makers alike are required under SEC Rules 605 and 606 to disclose order routing practices and statistical measures of execution quality in U.S. equities covering average speed, spread, and price improvement. The barriers to entry for potential competitors in market making – primarily in the areas of intellectual capital and trading technology – are high.

As markets for securities become more transparent and efficient, participation levels as reflected by trading activity generally increase. The market-wide rise in retail investor trading activity over the past 15 years was driven in part by new technologies, effective regulation, and strong competition, which led to meaningful advances in market access, execution quality, and transparency as well as a steady decrease in transaction costs.

KCG direct-to-client market making in U.S. equities extends far beyond retail brokers. Under KCG Acknowledge, the firm utilizes quantitative trading models and technology to provide supplemental market making liquidity direct to major banks and brokers that are unable to match orders internally and regularly route away to complete trades.

In addition, KCG is developing capabilities to offer market-making liquidity in blocks to asset managers, including mutual funds, hedge funds, and pension funds, potentially at more competitive prices than available in the displayed markets.

KCG direct-to-client market making is also growing beyond U.S. equities. Competition for order flow in global equities, fixed income, and currencies is based more on client criteria than regulatory mandates. KCG focuses on liquid financial instruments that are electronically traded and centrally cleared. A few examples include:

- In European equities, KCG provides immediate market-making liquidity predominantly in STOXX 600 securities to retail brokers and banks across the continent
- In fixed income, KCG provides additive, bilateral liquidity in on-the-run U.S. Treasuries and discrete U.S. Treasury curve spreads to primary dealers and multi-dealer platforms
- In currencies, KCG provides bilateral liquidity in G20 currency pairs to retail brokers, systematic hedge funds, banks, macro execution desks, and trading venues around the clock from the Monday open in Asia to the Friday close in North America

KCG is one of only a few independent, non-bank trading firms that provides market-making liquidity across asset classes, operates on a global basis, and possesses the necessary client service infrastructure to be a consistent and reliable counterparty direct to leading banks, brokers, and asset managers.

Market volumes of U.S. and European equities

In \$ billions	2014	2015	2016
Average daily consolidated U.S. equity dollar volume	261.3	279.3	273.4
Average daily pan-European equity notional volume	51.7	55.7	49.8

Sources: Bats Global Markets, Bloomberg

2.1.2 MARKET MAKING ON PUBLIC AND PRIVATE MARKETS

KCG market making on public and private markets utilizes the firm's existing infrastructure to generate additive trading revenues, drive further efficiencies of scale, and increase net income.

As a point of differentiation from direct-to-client, market making on public and private markets interacts with live orders in fast-moving markets. In short, KCG provides two-sided liquidity—offers to buy and sell securities—across global equities, ETFs, fixed income, currencies, and commodities on exchanges and in exchange-like settings, such as dark pools. Utilizing quantitative trading models and technology allows KCG to be an active participant in dozens of markets across asset classes and regions through small, specialized teams.

KCG competes primarily with principal trading groups generally comprised of independent firms that trade strictly on a proprietary basis using their own capital. Aside from a conducive market structure in terms of price discovery, regulation, and liquidity, KCG's results are generally determined by:

- Market access and connectivity
- Quantitative analysis, strategy, and programming
- Liquidity
- Speed

KCG is one of a select group of market makers and proprietary trading groups with the scale to amass intellectual capital and continually reinvest in trading technology. Market making activity on public and private markets generally contributes to greater efficiencies for all market participants through increased liquidity and tighter spreads. The knowledge informs how we make better markets direct to clients. Market making direct to clients and on public and private markets are both critical to diversifying beyond U.S. equities. The pace of development will be dependent to a degree on the growth of the addressable market in certain securities.

KCG is one of a select group of market makers and proprietary trading groups with the scale to amass intellectual capital and continually reinvest in trading technology.

2.2

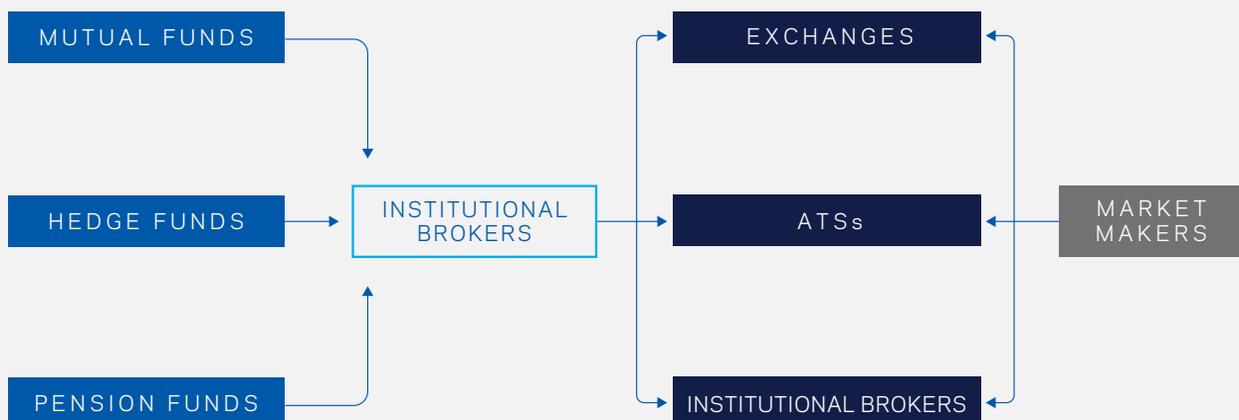
AGENCY-BASED TRADING

KCG engages in agency-based trading encompassing algorithmic execution, sales trading, order routing, an ATS and crossing network across equities, ETFs, futures, and options, plus an ECN for fixed income.

KCG generates commissions and fees from trading in which the firm acts as an agent in executing trades, either on behalf of clients or between market participants. KCG clients are primarily comprised of asset managers, from mutual funds to hedge funds and pension funds. Although agency-based trading is non-capital intensive, KCG will on occasion provide facilitation capital to complete a transaction on behalf of a client for which the firm will earn a fee.

Revenues from agency-based trading activities are primarily contained in the “Commissions and fees” line on the income statement. A portion of revenues from ETF trading runs through the “Trading revenues, net” line. Results are contained in the Global Execution Services segment. Importantly, agency-based trading allows the firm to grow revenues without meaningfully adding to the capital required to fund day-to-day activities.

Trade execution process for an institutional U.S. equity order



2.2.1 ALGORITHMIC TRADING

KCG offers algorithmic execution to asset managers.

Asset managers use algorithms to source liquidity across the U.S. equity market, minimize price slippage, and control transaction costs. Large, block “parent” orders are routinely broken up into smaller “child” orders for execution across fragmented yet fast-moving, interconnected markets sensitive to small price shifts.

An effective algorithm incorporates the client’s intent, stock price, lot size, displayed liquidity, and prevailing market conditions in determining the trading strategy. The algorithm will adjust tactics as necessary in response to the execution of child orders and related market activity throughout the life of the trade. An effective algorithm will also incorporate normal course changes in market microstructure in real time, from the pricing of exchange and clearing fees to corporate actions and special situations. KCG develops algorithms through extensive quantitative research and deploys sophisticated trading technology to consistently generate additional alpha in the child orders of a parent order.

KCG competes for orders with global banks and boutique institutional brokers that offer algorithms. KCG Algorithmic Trading is among the industry leaders. Institutional investors however, generally divide orders between full-service and execution-only brokers. Full-service brokers receive orders in part as compensation for research, access to IPOs, and other services. KCG competes among execution-only brokers for orders based on liquidity, anonymity, and execution

quality as ultimately measured by price-per-share traded net of trading costs.

The potential for organic growth from KCG Algorithmic Trading is meaningful. The firm’s significant capabilities in market making provide an edge in developing, introducing, and customizing new algorithms for asset managers. In 2016, KCG grew average daily algorithmic U.S. equity share volume from the 25 largest U.S. asset managers by 28 percent year over year. As a scalable and non-capital intensive form of trading, the offering can positively impact financial results, in particular KCG’s return on equity.

Global institutional U.S. equity commissions of \$10 billion (est.) in 2016	
Percentage (est.) of commissions allocated to algorithmic strategies and smart order routers (SORs)	30%
Percentage (est.) of commissions allocated to single stock trades, portfolio trades, and crossing networks	70%

Sources: Greenwich Associates, TABB Group

2.2.2 SALES TRADING

KCG offers traditional sales trading to institutional investors primarily in U.S. and European equities.

Sales traders generally handle large block orders that are complex, illiquid, or event-driven and can potentially benefit from a greater degree of human oversight. Just as with algorithms, sales traders seek to minimize price slippage, control transaction costs, and secure the best possible price per share traded.

The majority of all institutional block orders are executed by the global banks

and full-service brokers. KCG sales trading competes for orders in the following areas:

- The execution-only portion of the institutional commission spend
- Mid-, small-, and micro-cap stocks which are generally less liquid
- Institutional investors that are generally underserved by the global banks

2.2.3 ALTERNATIVE TRADING SYSTEMS

KCG operates KCG MatchIt, an ATS for U.S. equities.

Commonly referred to as dark pools, ATSs are utilized by asset managers primarily for block trades of a size that may cause the price of the stock to move against them as the order is executed. As a safeguard against information leakage and price slippage, ATSs are similar to the former “upstairs market” on the New York Stock Exchange, in which specialists

from member firms would physically leave the trading floor to discuss a transaction.

KCG utilizes sophisticated trading technology to provide MatchIt clients with an exchange-level experience in terms of speed, liquidity, spreads, reliability, and client service.

The leading ATSs are predominantly run by the global banks, institutional brokers, and market makers. In 2015, approximately

16%

IN 2015, APPROXIMATELY 40 ATSs ACCOUNTED FOR AN AGGREGATE 16% OF CONSOLIDATED U.S. EQUITY SHARE VOLUME

U.S. equity volume executed by ATSs

In billions	2014	2015	2016
Average daily consolidated U.S. equity share volume	6.5	6.9	7.4
Estimated average daily U.S. equity share volume executed by ATSs	1.0	1.2	1.2

Sources: Bats Global Markets, Rosenblatt Securities

40 ATs accounted for an aggregate 16% of consolidated U.S. equity share volume. Given the sheer number of ATs, the potential exists for a greater rationalization and differentiation in the marketplace.

KCG also operates a multilateral trading facility (MTF) in European equities.

European equity volume executed by broker crossing networks

In \$ billions	2014	2015	2016
Average daily pan-European equity notional volume	51.7	55.7	49.8
Estimated average daily pan-European equity notional volume executed by broker crossing networks	4.8	7.1	6.6

Sources: Bloomberg, Rosenblatt Securities

2.2.4 ELECTRONIC COMMUNICATIONS NETWORKS

KCG operates KCG BondPoint, an ECN for fixed income.

BondPoint offers deep, centralized liquidity in corporate, municipal, and agency bonds providing for efficient market access, price discovery, and trade execution. Clients are predominantly brokers and banks serving retail investors. The growth of BondPoint to date is attributable to the tremendous process efficiencies it offers to clients and the focus on execution quality it offers retail investors.

The next stage of growth for BondPoint is to expand access to the ECN among asset managers. As part of the effort, BondPoint augmented trading capabilities for more complex order types and established connectivity to industry-leading order management systems (OMSs) and

execution management systems (EMSs). With the global banks reducing counterparty activity as a result of the financial crisis, it is expected that more trading in fixed income by asset managers will migrate to neutral trading platforms.

2.3

INTERNATIONAL

As part of the diversification effort, KCG is working to build critical mass in regions outside the U.S.

In Europe, KCG engages in the full complement of principal trading as a market maker and agency-based trading on behalf of clients. The firm established a presence trading U.S. equities on behalf of European-based banks. Brokers and asset managers then undertook a sustained effort to expand relationships. During an average trading session in 2016, KCG accounted for approximately 2.6 percent of addressable pan-European equity notional volume. In pursuing growth, KCG Market Making is cultivating European banks to outsource trading, while KCG Algorithmic Trading is targeting the largest European asset managers. Impending regulations to broadly improve pre-trade transparency and execution quality contained in MiFID II and other directives are generally aligned with the KCG model.

In Asia, KCG engages strictly in market making on public and private markets. Activity is generally confined to exchanges in the more developed and liquid markets of Australia, Hong Kong, Japan, Singapore, and Taiwan. Although KCG's activity in Asia has been limited to date, the region is extremely promising. Among current growth initiatives, the firm is on track to begin market making on exchanges in mainland China by year-end 2016, and is beta testing market making direct to Asia-based clients in currencies.

Impending regulations to broadly improve pre-trade transparency and execution quality contained in MiFID II and other directives are generally aligned with the KCG model.

2.4

CULTURE

Operating effectively in complex, fast-moving, interconnected, data-driven markets, requires specialized expertise. Assembling and developing talent, encouraging collaboration and continually innovating is central to KCG's success.

As an independent, execution-only broker, KCG does not have captive order flow, does not offer access to research or IPOs, and does not engage in lending. As such, the firm must out-think and out-work the competition to generate client orders and deliver best execution. And KCG must create quantitative trading models that make the most of market opportunities.

The firm is predominantly comprised of individuals with deep experience in the fields of trading, technology, and mathematics. KCG focuses on upgrading technical abilities, facilitating the exchange of practical and

theoretical knowledge, and developing leadership skills. The firm utilizes cross-functional teams, open workspaces and collaborative software and communications tools to foster the free exchange of ideas.

An influx of new employees is bringing added energy to KCG as the firm diversifies trading, reengineers technology, and pursues international growth. KCG recruits from leading firms as well as top graduate and undergraduate programs. More than one third of the firm's 940 employees at mid-2016 joined in the three years since the firm's inception.

At KCG, it all starts with intellectual capital. The firm seeks individuals with the curiosity to ask "Why?" and the drive to simplify the complex. The firm then works to create the conditions necessary to drive collaboration and performance.

2.5

MANAGEMENT TEAM

Daniel Coleman

Chief Executive Officer
Former CEO of GETCO
• Former Global Head of Equities at UBS • Past Director at NASDAQ, OCC and BOX • Began career at O'Connor & Associates as an options trader • A total of 31 years of industry experience

Philip Allison

CEO of KCG Europe Ltd., Co-Head of Client Market Making
Former Global Head of Cash Equities and EMEA Head of Equities at UBS • Past Board Member of the Association for Financial Markets in Europe • Began career at UBS trading derivatives and index arbitrage strategies • A total of 20 years of industry experience

John DiBacco

Global Head of U.S. Equity and ETF Trading, Quantitative and Systematic Trading
Former Global Head of Equities Trading at Getco
• Former Global Head of Synthetic Equity Trading at UBS • Current Director of the Miami Options Exchange • A total of 18 years of experience

Vladimir Neyman

Head of Quantitative Research, Client Market Making
Former Managing Director at Knight • Former Manager, Software Architect and Developer at Arbitrade, EBS and TCAM systems • Began career as a Research Fellow in the Institute of Astronomy of Russian Academy of Sciences • A total of 26 years of industry experience

Ryan Primmer

Global Head of Quantitative and Systematic Trading
Former Global Head of Equities Proprietary Trading at UBS • Led the establishment of UBS' program and quantitative trading in the U.S. • Began career at O'Connor & Associates as an options trader • A total of 26 years of industry experience

Greg Tusar

Head of Global Execution Services and Platforms, Co-Head of Client Market Making
Former Global Head of Equities Electronic Trading at Goldman Sachs • Former Limited Partner at Spear, Leeds and Kellogg • Began career at electronic design automation firm Mentor Graphics • A total of 24 years of industry experience

Michael Blum

Chief Technology Officer
Former Global Head of Client Technology at KCG • Former CTO at Teza Technologies • Former Global Head of GETCO Execution Services (GES) • Began career as a developer at ATD and Island ECN • A total of 23 years of industry experience

Phil Chung

Head of Technology, Client Market Making
Former Managing Director, Senior Developer at Knight • Principal Engineer at Lavastorm Engineering in Silicon Valley • Former software entrepreneur and consultant in New York • A total of 24 years of software developer experience

Jerry Dark

Chief Human Resources Officer
Former CHRO of Getco • Former Co-Head of Global Human Resources for Cisco Systems • A former General Manager for Microsoft Corporation where he led the HR function for the platform and services division • A total of 40 years of experience

John McCarthy

General Counsel
Former General Counsel at GETCO • Former Associate Director at the Securities and Exchange Commission where he led the Office of Compliance Inspections and Examinations Market Oversight • A total of 24 years of experience

Nick Ogurtsov

Chief Operating Officer and Chief Risk Officer
Former CRO at GETCO
• Former Global Head of Electronic Market Making Group at UBS • Began career at SBC Warburg as a convertible bonds trader • A total of 19 years of industry experience

Steffen Parratt

Chief Financial Officer
Former Managing Director in roles related to strategy, financial planning and analysis, capital allocation and reengineering at Bank of America Merrill Lynch and Citigroup • Began career at Hughes Aircraft as an engineer • A total of 22 years of industry experience

Sophie Sohn

Chief Communications Officer
Former Global Head of Communications at GETCO • Former Vice President at FTI, a financial communications consultancy • A former broadcast journalist with producing, reporting, and writing experience for CNN, MSNBC/NBC and ABC News • A total of 18 years of experience

2.6 TECHNOLOGY

Technology is a core discipline at KCG. The development and deployment of new technologies provides a competitive advantage in trading, enhances support functions, and drives financial results. KCG continually reinvests in technologies to a degree that is difficult for smaller or even full-service competitors to match.

KCG works to allow retail and institutional investors to put more money to work in the real economy. The application of advanced trading technologies to each step of the trade execution process—from price discovery to settlement—results in greater efficiency, reliability, and control. Reducing trading friction offers the potential for market participants to realize greater alpha.

For an independent trading firm to succeed in the emerging landscape, speed, agility, and scale are required. Advanced technologies allow KCG to trade across asset classes and regions, as well as connect to a broad network of markets and clients from a relatively small base of operations. Additive order flow drives margin expansion. Technology enables KCG

to react in real time to changes in the markets, client needs, and regulations.

To drive greater efficiencies, KCG is reengineering the trading architecture for greater simplification. The technology team is rebuilding the trading engine and all client-facing technologies, among other projects. In addition, the firm is applying technology to support functions for greater process improvement.

Technology enables KCG to react in real time to changes in the markets, client needs, and regulations.

The effective use of technology in all areas of operations should allow KCG to grow revenues while attaining a level of operational efficiency that enables the firm to generate an attractive return on equity relative to peers through market cycles.

2.7 RISK MANAGEMENT

KCG's risk management framework provides comprehensive controls and processes for ongoing management and monitoring of the major risks associated with the firm's daily activities.

The most pertinent threats to KCG are from market, credit, operational, and liquidity risks. Principal trading produces gains and losses, counterparties will at times possess better information, positions held by the firm may lose value due to macro market events, and counterparties may fail to meet their obligations. KCG relies on systems and software which may experience failures, constraints, delays, and cyber attacks. In addition KCG has continuous dynamic financial obligations at the holding company and broker-dealer subsidiary levels that must withstand strained funding environments.

KCG takes risk management extremely seriously and views it as a core competency of the firm. Good risk management starts with risk management culture throughout the firm and KCG has devoted significant efforts to developing the right culture with its employees. Given the potential for an adverse event, KCG monitors positions in real time to control intra-day as well as end-of-day risk. The firm employs edge controls and kill switches to prevent erroneous orders from going out into the markets as part of its operational risk management framework. KCG invests significant amounts to continually upgrade the capacity, reliability, scalability, and speed of its systems as well as modify software in response to operational and regulatory changes. And a special team is on call to manage responses to incidents across the firm.

KCG maintains a liquidity pool consisting of cash and highly liquid financial instruments to meet intra-day and day-to-day funding needs, has committed and uncommitted credit facilities with lenders, and performs regular stress tests under company-specific and market-wide scenarios.

While trading and other losses cannot be entirely eliminated in the normal course of day-to-day activities, KCG works extremely hard to anticipate various risks and pinpoint and resolve issues before a misstep escalates into a disruption.

2.8 REGULATION

As a financial intermediary serving market participants across asset classes and regions, KCG is premised on well-regulated, highly functioning markets. The firm operates highly regulated entities in the U.S., Europe, and Asia.

One of the primary purposes of a financial market is to allow for the continual reallocation of risk among market participants. As participants do not always meet in place, time, and size, KCG assumes market and operational risks by committing capital to clients and the markets, routing orders on behalf of clients, and facilitating orders between market participants. Market and regulatory structures play an important role in the firm's ability to provide these services.

Market structure should be regarded by participants and observers as efficient, transparent, fair, competitive, and stable. The market should also allow for choice among execution options. Not all participants will of course agree on all aspects of how a market should be structured. Further, applying consistent protocols for regulatory structures across asset classes and regions can be difficult to accomplish.

To that end, KCG supports market structure initiatives that can demonstrably improve the overall quality of the markets. The firm routinely interacts with policymakers and regulators, including the SEC, CFTC, FINRA, the Fed, the Treasury, and FCA, to provide its viewpoint on regulatory initiatives.

For example, KCG routinely supports customer protection rules, including the requirement of a broker dealer to seek best execution. KCG backs market access rules requiring risk controls, such as pre-trade risk checks, kill switches, capital limits, software testing protocols, and proper notifications to safeguard against operational incidents. In addition, KCG supports protections from manipulative and nefarious practices such as “spoofing” and “layering.”

One of the primary purposes of a financial market is to allow for the continual reallocation of risk among market participants.

In the same respect, KCG opposes costly and burdensome regulations that, in the firm's view, do little to improve the quality of the markets. General examples include duplicative regulations between regulatory agencies and inconsistent regulations across asset classes and regions. Excessive and ineffective regulations raise trading costs and create inefficiencies for all market participants.

2.9

SECULAR TRENDS

KCG's long-term growth is aligned with secular changes in technology, regulation, and competition—already well underway—which are impacting trading among market makers, banks, brokers, exchanges, and so forth.

Among the more significant trends to note:

- The proliferation of electronic trading across asset classes and regions
- Market need for alternative liquidity providers
- Increasing focus on best execution
- The growth of ETFs
- Return of market volatility

2.9.1 THE PROLIFERATION OF ELECTRONIC TRADING ACROSS ASSET CLASSES AND REGIONS

KCG's addressable market is expanding.

KCG is a market leader in U.S. equities, the most accessible, competitive, regulated, technologically advanced, and liquid segment of the global securities markets. The efficiency of the U.S. equity market is a direct result of the transition to a predominantly all-electronic model and targeted market reforms to increase access, transparency, and protections.

KCG is also an active participant in all major global markets for equities, futures, options, fixed income, currencies, and commodities. Perhaps surprisingly, asset classes with greater average daily volume than the U.S. equity market retain inefficiencies ranging from poor price

discovery to continued manual trading and incomplete trade reporting. As an example, less than half of the estimated \$511.3 billion in average daily U.S. Treasury notional volume in 2016 was executed on electronic platforms. And approximately 20 percent of the roughly \$1.5 trillion in average daily spot foreign exchange notional volume in 2016 was executed on electronic platforms.

Market participants accustomed to the relative ease of trading in U.S. equities are understandably pushing for the modernization of trading across all major asset classes. To attain a more ideal state will require certain activities—from the application of trading technologies to updates to market structure and new standard operating procedures—to improve

\$511.3 BILLION

LESS THAN HALF OF THE ESTIMATED \$511.3 BILLION IN AVERAGE DAILY U.S. TREASURY NOTIONAL VOLUME IN 2016 WAS EXECUTED ON ELECTRONIC PLATFORMS

\$1.5 TRILLION

APPROXIMATELY 20 PERCENT OF THE ROUGHLY \$1.5 TRILLION IN AVERAGE DAILY SPOT FOREIGN EXCHANGE NOTIONAL VOLUME IN 2016 WAS EXECUTED ON ELECTRONIC PLATFORMS

Electronic trading of U.S. Treasuries

In \$ billions	2014	2015	2016
Estimated average daily U.S. Treasury notional volume traded on electronic platforms	222.5	208.5	194.4
Estimated average daily U.S. Treasury notional volume	505.1	491.5	511.3

Sources: FINRA, KCG

Electronic trading of spot FX

In \$ trillions	2014	2015	2016
Estimated average daily spot FX notional value traded on electronic platforms	0.329	0.328	0.306
Estimated average daily spot FX notional value traded	1.645	1.638	1.532

Sources: BIS, CME, EBS, Fastmatch, Hotspot, Reuters

upon the current state of trading for each asset class and specific product. Driving the pressure to change are mandates on market participants to generate additional alpha, ensure best execution, and meet all fiduciary responsibilities. Given the meaningful potential for improvement, the pressure is unlikely to subside.

2.9.2 MARKET NEED FOR ALTERNATIVE LIQUIDITY PROVIDERS

The model for the securities divisions at the leading global banks, which have historically facilitated the majority of all trading among market participants, is under pressure.

New regulations implemented as a result of the financial crisis of 2008 are presenting challenges. The Dodd-Frank Act generally increased oversight of systemically important financial institutions (SIFIs), the Volcker Rule prohibited certain types of proprietary trading, and Basel III established minimum leverage ratios and capital requirements. Additionally, the proposed MiFID II would prohibit banks from bundling fees for trade execution with research and other services, potentially opening up the market for institutional commissions for U.S. equities to independent trading firms.

The regulations degrade the profitability of the model on which the securities divisions of the banks operate, by restricting trading activities and pulling at the interdependencies between sales and trading, research, and investment banking. While certain risks will be lessened, the banks are currently reassessing the range of services offered, client segments targeted, and fees charged. The banks face a period of adjustment out of necessity.

In part prompted by these developments, market participants recognize the need for alternative liquidity providers to complement the global banks. Asset managers, in particular, are concerned about the potential impact of a macro market event on available

liquidity. Asset classes and products that are less liquid are susceptible to accelerated price declines, and are therefore riskier.

Creating more interconnected, electronic and efficient markets will increase resiliency as well as open up trading in asset classes and products to a broader array of market participants.

Resolving these issues involves supporting a more diverse network of public and private markets, interdealer brokers, and market makers with the aggregate capacity to meet the needs of market participants during periods of elevated trading activity. Creating more interconnected, electronic and efficient markets will increase resiliency as well as open up trading in asset classes and products to a broader array of market participants that were previously limited in their ability to trade certain products. An incremental retreat on the part of the global banks from trading represents a meaningful opportunity for a relatively smaller firm, such as KCG.

2.9.3 INCREASING FOCUS ON BEST EXECUTION

The elevation of best execution as the paramount consideration driving trading decisions plays into the KCG model. Clients and regulators alike are pursuing structural adjustments that will alter for the better the relationships between investors and the array of asset managers, brokers, and advisors that serve them.

Banks and brokers serving retail investors operate under specific regulatory-defined measures for execution quality in U.S. equities. Asset managers operate under a general duty of best execution as part of a fiduciary obligation to clients, and measures of execution quality can vary from manager to manager based on investment style, portfolio of holdings, and frequency of turnover.

Although data for benchmarking trading performance are fairly abundant in global equities, attaining best execution in fixed income, currencies, and commodities can be a less certain exercise. A lack of transparency into the markets affects the pricing of securities. Markets largely remain bifurcated between retail and institutional investors which impacts liquidity. And measurement tools are only as good as the available reported trade data.

Demonstrating compliance as a fiduciary will require banks, brokers, and asset managers to coalesce in support of market reforms that increase access, transparency, and protections. Recent cases of improprieties in the pricing of rates products and currencies further underscore the need for closer management by market participants and increased oversight by regulators. As markets gradually liberalize and trading becomes more liquid across asset classes, the potential for KCG to grow principal trading and agency-based trading grows exponentially.

At present, the industry is preparing for the pending implementation of new rules designed to advance best execution and reduce conflicts of interest:

- Adopted by the U.S. Department of Labor and set for implementation in April 2017, the DOL fiduciary rule is designed to reduce excessive fees charged by financial advisors offering retirement accounts. The rule mandates advisors act in the best interests of clients in selection of products. Provisions of the rule ensure product fees are a consideration, and while commissions and revenues sharing with affiliates aren't prohibited, advisors must disclose such incentives to clients. Given the potential to reduce margins for advisors and asset managers alike, the rule is expected to place a priority on cost-efficient trading.
- Adopted by the European Commission and set for implementation in January 2018, MiFID II builds upon the original Markets in Financial Instruments Directive (MiFID) to bring the majority of non-equity financial products under regulation and move over-the-counter trading onto regulated trading platforms. MiFID II contains rules relating to inducements that can potentially deter a firm from acting in the best interests of clients. The most prominent provision is the separation of commissions from research, which applies to all firms serving European clients that are subject to implementation, expands the addressable market for KCG Algorithmic Trading.

2017

SET TO GO INTO EFFECT IN APRIL 2017, THE DOL FIDUCIARY RULE IS DESIGNED TO REDUCE EXCESSIVE FEES CHARGED BY FINANCIAL ADVISORS OFFERING RETIREMENT ACCOUNTS

2018

IN JANUARY 2018, MIFID II BUILDS UPON THE ORIGINAL MARKETS IN FINANCIAL INSTRUMENTS DIRECTIVE (MIFID) TO BRING THE MAJORITY OF NON-EQUITY FINANCIAL PRODUCTS UNDER REGULATION AND MOVE OVER-THE-COUNTER TRADING ONTO REGULATED TRADING PLATFORMS

2.9.4 THE GROWTH OF ETFs

The steady growth of exchange-traded funds (ETFs) as an alternative to actively managed mutual funds and index funds is driving the expansion of exchange-traded products (ETPs).

ETFs provide investors with exposure to segments of the global equity and fixed income markets as well as commodities. ETFs are simple, low cost, and easily tradable. In addition, ETFs are easier to short than stocks and can serve as a convenient substitute for futures.

Recent growth demonstrates increasing acceptance and use:

- The total number of ETFs grew to 1,674
- Total assets reached \$2.3 trillion
- Average daily share volume increased to 1.7 billion

Considering that ETFs trade like stocks, the origination of a new ETF is equivalent to a new stock listing. Further, the trading of ETFs aligns with KCG's natural strengths. Retail investors account for approximately 30 percent of the average daily volume in ETFs compared to roughly 10 percent

in stocks. In addition, firms that create, redeem, and rebalance ETFs place a priority on best execution and do not require research.

At present, KCG accounts for approximately 15 percent of average daily volume in ETFs. KCG possesses a set of capabilities for trading ETFs that meet or surpass any other firm, covering lead market making in ETFs on exchanges, market making in ETFs direct to retail brokers and banks, agency-based trading using algorithms, executing block trades committing the firm's capital, and facilitating rebalances of underlying ETF assets.

With analysts projecting a long period of category growth ahead, KCG is intent on establishing a market leading position in ETFs, both in the U.S. and globally.

Growth of exchange-traded funds (ETFs)

	2014	2015	2016
Total number of ETFs	1,411	1,595	1,716
Total assets in ETFs (in \$ billions)	1,974.3	2,100.7	2,524.4
Average daily ETF share volume (in millions)	1,066.5	1,363.6	1,542.8

Sources: ICI, KCG

2.9.5 RETURN OF MARKET VOLATILITY

In general, a healthy level of market volatility has a positive effect on KCG's financial results.

Market volatility represents the percentage-based price movement up and down of a financial instrument. At a fundamental level, volatility simply reflects trading among market participants with different styles, outlooks, and/or time horizons to a particular stock, sector, or region. During periods of heightened volatility, bid-ask spreads on public and private markets tend to widen, which benefit market makers. A rise in volatility can also reflect an increase in institutional trading activity.

At the height of the financial crisis of 2008, realized volatility for the S&P 500 reached extremes in excess of 80 basis points. In

the immediate aftermath, central banks took drastic action to support foundering economies through coordinated interest rate cuts. A near-zero interest rate has persisted in the U.S. since December 2008, which can artificially dampen market volatility and lead to the mispricing of risk.

Although interest rates may or may not materially rise in the immediate future, macro market events that are, in part, reactions to the innumerable government interventions, are introducing spasms of volatility. Amid the uncertainty, assets are rotating from equities to fixed income to currencies to commodities and back again. As market participants seek liquidity, which is driving market volumes and related volatility, the revenues opportunities for KCG expand.

Financial



3.1

INCOME STATEMENT

KCG's revenues are generally dependent on market volumes, volatility and spreads, competition for client orders, the ability to deliver best execution and the performance of trading models. At this stage, financial results can be volatile quarter to quarter. However, initiatives to diversify and grow revenues from market making and agency trading are gaining traction.

A strategic priority for KCG is the continued reduction of expenses. The firm has demonstrated progress to date in the areas of personnel, technology, and debt interest.

Further lowering the cost structure will allow KCG to generate positive returns through even poor market conditions.

3.1.1 REVENUES

KCG generates revenues primarily from principal and agency-based trading as well as cash held in interest-bearing accounts and strategic investments in financial services-related ventures.

Trading revenues, net represent gains and losses from principal trading. KCG commits capital as a market maker from buying and selling securities direct from clients, such as banks and brokers, as well as on public and private markets including exchanges and ECNs. Revenues are generated from the difference between the amount paid when a security is bought and the amount received when sold. Among the factors impacting trading revenues: market volumes of global equities, fixed income, currencies, and commodities; market volatility for certain securities; the quality of KCG's client offering and competition for order flow direct from clients; the composition of order flow direct from clients, and; the performance of KCG's quantitative trading models.

Commissions and fees represent payments from trading in which KCG acts as an agent in executing trades, either on behalf of clients or between market participants. In addition, KCG generates commissions from providing liquidity to exchanges and ECNs. Among the factors impacting commissions and fees: market volumes for certain securities; the quality of KCG's algorithmic trading, sales traders, and trading platforms; client relationships with asset managers and the resulting orders generated in global equities, fixed income, and currencies; and prevailing commission rates.

Interest, net consists of interest earned from cash held at banks and in trading accounts at third-party clearing brokers. The third-party clearing agreements call for payment or receipt of interest income, net of transaction-related interest charged by clearing brokers for facilitating the settlement, and financing of securities transactions. In addition, KCG generates interest income

To calculate the amount of Market Making segment revenues attributable to U.S. equities, multiply KCG's total quarterly market making U.S. equity dollar volume by the average revenues capture per dollar value traded. For example, in 2016, total KCG Market Making U.S. equity dollar volume of approximately \$7.0 trillion multiplied by the average revenues capture per dollar value traded of 0.93 basis points amounted to revenues of \$651.6 million.

from collateralized financing arrangements utilized in securities borrowing. Net interest is primarily impacted by interest rates, cash balances at banks and third-party clearing brokers, securities borrowing activity, and the level of securities positions in which we are long compared to our securities positions in which we are short, among other factors.

Investment income and other, net

primarily represents returns on strategic investments in financial services-related ventures in the form of distributions and gains on asset sales. A portion of the revenues is attributable to deferred compensation investments.

Revenues section of the KCG income statement

Revenues

Trading revenues, net

Commissions and fees

Interest, net

Investment income and other, net

3.1.2 EXPENSES

KCG's expenses can be categorized as transaction based and non-transaction based.

Transaction-based expenses are dependent on KCG trade volumes, exchange fees, securities lending activity, and other factors that fluctuate with market-wide retail and institutional trading activity in certain securities.

Non-transaction based expenses—over which KCG has a greater degree of control—cover personnel, technology, occupancy, depreciation of fixed assets, amortization of intangibles, and software and other operating expenses. The largest of the expenses for personnel (employee compensation and benefits) and technology (communications and data processing) are the focus of ongoing initiatives to further reduce KCG's cost structure.

Expenses section of the KCG income statement

Expenses

Employee compensation and benefits

Execution and clearance fees

Communications and data processing

Depreciation and amortization

Payments for order flow

Debt interest expense

Collateralized financing interest

Occupancy and equipment rentals

Professional fees

Business development

Debt extinguishment charges

Write-down of assets and other real estate related charges

Other

TRANSACTION-BASED EXPENSES:

Execution and clearance fees represent fees paid to third-party clearing brokers for clearing primarily U.S. equities, listed options, and other securities. Also included are transaction fees paid to exchanges, clearing organizations, and regulatory bodies, as well as execution fees paid to third parties, primarily for executing trades on exchanges and ECNs. As an expense, execution and clearance fees fluctuate based on trade volumes, KCG's ability to execute trades in house, fees charged by clearing brokers, and fees paid to exchanges, ECNs, and certain regulatory bodies.

Payments for order flow primarily consists of payments to brokers for directing order flow to KCG in U.S. equities. Payments for order flow vary based on competition among market makers, the terms of standing order flow agreements with clients, and resulting volumes of order flow. Costs also vary depending on the composition of market orders and limit orders received directly from clients.

Collateralized financing interest

represents costs associated with financing arrangements, such as securities lending and the sale of financial instruments under agreements to repurchase at a later time, which can fluctuate based on KCG's funding needs and the rates of providers.

NON-TRANSACTION-BASED EXPENSES:**Employee compensation and benefits**

primarily consists of salaries, wages, and discretionary bonuses paid to employees in the form of cash and stock, as well as benefits and payroll taxes. As an expense, compensation fluctuates depending on net revenues, profitability, and headcount, as well as performance-based incentives. KCG management assesses compensation expense as a percentage of net revenues. KCG defines net revenues as total revenues less execution and clearance fees, payment for order flow, and collateralized financing interest, as well as any one-time gains or losses.

Communications and data processing

consist of substantially all non-depreciation technology expenses, including costs for obtaining market data, connectivity, telecommunications services, co-location, and systems maintenance.

Depreciation and amortization results from the depreciation of fixed assets, such as computer hardware, furniture, and fixtures, as well as the amortization of purchased software, capitalized software development costs, acquired intangible assets, and leasehold improvements. KCG depreciates fixed assets and amortizes intangible assets on a straight-line basis over the expected useful life. KCG amortizes leasehold improvements on a straight-line basis over the lesser of the life of the improvement or the remaining term of the lease.

Debt interest expense consists primarily of costs associated with long- and short-term debt, as well as capital lease obligations and amortization of capitalized debt issuance costs.

Other expenses include regulatory fees, corporate insurance, employment fees, general office expense, and related expenses.

KCG analyzes compensation relative to net revenues. Net revenues represent total revenues less transaction-based expenses, as well as certain one-time gains or losses. In 2016, the ratio of compensation to net revenues was 42 percent.

3.2

BALANCE SHEET

KCG maintains a liquid balance sheet. The firm carries a healthy cash balance. Among KCG's financial instruments owned, more than 97 percent were classified as Level 1 at December 31, 2016. KCG engages in principal and agency trading at a leverage ratio of approximately five to one.

As a contingency, KCG maintains a credit agreement with a consortium of banks comprising two classes of revolving loans in a total aggregate committed amount of \$355 million. The facility provides for future increases of up to \$145 million to a total of \$500 million provided certain terms and conditions are met.

Cash and cash equivalents include assets in money market funds and short-term investments with maturities under 90 days. KCG generally targets a minimum of \$350 million in liquidity consisting of cash and cash equivalents between the parent company and broker-dealer subsidiaries in order to meet capital requirements, fund day-to-day activities, and maintain a conservative cash buffer. Including cash held in legal entities for regulatory purposes, KCG generally maintains \$450 to \$500 million in cash and cash equivalents.

KCG's trading activities are supported by stock lending, in which securities are pledged as collateral primarily to facilitate trade settlement. **Collateralized agreements/ financings** consist of securities borrowed, while collateralized financings represent securities loaned and financial instruments sold under agreements to repurchase. Collateralized agreements and financings are recorded at amounts that approximate fair value based upon the contractual terms and are not materially sensitive to shifts in interest rates, because they are short-term in nature and substantially collateralized pursuant to the terms of the underlying agreements.

KCG maintains inventories of securities for the purpose of principal trading as a market maker. **Financial instruments owned/ sold, not yet purchased, at fair value** consist primarily of exchange-listed U.S. equities, OTC securities, and U.S. government

obligations and corporate bonds. Financial instruments are recorded at fair value.

The clearing and settlement of trades from principal trading produces short-term receivables and payables with counterparties.

Receivables from brokers, dealers, and clearing organizations are comprised primarily of cash held in interest-bearing accounts with third-party clearing brokers and receivables with respect to unsettled trades. **Payables to brokers, dealers, and clearing organizations** primarily consists of amounts due with respect to unsettled trades.

KCG's balance sheet

Assets
Cash and cash equivalents
Cash and cash equivalents segregated under federal and other regulations
Financial instruments owned, at fair value:
Listed options
Debt securities
Other financial instruments
Total financial instruments owned, at fair value
Collateralized agreements:
Securities borrowed
Receivable from brokers, dealers, and clearing organizations
Fixed assets and leasehold improvements, less accumulated depreciation and amortization
Investments
Goodwill and Intangible assets, less accumulated amortization
Deferred tax asset, net
Assets of businesses held for sale
Other assets
Liabilities
Financial instruments sold, not yet purchased, at fair value:
Listed options
Debt securities
Total financial instruments sold, not yet purchased, at fair value
Collateralized financings:
Securities loaned
Financial instruments sold under agreements to repurchase
Total collateralized financings
Payable to brokers, dealers, and clearing organizations
Payable to customers
Accrued compensation expense
Accrued expenses and other liabilities
Debt

Amounts receivable or due from unsettled trades result from trades that have been executed but have not reached the contract settlement date, which is generally three business days from the date of the trade. In general, the totals are impacted by overall market conditions, KCG trade volumes, the quantitative trading models in use during a given period, and pre-determined risk limits.

Investments primarily comprise non-controlling equity ownership interests in financial services-related businesses held by KCG's non-broker dealer subsidiaries. Investments are accounted for under the equity method, at cost, or at fair value. A portion of investments are assets that support a non-qualified deferred compensation plan for certain employees, primarily consisting of mutual funds, which are accounted for at fair value.

Other Assets comprise deposits, prepaids, and other miscellaneous receivables. The total at December 31, 2016 included a receivable of approximately \$60.5 million from Bats Global Markets, Inc. related to the sale of KCG Hotspot.

3.3

CAPITAL STRUCTURE

KCG maintains a simple capital structure, which includes a single class of equity and one long-term debt instrument.

KCG Class A Common Stock trades on the New York Stock Exchange under the ticker KCG. At year-end 2016, the total shares outstanding were 67.2 million including restricted stock units.

In addition, KCG had 6.2 million warrants outstanding at December 31, 2016.

As for long-term debt, KCG issued \$500 million in 6.875 percent Senior Secured Notes with a five-year maturity in March 2015 as part of a refinancing. Approximately \$465.0 million of the notes remained outstanding as of December 31, 2016.

KCG's debt-to-tangible-equity ratio was 0.36 at December 31, 2016.

Warrants outstanding at December 31, 2016

	CLASS A	CLASS B	CLASS C
Original exercise price	\$12.00	\$13.50	\$15.00
Adjusted exercise price ¹	\$11.70	\$13.16	\$14.63
Expiration	7/1/2017	7/1/2018	7/1/2019
Outstanding at December 31, 2016 (in millions) ²	2,026	2,069	2,087

¹ As a result of KCG's "modified Dutch auction" tender offer in the second quarter of 2015, the exercise price of each of the Class A, Class B and Class C Warrants was adjusted in accordance with the terms of the Warrant Agreement.

² As of December 31, 2016, KCG had an agreement to repurchase approximately 1.1 million additional warrants from General Atlantic in January 2017 in exchange for shares of Bats common stock as part of a previously announced swap transaction.

3.4

PERFORMANCE METRICS

KCG's financial results to date contain gains from the sales of assets and investments as well as charges and write-downs related to reshaping the firm.

KCG's results lag an emerging peer set of all-electronic market makers, brokers, and exchanges, which is reflected in current valuation metrics. KCG's performance reflects principal and agency trading that is as yet subscale, uneven market conditions, and continuing work on the cost structure.

The number one priority at present is to attain a return on equity (ROE) above the cost of capital. The overarching intention is to complete initiatives to generate organic revenues growth and reduce the cost structure. Growth in net revenues will primarily come from algorithmic trading for asset managers, principal trading in fixed income, currencies and commodities, and international expansion in Europe. Areas of

non-transaction based expenses designated for further reductions over the long term include employee compensation and benefits and communications and data processing.

In time, KCG expects to earn a ROE in line with the peer set of all-electronic market makers, brokers and exchanges.

Growth of KCG's book value and tangible book value¹

In \$	3Q13	4Q13	1Q14	2Q14	3Q14	4Q14	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	3Q16	4Q16
Book Value	12.34	12.33	12.64	12.66	12.68	13.03	15.10	15.58	15.95	16.02	16.42	16.79	16.70	20.20
Tangible Book Value	10.63	10.64	10.85	11.04	11.05	11.72	13.86	14.05	14.40	14.90	15.30	15.63	15.54	18.71

¹ For a reconciliation of GAAP to non-GAAP financial results, go to investors.kcg.com and download the presentation from the Sandler O'Neill conference dated June 8, 2016

3.5

CAPITAL RETURN

KCG's capital needs are simple.

A pure-play, execution-only, technology-driven intermediary, KCG focuses on liquid financial instruments and maintains sufficient capital to serve clients and fund day-to-day activities. In an average trading day, the firm turns over the balance sheet more than 10 times. KCG approaches trading with an emphasis on high

turnover as opposed to high leverage. The firm does not retain capital that negatively impacts return on equity. The firm does not plan to expand into clearing or lending.

In addition, the firm generates ample free cash flow provided reasonable market conditions. KCG defines free cash flow as income from continuing operations, less

capital expenditures, plus non-cash items such as depreciation and amortization, stock-based compensation, and non-GAAP adjustments.

Following the merger close, available cash was primarily utilized to deleverage the balance sheet. In the first nine months of operation, debt was reduced by more than \$650 million from completing a refinancing and freeing up trapped capital.

Since then, available cash has substantially all been directed to share repurchases.

Following the inception of a share repurchase program in the first half of 2014, KCG has repurchased 59.4 million shares and 17.9 million warrants for a little more than \$832 million as of December 31, 2016.

Dependent on KCG's price-to-book value, share repurchases are likely to remain the most attractive use of available cash. Share repurchases are naturally subject to the firm's financial condition and debt covenants.

3.6

KCG OWNERSHIP

KCG is gradually shifting to a more diversified stockholder base comprised of traditional institutional asset managers.

At KCG's inception in mid-2013, the firm faced residual structural issues in the stockholder base from the predecessor firms' respective ownership groups. Immediately following the merger, approximately 65 percent of all KCG shares outstanding were held by private equity, founders, and securities firms. Since then, the aggregate shares held by this group have been reduced by 80 percent.

In mid-2016, the KCG shares owned by institutional investors surpassed that of the remaining private equity, founders, and securities firms for the first time. At year-end 2016, the percentage of shares held by institutions grew an aggregate 20.1 percent from a year earlier. Further diversification of the stockholder base will continue to be a priority.

In addition KCG believes individuals at all levels should be geared to the success of the firm. KCG is committed to building a culture of partnership, in which individuals take initiative, allocate resources, and safeguard the firm as owners. The majority of all performance-based compensation for

KCG Holdings, Inc. Class A Common Stock

As of December 31, 2016	Shares	% S/O
Jefferies	15,935,021	23.7%
Insiders ¹	4,300,910	6.4%
Institutional (Active)	16,662,129	24.8%
Institutional (Active / Quant)	11,856,284	17.6%
Institutional (Passive / Index, ETF)	11,573,431	17.2%
Retail	5,668,380	8.4%
Market Making	1,196,321	1.8%

KCG's Management Committee is based on firm-wide performance metrics, and awards are heavily weighted in KCG Common Stock. A long-term goal is for members of the Management Committee, employees, and KCG Directors to own a meaningful portion of shares outstanding.

¹ Insiders constitute members of the KCG management team and board of directors; Holdings include RSUs.

4.1

RECOMMENDED READING

- McKinsey & Company, Capital Markets and Investment Banking 2016: Time for Tough Choices and Bold Actions (September 2016)
- Boston Consulting Group, The Value Migration (May 2016)
- PwC, ETFs: A Roadmap to Growth (April 2016)
- McKinsey & Company, Two Routes to Digital Success in Capital Markets (October 2015)
- Citi, When Agents Lose Their Principals; Fixed Income Liquidity Revisited (August 2015)
- Oliver Wyman, Rebooting Financial Services (July 2015); World Economic Forum, The Future of Financial Services (June 2015)
- Barclays, The Decline in Financial Market Liquidity (February 2015)
- BlackRock, The Liquidity Challenge (June 2014)

4.2

GLOSSARY

- **Agency trading** - A form of trading in which a securities firm executes a transaction on behalf of a client generally for a commission.
- **Algorithmic execution** - A form of trading in which quantitative models determine the optimal method to execute block orders based on available liquidity, price, transaction costs and other factors.
- **Alternative trading system (ATS)** - A private market similar to an exchange but operated by a broker dealer and available only to select market participants, in which orders are matched electronically and anonymously.
- **Basel Accords** - A set of agreements on bank practices to promote financial stability related to capital, liquidity, and risk administered by the Basel Committee on Bank Supervision (BCBS).
- **Best execution** - The fiduciary duty of financial services providers to seek the best possible execution for trades on behalf of clients investing directly in stocks and pooled investment vehicles.
- **Clearing agency** - A self-regulatory organization (SRO) that compares member transactions, clears trades, prepares instructions for trade settlement, and often acts as an intermediary in making settlements.
- **Comprehensive Capital Analysis and Review (CCAR)** - Annual stress test of bank holding companies conducted by the Federal Reserve.
- **Crossing network** - A type of ATS that matches buy and sell orders based on an objective price, such as the midpoint between the bid and offer or volume weighted average price.
- **Dark pool** - A type of ATS in which resting block orders are matched generally at the midpoint between the bid and offer price.
- **Decimalization** - The conversion from trading U.S. equities in fractions to decimals, completed in 2001, after which stocks prices were recorded in pennies (0.01) instead of sixteenths (1/16).
- **Dodd-Frank Act** - Far-reaching legislation passed by Congress following the Financial Crisis of 2008 creating new rules and agencies charged with reducing risk in the financial system.
- **Electronic communication network (ECN)** - A type of ATS that matches buy and sell orders at specified prices.
- **Financial intermediary** - A dealer in financial instruments that transacts with buyers and sellers.
- **Liquidity** - A measure of the relative ease and speed with which a security can be bought or sold in a secondary market.

- **Market maker** - A firm that stands ready to buy and sell a particular stock on a regular and continuous basis at a publicly quoted price.
- **Market participant** - An entity that is among the pool of buyers and sellers in a particular financial instrument.
- **Market structure** - The accepted system for trading a particular financial instrument covering public and private markets, market participants, applicable regulations, and regulatory entities.
- **Markets in Financial Instruments Directive (MiFID)** - A rule adopted by the European Commission in 2004 and revised in 2011, governing the provision of investment services in financial instruments by banks and investment firms and the operation of traditional stock exchanges and alternative trading venues.
- **Multilateral trading facility (MTF)** - A type of ATS resembling a dark pool for trading European equities.
- **Order routing** - The process by which a retail or institutional client order is accepted by a broker and sent to an exchange, ATS, or counterparty for execution.
- **Principal trading** - A form of trading in which a securities firm utilizes its own capital to either facilitate a transaction on behalf of a client or generate a gain or loss for the firm itself.
- **Regulation ATS** - A rule adopted by the SEC in 1998 allowing registered brokers and exchanges to operate trading systems free of regulatory-imposed volume caps.
- **Regulation NMS** - A set of rules adopted to increase competition among market centers by improving fairness in price execution, the display of quotes, and access to market data.
- **Sales trading** - A form of trading in which human traders execute block orders based on available liquidity, price, and transaction costs in the market, among other factors.
- **SEC Rule 605 and 606** - Rules adopted in 2000 requiring market centers and broker dealers handling retail orders to report trade execution metrics - including speed, price improvement, and at-or-better - on a stock-by-stock basis.
- **Volcker Rule** - A rule adopted in 2013 that generally prohibits banks from engaging in proprietary trading or maintaining an interest in an entity that engages in proprietary trading.
- **Volatility** - A measure of the relative movement in pricing for a financial instrument as an indicator of the riskiness of the particular asset.
- **Warrant** - A contract authorizing the holder to purchase the stock of the issuing company for a specified price at or before a set date.

Sources: KCG, Securities and Exchange Commission (SEC), Financial Industry Regulatory Authority (FINRA)

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