

# November 2023 KBW Investment Banking

**Acceleration and Adoption of Mortgage Technology** 

FinTech & Financial Services Investment Banking

Global coverage of Fintech & Financial Services companies with professionals whose deep industry knowledge and relationships drive superior outcomes

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#### **Mortgage Technology**

Acceleration and Adoption of Mortgage Technology



The KBW FinTech Investment Banking Team is pleased to provide insightful commentary on current topics in the US Mortgage Technology Industry, which include: GRC technology playing a larger role in the mortgage ecosystem and heightened focus on loan servicing automation & consolidation in the credit, appraisal, and title sectors. Before we examine the above market dynamics, let us take a step back and describe the technology which supports the industry.



Rapid innovation of **GRC** (**Governance**, **Risk and Compliance**) **software** is occurring within the mortgage ecosystem, as both large technology firms and start-ups strive to grab market share. Adoption of GRC software is increasing as mortgage originators and servicers attempt to streamline manual GRC functions. Two vendor segments within GRC include **Quality Control (QC)** and **Third-Party Review (TPR)** providers.

- QC vendors are utilizing technology to solve traditionally manual processes within the pre-funding, post-funding and servicing of the loan. For example, through technology and automation, QC vendors are reducing pre-funding turn times to 48 hours (down from 1-2 weeks). Within the 90-day post-funding part of the loan, QC technology vendors are reducing errors, lowering defect rates, and providing increased transparency for post-closing loan selection, rebuttal, and reporting. QC tech-enabled vendors also help to identify potential issues with mortgage servicing operations, improve workflows, and ensure that compliance with relevant guidelines, laws, and regulations is maintained.
- TPR firms (often referred to as diligence firms) generally review non-QM loans prior to securitizations. TPR's leverage technology to analyze the underwriting process, perform quality control, valuations, compliance and reporting. TPR firms play a major role in contributing to the market's overall awareness of operational risk for a securitization transaction. Innovation has created enhanced quality and accuracy, in addition to operational efficiencies in this sector of the market.

Credit Reporting – The credit sector of the market utilizes technology platforms to create tri-merge reports, required to obtain mortgage loans. The Credit Reporting Agency (CRA) market has meaningfully consolidated over the last decade, creating several exceptionally large CRA's that benefit from economies of scale, deep capital resources, technological efficiencies, and expanded margins. CRA's consume a massive amount of consumer and credit data, which over time will become increasingly more valuable in predictive analytics and eventually AI.

**Property Appraisal** – The property appraisal market has experienced substantial technological advancement within the last several years, as the largest **Appraisal Management Companies (AMC's)** have developed software to enable: auto-assignment to appraisers, auto-population of forms, geospatial property recognition, video creation of property blueprints, and more efficient quality controls.



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**Title** – In addition to the massive Credit and Appraisal markets, another significant market is the Title industry. **Title Insurance** is required in every property purchase whether or not a mortgage is required. Title is also needed for mortgage refinances, often resulting in numerous title transactions on a single property. Technology advancements in this sector are seen more in the title search, curative, and data areas. Mortgage industry experts believe the title industry is most likely to first benefit from blockchain technology, given the defined data sets that are available on each property.

### **GRC Technology is Playing a Larger Role in the Mortgage Ecosystem**

GRC is a classification for an IT program which directs mortgage lenders and servicers through the byzantine compliance landscape. GRC software is a specialized, IT-driven workflow process which aligns mortgage servicers' business goals with risk mitigation and regulatory compliance. These mortgage businesses use GRC to replace existing tools, templates, and manual processes to meet industry, state, and federal regulations with an automated and referenceable compliance program. An important objective for GRC is to reduce the operational risk, costs and duplicate efforts between the potentially different divisions of sales with client facing mortgage origination responsibility and the internal administration which processes those mortgages. Furthermore, GRC procedures safeguard stakeholder data from security and privacy risks by keeping sensitive information secure during banking and financial services transactions. Ultimately, the organization's risk appetite, its internal policies, and external regulations constitute the rules of GRC.

- **Governance** refers to the establishment of policy guidelines, such as defining roles, responsibilities, and procedures.
- Risk Management tools identify potential transactional threats and compliance issues
  with regulators. This is an important risk modeling tool which should be able to run
  customizable "what if" scenario analysis.
- **Compliance Management** compares internal and external guidelines in meeting regulatory requirements, industry standards, and internal policies.

At a high level, GRC is the ERP for accountability between strategy, process, technology, people, and regulation.

There are a number of other benefits to adopting GRC software. Such as reducing staffing costs, eliminating manual errors, and re-allocating employees to more value-added work. Additionally, GRC enables a scalable environment which grows with the business at very little incremental cost. Clients trust the vendor more if they know system transparency is always available whenever they or a regulator requests information. That performance is harder to match with spreadsheets and paper records which could inadvertently put the mortgage company at risk of regulatory action and fines.



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### **Evolution and Consolidation of Credit, Appraisal and Title Technology**

Current market conditions are driving an urgent need for operational efficiency, cost containment, and—in some cases—mergers. Many of the firms that enable the front-end of the mortgage origination process, like credit, appraisal and title, are a fragmented collection of independent vendors that are primed for consolidation.

There are several essential steps to start the residential mortgage origination process.

In the beginning of the loan lifecycle, loan officers are required to pull consumer credit. The companies at the cornerstone of this stage are the Credit Reporting Agencies (CRAs), who are integrated with the three main credit bureaus: Experian, Equifax and TransUnion. CRAs leverage credit-focused order management systems to obtain credit scores from all three bureaus in order to merge the three scores to obtain a FICO score, which is used in mortgage loan applications (commonly referred to as the tri-merge credit report). In addition to CRAs, there are credit scoring and credit simulation software providers that not only create increased transparency, but also have the ability to drive additional loan originations.

During the next phase of the loan lifecycle, lenders need to obtain property valuations. The underpinnings of this market are supported by the AMCs, which leverage appraisal software platforms to assign, create, and review appraisal data and forms. The evolution of auto-assign functionality, auto-population of appraisal forms, and geospatial property recognition is transforming the way property appraisers operate.

Later in the origination of a loan, mortgage underwriters and processers check that the property has clean title. The title industry is massive, and comprised of underwriters, agencies, and numerous types of technology providers vying for market share. Software is used to verify property ownership, cure discrepancies in title ownership, and facilitate the transfer of property titles. Given each property has defined and quantifiable data fields, the title space is most apt to benefit from technology that thrives on data, including predictive analytics, machine learning, block chain, and Al. Over the last ten years, start-ups in these software categories have become ripe for investment by venture capital and eventually acquisition by private equity and larger strategic providers.

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#### **Automation and Tech-Enabled Mortgage Servicers**

We are focusing on independent mortgage servicers, but, as a matter of function, banks and credit unions also provide these services. Mortgage servicers are responsible for the administration of new and existing mortgage loans on behalf of lenders or investors. These 3<sup>rd</sup> party service providers perform a variety of tasks, such as collecting payments, handling escrow accounts, and responding to customer service inquiries.

The Government Accountability Office (GAO) stated the top 160 mortgage servicers administer 80% outstanding mortgage loan balances. Mortgage servicers typically earn fees as a percentage of loan value. For example, as an average, according to MBA and Lending Tree, mortgage servicers charge 75bps for mortgage origination, 37bps annually for monthly maintenance (customer service, billing, payments) and refinancing 300bps. Mortgage servicers' revenue lines rise and fall with those activity levels. The current interest rate environment is highlighting the need for automation and efficiency at mortgage service companies.

The mortgage servicers specialization in the mortgage ecosystem has resulted in planned efficiency at every step of the loan origination process, which includes:

- Investor Reporting (IR) and Investor Accounting (IA): reconciling the investor data with the mortgage servicing platform reports
- Payment Processing: collection and processing of mortgage payments;
- Escrow Management: manage timely payment of property taxes and insurance;
- Customer Service: dedicated point of contact for borrowers to address inquiries related to their loans;
- Online Access: online portals that allow borrowers to access their account information, make payments, and view statements, streamlining convenience and transparency;
- **Regulatory Compliance**: responsible for ensuring mortgage loans are in compliance with federal and state regulations;
- **Documentation Management**: maintaining records of mortgage documents, including the promissory note and deed of trust, which can be beneficial in case of disputes or questions about the loan.



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#### **Automation and Tech-Enabled Mortgage Servicers** (cont'd)

Mortgage servicers have become increasingly comfortable with outsourcing some of these non-core functions, including IR/IA and escrow management, including property tax payments. Independent tech-enabled companies have emerged to handle these functions on behalf of the mortgage servicer, as they offer higher quality, more accuracy and speed when compared to a mortgage servicer's in-house functions.

The size of a mortgage servicer can vary significantly depending on several factors, including the number of mortgage loans, client base, and the scope of operations. The better companies have invested heavily in IT and a qualified employee base to effectively manage customer service, accounting, compliance, and other functions. How this operational one two punch is governed is the basis for a competitive advantage. The business and regulatory complexity of overseeing integrated lender relationships has a direct impact on the portfolio size and geographic reach. Mortgage servicers are usually able to process more transactions with less people, faster and at less costs than traditional financial institutions.

From an industry metric point of view, the mortgage servicer's key performance indicators (KPI) include pull through rate, decision to close time cycle, abandoned loan rate, average origination value, application approval rate and net charge off rate. From an internal mortgage services company point of view customer acquisition costs and customer service performance are critical.

#### **Footnotes**

Industry sources: Mortgage Bankers Association (MBA), St. Louis Federal Reserve, National Association of Realtors (NAR), Bankrate, Lending Tree, Worth Insurance, US Department of Housing and Urban Development (HUD), US Census 2020, Federal Housing Finance Agency (FHFA), General Accounting Office (GAO)

Select Companies Offering Innovative Solutions



Consolidated Analytics provides tech-enabled, innovative solutions for the mortgage services industry. From the initial stages of origination through servicing and into the capital markets, Consolidated Analytics' offerings for due diligence, property valuation, process optimization, and outsourcing serve as a shield against risk, aiding operational performance, and transforming fixed costs into flexible, adaptable models.

The company understands that digital transformation, FinTech innovation, and system advancements like artificial intelligence are pivotal in distinguishing a mortgage servicers business. These factors impact internal workflow efficiency and external customer experience by leveraging intuitive, technology-enabled solutions. With over 250 clients from the world's largest banks to regional mortgage servicers and enablers, Consolidated Analytics seeks to shape a more effective and efficient mortgage market of the future.

## CoreLogic®

CoreLogic is a property information, analytics, and solutions enabler in the United States and Australia. The company's combined data from public, contributory and proprietary sources includes over 4.5 billion records spanning more than 50 years, providing detailed coverage of property, mortgages, consumer credit, tenancy, location, hazard risk and related performance information. CoreLogic serves the real estate, mortgage finance, insurance, capital markets, transportation and government sectors.

CoreLogic seeks to empower clients to make smarter, more informed decisions through data-driven insights and workflow automation. The company's commitment to providing scalable, integrated solutions that streamline workflows and power the mortgage ecosystem represents a key differentiator. 100% of the nation's top 100 mortgage originators are CoreLogic clients. CoreLogic manages the property tax payments on 8 out of every 10 residential homes in the US with first lien mortgages. With 70% of the nation's appraisers choose their software, CoreLogic enables over 550,000 property valuations via their platforms every month. 65% of all Mortgage Flood Certifications are processed by CoreLogic. In 2022, the company delivered more than 13 million mortgage credit reports.

Select Companies Offering Innovative Solutions



CreditXpert offers a predictive credit score insight platform that helps mortgage lenders optimize a borrower's credit score at the point of origination. The company was founded to make homeownership more accessible and affordable to their clients. The company's proprietary predictive analytics and SaaS technology allows lenders to identify a borrower's near-term credit potential (how much they could improve their score within 30 days), generate precise improvement plans and track the borrower's progress against the plan. Founded in 2001, CreditXpert has analyzed nearly 1 billion credit inquiries, and is used by more than 60,000 mortgage professionals at banks and other mortgage lenders.

The number of mortgage borrowers that could benefit from credit optimization is significant. Of those with initial credit scores below 780, 74% could improve their score by at least 20-points within just 30 days. With a higher credit score, borrowers can qualify for a mortgage, access better loan programs, lower their interest rate and save on private mortgage insurance. Mortgage lenders also benefit from higher credit scores as they can lower Loan Level Pricing Adjustment premiums for many of their borrowers.



Indecomm's years of mortgage sector insights and operational acumen fuel breakthroughs in mortgage tech and automation. Mortgage organizations can optimize their core operations such as processing, underwriting, post-closing, and quality control through the company's Genius Suite. Customers are empowered to adapt seamlessly to loan volume changes, realize efficiency improvements of 70% or more, minimize risks, slash per-loan costs, and transition away from manual tasks. A notable highlight, AuditGenius, transforms mortgage quality control by automating specific QC tasks, swiftly reading, extracting, and analyzing loan document information, and delivering transparent audit results. AuditGenius enables lenders to identify loan issues efficiently and accurately, supercharging high-quality loan reviews at a fraction of the cost.

Select Companies Offering Innovative Solutions

#### LERETA

LERETA is pioneering a new path in property tax solutions that are multi-dimensional, benefiting the borrower, the servicer, and the investor – with a commitment to bring new technology to solve old problems. LERETA provides a full suite of national property tax services for residential and commercial loans, including automated online research and certification, tax bill processing, a suite of delinquent tax services, and customized tax outsourcing programs. LERETA also provides real-time flood zone determination services that include flexible levels of service based on customers' needs, from delivery of flood zone determinations to complete portfolio life-of-loan tracking. LERETA has a 37-year reputation for innovation, accuracy, and proprietary technology, with a team of experienced client support personnel. LERETA's services are designed to help clients decrease cost and increase staff efficiency, reduce penalties & liabilities, and improve operational processes.

LERETA currently services over 3,000 customers and distinguishes itself in the industry in several areas, most importantly through operational performance, flexibility, and commitment to innovation at the company's 3,000 customers—year to date LERETA has hit 99.9% of all SLAs. The company's ability to meet SLA's is based on a combination of deep management expertise in tax (managers have an average of 20+ years industry experience), management rigor for operational improvement, superior technology, and investment in comprehensive staff training. LERETA has a long history, and deeply engrained culture of flexibility, which extends to solutions and services. LERETA's customer centric business model is evidenced in a Net Promoter Score of 100 in 2021 and a score of 80 in 2022.



For over 20 years, QC Ally has delivered accurate results to ensure regulatory and investor compliance while providing quality control services aligned with every client partner's requirements. Managed by the largest 100% US-based mortgage quality team and bolstered by proprietary software, QC Ally supports the entire loan lifecycle including pre-funding, post-funding, and servicing.

In September 2023, QC Ally acquired due diligence solutions company, Inglet Blair, LLC., a third-party review firm with 20 years of industry expertise approved and recognized by all major rating agencies including Fitch, Moody's, S&P, Kroll and DBRS. This provides client partners with a comprehensive, high-quality set of services that reflect high standards of ethics and professionalism. Coupled with proprietary technology to support the process, client partners gain consistent risk analysis, complete data collection and validation, and flexible reporting capabilities.

Select Companies Offering Innovative Solutions



SitusAMC residential real estate team is a provider of rating-agency-approved residential loan-level diligence and quality control services, supporting newly originated and seasoned loans. With more than 500 rated securitizations supported in the last five years, SitusAMC has supported more securitizations than any other firm.

SitusAMC is a leading, independent solutions provider to the commercial and residential real estate finance industries. The company provides advisory, strategic outsourcing, talent, and technology solutions to help clients efficiently and effectively originate, transact, manage, and value real estate debt and equity assets. SitusAMC is trusted by more than 1,500 clients including the top commercial and investment banks, Private Equity firms, asset managers, mortgage originators, servicers, CMBS/RMBS issuers, and insurance companies to help them drive operational efficiency, increase business effectiveness, and improve market agility across the entire lifecycle of their global real estate activity.



Xactus is the leading verification innovator for the mortgage industry. The company delivers credit reporting, verifications, and settlement services and is integrated with Fannie Mae, Freddie Mac, credit bureaus, and loan origination systems. The company has over 6,500 clients ranging from the largest bank and non-bank mortgage originators to credit unions and mortgage brokers. With eight operation centers across the U.S., Xactus collaborates closely with its clients to digitally integrate a 360° approach to verification across their workflows. As a result, lenders can easily access the technology necessary to meet consumer demands for a more modern mortgage experience with industry-leading speed, reliability, and accuracy. Xactus enables their clients to close more loans more quickly and with greater profitability. The company is also a leading provider of business data and intelligent insights that are necessary for companies to make more informed credit decisions.

## **KBW FinTech Investment Banking Team Leadership**



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Payments - Trading Metrics & Multiples

(\$M, except per share data)		Stock				Enterpris	se Value /		Pric		Reve	enue	EBI	TDA	
		Price	Market	Enterprise		enue		TDA		ings		wth		rgin	PEG
Company	Ticker	10/31/23	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Payments															
Shopify	SHOP	\$47.19	\$60,607	\$56,961	8.2x	6.9x	NM	NM	NM	NM	26.0%	18.8%	8.6%	12.1%	NA
PayPal*	PYPL	\$51.80	\$56,878	\$58,186	2.0x	1.8x	7.7x	7.0x	10.5x	9.2x	8.1%	9.0%	25.4%	25.8%	0.5x
Nu Holdings	NU	\$8.20	\$38,889	\$32,270	4.2x	3.2x	NM	NA	41.3x	24.1x	68.9%	30.5%	NM	NA	NM
Global Payments*	GPN	\$106.22	\$27,658	\$43,794	5.0x	4.7x	10.1x	9.3x	10.2x	9.0x	7.6%	7.2%	49.9%	50.9%	0.9x
Block*	SQ	\$40.25	\$24,653	\$24,116	1.1x	1.0x	15.8x	12.5x	23.2x	16.6x	23.4%	12.8%	7.1%	7.9%	0.4x
Adyen NV	EPA: ADYEN	\$669.73	\$20,775	\$14,220	8.4x	6.8x	19.4x	15.3x	32.1x	26.2x	18.2%	23.1%	43.2%	44.3%	NM
Toast	TOST	\$15.99	\$8,565	\$7,608	2.0x	1.5x	NM	NM	NM	NM	42.1%	27.3%	0.8%	2.9%	NA
Nexi	BIT: NEXI	\$5.79	\$7,588	\$15,408	4.3x	4.0x	8.4x	7.6x	9.8x	8.4x	1.8%	7.6%	51.5%	53.2%	1.9x
One97 Communications	PAYTM	\$11.06	\$7,014	\$6,294	5.3x	4.0x	NM	NM	NM	NM	36.7%	32.3%	NM	2.6%	NA
Global e-Online	GLBE	\$35.11	\$5,767	\$5,566	9.5x	6.9x	NM	42.2x	NM	NM	44.1%	37.4%	15.3%	16.3%	NA
Dlocal	DLO	\$16.85	\$4,879	\$4,282	6.6x	4.7x	20.3x	14.6x	28.4x	20.5x	53.5%	40.0%	32.8%	32.4%	0.7x
Shift4 Payments	FOUR	\$44.52	\$3,653	\$4,898	1.8x	1.3x	10.9x	8.4x	16.1x	12.9x	33.0%	36.5%	16.8%	16.0%	0.1x
Worldline	ENXTPA:WLN	\$12.66	\$3,582	\$7,071	1.4x	1.4x	6.0x	5.7x	5.8x	5.1x	5.9%	5.3%	23.8%	24.1%	NM
StoneCo	STNE	\$9.92	\$3,105	\$2,855	1.2x	1.1x	2.3x	2.2x	12.2x	9.9x	32.1%	7.5%	52.5%	50.4%	0.1x
Marqeta	MQ	\$5.17	\$2,743	\$1,371	2.1x	2.8x	NM	NM	NM	NM	(12.8%)	(25.1%)	NM	NM	NA
Network International	NETW	\$4.70	\$2,506	\$2,748	5.3x	4.5x	12.8x	10.6x	25.8x	19.1x	18.1%	17.1%	41.4%	43.0%	1.1x
PagSeguro Digital	PAGS	\$7.06	\$2,274	\$2,005	0.6x	0.6x	3.0x	2.6x	6.9x	6.0x	7.3%	6.9%	21.1%	22.8%	0.6x
EVERTEC*	EVTC	\$31.78	\$2,054	\$2,295	3.4x	3.3x	8.0x	7.6x	11.2x	10.7x	8.9%	4.5%	43.1%	43.1%	0.6x
Nuvei	NVEI	\$13.90	\$1,934	\$3,051	2.6x	2.2x	7.2x	6.0x	8.3x	6.8x	40.4%	16.4%	35.9%	36.8%	NM
Lightspeed Commerce	LSPD	\$12.46	\$1,901	\$1,181	1.4x	1.1x	NM	24.8x	NM	37.3x	21.3%	31.3%	NM	4.3%	NA
Cielo	BVMF: CIEL3	\$0.70	\$1,876	\$3,538	1.6x	1.6x	3.4x	3.8x	4.7x	4.7x	1.5%	4.0%	47.7%	41.1%	0.1x
EverCommerce	EVCM	\$9.58	\$1,808	\$2,261	3.3x	2.9x	15.5x	13.3x	22.4x	19.9x	11.7%	11.7%	21.2%	22.1%	1.3x
Bread Financial	BFH	\$27.03	\$1,333	\$2,176	0.5x	0.5x	NA	NA	2.4x	3.3x	10.6%	(0.9%)	NA	NA	0.0x
Deluxe	DLX	\$17.05	\$744	\$2,432	1.1x	1.1x	6.0x	5.9x	5.2x	5.2x	(0.4%)	0.0%	18.5%	18.8%	NM
BigCommerce	BIGC	\$8.89	\$667	\$721	2.3x	2.1x	NM	NM	NM	NM	9.7%	13.3%	NM	3.6%	NA
Paysafe	PSFE	\$9.72	\$599	\$2,998	1.9x	1.7x	6.5x	5.9x	NM	8.7x	7.7%	7.2%	28.6%	29.6%	NA
Repay	RPAY	\$5.99	\$545	\$909	3.2x	2.9x	7.2x	6.5x	7.2x	6.5x	3.6%	10.9%	43.7%	43.9%	2.9x
Cantaloupe	CTLP	\$6.58	\$478	\$472	1.8x	1.6x	14.5x	12.3x	39.9x	35.1x	14.0%	16.8%	12.7%	12.8%	NM
i3 Verticals	IIIV	\$18.75	\$436	\$927	2.4x	2.2x	9.1x	8.0x	12.0x	10.1x	14.5%	8.6%	26.9%	28.0%	2.6x
Payfare	TSX: PAY	\$3.03	\$145	\$107	0.8x	0.6x	6.8x	4.0x	15.6x	7.0x	40.7%	33.0%	11.4%	14.6%	NM
				Payments	_	_						_	_		
				Trim Mean	3.1x	2.6x	9.4x	9.1x	15.4x	12.8x	19.4%	15.6%	28.5%	25.9%	0.8x

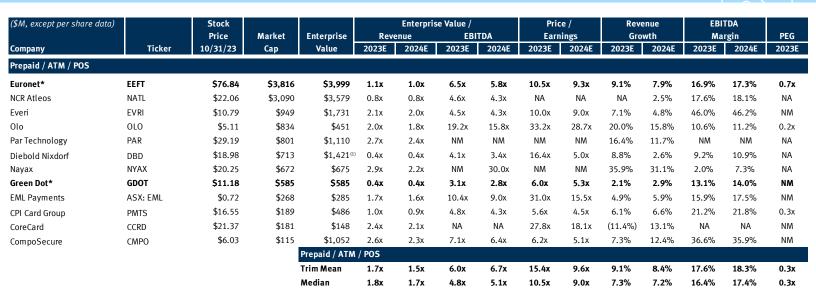
Median

Payments - Trading Metrics & Multiples (cont'd)

(\$M, except per share data)		Stock				Enterpris	se Value /		Pric	:e /	Rev	enue	EBI"	TDA	
		Price	Market	Enterprise	Reve	enue	EBI	TDA	Earr	ings	Gro	wth	Ma	rgin	PEG
Company	Ticker	10/31/23	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
B2B Payments															
FleetCor*	FLT	\$225.17	\$16,653	\$22,128	5.8x	5.4x	11.0x	9.9x	13.3x	11.7x	11.3%	8.1%	53.0%	54.2%	2.1x
Edenred	EPA: EDEN	\$53.08	\$13,230	\$15,326	5.8x	5.1x	13.5x	11.7x	25.2x	21.1x	24.5%	14.6%	42.9%	43.4%	1.5x
Bill.com	BILL	\$91.29	\$9,785	\$9,052	7.6x	6.3x	NM	47.9x	44.2x	44.3x	41.2%	21.4%	13.5%	13.1%	0.0x
WEX*	WEX	\$166.48	\$7,115	\$7,221	2.8x	2.6x	6.7x	5.8x	11.3x	10.1x	10.0%	8.5%	42.3%	45.2%	1.1x
Flywire	FLYW	\$26.89	\$3,245	\$2,918	7.7x	6.0x	NM	46.1x	NM	NM	42.6%	28.3%	9.6%	13.0%	NA
Payoneer	PAYO	\$5.79	\$2,080	\$1,526	1.8x	1.6x	9.1x	7.4x	24.8x	22.3x	35.0%	15.0%	20.2%	21.7%	NM
Paymentus	PAY	\$14.56	\$1,798	\$1,650	2.7x	2.2x	37.5x	28.1x	NM	NM	23.2%	21.8%	7.3%	8.0%	NA
AvidXchange Holdings Inc.	AVDX	\$8.64	\$1,747	\$1,458	3.9x	3.3x	NM	39.8x	NM	NM	17.4%	18.4%	2.1%	8.4%	NA
Expensify	EXFY	\$2.67	\$221	\$189	1.2x	1.1x	8.9x	7.7x	29.7x	15.0x	(7.3%)	3.4%	13.3%	14.9%	NM
				B2B Payments	;										
			'	Trim Mean	4.4x	3.7x	10.6x	21.5x	23.3x	17.5x	23.2%	15.4%	21.3%	22.8%	1.3x
				Median	3.9x	3.3x	10.0x	11.7x	25.0x	18.1x	23.2%	15.0%	13.5%	14.9%	1.3x

(\$M, except per share data)		Stock				Enterpris			Pric		_	enue	EBI		
		Price	Market	Enterprise	Rev	enue	EBI		Earn		Gro	wth		rgin	PEG
Company	Ticker	10/31/23	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Card Networks															
Visa*	v	\$235.10	\$475,507	\$477,540	14.4x	13.0x	21.0x	18.2x	26.3x	23.0x	11.1%	10.6%	68.5%	71.4%	1.7x
Mastercard*	MA	\$376.35	\$352,932	\$360,619	14.4x	12.8x	23.7x	20.8x	30.9x	26.4x	12.9%	12.4%	60.8%	61.5%	2.1x
American Express*	AXP	\$146.03	\$106,419	\$111,192	2.1x	1.8x	5.3x	4.7x	13.0x	11.8x	24.7%	14.9%	40.0%	38.8%	1.0x
				Card Networks	5										
				Trim Mean	14.4x	12.8x	21.0x	18.2x	26.3x	23.0x	12.9%	12.4%	60.8%	61.5%	1.7x
				Median	14.4x	12.8x	21.0x	18.2x	26.3x	23.0x	12.9%	12.4%	60.8%	61.5%	1.7x

Payments - Trading Metrics & Multiples (cont'd)



(\$M, except per share data)		Stock				Enterpris	e Value /		Pric	:e /	Rev	enue	EBI'	ΓDA	
		Price	Market	Enterprise	Rev	enue	EBI	TDA	Earn	ings	Gro	wth	Ma	rgin	PEG
Company	Ticker	10/31/23	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Money Transfer / X-Border Pa	ayments														
Wise	LSE: WISE	\$8.07	\$8,272	\$7,779	6.3x	4.6x	19.1x	15.7x	33.6x	27.4x	43.4%	34.6%	32.7%	29.6%	0.2x
Remitly Global	RELY	\$26.93	\$4,880	\$4,701	5.1x	4.0x	NM	NM	NM	NM	44.5%	26.4%	4.3%	6.2%	NA
Western Union*	WU	\$11.29	\$4,114	\$5,285	1.2x	1.3x	5.1x	5.1x	6.5x	6.7x	(3.0%)	(2.9%)	24.1%	24.6%	NM
Euronet*	EEFT	\$76.84	\$3,816	\$3,999	1.1x	1.0x	6.5x	5.8x	10.5x	9.3x	9.1%	7.9%	16.9%	17.3%	0.7x
Flywire	FLYW	\$26.89	\$3,245	\$2,918	7.7x	6.0x	NM	46.1x	NM	NM	42.6%	28.3%	9.6%	13.0%	NA
Payoneer	PAYO	\$5.79	\$2,080	\$1,526	1.8x	1.6x	9.1x	7.4x	24.8x	22.3x	35.0%	15.0%	20.2%	21.7%	NM
International Money Express	IMXI	\$15.96	\$565	\$639	1.0x	0.9x	5.5x	5.0x	8.4x	7.4x	20.2%	8.8%	17.8%	17.9%	1.1x
PayPoint	LON: PAY	\$6.48	\$466	\$561	2.8x	2.5x	6.4x	5.6x	9.0x	8.3x	36.1%	10.9%	44.0%	45.2%	0.9x
OFX Group	OFX	\$0.97	\$235	\$226	1.5x	1.4x	5.6x	5.2x	11.1x	10.4x	7.0%	6.1%	26.6%	26.9%	NM
				Money Transf	er / X-Bord	er Payment	ts								
			•	Trim Mean	2.8x	2.3x	6.6x	7.5x	12.8x	11.5x	27.6%	14.8%	21.1%	21.6%	0.8x
				Median	1.8x	1.6x	6.4x	5.7x	10.5x	9.3x	35.0%	10.9%	20.2%	21.7%	0.8x

Source: Factset, S&P Global Market Intelligence, Capital IQ, and public filings as of 10/31/2023

(1) Market Cap used as numerator for valuation metrics due to regulatory cash requirements in Green Dot's banking segment

Note: ("NM") indicates valuation multiples less than 0 or greater than 50

Note: ("\*") denotes KBW Nasdaq Financial Technology Index constituent companies

Note: ("#") denotes company entering the public markets through a pending DeSPAC transaction

Note: Companies in bold are currently under KBW/Stifel Equity Research coverage

Bank Tech - Trading Metrics & Multiples

(\$M, except per share data)		Stock				Enterpris	se Value /		Pric	:e /	Reve	enue	EBI'	TDA	
		Price	Market	Enterprise		enue	EBI		Earn		Gro			rgin	PEG
Company	Ticker	10/31/23	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Bank Tech															
Intuit	INTU	\$494.95	\$138,714	\$141,741	9.4x	8.4x	23.3x	21.1x	32.7x	28.9x	10.9%	12.5%	40.6%	39.8%	1.2x
ADP	ADP	\$218.22	\$89,841	\$92,068	5.0x	4.7x	17.9x	15.8x	25.4x	22.9x	7.6%	6.1%	27.7%	29.7%	1.7x
Fiserv*	FI	\$113.75	\$68,271	\$91,156	5.0x	4.7x	11.1x	10.4x	15.2x	13.3x	8.1%	7.8%	45.2%	44.7%	1.0x
FIS*	FIS	\$49.11	\$29,096	\$46,639	3.2x	3.1x	7.6x	7.2x	8.2x	7.7x	0.7%	2.7%	41.9%	42.9%	NM
Broadridge	BR	\$170.64	\$20,071	\$23,470	3.7x	3.5x	16.0x	14.7x	23.9x	21.6x	6.7%	6.4%	23.4%	24.0%	1.9x
SS&C	SSNC	\$50.25	\$12,466	\$19,155	3.5x	3.4x	9.1x	8.5x	10.9x	9.8x	3.8%	3.9%	38.4%	39.5%	NM
Fidelity	FNF	\$39.09	\$10,639	\$12,486	1.1x	1.0x	7.2x	5.1x	10.1x	8.0x	(11.8%)	6.0%	15.4%	20.6%	NM
Jack Henry*	JKHY	\$140.99	\$10,264	\$10,577	4.9x	4.6x	15.7x	14.6x	28.5x	26.3x	7.1%	6.7%	31.5%	31.7%	11.3x
Temenos	SWX:TEMN	\$71.60	\$5,155	\$5,899	6.0x	5.5x	14.8x	13.5x	22.9x	20.3x	3.7%	8.9%	40.2%	40.6%	2.0x
Clearwater	CWAN	\$18.08	\$3,637	\$3,522	9.6x	8.0x	35.1x	27.6x	NM	47.2x	21.2%	20.1%	27.5%	29.1%	NA
nCino	NCNO	\$28.10	\$3,173	\$3,142	6.6x	5.7x	NM	38.8x	NM	NM	18.2%	15.5%	12.8%	14.7%	NA
ACI Worldwide*	ACIW	\$20.37	\$2,212	\$3,198	2.2x	2.1x	8.2x	7.6x	12.1x	11.8x	3.9%	6.4%	26.7%	27.2%	NM
NCR Voyix	VYX	\$15.29	\$2,154	\$7,626	2.0x	2.0x	11.3x	11.0x	NA	NA	(51.2%)	1.5%	17.6%	17.8%	NA
Envestnet	ENV	\$37.00	\$2,018	\$2,982	2.4x	2.1x	11.7x	9.5x	17.5x	14.0x	0.6%	11.4%	20.3%	22.5%	1.3x
Q2	QTWO	\$30.03	\$1,755	\$2,023	3.2x	2.9x	27.7x	20.4x	36.9x	27.1x	9.8%	10.7%	11.7%	14.3%	0.2x
Alkami	ALKT	\$17.95	\$1,691	\$1,617	6.1x	4.9x	NM	NM	NM	NM	29.5%	24.7%	NM	5.3%	NA
MeridianLink	MLNK	\$16.42	\$1,337	\$1,655	5.4x	5.0x	15.7x	13.5x	NM	NM	6.6%	9.3%	34.7%	36.9%	NA
Open Lending	LPRO	\$5.99	\$723	\$649	4.5x	3.9x	8.7x	7.4x	17.0x	13.5x	(22.5%)	13.6%	51.7%	53.4%	NM
Blend Labs	BLND	\$1.21	\$298	\$307	1.9x	1.6x	NM	NM	NM	NM	(32.3%)	20.5%	NM	NM	NA
Moneylion	ML	\$19.24	\$196	\$311	0.7x	0.6x	9.9x	8.5x	NM	NM	30.0%	21.3%	7.3%	7.1%	NA
Dave <sup>#</sup>	DAVE	\$5.27	\$63	\$65	0.2x	0.1x	5.4x	2.2x	NA	NA	95.3%	41.4%	3.2%	5.4%	NA
				Bank Tech											
				Trim Mean	4.0x	3.6x	13.5x	12.7x	19.7x	18.1x	5.4%	11.3%	27.2%	27.1%	1.5x
				Median	3.7x	3.5x	11.5x	11.0x	17.5x	17.2x	6.7%	9.3%	27.5%	28.1%	1.5x

Exchanges - Trading Metrics & Multiples

(\$M, except per share data)		Stock				Enterpris	se Value /		Pric	:e /	Revo	enue	EBI.	TDA	
		Price	Market	Enterprise		enue	EBI <sup>*</sup>			ings		wth		rgin	PEG
Company	Ticker	10/31/23	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Exchanges & Market Structu	re														
CME Group*	CME	\$213.46	\$76,792	\$77,812	14.2x	13.6x	20.6x	19.7x	23.3x	22.7x	9.6%	4.3%	68.8%	68.9%	1.5x
Intercontinental Exchange*	ICE	\$107.44	\$60,199	\$75,737	9.5x	8.3x	14.4x	12.9x	19.3x	18.2x	9.2%	14.4%	66.0%	64.2%	4.0x
London Stock Exchange	LON: LSE	\$100.42	\$54,324	\$64,331	6.5x	6.1x	14.0x	12.8x	24.9x	22.2x	8.7%	6.6%	46.2%	47.4%	4.6x
Hong Kong Exch. & Clearing	HKXCY	\$35.14	\$44,473	\$15,019	5.7x	5.3x	7.7x	7.0x	28.7x	26.8x	14.0%	7.0%	73.9%	75.7%	1.3x
Deutsche Boerse	ETR: DB1	\$163.97	\$30,128	\$39,634	7.6x	7.0x	12.8x	12.1x	16.3x	15.4x	14.5%	8.4%	58.9%	57.6%	1.0x
Nasdaq*	NDAQ	\$49.60	\$24,369	\$28,884	7.7x	7.3x	14.0x	13.2x	17.8x	17.1x	4.1%	5.4%	55.2%	55.6%	4.2x
Tradeweb	TW-US	\$90.01	\$19,051	\$18,290	13.9x	12.3x	26.9x	23.3x	41.2x	35.5x	9.8%	12.6%	51.6%	53.0%	2.4x
Cboe*	CBOE	\$163.89	\$17,293	\$18,519	9.7x	9.2x	15.6x	15.0x	22.1x	21.0x	9.2%	5.9%	62.4%	61.5%	3.0x
B3	BVMF: B3SA3	\$2.20	\$12,525	\$12,050	6.7x	6.0x	9.3x	8.3x	13.7x	12.3x	4.6%	11.4%	72.1%	72.7%	2.1x
Japan Exchange Group	TY0: 8697	\$19.56	\$10,179	\$9,848	10.3x	9.9x	15.9x	15.2x	27.4x	27.4x	(7.5%)	4.2%	65.0%	64.9%	6.0x
MarketAxess*	MKTX-US	\$213.75	\$8,102	\$7,666	10.3x	9.1x	19.8x	17.2x	32.4x	28.3x	3.9%	12.9%	51.7%	52.7%	NM
Euronext	ERNXY-US	\$69.52	\$7,397	\$9,464	6.0x	5.7x	10.6x	9.6x	12.4x	11.3x	1.5%	5.8%	56.9%	59.6%	7.8x
Singapore Exchange	SGX: S68	\$6.91	\$7,395	\$7,145	7.8x	7.5x	13.7x	13.1x	19.6x	18.9x	7.2%	3.6%	56.5%	57.1%	2.2x
ASX Limited	ASX: ASX	\$35.52	\$6,876	\$5,694	8.7x	8.4x	13.6x	13.3x	22.4x	21.5x	(6.7%)	4.2%	64.1%	62.8%	NM
TMX Group	TSE: X	\$20.79	\$5,780	\$42,778	49.8x	47.2x	NM	NM	19.6x	18.3x	3.9%	5.5%	54.5%	55.6%	15.3x
				Exchanges & I	Market Str	ucture									
				Trim Mean	9.1x	8.5x	14.5x	13.5x	22.1x	20.8x	6.1%	7.3%	60.3%	60.5%	3.5x
				Median	8.7x	8.3x	14.0x	13.2x	22.1x	21.0x	7.2%	5.9%	58.9%	59.6%	3.0x

E-Brokers & Trading Platforms – Trading Metrics & Multiples

(\$M, except per share data)		Stock				Equity	Value /		Pric	:e /	Reve	nue	EBI"	TDA	
		Price	Market	Enterprise	Rev	enue	E	BT .	Earr	ings	Gro	wth	Ma	rgin	PEG
Company	Ticker	10/31/23	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
E-Brokers & Trading Platforn	ns														
Charles Schwab	SCHW	\$52.04	\$94,771	\$94,771 <sup>(1)</sup>	5.0x	4.5x	11.9x	9.8x	16.4x	13.4x	(8.7%)	9.3%	41.8%	46.4%	NM
Interactive Brokers Group	IBKR	\$80.07	\$33,916	\$34,497	7.8x	7.2x	11.0x	10.3x	13.9x	12.8x	36.9%	8.4%	70.8%	69.5%	0.3x
Robinhood	HOOD	\$9.14	\$8,330	\$2,416	4.4x	3.9x	NA	NA	NM	NM	38.0%	13.2%	NA	NA	NA
IG Group	LSE: IGG	\$7.74	\$3,006	\$2,395	2.5x	2.4x	4.9x	4.7x	6.6x	6.1x	(0.2%)	6.4%	51.4%	50.5%	NM
BGC Partners	NASDAQGS:BGC	\$5.87	\$2,289	\$3,801	1.2x	1.1x	5.3x	4.7x	7.3x	6.5x	11.3%	9.0%	21.7%	22.6%	0.4x
StoneX Group, Inc.	SNEX	\$95.32	\$1,982	\$6,511	NA	NA	NA	NA	9.6x	9.1x	NA	NA	NA	NA	NM
Virtu*	VIRT	\$18.49	\$1,739	\$2,880	1.4x	1.3x	3.9x	3.5x	9.1x	7.9x	(16.7%)	6.9%	36.3%	38.2%	NM
Plus500	LSE: PLUS	\$17.11	\$1,370	\$751	2.2x	2.1x	4.7x	4.9x	6.3x	5.8x	(25.3%)	2.1%	46.1%	43.4%	NM
CMC Markets	LSE: CMCX	\$1.14	\$319	\$121	1.0x	0.9x	15.6x	8.3x	19.4x	10.9x	(8.0%)	13.3%	6.5%	10.7%	NM
				E-Brokers & Tr	ading Plat	forms									
				Trim Mean	2.8x	2.6x	7.6x	6.5x	10.5x	8.9x	2.4%	8.9%	39.4%	40.2%	0.4x
				Median	2.3x	2.3x	5.3x	4.9x	9.4x	8.5x	(4.1%)	8.7%	41.8%	43.4%	0.4x

Information & Analytics – Trading Metrics & Multiples

(\$M, except per share data)		Stock				Enterpris	e Value /		Pric	:e /	Reve	nue	EBI	TDA	
		Price	Market	Enterprise	Reve		EBI <sup>*</sup>			ings	Gro			rgin	PEG
Company	Ticker	10/31/23	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Information & Analytics															
S&P*	SPGI	\$349.31	\$111,150	\$125,353	10.1x	9.4x	21.5x	19.5x	28.0x	24.3x	5.2%	7.1%	47.1%	48.5%	2.3x
Moody's*	мсо	\$308.00	\$56,366	\$61,993	10.5x	9.5x	23.6x	20.6x	30.6x	27.5x	9.1%	9.8%	44.3%	46.1%	1.5x
MSCI*	MSCI	\$471.55	\$37,295	\$41,167	16.5x	14.7x	27.6x	24.8x	35.9x	32.3x	11.4%	12.1%	59.7%	59.2%	2.3x
Experian	LON: EXPN	\$30.21	\$27,509	\$31,518	4.6x	4.3x	13.2x	12.1x	21.6x	19.6x	5.1%	7.4%	34.9%	35.5%	3.0x
Fair Isaac*	FICO	\$845.87	\$21,026	\$22,835	14.7x	13.4x	28.3x	24.3x	40.9x	34.1x	10.9%	10.1%	52.1%	55.0%	2.5x
Equifax*	EFX	\$169.57	\$20,894	\$26,674	5.1x	4.6x	15.7x	13.4x	25.4x	20.8x	3.0%	9.2%	32.3%	34.6%	NM
FactSet*	FDS	\$431.89	\$16,407	\$17,786	8.4x	7.9x	22.1x	20.6x	29.5x	26.3x	9.9%	6.7%	37.9%	38.1%	4.8x
TransUnion*	TRU	\$43.88	\$8,500	\$13,661	3.6x	3.4x	10.3x	9.8x	13.4x	12.2x	2.5%	4.1%	34.9%	35.3%	NM
Dun & Bradstreet	DNB	\$8.76	\$3,848	\$7,220	3.1x	3.0x	8.1x	7.6x	8.9x	8.0x	3.2%	4.6%	38.6%	39.3%	NM
Clearwater Analytics Holdings	CWAN	\$18.08	\$3,637	\$3,522	9.6x	8.0x	35.1x	27.6x	NM	47.2x	21.2%	20.1%	27.5%	29.1%	NA
MarketWise	MKTW	\$2.17	\$710	\$710	1.6x	1.4x	15.1x	10.4x	22.7x	9.7x	(10.6%)	10.2%	10.6%	13.9%	NM
				Information &	Analytics										
			,	Trim Mean	7.7x	7.1x	19.7x	17.3x	25.9x	23.0x	6.7%	8.6%	38.8%	40.2%	2.5x
				Median	8.4x	7.9x	21.5x	19.5x	26.7x	24.3x	5.2%	9.2%	37.9%	38.1%	2.4x

Real Estate, Mortgage & Property Technology – Trading Metrics & Multiples

(\$M, except per share data)		Stock				Enterpris	se Value /		Pric	:e /	Rev	enue	EBI	TDA	
		Price	Market	Enterprise	Rev	enue	EBI	TDA	Earr	nings	Gro	wth	Ma	rgin	PEG
Company	Ticker	10/31/23	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Prop Tech															
Alarm.com Holdings	ALRM	\$51.13	\$2,552	\$2,482	2.8x	2.7x	19.3x	17.2x	30.3x	26.6x	4.9%	5.1%	14.7%	15.7%	NM
Agilysys	AGYS	\$85.79	\$2,149	\$2,106	9.2x	7.8x	NM	48.1x	NM	NM	19.9%	19.0%	13.9%	16.2%	NA
Angi	ANGI	\$1.61	\$815	\$1,002	0.7x	0.6x	9.6x	7.2x	NM	NM	(21.2%)	5.9%	7.0%	8.8%	NA
SmartRent	SMRT	\$2.41	\$483	\$286	1.2x	0.9x	NM	14.1x	NM	NM	38.6%	31.9%	NM	6.4%	NA
Latch	LTCH	\$0.92	\$160	(\$101)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Porch Group	PRCH	\$0.56	\$55	\$198	0.6x	0.5x	NM	48.1x	NM	NM	25.0%	12.0%	NM	1.1%	NA
				Prop Tech											
				Trim Mean	1.6x	1.4x	14.4x	26.4x	30.3x	26.6x	16.6%	12.3%	13.9%	10.3%	NA
				Median	1.2x	0.9x	14.4x	17.2x	30.3x	26.6x	19.9%	12.0%	13.9%	8.8%	NA
(\$M, except per share data)		Stock				Enterpris	se Value /		Pric	:e /	Rev	enue	EBI1	TDA	
		Price	Market	Enterprise		enue	EBI			ings		wth		rgin	PEG
Company	Ticker	1/0/00	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Software / Data & Analytics															
Autodesk	ADSK	\$197.63	\$42,246	\$42,619	7.8x	7.1x	20.9x	18.4x	26.5x	23.3x	8.8%	11.1%	37.5%	38.3%	2.0x

Company	Ticker	1/0/00	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Software / Data & Analytic	:s														
Autodesk	ADSK	\$197.63	\$42,246	\$42,619	7.8x	7.1x	20.9x	18.4x	26.5x	23.3x	8.8%	11.1%	37.5%	38.3%	2.0x
CoStar*	CSGP	\$73.41	\$29,978	\$25,852	10.6x	9.3x	NM	44.3x	NM	NM	12.5%	13.7%	19.7%	21.0%	NA
Trimble	TRMB	\$47.13	\$11,703	\$14,767	3.8x	3.7x	14.7x	14.0x	17.9x	16.5x	3.9%	3.5%	26.1%	26.6%	NM
AppFolio	APPF	\$187.57	\$6,708	\$6,561	10.7x	8.6x	NM	38.9x	NM	NM	31.3%	24.8%	14.9%	22.1%	NA
Alarm.com	ALRM	\$51.13	\$2,552	\$2,482	2.8x	2.7x	19.3x	17.2x	30.3x	26.6x	4.9%	5.1%	14.7%	15.7%	NM
Agilysys	AGYS	\$85.79	\$2,149	\$2,106	9.2x	7.8x	NM	48.1x	NM	NM	19.9%	19.0%	13.9%	16.2%	NA
Altus Group	TSX:AIF	\$33.91	\$1,541	\$1,789	3.1x	2.8x	16.9x	13.4x	25.2x	18.2x	5.2%	10.7%	18.5%	21.0%	NM
MeridianLink	MLNK	\$16.42	\$1,337	\$1,655	5.4x	5.0x	15.7x	13.5x	NM	NM	6.6%	9.3%	34.7%	36.9%	NA
Matterport	MTTR	\$2.04	\$615	\$170	1.1x	0.9x	NM	NM	NM	NM	16.2%	14.8%	NM	NM	NA
Blend Labs	BLND	\$1.21	\$298	\$307	1.9x	1.6x	NM	NM	NM	NM	(32.3%)	20.5%	NM	NM	NA
Real Matters	TSX:REAL	\$3.52	\$257	\$221	1.3x	1.0x	NM	20.7x	NM	39.9x	(38.5%)	35.8%	0.4%	4.6%	NA
				Software / Da	ta & Analy	tics									
				Trim Mean	5.1x	4.5x	17.3x	23.8x	25.8x	22.7x	5.1%	14.3%	20.3%	22.8%	2.0x
				Median	3.8x	3.7x	16.9x	18.4x	25.8x	23.3x	6.6%	13.7%	18.5%	21.0%	2.0x

Source: Factset, S&P Global Market Intelligence, Capital IQ, and public filings as of 10/31/2023

Note: ("NM") indicates valuation multiples less than 0 or greater than 50

Note: ("\*") denotes KBW Nasdaq Financial Technology Index constituent companies

Note: ("#") denotes company entering the public markets through a pending DeSPAC transaction

Note: Companies in bold are currently under KBW/Stifel Equity Research coverage

Real Estate, Mortgage & Property Technology – Trading Metrics & Multiples (cont'd)

(\$M, except per share data)		Stock				Enterpris	se Value /		Pric		Reve	enue	EBI	TDA	
		Price	Market	Enterprise		enue	EBIT		Earn		Gro			rgin	PEG
Company	Ticker	1/0/00	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Marketplaces															
Airbnb	ABNB	\$118.29	\$75,479	\$67,463	6.9x	6.1x	19.5x	16.9x	30.6x	27.5x	18.5%	12.7%	35.2%	35.9%	0.6x
CoStar*	CSGP	\$73.41	\$29,978	\$25,852	10.6x	9.3x	NM	44.3x	NM	NM	12.5%	13.7%	19.7%	21.0%	NA
REA Group	ASX:REA	\$90.94	\$12,015	\$12,111	14.7x	12.7x	26.7x	22.1x	46.4x	37.3x	3.2%	15.4%	55.1%	57.7%	NM
Zillow	ZG	\$35.53	\$8,395	\$6,967	3.6x	3.3x	18.5x	13.5x	30.6x	22.2x	(69.0%)	11.6%	19.7%	24.3%	NM
Rightmove	LSE:RMV	\$5.74	\$4,621	\$4,578	10.5x	9.7x	14.2x	13.5x	19.2x	17.9x	9.4%	7.9%	73.8%	72.1%	4.5x
Scout24	XTRA:G24	\$61.30	\$4,542	\$4,779	8.9x	7.8x	15.2x	13.1x	24.1x	20.9x	13.1%	13.2%	58.4%	59.6%	0.7x
Domain Holdings	ASX:DHG	\$2.14	\$1,349	\$1,486	6.5x	5.6x	18.8x	15.3x	43.7x	34.3x	(8.5%)	16.8%	34.9%	36.6%	NM
Opendoor Technologies Inc.	OPEN	\$1.90	\$1,252	\$3,113	0.4x	0.4x	NM	NM	NM	NM	(52.5%)	1.0%	NM	NM	NA
PropertyGuru Group	PGRU	\$3.64	\$651	\$435	3.7x	3.1x	44.7x	16.5x	NM	NM	15.7%	21.3%	8.3%	18.6%	NA
Redfin	RDFN	\$4.66	\$531	\$1,484	1.3x	1.3x	NM	NM	NM	NM	(50.9%)	1.3%	NM	2.5%	NA
Better <sup>#</sup>	BETR	\$0.47	\$351	\$1,293	0.5x	0.3x	1.8x	0.7x	0.8x	0.3x	NA	90.0%	26.5%	36.2%	0.0x
Offerpad	OPAD	\$7.95	\$216	\$297	0.2x	0.1x	NM	NM	NM	NM	(61.6%)	43.7%	NM	NM	NA
LendingTree	TREE	\$13.23	\$172	\$707	1.0x	1.0x	9.3x	7.9x	6.8x	6.6x	(31.8%)	7.8%	11.3%	12.2%	0.0x
Altisource	ASPS	\$3.76	\$100	\$279	1.9x	1.5x	NM	20.7x	NM	NM	(1.5%)	25.5%	0.2%	7.4%	NA
Vacasa	VCSA	\$7.65	\$94	\$118	0.1x	0.1x	14.4x	5.0x	NM	NM	(6.8%)	3.7%	0.8%	2.1%	NA
				Marketplaces											
			'	Trim Mean	4.3x	3.8x	17.1x	14.5x	25.8x	21.6x	(13.3%)	14.9%	27.0%	28.4%	0.4x
				Median	3.6x	3.1x	16.8x	14.4x	27.3x	21.6x	(4.1%)	13.2%	23.1%	24.3%	0.6x

Investment Management Tech – Trading Metrics & Multiples

(\$M, except per share data)		Stock				Enterpri	se Value /		Pric	:e /	Reve	enue	EBI	TDA	
		Price	Market	Enterprise	Rev	enue	EBI	TDA	Earr	ings	Gro	wth	Ma	rgin	PEG
Company	Ticker	10/31/23	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Investment Management Te	:h														
Broadridge*	BR	\$170.64	\$20,071	\$23,470	3.7x	3.5x	16.0x	14.7x	23.9x	21.6x	6.7%	6.4%	23.4%	24.0%	1.9x
SS&C*	SSNC	\$50.25	\$12,466	\$19,155	3.5x	3.4x	9.1x	8.5x	10.9x	9.8x	3.8%	3.9%	38.4%	39.5%	NM
Computershare	ASX: CPU	\$15.69	\$9,441	\$11,208	3.4x	3.8x	8.6x	9.2x	13.1x	13.2x	11.5%	(9.3%)	40.0%	41.1%	0.3x
SEI*	SEIC	\$53.66	\$7,061	\$6,199	3.2x	3.2x	12.0x	11.6x	15.4x	14.5x	(3.9%)	1.1%	26.9%	27.7%	NM
Envestnet*	ENV	\$37.00	\$2,018	\$2,982	2.4x	2.1x	11.7x	9.5x	17.5x	14.0x	0.6%	11.4%	20.3%	22.5%	1.3x
AssetMark	AMK	\$23.91	\$1,776	\$1,712	3.1x	2.9x	7.0x	6.4x	10.7x	10.0x	21.4%	7.1%	44.8%	45.2%	0.4x
Avantax	AVTA	\$25.81	\$950	\$1,152	1.5x	1.4x	9.3x	8.6x	21.0x	18.8x	(17.5%)	8.5%	16.5%	16.3%	NM
IRESS	ASX: IRE	\$3.16	\$579	\$860	2.2x	2.1x	11.4x	10.2x	20.2x	15.9x	(4.9%)	0.8%	18.8%	20.9%	NM
First Derivatives	AIM: FDP	\$10.42	\$293	\$324	0.9x	0.8x	8.3x	7.4x	26.4x	19.7x	6.3%	8.3%	10.7%	11.1%	43.9x
				Investment Ma	anagement	Tech									
			'	Trim Mean	2.8x	2.7x	10.1x	9.3x	17.4x	15.1x	2.9%	5.2%	26.3%	27.4%	1.2x
				Median	3.1x	2.9x	9.3x	9.2x	17.5x	14.5x	3.8%	6.4%	23.4%	24.0%	1.3x

Lending Tech - Trading Metrics & Multiples

(\$M, except per share data)		Stock			Enterprise Value /			Price /		Revenue		EBITDA			
		Price	Market	Enterprise	Rev	enue	EBITDA		Earnings		Growth		Margin		PEG
Company	Ticker	10/31/23	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Marketplace Lenders															
Affirm	AFRM	\$17.61	\$5,302	\$9,764	5.5x	4.5x	NM	NM	NM	NM	18.6%	22.2%	NM	NM	NA
Upstart	UPST	\$24.03	\$2,016	\$2,599	4.9x	3.5x	NM	32.1x	NM	42.9x	(35.9%)	39.7%	NM	10.9%	NA
FinVolution	FINV	\$4.73	\$1,325	\$234	0.1x	0.1x	0.6x	0.5x	4.0x	3.4x	8.5%	14.8%	21.2%	22.3%	3.2x
Pagaya Technologies	PGY	\$1.27	\$902	\$1,207	1.5x	1.2x	26.4x	12.5x	NM	14.7x	11.0%	23.3%	5.7%	9.8%	NA
Open Lending	LPRO	\$5.99	\$723	\$649	4.5x	3.9x	4.5x	3.9x	17.0x	13.5x	(22.5%)	13.6%	100.0%	100.0%	NM
Qudian	QD	\$1.68	\$378	(\$833)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Opportunity Financial	OPFI	\$2.23	\$245	\$491	1.0x	0.8x	1.0x	0.8x	5.7x	4.5x	15.4%	15.9%	100.0%	100.0%	NM
LendingTree*	TREE	\$13.23	\$172	\$707	1.0x	1.0x	9.3x	7.9x	6.8x	6.6x	(31.8%)	7.8%	11.3%	12.2%	0.0x
Katapult	KPLT	\$10.10	\$41	\$90	0.4x	0.3x	NM	NM	NM	NM	3.5%	21.1%	NM	0.5%	NA
				Marketplace Lenders											
				Trim Mean	2.2x	1.8x	4.9x	6.3x	6.3x	9.8x	(2.7%)	18.5%	44.2%	31.1%	NA
				Median	1.3x	1.1x	4.5x	5.9x	6.3x	10.1x	6.0%	18.5%	21.2%	12.2%	1.6x

(\$M, except per share data)		Stock		Price /		Price /		Price /		Revenue		LTM		
		Price	Market	Net Re			ings	(Tang.) Bo		Gro			on Avg.	PEG
Company	Ticker	10/31/23	Сар	2023E	2024E	2023E	2024E	MRQ BV	MRQ TBV	2023E	2024E	Assets	Equity	2023E
Balance Sheet Lenders														
SoFi	SOFI	\$7.55	\$7,173	3.5x	2.8x	NM	NM	1.4x	2.2x	110.7%	25.1%	NM	NM	NA
OneMain	OMF	\$35.93	\$4,308	1.0x	1.0x	6.6x	5.1x	1.4x	3.1x	2.2%	5.4%	2.8%	21.5%	NM
Navient Corp	NAVI	\$15.91	\$1,871	2.0x	NA	5.3x	5.7x	0.6x	0.8x	(8.0%)	NA	0.5%	12.3%	NM
Enova	ENVA	\$39.88	\$1,191	0.6x	0.5x	5.9x	5.0x	0.9x	1.2x	22.2%	14.0%	5.0%	15.9%	NM
World Acceptance Corp.	WRLD	\$98.62	\$570	1.0x	1.0x	12.3x	9.4x	1.4x	1.5x	(9.3%)	(3.2%)	4.8%	14.6%	0.0x
LendingClub*	LC	\$5.19	\$569	0.7x	NA	22.6x	17.3x	0.5x	0.5x	(27.5%)	NA	0.7%	4.5%	NM
Oportun	OPRT	\$5.85	\$199	0.2x	0.2x	NM	2.9x	0.4x	0.6x	10.6%	3.5%	NM	NM	NA
Finance of America	FOA	\$1.04	\$91	0.2x	NA	NM	4.2x	0.4x	NM	(73.0%)	NA	NM	NM	NA
CURO	CURO	\$0.75	\$31	0.0x	0.0x	NM	NM	NM	NM	(22.6%)	(6.6%)	NM	NM	NA
Elevate	ELVT	\$0.07	\$8	NA	NA	NA	NA	0.2x	0.2x	NA	NA	NM	NM	NA
			Balance Sheet Lenders											
			Trim Mean	0.8x	0.7x	8.3x	5.9x	0.8x	1.2x	(4.6%)	4.9%	2.8%	14.3%	NM
			Median	0.7x	0.7x	6.6x	5.1x	0.6x	1.0x	(8.0%)	4.5%	2.8%	14.6%	0.0x

Source: Factset, S&P Global Market Intelligence, Capital IQ, and public filings as of 10/31/2023

Note: ("NM") indicates valuation multiples less than 0 or greater than 50

Note: ("\*") denotes KBW Nasdaq Financial Technology Index constituent companies

Note: ("#") denotes company entering the public markets through a pending DeSPAC transaction

Note: Companies in bold are currently under KBW/Stifel Equity Research coverage

Digital Assets - Trading Metrics & Multiples

(\$M, except per share data)		Stock			Enterprise Value /				Price /		Revenue		EBITDA		
		Price	Market	Enterprise		enue	EBI			ings		wth	Ma		PEG
Company	Ticker	10/31/23	Сар	Value	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E	2024E	2023E
Crypto															
Coinbase Global, Inc.	COIN	\$77.12	\$18,291	\$16,624	6.0x	5.6x	23.5x	25.2x	NM	NM	(11.5%)	6.4%	25.4%	22.2%	NA
Swissquote Group Holding	SWX:SQN	\$191.94	\$2,856	NM	NA	NA	NA	NA	11.2x	9.7x	34.4%	10.4%	54.9%	57.2%	0.2x
Galaxy Digital	GLXY-CA	\$4.54	\$1,465	\$674	2.1x	NA	2.7x	NA	NM	NA	(34.4%)	NA	79.0%	NA	NM
Northern Data AG	DB: NB2	\$29.42	\$848	\$705	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM
Cipher Mining	CIFR	\$3.33	\$836	\$863	NM	2.5x	NM	3.6x	NA	NA	NA	5733.3%	NM	67.7%	NM
GB Group Plc	AIM: GBG	\$2.90	\$732	\$861	2.6x	2.4x	11.1x	10.2x	16.4x	14.1x	3.6%	7.1%	23.0%	23.3%	NM
Hut 8 Mining Corp.	TSX: HUT	\$2.16	\$479	\$506	8.4x	7.6x	NM	NM	10.5x	NM	(46.6%)	9.2%	NM	NM	NM
CompoSecure#	CMPO-US	\$6.05	\$476	\$817	2.3x	1.7x	7.8x	5.1x	NA	NA	24.5%	37.6%	29.5%	32.7%	NM
Bitfarms LTd.	BITF	\$1.06	\$295	\$296	2.1x	1.8x	9.5x	4.6x	NM	NM	(2.2%)	20.6%	22.5%	38.3%	NM
Bakkt	BKKT	\$1.01	\$271	\$198	0.9x	0.6x	NM	NM	NA	NA	307.3%	59.4%	NM	NM	NM
Hive Blockchain Tech	TSXV: HIVE	\$3.06	\$265	\$292	3.0x	NA	11.2x	NA	NM	NA	(31.1%)	NA	27.2%	NA	NM
Argo Blockchain	LSE: ARB	\$0.11	\$61	\$122	2.4x	2.5x	14.4x	24.0x	NM	NM	(24.4%)	(3.7%)	16.4%	10.2%	NM
Ideanomics, Inc.	IDEX	\$2.22	\$27	\$71	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM
DigitalX Limited	ASX: DCC	\$0.03	\$19	\$23	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NM
				Crypto	to										
				Trim Mean	2.9x	2.7x	10.8x	11.0x	11.2x	NA	(5.2%)	21.5%	30.4%	34.7%	0.2x
				Median	2.4x	2.4x	11.1x	7.7x	11.2x	11.9x	(6.9%)	10.4%	26.3%	32.7%	0.2x



## The Force Driving Financial Services Forward

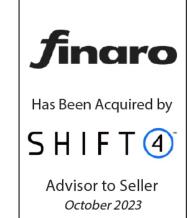
Innovative investment banking solutions since 1962.

October 26th, 2023

## Shift4 has completed the Acquisition of Finaro KBW served as the financial advisor to Finaro



- Global Expansion: Expands Shift4's total addressable market both in terms of geographic coverage and industry verticals
- Technology Platform: Finaro will provide the global infrastructure and technology needed to drive Shift4's international expansion into Europe and beyond
- Cross-sell Opportunity: The acquisition will enhance Shift4's cross-border ecommerce capabilities to deliver a unified global payments platform for merchants and partners around the world
- Partnership: The combined organization offers a unified commerce experience that can compete with the biggest payments companies in the world





 Finaro, a cross-border ecommerce payments provider and fully licensed bank with a large European presence ——— S H I F T ④ –

Shift4, a global leader in integrated payments and commerce technology



KEEFE, BRUYETTE & WOODS

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We provide M&A and divestiture, general & strategic, and special committee advisory services. Our core services also include secondary, follow-on, and private placement equity offerings, as well as public and private debt offerings, hybrid security offerings, and IPOs.

With extensive advisory and capital raising experience in the FinTech and Financial Services industries, we bring unique and nuanced insight to our diversified client base. Our teams in North America and Europe consist of over 50 adept professionals working closely together to provide global reach for our clients. All assignments are staffed with senior bankers who serve as truly independent advisors to our clients.

#### **Highlights**

- The Premier Boutique Investment Bank with a global presence
- Deep Understanding of the Financial Technology Ecosystem
- Top Growth-Focused Franchise in Financial Services and Technology
- Prominent Private Capital Raise Business
- Leading Equity Capital Markets Platform

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