About LegalShield

#1 Provider of subscription-based legal plans to households

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

49 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.
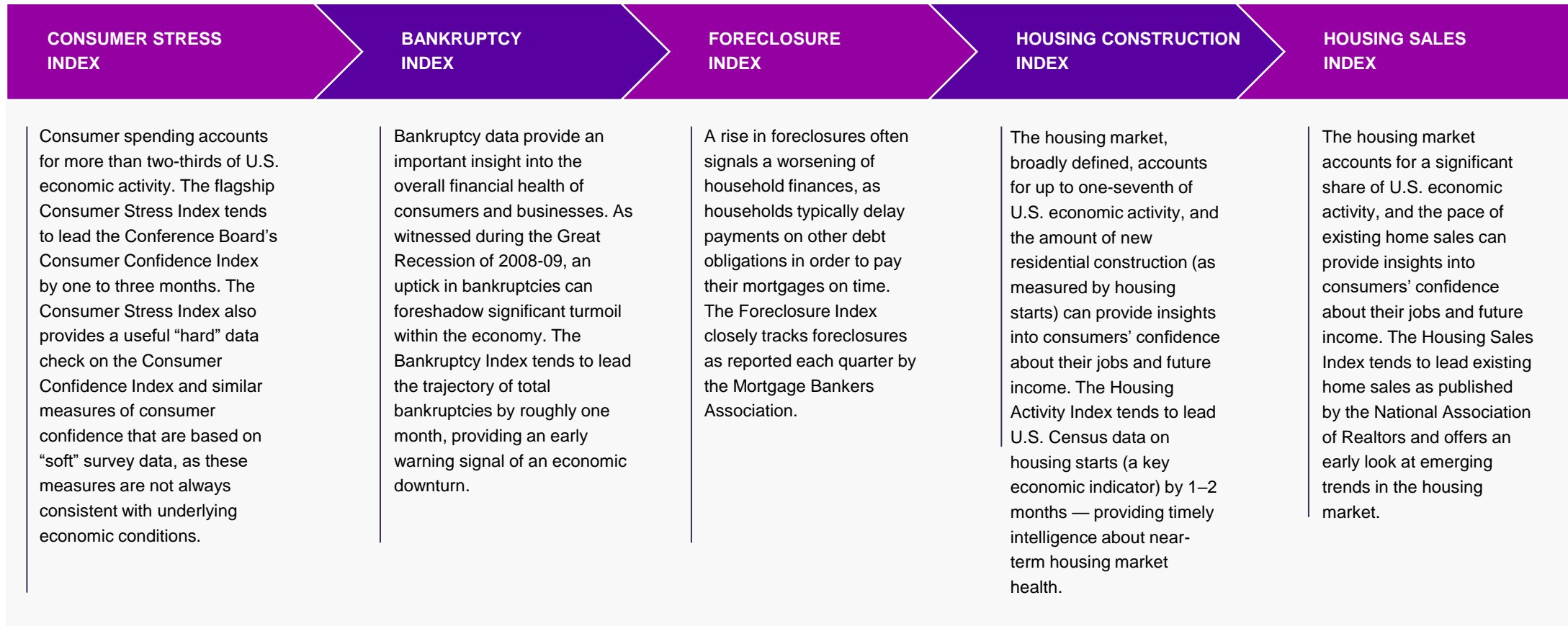
✓ **HIGH-FREQUENCY**
The LegalShield Economic Stress Index is based on data collected on a near real-time basis, and can be refreshed on a weekly, monthly, or quarterly basis depending on the user's needs.

✓ **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	BANKRUPTCY INDEX	FORECLOSURE INDEX	HOUSING CONSTRUCTION INDEX	HOUSING SALES 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 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.	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.	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.	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

Bottom Line: The LegalShield Consumer Stress Index increased in June to its highest level in a year (though it remains low by historical standards). Inflation is putting upward pressure on consumer financial stress as prices for rent, energy, and other household essentials continue to rise.

Latest Reading: In June, the LegalShield Consumer Stress Index increased (worsened) 2.1 points to 60.8, while the Conference Board's Consumer Confidence Index, which it is designed to track, fell 4.5 points to 98.7.

Economic Context: Inflation continues to take its toll on consumers. Inflation-adjusted consumer spending fell for the first time this year in May after slowing significantly in April, a worrying sign for the economy. Many households have become more selective with their spending as prices at the pump and on the shelf rise, an effect that is evident in the most recent retail sales report, which showed a decline in spending even before accounting for inflation. Further, the personal savings rate is just shy of its lowest level in more than a decade as consumers dip into pandemic-era savings to keep up with rising prices.

Consumers do not expect much price relief in the near term: the New York Fed's Survey of Consumer Expectations, the median expectation for inflation one year from now is 6.6%, the University of Michigan's Consumer Sentiment Index is at a record low, and a rising share of consumers are worried about making everyday purchases. Further, average hourly earnings growth, while nominally strong at +5.1% Y/Y, still lags well behind CPI inflation.

Despite these headwinds, the labor market remains strong. In June, the U.S. economy added 372,000 jobs, well above consensus expectations and refuting growing worries that the economy had entered a recession in Q2. Job growth may slow as the Fed continues to raise interest rates, but the labor market appears to be well-positioned to handle additional rate hikes.

All told, there are clear signs that consumer financial stress is rising, though fortunately most households are starting from a position of strength, in large part due to strong labor demand. We expect financial stress to continue to rise throughout the year as high inflation and rising interest rates continue to take their toll.

Consumer Stress Index

Historical Trend Over Past 16 Years
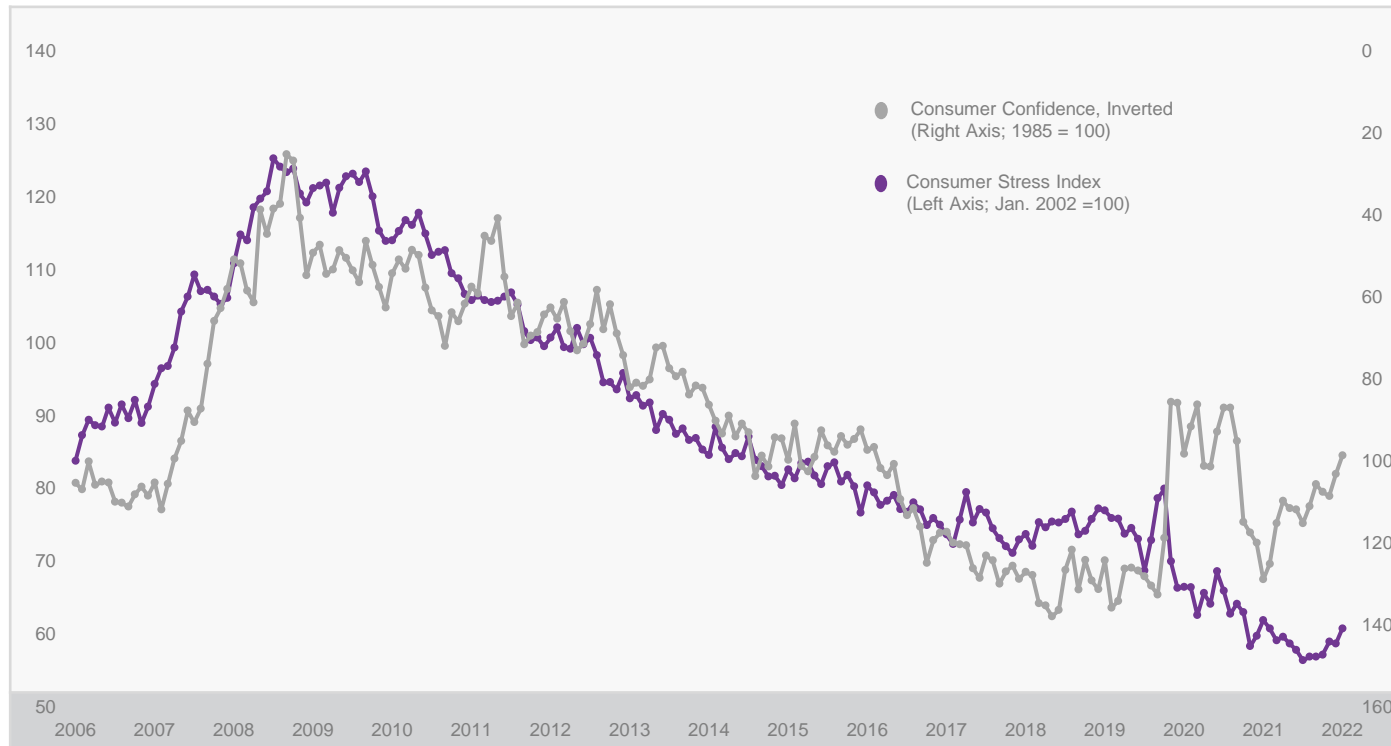
Movement Over Past 12 Months
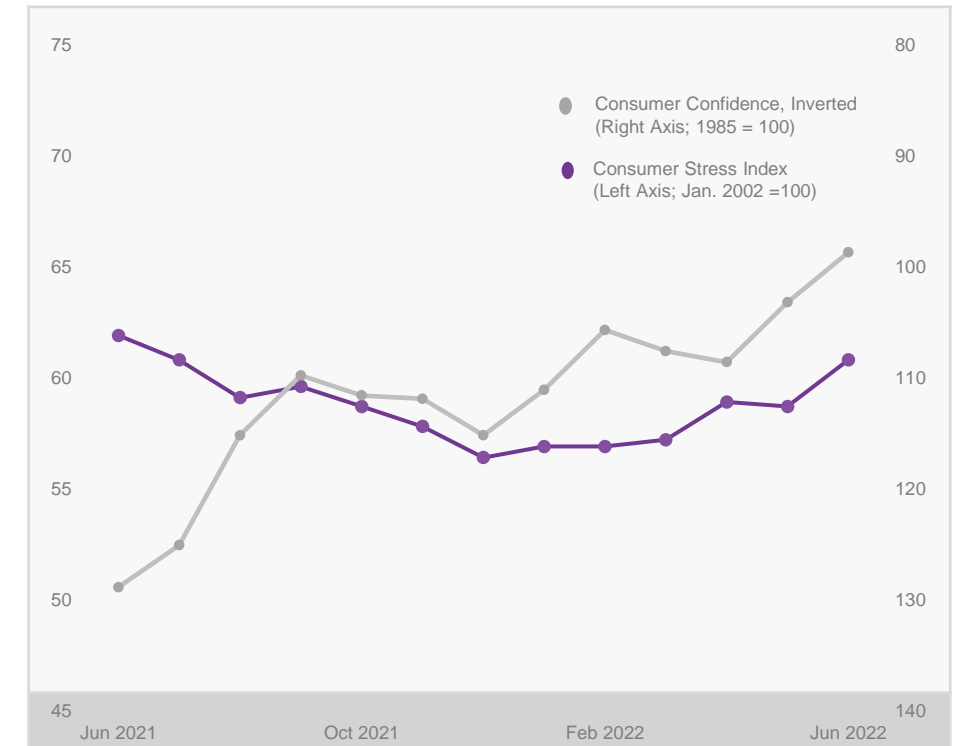
Bankruptcy Index

Bottom Line: The LegalShield Bankruptcy Index increased slightly in June, though it remains historically low. Bankruptcies are unlikely to increase in the near term, as they are an end-stage measure of financial stress.

Latest Reading: The LegalShield Bankruptcy Index edged up (worsened) 1.4 point to 19.8 in June. In May, total seasonally adjusted bankruptcy filings decreased by 4.3% to 28,339, down 28% compared to a year ago.

Economic Context: Given the slow-but-steady rise in consumer stress in recent months, the modest increase in the LegalShield bankruptcy index was not surprising. According to the most recent release of the Census Bureau's Household Pulse Survey, 39.1% of respondents said they had either a "somewhat difficult" or "very difficult" time affording household expenses in the week prior, the highest share since the survey started at the beginning of the pandemic. Similarly, of those who use credit cards or loans to afford household expenses, 52% said they had a "somewhat difficult" or "very difficult" time affording household expenses. This could mean that consumers are accumulating debt they will struggle to pay off. Indeed, according to the American Banker's Association, most bank economists surveyed for the Credit Conditions Index believe that credit quality and availability will worsen for consumers over the next six months. Still, despite these potential warning signs, most consumers are keeping up with their payments, and overall delinquency rates remains historically low.

One other concern is that the U.S. economy could slip into recession later this year or early next year. Reportedly, business leader's optimism hit record lows in JPMorgan's 2022 Business Leaders Pulse Survey, citing inflation and labor issues as their biggest challenges. Despite these dim views, 71% remained optimistic about their own company's performance, a positive sign that business leaders are equipped to handle an economic downturn should it occur.
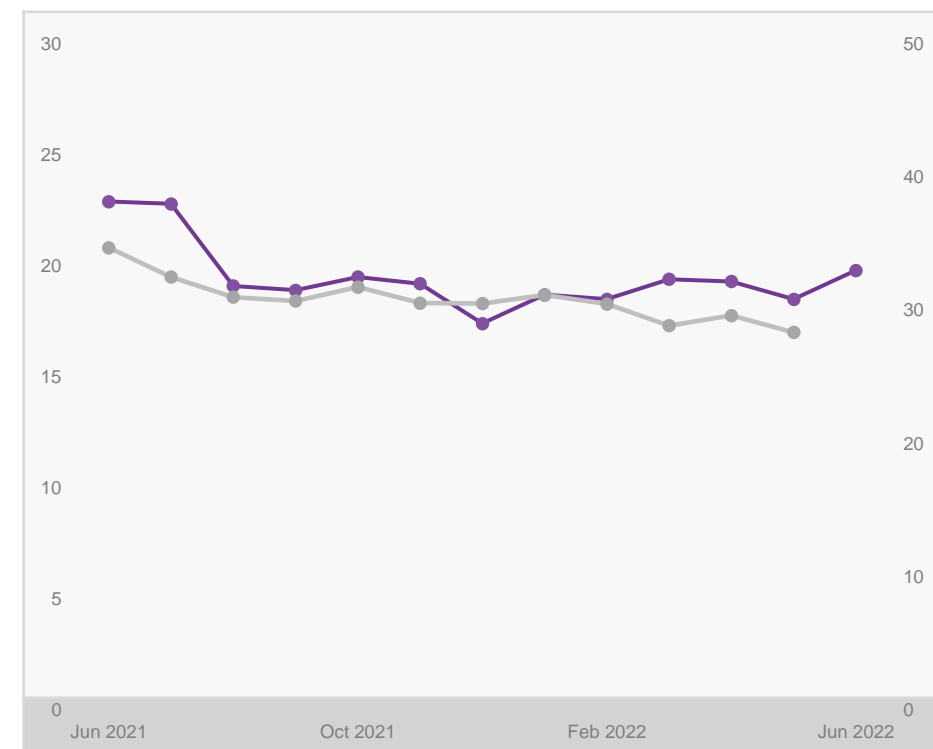
There are mounting headwinds to consumers' financial health which could push up bankruptcies later this year, but LegalShield data suggest that bankruptcies will remain muted in the near term.

Bankruptcy Index

Historical Trend Over Past 16 Years

Movement Over Past 12 Months

Total U.S. Bankruptcies
(Right Axis; Thousands)

Bankruptcy Index
(Left Axis; Jan. 2002 =100)
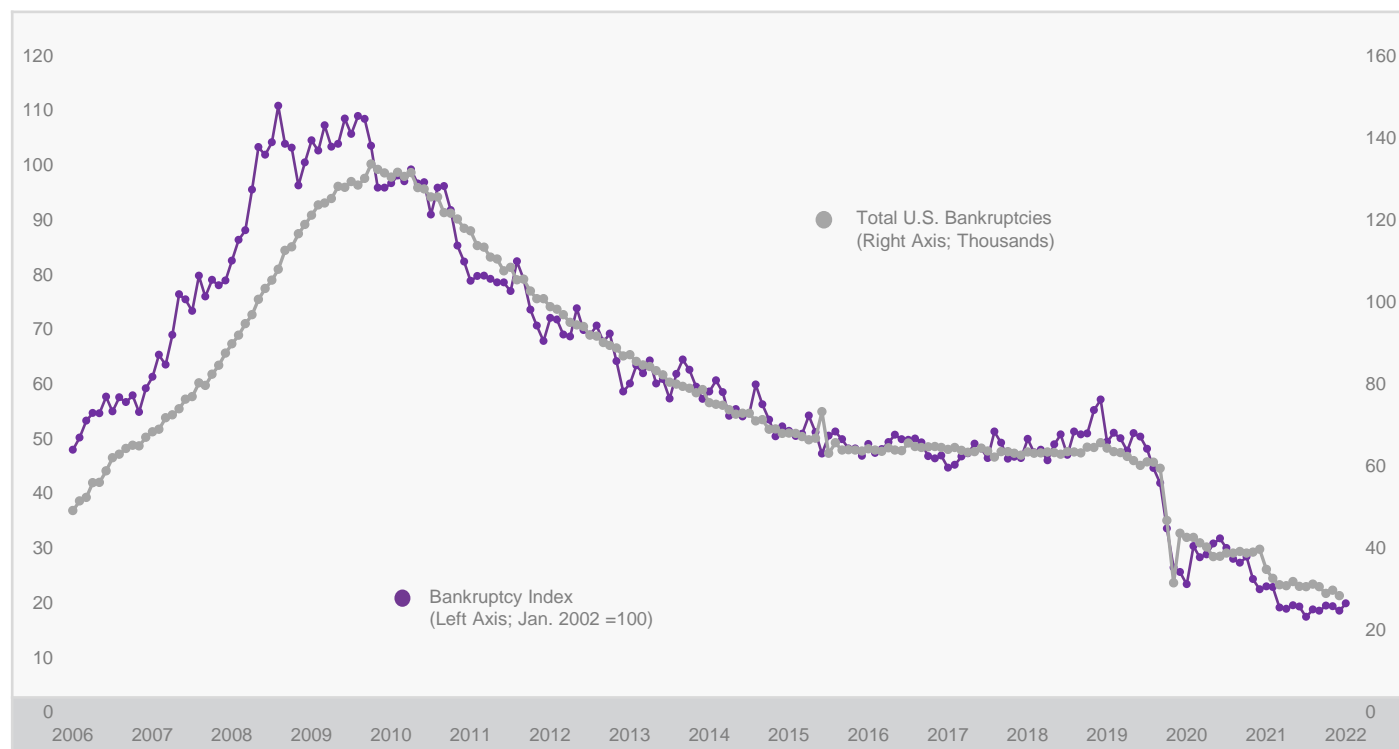
Foreclosure Index

Bottom Line: The LegalShield Foreclosure Index ticked down in June, holding below its pre-pandemic level. Foreclosure activity has been gradually returning to its pre-pandemic trend after the expiration of government support, though it remains low by historical standards. A continued slow and steady normalization in foreclosure starts is expected in the months ahead.

Latest Reading: The LegalShield Foreclosure Index decreased (improved) 0.5 point to 38.7 in June, easing for the second consecutive month. Meanwhile, ATTOM reports that 30,881 properties had foreclosure filings in May, up 1% M/M.

Economic Context: With the expiration of the pandemic-era foreclosure moratorium, foreclosure filings are approaching their pre-pandemic levels, though they remain low by historical standards. The hot housing market is a major reason for muted foreclosure activity:

- Low housing inventories and high prices have provided struggling homeowners the opportunity to sell their home before facing the prospect of foreclosure. According to the Federal Reserve, total household owners' equity in real estate was up 20% Y/Y to an all-time high of $28 trillion in Q1.

- Even homeowners who are struggling to make payments hold, on average, far more wealth in their home than they did last year, largely protecting them from foreclosure.

- Many homeowners refinanced their mortgages in 2020 and 2021 at rock-bottom rates, typically resulting in lower monthly payments.

Though foreclosures remained historically low in June, it is possible they will rise as the Fed continues to raise rates in rein in inflation. However, high home prices make a sharp increase in foreclosure activity in the near term unlikely, and LegalShield data suggest that a continued slow normalization of foreclosure filings is more likely.

Foreclosure Index

Historical Trend Over Past 16 Years

- Foreclosure Starts
  (Right Axis; Percent of Mortgages)

- Foreclosure Index
  (Left Axis; Jan. 2002 =100)
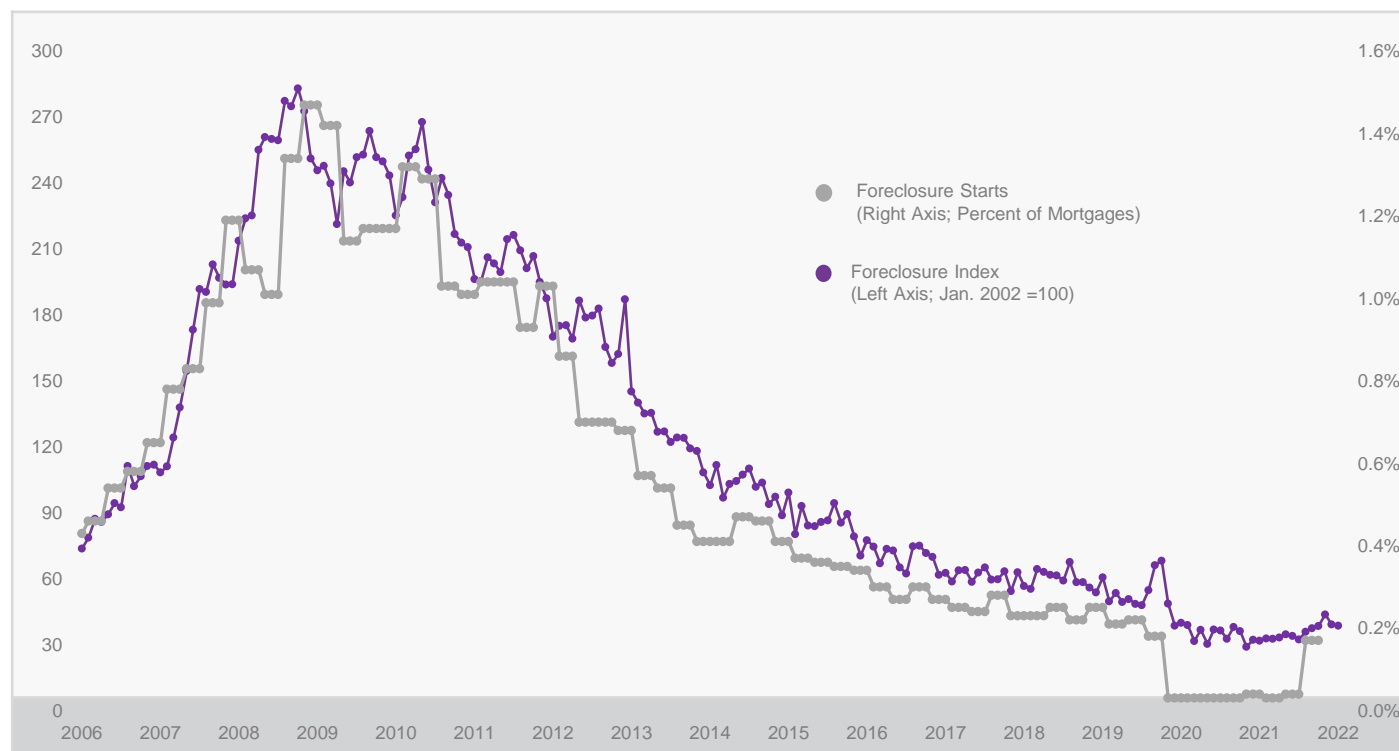
Movement Over Past 12 Months
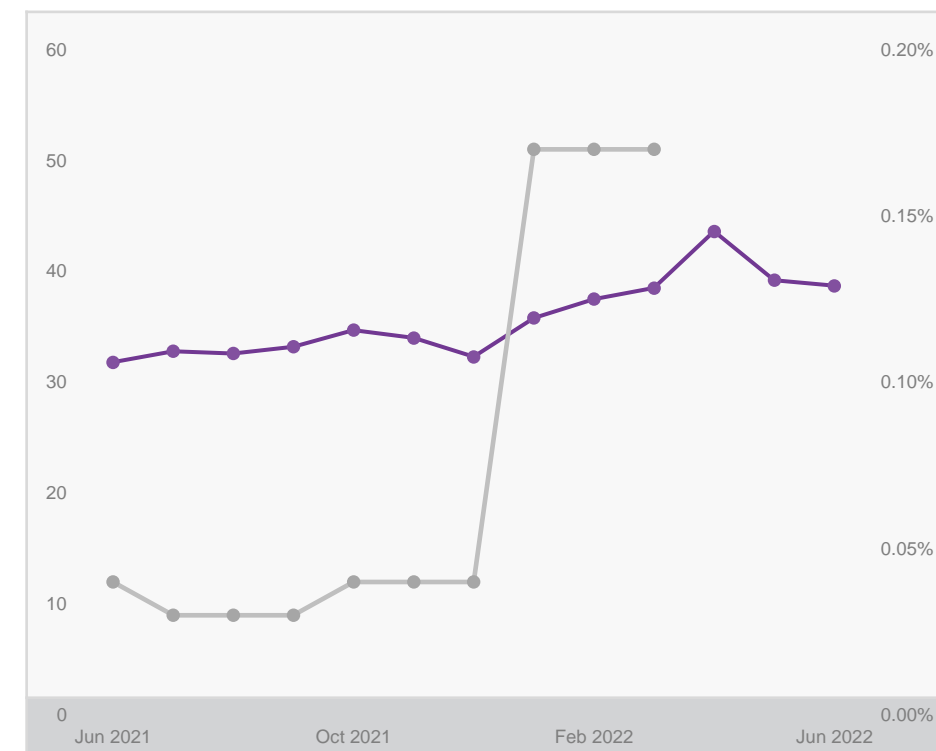
Housing Construction Index

Bottom Line: The LegalShield Housing Construction Index increased in June. Pent-up demand has sustained the homebuilding industry even as interest rates rise, though waning homebuilder optimism is a cause for concern.

Latest Reading: The LegalShield Housing Construction Index increased 0.8 point to 131.8 in June. Meanwhile, housing starts fell by 261,000 in May.

Economic Context: Though strong demand and low housing inventories have sustained housing construction throughout much of the pandemic, building activity has faced strong headwinds in recent months due to material supply delays and high building costs. For example, in June, NAHB reported that 90% of builders are reporting shortages of appliances, framing lumber, OSB, plywood, and other key inputs for new homes. Further, when materials can be procured, they are far more expensive than in years past. Bank of America estimates that raw materials for the average single-family home in the U.S. now cost about $118,000 (up 42% from 2018), and the producer price index for construction materials reaching a new all-time high in May.

Elevated input costs combined with a spike in the average 30-year fixed mortgage rate — which is up 250 basis points since January — are weighing on builder confidence. The NAHB/Wells Fargo Housing Market Index dipped for the sixth straight month in June to its lowest level in two years. Further, building permits, a leading indicator of construction activity, also fell in May, dipping 7.0% M/M.

Despite these headwinds, one factor that should provide a boost to homebuilders this year is that there is still a large backlog of homes under construction: indeed, the official measure reached an all-time high in May. This pent-up demand could alleviate some of the worst effects of high prices and borrowing costs (though some individuals may cancel plans to build a new home due to cost increases).

Overall, LegalShield data suggest that construction activity will likely ease somewhat in the coming months due to the headwinds mentioned above, but activity should remain relatively healthy by pre-pandemic standards.

Housing Construction Index

Historical Trend Over Past 16 Years

Housing Starts
(Right Axis; Thousands)

Housing Construction Index
(Left Axis; Jan. 2002 =100)
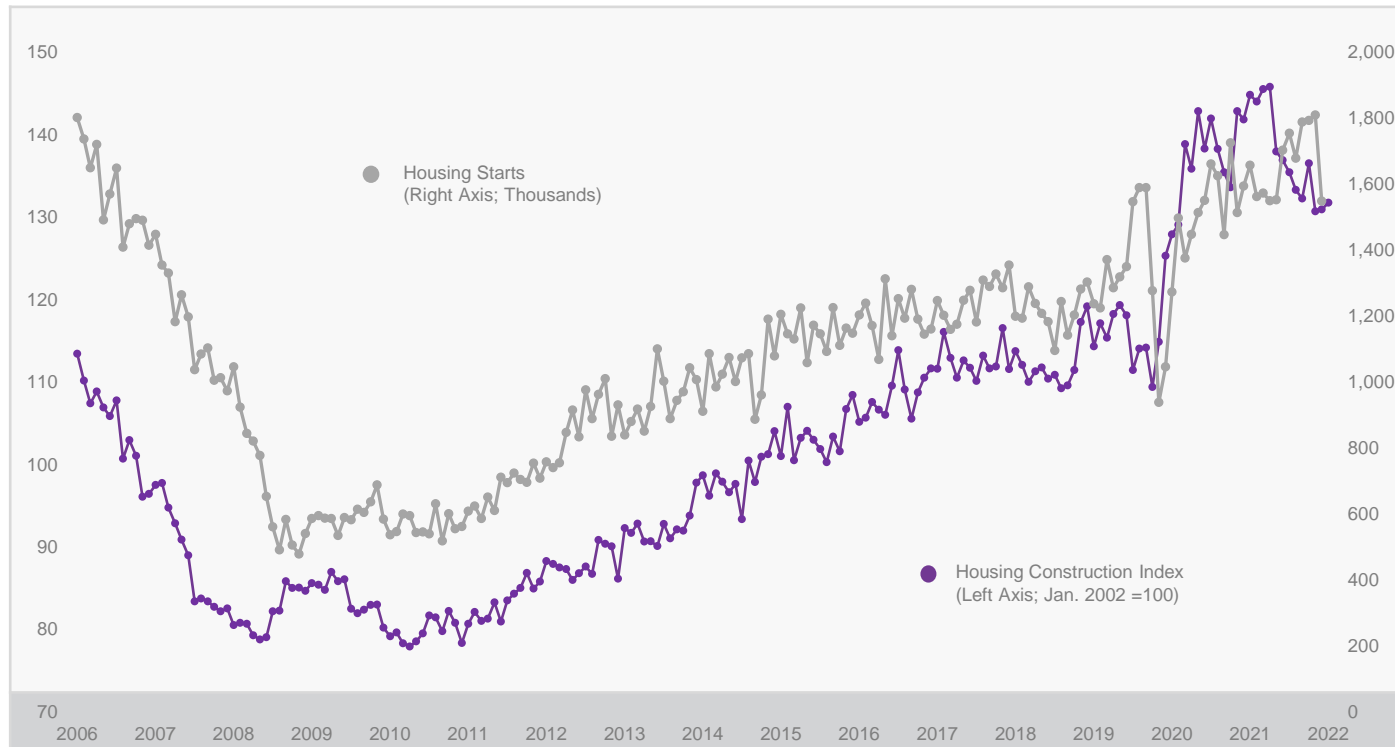
Movement Over Past 12 Months
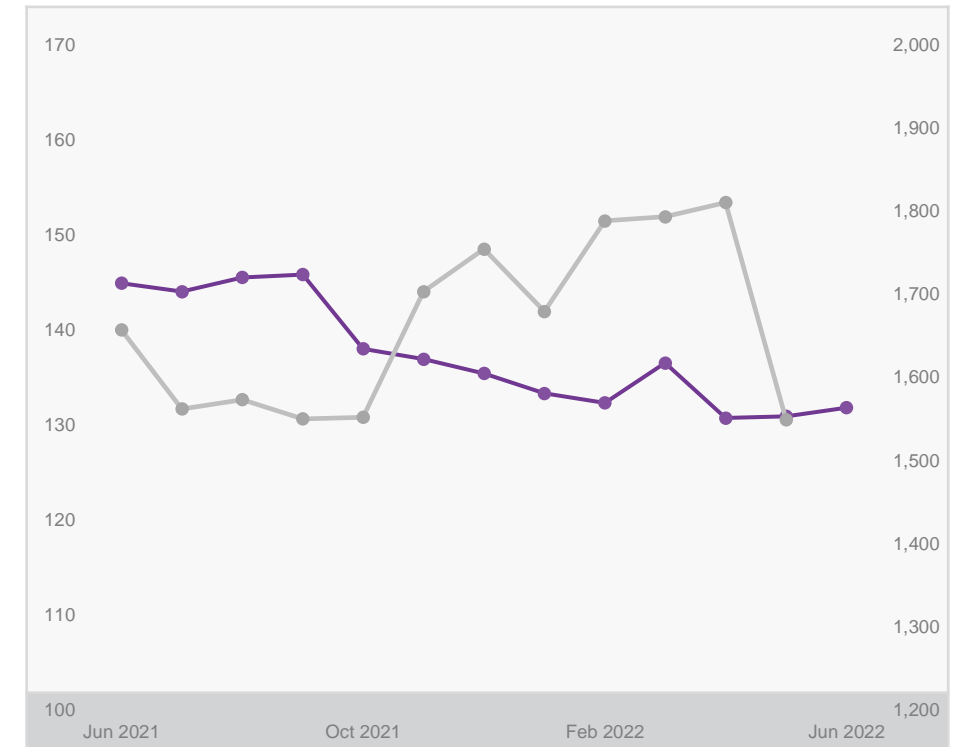
Housing Sales Index

Bottom Line: The LegalShield Housing Sales Index increased in June after easing in previous months. While sales activity is expected to remain above pre-pandemic levels in the near term, housing affordability is a growing concern that will likely weigh on the market for the foreseeable future.

Latest Reading: The LegalShield Housing Sales Index increased 0.4 points to 110.9 in June. Meanwhile, existing home sales fell 3.4% in May, down 8.6% compared to year-ago levels.

Economic Context: After two years of red-hot demand and rapidly rising prices, affordability concerns threaten to derail the bull run in the housing market. The S&P/case-Shiller National Home Price Index was up 20.4% Y/Y in April, its second-largest increase on record. This increase helped push the national median sales price for existing homes to an all-time-high of $410,000 in May. Along with sky-high prices, the Fed's efforts to combat inflation have driven the average 30-year fixed-rate mortgage well above 5%, effectively pricing many would-be homebuyers out of the market.

An additional factor driving prices up is investor purchases of homes. According to a Congressional Committee report from June, the third quarter of 2021 saw the largest year-over-year increase in corporate ownership of single-family rentals and homes in 16 years. This phenomenon does not appear to have eased in 2022, as one in ten U.S. homes sold in the first quarter of 2022 was reportedly "flipped" (i.e., bought and sold within a year), the highest share since 2000. However, because the high cost of homes and mortgages are diminishing demand, profit margins for investors are now at their lowest level since 2009.

Overall, strong demand is still driving a healthy volume of sales each month, and with the LegalShield Housing Sales Index increasing slightly in June there is evidence that existing home sales will remain in line with pre-pandemic levels in the near term. However, housing affordability is clearly a growing concern, and LegalShield expects housing sales to slow gradually over the next year.

Housing Sales Index

Historical Trend Over Past 16 Years

Existing Home Sales
(Right Axis; Thousands)

Housing Sales Index (Seasonally Adjusted)
(Left Axis; Jan. 2002 =100)
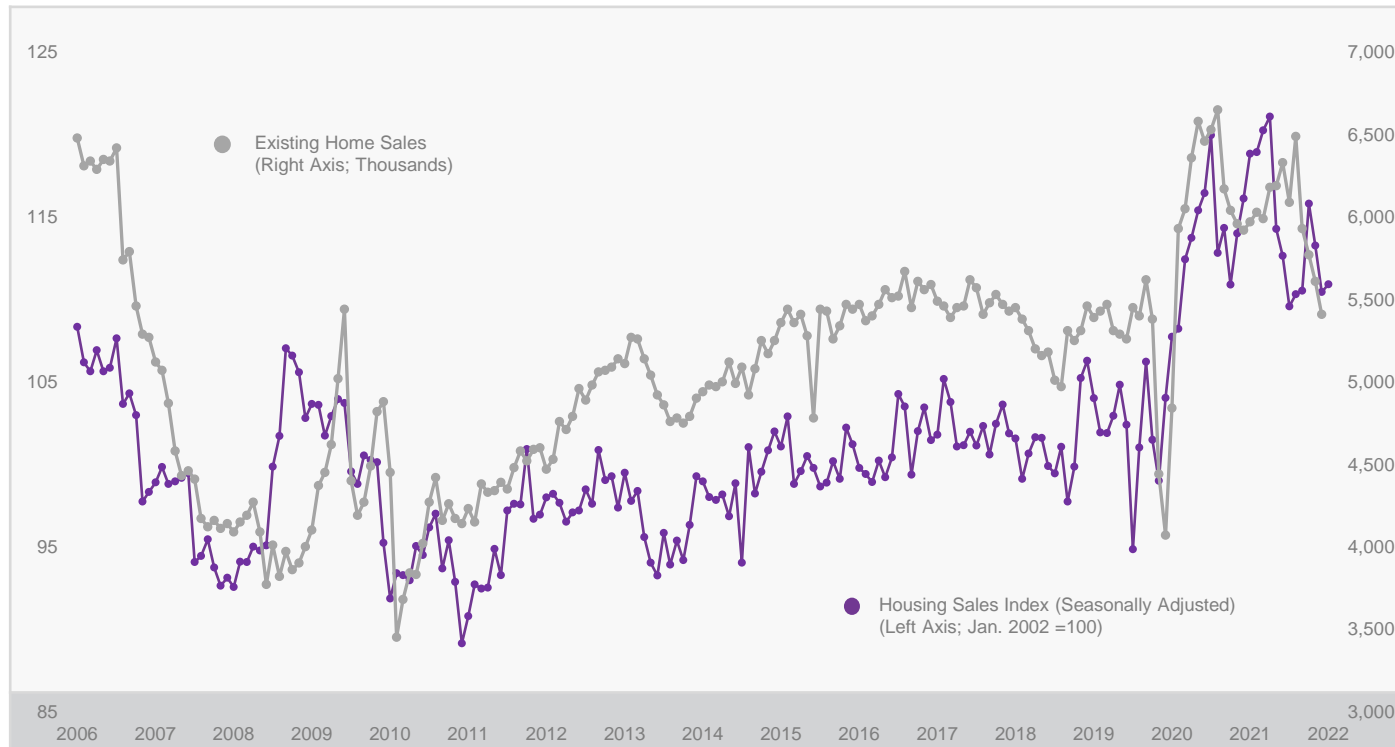
Movement Over Past 12 Months
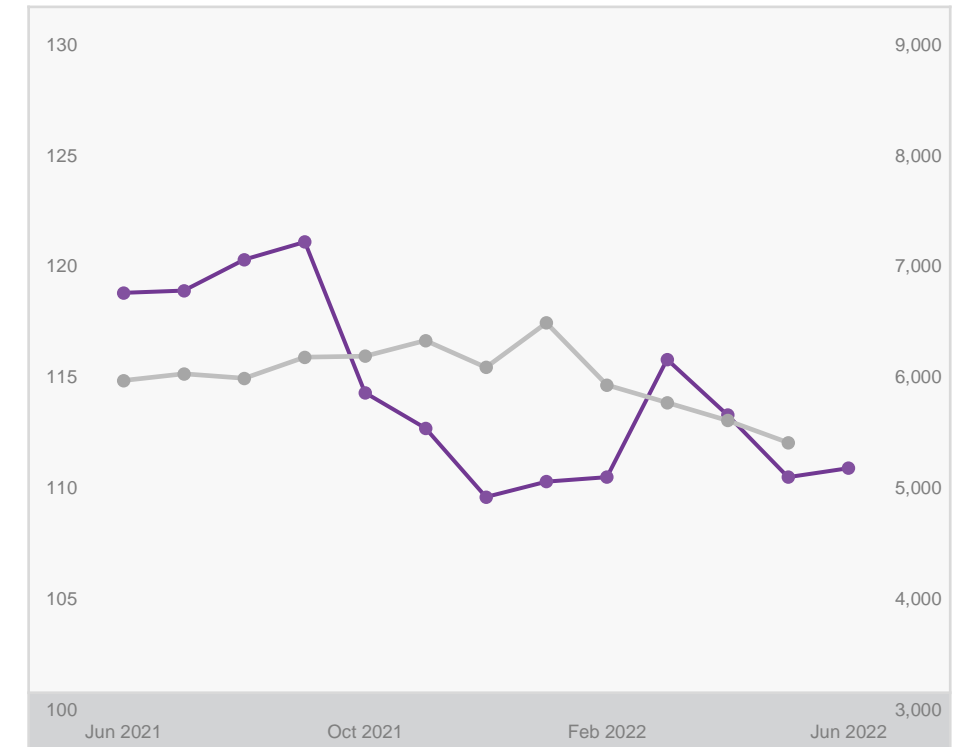
Technical Appendix

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

LegalShield "Housing Construction" Index

✓ **Component AOLs:** (1) Bankruptcy;
(2) Consumer/Finance; (3) Foreclosure

✓ **Component AOLs:** (1) Real Estate;
(2) Foreclosure

✓ **Target Indicator:** Consumer Confidence

✓ **Target Indicator:** Housing Starts

✓ **Performance:** -0.85 Correlation;
1-3 Month Lead

✓ **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.

6

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.

Active Subscribers
(Left Axis; Thousands)

Total Intakes
(Right Axis; Thousands)

Excluded data prior to 2002, as the rapid expansion of intakes (presumably due to overall business growth) has the potential to distort measures of "pure demand" for legal services.
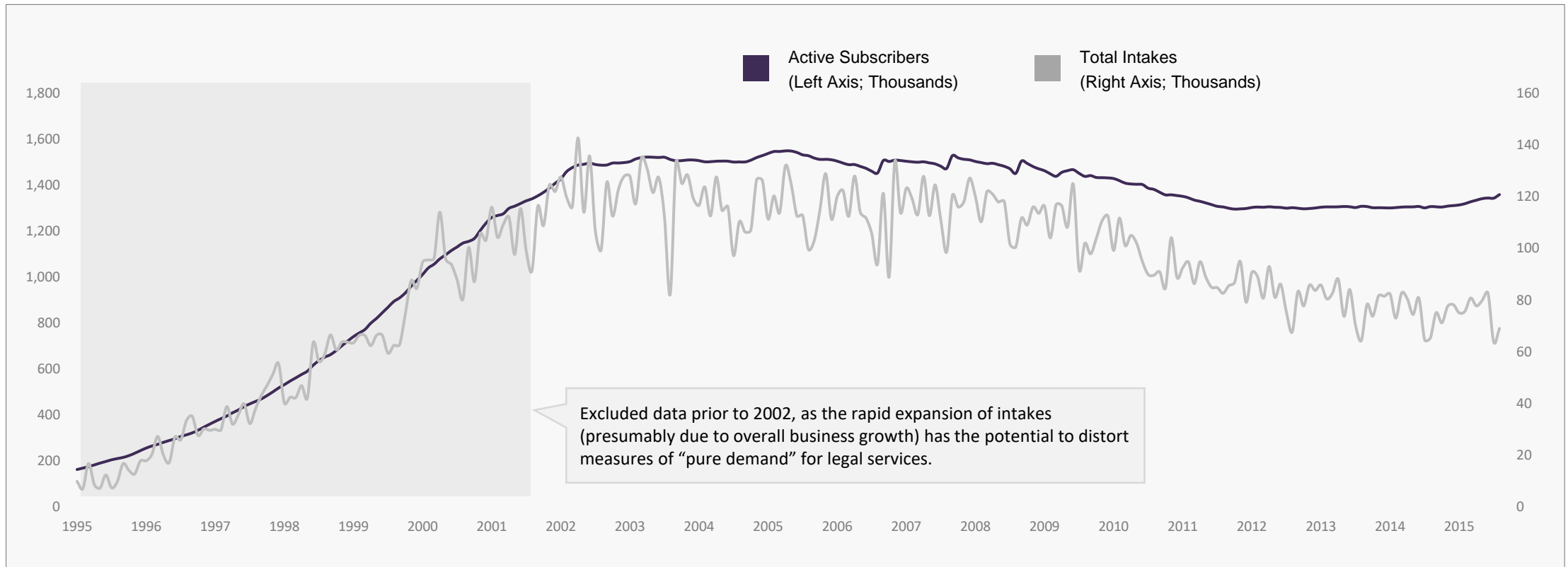
Analytical Scope

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

Dataset Development

Trends in demand for AOLs were fairly constant across plan types.

All subscribers were used in the analysis; a "same subscriber" sub-sample was used to validate results.

Standardizing intake data as a share of total intakes produced stronger results.

Full LegalShield Intake Dataset (2000 – 2015)

All Plan Types

All Subscribers
n = 19,571,508

Same Subscribers
n = 1,540,704

Family Plan Types

All Subscribers
n = 16,583,632

Same Subscribers
n = 1,516,476

Business Plan Types

All Subscribers
n = 1,345,132

Same Subscribers
n = 87,609

Share of Total Intakes
Share of Subscribers
Share of Total Intakes
Share of Subscribers

Share of Total Intakes
Share of Subscribers
Share of Total Intakes
Share of Subscribers

Share of Total Intakes
Share of Subscribers
Share of Total Intakes
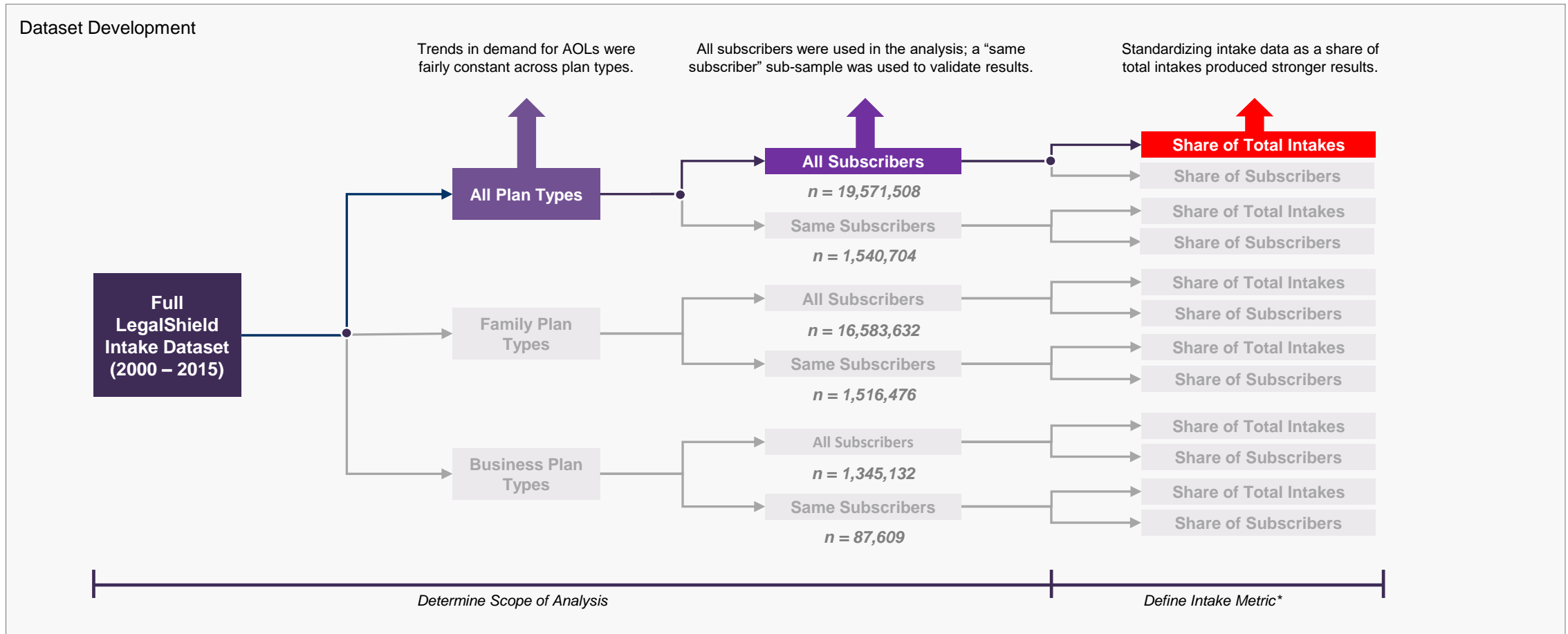Share of Subscribers

Determine Scope of Analysis

Define Intake Metric*

*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.
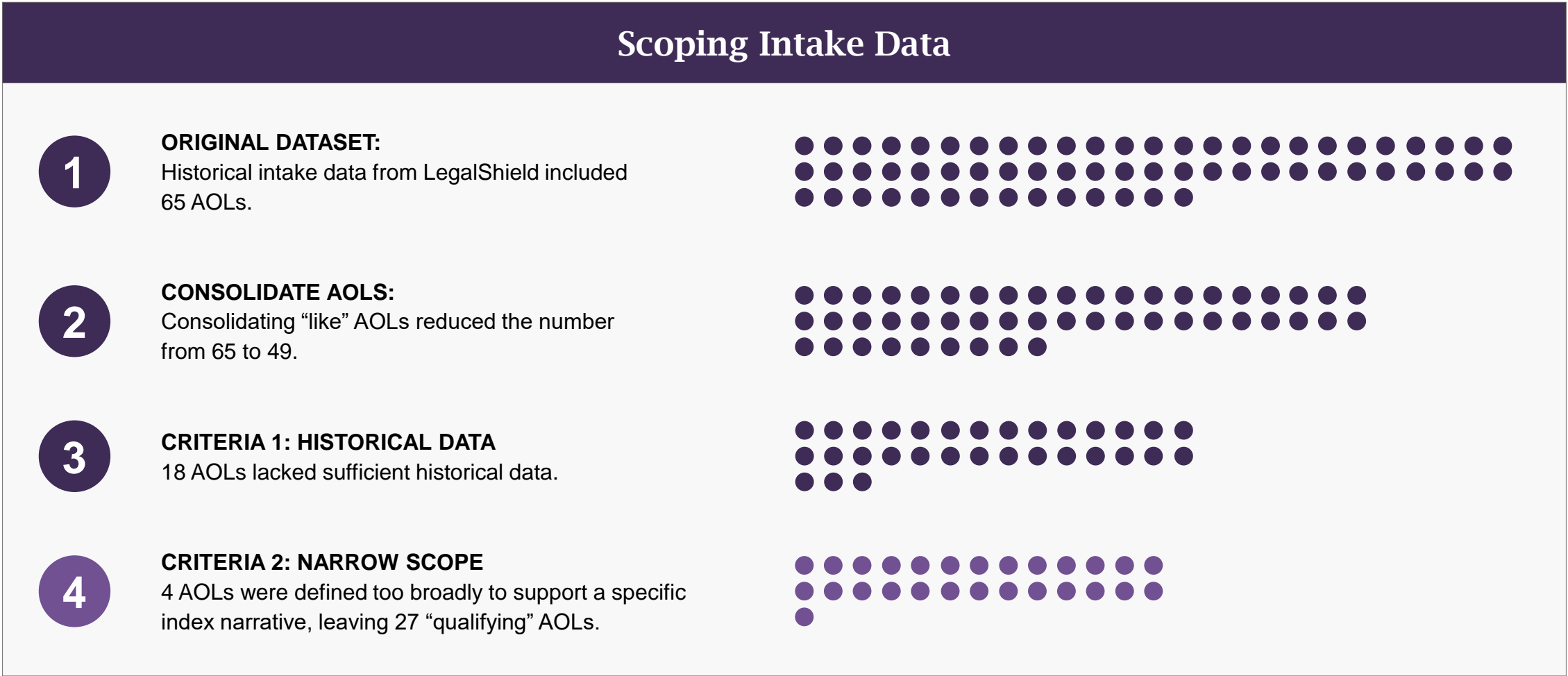
Filter AOL

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	-		✓	
	TOTAL		**31**	**44**	**27**

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

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

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)
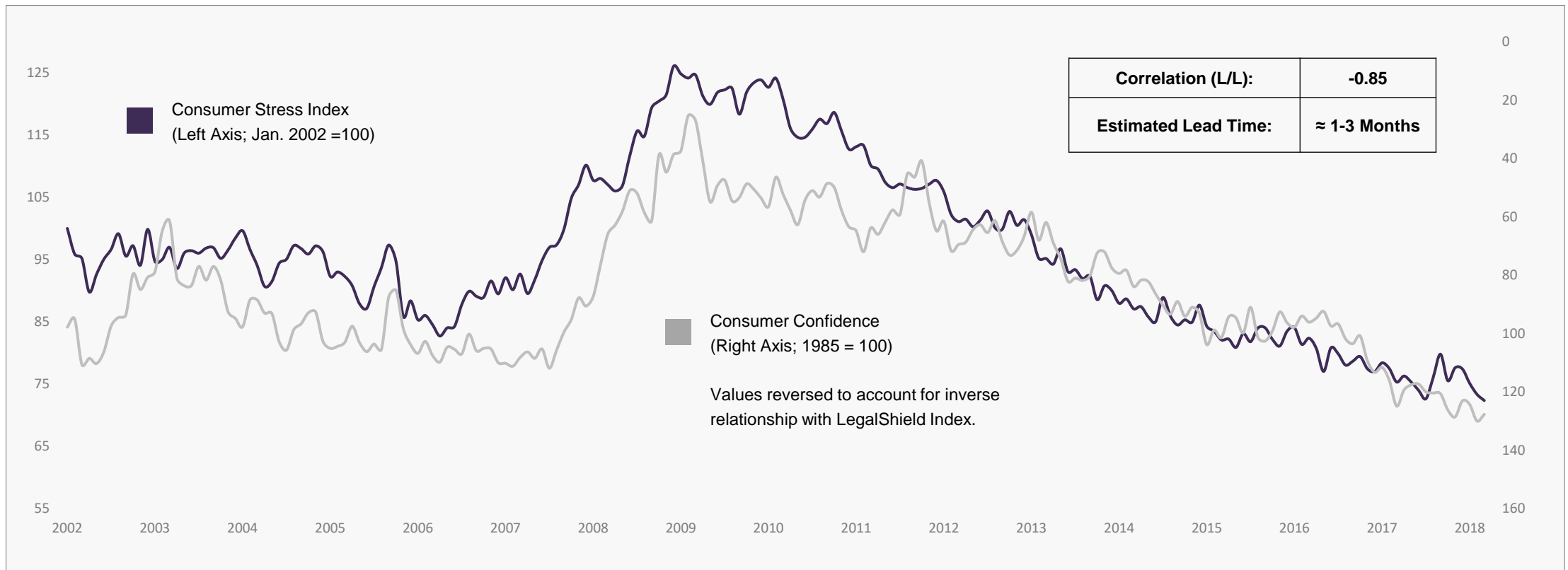
Test 2: Compared correlations between random samples of the data

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
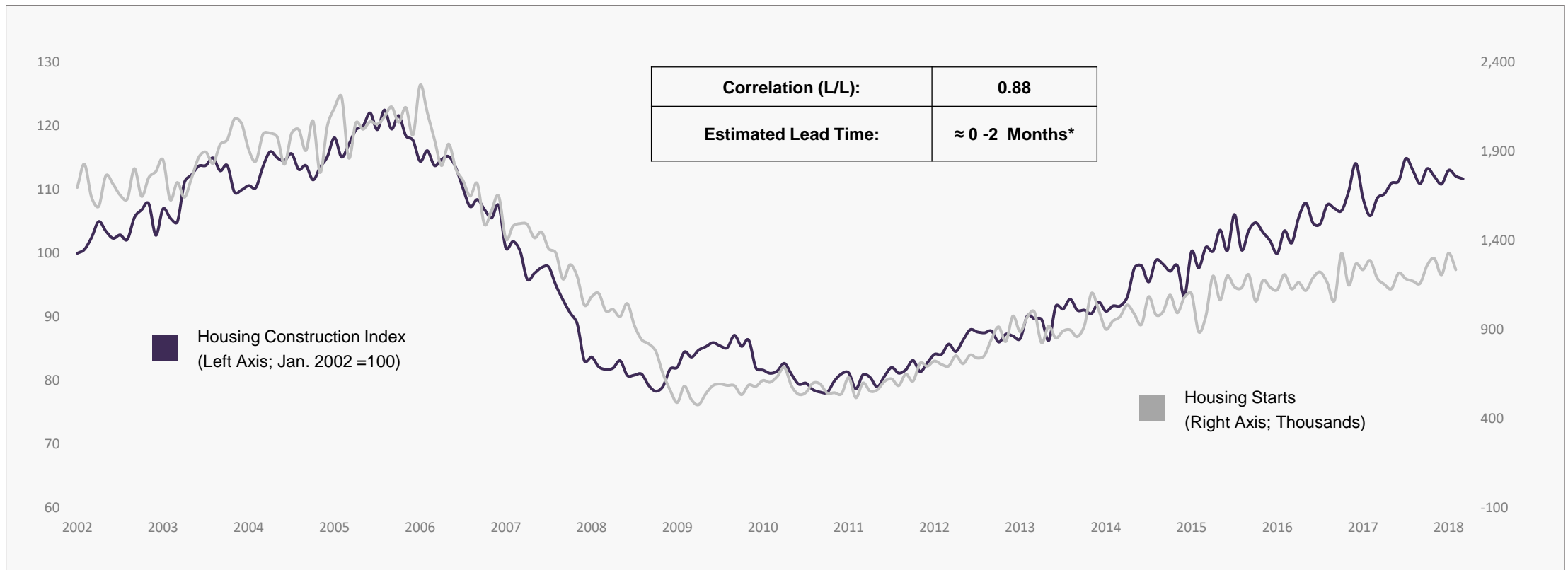
Composite Index: Consumer Stress

AOLs: Bankruptcy; Foreclosure; Consumer Finance

Consumer Stress Index
(Left Axis; Jan. 2002 =100)

Consumer Confidence
(Right Axis; 1985 = 100)

Values reversed to account for inverse
relationship with LegalShield Index.

Correlation (L/L):	-0.85
Estimated Lead Time:	≈ 1-3 Months

Composite Index: Housing Construction Index

AOLs: Foreclosure; Real Estate*

Correlation (L/L):	0.88
Estimated Lead Time:	≈ 0 -2 Months*

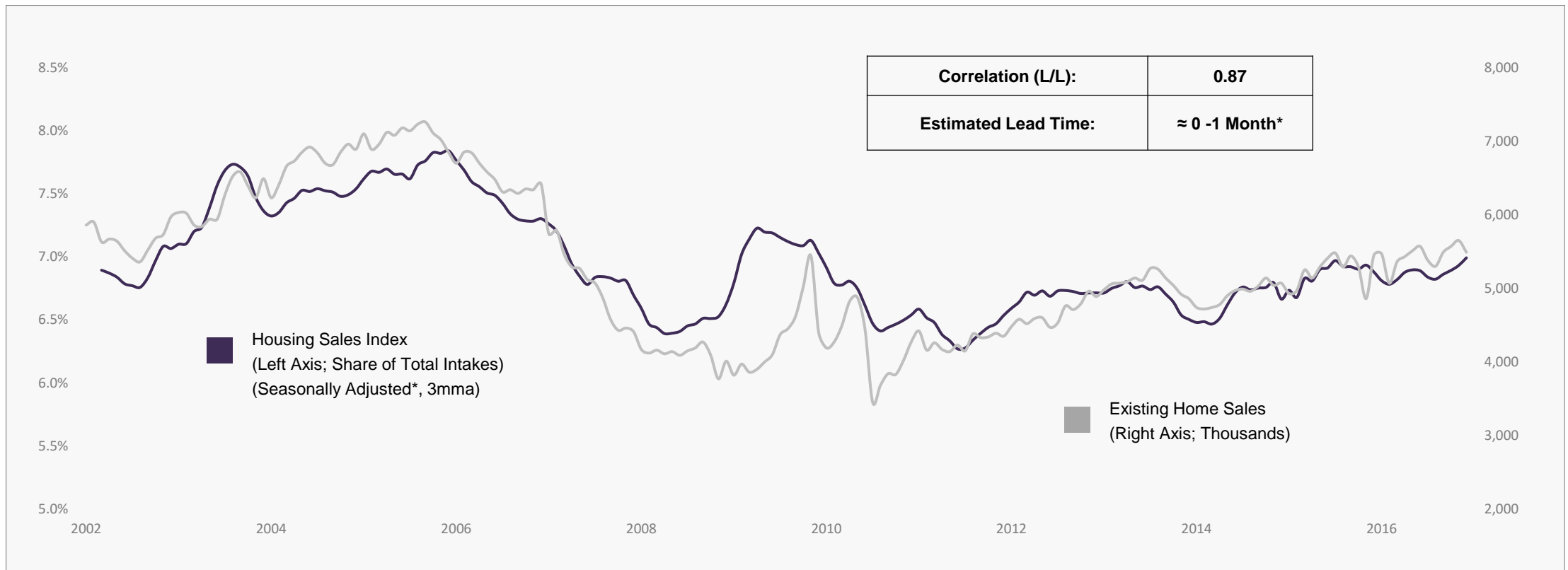Housing Construction Index
(Left Axis; Jan. 2002 =100)

Housing Starts
(Right Axis; Thousands)

*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.
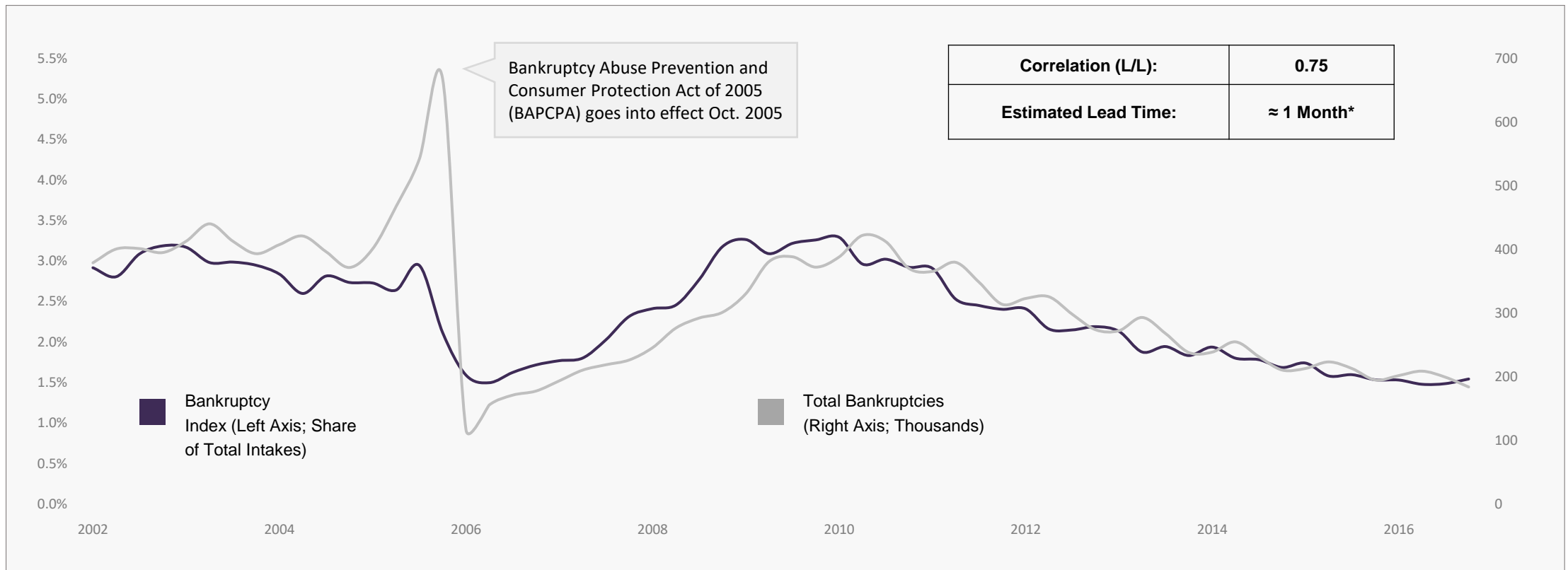
AOL: Real Estate

Target Series: Real Estate*

Correlation (L/L):	0.87
Estimated Lead Time:	≈ 0 -1 Month*

Housing Sales Index
(Left Axis; Share of Total Intakes)
(Seasonally Adjusted*, 3mma)

Existing Home Sales
(Right Axis; Thousands)

*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.
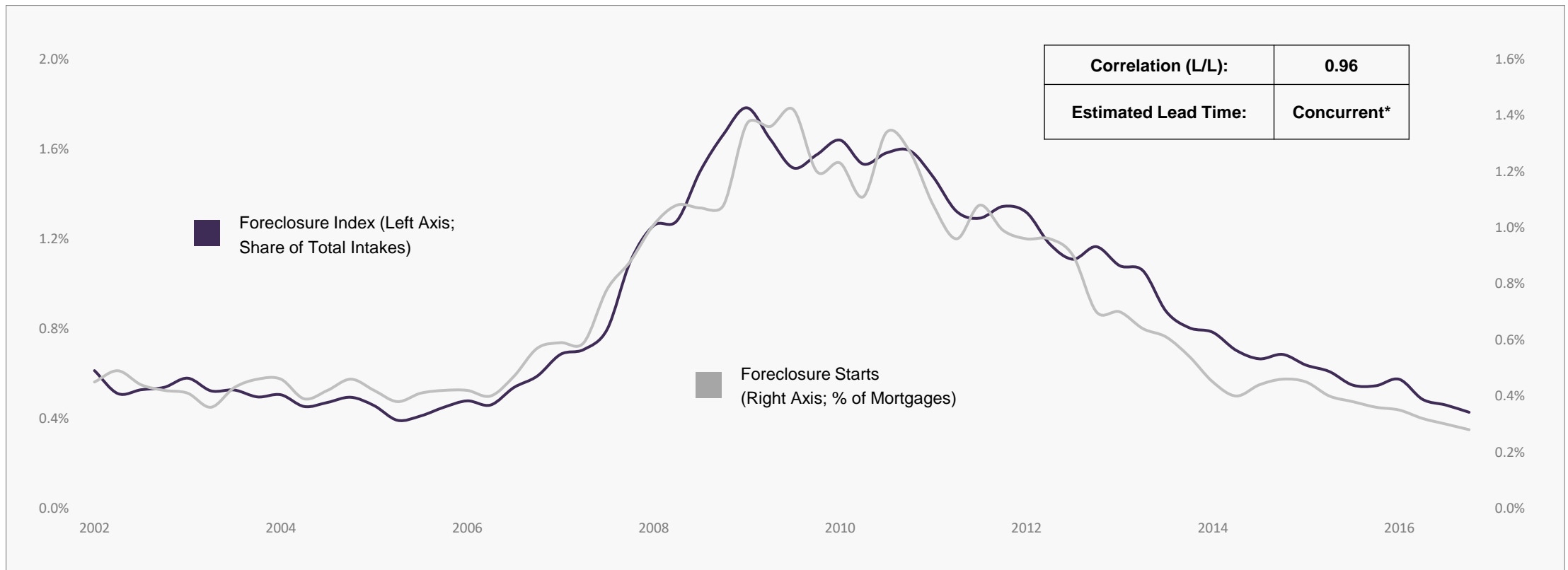
AOL: Bankruptcy

Target Series: Consumer Bankruptcies

AOL: Foreclosure

Target Series: Foreclosure Starts

Correlation (L/L):	0.96
Estimated Lead Time:	Concurrent*

Foreclosure Index (Left Axis; Share of Total Intakes)

Foreclosure Starts (Right Axis; % of Mortgages)

*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!

LegalShield | Economic Stress Index™