



# Economic Stress Index™





# About LegalShield



**#1 Provider** of subscription-based legal plans to households



**1.8 million+ memberships** paying monthly via credit card/ debit card/payroll deduction



**46+** year history and counting



**47,000** small business accounts



**6,900 broker & agency clients** served by our dedicated B2B division



**39 law firms in 50 states, Canada and the United Kingdom** with a total of 900 lawyers, and a referral network of 4,600 lawyers, with average of 22 years experience



# About the LegalShield Economic Stress Index

- ✓ The LegalShield Economic Stress Index is a suite of leading indicators of the economic and financial status of U.S. households and small businesses.
- ✓ The LegalShield Economic Stress Index is comprised of five sub-indices that are constructed from LegalShield's proprietary data, which reflect the demand for various legal services over the past 15+ years. Each time a LegalShield provider law firm receives a request from a LegalShield customer, the request is logged as an "intake" in one of roughly 70 unique areas of law (e.g., real estate) depending on the nature of the request.
- ✓ Each sub-index reflects the number of intakes in an area of law as a share of total intakes across all areas of law in a given quarter. In some instances, individual indices across multiple areas of law (e.g., bankruptcy, foreclosure, consumer/finance) are combined to produce a composite index (e.g., consumer financial stress).
- ✓ The sub-indices that comprise the LegalShield Economic Stress Index were selected because they tend to lead an existing economic indicator that sheds light on the health of the U.S. economy (i.e., the target economic indicator). In this way, the LegalShield Economic Stress Index provides actionable intelligence about the direction of the U.S. economy in the near term.



# Advantages of the LegalShield Economic Stress Index



## **UNIQUE**

The LegalShield Economic Stress Index is based on inquiries into specific legal services each month. To the best of our knowledge, there is no comparable data on the market.



## **PROPRIETARY**

The LegalShield Economic Stress index is based on data collected through LegalShield's provider law firms in all 50 states, thereby offering information that is not accessible to the general public.



## **HIGH-FREQUENCY**

The LegalShield Economic Stress Index is based on data collected on a near real-time basis, and can be refreshed on a weekly, monthly, or quarterly basis depending on the user's needs.



## **ROBUST**

The LegalShield Economic Stress Index is based on intakes for more than 1.8 million memberships (including individuals and small businesses), providing a window into the experiences of families and businesses across the country at any given point in time.

# Interpreting Each Component of the LegalShield Economic Stress Index

## CONSUMER STRESS INDEX

Consumer spending accounts for more than two-thirds of U.S. economic activity. The flagship Consumer Stress Index tends to lead the Conference Board's Consumer Confidence Index by one to three months. The Consumer Stress Index also provides a useful "hard" data check on the Consumer Confidence Index and similar measures of consumer confidence that are based on "soft" survey data, as these measures are not always consistent with underlying economic conditions.

## BANKRUPTCY INDEX

Bankruptcy data provide an important insight into the overall financial health of consumers and businesses. As witnessed during the Great Recession of 2008-09, an uptick in bankruptcies can foreshadow significant turmoil within the economy. The Bankruptcy Index tends to lead the trajectory of total bankruptcies by roughly one month, providing an early warning signal of an economic downturn.

## FORECLOSURE INDEX

A rise in foreclosures often signals a worsening of household finances, as households typically delay payments on other debt obligations in order to pay their mortgages on time. The Foreclosure Index closely tracks foreclosures as reported each quarter by the Mortgage Bankers Association.

## HOUSING CONSTRUCTION INDEX

The housing market, broadly defined, accounts for up to one-seventh of U.S. economic activity, and the amount of new residential construction (as measured by housing starts) can provide insights into consumers' confidence about their jobs and future income. The Housing Activity Index tends to lead U.S. Census data on housing starts (a key economic indicator) by 1–2 months — providing timely intelligence about near-term housing market health.

## HOUSING SALES INDEX

The housing market accounts for a significant share of U.S. economic activity, and the pace of existing home sales can provide insights into consumers' confidence about their jobs and future income. The Housing Sales Index tends to lead existing home sales as published by the National Association of Realtors and offers an early look at emerging trends in the housing market.



# Consumer Stress Index

The LegalShield Consumer Stress Index edged up in February but remains muted. The latest round of federal relief will likely keep consumer stress low in the near term.

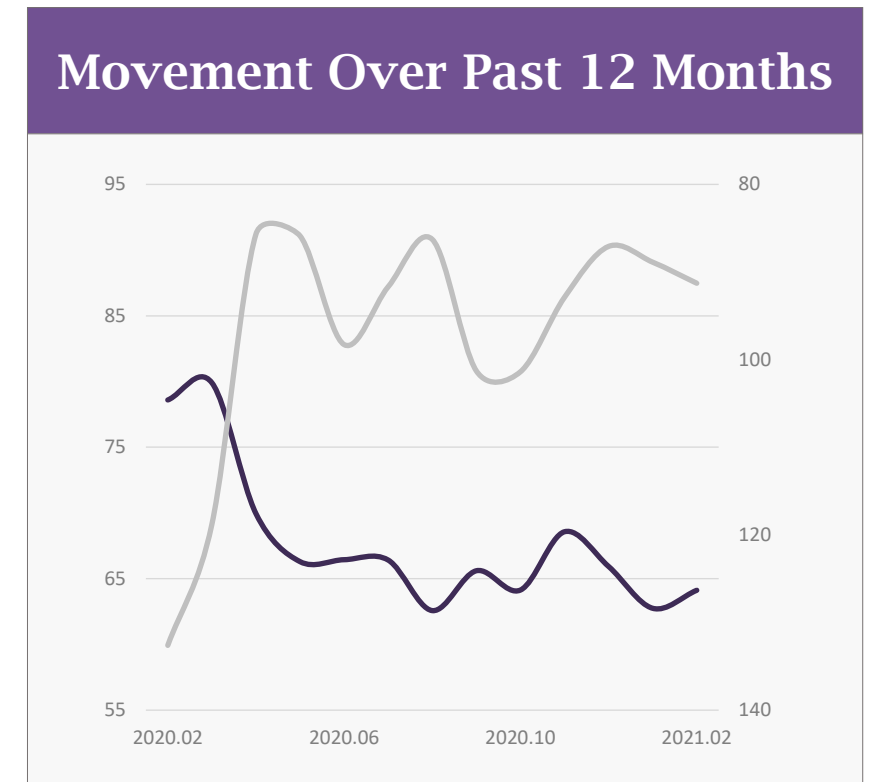
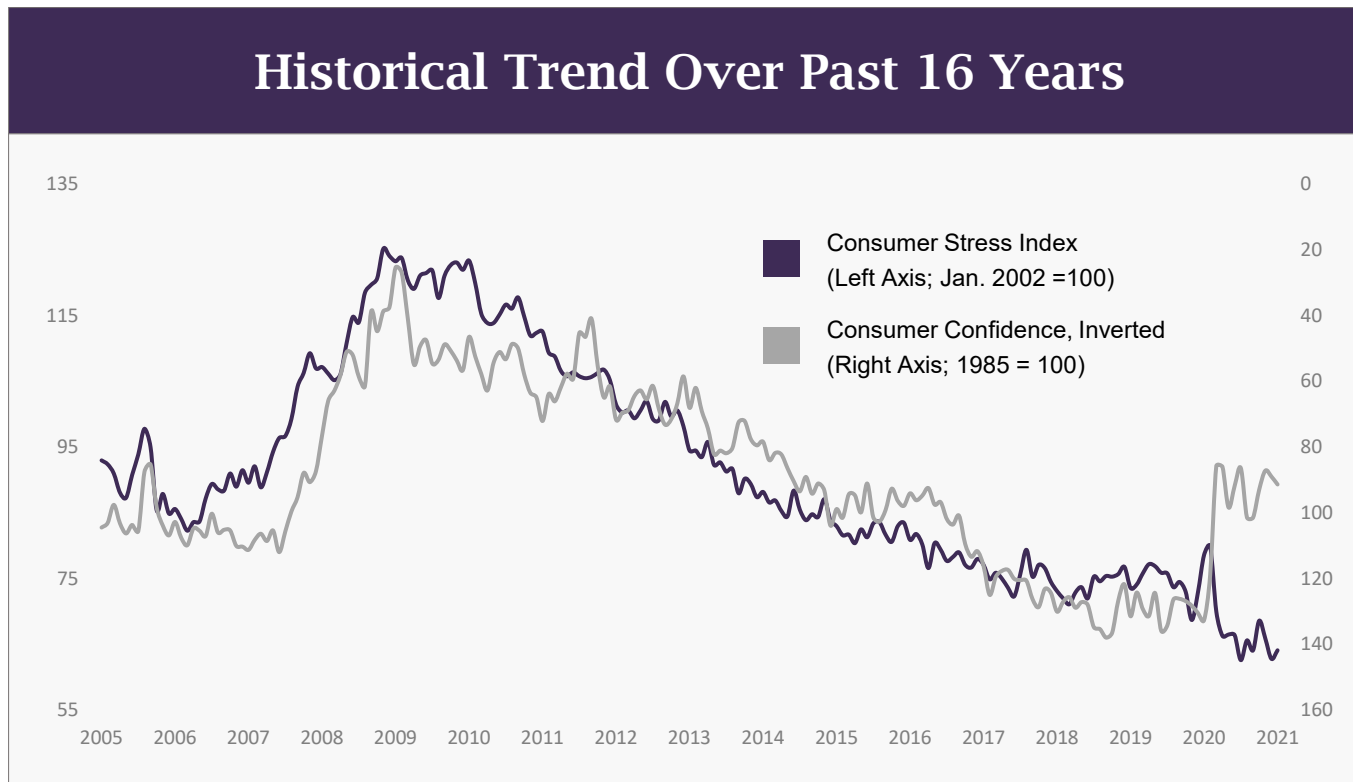
The LegalShield Consumer Stress Index increased (worsened) 1.3 points in February to 64.1. Meanwhile, the Conference Board's Consumer Confidence Index increased 2.4 points to 91.3 in February.

The late-December relief bill undoubtedly helped avert the worst economic effects of the winter surge in COVID-19 cases, though the effects of the relief package appear to be wearing off. For example, card transaction data from the Bureau of Economic Analysis reveals that in the first half of January, spending was more than 10% above pre-pandemic levels. However, spending gradually eased to 3.1% above pre-pandemic levels by mid-February — still healthy, but slowing.

Low-income consumers substantially increased spending following the stimulus payments, per Opportunity Insights data. However, according to a survey by [Morning Consult](#), the share of adults unable to pay recurring expenses in January was unchanged from December, suggesting that the relief payments had a limited effect on financial stress. This is in large part due to the high rate of joblessness, which is near 10% according to the Federal Reserve's unofficial measure of unemployment that accounts for temporary unemployment and reduced participation in the labor force. Further, permanent job losses have shown little evidence of retreating from the high levels reached in 2020. A sluggish labor market recovery could contribute to rising financial stress later this year.

For now, however, consumer financial stress remains low thanks to recent stimulus efforts. The LegalShield Consumer Stress Index suggests that stress should remain low over the next one to three months, especially if another round of stimulus and relief is forthcoming. Looking further ahead, the steady increase in vaccinations is the key factor to watch, as ending the pandemic is critical for a sustained economic recovery.

# Consumer Stress Index





# Bankruptcy Index

The LegalShield Bankruptcy Index was little changed in February and remains near its all-time low. While bankruptcies are expected to stay muted for the first half of the year, stress may build later in the year as federal relief measures expire.

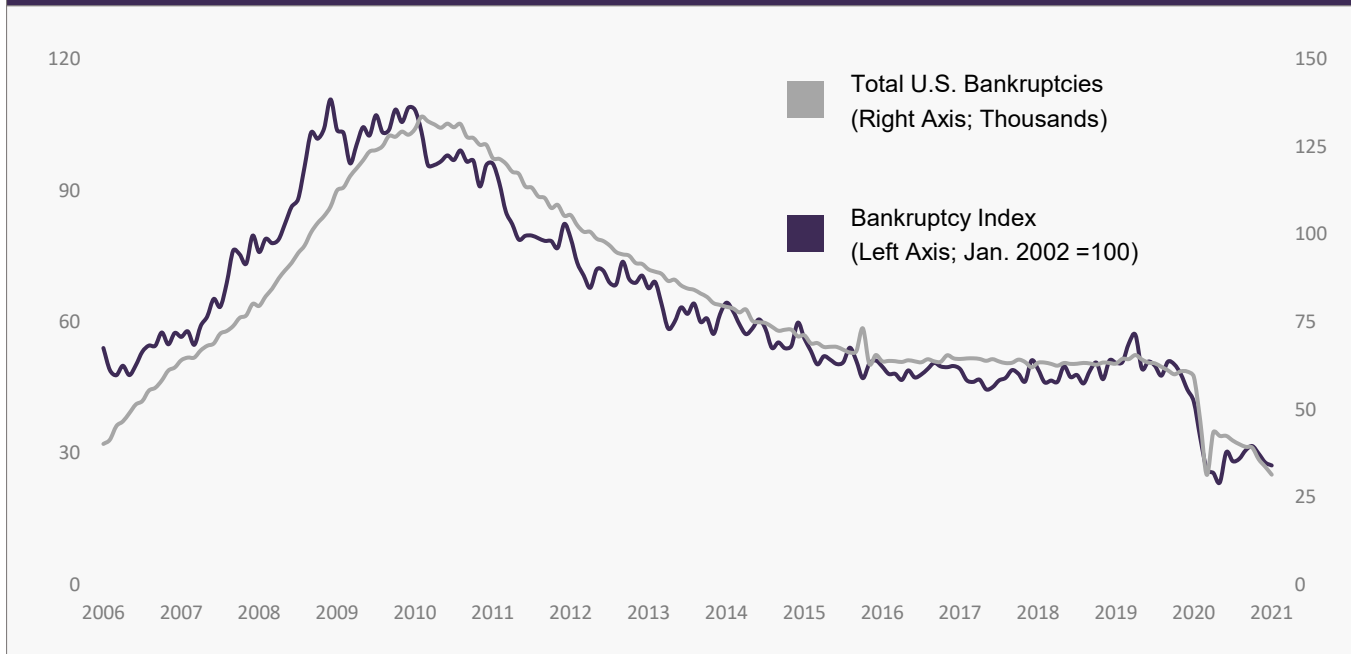
The LegalShield Bankruptcy Index edged down (improved) 0.7 point to 27.3 in February, decreasing for the third straight month. In February, total seasonally adjusted bankruptcies fell 6.5% to 31,463. The improvement comes on the heels of the latest round of relief measures, including continuation of unemployment benefits, an extension of eviction moratoria, and another round of direct payments to most consumers. Per the [NY Fed](#), a record-low number of people had a bankruptcy notation added to their credit report in Q4 2020, reflecting the extraordinary support measures implemented in response to the pandemic. As consumers cut back on spending and received federal aid, they paid down record amounts of credit card debt: balances declined at the fastest Y/Y rate in history in 2020. Similarly, [TransUnion](#) reports that credit card originations dropped by about 30% in 2020 Q3. However, banks are now showing rising confidence in consumers' ability to take on new debt: according to the January Senior Loan Officer Survey, banks eased standards across auto loans, credit cards, and other consumer loans at the end of 2020.

While federal relief is keeping consumers afloat for now, there are signs of simmering financial stress. For example, an increasing share of consumers relied on “buy now pay later” (BNPL) programs for their holiday purchases. [Research](#) suggests that up to 50% of BNPL users are using BNPL because they already maxed out existing lines of credit or had a credit rating so poor that they were disqualified from traditional credit cards. Additionally, consumers have taken advantage of rent moratoria and have deferred a significant volume of their monthly payments. [Per Moody's Analytics](#), delinquent renters owed \$53 billion in bank rent, utilities, and late fees as of January.

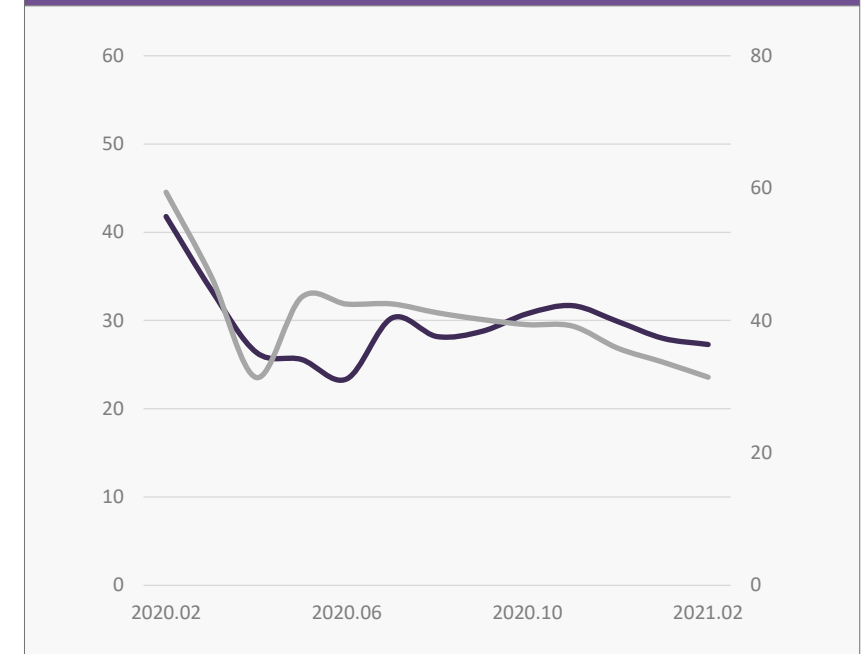
Looking ahead, another round of fiscal stimulus and the extension of temporary relief measures should help keep bankruptcies low for at least the first half of the year.

# Bankruptcy Index

## Historical Trend Over Past 16 Years



## Movement Over Past 12 Months





**FORECLOSURE**



**FOR  
SALE**

# Foreclosure Index

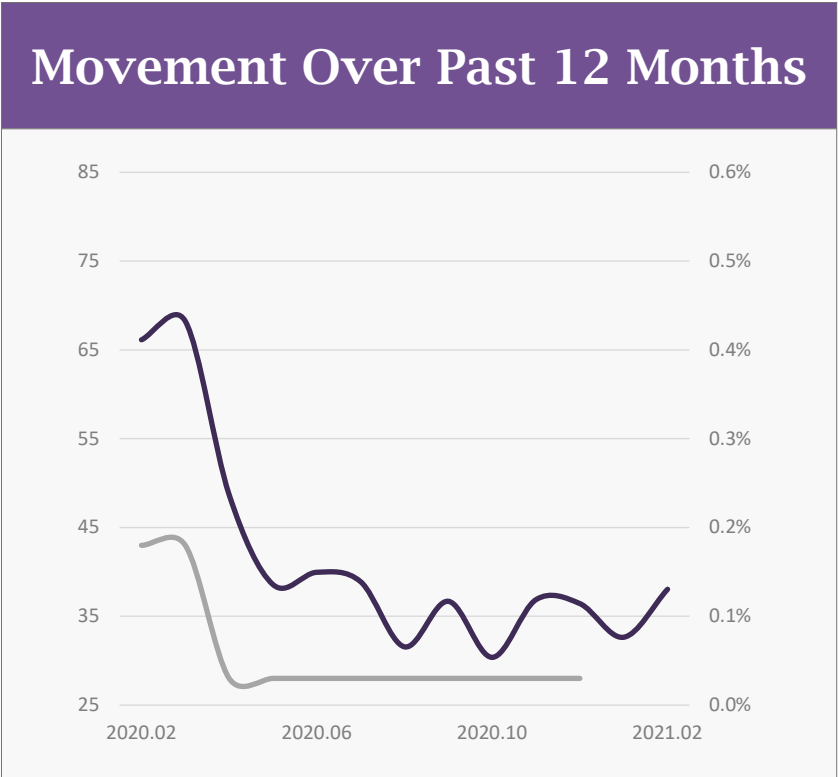
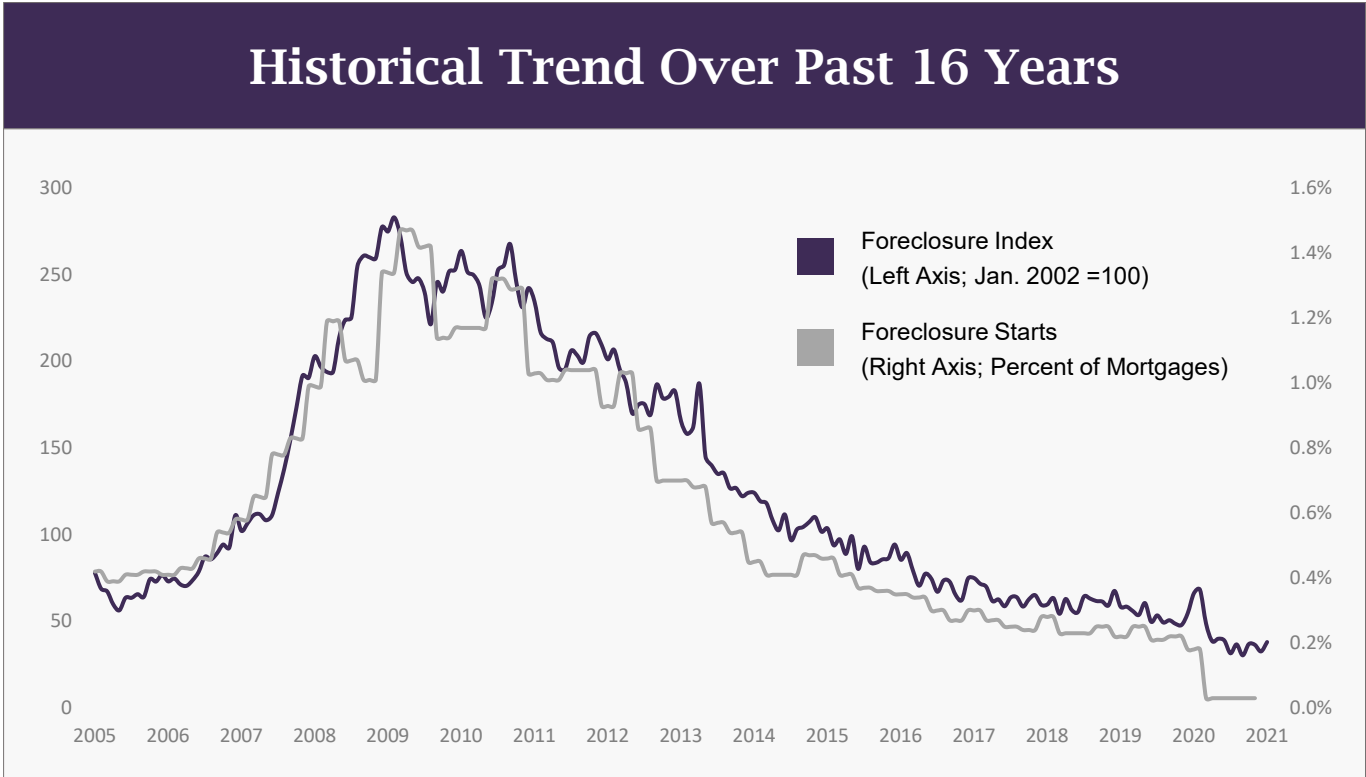
The LegalShield Foreclosure Index jumped in February to the highest level since July, although it remains far below the pre-pandemic levels. Foreclosures are expected to stay relatively low for the next quarter as a result of the extension of federal eviction and foreclosure moratoria.

The LegalShield Foreclosure Index increased (worsened) 5.5 points to 38.1 in February, though it is 42% below year-ago levels. The index continues to closely track foreclosure starts, which remain at an all-time low as of Q4 despite a sharp rise in delinquencies during the pandemic. According to Black Knight, [3.4 million loans](#) were 90+ days delinquent by the end of 2020 — a 400% increase over 2019 levels — though data have improved in recent months. If current trends continue, 1.8 million mortgages are expected to be seriously delinquent when foreclosure moratoria are scheduled to be lifted at the end of June; this could portend an increase in foreclosure activity during the second half of the year.

At the same time, many consumers who have kept their jobs during the pandemic have taken advantage of low interest loans to refinance their homes or purchase new properties, which has led to a dramatic increase in both mortgage originations and mortgage debt. [TransUnion](#) reports that originations rose 67% Y/Y in Q3 2020, while the average balance of new mortgage loans was nearly \$10,000 higher than a year prior. Overall, mortgage debt now exceeds \$10 trillion for the first time according to the New York Fed.

Foreclosures are expected to remain low while the federal eviction and foreclosure moratoria remain in place. However, recent movement in the LegalShield Foreclosure Index is worth monitoring in the weeks ahead and suggests that foreclosures may rise later this year once moratoria are lifted.

# Foreclosure Index





# Housing Construction Index

The LegalShield Housing Construction Index decreased in March for the second consecutive month but remains above pre-pandemic levels. Housing construction is expected to remain healthy in the near term.

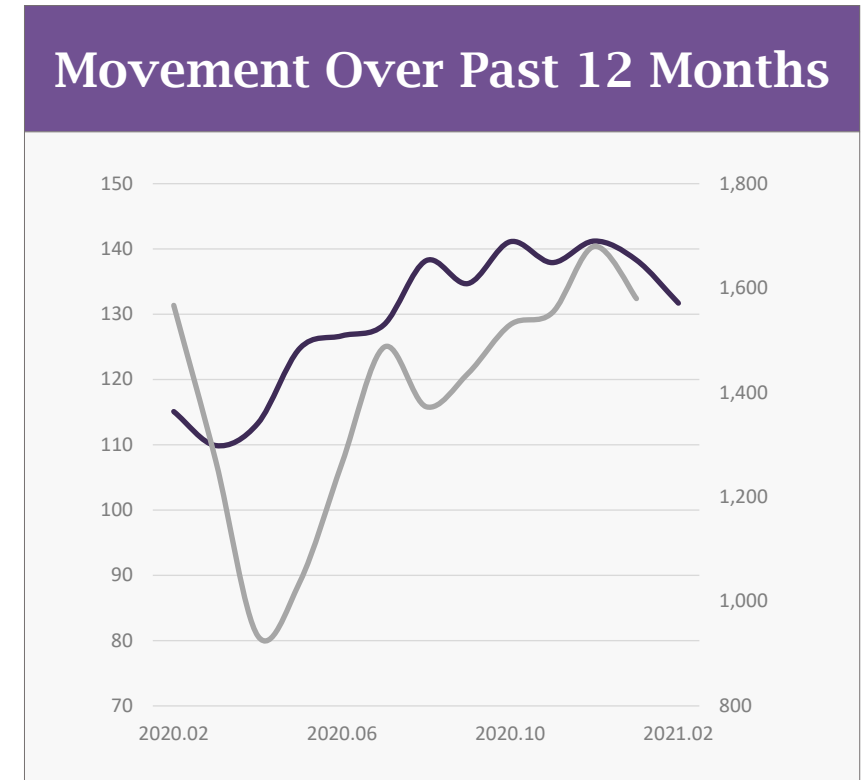
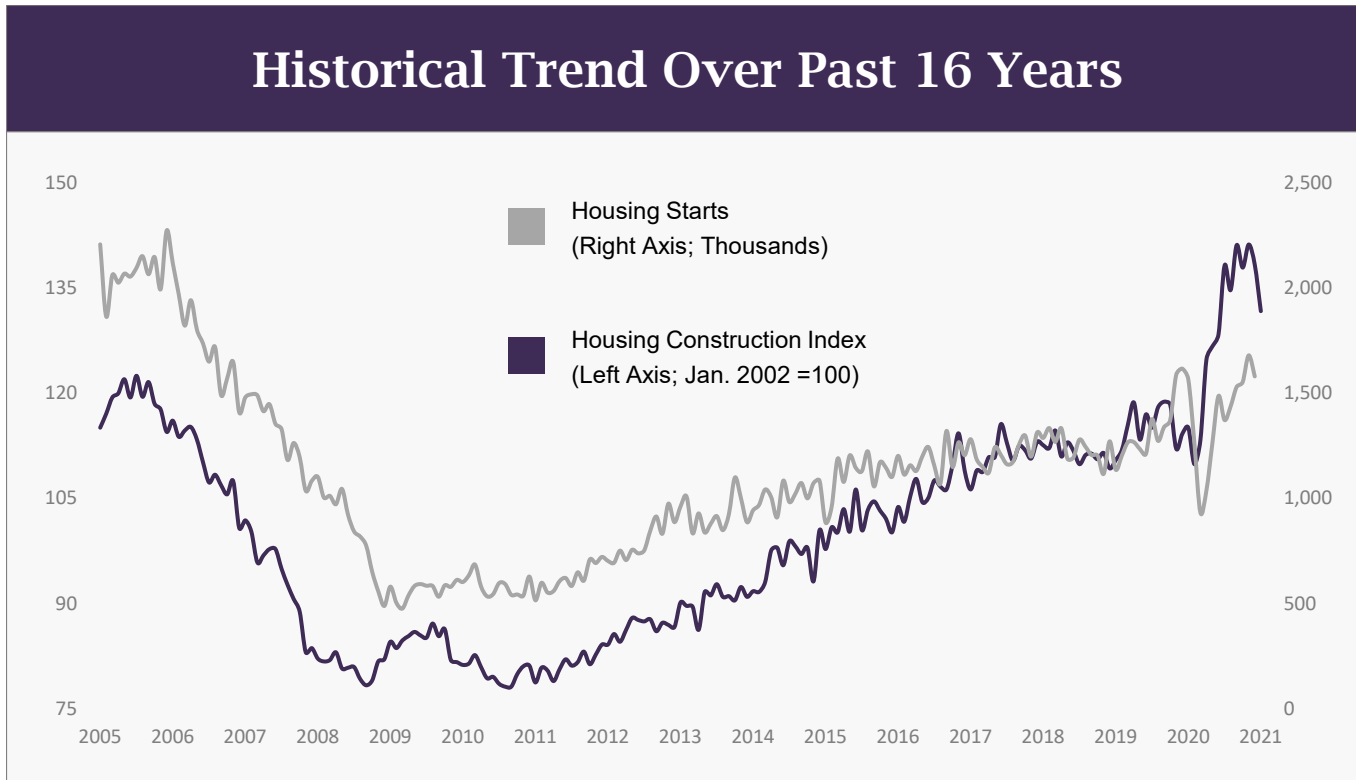
The LegalShield Housing Construction Index fell from 138.3 to 131.7 in February, marking the lowest level since July. Meanwhile, housing starts worsened 6.0% in January and were down 2.3% from a year ago.

Rising input costs, bad weather, and regulatory hurdles appear to be taking some of the air out of homebuilders' sails. In addition to severe winter storms across much of the country, sky-high lumber prices are driving up building costs and delaying construction projects according to the [National Association of Home Builders](#). In January, the number of single-family homes permitted but not started rose 9.6% M/M and was 28% higher than a year prior. Further, [local regulations](#) in some popular areas have capped the amount of housing that can be built (e.g., land zoning for single-family units, required parking spaces), exacerbating issues of availability and affordability.

On a more positive note, robust housing demand is [propping up builder confidence](#) even amid worsening affordability. The NAHB/Wells Fargo Housing Market Index is still in the 99<sup>th</sup> percentile of historical readings and expectations for single-family home sales are higher than any pre-pandemic level since 2000. The strong demand has driven down inventories, however: per data from [Altos Research](#), the number of homes currently on the market is half the level of last winter. The inventory shortage is concentrated in suburbs, exurbs, and rural areas, according the [NAHB Home Building Geography Index](#), reflecting new pandemic-induced demand.

The housing industry continues to lead the economic recovery, as the pandemic and low interest rates have motivated consumers to buy and build single-family homes. Although rising costs are a headwind to housing construction, the LegalShield Housing Construction Index, among other economic indicators, suggests homebuilding activity will stay healthy over the next three to six months.

# Housing Construction Index





# Housing Sales Index

The LegalShield Housing Sales Index eased again in February but remains well above pre-pandemic levels, suggesting existing home sales will remain robust in the near term.

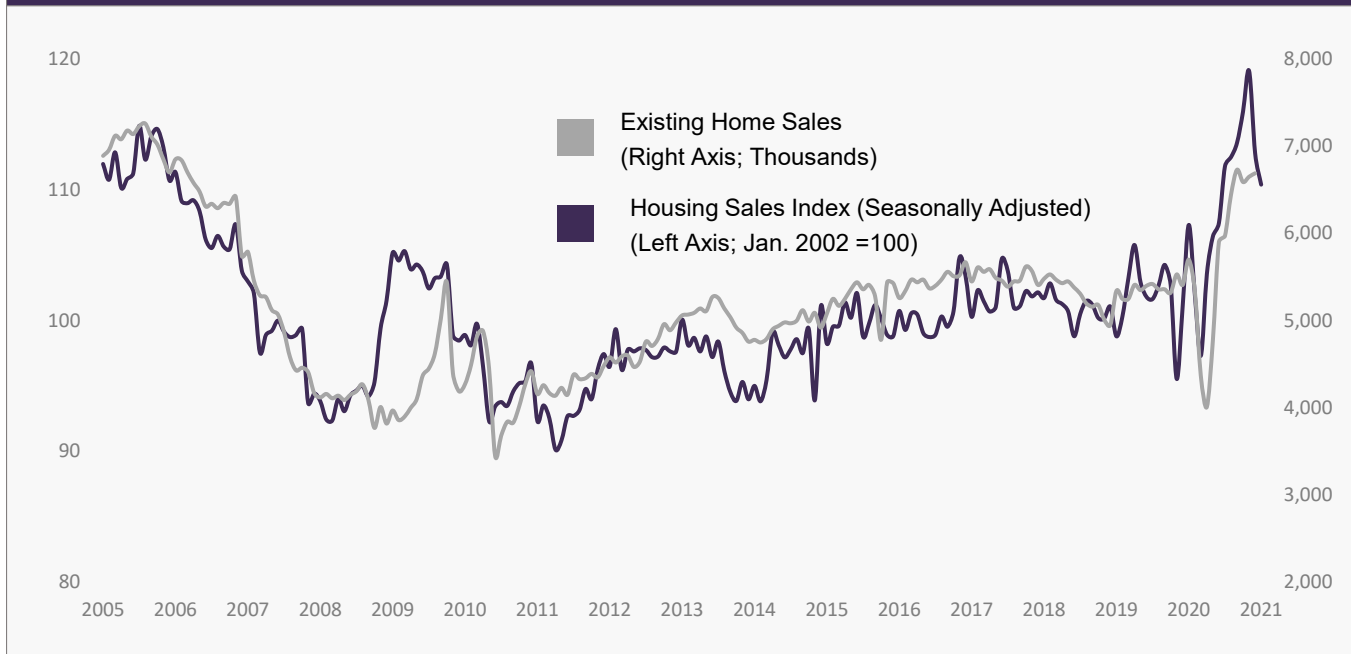
The LegalShield Housing Sales Index fell 2.4 points in February to 112.8 but remains historically elevated. Meanwhile, existing home sales were mostly unchanged, inching up 0.6% in January. Existing home sales were 24% above their year-ago level.

Demand for existing homes remains remarkably strong despite surging prices. This strong demand, coupled with supply-side constraints, has led to plunging inventory of existing homes (now at an all-time low of 1.04 million units). Historically low inventories have caused a dramatic run-up in prices: the [S&P CoreLogic Case-Shiller](#) National Home Price Index rose 10.1% from a year prior in December, the fastest pace in nearly seven years. Consequently, [Bank of America's U.S. consumer confidence report](#) shows that rising prices have dampened optimism about buying or selling a home in big cities and rural areas alike. Another potential headwind is rising mortgage rates: according to [Freddie Mac's weekly survey](#), the 30-year fixed mortgage rate rose to its highest level in six months, though rates remain near historic lows.

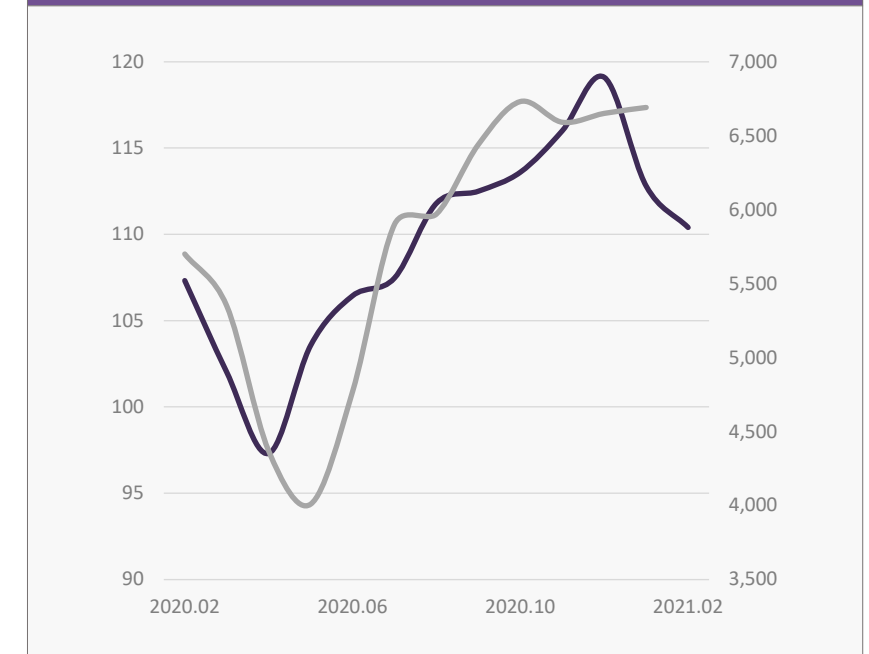
Though these headwinds may weigh on home sales later in the year, the same factors that fueled a surge in housing sales last year should continue to support continued sales growth in the near term.

# Housing Sales Index

## Historical Trend Over Past 16 Years



## Movement Over Past 12 Months



# Technical Appendix



# Key Findings

Three individual AOLs demonstrated strong correlation and leading properties against five target macroeconomic indicators.

Summary Of Results							
LEGALSHIELD AREA OF LAW	TARGET MACRO INDICATOR(S)	CORRELATION (LEVEL)	CORRELATION (Y/Y)	CORRELATION (Q/Q)	TRACKS HISTORICAL TREND?	ESTIMATED LEAD	ROBUST OVER TIME?
Bankruptcy	Bankruptcies	0.75	0.74	0.22	✓	≈ 1 mo.	✓+
Foreclosure	Foreclosures	0.96	0.88	0.47	✓	Coincident*	✓+
Real Estate	Existing Home Sales	0.87	0.65	0.46	✓	≈ 0-1 mo.*	✓

\*These indices have a timing advantage over their target indicators due to the release schedule of the target series.

# Composite Indices

We developed two composite indexes that are strongly correlated with and tend to lead economic indicators of interest.



LegalShield “Consumer Stress” Index

- ✓ **Component AOLs:** (1) Bankruptcy; (2) Consumer/Finance; (3) Foreclosure
- ✓ **Target Indicator:** Consumer Confidence
- ✓ **Performance:** -0.85 Correlation; 1-3 Month Lead



LegalShield “Housing Construction” Index

- ✓ **Component AOLs:** (1) Real Estate; (2) Foreclosure
- ✓ **Target Indicator:** Housing Starts
- ✓ **Performance:** 0.91 Correlation; 0-2 Month Lead\*

\*In addition to its statistical lead time, the Index also has a timing advantage over housing starts of roughly one week due to release schedules.

# Methodology:

## Individual Index Development



# Methodology

A six-step process was used to convert LegalShield intake data into potential indices.

1

## **CONSTRUCT DATASET:**

Conduct preliminary data cleaning, processing, and formatting.

2

## **DETERMINE SCOPE OF ANALYSIS:**

Examine differences across plan types and subscriber samples to determine the optimal “subscriber universe” for index development.

3

## **DEFINE INTAKE METRIC:**

Test competing approaches for normalizing intake data.

4

## **FILTER AOLS:**

Evaluate and scope the original list of 65 areas of law (AOLs) to identify the best candidates for index development.

5

## **TEST:**

Run the scoped AOLs through a series of transformations and statistical tests to identify quantitative relationships with key macroeconomic indicators.

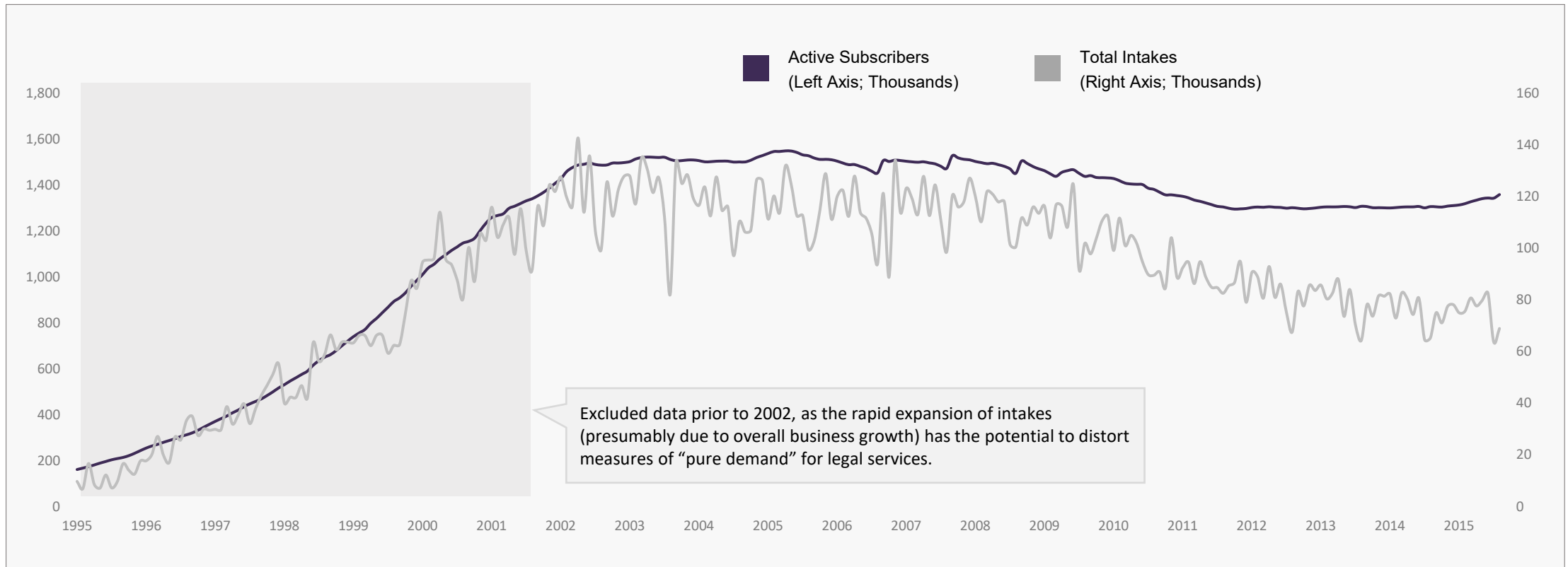
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## **DEVELOP INDEXES:**

Combine specific AOLs into composite indexes and test relationships with key macroeconomic indicators.

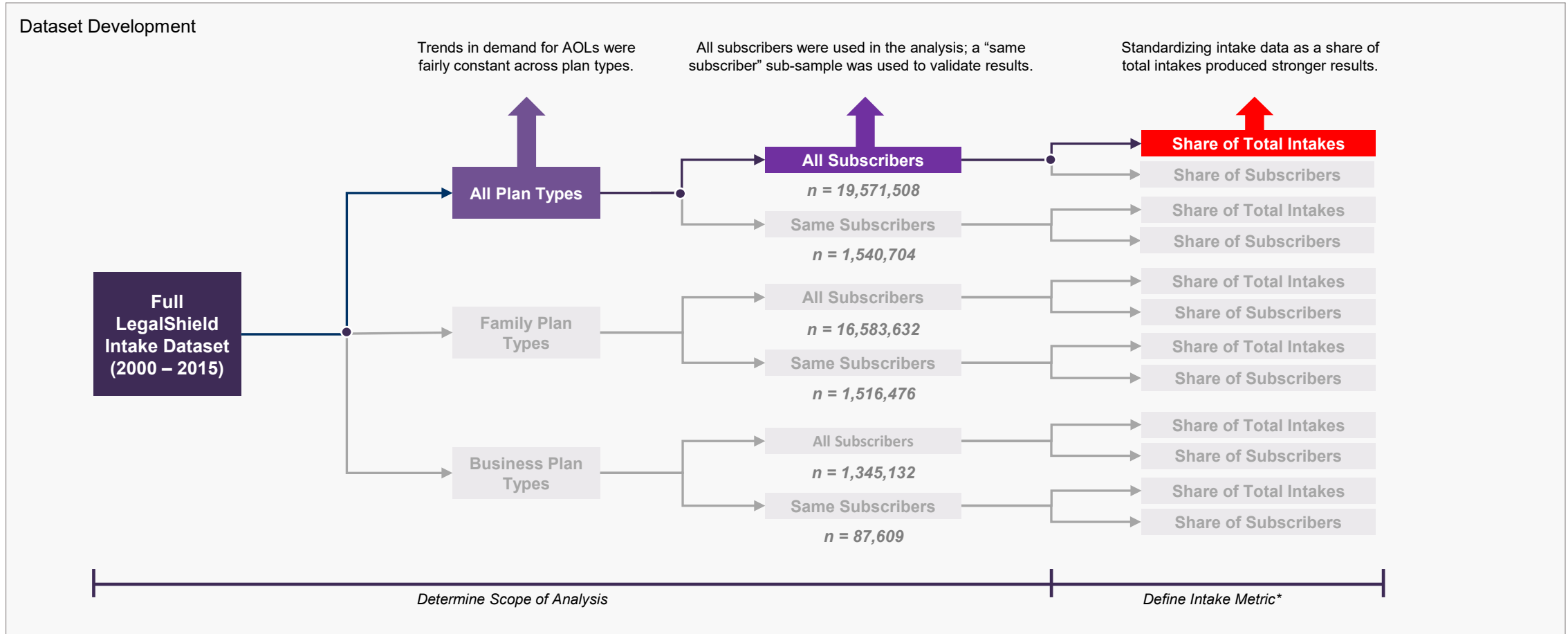
# Data Construction & Cleaning

Monthly subscriber and intake data was trimmed to improve the stability of the dataset over time.



# Analytical Scope

Testing and index development used intake data from all subscribers across all plan types, standardized by total intakes.



\*Standardizing intake data as a share of active subscribers controls for the change in the size of the subscriber base over time. Standardizing intake data as a share of total intakes controls for shifts in the relative demand for different AOLs over time.

# Filter AOLs

Out of 65 AOLs in the original intake data, a three-step filtering process identified 27 as suitable candidates for index development.

## Scoping Intake Data

1

### ORIGINAL DATASET:

Historical intake data from LegalShield included 65 AOLs.



2

### CONSOLIDATE AOLs:

Consolidating “like” AOLs reduced the number from 65 to 49.



3

### CRITERIA 1: HISTORICAL DATA

18 AOLs lacked sufficient historical data.



4

### CRITERIA 2: NARROW SCOPE

4 AOLs were defined too broadly to support a specific index narrative, leaving 27 “qualifying” AOLs.



# Filter AOL

Detailed Inclusion Filter Results (1/2)

ID	LEGALSHIELD AREA OF LAW	ASSOCIATED WITH +/- LIFE EVENT	HISTORICAL DATA	NARROW SCOPE	INCLUDE IN DATASET
1	Administrative Law	Ambiguous		✓	
2	Automobile Accident	-	✓	✓	✓
3	Banking	Ambiguous	✓		
4	Bankruptcy	-	✓	✓	✓
5	Business License, Fees, etc.	Ambiguous	✓	✓	✓
6	Civil Litigation	-	✓	✓	✓
7	Collection	-	✓	✓	✓
8	Consumer/Finance	Ambiguous	✓	✓	✓
9	Contract	Ambiguous	✓	✓	✓
10	Corporate	+	✓	✓	✓
11	Criminal	-	✓	✓	✓
12	Divorce	-		✓	
13	Divorce Uncontested	-		✓	
14	Education	-	✓	✓	✓
15	Elder Law	-	✓	✓	✓
16	Employment	Ambiguous	✓	✓	✓
17	Entertainment	Ambiguous		✓	
18	Estate Planning	Ambiguous	✓	✓	✓
19	Family Law	Ambiguous	✓	✓	✓
20	Firearm	Ambiguous		✓	
21	Foreclosure	-	✓	✓	✓
22	Franchise Law	Ambiguous		✓	
23	General Law	Ambiguous	✓		
24	Identity Theft	-		✓	
25	Immigration	Ambiguous	✓	✓	✓

# Filter AOL

Detailed Inclusion Filter Results (2/2)

ID	LEGALSHIELD AREA OF LAW	ASSOCIATED WITH +/- LIFE EVENT	HISTORICAL DATA	NARROW SCOPE	INCLUDE IN DATASET
26	Insurance	-	✓	✓	✓
27	Labor Law	-		✓	
28	Landlord Tenant	-	✓	✓	✓
29	Legal Malpractice	-		✓	
30	Loan Modification	Ambiguous		✓	
31	Medical Malpractice	-	✓	✓	✓
32	Military Law/Security Clearance	Ambiguous		✓	
33	Other	Ambiguous	✓		
34	Patents Combined	+	✓	✓	✓
35	Personal Injury	-	✓	✓	✓
36	Probate	-	✓	✓	✓
37	Product Liability	-		✓	
38	Public Service	Ambiguous		✓	
39	Real Estate	+	✓	✓	✓
40	Request for Service	Ambiguous			
41	Small Claims	-	✓	✓	✓
42	Social Security	-	✓	✓	✓
43	Tax	Ambiguous	✓		
44	Trademarks	+		✓	
45	Traffic	-	✓	✓	✓
46	Veteran's Affairs	Ambiguous		✓	
47	Will Workshop	Ambiguous		✓	
48	Workman's Compensation	-	✓	✓	✓
49	Wrongful Death	-		✓	
<b>TOTAL</b>			<b>31</b>	<b>44</b>	<b>27</b>

# Testing

Intake data from the 27 “qualifying” AOLs was then tested against 15 economic indicators of interest to assess potential predictive value.

## **MACROECONOMIC INDICATORS:**

1. Conduct preliminary data cleaning, processing, and formatting.
2. Examine differences across plan types and subscriber samples to determine the optimal “subscriber universe” for index development
3. Test competing approaches for normalizing intake data.

## **HOUSING INDICATORS:**

4. Housing Starts
5. Existing Home Sales (NAR)
6. Residential Construction Permits
7. Small Business Optimism Index (NFIB)

## **FINANCIAL HEALTH INDICATORS:**

8. Total Bankruptcies (Total Filings; Epiq)
9. Delinquencies (All Loans & Leases; St. Louis Fed)
10. Foreclosures (All Mortgage Foreclosures Started; Mortgage Bankers Association)
11. Consumer Credit (Total; Revolving; Non-Revolving)
12. S&P 500 Index
13. Wilshire 5000 Index






## **CONFIDENCE INDICATORS:**

14. Consumer Confidence Index (Conference Board)
15. Small Business Optimism Index (NFIB)

# Testing

Three out of the final 27 AOLs demonstrated a strong statistical relationship to a handful of economic indicators.

## Scoping Intake Data

- 1 27 SCOPED AOLS:** 27 AOLs were subjected to several rounds of statistical testing. 
- 2 STATISTICAL RELATIONSHIP:** Test for correlation across various transformations. 
- 3 TRACKING HISTORICAL TREND:** Visually assess AOL to determine how closely it tracks its target indicator. 
- 4 LEADING PROPERTIES:** Test for leading / concurrent properties. 
- 5 ROBUST ACROSS TIME:** Confirm that relationships hold across various out-of-sample time periods. 

# Testing

Testing included computing various correlations, assessing historical trends and leading properties, and evaluating stability over time.

1

## BASIC COORELATIONS:

- Examined the correlation between AOL and target macro indicator using different transformations



2

## HISTORICAL TREND & LEADING PROPERTIES:

- Produced charts of transformed AOL and select economic indicators to confirm/reject if AOL tracks indicator's historical trend
- Examined AOLs on both a concurrent and leading basis

3

## STABILITY TESTS:

- Performed testing to confirm that relationship between AOL and macro indicator was not driven solely by a specific time period within the dataset and ensure that the relationship holds across time
- Test 1: Compared correlations between first half of data (2000 – 2007) and second half of data (2008 – 2015)
- Test 2: Compared correlations between random samples of the data
- Test 3: Compared earliest and latest data (2000 – 2005, 2010 – 2015) with middle of data (2006 – 2009)
- Test 4: Compared correlations between 20% of most recent data (Nov 2012 – Dec 2015) and remaining data

# Testing

Statistical Relationship Testing, Select Results

Correlation Results (2002 – 2017)				
LEGALSHIELD AREA OF LAW	TARGET INDICATOR	CORRELATION (LEVEL)	CORRELATION (Y/Y)	CORRELATION (Q/Q)
Bankruptcy	Bankruptcies	0.76	0.67	0.20
Foreclosure	Foreclosures	0.96	0.87	0.49
Real Estate	Existing Home Sales	0.85	0.58	0.36

# Testing

Historical Trend & Leading Properties Testing, Select Results

Historical Trend & Leading Properties Results (2002 – 2016)				
LEGALSHIELD AREA OF LAW	TARGET INDICATOR	TRACKS HISTORICAL TREND?	LEADING PROPERTIES	APPROXIMATE LEAD TIME
Bankruptcy	Bankruptcies	✓	✓	≈ 1 mo.
Foreclosure	Foreclosures	✓	r	Coincident*
Real Estate	Existing Home Sales	✓	✓	≈ 1 mo.*

\* These indices have a practice lead time of varying length due to the release schedule of the target series.

# Testing

Intertemporal Stability Testing, Select Results

Stability Test Results (2000 – 2015)							
LEGALSHIELD AREA OF LAW	TARGET MACRO INDICATOR(S)	TEST 1*	TEST 2*	TEST 3*	TEST 4*	OVERALL SCORE	KEY TAKEAWAYS
Bankruptcy	Bankruptcies	✓	✓	✓	✓	✓+	Performed well across all tests
Foreclosure	Foreclosures	✓	✓	✓	✓	✓+	Performed well across all tests
Real Estate	Existing Home Sales	r	✓	✓	✓	✓	Performed well on all but one test

\* Test 1: Compared correlations between first half of data (2000 – 2007) and second half of data (2008 – 2015)

\* Test 2: Compared correlations between random samples of the data

\* Test 3: Compared earliest and latest data (2000 – 2005, 2010 – 2015) with middle of data (2006 – 2009)

\* Test 4: Compared correlations between 20% of most recent data (Nov 2012 – Dec 2015) and remaining data

# Methodology:

## Composite Index Development



# Methodology

A five-step process was used to convert LegalShield data into composite indices.

- 1 SELECT AOLS:** Select individual AOLS to be included in the composite index, based on results of statistical tests and desired index “narrative” (e.g., consumer stress).
- 2 TRANSFORM AOLS:** Compute the month-on-month percent change for each AOL.
- 3 STANDARDIZE:** Create a standardization factor for each AOL, based on its standard deviation. Multiply each transformed AOL by the standardization factor to produce an “adjusted monthly contribution” for each AOL.
- 4 SUM COMPONENTS:** Sum the adjusted monthly contribution across each AOL to produce a monthly index growth rate.
- 5 REBASE TO 100:** Rebase the monthly index growth rate to a given month (January 2000 = 100) and to produce a monthly composite index.

# Testing

## Historical Trend & Leading Properties Test Results

Historical Trend & Leading Properties Results (2002 – 2016)				
COMPOSITE INDEX	TARGET INDICATOR	TRACKS HISTORICAL TREND?	LEADING PROPERTIES	APPROXIMATE LEAD TIME
Consumer Stress	Consumer Confidence	✓	✓	1 - 3 mo.
Housing Construction	Housing Starts	✓	✓	0 – 2 mo.*

\*In addition to its statistical lead time, the Index also has a timing advantage over housing starts of roughly a week due to release schedules.

# Testing

## Statistical Relationship Test Results

Correlation Results (2002 – 2017)				
COMPOSITE INDEX	TARGET INDICATOR	CORRELATION (INDEX)	CORRELATION (Y/Y)	CORRELATION (Q/Q)
Consumer Stress	Consumer Confidence	-0.85	-0.58	-0.33
Housing Construction	Housing Starts	0.88	0.55	0.23

# Testing

## Intertemporal Stability Tests

Stability Test Results (2000 – 2015)							
COMPOSITE INDEX	TARGET INDICATOR	TEST 1*	TEST 2*	TEST 3*	TEST 4*	OVERALL SCORE	KEY TAKEAWAYS
Consumer Stress	Consumer Confidence	r	✓	✓	✓	✓	Performed well on all but one test
Housing Construction	Housing Starts	r	✓	✓	✓	✓	Performed well on all but one test

Test 1: Compared correlations between first half of data (2000 – 2007) and second half of data (2008 – 2015)

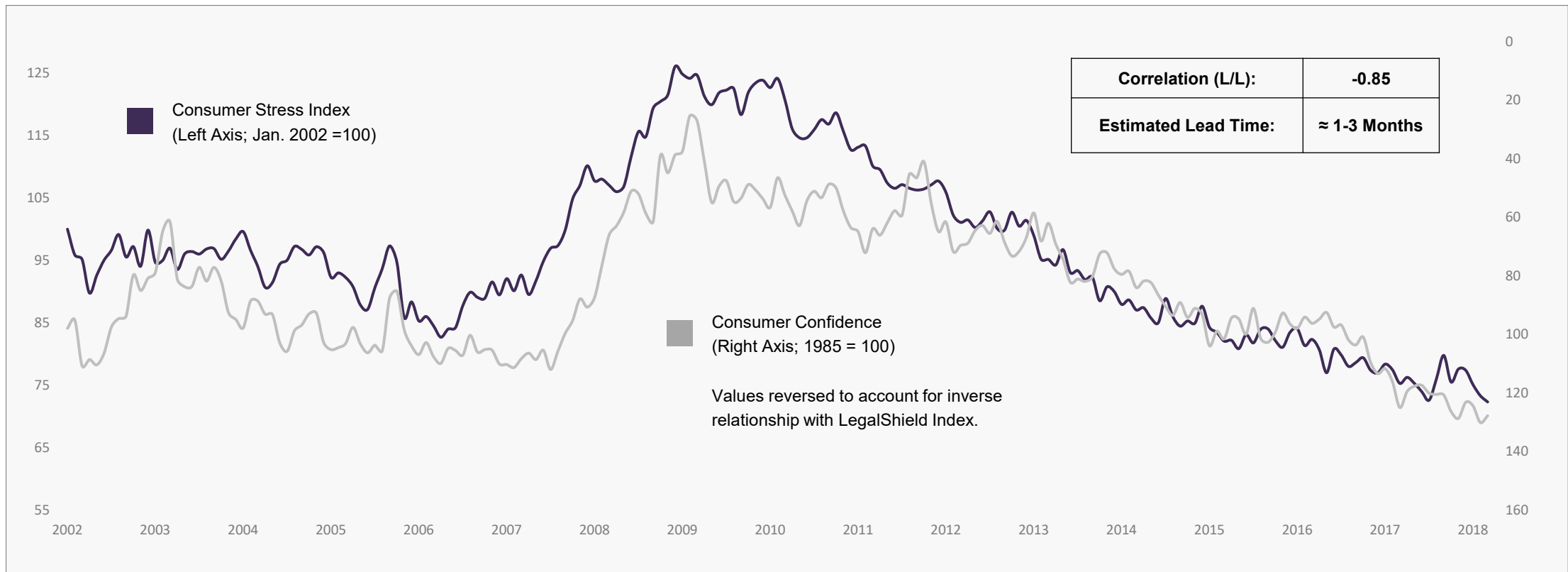
Test 2: Compared correlations between random samples of the data

Test 3: Compared earliest and latest data (2000 – 2005, 2010 – 2015) with middle of data (2006 – 2009)

Test 4: Compared correlations between 20% of most recent data (Nov 2012 – Dec 2015) and remaining data

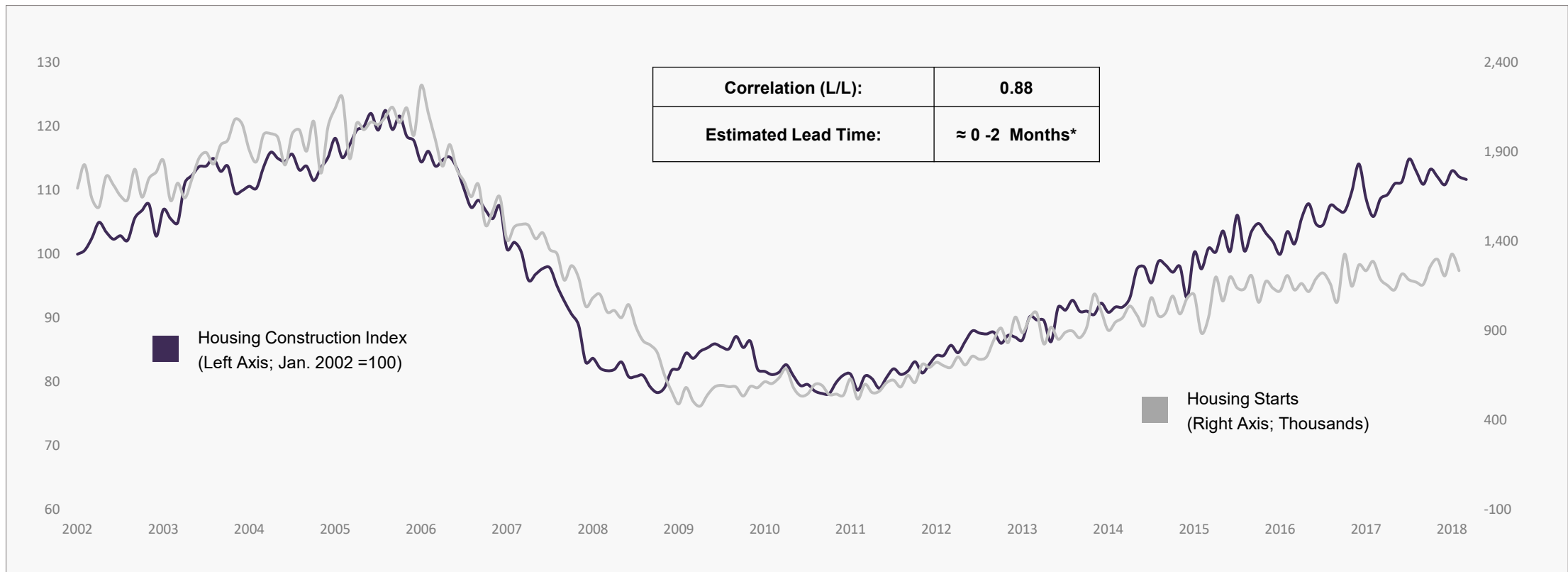
# Composite Index: Consumer Stress

AOLs: Bankruptcy; Foreclosure; Consumer Finance



# Composite Index: Housing Construction Index

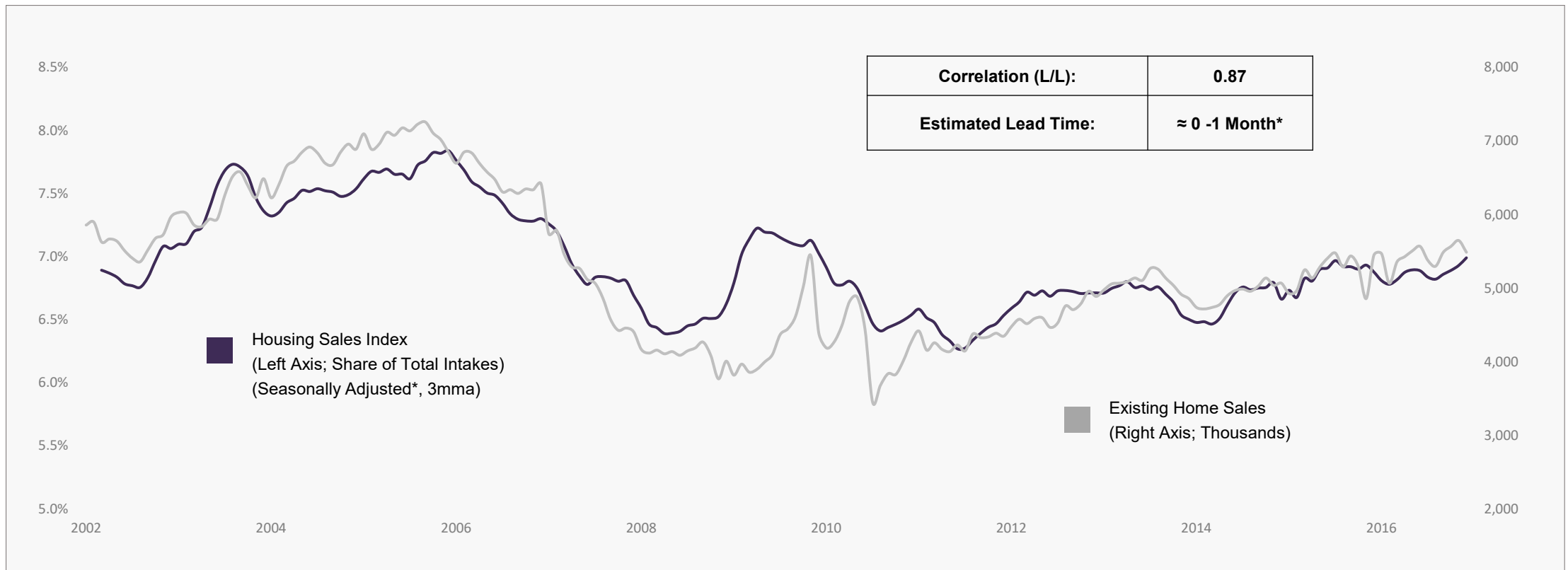
AOLs: Foreclosure; Real Estate\*



\*The Housing Construction Index component of the Housing Activity Index was seasonally adjusted using the Census Bureau's X-13 ARIMA-SEATS Seasonal Adjustment Program. In addition to its statistical lead time, the Index has a timing advantage over housing starts of roughly a week due to release schedules.

# AOL: Real Estate

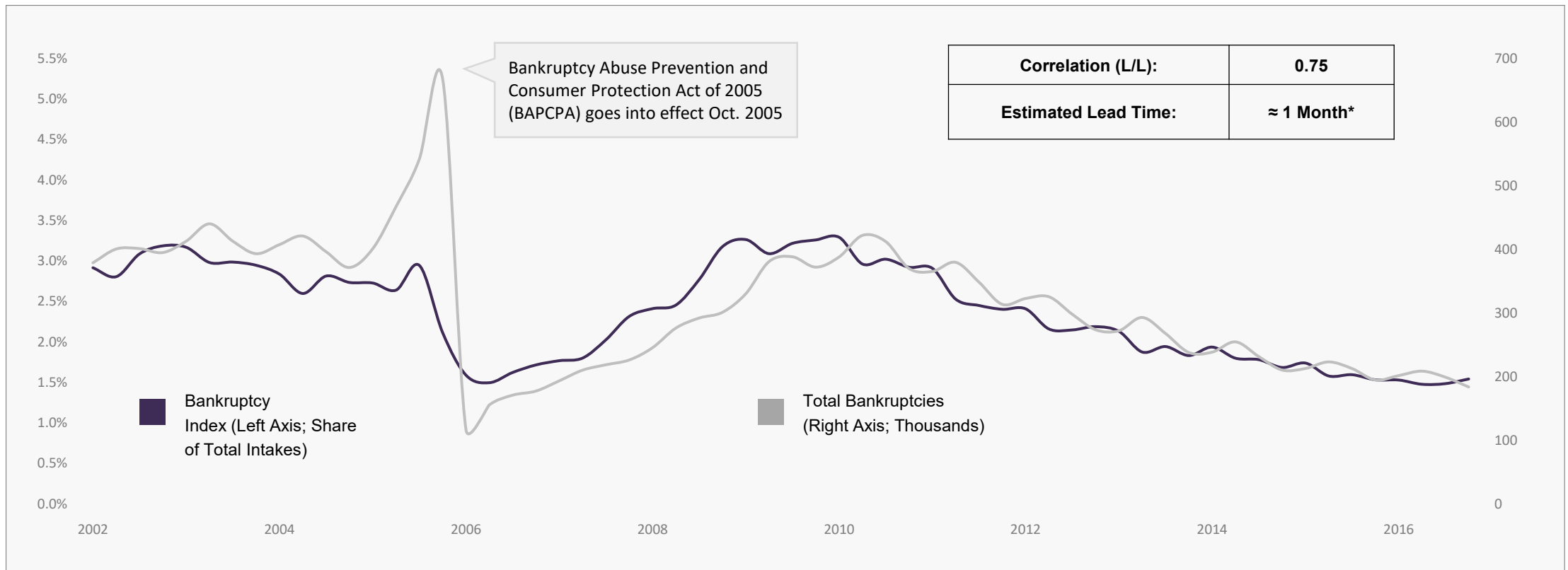
Target Series: Real Estate\*



\*The Housing Sales Index was seasonally adjusted using the Census Bureau's X-13 ARIMA-SEATS Seasonal Adjustment Program. In addition to its statistical lead time, the Index has a timing advantage of roughly two weeks over existing home sales due to release schedules.

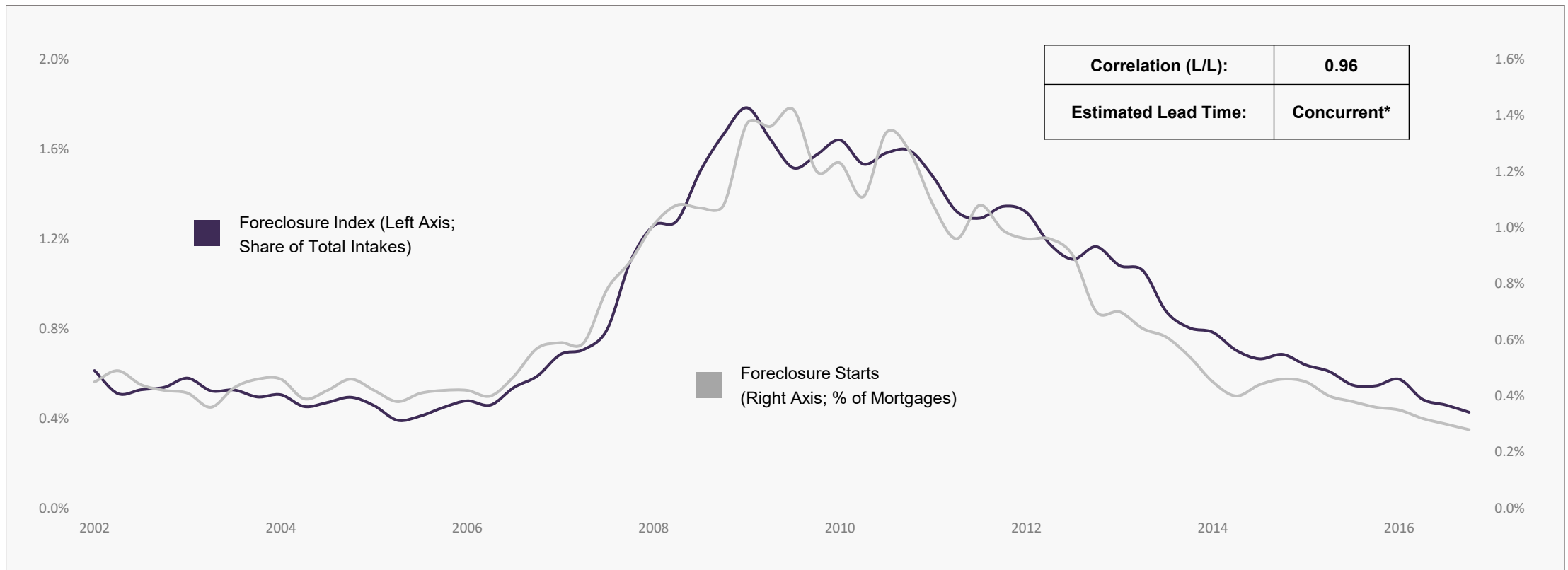
# AOL: Bankruptcy

Target Series: Consumer Bankruptcies



# AOL: Foreclosure

Target Series: Foreclosure Starts



\*Foreclosures starts are statistically coincident with the LegalShield Foreclosure Index, but the Index has a significant timing advantage time due to its monthly release (compared to the quarterly release of foreclosure starts).

# Results

## Summary of Key Findings

Summary of Results						
LEGALSHIELD LAW Index	TARGET SERIES	CORRELATION (LEVEL)	CORRELATION (Y/Y)	CORRELATION (Q/Q)	APPROXIMATE LEAD TIME	ROBUST ACROSS TIME
Bankruptcy	Bankruptcies	0.76	0.67	0.20	≈ 1 mo.	✓+
Foreclosure	Foreclosures	0.96	0.87	0.49	Coincident*	✓+
Housing Sales	Existing Home Sales	0.85	0.58	0.36	≈ 0-1 mo.*	✓
Consumer Stress	Consumer Confidence	-0.85	-0.58	-0.33	≈ 1-3 mo.	✓
Housing Construction	Housing Starts	0.88	0.55	0.23	≈ 0-2 mo.*	✓

Thank you!



Economic  
Stress Index™

