Leading Construction Economic Indicators Spell Trouble for 2020

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Leading Construction Economic Indicators Spell Trouble for 2020

What You'll Learn

1. The importance of understanding the macro-economy as it relates to commercial construction
2. A potential NEW way of predicting the construction business cycle
3. What TO DO as you read the tea leaves

The Economic Cycle

The economic cycle is the natural fluctuation of the economy between periods of expansion and contraction

- The periods are generally measured by GDP in the United States
- A ***boom*** occurs when economic output is growing faster than the long term trend in GDP
- A ***slowdown*** is when the rate of growth is slowing
- A ***recession*** is when the rate of growth turns negative for two consecutive quarters
- A ***depression*** is defined by a fall of more than 10% of GDP

Commercial and Institutional Construction Activity and Recession

Since 1978, there have been five US recessions and an additional seven Commercial and Institutional Construction slumps. The timing of these downturns is shown below. Note that the depth of these downturns varied from 3% to 32% in the "Great Recession."

US GDP Peak	US GDP Trough	C&I Peak	C&I Trough	% Fall Peak to Trough*
1980 – January	1980 – July	1980 – January	1980 – October	-12%
1981 – July	1982 – November	1981 – January	1983 – March	-13%
		1986 – February	1987 – June	-8%
1990 – July	1991 – March	1990 – February	1991 – July	-15%
		1996 – November	1997 – June	-3%
		1999 – July	1999 – October	-4%
2001 – March	2001 – November	2000 – March	2003 – March	-11%
		2003 – October	2004 – February	-4%
2007 – December	2009 – June	2008 – October	2011 – February	-32%
		2012 – June	2013 – March	-6%
		2015 – June	2015 – November	-4%
		2016 – November	2017 – August	-5%

**Construction only, non-residential + multi-family, not the general economy*

Data: GDP Data from Federal reserve bank of St. Louis https://fred.stlouisfed.org/graph/?id=A191RL1Q225SBEA, Commercial & institutional construction data encompasses all non-residential construction, plus multi-family construction put in place from US Census Bureau https://www.census.gov/construction/nrc/index.html

Current Predictors of Economic Recessions and Construction Downturns

Conference Board Leading Economic Index® (LEI)	Architectural Billings Index (ABI)	Start Indexes from Dodge Data & Analytics and ConstructConnect®	The Dodge Momentum Index
• A mix of 10 individual indicators proven reliable in predicting economic activity approximately three to nine months in advance • Three negative months in a row has indicated an oncoming recession • Three consecutive months of rise with a 12% annual rate increase has accurately predicted the beginning of every recovery	• For construction specifically, the index has been shown to predict construction activity approximately 11 months in advance	• Recognizes the total value of a project in its initial month • Predicts construction put in place six to nine months in advance	• Aggregates projects scheduled to begin • Predicts construction 12 months in advance

These indicators have proven to be reliable and useful tools in predicting economic and construction activity but are limited by the length of time as predictors

2019 Outlook

Based upon the indicators and other factors, most institutions see 2019 as a positive year for the general economy and commercial and institutional construction:

Fed:	As of 12/19/18, projects US GDP Growth @ 2.3% for 2019 https://research.stlouisfed.org/
Conference Board:	Sees U.S. Economic Growth slowing from 2.9% in second half of 2018 to 2.2% by second half of 2019 https://www.conference-board.org/data/bcicountry.cfm?cid=1
World Bank:	As of 01/08/19, cut its forecast for U.S. Growth to 2.5% https://data.worldbank.org/indicator
Engineering News-Record (ENR):	Featured the following predictions for construction: • Dodge Starts are forecast to rise 0.2% in 2019 • FMI forecasts a 5.6% rise in construction put in place for 2019 • The NAHB projects Single Family to rise by 5%, Multi Family to fall by 4% • The Portland Cement Assoc. predicts total construction to rise 2.2% in 2019 https://www.enr.com/ext/resources/Issues/National_Issues/2018/11-November/26-Nov/1126_Forecast_combined.pdf
ConstructConnect:	Projects growth of construction put in place to be up 4.2% in 2019, 4.0% in 2020, and 4.5% in 2021. Projects non-residential at 4.8%, 4.5%, and 4.4% respectively https://www.constructconnect.com/blog/economy/fall-2018-u-s-put-place-construction-forecasts/

Predicting the Construction Cycle

- The Family Business Institute has embarked on an effort to improve upon the currently available construction predictors by identifying individual leading indicators and combining them into a tool (similar to the Conference Board's Leading Economic Index® or LEI)
- The goal is to both increase the accuracy and significantly extend the horizon of predictions for future construction put in place
- We analyzed more than 50 potential predictors of construction activity based upon their movements both prior to and following past commercial construction recessions

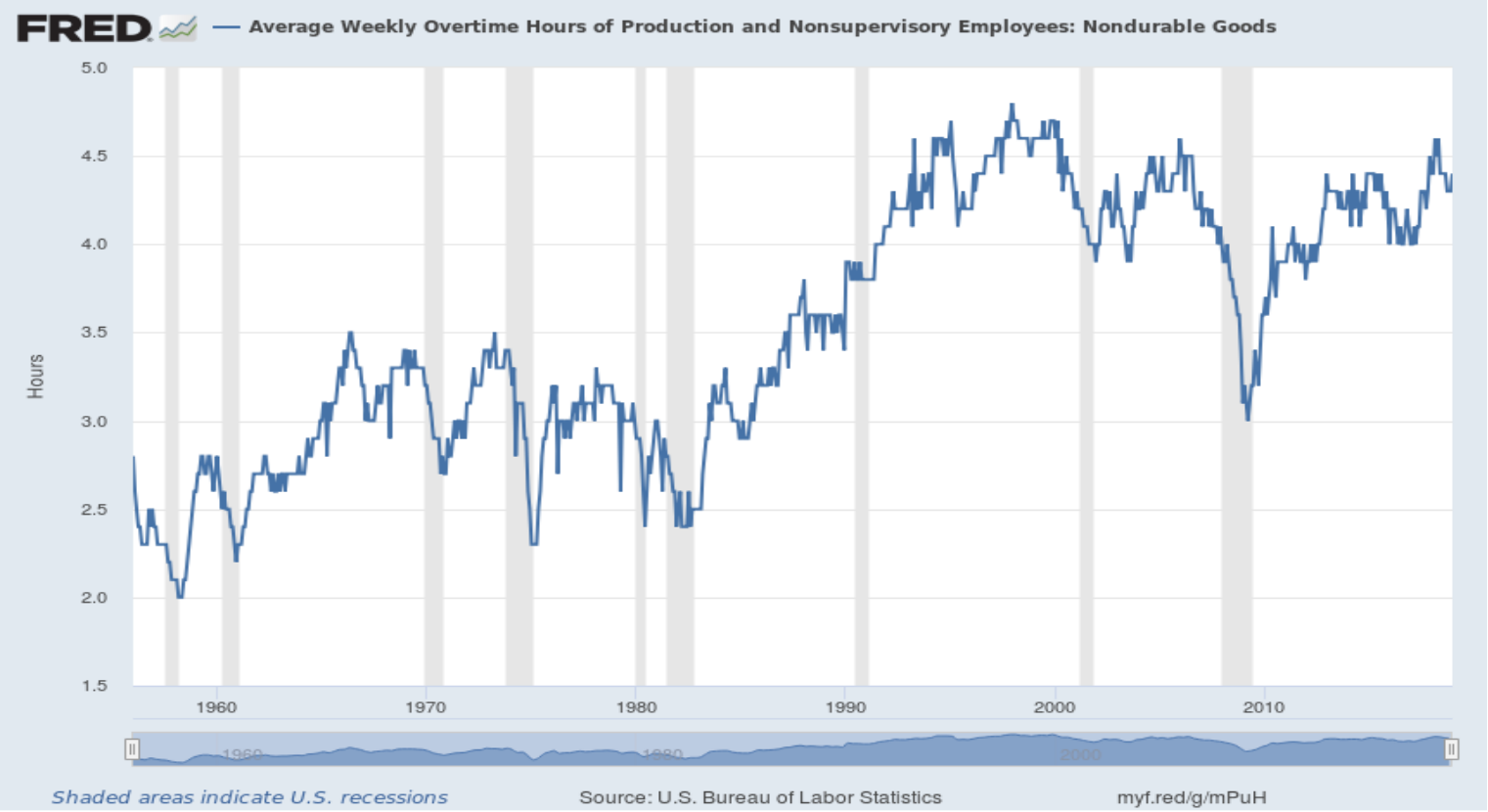
Predicting the Commercial & Institutional Construction Cycle

We have identified these nine elements as the top performing individual predictors with their historic average lead times to construction recessions:

1. New Single Family Construction - 21 to 23 Months
2. Permits – New Residential Construction - 24 to 30 Months
3. Yield Curve Inversion/Spread – 22 to 25 Months
4. Change In Interest Rates - 23 to 25 Months
5. New Orders, Non-Defense Goods - 14 to 16 Months
6. Jobs Added U.S. – 16 to 22 Months
7. NFIB Confidence Survey – 17 to 26 Months
8. Price Index on Equity REITs – 18 to 21 Months
9. Overtime Hours, Non-Durable Goods – 16 to 24 Months

*** For historical details on each of these indicators, please see the appendix**

Visual Example – Overtime Hours



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2020 Outlook

8 of 9 Predictive Elements have taken a downturn in 2018 (Jobs Added are flat in'18).

The movements of each individual indicator suggest:

1.	New Single Family Construction:	Pullback by early 2020
2.	Permits – New Residential Construction:	Pullback by spring 2020
3.	Yield Curve Inversion/Spread:	Pullback by January 2020
4.	Change In Interest Rates:	Pullback between early 2019 and fall of 2020
5.	New Orders, Non-Defense Goods:	Pullback by late 2019 to early 2020
6.	Jobs Added – U.S.:	Possible pullback by late 2019 to early 2020
7.	NFIB Confidence Survey:	Pullback by mid to late 2020
8.	Price Index on Equity REITs:	Pullback by early to mid 2020
9.	Overtime Hours, Non-Durable Goods:	Pullback by early 2020

2020 Outlook

- Based upon the predictive elements we have identified and the consistency of their signals, we would suggest a very strong chance of a significant pull back in commercial and institutional construction in 2020
- The severity and length of any downturn has usually been indicated by the depth and length of drop in each of these leading indicators. It is too early (after the recent highs and subsequent fall of these indicators) to predict severity or length with any accuracy
- The consistency with which these indicators have moved together and the severity of drops in yield curve, the REIT index, and business confidence would tend toward severe, while the moderate drops in housing and jobs sectors point to a smaller drop
- It is unknown which sectors or regions will suffer greater or lesser effects
- Additional data in the coming months should help clarify these questions

Regional and Sector Indicators

Some markets are more affected by recessionary factors than others, and, depending upon the core cause and characteristics of any particular recession, certain industry sectors may be harder hit than others

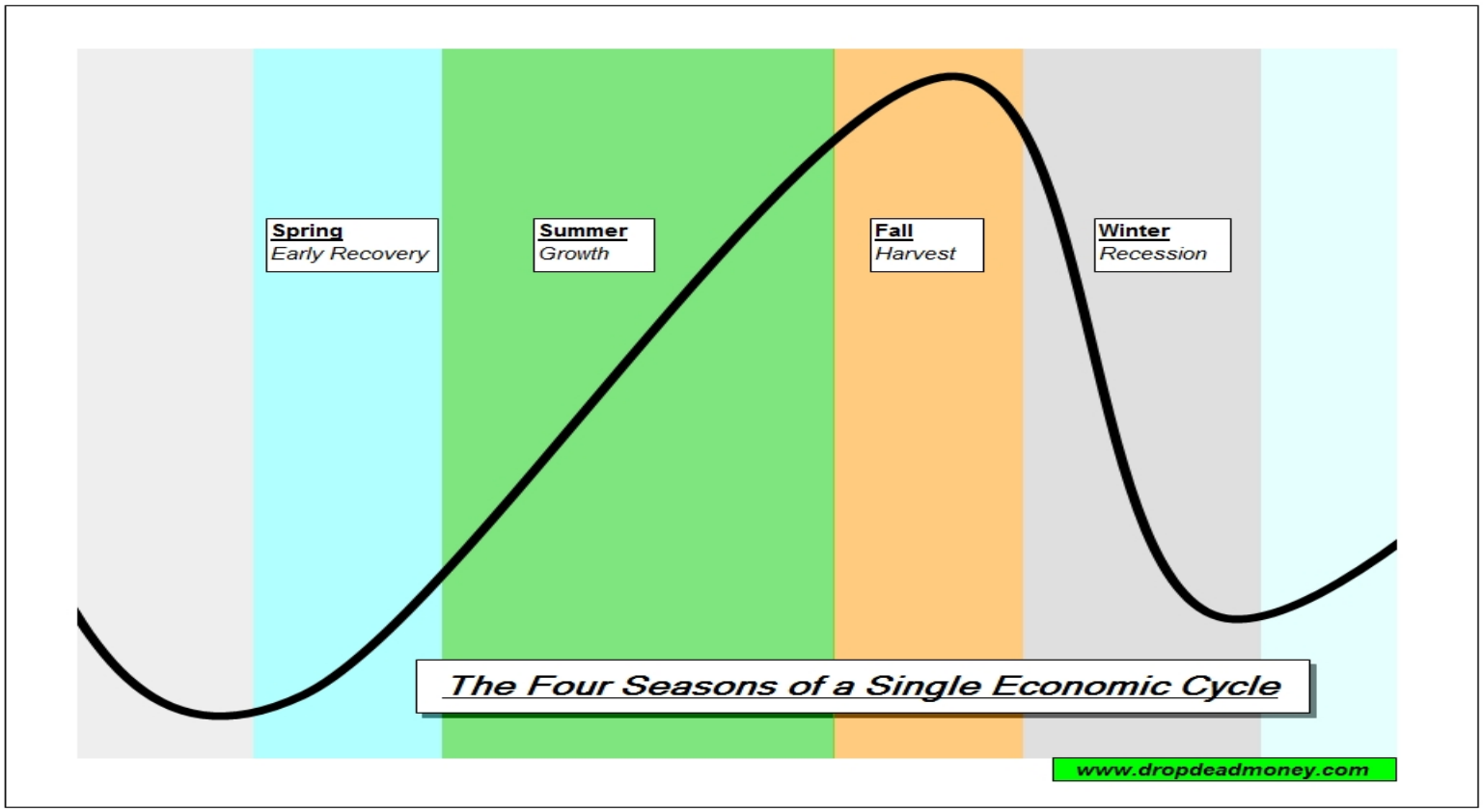
- **Oil prices** had been very strong, and recently have undergone a correction. This has been a boon to industrial production and several sections of the country where oil is a big driver of economic activity. What happens now if oil prices continue to soften? Or rise again?
- Michigan, Ohio, and several other areas are quite sensitive to the **auto industry** which had seen a strong recovery, and Michigan construction has followed suit. But recent interest rate, cost factors, and tariff uncertainty have slowed auto sales. Will Michigan and other auto sensitive markets slow?

Regional and Sector Indicators

- **Agriculture** is struggling with low commodity prices and tariff/export issues. Many Midwest industries support or rely on agriculture. Will this affect construction in the breadbasket?
- The **Sunbelt** is hot again with retirees and vacationers. If the last recession is an example, may what goes up fastest come down fastest?
- State capitals and **areas with significant college, government and/or health care** tend to be more recession proof. Will this trend continue and allow certain markets to avoid the onset of recession until later?

These and other industry sector or geographical differences are important in planning for the future. Know what economic drivers have an effect on your area, and take those into account in your planning!

What Should You Do Now Anticipating a Recession?



What Should You Do Now Anticipating a Recession?

Getting Work

- **Keep your foot on the gas!** Get your 2020 and 2021 backlog solidified now while pricing is good and competition is stretched
- **Solidify your client relationships.** When pricing tightens, you do not want your clients looking for cheaper solutions
- **Solidify and expand your trade relationships.** You will need them to either get low on bids or make budgets
- **When the downward cycle begins, and pricing starts to worsen, continue to pursue long term backlog aggressively.** Get lower before your competitors because it will only get worse later! You don't want to be swimming with the pigs at the bottom of the trough!

What Should You Do Now Anticipating a Recession?

Financial Strength

- **Keep capital in your company now** – or in another pocket but available to the company – as you don't want to be threatened by low capital. Cash is king and gives you many advantages and opportunities in a downturn
  - Be willing and able financially to commit to keeping your core team intact during the recession even if this means taking a short term loss – that's why you reap the profits now in good times!
  - Other companies may be laying off or losing some good people. Be in a position to invest in future talent if it is the right fit!
- **Increase your credit line and renegotiate any long term debt** for more favorable terms while times are good and banking is loose

What Should You Do Now Anticipating a Recession?

Operations, Organization

- **Do Contingency Planning** and use financial modeling to "stress test" your company
- **When you do need to cut overhead, cut people as opposed to salaries or benefits.** Raises and bonuses may suffer, but you want the remaining people to be happy, confident, and motivated. If workloads allow, cut early and deep, so you don't have to keep cutting every month. "Death by a thousand cuts" demoralizes everyone and creates too much uncertainty
- **Communicate more, not less – no bunker mentality!** Paint a positive and certain future (though not fluffy and unrealistic) for your employees. Better times are always around the corner!
- Hopefully, you have remained efficient in these good times, but if you haven't, **root out inefficiencies now so you are humming as a finely tuned machine**

Conclusions

1. Economic cycles are extremely hard to predict, and the importance of certain leading indicators can change over time
2. The Federal Reserve and the US Government continue to use different tools to try to keep the economy humming at a moderate to strong pace. However, there have always been cycles and most economists would argue it is inevitable!
3. There are “wild cards” in the economy such as the effect of debt, deficits and upside down pension funds that are not well understood. Nobody knows just how much debt is too much!
4. Additionally, we have slowing international economies and the disruption of Trade negotiations

Conclusions

5. Watch, in particular, for the following movement in these indicators:
    a) One or two more Fed interest rate increases will push that indicator into clear recession prediction territory
    b) Single family permits and single family housing put in place continuing their recent weak trends
    c) The yield curve continuing to trend toward inverted territory
    d) Continued weakness in vacancies and weak rent growth
6. What is clear is that most of the major long term indicators are moving toward the range that would indicate weakness at best, or recession at worst, for Commercial & Institutional Construction in the next 12 to 24 months

The Family Business Institute's mission is to help contractors make more money in less time with fewer headaches and a higher quality of life

We welcome your questions and feedback – please call or email us at

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Leading Construction Economic Indicators

APPENDIX

Commercial and Institutional Construction Activity and Recession

Since World War II, we have had 11 recessions, generally spaced 7 to 10 years apart. Commercial and Institutional construction (non-residential + multi-family) activity has always fallen in these periods but also had slumps where it experienced recession in some additional periods – specifically 1966-67, 1986-87, 1996-97, late 1999, 2003-04, 2012-13, late 2015 and 2016-17. Thus, while commercial and institutional construction is subject to some of the same criteria as the general economy, there are other economic drivers that effect construction differently than the general economy.

Timing-wise, construction peaks have been mostly concurrent with the GDP, but lagged significantly in the Great Recession due to strong government, institutional and industrial spending in the early stages of recession which supported construction growth well into the Great Recession. Recovery in commercial & institutional construction has mostly lagged the GDP recovery, meaning that construction stays in recession longer than the general economy. The chart below shows the average time between peaks and troughs for the past five recessions has been 11 months, while the average gap for commercial & institutional construction was 14 months. Since 1976, we have had the following peaks and troughs for the US economic cycle and in commercial and institutional construction:

US GDP Peak	US GDP Trough	C&I Peak	C&I Trough	% Fall Peak to Trough*
1980 – January	1980 – July	1980 – January	1980 – October	-12%
1981 – July	1982 – November	1981 – January	1983 – March	-13%
		1986 – February	1987 – June	-8%
1990 – July	1991 – March	1990 – February	1991 – July	-15%
		1996 – November	1997 – June	-3%
		1999 – July	1999 – October	-4%
2001 – March	2001 – November	2000 – March	2003 – March	-11%
		2003 – October	2004 – February	-4%
2007 – December	2009 – June	2008 – October	2011 – February	-32%
		2012 – June	2013 – March	-6%
		2015 – June	2015 – November	-4%
		2016 – November	2017 – August	-5%

**Construction only, non-residential + multi-family, not the general economy*

Data: GDP Data from Federal reserve bank of St. Louis https://fred.stlouisfed.org/graph/?id=A191RL1Q225SBEA, Commercial & institutional construction data encompasses all non-residential construction, plus multi-family construction put in place from US Census Bureau https://www.census.gov/construction/nrc/index.html

New Single Family Construction

It has long been understood that residential construction is a leading indicator of commercial construction as new housing requires support from commercial resources and infrastructure to support the population. The chart below shows the relationship between the peaks and troughs of Single Family Construction put in place and Commercial and Institutional Construction put in place.

Over the past twelve commercial construction recessions, single family has been a consistent indicator and preceded entry by 23 months and recovery from recession by about 21 months. Correlation analysis shows a .72 correlation @ 23 months lead time.

Single family construction put in place peaked in May 2018 and has fallen thru October. This would tend to predict a fall of in Commercial and Institutional construction in early 2020.

Single Fam Peak	Single Fam Trough	C&I Peak	C&I Trough	Months Led Peak	Months Led Trough
1978 – August	1980 – June	1980 – January	1980 – October	15	4
1981 – January	1982 – March	1981 – January	1983 – March	0	12
1984 – May	1985 – February	1986 – February	1987 – June	21	26
1987 – November	1991 – March	1990 – February	1991 – July	27	5
1994 – June	1995 – June	1996 – November	1997 – June	29	14
1996 – August	1997 – January	1999 – July	1999 – October	35	33
2000 – February	2000 – August	2000 – March	2003 – March	1	31
2001 – August	2002 – February	2003 – October	2004 – February	26	24
2006 – February	2009 – May	2008 – October	2011 – February	32	21
2010 – October	2011 – February	2012 – June	2013 – March	20	25
2013 – August	2013 – October	2015 – June	2015 – November	22	25
2015 – January	2015 – March	2016 – November	2017 – August	22	30

Data: US Census Bureau - Private single family construction put in place. https://www.census.gov/construction/nrc/index.html

Housing Units, Permits Issued

It has long been understood that residential construction is a leading indicator of commercial construction. It is also understood that permits are a leading indicator of residential construction The average lead time for Commercial and Institutional Construction is 30 months going in and 27 months coming out of recession. Its best correlation value is .52 and its data leads by 24 months.

A new recent peak was reached in March of 2018 and has fallen each month since, indicating a potential slowdown in Spring of 2020 or sooner.

Res. Permits Peak	Res. Permits Trough	C&I Peak	C&I Trough	Months Led Peak	Months Led Trough
1978 – June	1980 – April	1980 – January	1980 – October	17	6
1980 – September	1981 – October	1981 – January	1983 – March	4	17
1984 – February	1984 – October	1986 – February	1987 – June	24	32
1985 – September	1991 – January	1990 – February	1991 – July	53	6
1993 – December	1995 – March	1996 – November	1997 – June	35	27
1996 – April	1996 – October	1999 – July	1999 – October	39	36
1998 – December	2000 – July	2000 – March	2003 – March	15	32
2001 – January	2001 – September	2003 – October	2004 – February	33	29
2005 – September	2009 – March	2008 – October	2011 – February	37	23
2010 – March	2011 – February	2012 – June	2013 – March	26	25
2013 – April	2013 – June	2015 – June	2015 – November	26	31
2014 – April	2014 – June	2016 – November	2017 – August	31	38

Data: US Census Bureau – Annual rate for housing units authorized in permits. https://www.census.gov/construction/nrc/index.html

Yield Curve Inversion/Spread
(Between 10 & 2 Year Bond)

The yield curve measures the difference between the 2-year US Treasury and the 10-Year US Treasury. When the 2-year yield is higher than the 10-year yield, that is when the curve becomes "inverted." When the spread between 10 and 2 year yields drops more than .85 points within 8 months, there has been a construction recession to follow with only 2 false positives, both of those where the spread was still quite large by historic standards. Average lead times from this drop to construction recession are 22 months going in and 23 months going out. There is a strong correlation of .62 to commercial construction with a lead time of 55 months. The last significant peak in Yield Curve Rates was June of 2015 predicting a potential drop in construction for January of 2020.

At press time the yield curve has been on a steady decline toward zero and was close to being inverted. The gap between the 10 year and 2 year returns has never been this low without a construction recession following.

Yield Mini Peak	Yield Mini Trough	C&I Peak	C&I Trough	Months Led Peak	Months Led Trough
1977 – December	1978 – February	1980 – January	1980 – October	25	32
1979 – June	1982 – February	1981 – January	1983 – March	19	13
1983–Dec/1985–July	1984–Aug/1986–Feb	1986 – February	1987 – June	15	25
1987 – October	1989 – March	1990 – February	1991 – July	28	28
1994 – March	1994 – December	1996 – November	1997 – June	32	30
1997 – January	1998 – June	1999 – July	1999 – October	30	16
1998 – October	2000 – August	2000 – March	2003 – March	17	31
2001 – December	2002 – March	2003 – October	2004 – February	22	23
2004 – March	2006 – December	2008 – October	2011 – February	55	50
2011 – June	2011 – September	2012 – June	2013 – March	12	18
2013 – December	2015 – January	2015 – June	2015 – November	18	10
2015 – June	2016 – August	2016 – November	2017 – August	17	12

Data source: US Department of the Treasury https://www.treasury.gov/resource-center/data-chart-center/interest-rates/Pages/TextView.aspx?data=yieldYear&year=2018

Change In Interest Rates
(Fed Funds Rate Rises)

Rises in interest rates has been known to blunt construction by adding to the costs of both single family homes and most other private construction, particularly developer/investor led construction projects.

We have found that a rise in the federal funds rate of 1 point or 50% year over year has signaled the beginning of most of the construction slumps over past 30 years. Note that the 2003 minor slowdown fell short of our 1pt./50% criteria, but the chart reflects the minor rise and fall of rates prior to that incident. The data below notes when those peaks and troughs of fed fund rates when those occasions occurred. They lead the construction cycle by 23 months going into or out of those construction recessions. The change in rates has a good correlation with the construction cycle of .46 with a 25 month lead. Since we have been in an unprecedented low interest rate environment for a long time, it is not know whether the exact criteria will apply, but we passed the 50% increase in October of 2017 (then continuously until now) and a full point increase within a year in October of 2018. This would tend to point toward a construction recession beginning sometime between early 2019 and fall of 2020.

Fed Funds Rise	Fed Funds Fall	C&I Peak	C&I Trough	Months Led Peak	Months Led Trough
1977 – October	1980 – June	1980 – January	1980 – October	27	4
1980 – November	1981 – November	1981 – January	1983 – March	2	16
1984 – August	1984 – November	1986 – February	1987 – June	18	31
1988 – July	1989 – December	1990 – February	1991 – July	19	19
1994 – May	1996 – February	1996 – November	1997 – June	30	16
1997 – March	1997 – June	1999 – July	1999 – October	28	28
2000 – March	2001 – February	2000 – March	2003 – March	0	25
2002 – February	2002 – October	2003 – October	2004 – February	20	16
2004 – September	2007 – August	2008 – October	2011 – February	49	42
2010 – October	2011 – March	2012 – June	2013 – March	20	24
2012 – May	2013 – May	2015 – June	2015 – November	37	30
2015 – January	2015 – October	2016 – November	2017 – August	22	22

Data Source: Federal Reserve Bank of St. Louis Federal funds Rate https://fred.stlouisfed.org/series/FEDFUNDS

New Orders, Non-Defense Goods

New Orders of Non-Defense Goods reflects the confidence businesses have that sales and production will be strong in the future. When they sense they will not be able to maintain the pace of production or sales, these orders tend to decrease, usually indicating the early seeds of an economic slowdown.

This metric (only available since 1992) has consistently predicted construction slowdowns as you can see in the chart below with an average 15 months lead going in and out. It has a very strong correlation of .78 @ 14 months lead time. Non-Defense Goods peaked in August of 2018 and have fallen since, predicting a construction slowdown beginning in late 2019 or early 2020.

Non-Defense Peak	Non-Defense Trough	C&I Peak	C&I Trough	Months Led Peak	Months Led Trough
1995 – March/November	1995 – May/December	1996 – November	1997 – June	16	21
1997 – September	1998 – May	1999 – July	1999 – October	22	17
2000 – February	2001 – November	2000 – March	2003 – March	1	16
2002 – June	2002 – November	2003 – October	2004 – February	16	15
2006 – Jan/2008 – Jan	2006 - Jun/2009 – Apr	2008 – October	2011 – February	21	39
2012 – February	2012 – October	2012 – June	2013 – March	4	5
2014 - January/July	2104 - Mar/2015 - May	2015 – June	2015 – November	14	13
2015 - May/2016 – Mar	2016 – January/April	2016 – November	2017 – August	13	17

Data Source: US Census Bureau
https://www.census.gov/econ/currentdata/dbsearch?program=M3ADV&startYear=1992&endYear=2019&categories=DXD&dataType=NO&geoLevel=US&adjusted=1&submit=GET+DATA&releaseScheduleId=

Jobs Added – U.S.

The logic behind this indicator is that confidence by businesses and industry leads to hiring and capital investment. When hiring in down, there is less need and interest in building additional space. Historically, the changes in jobs added has preceded recessions and commercial and institutional construction. The average lead to peaks and troughs for construction has been about 19 months going in and 16 months coming out. Jobs added has a moderate correlation of .41 with a lead time of 21 months.

The moving average for jobs added appeared to reach a peak between December of 2017 and April 2018, potentially indicating a construction fall off in late 2019 or early 2020. However, the preliminary December number along with adjustments to previous months came in very high, possibly representing a new peak at the end of December 2018. We will have to wait and see where those numbers go in the coming months to determine whether there is positive or negative momentum from this area.

Jobs Added Peak	Jobs Added Trough	C&I Peak	C&I Trough	Months Led Peak	Months Led Trough
1978 – April	1979 – February	1980 – January	1980 – October	21	20
1980 – October	1982 – August	1981 – January	1983 – March	3	7
1983 – November	1986 – April	1986 – February	1987 – June	27	14
1987 – Dec/1990–Jan	1989 – Jun/1991–Mar	1990 – February	1991 – July	14	14
1994 – May	1995 – May	1996 – November	1997 – June	30	25
1997 – November	1998 – August	1999 – July	1999 – October	20	14
1999 – November	2001 – October	2000 – March	2003 – March	4	17
2002 – August	2003 – February	2003 – October	2004 – February	14	12
2006 – Jan/2007–Jul	2008 – Jun/2009–Jan	2008 – October	2011 – February	27	29
2010 – Feb/2012–Jan	2010 – Aug/2012–Jun	2012 – June	2013 – March	16	12
2013 – February	2013 – December	2015 – June	2015 – November	26	23
2014 – August	2016 – March	2016 – November	2017 – August	17	17

Source: Bureau of Labor Statistics https://data.bls.gov/pdq/SurveyOutputServlet

NFIB Confidence Survey

Business confidence is a leading indicator of business investment and spending in the future. United States NIFB Business Optimism Index, has measured business confidence quarterly from 1975 to 1986 and monthly thereafter. Averaging 98.22 with a high of 108.8 in 8/18 and a low of 80.10 in 4/80. The peaks and troughs of index tend to precede construction peaks and troughs by an average of 25 months going in and 17 coming out of recession. This index has a moderate correlation with construction activity of .35 with a lead time of 26 months. The United States NIFB Business Optimism Index peaked in August of 2018 and has fallen for four consecutive months, suggesting a construction downturn in the middle or end of 2020.

NFIB Index Peak	NFIB Index Trough	C&I Peak	C&I Trough	Months Led Peak	Months Led Trough
1976 – April	1979 – July	1980 – January	1980 – October	45	15
1979 – Oct/1981-Jul	1980 – Apr/1981–Oct	1981 – January	1983 – March	5	26
1983 – July	1986 – November	1986 – February	1987 – June	31	7
1987 – August	1991 – January	1990 – February	1991 – July	30	6
1994 – November	1996 – April	1996 – November	1997 – June	24	16
1997 – October	1998 – September	1999 – July	1999 – October	21	13
2000 – January	2001 – September	2000 – March	2003 – March	2	18
2002 – March	2003 – March	2003 – October	2004 – February	19	11
2004 – Nov/2006–Oct	2006 – Aug/2009-Mar	2008 – October	2011 – February	35	37
2011 – February	2011 – August	2012 – June	2013 – March	14	19
2012 – February	2012 – October	2015 – June	2015 – November	40	38
2014 – December	2016 – March	2016 – November	2017 – August	23	17

Data Source: National federation of Independent Businesses *https://tradingeconomics.com/united-states/nfib-business-optimism-index*

Price Index on Equity REITs

This index tends to reflect the market confidence of real estate investors and reflects the movements in occupancy/vacancy rates, rents, absorption and availability/interest of capital markets. This is one of the better indicators we have found with remarkable consistency in predicting construction downturns on average of 21 months going in and coming out of downturns. The correlation is strong at .65 @ 18 months.

The index peaked in August of 2018 and has fallen consistently since by 10% total, projecting to a potential downturn in commercial and institutional construction in early to mid 2020.

REIT Index Peak	REIT Index Trough	C&I Peak	C&I Trough	Months Led Peak	Months Led Trough
1978 – January	1978 – December	1980 – January	1980 – October	24	22
1979 – Aug/1981–May	1980 – Apr/1982–May	1981 – January	1983 – March	7	23
1983 – Dec/1985–May	1984 – Jun/1985–Nov	1986 – February	1987 – June	11	22
1987 – January	1990 – November	1990 – February	1991 – July	37	8
1993 – August	1994 – December	1996 – November	1997 – June	39	30
1997 – November	1999 – February	1999 – July	1999 – October	20	8
1999 – June	2000 – January	2000 – March	2003 – March	9	38
2002 – May	2002 – December	2003 – October	2004 – February	17	14
2007 – March	2009 – March	2008 – October	2011 – February	19	23
2011 – April	2011 – October	2012 – June	2013 – March	16	17
2013 – March	2013 – October	2015 – June	2015 – November	27	25
2015 – January	2015 – July	2016 – November	2017 – August	22	25

Data Source: National Association of Real Estate Investment Trusts: https://www.reit.com/data-research/reit-indexes/monthly-index-values-returns

Overtime Hours, Non-durable Goods

The use of overtime versus new hires is often indicative of a tight labor market combined with high consumer demand. In our research we have found that the number of overtime hours peaks well in advance of recessions and construction recessions, with each of the last construction downturns preceded by peaks in the 5 month rolling rate of overtime hours. The lead time averages about 24 months going into and 16 months coming out of the downturn. Correlation is moderate @ .33 with a 16 month lead.

Although there have been two false positives over the periods covered, both of those did indicate brief slowdowns in construction. Overtime hours would appear to have a most recent peak in August of 2018, though it has not fallen much from its peak, indicating mild pullback in construction beginning early in 2020.

OT Hours Peak	OT Hours Trough	C&I Peak	C&I Trough	Months Led Peak	Months Led Trough
1978 – February	1980 – June	1980 – January	1980 – October	23	4
1980 – December	1982 – March	1981 – January	1983 – March	1	12
1984 – April	1984 – December	1986 – February	1987 – June	22	30
1988 – January	1989 – December	1990 – February	1991 – July	25	19
1995 – January	1995 – May	1996 – November	1997 – June	22	25
1997 – December	1998 – October	1999 – July	1999 – October	19	12
1999 – June	2001 – December	2000 – March	2003 – March	21	15
2002 – December	2003 – June	2003 – October	2004 – February	10	8
2005 – December	2009 – March	2008 – October	2011 – February	34	23
2011 – May	2011 – December	2012 – June	2013 – March	13	15
2012 – December	2014 – July	2015 – June	2015 – November	30	16
2014 – November	2015 – December	2016 – November	2017 – August	24	20

Data source: Federal Reserve Bank of St. Louis https://fred.stlouisfed.org/search?st=overtime+hours+non-durable