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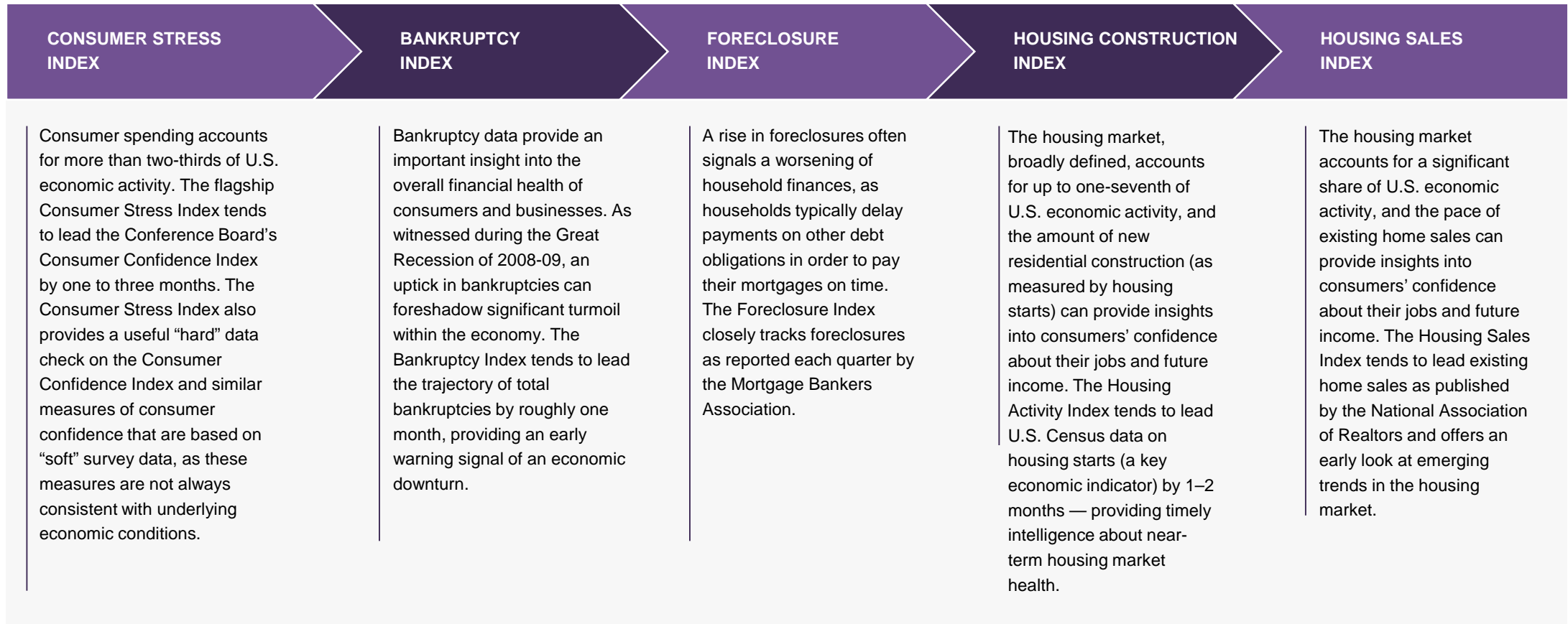
✓ **HIGH-FREQUENCY**
The LegalShield Economic Stress Index is based on data collected on a near real-time basis, and can be refreshed on a weekly, monthly, or quarterly basis depending on the user's needs.

✓ **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	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

The LegalShield Consumer Stress Index fell in December following a rise last month. The latest federal stimulus package will likely relieve some financial stress in early 2021.
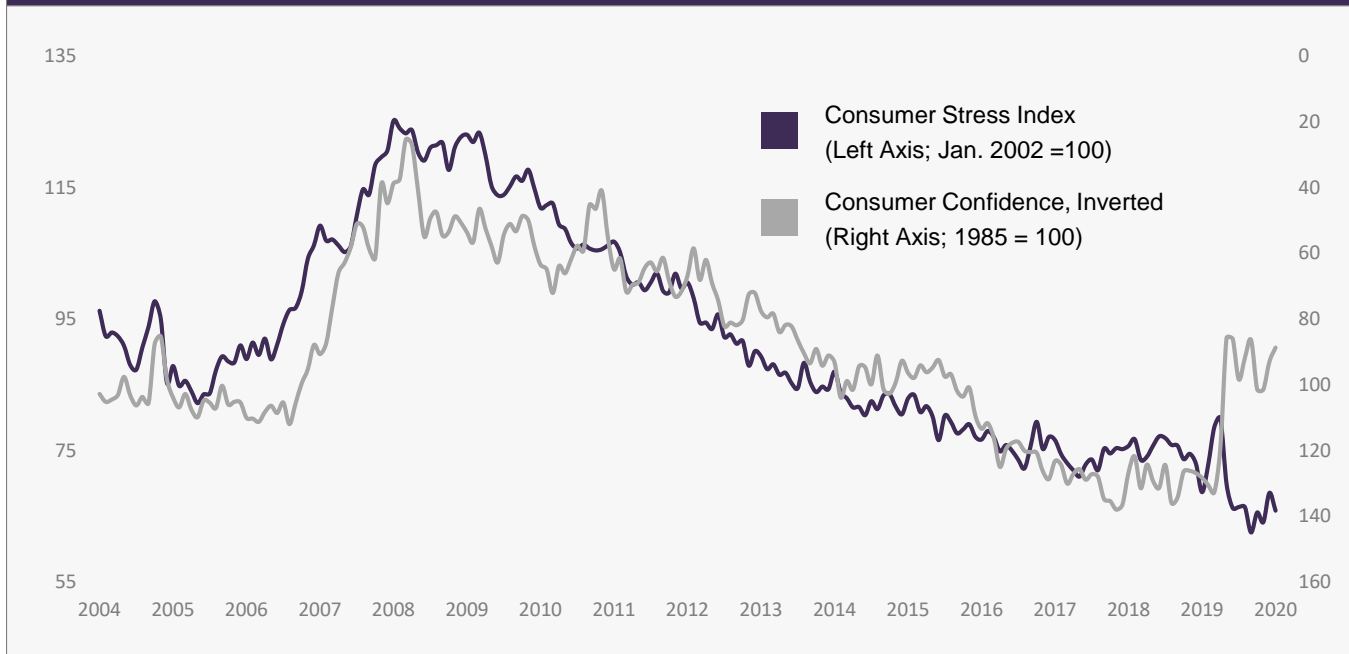
The LegalShield Consumer Stress Index fell (improved) 2.7 points in December to 65.9. Meanwhile, the Conference Board's Consumer Confidence Index decreased 4.3 points to 88.6 in December, the second consecutive month of decline.

This decrease in customer stress comes amid solid spending in the holiday season, as demonstrated by several key indicators. For example, Black Friday shopping was on par with 2018 levels and holiday retail sales grew by 3% Y/Y, largely driven by online shopping. However, the New York Fed reports that 19% of respondents to its December Survey of Consumer Expectations expect their household financial situation to worsen over the coming year, nearly double the share who reported the same in January 2020. Indeed, by the end of January 12 million renters will owe nearly $6,000 each in back rent and utilities. These seemingly at-odds developments — overall spending growth while millions are struggling to pay rent — reflect the K-shaped recovery that is becoming increasingly evident in the U.S. economy.

Looking ahead, although many consumers are still struggling to make ends meet, there is rising optimism surrounding the trajectory of the U.S. economic recovery in 2021. The extension of key unemployment insurance programs, another round of stimulus payments, and a top-off for the Paycheck Protection Program all will help alleviate near-term financial stress. Likewise, ongoing vaccine production and distribution could boost consumer confidence, though it will likely take several months before the vaccine is administered widely enough to trigger a return to pre-pandemic consumer behavior. All told, the LegalShield Consumer Stress Index suggests that financial stress is likely to remain muted on aggregate for the time being as the effects of new stimulus measures filter through the economy.

Consumer Stress Index

Historical Trend Over Past 16 Years

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

Consumer Confidence, Inverted
(Right Axis; 1985 = 100)

Movement Over Past 12 Months
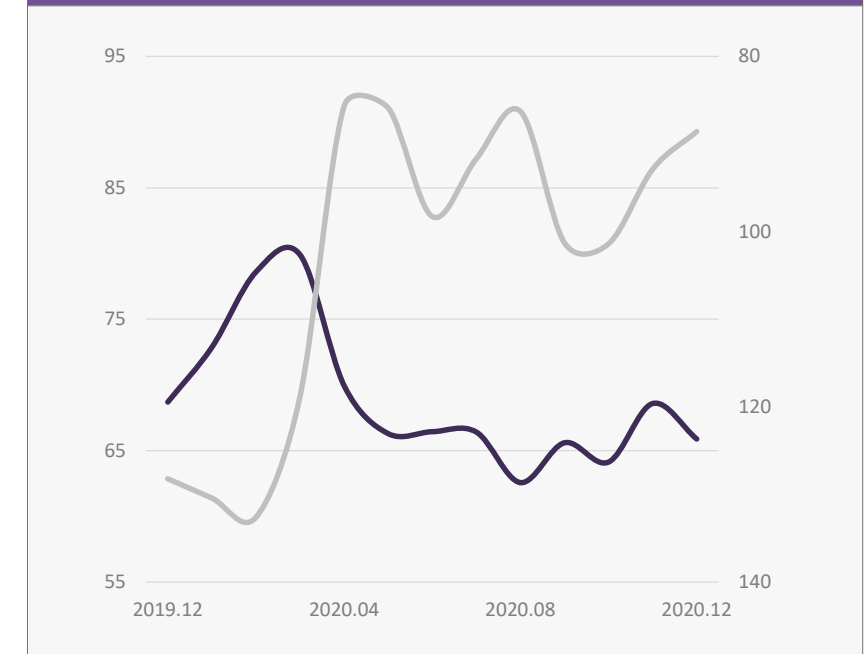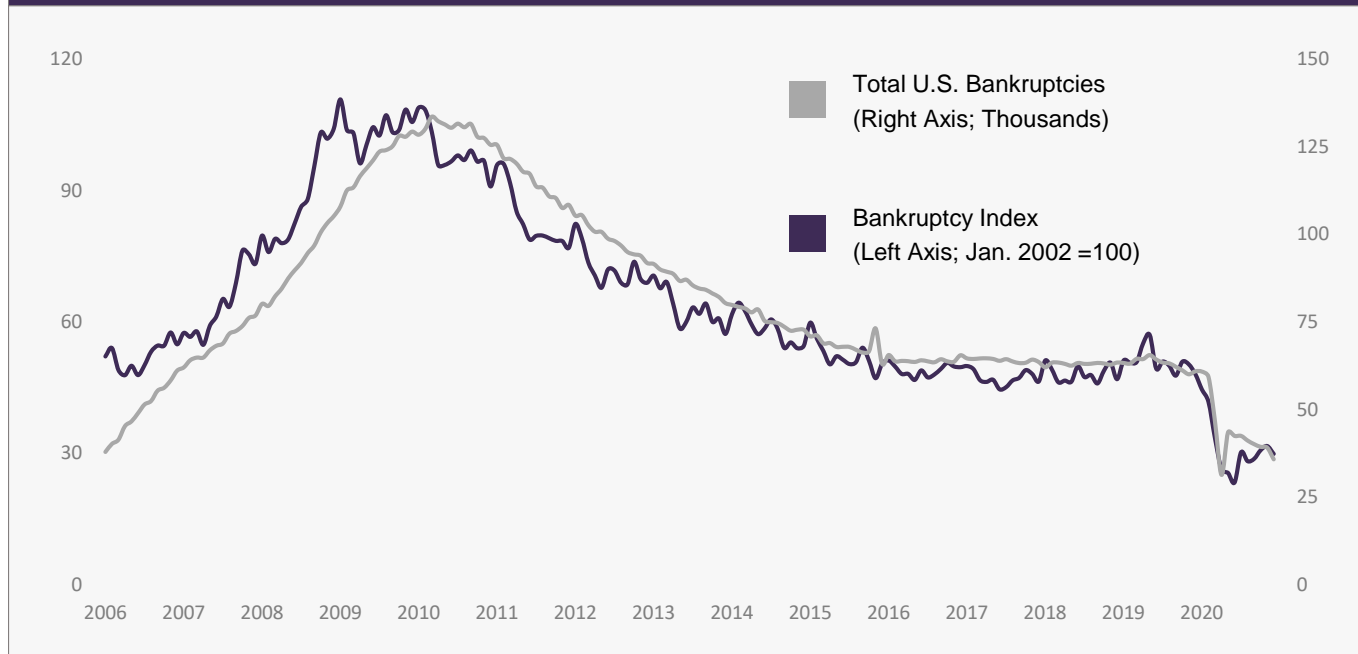
Bankruptcy Index

The LegalShield Bankruptcy Index ticked down in December and remains near record lows. Although there are signs of elevated financial stress among some consumers, the relief package passed by Congress should help avert a surge in bankruptcies for the time being.

The LegalShield Bankruptcy Index fell (improved) 1.8 points to 29.9 in December, after rising in each of the prior two months. Total seasonally adjusted U.S. bankruptcies declined 4.6% in December. For the calendar year 2020, total bankruptcies were down 30% from 2019 and consumer bankruptcies posted their lowest total since 1987. Though bankruptcies remain muted, some indicators are concerning. For example, a sizeable minority of consumers have been unable to afford basic necessities: an analysis of Feeding America data found that the organization had distributed nearly 57% more food in the third quarter of 2020 compared to the year before, and that 40% of the food bank's users were there for the first time. Additionally, MagnifyMoney reports that although fewer Americans took on holiday debt this year, the average dollar amount of those who did rose to $1,381, the highest number since 2015 — a sign that some Americans may be overextending themselves.
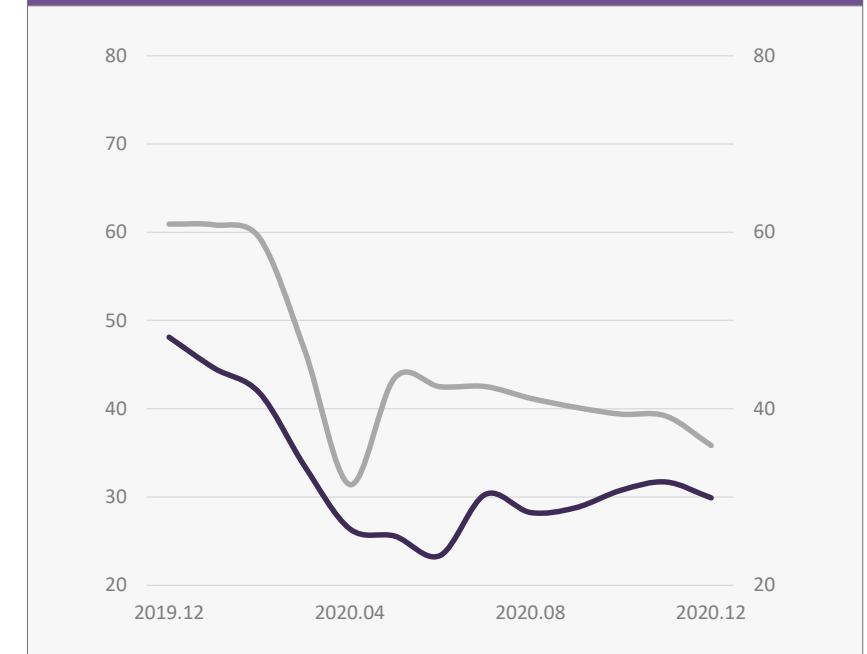
For now, however, bankruptcies should remain low. A consumer credit forecast by TransUnion expects that access to credit cards and personal loans will rebound in the first half of 2021 and that new auto loans will shift to lower risk consumers — both signs that lenders are more confident heading into next year. Moreover, the latest round of federal stimulus should help consumers continue to pay down debt and maintain low delinquency rates.

Bankruptcy Index

Historical Trend Over Past 16 Years

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

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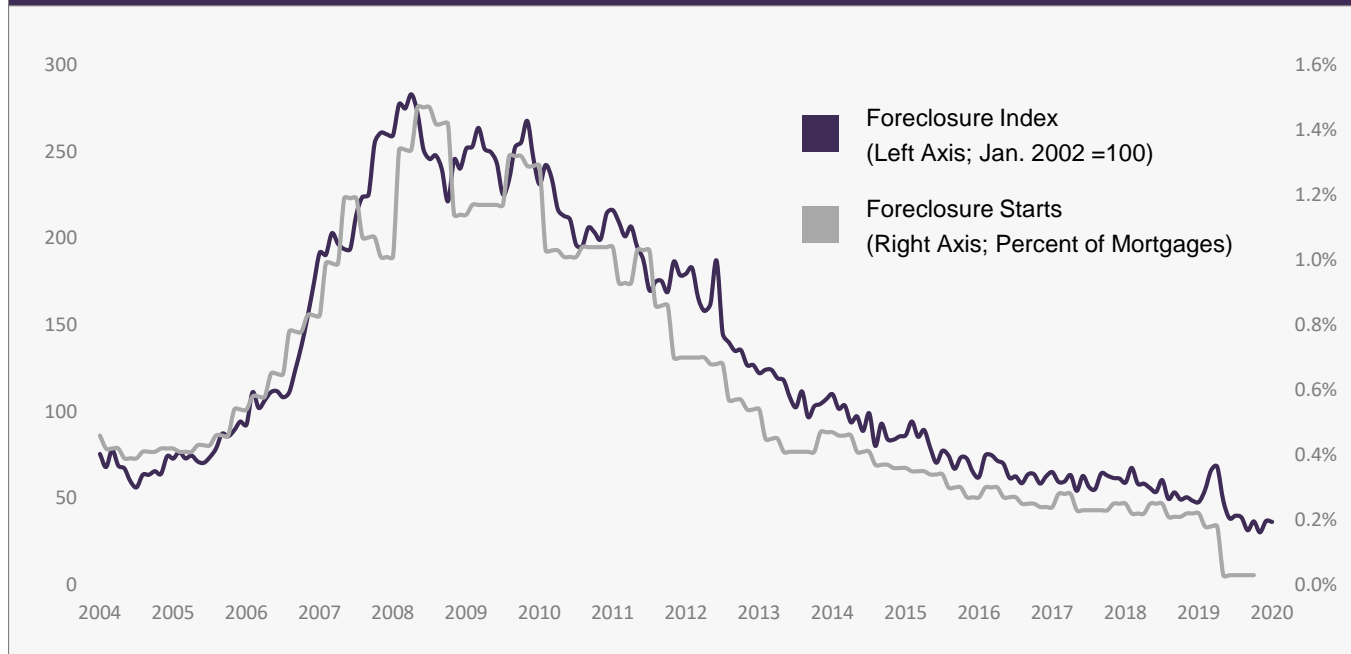
Movement Over Past 12 Months

Foreclosure Index

The LegalShield Foreclosure Index was largely unchanged in December and remains well below pre-pandemic levels. Given that various moratoria were extended in the latest federal stimulus package, foreclosures are not expected to rise in the near future.

The LegalShield Foreclosure Index edged down (improved) 0.5 points to 36.4 in December. Meanwhile, foreclosure starts held at an all-time low of 0.3% in the third quarter. While foreclosure activity has essentially paused, there are several worrying signs that should be monitored. For example, the Mortgage Bankers Association reported that in the first week of December, the proportion of mortgage borrowers seeking forbearance rose to the highest level since August, indicating rising financial stress for homeowners amid surging COVID-19 cases and expiring federal assistance measures. Likewise, the Census Bureau's Household Pulse Survey from mid-December showed that 13.4% of homeowners who still had to make a mortgage payment had either no confidence or only slight confidence in their ability to make a payment next month. This was up from 12.6% in November and 11.5% at the beginning of October.

Despite evidence that foreclosure pressures are building, the extensions of federal foreclosure protections for homeowners mean that foreclosure activity is unlikely to rise in the near term. However, foreclosures could rise later in the year when protections are lifted, particularly if economic activity has not fully normalized when this occurs.

Foreclosure Index

Historical Trend Over Past 16 Years

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

Foreclosure Starts
(Right Axis; Percent of Mortgages)

Movement Over Past 12 Months
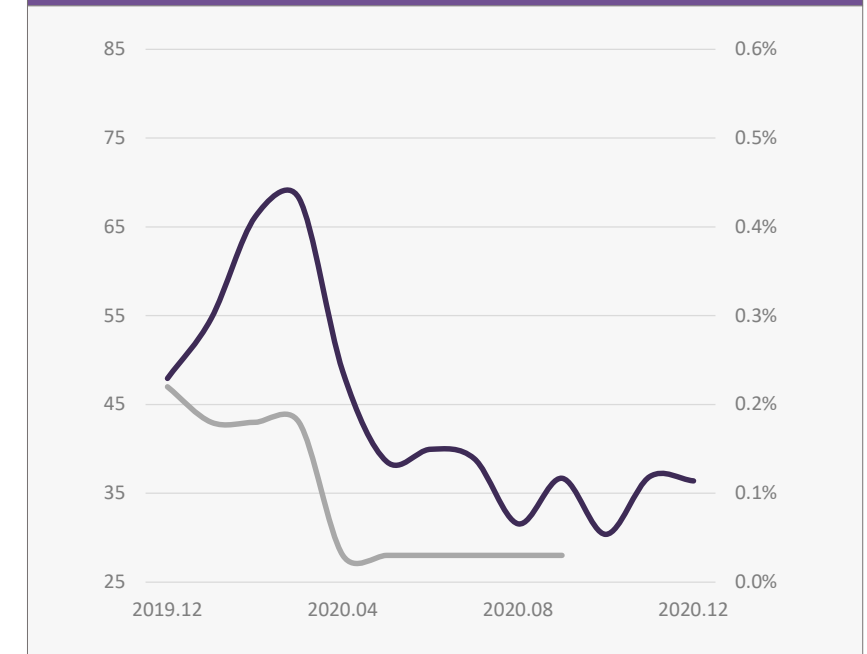
Housing Construction Index

The LegalShield Housing Construction Index increased in December to an all-time high, indicating that building activity should remain strong this quarter.

The LegalShield Housing Construction Index rose from 137.9 to 141.2 in December to reach the highest level on record. Meanwhile, housing starts improved 1.2% in November and are up 12.8% from a year ago, the fourth month of double-digit annual growth since the pandemic began.

The homebuilding industry continues to lead the economic recovery, and this trend appears like to hold in early 2021 as the ongoing pandemic and historically low interest rates drive demand for single-family homes. For example, the Commerce Department reports that private residential construction spending increased by 3% M/M and 16% Y/Y in November. Similarly, per the Census Bureau, single-family homes that had been authorized but not yet started were up 16% Y/Y in November, while single-family homes under construction were up 12.8% Y/Y.

Despite strong demand, it is possible that the housing construction boom could lose a bit of steam later in the year. The National Association of Home Builders warns of higher costs and delivery delays for building materials, shortage in skilled construction labor, and concerns about regulatory cost burdens. Even so, housing starts are expected to remain elevated in early 2021.

Housing Construction Index

Historical Trend Over Past 16 Years

Housing Starts
(Right Axis; Thousands)

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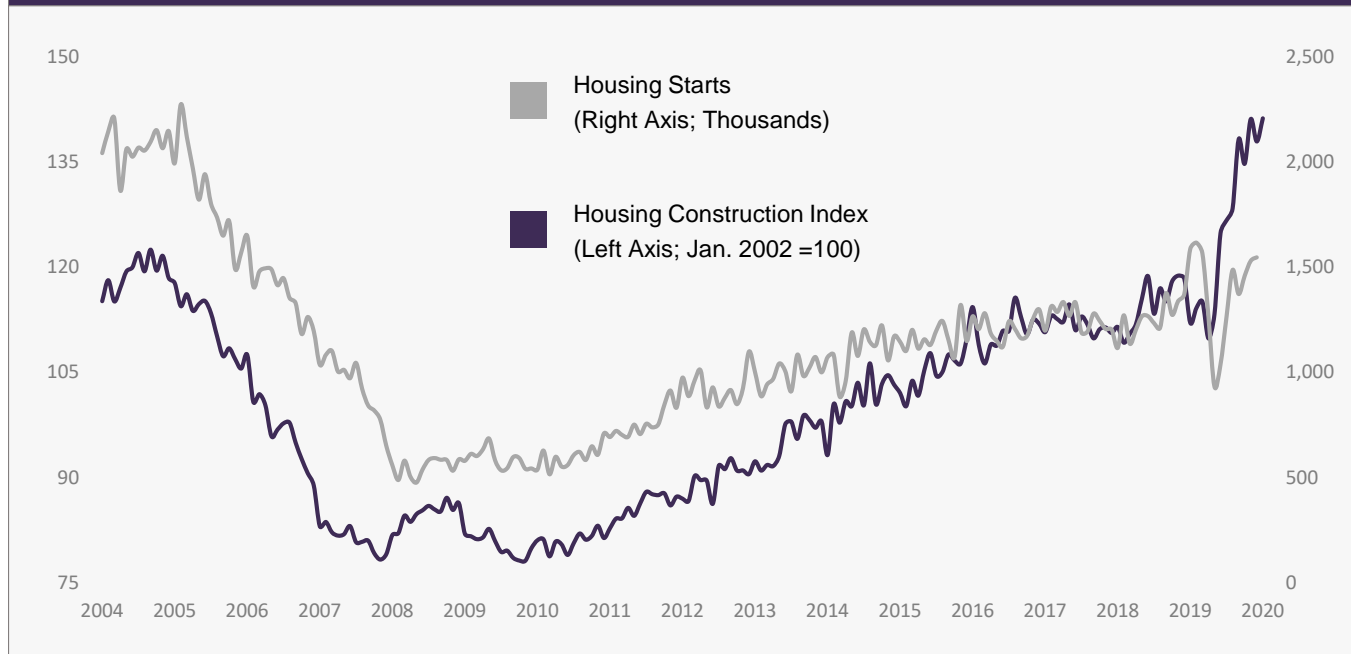
Movement Over Past 12 Months
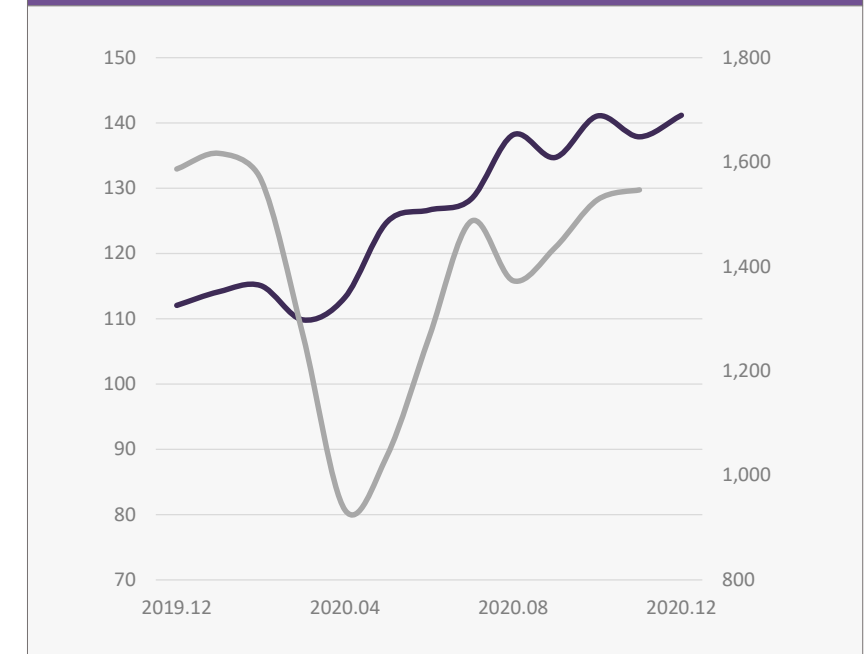
Housing Sales Index

The LegalShield Housing Sales Index reached another all-time high in December, suggesting that demand for homes that should sustain existing home sales into 2021.
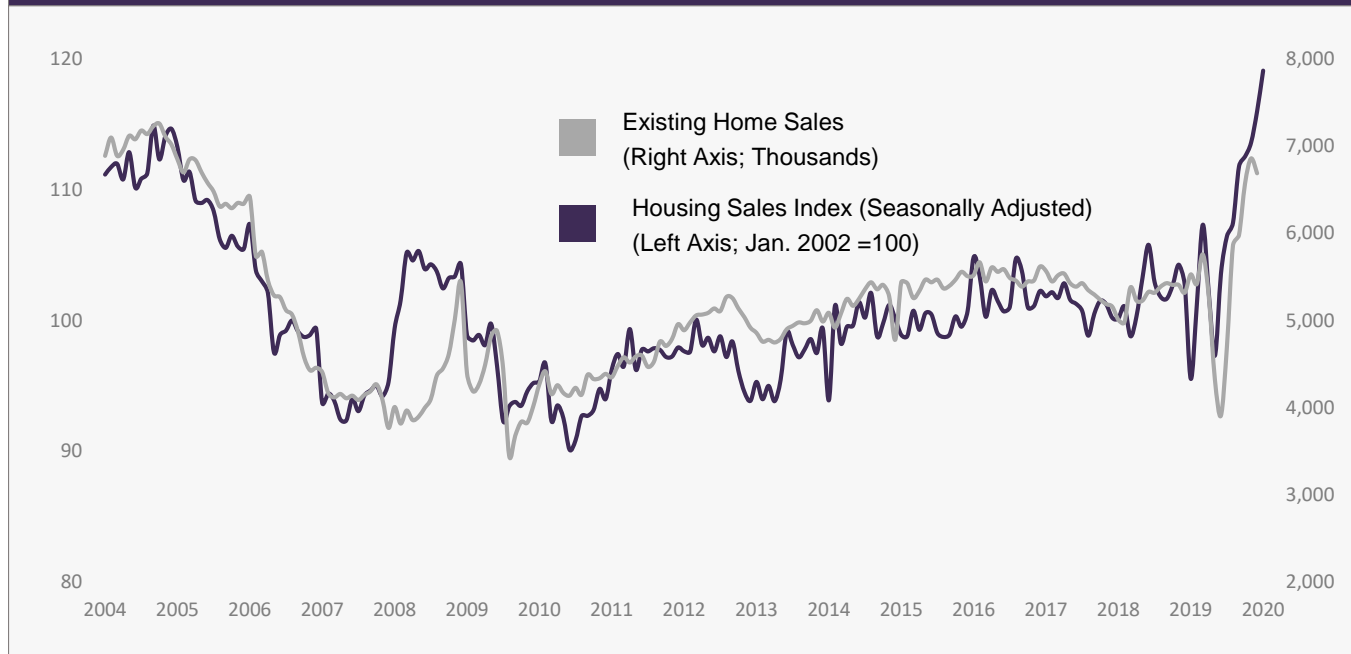
The LegalShield Housing Sales Index increased 3.1 points in December to an all-time high of 119.1. Meanwhile, existing home sales eased by 2.5% in November after rising for five consecutive months, though sales remain historically elevated. This softening is likely due in part to falling inventories and rising prices. For example, although low mortgage rates are boosting demand, plunging inventories have been pushing prices up: total housing inventory fell nearly 10% M/M in November and was down 22% Y/Y. The median price of existing-home sales was $310,800 in the same month, up nearly 15% compared to a year ago. Additionally, the latest findings from Fannie Mae's Home Purchase Sentiment Index found that after 3 months of optimism, fewer Americans said it was a good time to buy a house, though sentiment remains historically high.

However, several positive trends that led to strong housing sales in 2020 — including low mortgage rates and pandemic-induced demand for single-family homes — are expected to continue into the new year. Realtor.com expects housing sales to grow by 7% and prices to rise by 5.7% in 2021. Likewise, savings from the federal stimulus, a broad economic recovery, and continued vaccine distribution should support robust housing sales in the new year.
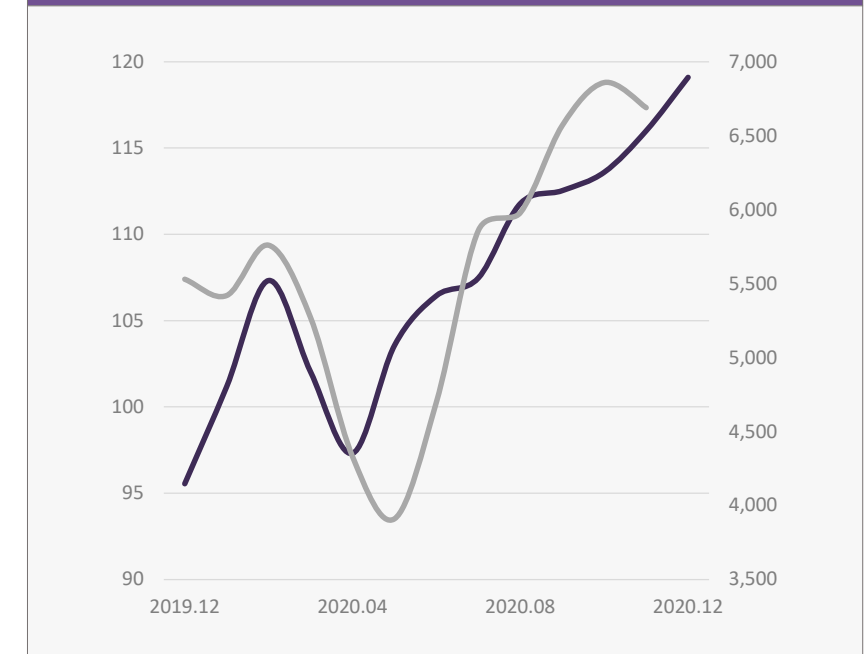
Favorable conditions in the housing market stemming from pandemic-related factors mean that home sales should remain strong for the time being.

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

- ✓ **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.

6

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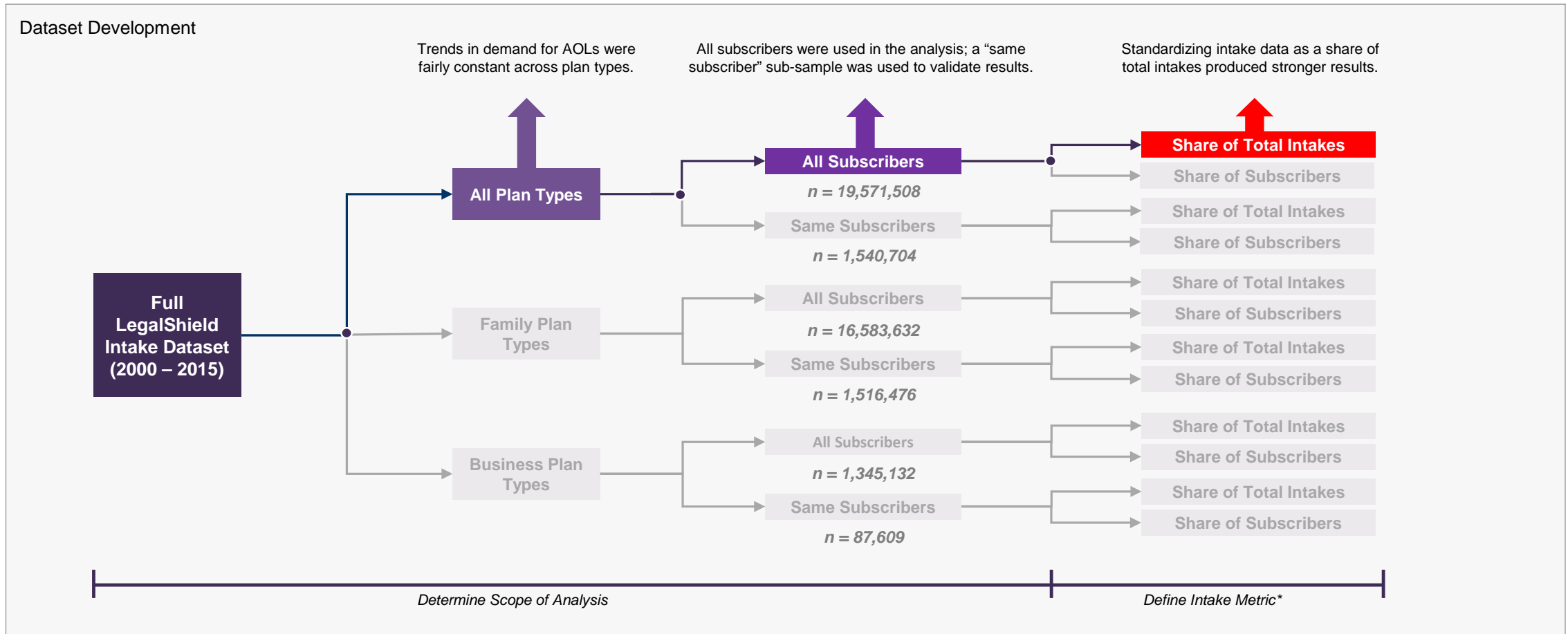Combine specific AOLs into composite indexes and test relationships with key macroeconomic indicators.

Data Construction & Cleaning

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

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.
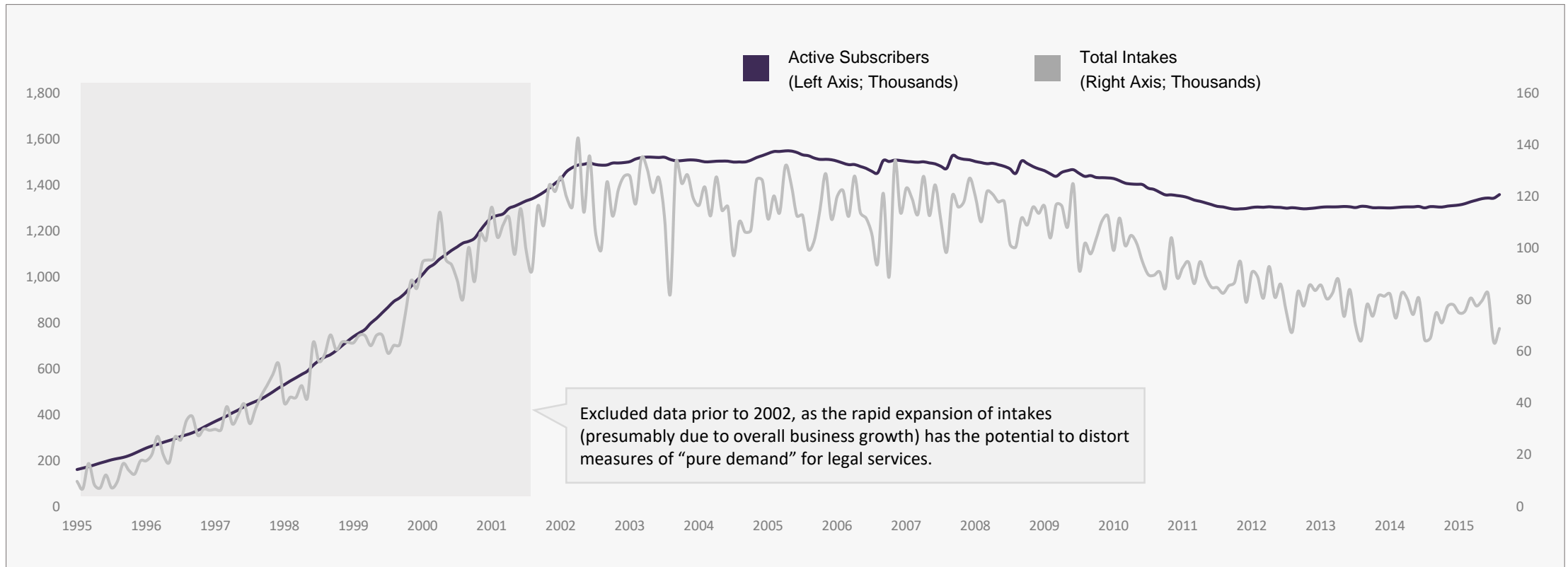
Analytical Scope

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.
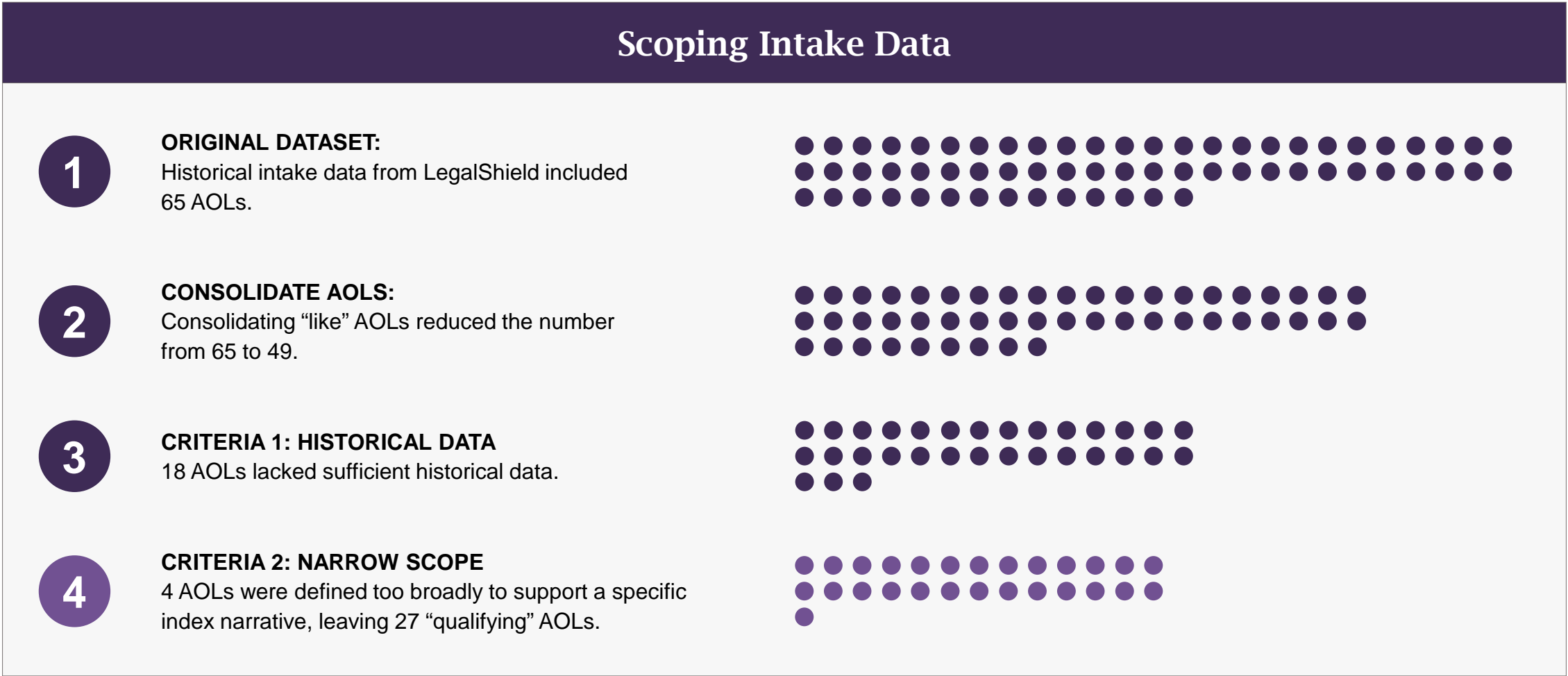
Filter AOL

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)
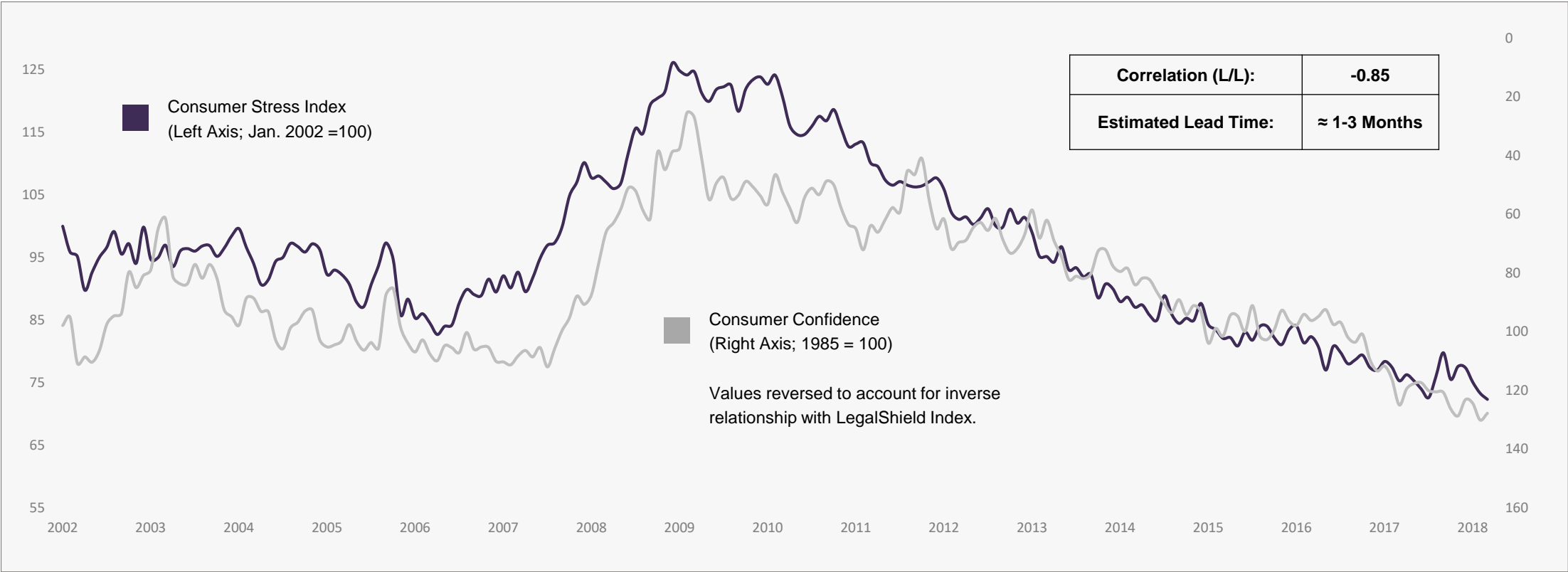Test 2: Compared correlations between random samples of the data
Test 3: Compared earliest and latest data (2000 – 2005, 2010 – 2015) with middle of data (2006 – 2009)
Test 4: Compared correlations between 20% of most recent data (Nov 2012 – Dec 2015) and remaining data
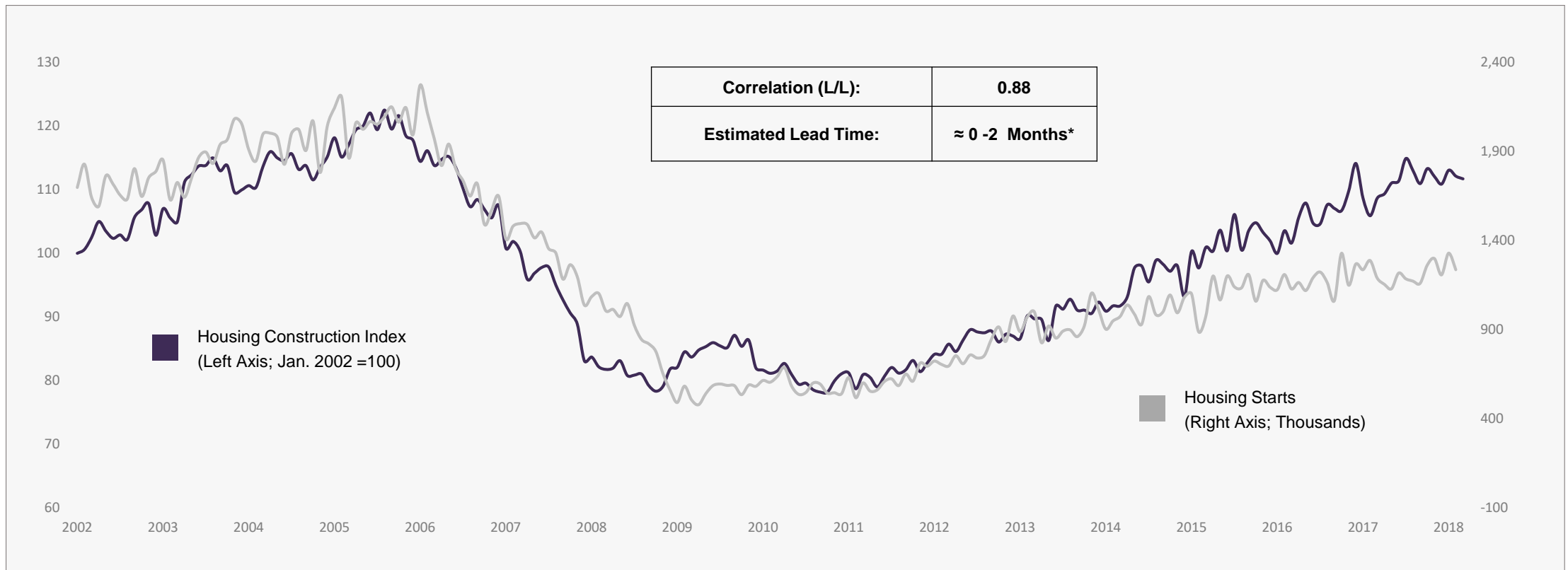
Composite Index: Consumer Stress

AOLs: Bankruptcy; Foreclosure; Consumer Finance

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

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

Consumer Confidence
(Right Axis; 1985 = 100)

Values reversed to account for inverse
relationship with LegalShield Index.

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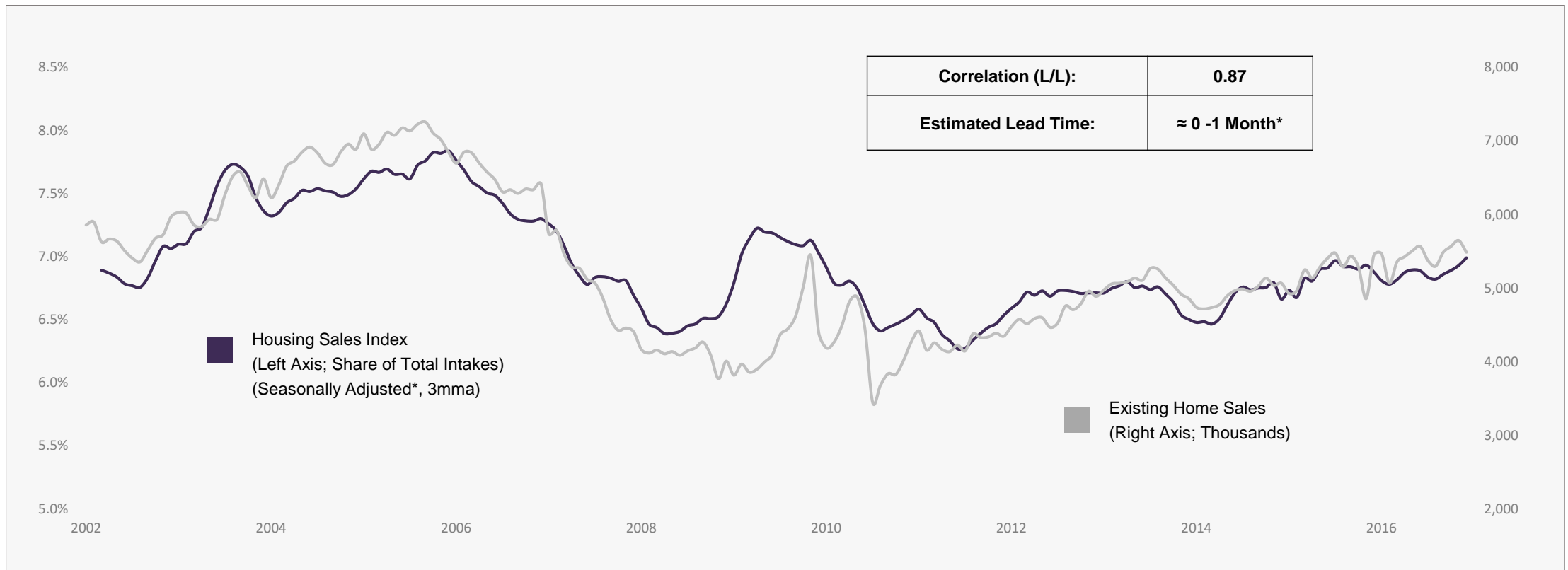
*The Housing Construction Index component of the Housing Activity Index was seasonally adjusted using the Census Bureau's X-13 ARIMA-SEATS Seasonal Adjustment Program. In addition to its statistical lead time, the Index has a timing advantage over housing starts of roughly a week due to release schedules.
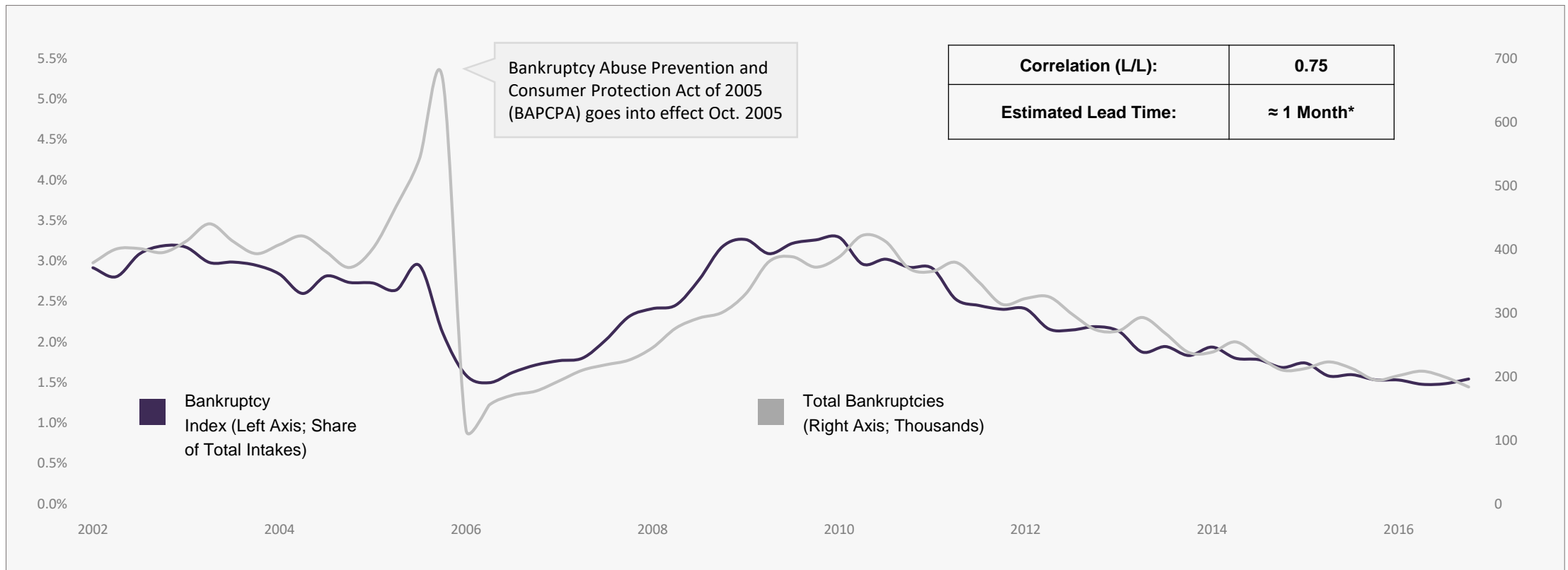
AOL: Real Estate

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.
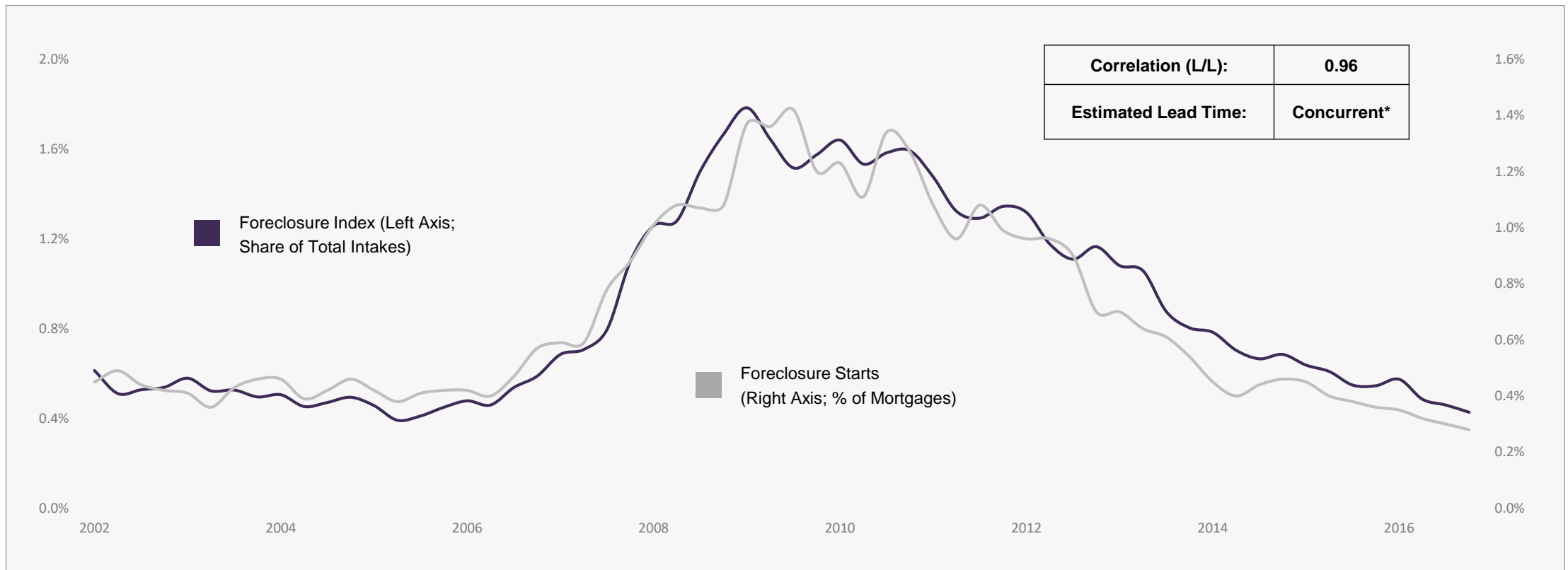
AOL: Bankruptcy

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.*	✓