



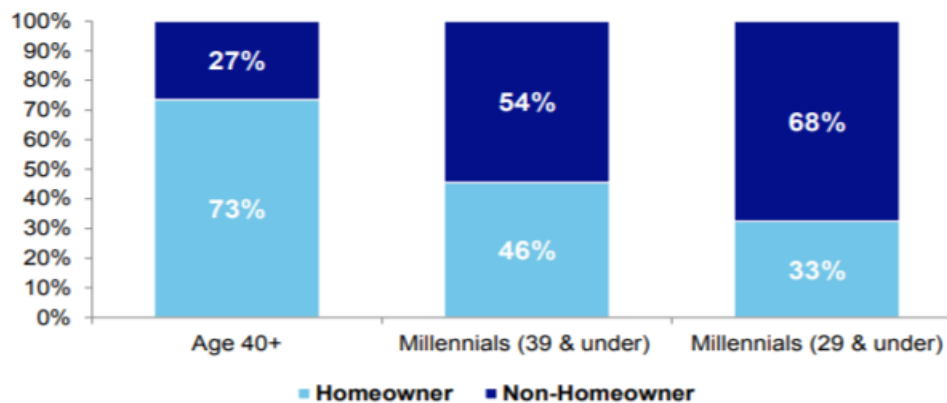
Thematic Research

Fintech Growth Theme: Real Estate Digitalization

Focus Companies: Zillow (Z), Redfin (RDFN), KE Holding (BEKE), CoStar Group (CSGP), RealPage (RP), CoreLogic (CLGX), AppFolio (APPF), Angie's HomeServices (ANGI), eXp World (EXPI), Fathom (FTHM), LendingTree (TREE), Rocket Companies (RKT), Opendoor (IPOB), Black Knight (BKI), First American Financial (FAF), Equifax (EFX)

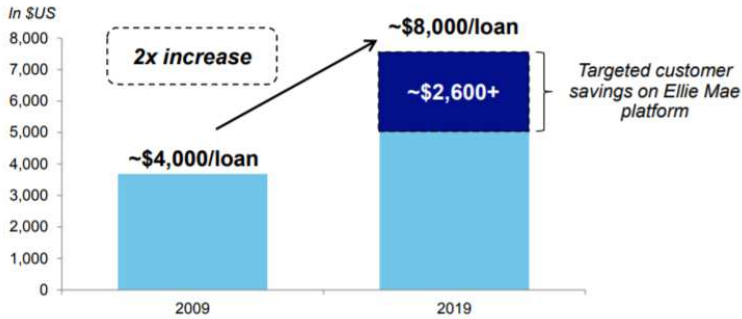
Sub-Themes: Digital Mortgage, Mortgage Servicing Modernization, Digital Lending, Cloud Real Estate Brokerages, Mortgage Workflow Automation, Property Data & Analytics, iBuyer

The digital transformation theme is taking every industry by storm and it is no different in the massive real estate industry. Whether it be home we find a home, purchase a home, lending, or take care of a home, technology is changing the industry rapidly. The real estate industry is also benefitting from tailwinds such as low mortgage rates and pent-up housing demand fueling a strong backdrop for the digital players in this industry. Millennials are hitting their peak buying power years and home ownership rates remain low driving a strong housing cycle with pent-up demand.



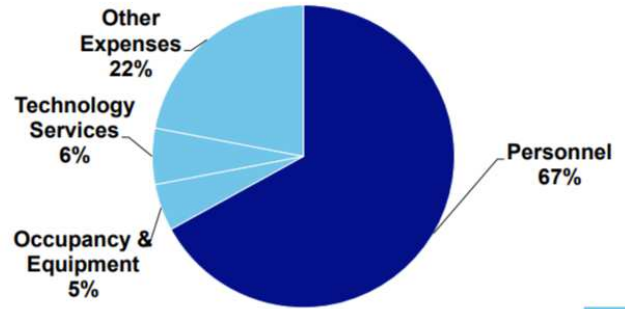
The process of buying a new house can be intimidating with separate service providers for real estate agents, inspections, lending, appraisals, titles, escrow, insurance and movers. There are opportunities across each of these phases of the real estate transaction for digital disruption and consumer demand digital experiences to simplify the process and save on costs. Lenders and Servicers have become increasingly focused on automation and workflow management to operate more efficiently and meet their regulatory requirements as well as using technology to enhance the consumer experience during the mortgage loan origination and closing process. U.S. mortgage loan market participants work to minimize the risk in lending, servicing and capital markets, they rely on the integration of data and analytics with solutions that enhance the decision-making process. The cloud-based real estate brokerage is a cloud-based technology with paperless platform. This allow agents and brokers to run and operate their business entirely online. Real Estate data & analytics in both residential and commercial is accelerating the decision-making process and providing for more informed decisions. Cloud property management software is becoming increasingly popular as it offers several benefits including scalability, greater accessibility, better security, and cost savings.

Loan Origination Costs Rising



Source: Mortgage Bankers Association, Ellie Mae and ICE Mortgage Services estimates

Existing Industry Costs are Largely Personnel-Related

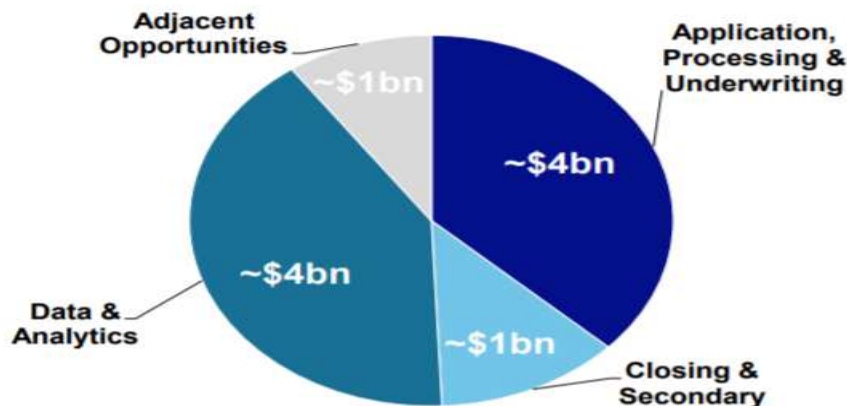


INTERCONTINENTAL EXCHANGE | 11



Large and growing markets include the \$44B mortgage originations market, \$35B escrow market, \$45B property management services market, \$99B home insurance market, \$2.5B home warranty market, \$355B home renovation market and \$18B moving services market. (Figures from IBISWorld in 2019). ANGI estimates the home services market at \$500B with less than 20% of projects fulfilled online. CoStar (CSGP) is a leader in commercial real estate information and analysis, a vast industry, and has been making multiple strategic acquisitions to solidify its leadership. Black Knight (BKI) is a leading provider of software and data analytics solutions for the mortgage and consumer loan markets. First American (FAF) is a title insurance leader that is leveraging data to expand coverage of property data, achieve title automation, and meet the growing data needs for its customers. RealPage (RP) estimates the total addressable market for our its portfolio of data analytics and on demand software solutions is approximately \$18.9B across approximately 64.6 million units while the HOA market another \$1.8B and global vacation rentals market \$130B. The penetration across these industries remains in the very early stages, the \$1.6 trillion existing home sales market is less than one percent penetrated. There are an estimated 1.4M real estate professions in the US and 89% of sellers utilize an agent in this highly fragmented industry. Workflow automation and productivity digital addressable markets are a compelling growth opportunity, broken down below:

~\$10 billion Total Addressable Market

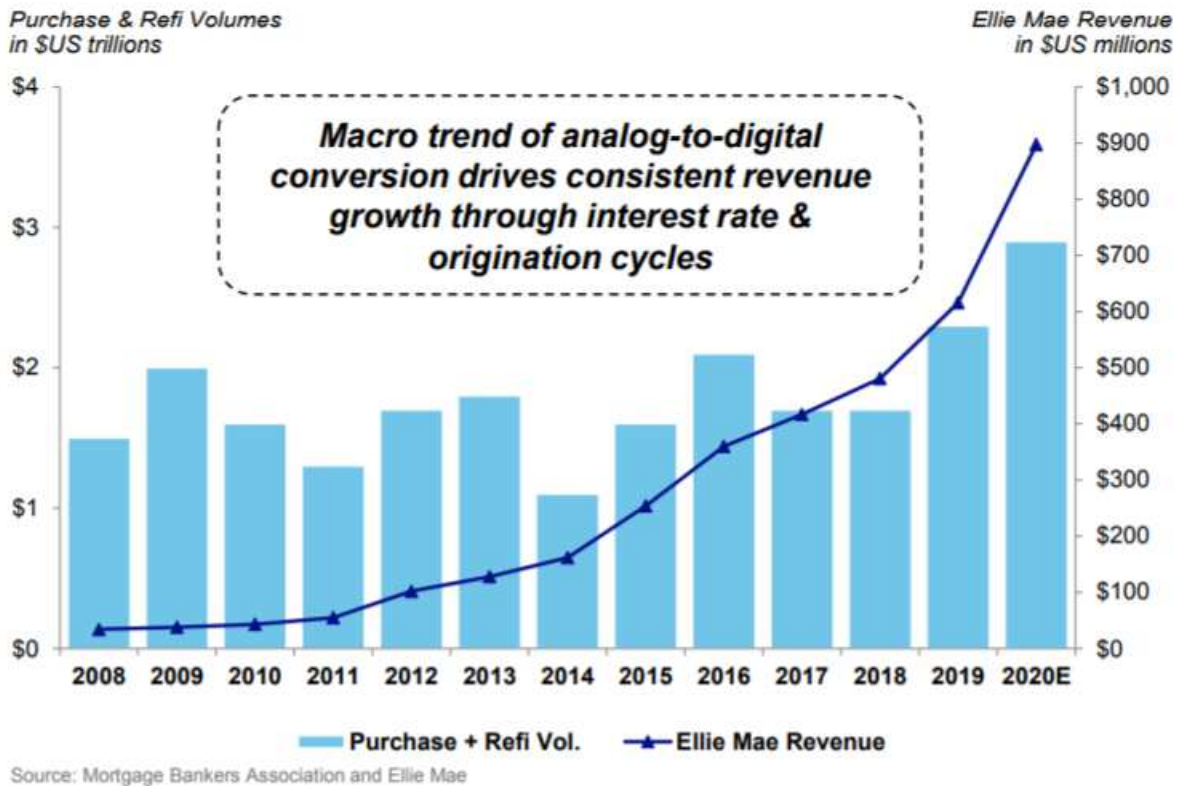


Consolidation is another theme in this group, multiple companies vying to acquire CoreLogic (CLGX) and Intercontinental Exchange (ICE) bought Ellie Mae, a leader in mortgage software solutions, for \$11B in August. There is also some scarcity value in this theme with a limited number of investable names. It is likely we see more companies coming public such as Sagent Lending Technologies who is leading the way to modernization of mortgage servicing.

On the ICE/Elle Mae M&A conference call there were some excellent notes:

“The U.S. mortgage workflow is in the early stages of an analog-to-digital conversion. Today, the fragmented and largely paper-based mortgage transaction involves around 100 steps, thousands of pages of documents and can take nearly 2 months to complete. When combined with our existing network at ICE Mortgage Services, our combination with Elle Mae will firmly establish ICE as an industry leader within a large and growing addressable market and one that is desperately seeking efficiency gains.”

“We think that there's a total addressable market that is roughly \$10 billion in size as customers seek efficient ways to navigate both rising compliance costs and growing origination backlogs as evidenced by the mounting number of refinancing candidates as well as a shift towards greater millennial generation homeownership.”

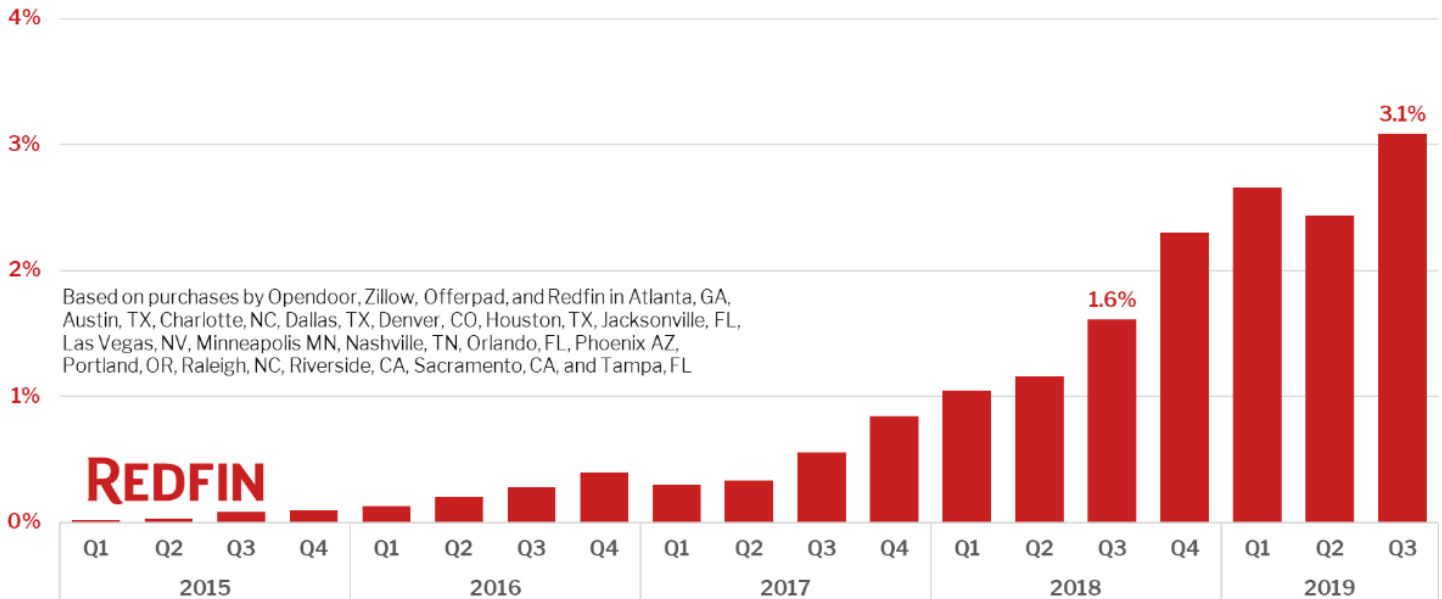


Rocket (RKT) is a recent IPO that is a good example of the digital shift, an online provider of mortgages that has grown its market share to 8% in 1H20 from 1% in 2009 in the massive originations market. Its digital-first approach resonates with Millennials and the tech-centric approach is efficient and highly scalable. The mortgage origination market has been rapidly shifting away from large Banks and to smaller and independent providers.

Opendoor has come public via a SPAC with Social Capital (IPOB) and outlines the large undisrupted market opportunity in changing the way we buy & sell homes. The iBuyer market saw strong momentum in 2019 before the pandemic and the opportunity remains immense for this massive market as homeowners seek a hassle-free way to sell their homes. An iBuyer is a company that uses technology to make an offer on your home instantly. iBuyers represent a dramatic shift in the way people are buying and selling homes, offering in many cases, a simpler, more convenient alternative to a traditional home sale. Software is being used to enhance the valuation of homes process and do it instantly.

iBuyer Market Share Surpassed 3% Across 18 Biggest Markets in Q3

Share of iBuyer Purchases by Quarter
**preliminary Q3 figures*



As outlined above there are exciting opportunities across the large and growing real estate market where technology is in the early stages of disrupting multiple phases that span the home search, buying, and managing life cycle. The industry itself has multiple positive secular growth drivers and the technology innovators will grow at an even faster rate as penetration and adoption of digitalization increases. This is a strong trend that has a long runway for growth over the next decade as home ownership increases in the strongest growing demographics.

The group of focus companies are not all directly comparable as it spans from more traditional financial services companies to high growth tech-only companies, but below shows some of the stellar growth and profitability across the group.

Ticker	Company	Market Cap	Revenue CAGR (3 Year)	FY +1 Revenue	EBITDA Margin	ROIC	EV/FCF	FCF Margin
RKT	Rocket Companies, Inc.	41,594	35%	193%	30.91%	37.05%		(133.37%)
EXPI	eXp World Holdings Inc	3,397	66%	75%	1.29%	(71.93%)	32.7x	5.11%
FTHM	Fathom Holdings Inc.	290	41%	56%	(2.07%)	353.80%	(155.8x)	(1.35%)
BEKE	KE Holdings Inc.	69,517	44%	55%	4.80%	33.34%		(1.28%)
APPF	APPFOLIO INC	5,186	23%	22%	18.81%	31.24%	330.8x	3.83%
Z	ZILLOW GROUP, INC.		53%	20%	1.42%	(3.09%)		(25.48%)
CSGP	CoStar Group Inc	35,163	17%	18%	36.20%	17.53%	74.0x	29.40%
RP	RealPage Inc	6,645	14%	17%	28.51%	9.15%	25.2x	26.87%
EFX	EQUIFAX INC	20,879	6%	14%	33.58%	8.96%	49.8x	(2.45%)
RDFN	Redfin Corp	4,489	35%	12%	(5.41%)	(59.99%)	67.3x	(15.79%)
ANGI	ANGI Homeservices Inc.	5,778	13%	10%	15.25%	2.93%	36.6x	10.96%
FAF	First American Financial Corp	5,656	4%	9%	16.37%	13.30%	6.8x	13.00%
BKI	Black Knight Inc	14,572	8%	5%	49.56%	9.05%	58.7x	23.31%
CLGX	CORELOGIC, INC.	6,131	-2%	-8%	28.23%	9.07%	17.3x	13.20%
TREE	LendingTree, Inc.	3,543	12%	-19%	17.91%	20.26%	78.2x	11.19%