



**Evolve**  
Capital Partners

# Capital Markets Landscape

**Industry Deep Dive**

**Fall 2021**



Detailed Market Segmentation of the Capital Markets Sector

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**SPECIALIZED INVESTMENT BANK AT  
THE INTERSECTION OF FINANCE & TECHNOLOGY**



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# I. Executive Summary

# Foreword

## Evolve's Capital Markets Overview

### FOREWORD

In recent years, business communities across the world have undergone digital transformation rapidly, and the capital markets industry is no exception, with emerging RPA, data analytics, and blockchain technologies seeking to disrupt the market. To adapt to an increasingly competitive economic environment with sweeping regulatory changes, enterprises require new strategies and practices, leading to elevated transaction activity in the technology and finance sectors.

We continue to observe robust development in the capital market space including the core functions, service providers, and software & data solutions providers. As the impact of COVID-19 fades and the consolidation trend picks up, M&A activity among core functions providers recover in terms of transaction value. As for service providers, billions of capital was raised in IT services and the consulting space while large incumbents acquired smaller tech-enabled players to expand their services. For software & data solutions providers, we see stronger demand in data and analytics platforms with several high-value transactions involving cyber security and analytics providers, which large players have been willing to pay a sizeable premium to acquire.

At Evolve, we understand the importance of staying informed of the capital markets to provide high-impact and highly tailored advisory services in a swiftly changing environment. To underscore the dynamics and critical trends within the capital markets industry and their impact on each industry segment, we have assembled this industry deep-dive report which lends our view on the space, with market maps, in-depth research, and transaction updates.

Select market development themes that we explored:

- Companies are incentivized to accelerate digital transformation due to significant time and cost reduction through process automation. A significant part of digitization is the adoption of cloud computing and big data analysis.
- Work-from-home continues to be a major theme that drives customer behavior and new solutions quickly emerge to accommodate this trend.
- RegTech is in high demand as the industry strives for agility in adapting to the evolving regulatory landscape.

### Our Motivations

- For us to serve our clients better, we strive to constantly update our understanding of our focus priority areas. This report is part of our research coverage, which includes our monthly and quarterly newsletters, and executive research notes.
- An insurance report was published in summer 2021. A lending report will be released later in the winter.
- We believe our research displayed in this report will help you and your firm better understand your position in the capital markets ecosystem, thereby solidifying your ideas on strategy and valuation. We also highlighted current trends with each sub-sector to inform or reinforce your current thoughts.
- For entrepreneurs or those operating sponsor-backed firms, we hope to play a small part in helping you consider different potential strategic options, such as a sale vs. a capital raise.

The capital markets space is large, dynamic, and quickly evolving, but we attempted to segment the industry and provide our opinions based on our unique perspective and focus. We hope you enjoy this report and as always, thank you for your continued support.

Evolve Capital Banking Team

# Evolve Capital Markets Industry Summary Map

## Evolve's Perspective: Dynamics of the Capital Markets Ecosystem

### HOW EVOLVE SEGMENTS CAPITAL MARKETS

The capital markets sector is broad and dynamic (i.e., there is no concrete definition). The below and this report lend a perspective into how Evolve scopes and segments the industry.

#### CAPITAL INTENSIVE & ADVISORY

**Capital Intensive:** at the core of the broad capital markets ecosystem are “balance sheet” companies, who directly invest in or hold assets as part of their services to individuals and institutional clients (e.g., banking, asset management, alternative investments). Such companies often have fiduciary duties, thereby are tightly regulated.

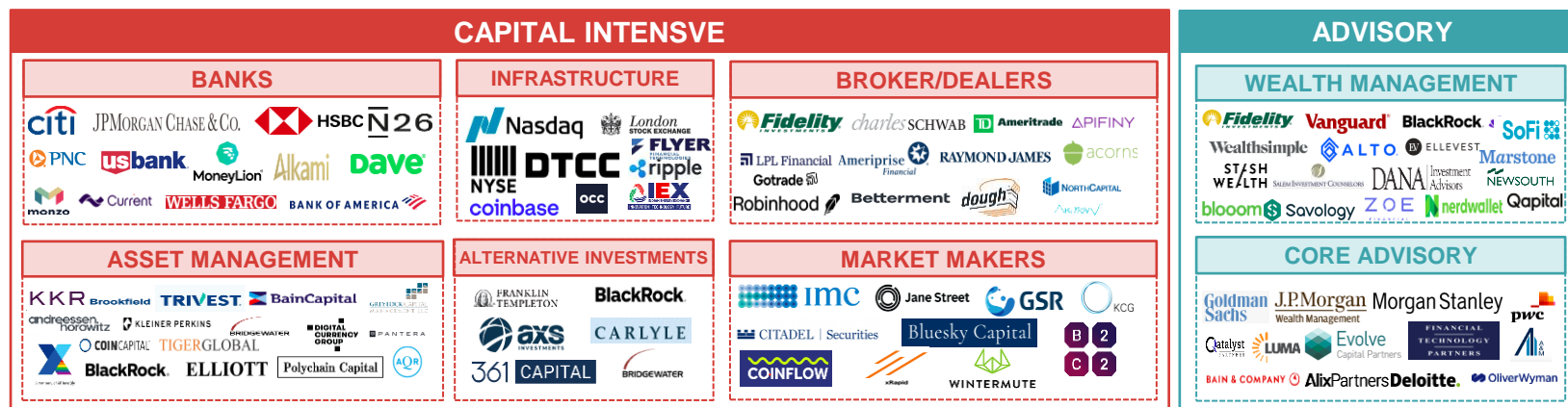
**Advisory:** we further segment advisory into core services (transaction advisory, accounting, etc.) and wealth management. Advisory client base traditionally comprises institutions and high-net worth individuals, but recent technology development allows companies to extend services to the general population.

#### SUPPORTING FUNCTIONS

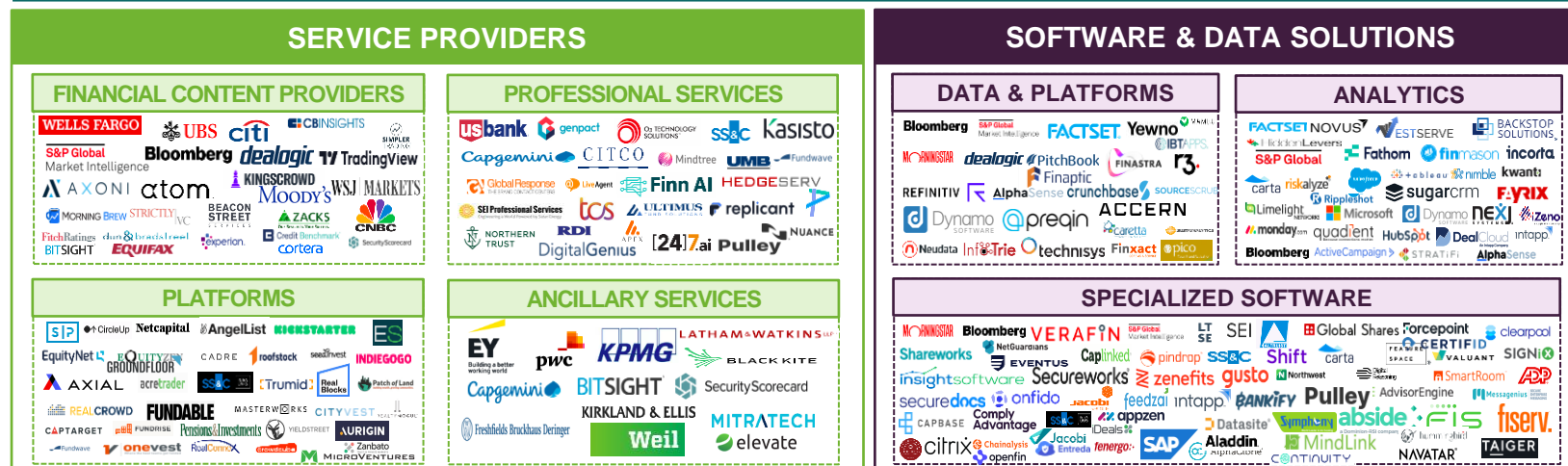
**Service Providers:** companies in this segment serve the “core group”. Services range from content, back-office support, to marketplaces, and ancillary services.

**Software & Data Solutions:** the capital markets ecosystem is increasingly using data platforms, analytics and specialized software to automate processes and enhance decision-making.

### CORE FUNCTIONS



### SUPPORTING FUNCTIONS







## II. Evolve Overview

# Evolve Capital Partners Overview

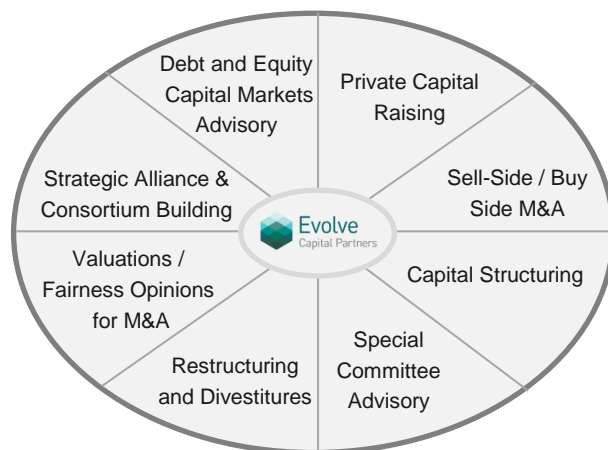
We Focus Exclusively On Finance and Technology-Related Firms

## ABOUT EVOLVE

- Evolve Capital Partners is a specialized investment bank focused on tech-enabled service & software firms in the **capital markets**, insurance and lending sectors.
- The Evolve brand was established in 2017 and we are based in New York, NY. Our location provides access to numerous strategic and financial partners who participate in and shape the financial services sector.
- Since inception, we have completed dozens of transactions and professionals of the firm have advised on over \$6B of M&A and financing transactions.



## Our Advisory Products



**In-Depth Industry Research Reports**

**Quarterly Market Analysis**

**M&A / Financing Transaction Profiles**

## ADVISORY SERVICES

- We are a dedicated, creative, and fully independent investment bank that advises private and public companies on merger, divestiture and acquisition transactions, and capital raising through private placements.
- We produce industry-leading research on transaction trends across the finance and technology sector.
- Few investment banks have transaction experience across both corporate and asset finance.



## Our Clients

- Corporations
- Management Teams
- Venture Capital & Private Equity Funds
- Independent Directors / Boards



## Industry Focus

- We are exclusively focused on Finance and Technology firms

### CORE FOCUS

Insurance

Lending

Capital Markets

Enterprise Software / SaaS

### AREAS OF INTEREST

- Bank Technology
- Financial Management Solutions
- Business Process Outsourcing
- HealthcareTech
- Payments

# Evolve Focus Areas

We Focus Exclusively On Finance and Technology-Related Firms

## EVOLVE CORE FOCUS

## AREAS OF INTEREST

Capital-Light

Service Providers

Technology Providers

Capital-Intensive

### Capital Markets



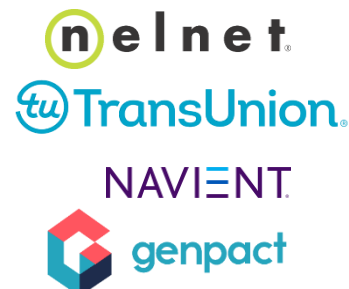
### Banks & Fund Managers



### Insurance



### Lending



### Enterprise Software / SaaS



### Business Process Outsourcing



### Healthcare Tech



### Payments



### Financial Management Solutions



### Bank Technology







## III. Industry Landscape

# Trend 1: Digital Transformation Across Capital Markets

## U.S. Capital Markets – Key Trends

### KEY DIGITIZATION TRENDS

- **Work from home catalyzes digital transformation**
  - Banks, wealth / asset managers, and other financial services providers, are increasing technology budgets with a focus on cloud computing, data analytics, and artificial intelligence to accommodate virtual communications / collaborations, and optimize processes.
  - Consumers are more willing to transact, send payments and leveraging tech-driven solutions.
- **Asset / wealth managers have adopted RPA and machine learning to streamline back-office processes**
  - Maximize efficiency across supporting functions by automating reporting, compliance, and risk management processes.
  - The pandemic represented a catalyst for many departments to accelerate their eventual plan to deploy tech as part of their processes.

### KEY TECHNOLOGY USE CASES

Below are select capabilities of current technology in the capital markets industry:

- Digitized business processes to automate decision making, reduce fraud and regulatory risks, and improve operational efficiency.
- Cloud, AI, and mobile platforms will continue to increase operational efficiencies and ultimately improve profit margins.
- Distributed ledger technology eliminates the need to reconcile internal systems and normalize data; allowing access, validation, and record updates to occur across a network in an immutable manner.
- Technology producing metric and data driven research is being made accessible to allow for investors to make more informed decisions.

Source(s): Wipro

### CAPITAL MARKETS – DIGITAL EVOLUTION PHASES

07' – 10'

Crisis

- The '08 financial crisis presented a “stress test” that exposed operational inefficiencies across the capital markets industry. Companies struggled to survive the economic downturn and an extremely volatile market.
- The first generation of FinTech companies emerged with disruptive solutions to address the inefficiencies.

11' – 13'

Recovery & Disruption

- The market began adapting to new regulatory changes such as the Dodd-Frank Act.
- FinTech companies rapidly emerged and evolved to take advantage of the rapidly changing market environment, becoming competitive threats to the incumbents.
- Robinhood was founded in 2013, and revolutionized retail trading. The application of blockchain technology emerged with introduction of Bitcoin and Coinbase.

14' – 17'

Stabilization

- The market entered an inflection point as the effects of the crisis faded and the next waves of tech-forward startups emerged.
- New-age companies started to adopt machine learning – robo-advisors rapidly expanded market share, managing ~\$60 billion in assets globally in 2015.
- Technology disruption attracted strong investor interest.

18' – 22'

Maturity & Consolidation

- Pioneer disruptors are reaching maturity and facing strong competition from the new generations. These companies are increasing M&A activity to expand market share and consolidate technology capabilities. Companies with strong digital capabilities became targets for acquisitions – notable M&A activity includes **S&P** and **IHS Market**, **Fiserv** and **First Data** and more.
- Cybersecurity threats emerge *vis-à-vis* technology development, becoming a critical threat to the entire industry. Cybersecurity and compliance solutions are increasingly popular.

# Trend 2: Changing Regulatory Landscape

## U.S. Capital Markets – Key Trends

### KEY REGULATORY CHANGES SINCE 2008 CRISIS

- The regulatory landscape is shifting its focus to reviewing controls of automation tools (e.g., supervision of RPA, and AI-assisted functions) and evaluating management's control reviews of such digital processes.
- **Increase in popularity and adoption of digital assets / tokenization will trigger tightening of existing AML / KYC and securities regulations.**
- Increasing regulation on corporate governance emphasizes the importance of ESG consideration for management teams and asset allocators.
- In October 2021, The Financial Stability Oversight Council (FSOC) issued a 133-page report titled "Climate-Related Financial Risk" which could ultimately lead to further disclosures and regulation for financial institutions as it relates to climate risk

### CYBERSECURITY

*As an exponentially increasing volume of data is generated by capital markets firms, cybersecurity, data warehousing, and compliance solutions have become a necessity for businesses in the highly regulated securities and capital markets industry.*

### REGULATORY BARRIERS

*Increasing regulation and scrutiny following the 2008 financial crisis and other tests of market stability represent sizable barriers for potential market disruptors. In June 2021, digital broker Robinhood faced the historic FINRA fine of \$70 million for misleading customers.*

Source(s): Deloitte

### REGULATORY TECHNOLOGY FUNCTIONS AND BENEFITS



#### REPORT AUTOMATION TOOLS

By using data aggregation and other report automation tools, organizations can minimize reporting errors and improve efficiency. Report automation tools can also offer global organizations with a way to consolidate and produce regional reports under a single platform.



#### AML COMPLIANCE

Big Data infrastructure can be incorporated in predictive models to help institutions monitor key risk indicators and changes in behavior patterns. Real-time payments monitoring, reporting, and blocking can smoothen the AML compliance process.



#### CREDIT/LIQUIDITY RISK MANAGEMENT

By using predictive risk models and AI, users of RegTech can efficiently allocate to regulatory capital and release cash from corporate balances while remaining within their desired liquid capital reserve level and risk appetite.



#### KNOW-YOUR-CUSTOMERS (KYC)

RegTech can revolutionize the KYC function by using machine learning algorithms to predict and analyze customer sentiments, and pinpoint signals of early churn, service challenges, relevant product exposure, and changing customer relationship status.





# Trend 3: Implementation of Big Data Technologies

## U.S. Capital Markets – Key Trends

### INCREASED ADOPTION OF DATA COLLECTION AND ANALYTICS

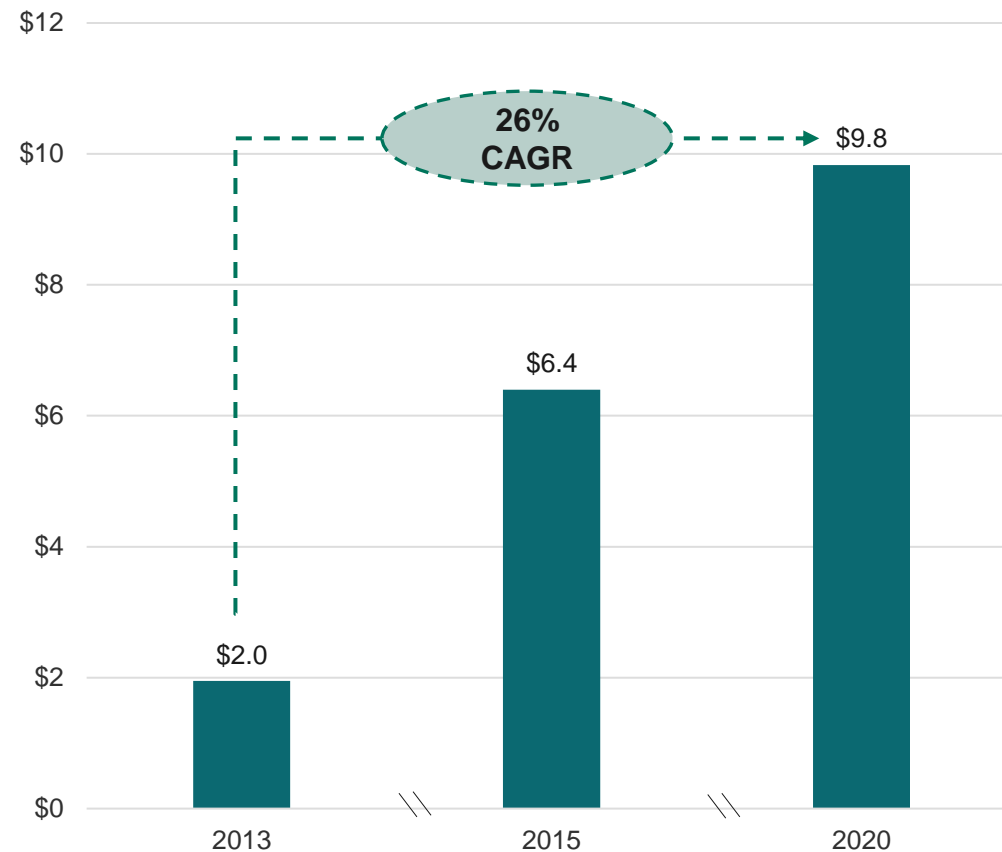
- **Advancement in predictive analytics and the wider adoption of cloud computing technology enables more efficient organization and analysis of sizable pools of data.**
  - Large firms with access to vast amounts of data (including banks, brokers, and exchanges) can leverage their data banks to improve efficiencies in existing operations, an advantage over competitors with less access.
  - As an example, commercial banks are leveraging insights from customer data to drastically improve fraud detection.
- Access to big data and improved algorithms results in more precise predictions and the ability to effectively mitigate the inherent risks of financial trading.
- Increased use of cloud storage: **use of shared information pools via cloud storage is increasing the need for cloud computing infrastructure.**

### BIG DATA IN THE CONTEXT OF CAPITAL MARKETS

- **Risk Management and Analytics:** large-scale data collection and analysis allows for more robust risk analytics and data trails.
- **Security and Compliance:** multinational capital markets firms are increasingly dependent on RegTech solutions against varying and increasingly complex regulatory requirements. Internal / external surveillance can automate compliant reporting across jurisdictions.
- **Research:** advanced data analytics can generate signals for investment evaluation reports by analyzing sentiment from public information such as social media and press releases.
- **Customer Relationship Management:** data analytics can identify trends in customer behaviors for personalized services by capital markets firms.
- **Trading Analytics:** data analytics generate on-demand performance metrics for risk measures or pre-trade decision support.

### INVESTMENT IN CAPITAL MARKETS DATA TECHNOLOGY IN U.S.

(USD, in billions)



Source(s): Actian Research Brief, TCS, Infosys

# M&A Transaction Activity

Uptick in M&A Activity in 2021; Valuations Trend Higher as Competition Increases

## MARKET ACTIVITY OVERVIEW

- Pressure from hundreds of SPACs seeking targets and strategic acquirors with elevated share prices to support acquisitions has resulted in an uptick in M&A activity in the capital markets space in 2021.
  - Bakkt, a trading platform connecting merchant markets to the blockchain completed de-SPAC in October 2021. **The transaction values Bakkt at \$2.1 billion, implying 5.9x 2023E revenue and 18.8x 2023E EBITDA.**
  - PE firm Thoma Bravo acquired Calyso for \$3.8 billion in March 2021. **The trading, risk, and compliance firm generated ~\$100 million in EBITDA, implying a 38x EBITDA multiple.**
  - Digital custodian Apex Clearing announced plans to go public in February 2021 over a de-SPAC transaction that values combined company at \$4.7 billion.

## M&A ACTIVITY DRIVERS AND TRENDS

### Trend 1: Closing the digital capabilities gap

Giants in capital markets space are partnering with or acquiring technology companies to modernize their legacy infrastructure.

### Trend 2: Increased regulatory scrutiny – headwind to large transactions

Case-in-point: Visa called off its \$5.3 billion acquisition of open banking firm Plaid in early 2021 amid a DOJ antitrust lawsuit that challenged the transaction.

### Trend 3: Valuations continue to trend higher

Transaction sizes increase as the record-high deployable capital among financial acquirors, and SPACs outpaces qualified acquisition targets.

### Trend 4: Consolidation driven by competition among tech-enabled firms

Digitization of new-age banks, wealth management, trading, and brokers has reduced costs and associated fees, exerting pressure on incumbents to improve technology infrastructure through acquisitions or partnerships.

Source(s): Deloitte, Pitchbook

## M&A TRANSACTION ACTIVITY IN KEY SEGMENTS

(USD, in millions)

Key Segments	2020 Transactions		2021YTD <sup>(1)</sup> Transactions	
	Count	Volume	Count	Volume
Banks	163	\$15,604	65	\$25,122 <sup>(2)</sup>
Wealth Management	56	\$1,600	23	\$928
Investment Management	58	\$10,222	28	\$13,964 <sup>(3)</sup>

## NOTABLE ACQUIRERS IN CAPITAL MARKETS

Acquiror	Acquisitions Count Jan 20' to Sep '21	Recent Acquisitions
J.P.Morgan	14	AXIO, OpenInvest
Citizens Bank®	6	TRINITY CAPITAL INVESTMENT BANKING, AMERICAN BANK OF THE CAROLINAS
MOODY'S	5	cortera, A Moody's Analytics Company, ZIM
BancorpSouth®	4	NationalUnited, TEXASFIRST STATE BANK
ARES	3	Cincinnati Bell™, LANDMARK PARTNERS

(1) YTD as of September 30, 2021

(2) Includes \$11.6 billion acquisition of BBVA's US operations by PNC in June 2021.

(3) Includes \$8.7 billion acquisition of Eaton Vance by Morgan Stanley in March 2021.

Source: Pitchbook

# Financing Transaction Activity

## Market Activity Reaching New Levels With Increased Demand

### MARKET ACTIVITY OVERVIEW

- Financing activity in the capital markets space has largely centered around new-age, tech-forward companies seeking to scale their platform
- Capital markets financing transaction sizes have grown in tandem with the importance of the infrastructure underlying new areas like digital banking or robo-advising.
  - Leading open banking API platform Plaid raised \$450 million in Series D funding from Altimeter Capital in April 2021, valuing the company at \$13.4 billion.
  - CB Insights reported that Capital markets tech funding through Q3 2021 more than doubled 2020's year-end

### KEY GROWTH VERTICALS

#### Online Brokerage

Online brokers have raised large amounts of capital since 2020 to accelerate for public offerings in 2021 and 2022 as mobile-oriented brokers rapidly expand market share.

#### AI / Machine Learning

Advancements in machine learning catalyze the emergence of disruptive solutions in reporting, risk, and compliance across banks, asset managers and advisory firms.

#### Bank Technology

Challenger banks with a focus on mobile banking services and digital offerings have risen in popularity, spurring investment in technology to streamline legacy processes for authentication, fraud detection, and account opening.

#### Security & Compliance Technology

The highly regulated capital markets industry has faced increasing regulation vis-à-vis rapidly increasing data collection and prevalence of security breaches. Regulatory technology focusing on monitoring, prevention, and compliance have received strong interest and capital inflows as incumbent solutions fail to address such problems.

Source(s): Deloitte, Press releases, Pitchbook

(1) YTD as of September 30, 2021










### FINANCING ACTIVITY IN SELECT CAPITAL INTENSIVE & ADVISORY

(USD, in millions)

Key Segments	2020 Transactions		2021YTD <sup>(1)</sup> Transactions	
	Count	Volume	Count	Volume
Banks	44	\$1,056	41	\$1,700
Wealth Management	41	\$861	28	\$1,500
Investment Management	47	\$2,252	28	\$691

### KEY FINANCING TRANSACTIONS

(USD, in millions)

Closing Date	Target	Key Investor(s)	Amount Raised
7/13/21	 insight software		\$1,000
4/15/21	 PLAID	 ALTIMETER CAPITAL  andreesen horowitz	\$425
5/5/20	 N26	 Tencent  Droper Esprit 	\$570



# Capital Markets Firms Go Public, With a Growing Crop of SPAC Suitors

## IPO and SPACs Gaining Popularity in the Capital Markets Space

### CAPITAL MARKETS FIRMS ATTRACT THE PUBLIC LIMELIGHT

- Blue Owl Capital was established from the merger of Owl Rock Capital and Neuberger Berman's Dyal Capital Partners in May 2021, in conjunction with a reverse merger with Altimar Acquisition Corp SPAC. The transaction resulted in a post merger capitalization of \$12.5 billion.
- Acorns, the digital 'micro-investing' robo-advisor is planning to go public via merger with Pioneer Merger Corp later in 2021, at a valuation of \$2.2 billion.
- Personal finance super-app SoFi went public on June 1, 2021 by merging with Social Capital Hedosophia Holdings V SPAC, successfully raising \$2.4 billion at a valuation of over \$8 billion. SOFI is currently trading at \$19.54 per share<sup>(1)</sup>, up 78% since IPO date.
- Apex Clearing Corporation is expected to go public via a merger with Northern Star Acquisition Corp II, at a \$4.7 billion valuation. Transaction was announced in February 2021.

### PENDING DE-SPAC TRANSACTIONS – FORGE

**Target:**  Forge **SPAC:**  MOTIVE CAPITAL CORP **Market Value: \$2,036**

Forge is a developer of an online trading platform that provides access and liquidity in the capital markets. The platform helps investors, wealth and asset managers, family offices and shareholders bring liquidity to illiquid assets through technology.

Source(s): Press releases

(1) As of 10/28/21

### PENDING DE-SPAC TRANSACTIONS – APEX CLEARING

**Target:**  **Valuation: \$4.7 billion**

**SPAC:** 



#### Company Details

- Apex Clearing offers a clearing and custody platform with a full complement of industry networking and tooling integrations to support a wide range of financial instruments, account types and financing solutions
- Apex Clearing is a FinTech for FinTechs, powering innovation and the future of digital wealth management. Its proprietary enterprise-grade technology delivers speed, efficiency, and flexibility to firms ranging from innovative start-ups to blue-chip brands focused on transformation
- The Company offers a robust suite of APIs – with an enhanced developer portal – to facilitate the complete trading and investing lifecycle from account opening through regulatory support and everything in between

# Select Capital Markets IPOs

## Transaction Highlights

(USD, in millions)

Listing Date	Company	Sub-Sector	Description	Listing Price	Shares Offered	Amount Raised	MV at Listing Price	MV/Revenue	P/E	% Return <sup>(1)</sup>
9/23/21	 <b>Remitly</b>	Payment Platform	Digital remittance service that makes the money transfer process fast, affordable and transparent.	\$43.00	12.2	\$524	\$8,000	22.6x	NA	(8%)
7/29/21	 <b>Robinhood</b>	Broker / Dealers	Stock brokerage that allows customers to buy and sell stocks, options, ETFs, and cryptocurrencies with zero commission.	\$38.00	55.0	\$2,090	\$32,000	23.7x	NA	(8%)
7/28/21	 <b>meridianlink</b>	Risk Analytics	Provider of cloud-based technology that enables banks, credit unions, mortgage lenders, and consumer reporting agencies to streamline loan decision making.	\$26.00	60.7	\$343	\$2,010	9.4x	96.3x	(7%)
7/14/21	 <b>coinbase</b>	Exchanges	American company that operates a cryptocurrency exchange platform.	\$250.00	114.9	NA <sup>(2)</sup>	\$85,800	29.7x	66.8x	(14%)
6/30/21	 <b>intapp</b>	Compliance	Provider of industry-specific, cloud-based software solutions for the professional and financial services industry.	\$26.00	10.5	\$273	\$1,530	30.4x	NA	11%
4/14/21	 <b>Alkami</b>	Banking Software	Provider cloud-based digital banking platform. It provides financial institutions a complete digital banking solution ready to facilitate both retail and business user onboarding and engagement.	\$30.00	6.0	\$180	\$2,490	20.4x	NA	4%

Source(s): Pitchbook








(1) Performance since IPO as of 10/28/21

(2) Direct listing.

# Select Capital Markets SPAC Transactions

## Transaction Highlights

(USD, in millions)

Announce Date	Close Date	Company	Description / Comments	Target MV	Target Revenue	Net Income	MV / Revenue	P/E	% Stock Price Change <sup>(1)</sup>
10/12/21	Pending	 <b>TRADEZERO</b>	With the additional capital and Dune's synergistic thought leadership in Fintech, TradeZero will be well-positioned to capture the retail trading market tailwinds and expand rapidly.	\$556 <sup>(2)</sup>	\$114	\$64 <sup>(2)</sup>	4.9x	8.7x	NA
9/13/21	Pending	 <b>Forge</b>	Proceeds from the transaction will help Forge continue to build its platform and expand investor base to serve the rapidly growing crowdfunding market supported by recent regulatory changes in Regulation CF and Regulation A by the SEC.	\$2,036	\$151	\$11 <sup>(2)</sup>	13.5x	NMF	NA
12/30/20	6/24/21	 <b>P / W / P</b> PERELLA WEINBERG PARTNERS	The company plans on using the funds to expand their client base globally and broaden their advisory services.	\$975	\$574	\$2	1.7x	13.1x <sup>(3)</sup>	0%
12/23/20	5/20/21	 <b>BLUE OWL</b>	Two leading alternate asset managers, Owl Rock and Dyal, with a combined \$45 billion in AUM merged via a SPAC to trade as Blue Owl. The Owl Rock and Dyal businesses operate autonomously but complement each other and allow Blue Owl to provide a holistic solutions around direct lending and GP capital.	\$3,275	\$448	(\$381)	8.7x	NMF	19%
8/3/20	11/17/20	 <b>GCM GROSVENOR</b>	Chicago-based alternative asset management firm with over \$59 billion in AUM merged with a SPAC to go public.	\$426	\$429	\$4	NMF	107.0x	0%
7/29/20	11/11/20	 <b>TRITERRAS</b>	The Singapore-based company serves commodity traders and offers a blockchain-enabled end-to-end global trade and trade finance platform. The company trades on the NASDAQ after merging with a SPAC in November 2020.	\$415	\$39 <sup>(4)</sup>	\$27 <sup>(4)</sup>	10.6x <sup>(4)</sup>	1.0x <sup>(4)</sup>	(52%)
5/18/20	6/11/20	 <b>OpenLending</b> Say YES to more automotive loans.	Open Lending is a leading provider of lending enablement and risk analytics solutions to financial institutions.	\$1,625	\$109	(\$98)	14.9x	NMF	200%

- (1) Performance since IPO, as of 10/15/21  
 (2) EBITDA used in place of net income (undisclosed)  
 (3) Calculated using earnings estimates for FY 2021  
 (4) YTD figures as of 10/15/21  
 Source(s): CapitalIQ, Pitchbook, Press Releases









# IV. Capital Markets Map

1. Capital Intensive & Advisory
2. Service Providers
3. Software & Data Solutions

# How Evolve Segments Our Capital Markets Industry Coverage

## Segmenting the Industry into Key Areas of Interest

### EVOLVE NOMENCLATURE

	Region	Industry
	City	Sub-Sector (or Sub-Industry)
	Neighborhood	Product Type
	Zip Code	Product

#### How to Navigate Our Market Map

- Each of the three sub-sectors (i.e., cities) is color coded and all underneath neighborhoods and zip codes are colored accordingly
- Each city has a detailed market map with summary market overview, followed by a detailed research into trends and capital markets activity.
- In-depth research on neighborhoods and zip codes of interest is displayed in the next chapter.

### DIRECTORY

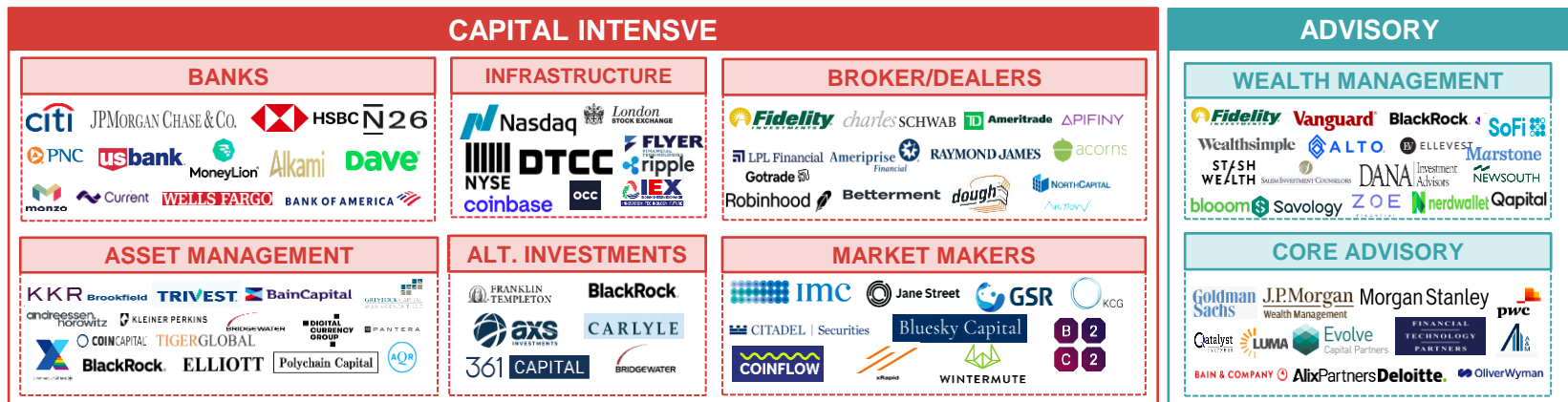
Area	Location
<b>Broad Sub-Sector Market Map &amp; Overview</b>	
Core Functions > Capital Intensive & Advisory 	Page 21
Supporting Functions > Service Providers 	Page 24
Supporting Functions > Software & Data Solutions 	Page 27
<b>Evolve Areas of Interest: Deep Sector Research</b>	
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 <b>SERVICE PROVIDERS</b>	> <i>Data &amp; Analytics</i>  Page 41
 <b>SOFTWARE &amp; DATA SOLUTIONS</b>	

# Introducing the Capital Markets Space

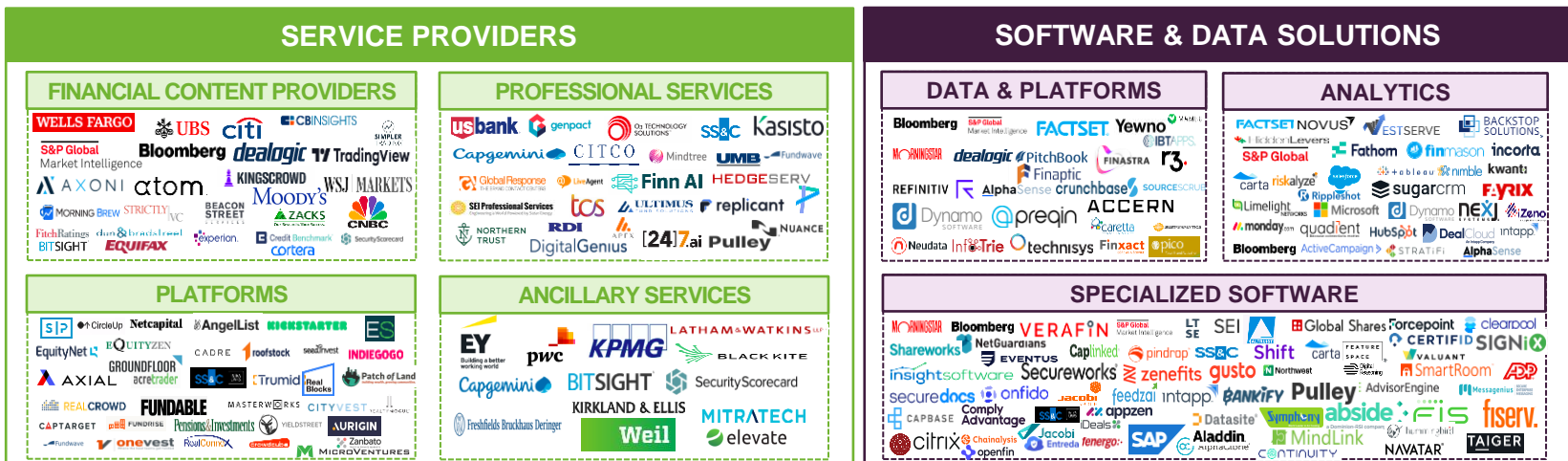
## CAPITAL MARKETS FROM OUR LENSES

- The capital markets industry spans the entire ecosystem of supply and demand of capital, including investments, trading, and banking.
- Every aspect of the capital markets has shifted dramatically with the advent of **disruptive technology**, **sweeping regulatory change**, and the impact of **big data driven analytics**.
- Digitization:
  - Back-office processes including financial reporting, compliance, and customer services are automated across all company sizes, from startups to multinational enterprises.
  - Fee compression across industry demands higher efficiency for better expense management, incentivizing firms to implement digital solutions to offload non-core activities.
- Regulatory Change
  - The broader financial services industry and the capital markets space have faced increasing regulatory requirements since the 2008 financial crisis, creating an increasing demand for RegTech solutions.
- Big Data
  - Data analytics is a major driving force enabling firms to make informed decisions on risk management, cybersecurity, and investments.

## CORE FUNCTIONS



## SUPPORTING FUNCTIONS

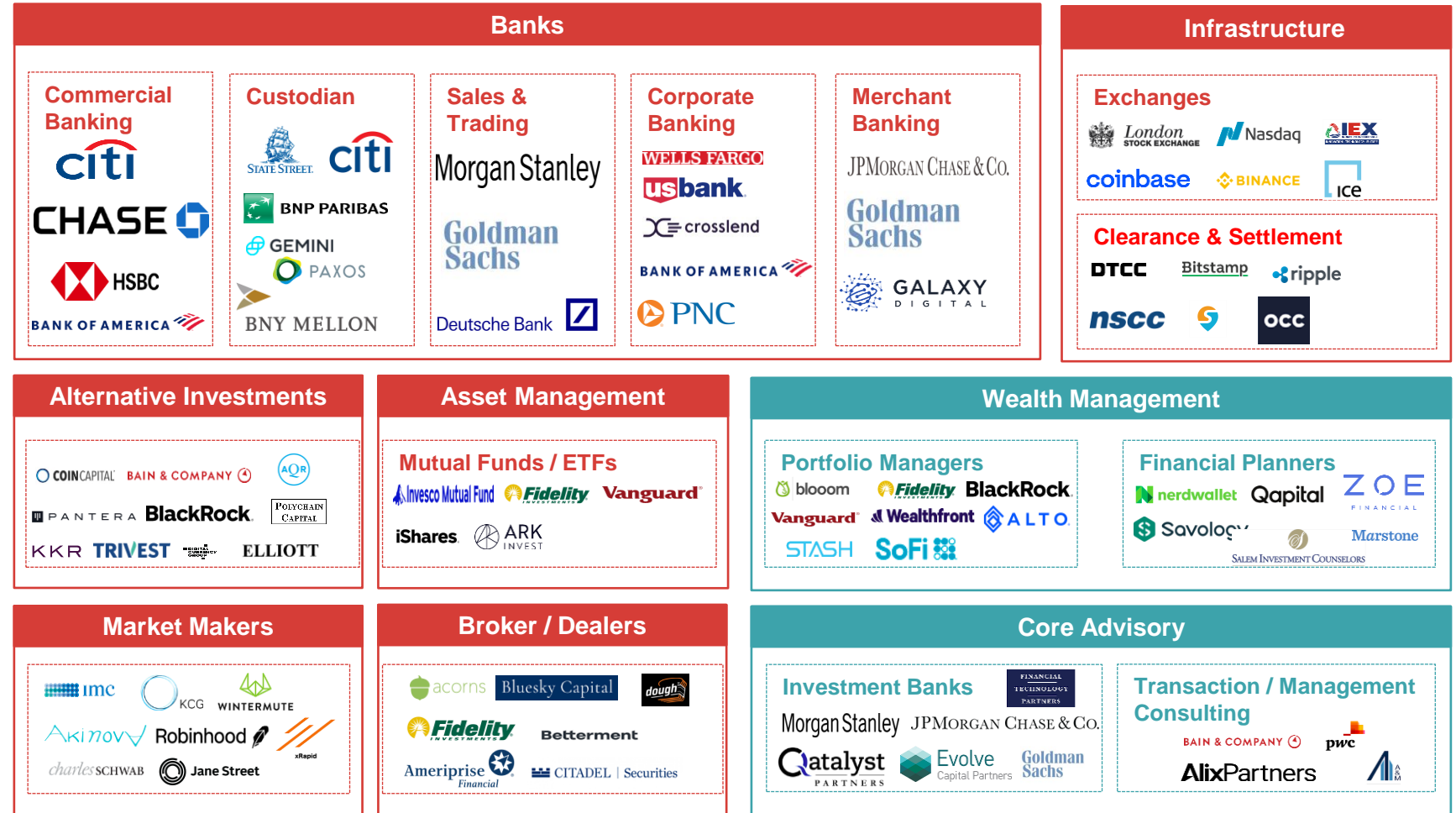


# Capital Intensive & Advisory Landscapes

Public Company Comparables  
Pages 44 – 47

## The Capital Markets Industry: Core Functions Face Headwinds

- The capital markets have carried out the core functions of enabling flows of capital through securities exchanges, investment services, and banking with minimal disruption this past year.
- However, fee compression, automation and disintermediation, and difficulty with talent acquisition have pressured capital markets firms to adopt certain business practices to survive.
- Functions sensitive to interest rates including deposits and fixed-income, currencies, and commodities (FICC) have seen decreasing revenues from an extended period of low interest rates.
- Asset managers, investment managers, and wealth management face fee compression as low-cost passive investments including ETFs, as well as a wider array of alternative investment options, attracted capital away from active managers.



Source: Accenture



# Capital Intensive & Advisory Markets Overview

## BACKGROUND

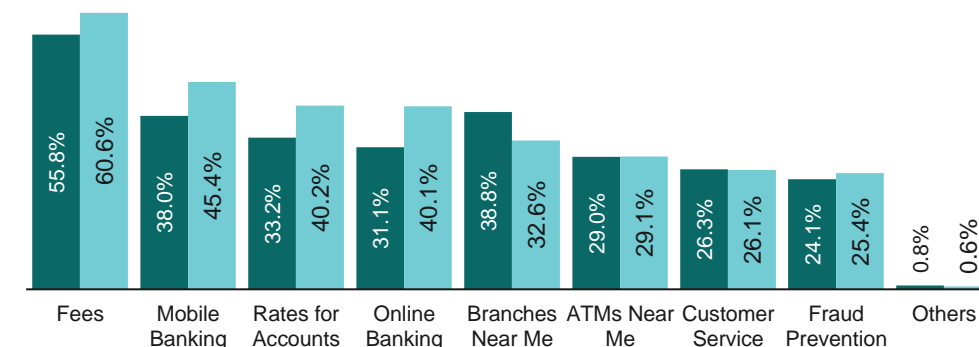
- The core of the capital markets industry has experienced significant change with increasing regulatory scrutiny and break-through technological innovation in recent years.
- Banks and broker-dealers have similarly shifted focus, with mobile banking and low-cost investing becoming a major focus for the new wave of consumers.
- Since the 2008 financial crisis, banks and other institutions have undergone sweeping consolidation as legacy business models struggled to adapt to a new landscape.
  - The new pressure resulted in specialization by product or end-user among banks, asset managers, and wealth managers alike.

## CAPITAL INTENSIVE TRENDS

Trends	Explanation	Opportunities
<b>Rise In Popularity of Blockchain Infrastructure</b>	Rising interest in digital assets drive advancements in blockchain technology.	Exchanges, broker-dealers, and trading infrastructure can build out technology supporting this new ecosystem.
<b>Low Interest Rates Environment</b>	Low interest rates in the U.S. are expected to continue in the short-term as a measure by the government to support post-pandemic economy recovery.	Banks are pressured to diversify revenue streams outside of deposits. Alternative asset managers can access more capital to finance transactions.
<b>Democratizing Access</b>	Deeper demand from consumers to gain access to their finances, from investment options to banking resources.	Banking platforms can offer mobile apps and investment platforms can provide products previously unavailable to most individuals.

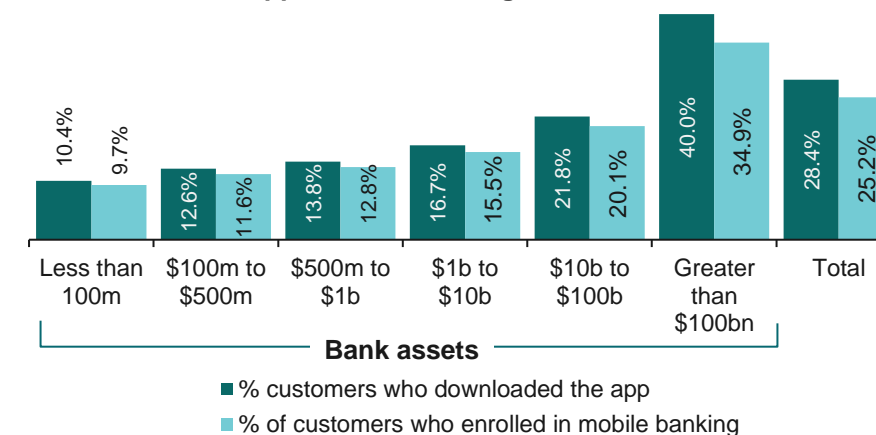
Source(s): Insider Intelligence, Capco, FI Navigator Corp

## Primary Use Cases of Software and Data in Capital Markets



Source(s): Insider Intelligence (via Capco 2021 Outlook) ■ 2019 ■ 2020

## Customer App / Mobile Banking Utilization Rate



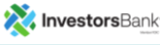

















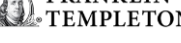



Source(s): Celent and FI Navigator Corp.

# Capital Intensive & Advisory Markets Overview

## KEY RECENT M&A TRANSACTIONS

(USD, in millions)
















Announce Date <sup>1</sup>	Target	Buyer	Transaction Size	Target Revenue	Target NI	Target MV / Revenue	P/E
9/15/21	 GreenSky™	 Goldman Sachs	\$2,240	\$533	\$162	4.9x	31.0x
7/28/21	 InvestorsBank	 Citizens™	\$3,500	NA	NA	NA	NA
7/15/21	 AMHERST PIERPONT	 Santander	\$600	\$65	NA	9.2x	NA
7/2/21	 LANDMARK PARTNERS	 ARES	\$1,080	NA	NA	NA	NA
6/9/21	 tcf bank	 Huntington	\$6,000	\$1,851	NA	3.2x	NA
6/1/21	 BBVA	 PNC	\$11,600	NA	NA	NA	NA
5/1/21	 National United	 BancorpSouth	\$115	NA	NA	NA	NA
4/20/21	 E*TRADE™	Morgan Stanley	\$13,000	\$2,742	\$823	4.7x	15.8x
1/21/21	 tastyworks.	 IG Group	\$1,000	\$116	\$54	8.6x	18.5x
11/16/20	 nextseed	 Republic	NA	NA	NA	NA	NA
7/31/20	 LEGG MASON	 FRANKLIN TEMPLETON	\$4,500	\$2,883	\$669	1.6x	NA
3/1/20	 Eaton Vance	Morgan Stanley	\$6,844	\$1,766	\$351	3.9x	NA

Source(s): Pitchbook, CapitalIQ, Press Releases.

## DRIVER OF M&A / OBSERVATIONS

- Transaction volume grew significantly as a result of increased competition for acquisition targets.
- Banks continue to consolidate at all sizes and levels – some of the biggest transactions included PNC's \$11.6 billion acquisition of BBVA's US operations, while smaller regional banks are also being acquired.
- Asset managers were also active in the M&A space; big names like Ares Management and Morgan Stanley acquired relatively smaller investment management firms.

## Top Acquirors In The Banking Sector

Acquiror	Acquisitions '20 – October '21	Recent Acquisitions
 Citizens Bank®	6	 Willamette Management Associates  JMP  TRINITY CAPITAL  AMERICAN BANK & TRUST
 BancorpSouth®	4	 FNS Bancshares  National United  TEXAS FIRST STATE BANK
 ARES	3	 RELIANCE Home Finance  Cincinnati Bell™  LANDMARK PARTNERS
JPMORGAN CHASE & CO.	13	 Cloud9  tavisca

# Service Providers Landscape

Public Company Comparables  
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## Service Providers in the Capital Markets : Outsourcing to optimize efficiency

- All functions within the capital markets industry including trading, investments, and advisory are highly dependent on market data insights.
  - Providers of research and specialized news are integral for firms to stay informed of daily shifts in the market landscape.
  - Consulting firms support all levels of the industry, offloading the burden of maintaining in-house cybersecurity, risk management, or enterprise services.
- Professional services and outsourcing firms such as Capgemini, TCS, and Wipro enable organizations of all sizes, from disruptive startups to sizable incumbents, to kickstart digital transformation.
  - Customer experience, finance operations, and employee engagement are some of the core areas where service firms have a significant impact on transformation towards modern, tech-enabled operations.

### Financial Content Providers

#### Research Providers



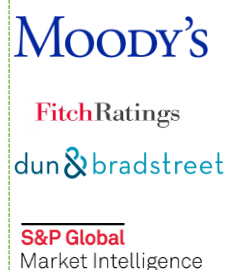
#### Market Analytics



#### News & Publications



#### Risk Services



### Professional Services

#### IT Consulting



#### Call Center Outsourcing



#### Fund Admin



### Platforms

#### Private Capital



#### Crowd Funding



#### Alternatives



#### Transaction



### Ancillary Services

#### Risk Management & Advisory



#### Legal Advisory



Source: Wall Street Research

# Service Providers Market Overview

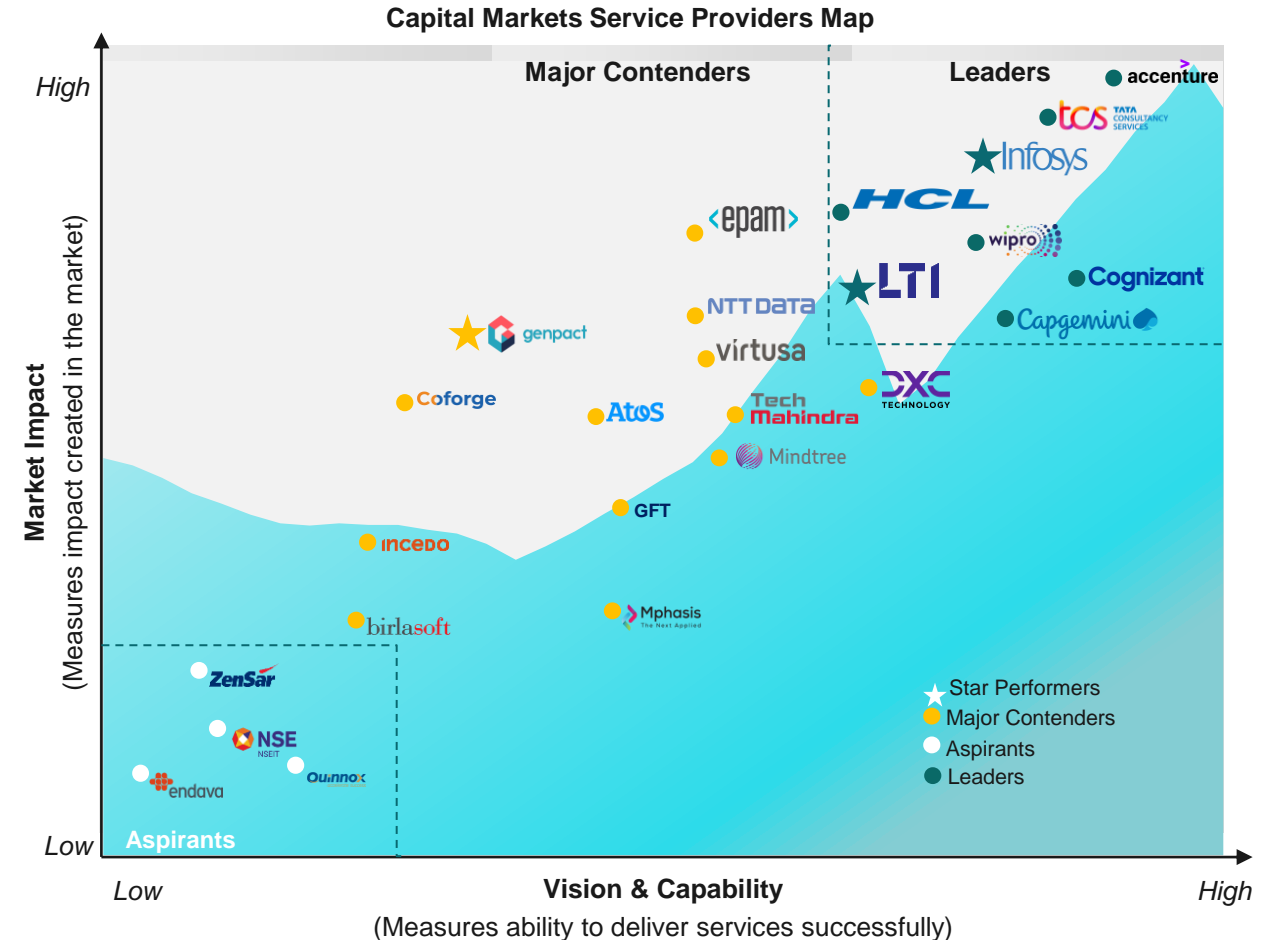
## BACKGROUND

- Service providers have historically played a supporting, yet crucial role to the 'core' of the capital markets industry.
- As alternative data providers, new investment platforms, and professional services firms mature, they diversify their service offering and operate at a larger scale, exemplified by significant investments led by some of the largest financial services and capital markets firms.
- Increasing awareness on personal finance and investing catalyzes the growth of financial content providers from business news to stock trading communities, thereby making them viable acquisition targets for legacy players.

## SOFTWARE SOLUTIONS TRENDS

Trends	Current Situation	Opportunities
<b>Business Process Outsourcing</b>	Enterprises in the capital markets space are struggling to adapt to the modern landscape requiring new services and increased reporting requirements.	BPO firms offer consulting and outsourcing services targeted at reducing the burden of internal reporting and customer service.
<b>Alternative Data Sources</b>	Increasing competition within the core functions and advisory calls for using alternative data sources to gain competitive advantage.	Social media activity, payment information, and other unconventional sources can generate novel insights.
<b>Investment Access</b>	As Millennials age into the working population and generate wealth, demand for investments and alternative assets increases.	Alternative investment platforms like MicroVentures, Yieldstreet, and Roofstock emerge to provide access to non-traditional assets to individual investors.

Source(s): Everest Group Capital Markets Services, Wall Street Research, TCS



















# Service Providers Market Overview

## KEY RECENT M&A TRANSACTIONS







(USD, in millions)

Closing Date	Target	Buyer	Transaction Size	Target Revenue	Target EBITDA	Target EV / Revenue	Target EV / EBITDA
9/30/21	 <b>PATHWIRE</b>	 <b>sinch</b>	\$1,900	\$132	NA	NA	NA
7/13/21	GlobalLogic	 <b>HITACHI</b> Inspire the Next	\$9,600	\$1,200	NA	8.0x	NA
6/18/21	 <b>SYKES</b>	 <b>sitel</b> group	\$2,200	\$1,789	\$201	1.2x	10.9x
2/13/20	 <b>rdc</b> Smarter Screening	<b>MOODY'S</b>	\$700	\$55	NA	12.7x	NA
1/15/20	 <b>CLARITY</b> INSIGHTS	 <b>accenture</b>	\$240	NA	NA	NA	NA
12/31/20	 <b>enquero</b>	 <b>genpact</b>	\$149	NA	NA	NA	NA
4/1/20	 <b>ALTRAN</b> now a Capgemini	 <b>Capgemini</b>	\$4,096	\$3,217	\$395	1.3x	10.4x
1/15/21	<b>CANDID</b>	McKinsey & Company	NA	\$14	NA	NA	NA
5/15/20	 <b>INNOVEST</b>	 <b>SS&amp;C</b>	\$119	NA	NA	NA	NA

## DRIVER OF M&A / OBSERVATIONS

- As big data penetrates deeper in the financial services industry, consulting service providers are starting to acquire data consulting companies to diversify their product offerings and stay relevant.
- Rapidly evolving regulatory landscape leads to strong interest in risk and compliance consulting companies as acquisition targets – RDC's acquisition by Moody's is an example.
- McKinsey & Company's acquisition of cloud consulting services company Candid Cloud is an example of the increased investments in the customer relationship management space.

### Top Service Providers Acquirors

Acquiror	Acquisitions '20 – Aug '21	Recent Acquisitions
<b>MOODY'S</b>	9	    A Moody's Analytics Company Smarter Screening
 <b>accenture</b>	8	   by InvestCloud
 <b>SS&amp;C</b>	3	     <b>CAPITA</b>   Life & pensions

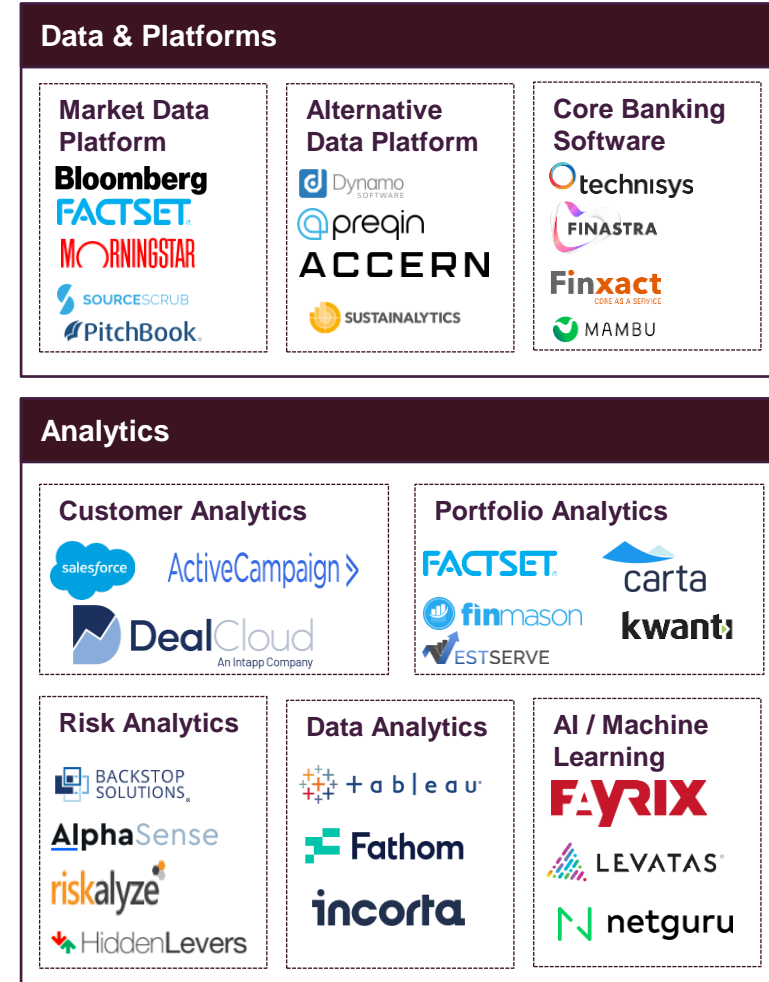
Source(s): Pitchbook, CapitalIQ, Press Releases

# Software & Data Solutions Landscape

Public Company Comparables  
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## Software and Data in the Capital Markets: Technological expertise through partnership

- Software and data have played a major role in the digital transformation across the capital markets industry.
- Technologies have advanced with most segments within capital markets investing heavily in digital solutions vs. developing in-house.
- The subsector has seen elevated M&A activity and capital inflow over the last two years, with valuations at all-time highs.
  - In November 2020, S&P announced its \$45 billion acquisition of IHS Markit, a provider of analytics and research; the purchase price is one the highest paid in recent times.
- The consolidation trend in the capital markets industry shows no sign of slowing down in the near to mid-term as legacy players seek to add tech capabilities and compete in the digitized landscape.



Source: Press Releases

# Software & Data Solutions Market Overview

## BACKGROUND

- Software and data solutions enhance every aspect of the capital markets value chain, from trade processing to fraud prevention.
- Firms across the space are increasingly adopting software for process enhancements, evolving into tech-enabled banking, research, or risk management.
- Smaller capital markets firms are more agile with software implementation to reduce the burden of regulatory, administrative, and other hurdles to compete in a highly regulated industry.

## SOFTWARE SOLUTIONS TRENDS

Trends	Explanation	Opportunities
Artificial Intelligence	Advancements in artificial intelligence allow for more advanced algorithms capable of providing useful insights based on broader, fragmented data sources.	Technology such as NLP and machine learning provide opportunity for firms with disruptive solutions, such as AlphaSense, to emerge, innovating the market intelligence space.
Rise of Digital Assets	Digital assets beyond Bitcoin have emerged as a sizable segment of the capital markets.	Specialized broker dealers, data providers, and custodians form new ecosystem around digital assets, providing an alternative asset to investors.
Automation and Outsourcing	Capital markets firms including wealth / investment managers, brokerages, and banks are pressured by fees compression and increased regulatory requirements.	Automation of non-core activities is essential for challenger firms to compete without the infrastructure of incumbents.

## PRIMARY USE CASES OF SOFTWARE AND DATA IN CAPITAL MARKETS

### Shifting Data Landscapes

*Lack of standardized data and technology environments provide opportunity for innovation.*

#### Opportunities



**Regulatory Compliance**



**Legacy Systems**



**Manual Processes**



**Increasing Volumes of Data**

#### Challenges



**Incomplete Data**



**Unstructured Data Sources**



**Slow Innovation**



**Lack of Shared View Across Organization**

Source(s): Capco 7 Key Themes Impacting Global Markets, (via Capco 2021 Outlook)

# Software & Data Solutions Market Overview

## KEY RECENT M&A TRANSACTIONS

(USD, in millions)

Closing Date	Target	Buyer	Transaction Size	Target Revenue	Target EBITDA	Target EV / Revenue	Target EV / EBITDA
10/13/21	<b>cobalt</b>	<b>FACTSET</b>	NA	NA	NA	NA	NA
9/28/21	<b>GreenKey</b>	<b>VoxSmart</b>	NA	NA	NA	NA	NA
9/09/21	<b>true potential</b>	Cinven	\$2,480	\$237	NA	10.5x	NA
7/21/21	<b>slack</b>	<b>salesforce</b>	\$27,700	\$974	NA	NA	NA
7/13/21	GlobalLogic	<b>HITACHI</b> Inspire the Next	\$8,500	\$1,200	\$1,000	7.1x	8.5x
4/1/21	<b>SAYLENT</b>	<b>meridianlink</b>	\$37	NA	NA	NA	NA
3/5/21	<b>SIGNAVIO</b>	<b>SAP</b>	\$1,208	\$32	(22)	37.6x	NMF
2/9/21	<b>SCALYR</b>	<b>SentinelOne</b>	\$155	NA	NA	NA	NA
2/1/21	<b>acumen software</b>	<b>salesforce</b>	\$433	\$55	NA	7.9x	NA
1/29/21	<b>REFINITIV</b>	<b>London STOCK EXCHANGE</b>	\$27,000	NA	\$2,269 <sup>(1)</sup>	NA	11.9x <sup>(1)</sup>
12/16/20	<b>eOriginal</b>	<b>Wolters Kluwer</b>	\$293	\$36	NA	8.1x	NA
9/4/20	<b>EllieMae</b>	<b>ICE</b>	\$11,019	480	57	22.9x	193.3x
3/19/20	<b>emallage</b>	<b>LexisNexis</b>	\$480	NA	NA	NA	NA

(1) Numbers represent 2018 adjusted EBITDA; sourced from LSE's presentation on acquisition of Refinitiv.  
Source(s): Pitchbook, CapitalIQ, Press Releases.

## DRIVER OF M&A / OBSERVATIONS

- The Software & Data Solutions space is consolidating rapidly, as large incumbents purchase smaller SaaS companies to expand and digitize their offerings.
- Companies providing risk assessment and analytics software have been in high demand as acquisition targets.
  - LSE's \$27 billion acquisition of Refinitiv in January 2021 has been one of the largest transactions in the last 12 months.
- As the regulatory landscape evolves, RegTech and AML / KYC solutions providers have also seen increased M&A activity; one such example is Accenture's acquisition of cyber-security provider Openmind in July 2021.

## Top Software Solutions Acquirors

Acquiror	Acquisitions '20 – Aug '21	Recent Acquisitions
<b>salesforce</b>	6	<b>slack</b> <b>ACUMEN</b> <b>Mobify</b> <b>Vlocity</b>
<b>REFINITIV</b>	4	<b>Red Flag Group</b> <b>giact</b> <b>scivantage</b>
<b>S&amp;P Global Market Intelligence</b>	5	<b>QUANTIFIND</b> <b>IHS Markit</b> <b>TealBook</b> <b>Lukka</b>





# V. In-Depth Sector Research

# Banks – Market Overview

Core Functions > Capital Intensive > Banks

## BANKING MARKET ACTIVITY

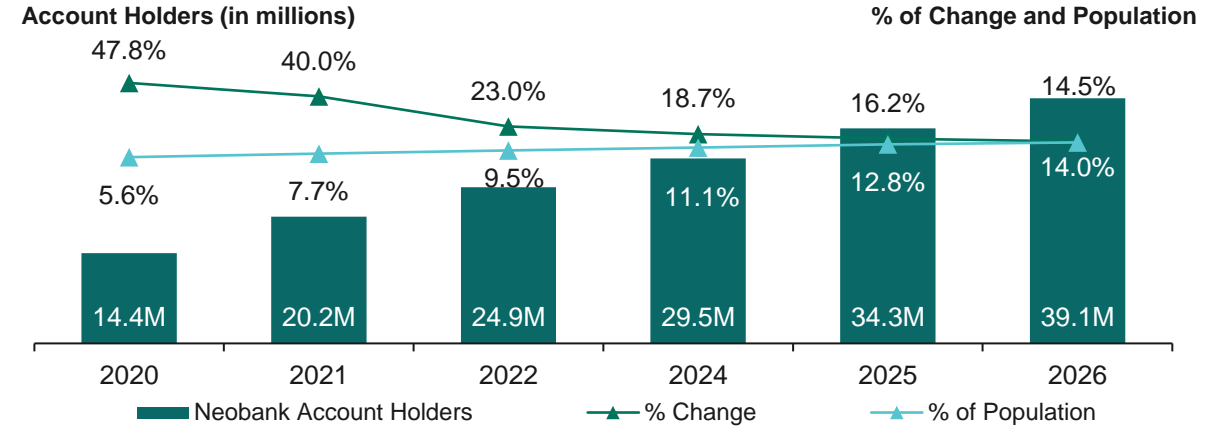
- **Banks are using AI** to solve challenges in risk management, credit card fraud detection, cybersecurity, new product development, customer service, and customer acquisition.
- **Mobile banking continues to gain popularity:** according to a recent survey via an Insider Intelligence report, 89% of US respondents indicated utilizing mobile banking channels, and 70% indicated that mobile banking has become the primary means to access their accounts.
  - Bank of America's AI-driven virtual assistant “Erica” helps users transfer money, make deposits, and schedule meetings at financial centers.
- **Digitization of the debt marketplace:** companies like Crosslend are quickly emerging, leveraging strong technology infrastructure to connect private and institutional investors via digital platforms, allowing for seamless origination, distribution, and securitization.

## MARKET TRENDS

<b>Suppressed Revenue from Low Interest Rates</b>	Sustained period of low interest rates diminishes bank interest income, exerting pressure on banks to diversify into other business areas and innovate for higher efficiency.
<b>Rising Consolidation and Fees</b>	Asset management and wealth management fees continue to grow among large consolidated banks as scale outpaces fixed costs.
<b>Rising Investment Banking Revenues</b>	Investment banking has contributed an outsized portion of revenue as transaction volume remains highly elevated.
<b>Increasing Popularity of Neobanks</b>	Digital-only banks, also known as neobanks, offer banking services in modern mobile apps, gaining market share from incumbents that are slower to adapt.
<b>Increasing Retail Trading Volume</b>	Spike in trading revenues saw significant increases with broad market volatility in 2020 and early 2021 but expect to return to normal levels.

Source(s): Insider Intelligence, Pitchbook

## U.S. NEOBANK ACCOUNT HOLDERS - PROJECTIONS



Source(s): Insider Intelligence

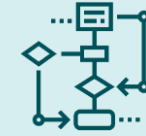
## KEY FACTORS FOR SUCCESS IN THE BANKING SPACE



**Advanced analytics and AI** to improve user experience



Gain market share by offering full suite of services via **digital platform**



Establish strong **cybersecurity framework** to manage risk



**Compliance** with increased regulatory oversight and internal restrictions

# Banks – Transaction Activity

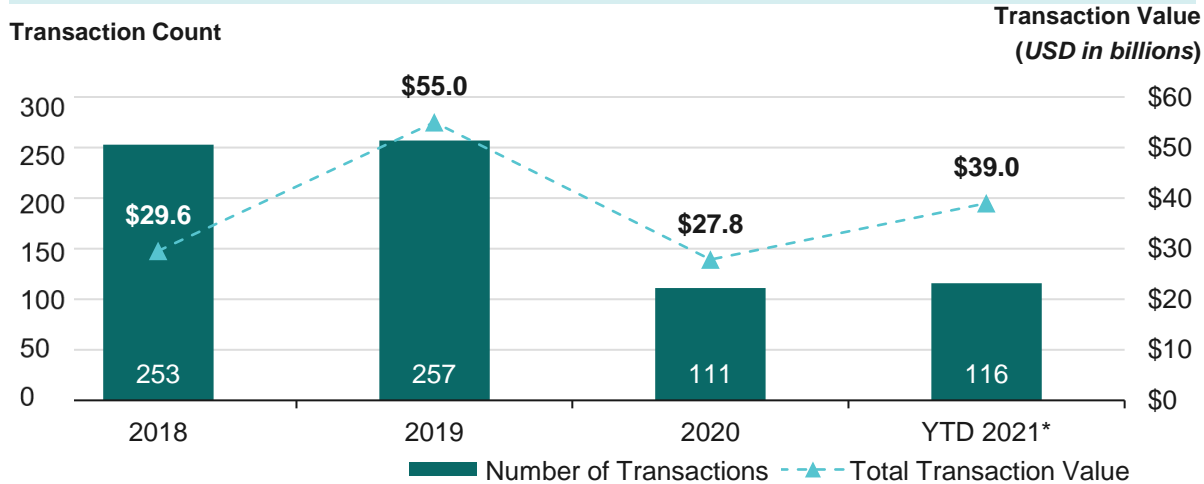
Core Functions > Capital Intensive > Banks

Public Company Comparables  
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## M&A ACTIVITY OVERVIEW

- **M&A activity surged in 2021 across banks in the U.S.** The number of announced transactions in 2021 rose to 116 as of October 2021, compared to 111 in all of 2020. U.S. bank M&A activity is tracking to pre-pandemic levels.
- As banks consolidate, **competition among buyers is exerting an upward pressure on transaction valuations.** Some of the highest-value transactions in 2021 include Region's acquisition of EnerBank at a transaction value-to-tangible common equity ratio of 306% and South State's \$3.2 billion acquisition of CenterState at a ratio of 201%.

## US BANK M&A ACTIVITY



\* As of October 2021  
Source(s): S&P Global Market Intelligence

## RECENT M&A TRANSACTIONS

(USD, in millions)

Announce Date	Target	Acquiror	TV	TV / Tangible Common Equity (%)	TV / Deposits (%)
10/20/21	TRI STATE CAPITAL	RAYMOND JAMES	\$1,143	206.9%	10.6%
10/12/21	Columbia Bank	Bank of Commerce	\$5,147	333.3%	33.5%
09/16/21	Great Western Bank	First Interstate Bank	\$1,965	170.0%	17.4%
7/28/21 <sup>(1)</sup>	InvestorsBank	Citizens Financial Group, Inc.	\$3,500	135.5%	9.2%
7/15/21 <sup>(1)</sup>	AMHERST PIERPONT	Santander	\$600	NA	NA
6/9/21	tcf bank	Huntington	\$6,000	147.8%	15.2%
6/1/21	First Midwest Bank	OLD NATIONAL	\$2,468	165.1%	14.9%
4/26/21	Flagstar Bank	New York Community Bank Member FDIC	\$2,559	115.0%	13.2%
4/12/21	CADENCE BANK	BancorpSouth	\$2,872	155.3%	17.8%
2/2/21	People's United Bank	M&T Bank	\$7,599	166.5%	14.6%
11/16/20	BBVA	PNC	\$11,600	131.3%	13.4%

(1) Transaction has not closed.  
Source(s): CapitalIQ, Press Releases

# Infrastructure – Market Overview

Core Functions > Capital Intensive > Infrastructure

## INFRASTRUCTURE MARKET ACTIVITY

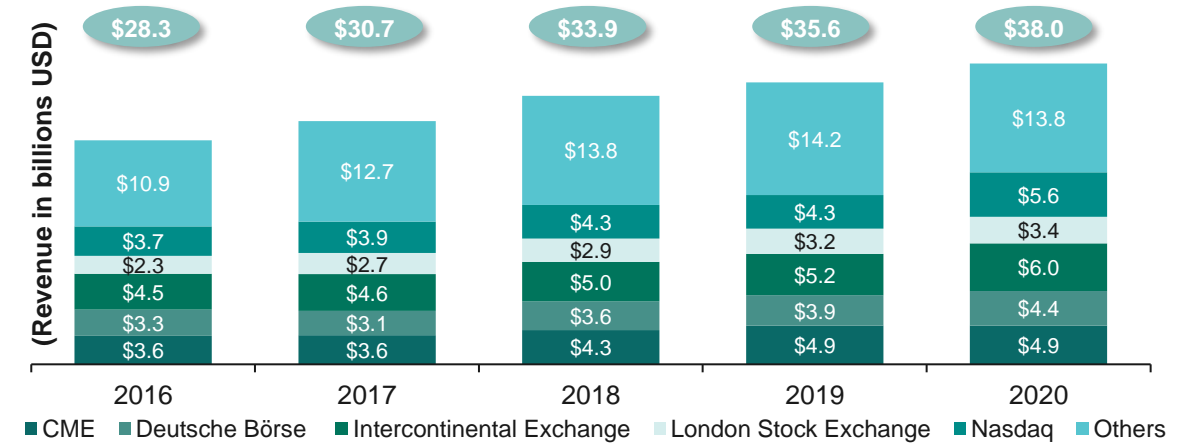
- Infrastructure is a highly consolidated space with 64% of the industry's \$38 billion revenues in 2020 is attributed to the top five exchange operators – CME, Intercontinental Exchange, London Stock Exchange Group, Deutsche Börse and Nasdaq.
- Exchanges are investing in data and analytics via internal developments and acquisitions. S&P's acquisition of IHS Markit and LSE's acquisition of Refinitiv are two examples of the large-scale investments into data and analytics.
- Several large exchanges have experienced power outages over the past two years; notable examples include Deutsche Börse's Xetra's equities venue outage in April 2020 and ASX's outage in November 2020, leading to a costly disruption of operations.
  - In response, exchanges have sought to improve in-house system capabilities and partner with reputable technology firms to perform regular audits of technology, backups and business continuity arrangements.

## MARKET TRENDS

<b>Transparency and Simplicity</b>	Startup exchanges are competing for market share by providing solutions offering greater transparency and simplicity than large incumbents
<b>Focus on Crypto</b>	Following Coinbase, startup exchanges have begun offering cryptocurrency trading services as blockchain assets gain popularity
<b>Active Regulation</b>	Increasing focus on compliance as regulation tightens – FINRA, SEC, and FTC are imposing historic penalties, such as the nearly \$70 million fine on Robinhood for misleading retail investors

Source(s): Financial Times, Burton Taylor Consulting, NYSE, Nasdaq

## INFRASTRUCTURE - MARKET STATISTICS



## SELECT DISRUPTIVE INFRASTRUCTURE PLATFORMS

<b>MEMX</b> Members Exchange Equity exchange platform focused on providing “simple and fair pricing”; backed by JPM, GS, Jane St.	<b>miax</b> Launched MIAx Pearl Equities in 2020 as a cash equities exchange	<b>COINLIST</b> Exchange platform for cryptocurrency; raised \$50 million of venture funding in August 2021	<b>LT SE</b> Listed exchange with a no-fee model; also offers equity software platform for private startups.
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# Infrastructure – Transaction Activity

Core Functions > Capital Intensive > Infrastructure

Public Company Comparables  
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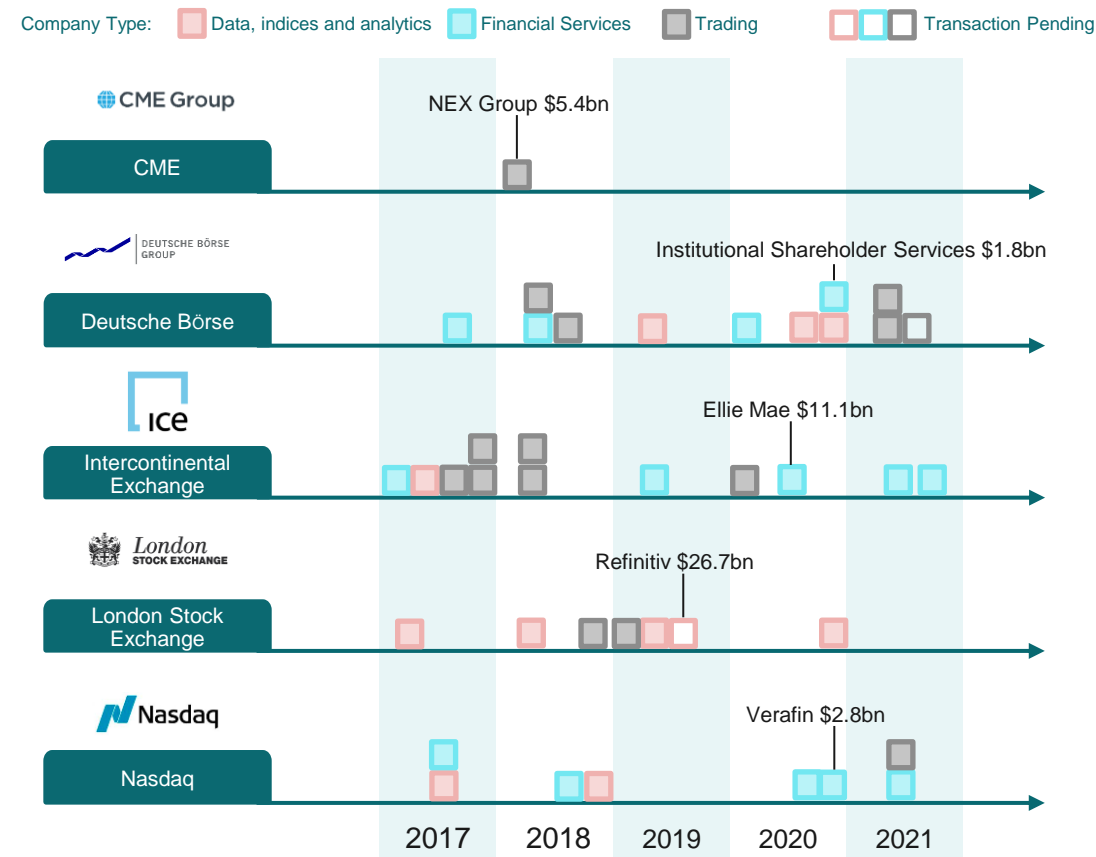
## M&A ACTIVITY OVERVIEW

- M&A activity in the infrastructure space signals no signs of decline, as mega transactions were continuously announced during the pandemic. Transactions in the U.S. and EU faced increased regulatory scrutiny over fears of potential conflicts of interest as exchanges work to expand their range of services along the value chain.

### Notable Recent Transactions

- On August 31, 2021, FTX announced its acquisition of LedgerX, provider of digital currency futures and options exchange and clearinghouse services. The platform is regulated by U.S. Commodity Futures Trading Commissions (CFTC) and is registered to extend services to retail and institutional investors. Financial details were not disclosed. The transaction closed on October 25, 2021.
  - The acquisition provide FTX access to licenses granted by the CFTC to LedgerX, allowing the acquiror to offer crypto futures, swap, and options on its platform to retail traders.
- LSE completed its \$28.9 billion acquisition of data and analytics software provider Refinitiv in January 2021 with an implied EBITDA multiple of 11.9x. The acquisition of Refinitiv, turned LSE into the second largest financial data company after Bloomberg.
  - The transaction was scrutinized by the European Commission over concerns that the company would have undue market power over trading sovereign debt and derivatives. In response, LSE agreed to sell Italian exchange Borsa Italiana.
- Nasdaq completed its \$2.75 billion acquisition of AI-powered anti-financial crime software provider Verafin on February 11, 2021, with an implied revenue multiple of 19.5x. Amid shifting regulatory compliance, the acquisition will help Nasdaq strengthen its compliance technology.

## M&A TRANSACTIONS UNDERTAKEN BY FIVE LARGE EXCHANGES



Source(s): PitchBook, Press Releases, FT Research, Capital IQ

# Asset Management – Market Overview

Core Functions > Capital Intensive > Asset Management

Public Company Comparables  
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## ASSET MANAGEMENT MARKET ACTIVITY

- Hedge funds and other alternative asset managers are making investments supporting digital finance infrastructure – in July 2021, London-based Marshall Wace, which manages \$55 billion in assets, reported that it will target **investments in areas such as blockchain technology, payments systems for digital currencies and stablecoins**.
- Over the next five years, the global stock of financial wealth is expected to grow from \$250 trillion to \$315 trillion, according to a report by Boston Consulting Group.
  - The continued growth in global wealth throughout the pandemic was a result of increased household savings, strong stock markets and supportive central bank policies.
- Asset managers look to M&A strategies to help them scale in a competitive landscape – Morgan Stanley's acquisition of Eaton Vance on March 1, 2021, and Ares' acquisition of Landmark Partners on July 27, 2021 are two examples.

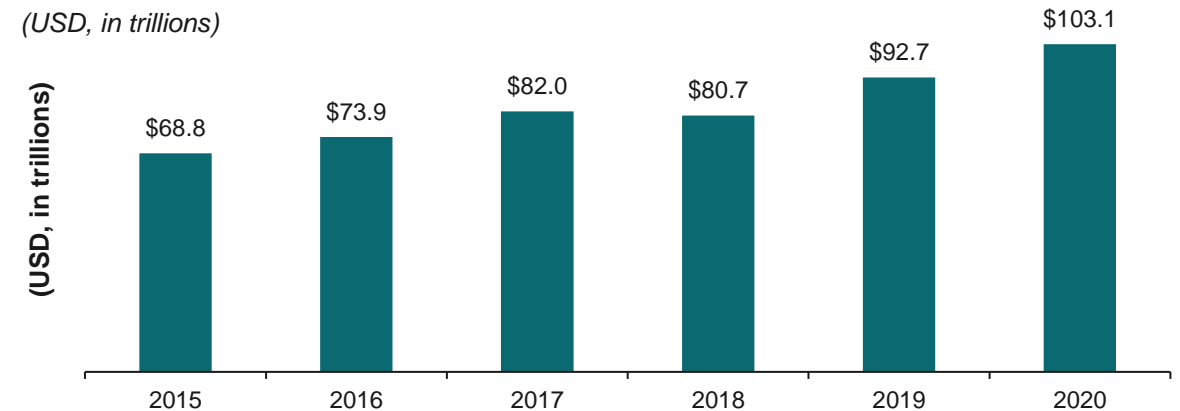
## MARKET TRENDS

<b>Cryptocurrency Investments</b>	Increasing number of fund managers are making late-stage venture capital investments in companies involved in the infrastructure of digital finance.
<b>Compliance</b>	Asset managers are focusing on changes to the tax policy, interest rates, and SEC governance under the new political administration.
<b>Agile Distribution Model</b>	Firms are currently investing in agile technology to achieve a rapid response to market changes that clients expect. The technology will also aid firms with providing personalized services to their clients.
<b>Responsible Investing</b>	Asset managers continue to focus on responsible investing as investors are becoming increasingly interested in ESG issues.

Source(s): PwC, Nasdaq, Financial Times, Pitchbook

## GLOBAL ASSETS UNDER MANAGEMENT (AUM) STATISTICS

(USD, in trillions)



Source(s): Boston Consulting Group

## SELECT ASSET MANAGERS DISRUPTING THE MARKET

<p><b>wealthfront</b></p> <p>Robo-advisor for automated financial planning and investment management</p>	<p><b>bloom</b></p> <p>Leverages fintech to offer investment strategies, risk allocation, fund strategies</p>	<p><b>Savology</b></p> <p>Financial planning platform designed for working professionals to meet post-retirement goals</p>	<p><b>Wealthsimple</b></p> <p>Developer of financial platform that offers simple investing services at affordable fees</p>
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# Asset Management – Transaction Activity

Core Functions > Capital Intensive > Asset Management

Public Company Comparables  
Page 46

## CAPITAL MARKETS OVERVIEW

- During the first half of 2021, several multi-billion transactions drove M&A activity in the asset management space. Notable transactions include Macquarie's \$1.6 billion acquisition of Waddell & Reed and Ares Management's \$1.1 billion acquisition of Landmark Partners.
- Smaller scale consolidation was also prevalent – of the 145 announced transactions during the period, 98 were in wealth management and reflect aggregation of smaller wealth managers by larger RIA platforms.
- Asset managers are continuing to use M&A activity as a tool to expand into new product classes, notably digital finance infrastructure and cryptocurrency trading.

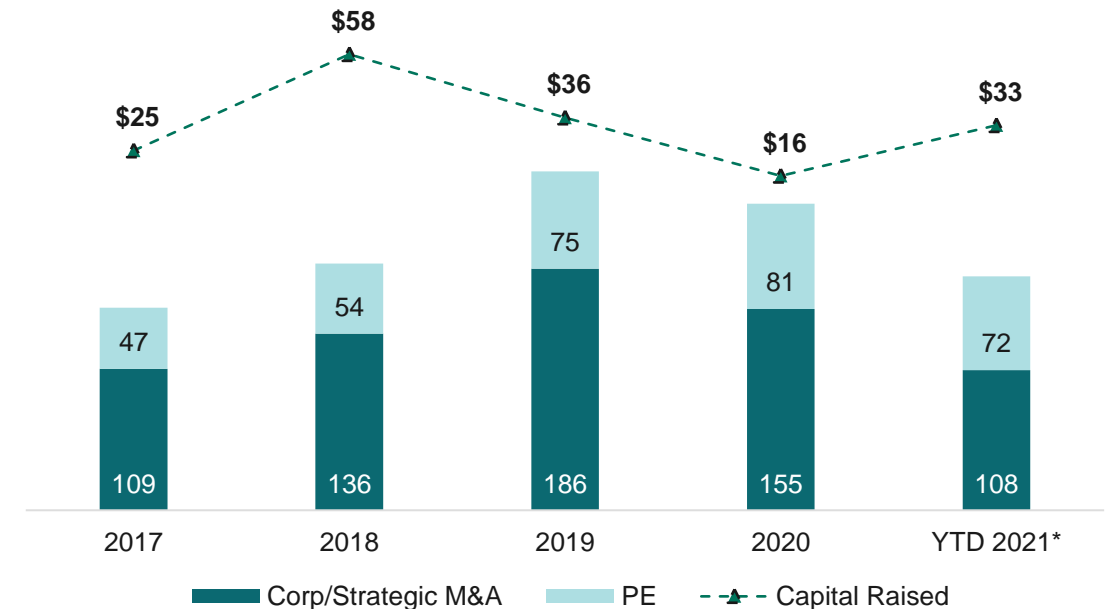
## SELECT U.S. ASSET MANAGEMENT TRANSACTIONS

Announce Date	Target	Acquiror	Transaction Value (\$M)	EV / Revenue	EV / EBITDA
7/2/21	LANDMARK PARTNERS	ARES	\$1,080	NA	NA
2/23/21	WELLS FARGO	GTCR	\$2,100	NA	NA
12/2/20	WADDELL & REED	MACQUARIE	\$1,562	1.4x	14.5x
7/31/20	LEGG MASON	FRANKLIN TEMPLETON	\$4,500	1.6x	6.7x
3/1/20	Eaton Vance	Morgan Stanley	\$6,844	3.9x	19.5x

## U.S. ASSET MANAGEMENT TRANSACTION TRENDS

Transaction Count

Capital Raised (in billions)



Transaction volume in the first half of 2021 has surpassed full-year 2020 volume

\*As of October 2021  
Source(s): PitchBook

Source(s): PitchBook, Press Releases, PwC

# Alternative Investment Platforms – Market Overview

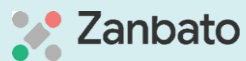
Core Functions > Capital Intensive > Alternative Investment Platforms

Public Company Comparables  
Page 47

## ALTERNATIVE INVESTMENT PLATFORMS MARKET ACTIVITY

- Throughout the past ten years, there has been a shift in capital markets as companies grow to scale in the private markets and push back their public debuts. Alternative trading platforms have emerged as a means to provide liquidity to private company shareholders.
- These platforms provide retail investors – **who have access to large amounts of cash and looking to diversify their investments outside of the public equity markets** – with access to alternative investments that were previously inaccessible.
  - While regulations in the space remain tight, several intermediaries in the space including platform-operator Carta have advocated that the SEC relax restrictions on who can purchase shares in private companies.
- As the private secondary market grows, **competition among investment platforms is intensifying**. Venture-backed companies like AngelList and Zambato are competing for market share, while operating alongside established players like Nasdaq and Forge Global.

## SELECT ALTERNATIVE INVESTMENT PLATFORMS



Offers an inter-broker platform for trading venture-backed private shares



Allows startups to raise funds through syndicates of accredited investors



Developer of investment platform CartaX for access to private companies



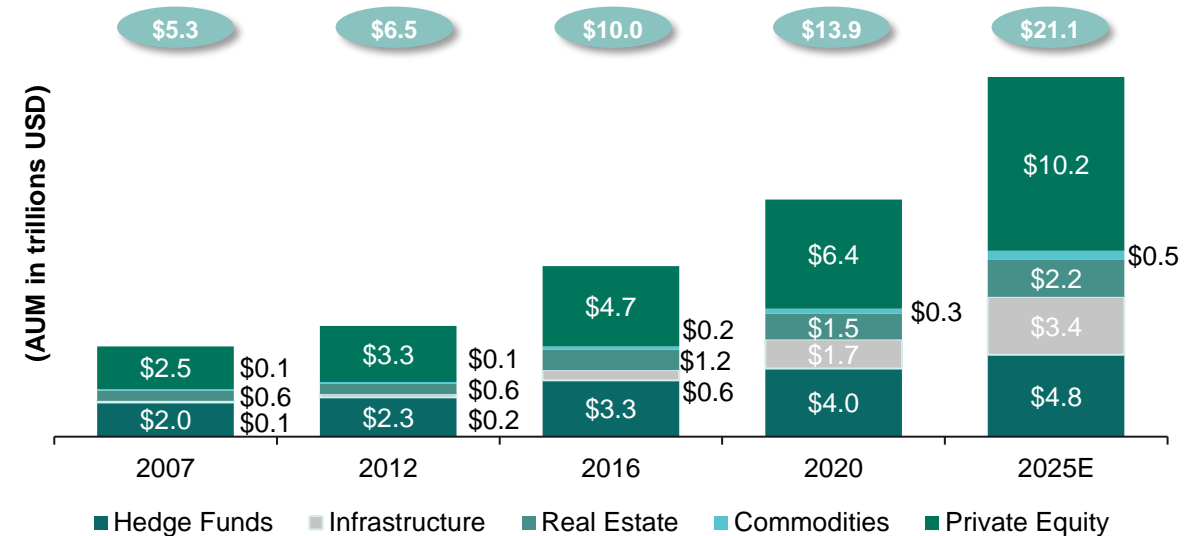
Platform to access vetted private market investment opportunities

Source(s): PwC, ForgeGlobal Report

## MARKET STATISTICS

- \$270 billion in private capital was raised in 2020.
- 760 “unicorn” companies currently exist, comprising >\$2.3 trillion in market value.
- The average age of private companies going public has increased from around four years in 1999, to 12 years.
- The universe of private companies traditionally unavailable to individual investors has grown, sparking demand for new platforms to access assets beyond the public market.

## GROWTH IN ALTERNATIVES ASSETS UNDER MANAGEMENT



Source: PwC Asset and Wealth Management Research Centre analysis. Past data based on Lipper, Hedge Fund Research and Preqin



# Alternative Investment Platforms – Transaction Activity

Core Functions > Capital Intensive > Alternative Investment Platforms

Public Company Comparables

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## CAPITAL MARKETS OVERVIEW

- As the private secondary markets gains traction, established players have started conducting roll-up acquisitions to scale their operations. Major private market investment platforms Forge Global and SharesPost completed their merger in November 2020 – the combined company now has a customer base of 1 million. In addition, Forge Global is also expected to go public via merger with the SPAC Motive Capital Corp at a \$2 billion equity value, implying 13.5x 2022E revenue multiple.
- Alternative investment platforms are increasingly backed by larger players in capital markets – in February 2021, JP Morgan funded Zanbato's ZX trading platform allowing it to enhance its ZX trading platform.
- Operators are raising venture capital via their own platforms – in February 2021, Carta raised \$100 million in funding via its new CartaX platform, valuing the company at \$6.9 billion.
- According to The RIA Deal Room 2021 Report, RIA's are commanding higher multiple values. Via their data, the medium adjusted EBITDA multiple increased 21% from 2019 to 2020 (from 6.6x to 8x).

## KEY FINANCIAL INVESTORS



Source(s): PitchBook, Press Releases, RIA Deal Room

## RECENT FINANCING TRANSACTIONS

(USD, in millions)

Announce Date	Target	Key Investor(s)	Amount Raised
10/19/21	Republic	VALOR EQUITY PARTNERS	\$150
9/24/21	Betterment	TREASURY SURF	\$60
8/12/21	SEEDRS	Undisclosed	\$9
7/27/21	iCapital NETWORK	MSD  BLUE OWL	\$440
5/21/21	YIELDSTREET	Edison Partners	\$100
5/4/21	Forge	DEUTSCHE BÖRSE GROUP TEMASEK	\$150
3/3/21	roofstock	JLL	\$142
2/16/21	TITAN ANALYTICS	andreesen.horowitz	\$50
2/8/21	Zanbato TRUST IN PRIVATE MARKETS	LeFrak  8VC  Anduin	\$20
12/21/20	CAIS		\$50

# Professional Services – Market Overview

Supporting Functions > Service Providers > Professional Services

Public Company Comparables  
Page 48

## PROFESSIONAL SERVICES MARKET ACTIVITY

- The IT services and consulting industry services is estimated by IBISWorld to be over \$550 billion and primarily supports clients with improving business efficiencies.
  - Revenues for the industry in the U.S. are expected to grow 9.9% in 2021 and then at an annualized rate of 2.4% over the five years to 2026, according to research from IBISWorld.
  - According to IBISWorld, financial service providers are the largest consumers of IT consulting services by revenue, contributing an estimating 21.3% of industry revenue
- Shifting technological trends have caused larger players to acquire smaller, tech-forward companies to stay relevant. According to a research report by Piper Sandler, digitally mature companies in the space are 23% more profitable than their less digitized peers. **One example of this is BNY Mellon announced in July 2021 that they would acquire Milestone Group, a provider of flexible digital solutions to advance innovation in fund automation, connectivity and services for asset owners, fund managers and fund administrators.**

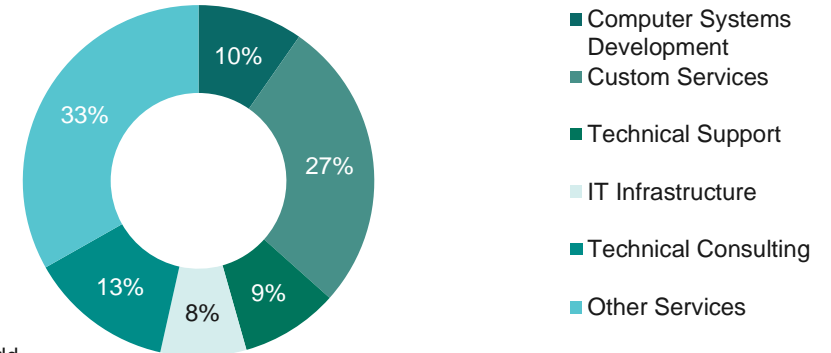
## MARKET TRENDS

<b>Increasing Competition from Entrants</b>	New, AI-powered entrants are disruption the industry and posing a competitive threat to large incumbents who are relying on M&A to digitize their capabilities
<b>Cloud Computing</b>	Trend towards cloud computing has caused traditional server companies like IBM and Hewlett Packard to shift their lines of service.
<b>Fund Administration</b>	Fund administration service providers have consolidated and expanded offerings to serve an expanding market for alternative funds.
<b>Digital Back Office</b>	Business processes across the alts industry have been digitized as formerly manual processes of reporting and analytics are replaced by software solutions.

Source(s): IBISWorld, Piper Sandler, Pitchbook.


## PRODUCTS AND SERVICES SEGMENTATION – U.S

### Estimated IT Consulting % of Industry Revenue for 2021



Source(s): IBISWorld

## SELECT COMPANIES DISRUPTING THE ANALYTICS SPACE

 <p>Platform helping banks and financial institutions digitize their retail product offerings</p>	 <p>Fund administration software intended for alternative funds</p>	 <p>Developer of conversational technology using voice AI to handle phone calls</p>	 <p>IT consulting and software services offering digital transformation strategies</p>
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# Professional Services – Transaction Activity

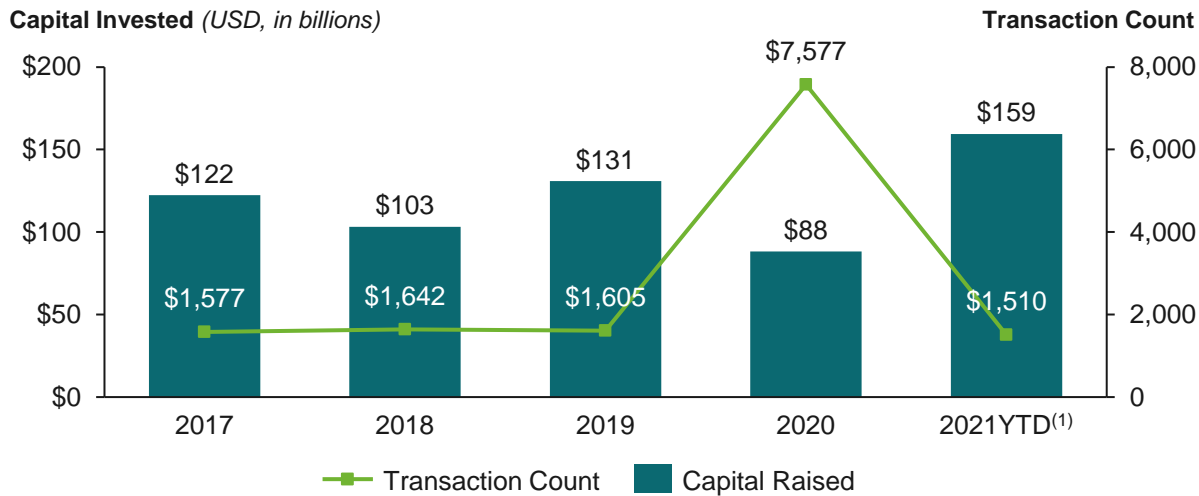
Supporting Functions > Service Providers > Professional Services

Public Company Comparables  
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## CAPITAL MARKETS OVERVIEW

- In the U.S., \$160 billion in capital has been deployed over 1,500 transactions in 2021 to date(1) via private equity, venture capital, and strategic M&A; this amount is approximately double the \$88 billion invested in 2020.
  - 2021 was marked by several mega-transactions, including Hitachi's acquisition of GlobalLogic and Blackstone's buyout of Mphasis, pushing median transaction valuations higher.
- M&A activity in the IT services and consulting space rose sharply in the past three years, as large incumbents like Accenture, Dell, and IBM purchased smaller tech-enabled players, especially in the cloud-computing space.

## U.S. IT SERVICES AND CONSULTING INDUSTRY TRANSACTION ACTIVITY



Source(s): PitchBook, Press Releases  
(1) As of November 2021

## KEY TRANSACTIONS

### M&A Transactions

(USD, in millions)

Announce Date	Target	Acquiror	Purchase Price	Target EV / Revenue	Target EV / EBITDA
8/10/21	Mphasis The Next Applied	BlackRock ADIA	\$2,800	NA	NA
4/29/21	CAPCO	wipro	\$1,461	2x	NA
3/31/21	GlobalLogic	HITACHI Inspire the Next	\$9,600	NA	NA
12/31/20	enquero a genpact company	genpact	\$149	NA	NA
4/1/20	ALTRAN part of Capgemini	Capgemini	\$4,096	1.3x	10.4x
2/20/20	VIRTUS from FIS	FIDELITY SECURITIES INVESTMENTS	\$404	NA	NA

### Financing Transactions

(USD, in millions)

Announce Date	Target	Key Investor(s)	Amount Raised
5/20/21	Comply Advantage	ONTARIO TEACHERS' FEDERATION	\$102
5/17/21	AMOUNT	WESTCAP	\$99
2/23/21	FUNDGUARD	BLUMBERG CAPITAL  LionBird  TEAMS	\$12

# Data and Analytics Platforms – Market Overview

Supporting Functions > Software & Data Solutions > Data and Analytics Platforms

Public Company Comparables  
 Page 50

## MARKET OVERVIEW

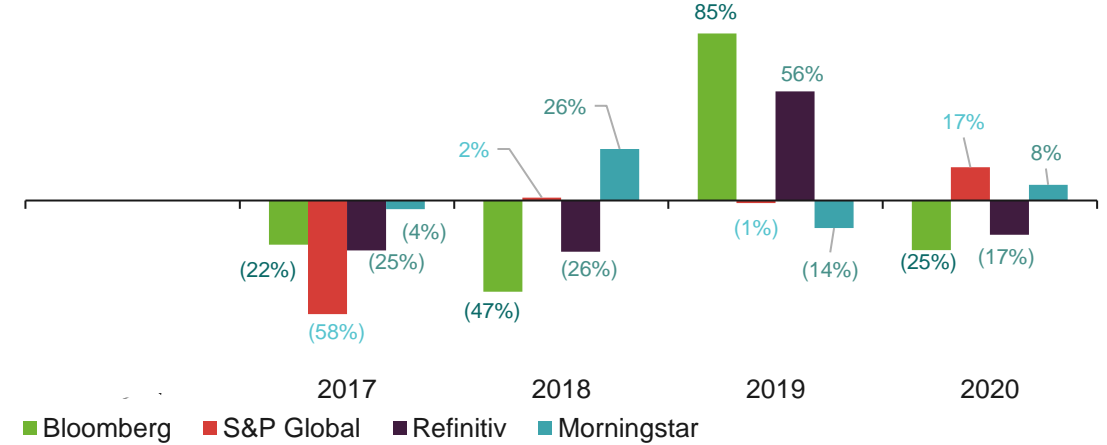
- The global risk analytics market size was valued at \$18 billion in 2018 and is **projected to grow at a 17.4% CAGR to reach \$65 billion by 2026**, according to data from Allied Market Research.
- Advancements in **cognitive technologies, artificial intelligence, and data analytics** are helping organizations go beyond traditional ways of managing risks by using smart machines to detect, predict, and prevent risks in high-risk situations.
- Access to big data and improved algorithmic understanding results in more precise predictions and the ability to mitigate the inherent risks of financial trading effectively.
- **New AI-powered entrants are disrupting the risk and data analytics market**, while larger players consolidate further via M&A.

## MARKET TRENDS

<b>Big Data</b>	Large-scale data collection and analysis allows for more robust risk analytics and data trails.
<b>Blockchain Analytics</b>	New entrants in the analytics space utilize AI to allow customers to manage their cryptocurrency risk
<b>Focus on Cybersecurity</b>	Cybersecurity analytics and cyber-risk management are being offered by analytics companies as the financial services industry digitizes
<b>Internet of Things (IoT)</b>	Smart machines allow analytics companies to collect and analyze real time feeds to better manage risk
<b>Cloud Storage</b>	Use of shared pools via cloud storage is increasing the need for virtual infrastructure

Source(s): Pitchbook, CapitalIQ, Press Releases

## CHANGE IN MARKET SHARE OF MAJOR PLAYERS



## SELECT COMPANIES DISRUPTING THE ANALYTICS SPACE

<b>CAIS</b> Platform intended to connect independent financial advisors to alternative investments	<b>DEFTHEDGE</b> Risk analytics software designed to manage foreign exchange risk	<b>ExtraHop</b> Cyber analytics software allowing users to receive real-time threat detections	<b>TRACKER VENTURES</b> Analytics software company leveraging blockchain and digital asset technology
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# Data and Analytics Platforms – Transaction Activity

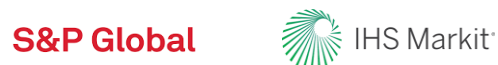
Supporting Functions > Software & Data Solutions > Data and Analytics Platforms

Public Company Comparables  
Page 50

## CAPITAL MARKETS OVERVIEW

- The 2020-2021 period has seen several mega transactions such as the S&P-IHS and LSE-Refinitiv acquisitions, signaling an active market with elevated valuation for analytics platforms as market consolidators compete to broaden their service offerings.
- As the capital markets industry continues its trend towards digitization and cloud migration, cyber security and analytics providers have gained popularity for their services. Banks and PE funds are making large investments in the space – in July 2021, Bain Capital and Crosspoint Capital jointly acquired cyber analytics platform provider ExtraHop for \$900 million in an LBO.
- Incumbent information technology companies are appreciating the value of analytics and making investments to build their capabilities. Fujitsu has built an enterprise tool that leverages IoTs to identify workers who are most vulnerable to cyberattacks and subsequently provide them advice on cybersecurity to mitigate any potential weak links.

## SELECT TRANSACTION: S&P TO ACQUIRE IHS MARKIT



- In November 2020, S&P entered into an agreement to acquire IHS Markit, a London-based provider of analytics and research, for approximately \$45 billion in an all-stock transaction.
- The combined company is expected to benefit from greater scale; specifically, S&P can leverage IHS' expertise in gathering complex derivatives data and financial information in the energy sector.
- Additionally, the combined entity will be better positioned to compete with Bloomberg for a larger share of the financial data market.

Source(s): PitchBook, Press Releases

## KEY TRANSACTIONS

### M&A Transactions

(USD, in millions)

Announce Date	Target	Acquiror	Purchase Price	Target EV / Revenue	Target EV / EBITDA
10/13/21	Cobalt	FACTSET	NA	NA	NA
09/28/21	gk	VoxSmart	NA	NA	NA
7/22/21	ExtraHop	BainCapital	\$900	NA	NA
11/30/20	IHS Markit	twilio	\$45,399	10.6x	28.0x
11/2/20	Segment	S&P Global	\$2,984	NA	NA
6/1/20	Vlocity	Salesforce	\$1,380	NA	NA
8/1/19	REFINITIV	London STOCK EXCHANGE	\$28,900	NA	NA

### Financing Transactions

(USD, in millions)

Announce Date	Target	Key Investor(s)	Amount Raised
6/23/21	incorta	KLEINER PERKINS  GV INVESTMENT MANAGERS, LLC	\$120
6/8/21	bringa	INSIGHT PARTNERS	\$110
8/16/21	carta	SILVERLAKE	\$550

# Appendix

# Public Comparable Companies

## Core Functions > Capital Intensive > Banks

Market Map  
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(All figures in millions of USD, except per share data. Data as of October 30, 2021)

Company Information	Market Data				Operating Performance							Valuation Multiples							
	Stock Price	% of 52-Wk. High	Market Value	Total Assets	LTM		Growth Rates:			LTM Margins:		Market Value / Revenue			Price / Earnings			Price Book	ROE %
					Revenue	Net Income	Revenue:	Earnings	Long-Term	EBITDA	Net Inc.	LTM	CY 2021	CY 2022	LTM	CY 2021	CY 2022		
Online Brokerages							CY 2021	CY 2022											
JPMorgan Chase & Co.	\$169.89	98.2%	\$502,076	\$3,757,576	\$131,176	\$50,071	19%	(1%)	16%	NA	38%	3.8x	4.1x	4.1x	23.0x	11.4x	14.3x	2.0x	18%
Bank of America Corporation	\$47.78	98.7%	\$391,036	\$3,085,446	\$91,204	\$30,435	20%	3%	8%	NA	33%	4.3x	4.4x	4.2x	35.4x	13.7x	15.2x	1.6x	11%
Wells Fargo & Company	\$51.16	99.1%	\$204,482	\$1,954,901	\$78,195	\$18,813	30%	(5%)	13%	NA	24%	2.6x	2.7x	2.8x	NMF	11.7x	13.9x	1.2x	11%
Citigroup Inc.	\$69.16	86.1%	\$137,232	\$2,361,876	\$75,379	\$23,088	22%	1%	22%	NA	31%	1.8x	1.9x	1.9x	17.1x	6.6x	8.5x	0.8x	12%
U.S. Bancorp	\$60.37	95.8%	\$89,507	\$567,495	\$23,391	\$7,809	19%	10%	6%	NA	33%	3.8x	3.9x	3.6x	24.3x	11.7x	13.6x	1.9x	15%
The PNC Financial Services Group, Inc.	\$211.03	97.0%	\$89,266	\$553,515	\$18,998	\$4,601	40%	7%	22%	NA	24%	4.7x	4.6x	4.3x	42.9x	14.8x	14.8x	1.6x	11%
Truist Financial Corporation	\$63.47	97.8%	\$84,722	\$529,884	\$22,914	\$6,167	10%	0%	13%	NA	27%	3.7x	3.8x	3.8x	21.1x	11.8x	12.9x	1.4x	9%
The Bank of New York Mellon Corporat	\$59.20	97.8%	\$48,889	\$470,533	\$15,958	\$3,646	3%	3%	10%	NA	23%	3.1x	3.1x	3.0x	19.0x	14.3x	13.2x	1.3x	8%
State Street Corporation	\$98.55	98.1%	\$36,033	\$323,139	\$11,917	\$2,533	3%	15%	13%	NA	21%	3.0x	3.0x	2.6x	18.3x	13.4x	11.7x	1.4x	10%
Fifth Third Bancorp	\$43.53	94.8%	\$30,067	\$207,731	\$8,253	\$2,711	21%	1%	17%	NA	33%	3.6x	3.8x	3.8x	26.8x	11.7x	13.2x	1.5x	12%
Huntington Bancshares Incorporated	\$15.74	93.1%	\$22,767	\$173,878	\$5,379	\$1,210	60%	12%	25%	NA	22%	4.2x	3.8x	3.4x	27.0x	12.1x	11.4x	1.3x	7%
Zions Bancorporation, National Associa	\$62.99	94.0%	\$9,860	\$88,306	\$3,253	\$1,200	22%	(4%)	18%	NA	37%	3.0x	3.4x	3.6x	23.8x	9.7x	13.8x	1.3x	16%
People's United Financial, Inc.	\$17.14	87.4%	\$7,241	\$63,673	\$2,012	\$310	1%	(1%)	(1%)	NA	15%	3.6x	3.8x	3.8x	15.7x	11.9x	13.2x	1.0x	4%
Popular, Inc.	\$81.44	95.2%	\$6,570	\$74,189	\$2,689	\$905	24%	1%	6%	NA	34%	2.4x	2.5x	2.5x	18.1x	7.4x	9.7x	1.1x	15%
Valley National Bancorp	\$13.26	90.0%	\$5,401	\$41,278	\$1,294	\$464	17%	22%	NA	NA	36%	4.2x	4.0x	3.3x	15.7x	11.4x	11.1x	1.2x	10%
Webster Financial Corporation	\$55.96	87.7%	\$5,069	\$35,374	\$1,242	\$358	17%	90%	6%	NA	29%	4.1x	4.2x	2.2x	26.0x	12.1x	11.2x	1.6x	11%
Sterling Bancorp	\$25.45	93.5%	\$4,904	\$30,028	\$959	\$370	34%	2%	NA	NA	39%	5.1x	4.9x	4.8x	27.4x	12.4x	12.3x	1.1x	8%
United Bankshares, Inc.	\$36.99	87.0%	\$4,765	\$27,508	\$1,066	\$386	10%	(1%)	NA	NA	36%	4.5x	4.6x	4.7x	18.5x	12.8x	14.7x	1.1x	9%
Umpqua Holdings Corporation	\$20.45	96.0%	\$4,430	\$30,891	\$1,361	\$483	16%	(2%)	6%	NA	35%	3.3x	3.5x	3.6x	21.9x	10.5x	11.8x	1.6x	18%
Community Bank System, Inc.	\$71.67	86.8%	\$3,864	\$15,331	\$625	\$193	6%	5%	NA	NA	31%	6.2x	6.3x	6.0x	28.6x	20.5x	22.4x	1.9x	9%
BankUnited, Inc.	\$40.56	80.0%	\$3,652	\$35,306	\$976	\$375	29%	4%	6%	NA	38%	3.7x	4.0x	3.9x	23.4x	10.3x	11.9x	1.2x	13%
Associated Banc-Corp	\$22.28	93.0%	\$3,284	\$34,440	\$1,116	\$341	(6%)	4%	6%	NA	31%	2.9x	3.1x	3.0x	13.6x	10.8x	13.6x	0.9x	8%
Old National Bancorp	\$17.08	80.3%	\$2,832	\$24,019	\$845	\$295	6%	87%	NA	NA	35%	3.4x	3.4x	1.8x	16.1x	10.1x	10.5x	0.9x	10%
Fulton Financial Corporation	\$16.10	87.5%	\$2,599	\$26,391	\$938	\$264	15%	(3%)	NA	NA	28%	2.8x	2.9x	2.9x	19.0x	10.0x	12.4x	1.0x	10%
MEAN							18%	10%	12%	NA	31%	3.7x	3.7x	3.5x	22.7x	11.8x	13.0x	1.3x	11%
MEDIAN							18%	2%	11%	NA	32%	3.7x	3.8x	3.6x	21.9x	11.7x	13.0x	1.3x	11%

LTM = Latest Twelve Months

Enterprise Value = (Market Value) + (Debt + Preferred Stock + Minority Interest) - (Cash & Equivalents)

NMF = Not meaningful

Source: Capital IQ, SEC filings

# Public Comparable Companies

## Core Functions > Capital Intensive > Infrastructure

(All figures in millions of USD, except per share data. Data as of October 30, 2021)

Company Information		Market Data		Operating Performance								Valuation Multiples					
Exchanges	Stock Price	% of 52-Wk. High	Market Value	Enterprise Value	LTM		Growth Rates:			LTM Margins:		EV / Revenue			EV / EBITDA		
					Revenue	EBITDA	Revenue:		Earnings Long-Term	Gross	EBITDA	LTM	CY 2021	CY 2022	LTM	CY 2021	CY 2022
							CY 2021	CY 2022									
CME Group Inc.	\$220.55	99.4%	\$79,208	\$81,100	\$4,630	\$2,976	(4%)	4%	5%	100%	64%	17.5x	17.3x	16.6x	27.3x	26.2x	24.6x
Intercontinental Exchange, Inc.	\$138.46	99.7%	\$78,009	\$91,559	\$6,977	\$4,237	18%	3%	12%	100%	61%	13.1x	12.9x	12.6x	21.6x	20.2x	19.5x
Hong Kong Exchanges and Clearing Limited	\$60.52	80.2%	\$76,568	\$28,049	\$2,710	\$2,007	13%	15%	14%	96%	74%	10.3x	10.1x	8.8x	14.0x	13.1x	11.0x
Nasdaq, Inc.	\$209.87	99.6%	\$35,091	\$40,977	\$5,883	\$1,829	(40%)	4%	14%	56%	31%	7.0x	12.1x	11.6x	22.4x	21.7x	21.3x
Deutsche Börse AG	\$166.05	94.1%	\$30,474	\$36,576	\$4,845	\$2,245	(12%)	8%	9%	78%	46%	7.6x	9.2x	8.5x	16.3x	15.7x	14.6x
Cboe Global Markets, Inc.	\$131.94	94.9%	\$14,070	\$15,098	\$3,473	\$920	(58%)	4%	(34%)	40%	26%	4.3x	10.4x	10.1x	16.4x	16.0x	15.6x
Japan Exchange Group, Inc.	\$23.61	88.1%	\$12,359	\$12,180	\$1,212	\$815	(8%)	0%	NA	55%	67%	10.0x	10.2x	10.2x	14.9x	15.6x	14.7x
ASX Limited	\$62.30	93.5%	\$12,062	\$7,307	\$763	\$539	(13%)	6%	4%	96%	71%	9.6x	10.2x	9.6x	13.6x	14.2x	13.2x
Singapore Exchange Limited	\$7.17	79.8%	\$7,678	\$7,265	\$785	\$417	(3%)	6%	7%	87%	53%	9.3x	9.1x	8.5x	17.4x	15.5x	15.0x
TMX Group Limited	\$108.07	92.0%	\$6,054	\$6,652	\$790	\$483	(3%)	5%	11%	94%	61%	8.4x	8.5x	8.1x	13.8x	14.0x	13.5x
Public Joint-Stock Company Moscow Exchange I	\$2.45	90.3%	\$5,532	(\$2,966)	\$748	\$529	9%	8%	9%	100%	71%	NMF	NMF	NMF	NMF	NMF	NMF
Dubai Financial Market (DFM) P.J.S.C	\$0.28	79.1%	\$2,220	\$1,349	\$69	\$34	(45%)	25%	NA	96%	49%	NMF	NMF	NMF	NMF	NMF	NMF
MEAN							(12%)	7%	5%	83%	56%	9.7x	11.0x	10.5x	17.8x	17.2x	16.3x
MEDIAN							(6%)	5%	9%	95%	61%	9.4x	10.2x	9.8x	16.4x	15.6x	14.9x

LTM = Latest Twelve Months

Enterprise Value = (Market Value) + (Debt + Preferred Stock + Minority Interest) - (Cash & Equivalents)

EBITDA = Earnings Before Interest, Taxes, Depreciation and Amortization

NMF = Not meaningful

Source: Capital IQ, SEC filings



# Public Comparable Companies

## Core Functions > Capital Intensive > Asset Management

Market Map  
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(All figures in millions of USD, except per share data. Data as of October 30, 2021)

Company Information	Market Data				Operating Performance							Valuation Multiples							
	Stock Price	% of 52-Wk. High	Market Value	Total Assets	LTM		Growth Rates:			LTM Margins:		Market Value / Revenue			Price / Earnings			Price Book	ROE %
					Revenue	Net Income	Revenue:	Earnings	Long-Term	EBITDA	Net Inc.	LTM	CY 2021	CY 2022	LTM	CY 2021	CY 2022		
Online Brokerages							CY 2021	CY 2022											
JPMorgan Chase & Co.	\$169.89	98.2%	\$502,076	\$3,757,576	\$131,176	\$50,071	19%	(1%)	16%	NA	38%	3.8x	4.1x	4.1x	23.0x	11.4x	14.3x	2.0x	18%
Wells Fargo & Company	\$51.16	99.1%	\$204,482	\$1,954,901	\$78,195	\$18,813	30%	(5%)	13%	NA	24%	2.6x	2.7x	2.8x	NMF	11.7x	13.9x	1.2x	11%
Morgan Stanley	\$102.78	97.0%	\$184,901	\$1,190,476	\$58,269	\$14,723	24%	(2%)	5%	NA	25%	3.2x	3.1x	3.2x	18.2x	12.9x	13.7x	1.9x	15%
The Charles Schwab Corporation	\$82.03	97.1%	\$154,873	\$607,548	\$17,988	\$5,410	58%	6%	26%	NA	30%	8.6x	8.4x	7.9x	39.9x	25.5x	22.8x	2.7x	12%
BlackRock, Inc.	\$943.46	98.3%	\$143,395	\$169,636	\$18,746	\$5,806	20%	7%	14%	41.1%	31%	7.6x	7.4x	6.9x	46.6x	24.4x	22.6x	4.0x	17%
The Goldman Sachs Group, Inc.	\$413.35	98.2%	\$145,632	\$1,443,230	\$58,135	\$22,206	41%	(19%)	10%	NA	38%	2.5x	2.5x	3.1x	15.0x	6.8x	10.6x	1.5x	22%
Allianz SE	\$232.60	90.0%	\$94,793	\$1,278,571	\$140,856	\$10,281	16%	(10%)	4%	14.4%	7%	0.7x	0.6x	0.6x	12.8x	9.6x	9.1x	NA	12%
BNP Paribas SA	\$66.95	98.7%	\$83,422	\$3,159,095	\$50,049	\$10,169	10%	(13%)	13%	NA	20%	1.7x	1.6x	1.8x	11.8x	8.5x	8.6x	0.6x	8%
AXA SA	\$29.09	100.0%	\$69,475	\$940,842	\$144,155	\$6,795	(16%)	(12%)	21%	7.3%	5%	0.5x	0.6x	0.7x	19.3x	9.0x	8.3x	0.9x	7%
UBS Group AG	\$18.15	99.1%	\$62,547	\$1,088,773	\$34,924	\$7,745	9%	(10%)	10%	NA	22%	1.8x	1.8x	2.0x	13.1x	8.6x	9.3x	1.0x	13%
T. Rowe Price Group, Inc.	\$216.88	96.6%	\$48,744	\$11,451	\$7,443	\$3,126	23%	6%	14%	51.1%	42%	6.5x	6.4x	6.0x	26.7x	17.1x	16.2x	5.9x	37%
The Bank of New York Mellon Corporat	\$59.20	97.8%	\$48,889	\$470,533	\$15,958	\$3,646	3%	3%	10%	NA	23%	3.1x	3.1x	3.0x	19.0x	14.3x	13.2x	1.3x	8%
Prudential Financial, Inc.	\$110.05	95.9%	\$42,567	\$932,582	\$70,495	\$7,335	(5%)	1%	9%	12.7%	10%	0.6x	0.8x	0.8x	NMF	8.3x	8.7x	0.7x	12%
State Street Corporation	\$98.55	98.1%	\$36,033	\$323,139	\$11,917	\$2,533	3%	15%	13%	NA	21%	3.0x	3.0x	2.6x	18.3x	13.4x	11.7x	1.4x	10%
Northern Trust Corporation	\$123.04	97.1%	\$25,551	\$169,086	\$6,392	\$1,380	8%	5%	14%	NA	22%	4.0x	3.9x	3.8x	24.5x	17.4x	16.6x	2.3x	12%
Legal & General Group Plc	\$3.95	96.6%	\$23,465	\$784,846	\$16,517	\$3,290	232%	(15%)	4%	24.2%	20%	1.4x	0.3x	0.3x	18.7x	9.4x	8.9x	1.7x	21%
Amundi SA	\$89.10	93.7%	\$18,036	\$28,888	\$5,992	\$1,554	(37%)	(9%)	12%	30.3%	26%	3.0x	5.0x	5.5x	19.2x	12.6x	12.5x	1.6x	NA
Invesco Ltd.	\$25.41	85.5%	\$11,719	\$32,814	\$6,761	\$1,414	(15%)	5%	23%	28.3%	21%	1.7x	2.2x	2.1x	13.9x	8.5x	8.3x	1.1x	11%
Aegon N.V.	\$5.07	95.3%	\$10,296	\$532,782	\$67,269	\$1,412	(62%)	(12%)	(2%)	4.1%	2%	0.2x	0.5x	0.5x	NMF	6.0x	6.2x	0.4x	NA
Focus Financial Partners Inc.	\$62.86	99.9%	\$3,759	\$4,088	\$1,654	\$6	28%	19%	NA	23.0%	0%	2.3x	2.2x	1.8x	79.9x	16.3x	14.4x	5.6x	2%
Netwealth Group Limited	\$12.98	92.5%	\$3,165	\$98	\$109	\$41	13%	59%	20%	54.1%	37%	29.1x	26.4x	16.5x	88.4x	70.6x	60.0x	45.3x	64%
MEAN							19%	1%	12%	26%	22%	4.2x	4.1x	3.6x	28.2x	15.3x	14.8x	4.1x	16%
MEDIAN							13%	(1%)	13%	24%	22%	2.6x	2.7x	2.8x	19.1x	11.7x	12.5x	1.5x	12%

LTM = Latest Twelve Months

Enterprise Value = (Market Value) + (Debt + Preferred Stock + Minority Interest) - (Cash & Equivalents)

NMF = Not meaningful

Source: Capital IQ, SEC filings

# Public Comparable Companies

## Core Functions > Capital Intensive > Alternative Investment Platforms

Market Map  
Page 21

(All figures in millions of USD, except per share data. Data as of October 30, 2021)

Company Information	Market Data				Operating Performance								Valuation Multiples						
	Stock Price	% of 52-Wk. High	Market Value	Total Assets	LTM		Growth Rates:			LTM Margins:		Market Value / Revenue			Price / Earnings			Price Book	ROE %
					Revenue	Net Income	Revenue:	Earnings	Long-Term	EBITDA	Net Inc.	LTM	CY 2021	CY 2022	LTM	CY 2021	CY 2022		
Online Brokerages							CY 2021	CY 2022											
Blackstone Inc.	\$138.42	96.8%	\$99,852	\$39,038	\$20,247	\$5,208	70%	8%	25%	NA	26%	4.9x	9.5x	8.8x	NMF	32.3x	28.2x	11.0x	65%
Ameriprise Financial, Inc.	\$302.13	98.2%	\$33,959	\$170,726	\$12,870	\$2,236	15%	9%	NA	28.1%	17%	2.6x	2.5x	2.3x	33.1x	13.6x	12.3x	6.0x	38%
Principal Financial Group, Inc.	\$67.09	95.7%	\$17,784	\$298,908	\$13,937	\$1,711	(5%)	9%	17%	16.8%	12%	1.3x	1.3x	1.2x	18.1x	10.2x	9.5x	1.1x	11%
Franklin Resources, Inc.	\$31.49	87.6%	\$15,835	\$20,221	\$8,426	\$1,831	38%	(2%)	9%	26.1%	22%	1.9x	1.9x	1.9x	16.8x	9.7x	9.1x	1.5x	17%
P10, Inc.	\$12.50	95.0%	\$1,464	\$578	\$107	\$25	NA	NA	NA	46.1%	24%	13.7x	NA	NA	NMF	NA	NA	NA	NA
Associated Capital Group, Inc.	\$36.35	83.6%	\$803	\$1,434	\$19	\$101	NA	NA	NA	NMF	533%	42.4x	NA	NA	NMF	NA	NA	0.9x	10%
MEAN							16%	5%	13%	29%	122%	12.4x	1.9x	1.8x	22.7x	11.2x	10.3x	2.3x	19%
MEDIAN							15%	9%	13%	27%	22%	2.6x	1.9x	1.9x	18.1x	10.2x	9.5x	1.3x	14%

LTM = Latest Twelve Months

Enterprise Value = (Market Value) + (Debt + Preferred Stock + Minority Interest) - (Cash & Equivalents)

NMF = Not meaningful

Source: Capital IQ, SEC filings

# Public Comparable Companies

## Supporting Functions > Service Providers > Professional Services

Market Map  
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(All figures in millions of USD, except per share data. Data as of October 30, 2021)

Company Information		Market Data				Operating Performance						Valuation Multiples					
Exchanges	Stock Price	% of 52-Wk. High	Market Value	Enterprise Value	LTM		Growth Rates:			LTM Margins:		EV / Revenue			EV / EBITDA		
					Revenue	EBITDA	Revenue:		Earnings Long-Term	Gross	EBITDA	LTM	CY 2021	CY 2022	LTM	CY 2021	CY 2022
							CY 2021	CY 2022									
Broadridge Financial Solutions, Inc.	\$178.41	96.4%	\$20,741	\$24,946	\$5,169	\$1,084	9%	10%	9%	28%	21%	4.8x	4.9x	4.4x	23.0x	21.0x	18.6x
LPL Financial Holdings Inc.	\$164.02	92.7%	\$13,142	\$15,274	\$7,208	\$976	31%	18%	NA	23%	14%	2.1x	2.0x	1.7x	15.7x	15.5x	12.2x
SEI Investments Company	\$63.04	97.3%	\$8,791	\$8,257	\$1,860	\$573	13%	5%	12%	79%	31%	4.4x	4.3x	4.2x	14.4x	12.9x	12.4x
Computershare Limited	\$14.08	97.0%	\$8,501	\$9,655	\$2,283	\$471	4%	20%	5%	14%	21%	4.2x	4.1x	3.4x	20.5x	14.9x	12.9x
Envestnet, Inc.	\$83.50	94.4%	\$4,552	\$5,167	\$1,131	\$149	17%	12%	NA	28%	13%	4.6x	4.4x	3.9x	34.8x	20.1x	18.4x
Samne Group plc	\$12.37	95.2%	\$1,997	\$2,079	\$244	\$69	17%	12%	NA	58%	28%	8.5x	7.7x	6.8x	30.0x	22.6x	20.1x
AssetMark Financial Holdings, Inc.	\$25.64	94.3%	\$1,886	\$1,879	\$498	\$55	(13%)	16%	16%	33%	11%	3.8x	5.0x	4.3x	34.3x	12.0x	9.7x
Bravura Solutions Limited	\$2.09	69.8%	\$518	\$491	\$182	\$47	2%	4%	NA	34%	26%	2.7x	2.4x	2.3x	10.5x	11.8x	10.2x
MEAN							10%	12%	11%	37%	21%	4.4x	4.4x	3.9x	22.9x	16.4x	14.3x
MEDIAN							11%	12%	11%	31%	21%	4.3x	4.4x	4.0x	21.8x	15.2x	12.7x

LTM = Latest Twelve Months

Enterprise Value = (Market Value) + (Debt + Preferred Stock + Minority Interest) - (Cash & Equivalents)

EBITDA = Earnings Before Interest, Taxes, Depreciation and Amortization

NMF = Not meaningful

Source: Capital IQ, SEC filings

# Public Comparable Companies

## Supporting Functions > Service Providers > Financial Content Providers

Market Map  
Page 24

Company Information		Market Data			Operating Performance								Valuation Multiples				
Exchanges	Stock Price	% of 52-Wk. High	Market Value	Enterprise Value	LTM		Growth Rates:			LTM Margins:		EV / Revenue			EV / EBITDA		
					Revenue	EBITDA	Revenue:		Earnings Long-Term	Gross	EBITDA	LTM	CY 2021	CY 2022	LTM	CY 2021	CY 2022
							CY 2021	CY 2022									
S&P Global Inc.	\$474.16	99.7%	\$114,213	\$116,456	\$8,076	\$4,565	11%	5%	14%	73%	57%	14.4x	14.1x	13.4x	25.5x	25.0x	23.6x
Moody's Corporation	\$404.15	99.1%	\$75,131	\$81,311	\$5,969	\$3,082	15%	8%	17%	74%	52%	13.6x	13.2x	12.2x	26.4x	25.9x	24.7x
RELX PLC	\$30.98	99.6%	\$59,748	\$68,513	\$9,672	\$3,038	3%	9%	9%	66%	31%	7.1x	6.9x	6.3x	22.5x	18.5x	16.6x
Thomson Reuters Corporation	\$120.07	97.9%	\$59,241	\$61,126	\$6,254	\$1,564	5%	5%	NA	35%	25%	9.8x	9.7x	9.3x	39.1x	30.8x	26.8x
MSCI Inc.	\$664.88	99.7%	\$54,817	\$57,867	\$1,937	\$1,109	20%	13%	15%	83%	57%	29.9x	28.5x	25.2x	52.2x	48.9x	43.2x
Gartner, Inc.	\$331.91	99.9%	\$27,764	\$30,551	\$4,540	\$1,101	13%	14%	NA	69%	24%	6.7x	6.6x	5.8x	27.8x	26.0x	30.1x
FactSet Research Systems Inc.	\$443.89	99.8%	\$16,708	\$17,381	\$1,591	\$539	6%	8%	9%	51%	34%	10.9x	10.8x	10.0x	32.3x	31.0x	27.8x
Morningstar, Inc.	\$316.75	97.8%	\$13,641	\$13,682	\$1,618	\$397	NA	NA	NA	59%	25%	8.5x	NA	NA	34.5x	NA	NA
CRISIL Limited	\$37.37	84.1%	\$2,721	\$2,659	\$296	\$73	7%	10%	NA	45%	25%	9.0x	9.1x	8.3x	36.5x	34.6x	29.7x
Forrester Research, Inc.	\$53.25	98.9%	\$1,021	\$1,065	\$481	\$55	9%	8%	18%	59%	11%	2.2x	2.2x	2.0x	19.3x	19.4x	16.4x
Value Line, Inc.	\$34.45	87.2%	\$329	\$289	\$40	\$9	NA	NA	NA	87%	22%	7.2x	NA	NA	32.8x	NA	NA
MEAN							10%	9%	14%	64%	33%	10.8x	11.2x	10.3x	31.7x	28.9x	26.5x
MEDIAN							9%	8%	15%	66%	25%	9.0x	9.7x	9.3x	32.3x	26.0x	26.8x

LTM = Latest Twelve Months

Enterprise Value = (Market Value) + (Debt + Preferred Stock + Minority Interest) - (Cash & Equivalents)

EBITDA = Earnings Before Interest, Taxes, Depreciation and Amortization

NMF = Not meaningful

Source: Capital IQ, SEC filings



# Public Comparable Companies

## Supporting Functions > Software & Data Solutions

Market Map  
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(All figures in millions of USD, except per share data. Data as of October 30, 2021)

Company Information		Market Data		Operating Performance								Valuation Multiples					
Exchanges	Stock Price	% of 52-Wk. High	Market Value	Enterprise Value	LTM		Growth Rates:			LTM Margins:		EV / Revenue			EV / EBITDA		
					Revenue	EBITDA	Revenue:		Earnings Long-Term	Gross	EBITDA	LTM	CY 2021	CY 2022	LTM	CY 2021	CY 2022
							CY 2021	CY 2022									
SS&C Technologies Holdings, Inc.	\$79.47	99.7%	\$20,285	\$27,800	\$4,960	\$1,856	8%	4%	16%	47%	37%	5.6x	5.5x	5.3x	15.0x	13.5x	12.9x
Temenos AG	\$152.52	90.8%	\$10,912	\$12,268	\$954	\$261	11%	11%	14%	64%	27%	12.9x	12.5x	11.3x	47.1x	27.7x	25.0x
SimCorp A/S	\$120.75	83.1%	\$4,764	\$4,755	\$563	\$163	3%	10%	11%	63%	29%	8.4x	8.3x	7.5x	29.2x	27.7x	25.1x
Envestnet, Inc.	\$83.50	94.4%	\$4,552	\$5,167	\$1,131	\$149	17%	12%	NA	28%	13%	4.6x	4.4x	3.9x	34.8x	20.1x	18.4x
Clearwater Analytics Holdings, Inc.	\$22.48	81.2%	\$3,989	\$6,283	\$237	(\$31)	21%	20%	23%	74%	(13%)	26.5x	25.6x	21.4x	NMF	92.5x	80.4x
IntegraFin Holdings plc	\$7.82	94.2%	\$2,591	\$596	\$156	(\$5,224)	17%	13%	16%	NMF	NMF	3.8x	3.4x	3.0x	NMF	6.2x	5.4x
MeridianLink, Inc.	\$24.15	83.3%	\$1,943	\$2,905	\$258	\$94	29%	10%	43%	72%	36%	11.3x	11.3x	10.2x	31.0x	25.6x	24.9x
Iress Limited	\$9.01	78.4%	\$1,695	\$1,907	\$421	\$83	7%	6%	4%	29%	20%	4.5x	4.2x	4.0x	22.9x	17.6x	17.4x
Intapp, Inc.	\$27.00	66.0%	\$1,643	\$2,273	\$229	(\$26)	17%	16%	40%	65%	(11%)	9.9x	10.0x	8.6x	NMF	NMF	NMF
FD Technologies Plc	\$28.60	61.0%	\$795	\$853	\$339	\$18	9%	11%	NA	42%	5%	2.5x	2.5x	2.2x	47.3x	18.3x	17.1x
Alfa Financial Software Holdings PLC	\$2.63	93.2%	\$790	\$761	\$113	\$35	(1%)	2%	NA	80%	31%	6.7x	7.1x	7.0x	21.7x	24.8x	24.1x
Linedata Services S.A.	\$44.06	86.6%	\$282	\$355	\$188	\$56	(6%)	2%	NA	37%	30%	1.9x	1.9x	1.9x	6.3x	6.5x	6.5x
Sogecclair SA	\$26.25	94.6%	\$80	\$90	\$134	(\$13)	(6%)	11%	NA	57%	(10%)	0.7x	0.6x	0.6x	NMF	7.1x	4.9x
MEAN							10%	10%	21%	55%	16%	7.6x	7.5x	6.7x	28.4x	24.0x	21.8x
MEDIAN							9%	11%	16%	60%	24%	5.6x	5.5x	5.3x	29.2x	19.2x	17.9x

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Source: Capital IQ, SEC filings