# LegalShield LAWINDEX



## LegalShield Law Index: Consumer Confidence Continuing to Ease, But Still At Healthy Levels

- The Consumer Financial Stress Index increased in Q2, suggesting consumer confidence may slip in coming months
  - Overall, however, the Index remains at healthy levels, suggesting that a recession in 2019 is unlikely

ADA, Okla. – (JULY 10, 2019) -- Released today, the 2<sup>nd</sup> Quarter 2019 LegalShield Law Index, a suite of leading indicators of the economic and financial status of U.S. households and small businesses, indicates that consumer confidence may continue to ease in the coming months.

The LegalShield Consumer Financial Stress Index (CFSI) increased, or worsened, by 2.9 points in Q2 to 77.3, its highest level in 18 months. Overall, however, the Index remains at healthy levels, and confidence is likely to remain elevated by historical standards — suggesting that a recession this year is unlikely.

Meanwhile, the Conference Board's Consumer Confidence Index fell nearly 10 points to 121.5 in June and is down 2.7 points compared to last quarter. While consumer optimism remains elevated, confidence in the U.S. economy has declined over the last six to nine months. Consumer spending grew in Q1 at its second weakest pace since Q2 2013. However, the combination of historically low unemployment, rising household net worth, and record-high stock prices should keep consumers on good footing as the economic expansion enters its 11th year.

"Though the LegalShield Consumer Financial Stress Index increased in the second quarter, consumers remain on good footing despite some recent dips in confidence," said Scott Grissom, Senior Vice President and Chief Product Officer, LegalShield. "With this being said, we wouldn't be surprised to see a slow build in consumer financial stress in the coming months, reflecting weak growth in real disposable income, falling demand for credit card loans, and a softening global outlook."

The LegalShield Housing Activity Index, a leading indicator of housing starts, increased 2.4 points from the first quarter's revised level to 113.6 in Q2 – its highest point in three years – but does not point to a resurgence in building activity over the next quarter.

Meanwhile, housing starts rose to an annualized rate of 1.27 million in May but are essentially unchanged since early 2017. Despite this quarter's improvement in building activity, the NAHB-Wells Fargo Housing Market Index posted its first decline in 2019 as the combination of trade tensions and a tight labor market inflate the price of supplies and labor for homebuilders.

Similarly, the LegalShield Real Estate Index, a leading indicator of existing home sales, signals purchasing activity may improve in the short-term, but a strong rebound appears unlikely given current affordability levels. The index increased 3.5 points to 103.7 in Q2, its highest level since Q4 2016.

"Looking ahead, this quarter's reading of the LegalShield Real Estate Index suggests that existing home sales may further improve later this year, particularly if mortgage rates remain below four percent," Grissom added. "However, a strong rebound in mortgage demand does not appear to be likely given current affordability levels."

The LegalShield Bankruptcy Index decreased (improved) 1.5 points to 49.4 in Q2 and is down 1.1 percent year-over-year. Meanwhile, bankruptcies climbed 2.9 percent in Q2 compared to year-ago levels but remain low by historical standards.

The LegalShield Foreclosure Index increased (worsened) 2.1 points to 60.6 in Q2 and is up roughly seven percent from a year ago. The Index continues to closely track foreclosure starts, which edged down in Q1 to historic lows according to the Mortgage Bankers Association. Although the housing market faces significant headwinds, consumer financial stress is low and foreclosure activity remains muted.

The quarterly LegalShield Law Index reflects the demand for legal services among the company's provider law firms in all 50 states. The Law Index is a suite of leading indicators of the economic and financial status of U.S. households and small businesses, including the

LegalShield Foreclosure Index in addition to the Consumer Financial Stress Index, Housing Activity Index, Real Estate Index, and the Bankruptcy Index.

#### **About LegalShield**

A disrupter in the legal services industry, LegalShield provides equal access to equal justice through its mobile app. More than 1.8 million households are protected by LegalShield. IDShield's identity theft solution for individuals and families has more than one million members. LegalShield and IDShield serve more than 141,000 businesses. In addition, 39,500 companies offer LegalShield and IDShield plans to their employees as a voluntary benefit. Both legal and identity theft plans start for less than \$25 per month.

Unlike other legal plans or do-it-yourself online services, LegalShield has dedicated law firms in 50 states and 4 provinces in Canada that members can access at a fraction of typical law firm hourly rates.

IDShield provides identity monitoring and restoration services and is the only identity theft protection company armed with a team of Licensed Private Investigators to restore a member's identity.

For more information visit <a href="https://www.legalshield.com/law-index">https://www.legalshield.com/law-index</a>



## About LegalShield



#### **#1 Provider**

of Subscription-based legal plans to households

1972-present

46+ Year History and counting



6,900 Broker & Agency Clients

served by our dedicated B2B division





#### **More than 1.8 Million Memberships**

paying monthly via credit card/ debit card/payroll deduction



47,000

small business accounts



#### 39 Law Firms

In 50 states and 4 Canadian provinces with a total of 900 lawyers focused on LegalShield matters, in addition to a referral network of 4,600 lawyers, with average of 22 years experience

# About the LegalShield Law Index

- The LegalShield Law Index is a suite of leading indicators of the economic and financial status of U.S. households and small businesses.
- The LegalShield Law 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 Law 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 Law Index provides actionable intelligence about the direction of the U.S. economy in the near term.



## Advantages of the LegalShield Law Index

#### UNIQUE

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

#### **PROPRIETARY**

The LegalShield Law 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 Law 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 Law 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.



## LegalShield Law Index + Target Economic Indicators

Each sub-index that comprises the LegalShield Law Index has undergone a battery of statistical tests to validate its relationship to an existing economic indicator that sheds light on the health and direction of the U.S. economy (i.e., the target economic indicator). Each index was selected because it tracks its target indicator, thereby providing advance insight into where the economy is heading in the near term.

LegalShield Law Index	LegalShield Area(s) of Law	Target Economic Indicator
Consumer Financial Stress (Composite Index)	Bankruptcy, Foreclosure, & Consumer/Finance	Consumer Confidence (Conference Board)
Housing Activity (Composite Index)	Foreclosure & Real Estate	Housing Starts (U.S. Census Bureau)
Bankruptcy	Bankruptcy	Total Bankruptcies (Compiled by Epiq Systems)
Foreclosure	Foreclosure	Foreclosure Starts (Mortgage Bankers Association)
Real Estate	Real Estate	Existing Home Sales (National Association of Realtors)



# Interpreting Each Component of the LegalShield Law Index

#### **Consumer Financial Stress Index**

Consumer spending accounts for more than two-thirds of U.S. economic activity. The flagship LegalShield Consumer Financial Stress Index tends to lead the Conference Board's Consumer Confidence Index by one to three months. The LegalShield Consumer Financial 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.

#### **Housing Activity 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 LegalShield 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.

#### **Bankruptcy Index**

Bankruptcy data provide an important insight into the overall financial health of consumers and businesses. As witnessed during the Great Recession od 2008-09, an uptick in bankruptcies can foreshadow significant turmoil within the economy. The LegalShield 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 LegalShield Foreclosures Index closely tracks foreclosures as reported each quarter by the Mortgage Bankers Association.

#### **Real Estate 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 LegalShield Real Estate 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.



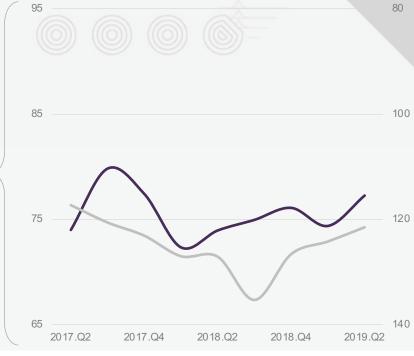
## LegalShield Consumer Financial Stress Index

**Headline:** The LegalShield Consumer Financial Stress Index increased in Q2, suggesting consumer confidence may continue to ease in the coming months. Overall, however, the Index remains at healthy levels, and confidence is likely to remain elevated by historical standards — suggesting that a recession this year is unlikely.

Trends in Context: The LegalShield Consumer Financial Stress Index (CFSI) increased (worsened) 2.9 points in Q2 to 77.3, its highest level in 18 months. Meanwhile, the Conference Board's Consumer Confidence Index fell nearly 10 points to 121.5 in June and is down 2.7 points compared to last quarter. While consumer optimism remains elevated, confidence in the U.S. economy has declined over the last 6-9 months, mirroring a weakening in the economy's underlying fundamentals. Indeed, consumer spending grew in Q1 at its second weakest pace since Q2 2013, reflecting weak growth in real disposable income, falling demand for credit card loans, and a worsening global outlook. Furthermore, ongoing trade disputes with China and other key trading partners threaten to raise consumer prices for products manufactured abroad. However, the combination of historically low unemployment, rising household net worth, and record-high stock prices should keep consumers on good footing as the economic expansion enters its 11<sup>th</sup> year. Economic headwinds may continue to put upward pressure on consumer financial stress over the remainder of the year, but LegalShield data suggests that consumer confidence will remain elevated over the next quarter — and that a recession in 2019 appears unlikely.

#### **HISTORICAL TREND OVER PAST 16 YEARS**

#### 0 130 20 **Consumer Financial Stress Index** (Left Axis; Jan. 2002 =100) 40 105 60 80 100 Consumer Confidence, Inverted (Right Axis; 1985 = 100) 55 160 2003.Q2 2005.Q2 2007.Q2 2009.Q2 2011.Q2 2013.Q2 2015.Q2 2017.Q2 2019.Q2





## **LegalShield Housing Activity Index**

Headline: The LegalShield Housing Activity Index, a leading indicator of housing starts, improved in Q2 but does not point to a resurgence in building activity over the next quarter.

Trends in Context: The LegalShield Housing Activity Index increased 2.4 points from the first quarter's revised level to 113.6 in Q2, its highest point in three years. Meanwhile, housing starts rose to an annualized rate of 1.27 million in May but are essentially unchanged since early 2017. Despite this quarter's improvement in building activity, the NAHB-Wells Fargo Housing Market Index posted its first decline in 2019 as the combination of trade tensions and a tight labor market inflate the price of supplies and labor for homebuilders. Meanwhile, housing affordability is weighing on prospective homebuyers: the National Association of Realtors' Housing Affordability Index recorded its lowest level of the year in May (even as mortgage rates dipped below 4%), and the median home sale is now nearly 5% above year-ago levels. Overall, despite this quarter's improvement, the LegalShield data point do not point to a breakout in building activity over the next 3 months.

#### HISTORICAL TREND OVER PAST 16 YEARS **MOVEMENT OVER PAST 24 MONTHS** 140 2.500 1.800 2.250 130 2.000 120 1,750 1.500 **Housing Starts** (Right Axis: Thousands) 1,250 100 1,400 100 1.000 **Housing Activity** 750 (Left Axis; Jan. 2002 = 100) 500 80 250 70 1.000 2003.Q2 2005.Q2 2007.Q2 2009.Q2 2011.Q2 2013.Q2 2015.Q2 2017.Q2 2019.Q2 2017.Q4 2018.Q2 2018.Q4 2019.Q2

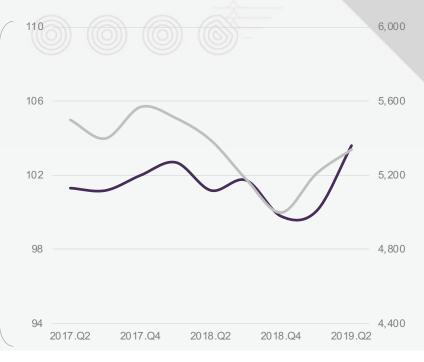
## LegalShield Real Estate Index

Headline: The LegalShield Real Estate Index, a leading indicator of existing home sales, signals purchasing activity may improve in the short-term, but a strong rebound appears unlikely given current affordability levels.

Trends in Context: The LegalShield Real Estate Index increased 3.5 points to 103.7 in Q2, its highest level since Q4 2016. Meanwhile, existing home sales improved 2.5% in May to 5.34 million (annualized) — driven in part by 30-year fixed mortgage rates falling below 4% — but remain below year-ago levels. While the growth in existing home sales is both welcome news and consistent with LegalShield data, other evidence suggests that mortgage demand remains subdued. Sales of new homes, for example, fell nearly 8% in May despite low interest rates, while the University of Michigan's Homebuying Sentiment Index posted its second worst reading in the last 11 years. Additionally, a recent survey conducted by Freddie Mac found that 82% of renters view renting as more affordable than homeownership — an all-time high and up 15 points from February 2018 — indicating that a growing number of prospective homebuyers to not believe homeownership is financially feasible. Looking ahead, this quarter's reading of the LegalShield Real Estate Index suggests that existing home sales may further improve later this year, particularly if mortgage rates remain below 4%. However, a strong rebound in mortgage demand does not appear to be likely given current affordability levels.

#### **HISTORICAL TREND OVER PAST 16 YEARS**

#### 120 8,000 7.000 **Existing Home Sales** (Right Axis; Thousands) 6.000 5,000 100 4.000 90 Real Estate Index 3,000 (Left Axis; Jan. 2002 =100) 80 2.000 2003.Q2 2005.Q2 2007.Q2 2009.Q2 2011.Q2 2013.Q2 2015.Q2 2017.Q2 2019.Q2



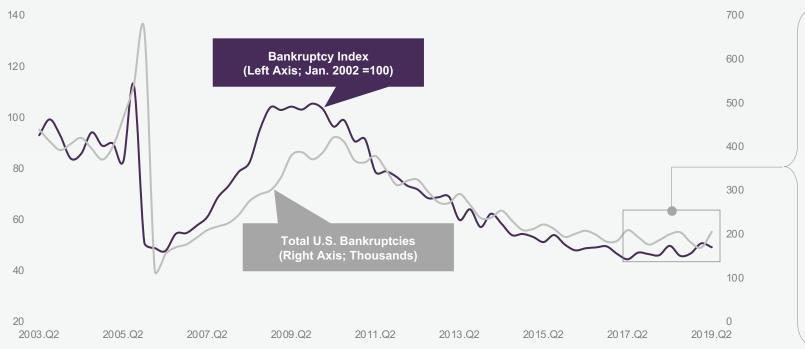


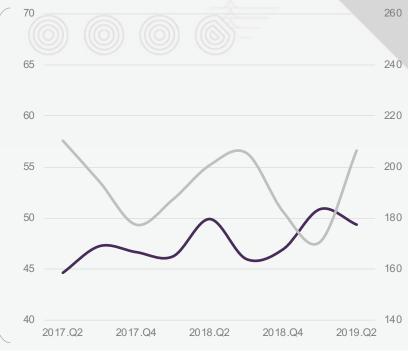
## LegalShield Bankruptcy Index

Headline: The LegalShield Bankruptcy Index, a leading indicator of bankruptcy filings, suggests that bankruptcies should remain subdued over the next 1-3 months.

Trends in Context: The LegalShield Bankruptcy Index decreased (improved) 1.5 points to 49.4 in Q2 and is down 1.1% year-over-year. Meanwhile, bankruptcies climbed 2.9% in Q2 compared to year-ago levels but remain low by historical standards. As the economy enters its 11<sup>th</sup> year of expansion, consumers remain on sound footing as illustrated by the LegalShield CFSI. However, we continue to see emerging signs of financial stress in some corners of the economy, which could lead to rising bankruptcies over the next 1-2 years. For example, auto loans delinquent 90+ days reached a new post-recession high, while the share of 90+ day delinquent credit card balances rose above 5% in Q1 to its highest point in 7 years (though it remains well below post-recession highs). Banks are responding to these signals by pulling back on lending activity: according to the Fed Senior Loan Officer Survey, a moderate net share of banks reported tightening lending standards on credit card loans in the first quarter. Overall, however, most consumers appear to be on solid footing, and the LegalShield Bankruptcy Index points to muted bankruptcy activity over the next quarter.

#### **HISTORICAL TREND OVER PAST 16 YEARS**







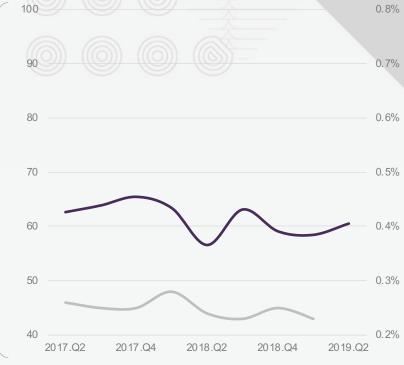
## LegalShield Foreclosure Index

Headline: The LegalShield Foreclosure Index, a leading indicator of foreclosures, continues to point to soft foreclosure activity in the next 1-3 months.

Trends in Context: The LegalShield Foreclosure Index increased (worsened) 2.1 points to 60.6 in Q2 and is up roughly 7% from a year ago. The index continues to closely track foreclosure starts, which edged down in Q1 to historic lows according to the Mortgage Bankers Association. Although the housing market faces significant headwinds, consumer financial stress is low and foreclosure activity remains muted. Homebuyers appear to be handling their debt responsibly, as data from the New York Fed show that the share of mortgages 90 or more days delinquent was at its lowest level in Q1 since before the Great Recession, despite national housing debt hovering near Great Recession highs. Meanwhile, the share of all delinquent mortgages at least one payment past due is down 21 basis points from a year ago. Overall, the LegalShield Foreclosure Index — which is calibrated to provide an early warning of an impending rise in foreclosure activity — suggests little change in foreclosure activity in the near term.

#### HISTORICAL TREND OVER PAST 16 YEARS

#### 300 1.6% Foreclosure Index 1.4% (Left Axis; Jan. 2002 = 100) 250 1.2% 200 1.0% 150 0.8% 0.6% 100 0.4% Foreclosure Starts (Right Axis; Percent of Mortgages) 50 0.2% 0.0% 2003.Q2 2005.Q2 2007.Q2 2011.Q2 2013.Q2 2015.Q2 2009.Q2 2017.Q2 2019.Q2





# LegalShield Law Index: 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	<ul> <li>Bankruptcies</li> </ul>	0.75	0.74	0.22	√ (O)	≈ 1 mo.	<b>√</b> +
Foreclosure	Foreclosures	0.96	0.88	0.47	<b>√</b>	Coincident*	<b>√</b> +
Real Estate	Existing Home     Sales	0.87	0.65	0.46	✓	≈ 0-1 mo.*	✓



## **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 ACTIVITY" INDEX**

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





## Methodology: Individual Index Development

## Methodology

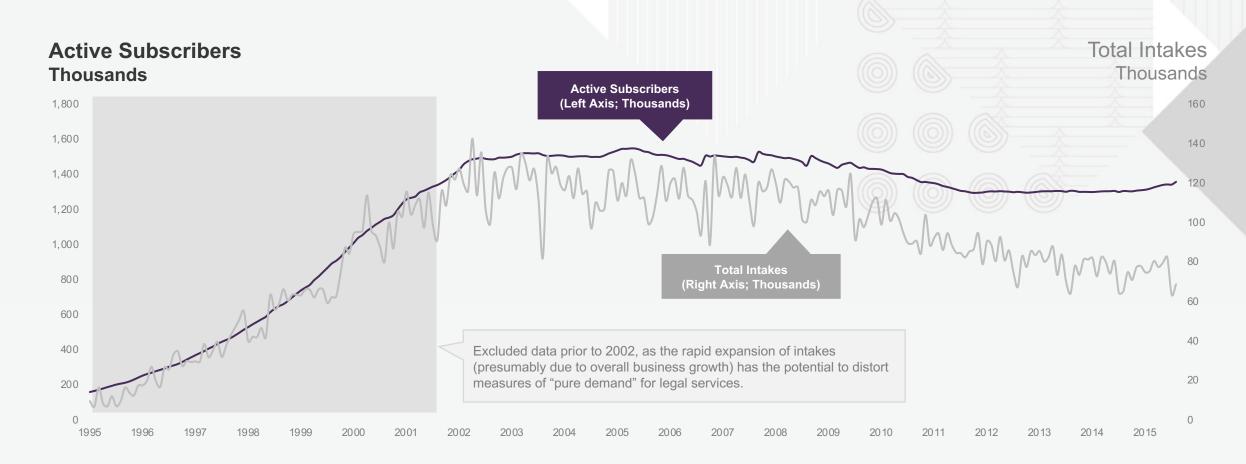
A six-step process was used to convert LegalShield intake data into potential indices.

- 1 Construct Dataset. Conduct preliminary data cleaning, processing, and formatting.
- 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.
- Filter AOLs. Evaluate and scope the original list of 65 areas of law (AOLs) to identify the best candidates for index development.
- **Test.** Run the scoped AOLs through a series of transformations and statistical tests to identify quantitative relationships with key macroeconomic indicators.
- Develop Indexes. Combine specific AOLs into composite indexes and test relationships with key macroeconomic indicators.



## **Data Construction & Cleaning**

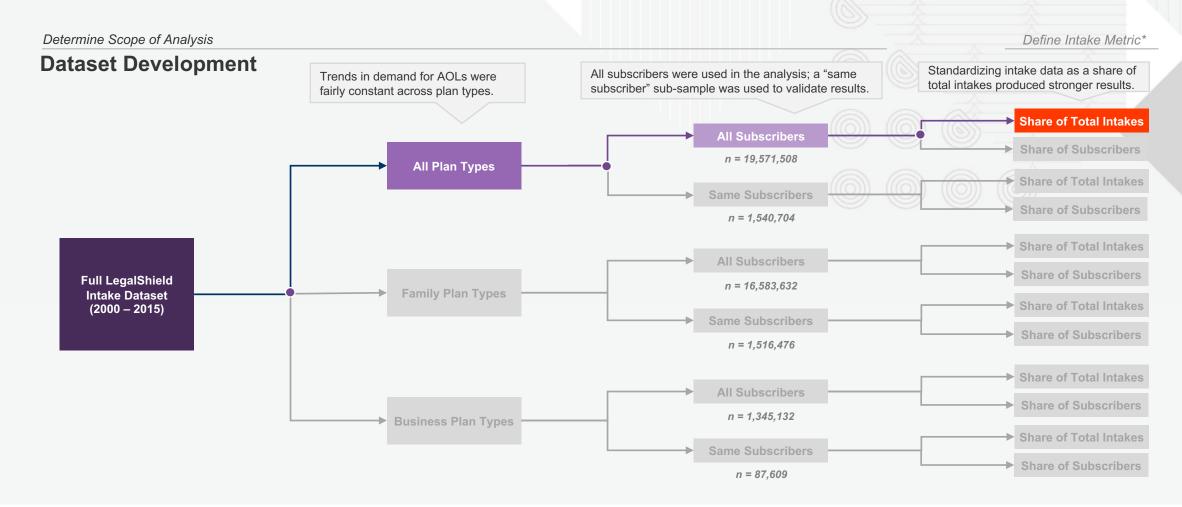
Monthly subscriber and intake data was trimmed to improve the stability of the dataset over time.





## **Analytical Scope**

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





### 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**

Original Dataset

Historical intake data from LegalShield included 65 AOLs.

Consolidate AOLs

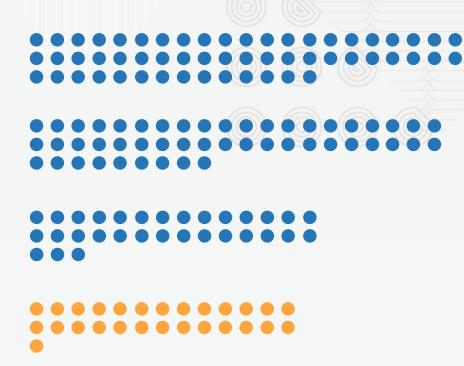
Consolidating "like" AOLs reduced the number from 65 to 49.

Criteria 1: Historical Data

18 AOLs lacked sufficient historical data.

Criteria 2: Narrow Scope

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





## Filter AOLs

#### **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	-	$\checkmark$	✓	✓
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	$\checkmark$	✓	✓
17	Entertainment	Ambiguous		✓	
18	Estate Planning	Ambiguous	$\checkmark$	✓	✓
19	Family Law	Ambiguous	✓	✓	✓
20	Firearm	Ambiguous		✓	
21	Foreclosure	-	✓	✓	✓
22	Franchise Law	Ambiguous		✓	
23	General Law	Ambiguous	✓		
24	Identity Theft	-		✓	
25	Immigration	Ambiguous	✓	✓	✓



## Filter AOLs

#### **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	-		✓	
	TOTAL		31	44	27



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

#### **Macroeconomic Indicators**

- **1** Gross Domestic Product
- 2 Nonfarm Payrolls (Total; Professional and Business Services)
- 3 ISM Non-Manufacturing Purchasing Managers' Index (PMI)

#### **Confidence Indicators**

- 4 Consumer Confidence Index (Conference Board)
- 5 Small Business Optimism Index (NFIB)

#### **Housing Indicators**

- 6 Housing Starts
- 7 Existing Home Sales (NAR)
- 8 Residential Construction Permits
- 9 Small Business Optimism Index (NFIB)

#### **Financial Health Indicators**

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



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

#### **SCOPING INTAKE DATA**

27 Scoped AOLs

27 AOLs were subjected to several rounds of statistical testing.

Statistical Relationship

Test for correlation across various transformations.

Tracking Historical Trend

Visually assess AOL to determine how closely it tracks its target indicator.

Leading Properties

Test for leading / concurrent properties.

**Robust Across Time** 

Confirm that relationships hold across various out-of-sample time periods.













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

1 Basic Correlations

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

Less Rigorous ← → → More Rigorous

Level/Level Year/Year 6 Month/Month 3 Month/Month 1 Month/Month

- 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



#### 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



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	✓	✓	≈ 0-1 mo.*



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.

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.

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.

Sum Components

Sum the adjusted monthly contribution across each AOL to produce a monthly index growth rate.

Rebase the monthly index growth rate to a given month (January 2000 = 100) and to produce a monthly composite index.

Rebase to 100

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 Financial Stress	Consumer Confidence	✓	✓	1 – 3 mo.
Housing Activity	Housing Starts	✓	✓	0 – 2 mo.*



#### Statistical Relationship Test Results

#### Correlation Results (2002 – 2017)

Composite Index	Target Indicator	Correlation (Level)	Correlation (Y/Y)	Correlation (Q/Q)
Consumer Financial Stress	Consumer Confidence	-0.85	-0.58	-0.33
Housing Activity	Housing Starts	0.88	0.55	0.23



#### 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 Financial Stress	Consumer Confidence	r	✓	✓	✓	✓	Performed well on all but one test
Housing Activity	Housing Starts	r	<b>√</b>	<b>√</b>	<b>√</b>	✓	Performed well on all but one test

<sup>\*</sup> 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)

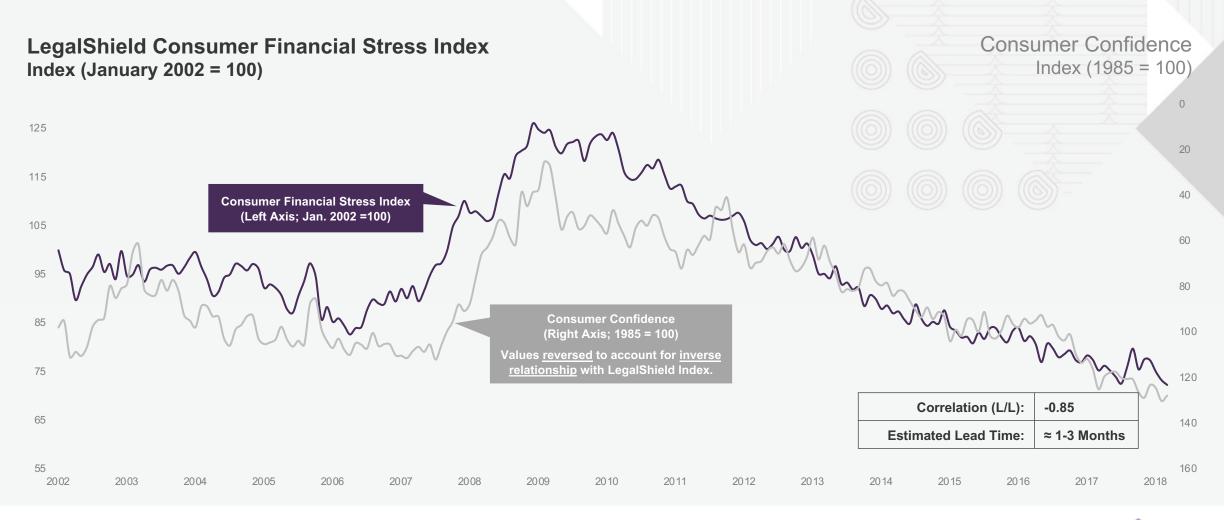
Test 4: Compared correlations between 20% of most recent data (Nov 2012 - Dec 2015) and remaining data



# **Summary of Results**

## **Composite Index: Consumer Financial Stress**

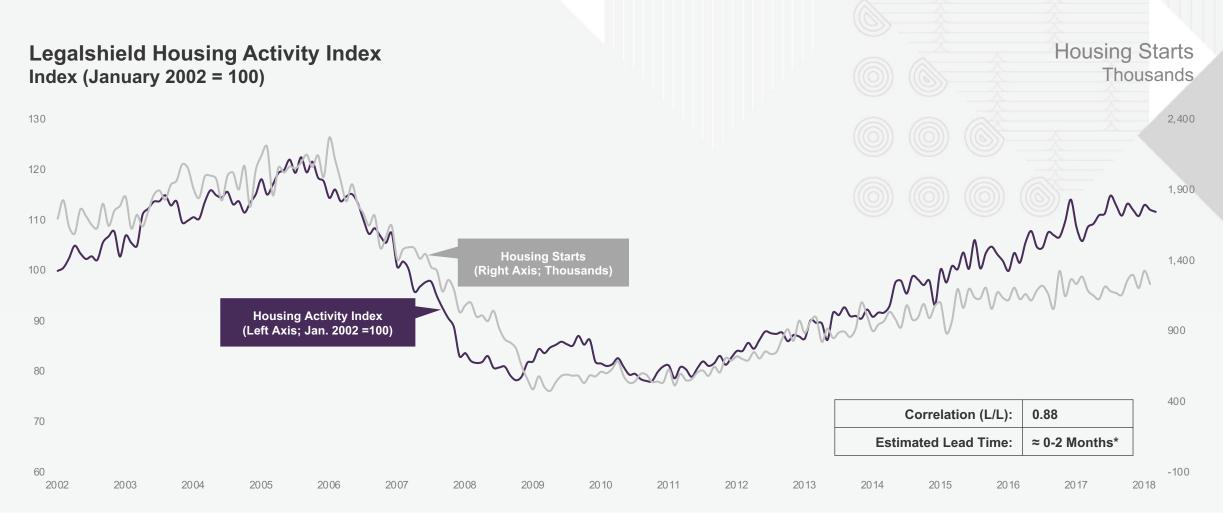
AOLs: Bankruptcy; Foreclosure; Consumer Finance





## **Composite Index: Housing Activity Index**

AOLs: Foreclosure; Real Estate\*

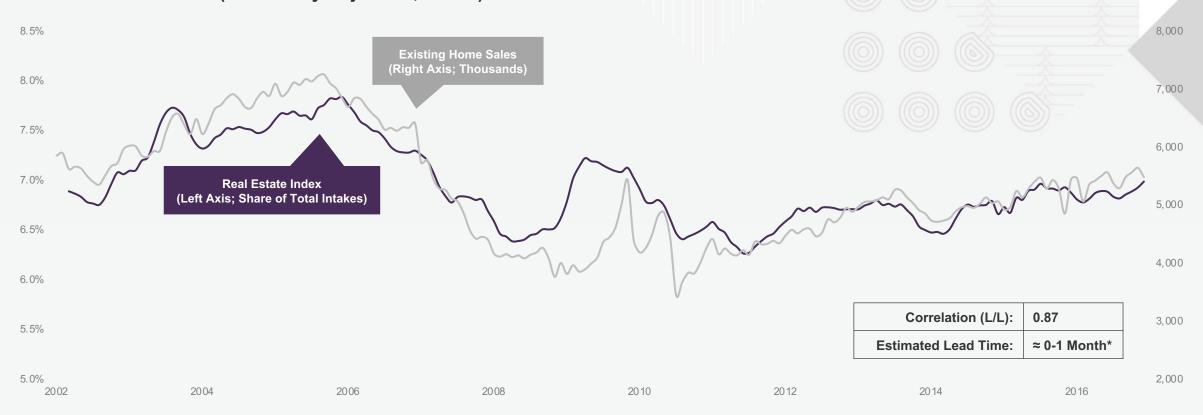




### **AOL: Real Estate**

Target Series: Existing Home Sales

## Legalshield Real Estate Index Share Of Total Intakes (Seasonally Adjusted\*, 3mma)



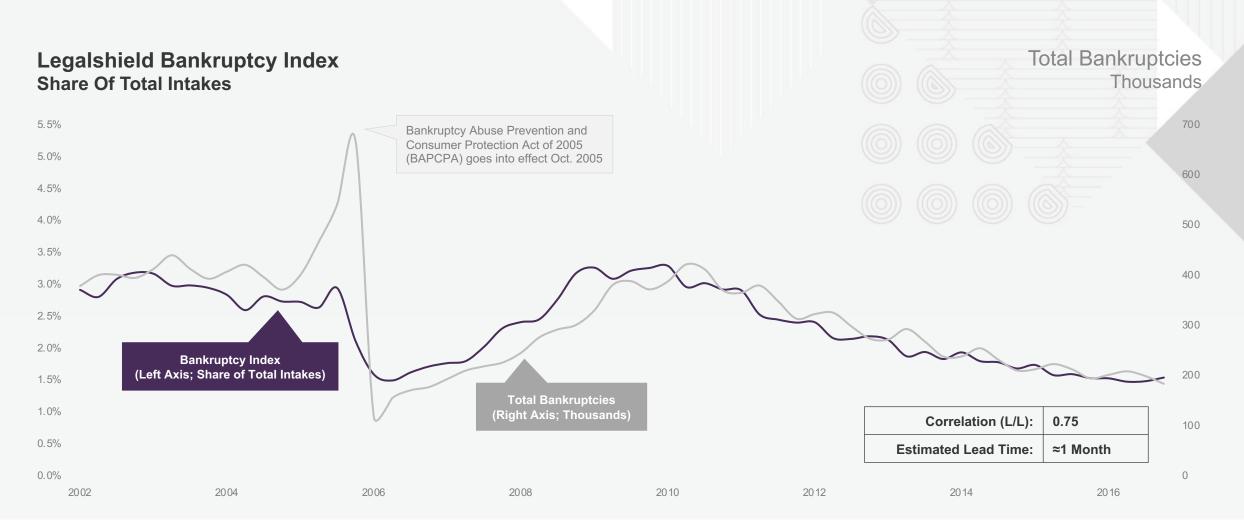


**Existing Home Sales** 

Thousands

## **AOL: Bankruptcy**

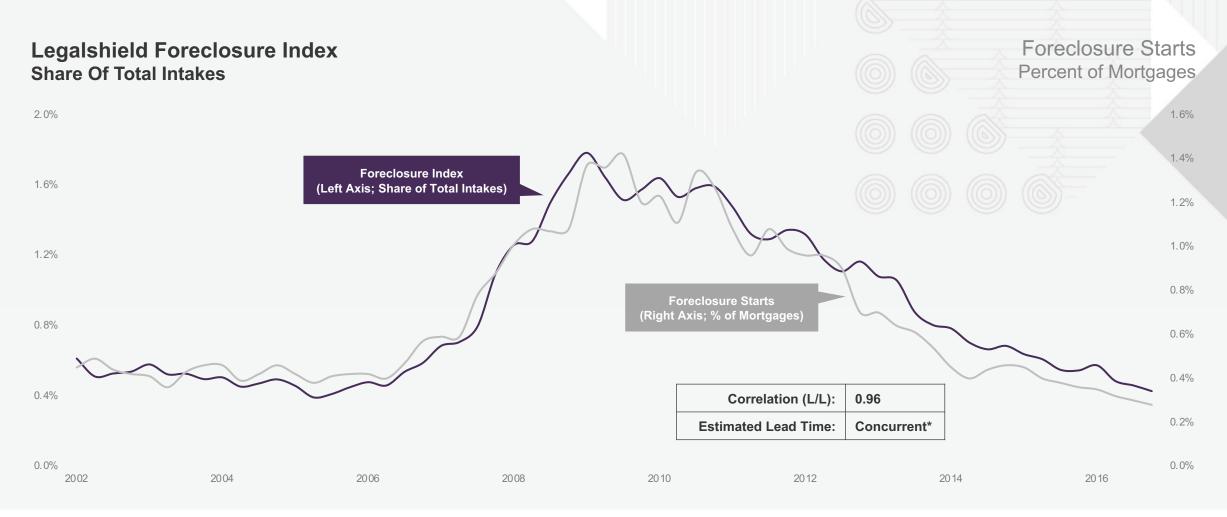
Target Series: Target Bankruptcies





### **AOL: Foreclosure**

Target Series: 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*	√+
Real Estate	Existing Home Sales	0.85	0.58	0.36	≈ 0-1 mo.*	✓
Consumer Financial Stress	Consumer Confidence	-0.85	-0.58	-0.33	≈ 1-3 mo.	✓
Housing Activity	Housing Starts	0.88	0.55	0.23	≈ 0-2 mo.*	✓



# LegalShield LAWINDEX

