tech, bias, and
housing initiative

The Promise and Perils of Residential Proptech

Year 1 Research Summary Report

April 2023

TECHEQUITY COLLABORATIVE

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go to housing.techbias.org

TECHEQUITY COLLABORATIVE

At TechEquity Collaborative, our mission is to mobilize tech workers and companies to advance structural change that addresses economic inequity at its roots.

We do this in three ways:

Education

We create educational spaces in which the tech community can deepen their understanding of structural inequities, the history behind them, and the solutions we can enact together.

Public Policy

We advocate for public policy that addresses structural inequity in our economy. We work on issues that have a nexus with tech and the economy, with a focus on housing and workforce & labor.

Corporate Practice

We research, develop, and promote equitable corporate practices that build equity and opportunity in the broader economy.

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Key Takeaways

This paper summarizes our findings and identifies areas across Residential Proptech that must be addressed to reduce the risk of harm. We found:

- Many of these new models resemble familiar practices, but are different enough to leave questions about how our existing regulations and protections apply—if they do at all.
- The participation of venture capital in the space creates an incentive structure that pressures Residential Proptech companies to sacrifice what's in the best interest of renters and potential homeowners in order to provide maximum returns to investors.
- While they didn't cause the housing shortage, many Residential Proptech companies are capitalizing on an increasingly desperate customer base that is being squeezed by low supply and high housing prices.
- Though they are frequently marketed as a way to increase efficiency and access, particularly for people of color, low-income people, and others historically excluded from housing opportunities, there is little transparency into the impact such products have for those groups, or on the market writ large.
- **Recommendations:** Our initial findings underscore the need for more transparency regarding how the companies operate and the impact they have—both for those who engage with their products and on our communities overall.
    - In order to ensure that Proptech can play a role in fixing a broken system and ensuring that all residents have housing, we need to understand Residential Proptech's potential harms, enact regulatory frameworks that protect consumers, and adopt ethical corporate practices.

Introduction

Whether you're trying to find an affordable apartment or buy or sell a home, technology is behind an increasing number of today's housing decisions.[1] [2] As the "Residential Proptech" sector, as it is known, grows, it has promised to dramatically decrease the cost of producing new housing, expand ownership opportunities to marginalized communities, and streamline the tenant/landlord relationship. According to its proponents, Residential Proptech will make housing more accessible and affordable, and eliminate much of the discrimination that America's housing system is known for.

But Residential Proptech also has the potential to exacerbate the bias inherent in our housing system. Its rise is due, in part, to the desperation felt by average home seekers. With a severely constrained housing supply, companies offering an easier pathway to homeownership may exploit communities that have been harmed by housing discrimination in the past. Opaque algorithms incorporate biased data into their decision-making processes, making it harder to enforce fair housing laws. Residential Proptech companies often operate in a regulatory gray area, leaving consumers without the protections they would have from traditional housing regulatory systems. As unprecedented capital investment flows into this space, venture-backed companies' winner-take-all approach to growth has the potential to exacerbate inequality rather than combat it.

In 2022, TechEquity examined the Residential Proptech industry to understand how it was growing, where it might present the biggest risks to amplify inequities in the housing system, and where the most promising intervention points are—both in corporate practice and government regulation—to mitigate harm and enable Residential Proptech to live up to its promise of increasing access and affordability.

This paper summarizes our findings and identifies areas across Residential Proptech that must be addressed to reduce the risk of harm. We found:

- Many of these new models resemble familiar practices, but are different enough to pose questions about how our existing regulations and protections apply—if they do at all.
- The participation of venture capital in the space creates an incentive structure that pressures Residential Proptech companies to sacrifice what's in the best interest of renters and potential homeowners in order to provide maximum returns to investors.
- While they didn't cause the housing shortage, many Residential Proptech companies are capitalizing on an increasingly desperate customer base that is being squeezed by low supply and high housing prices.
- Though they are frequently marketed as a way to increase efficiency and access, particularly for people of color, low-income people, and others historically excluded from housing opportunities, there is little transparency into the impact such products have for those groups, or on the market writ large.

Ultimately, our initial findings underscore the need for more transparency regarding how the companies operate and the impact they have—both on those who engage with their products and on our communities overall.

Going forward, we will use these findings to inform the development of a public policy agenda that prevents harm and amplifies opportunities created by Residential Proptech. This work will begin with understanding how algorithm-backed tenant screening companies work, where they work, and the outcomes they produce for rental applicants. We are also releasing an ethical practice standard for Residential Proptech companies that want to make good on their promises to improve our failing housing system.

America's housing system has never been just. Proptech can play a role in fixing a broken system and ensuring that all residents have housing. In order to get there, we need to understand Residential Proptech's potential harms, enact regulatory frameworks that protect consumers, and adopt ethical corporate practices.

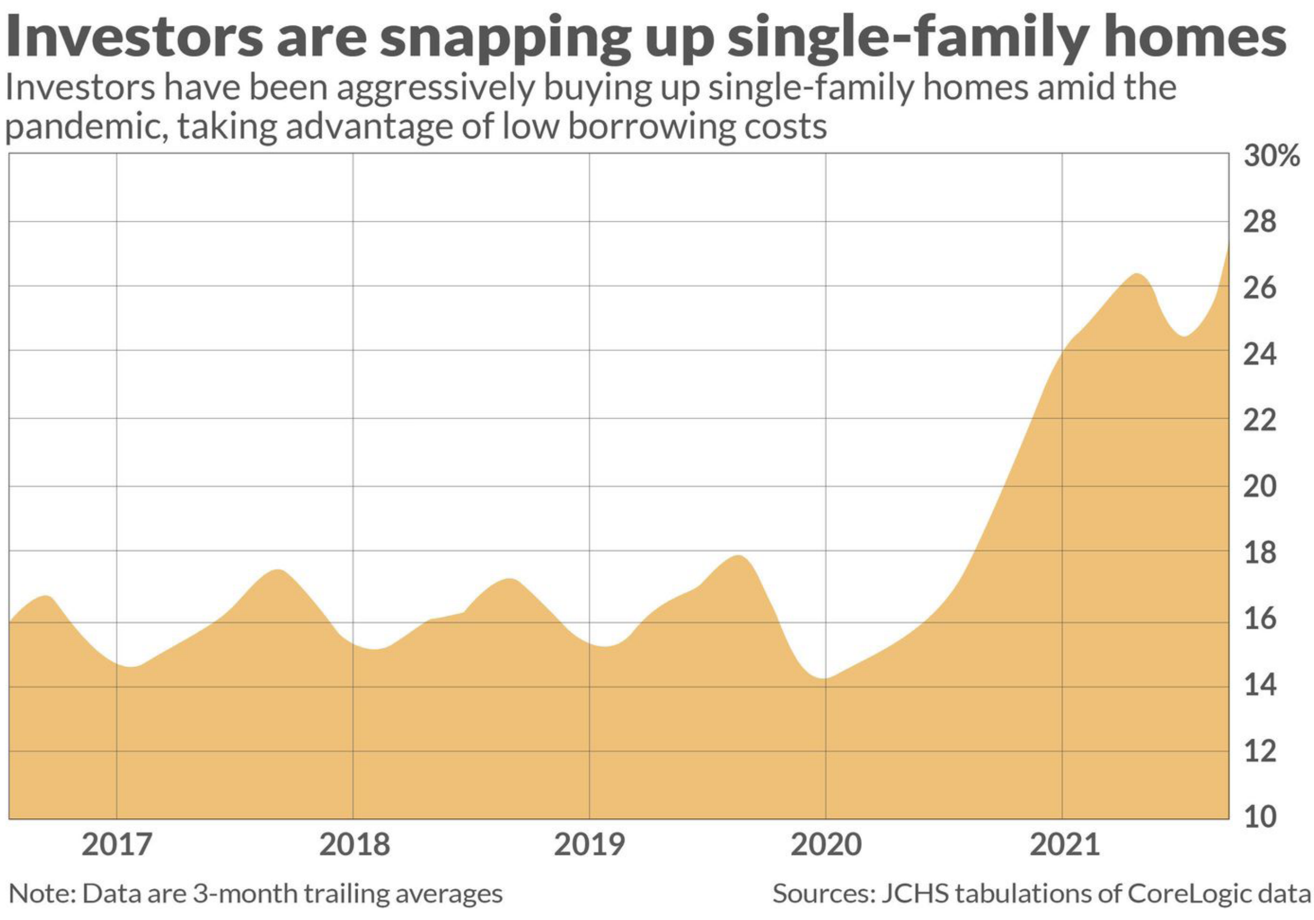
Landlord Tech Enables the Financialization of the Housing Market

In the wake of the devastation from the Great Recession, Wall Street saw an opportunity in the single-family housing market. The U.S. averaged 10,000 home foreclosures a day in 2008.[3] With so many homes newly unoccupied and too few people with homebuying resources, the Federal Housing Finance Agency (FHFA) created the REO (Real Estate Owned)-to-Rental program in 2012—a pilot program that paved the way for large investors to purchase foreclosed homes in bulk and turn them into rental properties.[4] The program's intent was to prevent vacant homes and communities; it did so by bringing the profit motives of private equity firms to America's doorstep.

Digital Tools Allow Owners to Manage Vast Portfolios of Single-Family Properties, Unlocking Housing as a Lucrative Asset Class for Investors

Up to this point, Wall Street mostly stayed out of the single-family housing market. It was seen as too logistically challenging to manage large portfolios of individual units across multiple jurisdictions. But a technological revolution was also happening at the same time—the rise of mobile, cloud, and big data analytics—which opened a door that private equity stepped through.

They invested heavily in new technological tools that suddenly made it profitable to manage large property portfolios. The new digital systems allowed remote landlords and building owners to automate the application screening, payments, eviction notices, maintenance needs, and other responsibilities of being a landlord without needing to be physically present.



Source: The State Of The Nation's Housing 2022 by Joint Center for Housing Studies

With new digital tools and thousands of data points, investor owners use algorithms to optimize for profit—at the tenants' expense. One investigation found that between 2016 and 2018, American Homes 4 Rent (one of the largest corporate landlords in the country) increased rents by 11%, 5% higher than the average rent increase in the top 30 rental markets in the same period. The company owned 70% more units in 2018 than in 2014, yet collected 150% more in rent.[5] Between 2014 and 2018, American Homes 4 Rent increased its fee revenue from tenants by more than 1,000%, despite increasing its portfolio by just 70% in the same timeframe.[6] Between 2018 and 2021, the five largest single-family operators increased fees per year by approximately 40%, increasing the number of their tenants who were behind on their rent from 11.3% to 19.1% and tenants who had outstanding fees from 10% to 20.7% over the same time period. [7]

In 2020, Graystar tenants filed a class action lawsuit against the company for charging $100 penalties on rent paid one minute late. The company would also apply rental payments to outstanding fees rather than rent, then assess additional $100 fees when the monthly rental amount fell short without tenants' knowledge.[8] Invitation Homes directs tenants to do-it-yourself repair videos to cut maintenance costs.[9]

Wall Street, supported in part by government agencies who subsidized their entrance into the single-family rental market, found technology to be a powerful enabling factor to expand their portfolios and extract more from tenants. Venture capitalists and entrepreneurs seized this opportunity to build companies offering tools and services in light of these market conditions. The Proptech sector was born.

Opaque, Predictive Algorithms Determine Who Gets What Housing

As landlord tech took hold, more property managers of all sizes came to rely on it to interface with tenants. One key feature of landlord tech is the use of algorithms to screen rental applicants and assess their suitability as tenants.

The tenant screening industry, which pulls a wide array of information about potential tenants to inform landlords' decisions, is now valued at $1.3 billion with as many as two thousand screening companies vying for market share.[10] [11] Such companies include Equifax, TransUnion, and Experian (commonly known as "The Big Three"), as well as smaller startup companies that apply algorithms to make those determinations faster. Tenant screening tools are often packaged as part of a larger suite of property management tools for landlords.

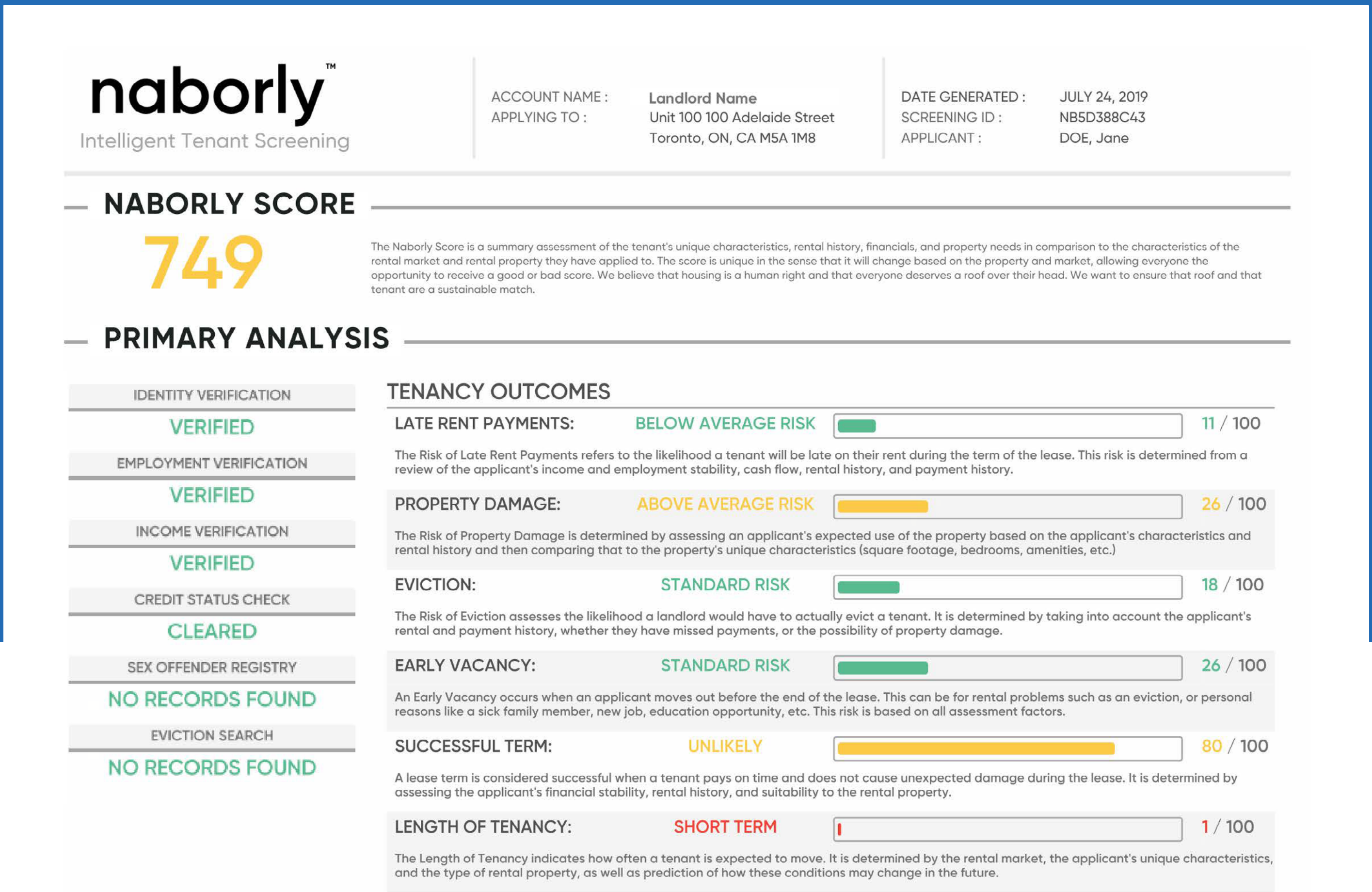
Unlike Analog Models, Algorithmic Tenant Screening Tools Predict Future Behavior To Determine Housing Access

Before the advent of algorithmic tenant screening, landlords vetted tenants by having them submit their own records and references from previous landlords or others who could vouch for their trustworthiness.

During an analog rental application process, a prospective tenant provides certain personal information and then gives consent for the landlord to run a background check to verify their information. The landlord, housing provider, or property manager then pays a third-party entity such as TransUnion to pull information that gives a sense of whether the applicant will be a trustworthy renter. In analog screening, those reports return information from an applicant's credit, eviction, and criminal histories. There are many inequities with this analog model. Eviction and criminal records are often wrong or lack important context.[12] [13] Credit scoring techniques are notoriously biased.[14]

Algorithm-backed screening services, on the other hand, bundle all the traditional information (whether accurate or not) alongside predictive models. These predictive models make guesses about whether an applicant will be a responsible tenant based not on the history of that specific applicant, but on (as far as we can tell) behavior trends of applicants who have similar characteristics. The data behind these models is rarely made available to either the tenant or the landlord.

Below, a sample screening report from Naborly gives a sense of how predictive screening works. Certain outcomes are determined by a combination of applicant characteristics and factors that have little to do with said applicant. "Length of Tenancy," for example, is rated both by applicant characteristics as well as a prediction of how "conditions may change in the future." Eviction outcomes are determined by "possibility of property damage;" Successful payments rely on "suitability to the rental property."



naborly™
Intelligent Tenant Screening

ACCOUNT NAME :	Landlord Name	DATE GENERATED :	JULY 24, 2019
APPLYING TO :	Unit 100 100 Adelaide Street Toronto, ON, CA M5A 1M8	SCREENING ID :	NB5D388C43
		APPLICANT :	DOE, Jane

NABORLY SCORE

749

The Naborly Score is a summary assessment of the tenant's unique characteristics, rental history, financials, and property needs in comparison to the characteristics of the rental market and rental property they have applied to. The score is unique in the sense that it will change based on the property and market, allowing everyone the opportunity to receive a good or bad score. We believe that housing is a human right and that everyone deserves a roof over their head. We want to ensure that roof and that tenant are a sustainable match.

PRIMARY ANALYSIS

IDENTITY VERIFICATION	VERIFIED
EMPLOYMENT VERIFICATION	VERIFIED
INCOME VERIFICATION	VERIFIED
CREDIT STATUS CHECK	CLEARED
SEX OFFENDER REGISTRY	NO RECORDS FOUND
EVICTION SEARCH	NO RECORDS FOUND

TENANCY OUTCOMES

LATE RENT PAYMENTS: BELOW AVERAGE RISK 11 / 100

The Risk of Late Rent Payments refers to the likelihood a tenant will be late on their rent during the term of the lease. This risk is determined from a review of the applicant's income and employment stability, cash flow, rental history, and payment history.

PROPERTY DAMAGE: ABOVE AVERAGE RISK 26 / 100

The Risk of Property Damage is determined by assessing an applicant's expected use of the property based on the applicant's characteristics and rental history and then comparing that to the property's unique characteristics (square footage, bedrooms, amenities, etc.)

EVICTION: STANDARD RISK 18 / 100

The Risk of Eviction assesses the likelihood a landlord would have to actually evict a tenant. It is determined by taking into account the applicant's rental and payment history, whether they have missed payments, or the possibility of property damage.

EARLY VACANCY: STANDARD RISK 26 / 100

An Early Vacancy occurs when an applicant moves out before the end of the lease. This can be for rental problems such as an eviction, or personal reasons like a sick family member, new job, education opportunity, etc. This risk is based on all assessment factors.

SUCCESSFUL TERM: UNLIKELY 80 / 100

A lease term is considered successful when a tenant pays on time and does not cause unexpected damage during the lease. It is determined by assessing the applicant's financial stability, rental history, and suitability to the rental property.

LENGTH OF TENANCY: SHORT TERM 1 / 100

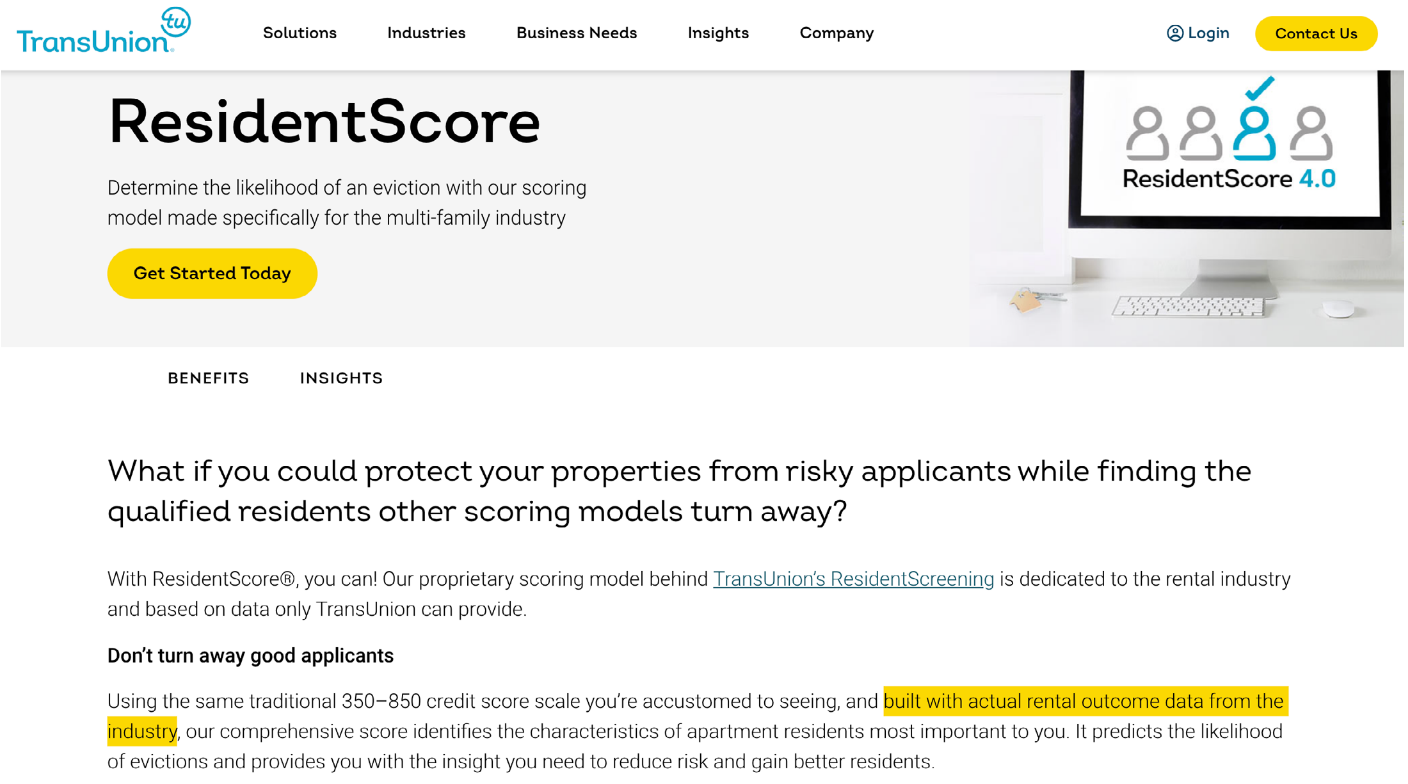
The Length of Tenancy indicates how often a tenant is expected to move. It is determined by the rental market, the applicant's unique characteristics, and the type of rental property, as well as prediction of how these conditions may change in the future.

Sample Pro Screening Report accessed via Naborly.com

From information on company websites, it is not clear what analysis or data is behind subjective determinations like "suitability" to a unit or what the nexus between an individual's characteristics and a unit's characteristics is that indicates the likelihood for property damage. Based on sample reports, even landlords are not privy to how the determinations are made. Instead, they receive a risk score out of 100 simplified into green, yellow, and red recommendations. What companies withhold in terms of how it works, they make up for with the extent to which they tell landlords it works: Naborly claims their predictions reduce lease defaults by up to 89%.[15]

As Naborly's sample report demonstrates, its property damage assessment is then used as an input to determine its projected eviction outcomes; its early vacancy prediction, in turn, is based on "all assessment factors." Once bad data enters the analysis of one factor, it gets baked into the subsequent process, multiplying the effect that one disadvantageous data point can have on someone's overall housing determination. And while we know that the data is predictive, meaning it has little to do with demonstrated behavior of the applicant themself, we do not know exactly where companies get their data.

It's not just smaller private screening companies. In recent years, TransUnion started using an algorithm-backed screening tool called Resident Score. The TransUnion website is not as forthcoming about what is behind its predictive analysis. What is publicly available, however, suggests it also combines applicant characteristics with extraneous data related to the market, or based on other tenants' rental outcomes. Still, there is very little information about where their predictive data comes from or how it's applied to individual applicants.



Highlight added, accessed 02/06/2023 via TransUnion.com

In 2022, fourteen renters competed for every available rental unit on the market.[16] The rental market conditions underscore how much value algorithmic screeners offer to landlords, helping them choose between multiple applications easily. They remove the additional step of weighing each characteristic against the next, deciding if a higher income is more important than a high credit score. Predictive tenant screening bundles all of those characteristics together, flattening real people into a handy green, yellow, or red score.

Algorithms Leave Tenants in a Gray Area When Enforcing Housing and Consumer Protections

As tenant screening algorithms increase in popularity and utility for landlords, they can create additional housing barriers for tenants. In a recent Consumer Financial Protection Bureau ("CFPB") report, the federal agency raised alarms about the lack of basic vetting embedded within emergent screening services: "Larger firms often offer proprietary risk scores, but common practices in financial services credit risk operations, such as documented model validation and risk management, do not appear to be prevalent in tenant risk modeling."[17] In short, there is little accountability for what is behind these predictive algorithms or how they work.

Understanding their impact, however, could be more important than understanding how they work. The Fair Credit Reporting Act (FCRA) allows consumers to correct *inaccurate or incomplete information* on their consumer reports.[18] But what if that information is not accurate or inaccurate? What if it's entirely hypothetical, as in the case of predictive scoring? Moreover, what if that information is not about you, but about aggregate renter outcomes?

Fair Housing Act guidance instructs landlords to consider mitigating circumstances before denying an applicant because of their criminal history. In 2015, the Supreme Court ruled that automatically denying applicants with criminal histories disproportionately screens out Black, Latinx, and other overpoliced applicant groups.[19] Blanket denials are a violation of the Fair Housing Act. Instead, landlords are counseled to individually consider mitigating circumstances surrounding criminal histories by performing Individualized Assessments.[20]

The emergence of synthesized risk scores using predictive models raises questions: do existing consumer protections apply? Are the landlords that use these services receiving the information they need to fulfill their obligations under the Fair Housing Act?

The Proptech Sector Expands Beyond Rental Property Management

The emergence of big data analytics as a technology trend in the early 2010s allowed large-scale owners to leverage proprietary information on their single-family portfolios to capture even more of the housing market. One such tech model was iBuying. iBuyers use real-time market data to make bids on homes for sale. They then purchase those homes and flip them, theoretically, for profit. iBuying has been positioned as a way to make selling a home much easier, saving sellers time and money. The sustainability of using real-time market data to make longer-term property investments, however, has been strained by the volatility of the pandemic housing market.

Zillow, often considered the iBuying poster child, announced in 2021 that its rapid acquisition algorithm overvalued the properties it purchased, and would sell (at a loss) those 7,000 single-family properties, then shutter its iBuying venture altogether.[21] Given the size of its portfolio, Zillow sought out institutional owners who could buy properties in bulk. Eventually, Zillow sold 2,000 of those homes to Pretium Partners, a large corporate landlord, drawing concerns from Congress.[22]

It is unclear what happened to the properties that were in their portfolios. By late 2022, Opendoor, a leader in the sector, reported nearly $1 billion in lost revenue from selling homes at a loss, leading those who monitor the sector to see it as a death knell.[23] That same month, Redfin announced it was closing its iBuying operation and cutting 13% of its staff.[24]

It is unclear whether iBuying as a business model has a future, or whether the sector was a blip in PropTech history, but the reliance on large datasets that allow companies to identify arbitrage opportunities in the market is likely to persist and become repackaged in other forms. Recent stories that reveal that tech is helping landlords surveil tenants to get around rent control regulations, and to collude to set rent prices across major metro areas, show how the sector will continue to infiltrate the housing system.[25] [26] A study of large investors found that 30% were interested in expanding to rentals, driven by anticipated rental growth.[27]

Alternative Homeownership Financing Echoes Pitfalls of the Past

One model that appears to have more staying power than iBuying—for now, at least—is Rent-to-Own. The expansion of the pool of people left out of the traditional mortgage market, along with a constriction of housing supply and increased competition from investor buyers, created a market for startups offering alternative pathways into homeownership. Of the many models that purport to make homeownership accessible through something other than a traditional mortgage, Rent-to-Own (RTO) has so far gained the most traction. In its current form, RTO raises serious concerns.

RTO companies purchase homes on behalf of buyers and retain that ownership until the buyers have made consistent payments over a period of years. These companies can play an important role in easing the path to homeownership for families that would not yet qualify for a traditional mortgage. However, RTO bears striking similarities to a Jim Crow housing practice known as Contract-for-Deed (CFD) schemes.

CFD agreements are house purchases that are financed by the seller, rather than by a bank or financial institution, which means the transactions were not subject to redlining exclusions—or to the protections of the normal home financing market.[28] In a CFD agreement, the seller maintains the deed title and eviction rights until the buyers complete the terms of the contract—which frequently include unattainable terms such as inflated purchase and interest rate prices and/or balloon payments so large they require bank financing.

Often, the responsibility for taxes and maintenance were pushed to the buyer, even though they are not legal owners of the property.[29] CFD contracts were often structured to be tilted so far in favor of the seller that the seller could cancel and recycle the property to the next CFD buyer. CFDs were primarily targeted at Black residents of cities such as Chicago who were locked out of the traditional homebuying market by redlining, restrictive covenants, and other racist housing policies.

By one estimate, contract sellers extracted between $3.2 and $4 billion (in April 2019 dollars) from Black Chicagoans in the 1950s and 1960s alone.[30] CFD and other forms of seller financing are still prevalent in many markets. In 2021, 1 in 15 homeowners—seven million Americans—were using some form of alternative financing on their homes.[31] Households earning less than $50,000 annually were most likely to use different forms of financing, with rates highest amongst Hispanic borrowers.[32] The complexity as well as the predatory lineage of these models requires a closer look at how such companies are operating and whether the real-world outcomes match up to their claims of expanding homeownership.

While tech-enabled RTO models, which have emerged over the last five years with support from venture capital, do not include the most predatory aspects of CFD, they do have some potentially harmful similarities. As with CFD, RTO is marketed as a way to overcome income and collateral constraints for those who cannot or do not want to work within the primary mortgage market.

Modern RTOs Offer Buyers Greater Flexibility, But Also Complexity

TechEquity's comparison of modern RTO models found that many do improve on traditional CFDs with clear terms, future option prices (the pre-agreed price that a buyer will pay for the home), and connection to homeownership counseling. However, some important elements of the arrangements, such as how maintenance is handled and how an option price may change in a shifting market, leave room for buyers to be exploited. For a detailed explanation of the contract terms outlined in Table 1 below, check out our paper *"Rent to Own the American Dream."*

Table 1: Summary of Rent-to-Own Models

Organization	Term	Min. credit score	Initial upfront payment	How monthly payment is set	Annual monthly payment increase	Built-in buyer down payment savings / contributions	How “option” price is set	Maintenance	Move out fee	Success/ conversion rate	Backing capital
Home Partners of America	1 year, renew up to 3-5 years	580-620 depending on market	Standard security deposit	Estimate of market rent	3.75%	None	3.0-5.5% increase/year on original price	All habitability repairs handled by Home Partners, cosmetic handled by buyer	None	38%	Private Equity
Trio	2-3 years	Minimum of 580, could go down to 550	Origination fee (similar to mortgage fee)	Fixed equivalent to FHA mortgage	1%, with a new product with 0%	Contribute 3-5% of down payment costs if the buyer purchases the home after 24 months.	Set based on price at move-in, plus closing costs.	N/A	None	78%	FHA mortgages
Divvy	3 years	Minimum of 550	2% of purchase price	Estimate of market rent, plus savings investment	0%	Buyers contribute a mandatory home savings investment each month equivalent to .10-.25% the home value	Between 3.5-5.5% increase/ year	All habitability repairs and handled by Divvy, cosmetic repairs and appliance repairs handled by the buyer	2% of house price	Around 50%	Venture Capital and Private Equity
Landis	1-2 years	Minimum of 550	2% of purchase price	Estimate of market rent, plus savings investment	N/A	Buyers contribute a mandatory home savings investment each month	3% increase/ year	Buyer pays all maintenance under $200. Above $200 is shared 50/50 between Landis and the buyer	3% of house price	N/A	Venture Capital and Private Equity
Pathway HomeSavings	1 year, renew up to 5 years	Minimum of 600	2.5% of purchase price	Estimate of market rent	Varies, but around 3.75%	2.5% deposit is doubled to 5% if buyer purchases after 5 years	3-6% increase/ year	Pathway is responsible for “major” maintenance	None	N/A	Venture Capital and Private Equity
Verbhouse*	5 years	None	5% of purchase price	On-par with monthly mort-gage costs at 10-20% down	0%	20-25% of monthly payments go to downpayment savings	0% increase/ year	Verbhouse covers all repairs	None	N/A (product not yet operating)	Pension investment

*Note: Verbhouse is not yet offering a public RTO product.

Furthermore, with no standards on disclosures or contract terms, and with no public data on conversion rates, it is unclear whether these models live up to their promise of getting people who are excluded from the traditional financial system onto the property ownership ladder.

The source of capital for each company plays a role in setting the required profitability of each model and highlights clear benefits for models that are designed to access government-backed financing sources. Just one company that we surveyed, Trio, has partnered with the Federal Housing Administration (FHA) to provide an RTO option to hundreds of homeowners who may not have otherwise qualified for a mortgage.[33] According to Trio, their success rate of converting renters to homeowners is 78%—much higher than any of its venture-backed competitors.

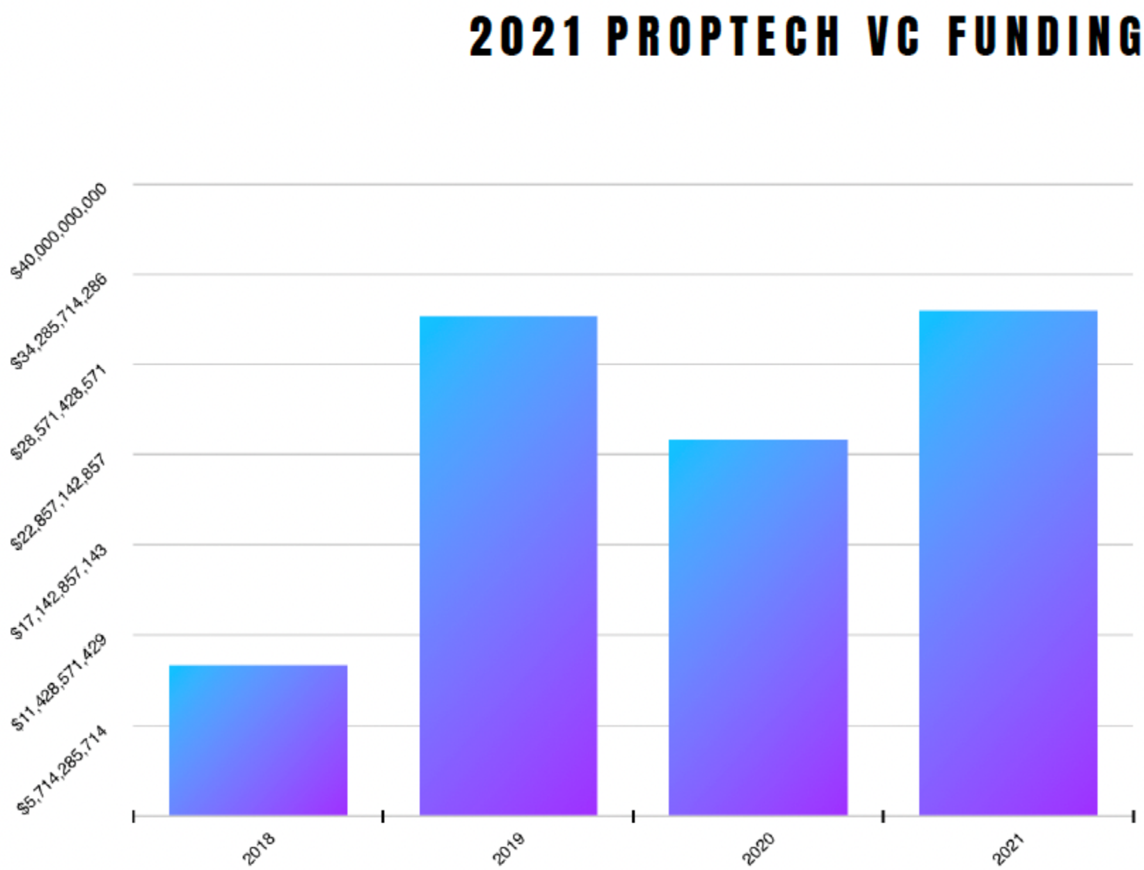
Many other RTO companies are backed by private equity and venture capital. In 2021, RTO leader Home Partners of America was purchased for $6B by Blackstone, a large private equity firm with significant single-family rental holdings. Divvy, Pathway, and Landis all received significant venture capital investments between 2020-2022 from firms such as Goldman Sachs, Sequoia Capital, and Fifth Wall.[34] [35] [36] [37]

The structures of private equity and venture capital demand certain returns from the companies they support, which creates pressure for the companies to prioritize profit maximization at every opportunity. Without more transparency, it is impossible to evaluate the economics of each company's business model. But there is reason to assume that RTO companies may increase profit by not converting customers into homeowners. As with the CFD model, owners could do better by cycling new renters through the property while retaining ownership. If this is the case, there is a strong incentive for venture- and private equity-backed RTO companies to steer customers away from homeownership. In order to avoid this future outcome, the industry must become much more transparent and enter a regulatory system that requires accountability.

Venture Capital Fuels Rapid Expansion with Unclear Housing Outcomes

Rent-to-Own is just one area of the Proptech sector that has seen enormous investment from venture capital. Since 2013, VC has invested $51.6 billion into Proptech, joining its brethren from private equity to further financialize the housing sector.[38] Most notably, Andreessen Horowitz, one of Silicon Valley's premier venture capital firms, committed $350 million to a startup called Flow which was founded by Adam Neumann of WeWork infamy.

Private equity and venture capital have become inextricably intertwined in the Proptech sector. Private equity's initial foray into housing after the REO-to-Rental program encouraged firms to use the power of tech to wring more profit from the single-family rental market. In recent years, much of that profit has been invested in the venture capital funds that invest in Proptech startups. Fifth Wall, the largest Proptech venture capital firm, counts Invitation Homes among its investors, and the two firms share a co-founder.[39] Private equity firms are often side-by-side with venture capital firms in funding Proptech startups. Mynd, one of the biggest rental property management platforms, has received equity investment both from private equity firm DivcoWest and an array of venture capital firms.[40] In 2021, private equity investments in Proptech increased by 35%.[41]



Venture capital has more than doubled its investment in the PropTech space since 2018.

Source: 2021 Real Estate Technology Venture Capital Report, CRETI

It's no secret that the shifting interest rate environment has affected venture capital investment in all sectors. However, given the connection between monetary policy and the housing market, these dynamics have an especially acute impact in Proptech. Global investment in Proptech in 2022 was only 38% of what it was in 2021.[42] Similarly, 2020 investments peaked at $25 billion, a 19% decrease from 2019. If the current market conditions are a sign of how the sector will fare in the years to come, what happens to tenants and homebuyers when companies suddenly lose funding?

For companies on whom people depend for their housing (like RTO companies), this question is sobering. Because of a lack of transparency in the market, we don't have a clear understanding of the demographics of the companies' target markets. We do know that they heavily concentrate in lower-middle-class neighborhoods and communities of color.[43] Many Proptech companies advertise to people who want to purchase a home but whose credit scores suggest they have "hit a few bumps in the road," or to tenants that might not have enough cash on hand to pay a security deposit in full.[44] [45] This marketing is powerful, bringing in customers who are hoping to find stable housing despite their income restraints, but who end up paying more for it in the long run. [46]

Expanded Rights, Protections, and Transparency Offer a Way Forward

The housing market is failing to meet the needs of many, particularly Black, Indigenous, and people of color-led households. Nineteen million households spend more than the recommended one-third of one's income on rental housing.[47] Estimates find that as many as 650,000 people experience homelessness in the U.S., with many acknowledging that figure is likely an undercount.[48] The long legacy of segregationist structures combined with the post-Great Recession wealth transfer from households to Wall Street, has left Black Americans to bear the brunt of an inequitable housing system.[49 50] As we enter this new era of America's housing history, we must ensure that practices of the past are not transmuted into new tools and business models that have the power to amplify the exclusion that persists in our housing system.

To get us on the right path, we need to both double down on the policies we know work, like building new housing and strengthening tenant protections, and also adopt policies that target the role of technology and new venture-backed business models directly. We also need Proptech companies to adopt industry standards that will prevent harm and invest in the ways that technology can help make housing's future more equitable than its past.

Update Existing Protections and Regulations for Modern Tech-Backed Models

Housing discrimination and housing justice were central issues within the U.S. Civil Rights Movement, leading to the 1968 Fair Housing Act and other protections that still provide some of the best safeguards in today's housing system.[51] Those protections, however, are straining against modern practices.

While algorithm-backed tenant screeners compete against TransUnion, Experian, and Equifax for market share, the younger tenant screening companies have an advantage: in 2017, the Big Three settled a lawsuit from 31 state attorneys general who charged unfair and deceptive business practices relating to inaccurate consumer data.[52] The settlement required that the Big Three use stricter matching criteria to ensure accurate reports, and largely stop reporting medical debt and civil judgments.[53] Since 2017, a spate of smaller, private screening companies emerged who are not subject to the accuracy limitations of the settlement, raising the question of how newer tech-backed companies fly under the radar of regulators as they capture larger portions of the market.

Algorithm-driven tenant screening services frequently give landlords predictive risk scores, but as mentioned earlier it is unclear how existing protections such as the Fair Credit Reporting Act and HUD's Disparate Impact Guidance on Individualized Assessments apply—if they do at all.[54] [55] While mortgages from the primary mortgage market are not risk-free, they are regulated in ways that alternative financing is not, affording a basic degree of transparency and recourse for discrimination. The Home Mortgage Disclosure Act (HMDA) requires financial institutions providing home loans to disclose information on how and to whom they are providing credit.[56] Alternative financing companies, however, are not traditional financial institutions and thus not subject to the HMDA transparency that lets home seekers find out if their lender has patterns of discrimination.

We need proactive disclosures from screening companies, corporate housing providers, and other actors in conjunction with updated guidance from federal agencies on how existing civil and consumer rights protections apply to tech-backed models.

Create More Transparency at All Points in the Housing System

Landlords use networks of LLC registrations to hide both the scale of their operations as well as who to direct complaints to when a tenant needs to report a housing matter.[57] A survey of LLC-owned properties in Memphis found that the majority of properties in disrepair were owned by incorporated entities, yet "in instances of property abandonment by LLCs, the city attempts to hold the property owner responsible, but has no one to contact—the legal owner of the property is listed as an LLC and though the LLC is required to register annually with the Secretary of State, as well as list a registered agent to be contacted with legal notices, failure to do so does not result in property forfeiture, and the registered agents' responsibilities expire along with the company's registration." This could be one reason investor owners disproportionately purchase homes in jurisdictions with pro-landlord/anti-tenant legal protections.[58]

Landlords and tenants alike are in the dark about how algorithms make decisions about who to rent to. Moreover, accuracy standards and risk mitigation best practices common in other financial services are not widely used by algorithmic screening companies.[59] Similarly, we lack reliable information on how likely it is for an RTO buyer to complete their contracts and become homeowners. One company we spoke to said they calculate conversion rate by looking at the conversion for contracts that have ended, though taking a comprehensive look at ended and ongoing contracts would realistically push their success rate down. Other companies did not give explanations for their numbers. The lack of standardization and compulsory regular disclosures make meaningful vetting—for homebuyers and regulators—challenging.

We need basic transparency from the businesses operating in the housing system. Data on the beneficial owners, algorithm training practices, contract terms, and success rates, for example, are essential to understanding the scale, disparities, and practices of emergent housing models. Such information would equip regulators, policymakers, tenants, and consumers alike with the information necessary to engage with corporate housing models responsibly.

Enact a Housing Justice Agenda

In a world that fulfills everyone's basic needs by right, the tools and business models we have investigated would pose much less of a threat. Unfortunately, in the face of an affordability crisis, limited tenant protections, and persistent and increasing homelessness, Proptech's rise will continue to raise alarm bells.

There is a future in which housing innovation can make our lives better and contribute to thriving communities. But without systems that treat housing as a human right rather than as an asset class to be exploited by Wall Street, we won't be able to get there.

That is why we need increased production of housing that meets peoples' income, stronger tenant protections, and preservation of existing housing that is owned by people, not corporations.

What’s Next

TechEquity is committed to this work for the long term. Our Tech, Bias, and Housing Initiative will focus on the following areas over the coming years:

- **Policy advocacy:** Working closely with partners from across the housing ecosystem, we will advance public policy that protects against the worst potential harms of Proptech. We are starting by investigating tenant screening tools to understand whether and how they may result in discrimination. This research will inform and help us craft strategic, targeted policy solutions.
- **Corporate practice:** Over the course of our research we have connected with Proptech founders, executives, and employees who express a desire to develop better ethical practices as they grow their companies. We have outlined a corporate standard that all Proptech companies can adopt in order to mitigate harm and we will provide support to those companies that choose to implement it.
- **Continued research:** The Proptech sector is extremely fluid, and the market dynamics are changing quickly. We will continue to follow the space and produce reports as new areas of interest or concern emerge. We are currently tracking the rise of crypto and blockchain in the Proptech sector and plan to release a briefing on the topic in mid-2023.

Tech can play a role in the sorely-needed innovation of our housing system. But without the right guardrails, tech and the tech industry can also make the problem worse. As the Residential Proptech sector exerts more influence in the housing market, we need everyone who cares about affordable, stable, and abundant housing to join us in these efforts.

If you are a Residential Proptech company interested in learning more about our ethical practice standard, click here.

If you are an organization or individual interested in our algorithmic tenant screening research, click here.

If you want to stay up to date on our work you can sign up here.

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