# Intelligent Forecasting In A Recession

## SCENARIO PLANNING FOR "WHAT'S NEXT"

prevedere

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# The Certainty of Uncertainty

Modern executives have faced their fair share of challenges throughout the last decade. Today's leaders have faced unique challenges, from marketplace chaos to the constant change in consumer behavior dynamics. However, one of the heaviest demands to date seems to be how to transform a business into a truly data-driven organization.

**What does all this mean for your business? And do you need to reevaluate your forecast especially in a recession?**

Fortunately, recent technological advances make it possible to predict how economic, industry, and consumer trends will impact future business outcomes.

It's an approach called *Intelligent Forecasting*, and it's already changing how companies forecast performance and strengthen outcomes.

**Read on to learn about:**

1. The blind spot in traditional forecasting methods
2. The value of tapping into the leading signals in economic and other external data
3. How predictive econometric models can improve forecast accuracy and timeliness
4. How companies are using intelligent forecasting to formulate scenario planning to prepare for potential business outcomes

# The Trouble with Traditional Forecasting Methods

Many companies struggle with forecasting. Traditional approaches take too long, require tedious manual work, and, most problematically, don't yield correct findings. KPMG reports that the average company forecast is off by 13%. Some of the biggest shortcomings of old-school forecasting methods include:

**ASSUMING STABILITY**

A common forecasting practice is to apply this year's growth rate to next year's forecast. But, as any financial advisor will tell you, "Past performance is no guarantee of future results." This approach works only if the market is stable. That's a risky assumption given the volatility of today's business environment.

**GUESSES AND GAMES**

Some forecasts draw more on fiction than fact. People often rely on their own biases and pet theories or the overly optimistic projections of channel partners or customers. Sandbagging, hockey-sticking, and kingdom-building are common forecasting challenges. Bottoms-up processes only compound the errors they create.

**INTERNAL VIEW ONLY**

Many forecasts are built on historical company data and account only for internal levers like product, pricing, promotions, and distribution. External factors, when considered, are generally broad economic measures like GDP or interest rates. And they're included in PowerPoint presentations, not systematically in the forecasting process.

## *The High Cost of a Bad Forecast*

**Faulty forecasts are damaging to any business.**

▶▶ **Forecast too high** and you risk higher costs that eat into profits. Discounting to boost sales, money tied up in excess inventory, facilities that are over-staffed and under-utilized all put pressure on the bottom line.

▶▶ **Forecast too low** and you leave money on the table. Stockouts mean you lose not just the initial purchase but add-on sales as well. Competitors can gain market share at your expense. And you may incur extra costs to ramp up production or expedite shipping.

▶▶ **Missing a forecast** also shakes shareholder confidence. Every earnings season double-digit drops in stock value underscore the dangers of falling short of expectations.

**Every 1% error in forecast results in $30 million in lost profits per year for the average Fortune 2000 company, according to the Institute of Business Forecasting.**


# The Big Blind Spot

Internal data and internal factors are important in forecasting. But they don't provide a complete picture of what's driving business outcomes.

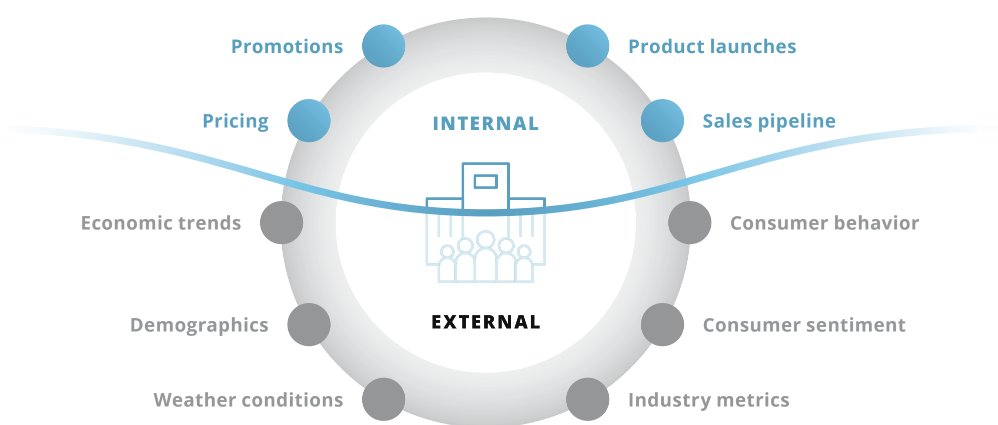
**External factors matter, too.**

Macroeconomic trends, changing consumer behaviors, demographic shifts, a disruption in the supply chain, the rise and fall of the stock market. Any of these external dynamics can drive revenue up or down.

In fact, the external market environment can influence business outcomes even more than internal drivers.

For large companies, external factors can influence up to 85% of business performance, according to Harvard Business Review. This may be why "unexpected changes in capital markets and economic conditions" is the most frequently cited risk factor in 10-K reports.

**Forecasts have a major blind spot when they don't account for external factors, which influence up to 85% of business performance.**



# Tapping into External Data

A study by Prevedere found that 66% of C-level executives believe that incorporating external data will significantly improve financial forecasting. And yet 69% say most of their planning and forecasting processes fail to incorporate external data.

**What's the holdup?**

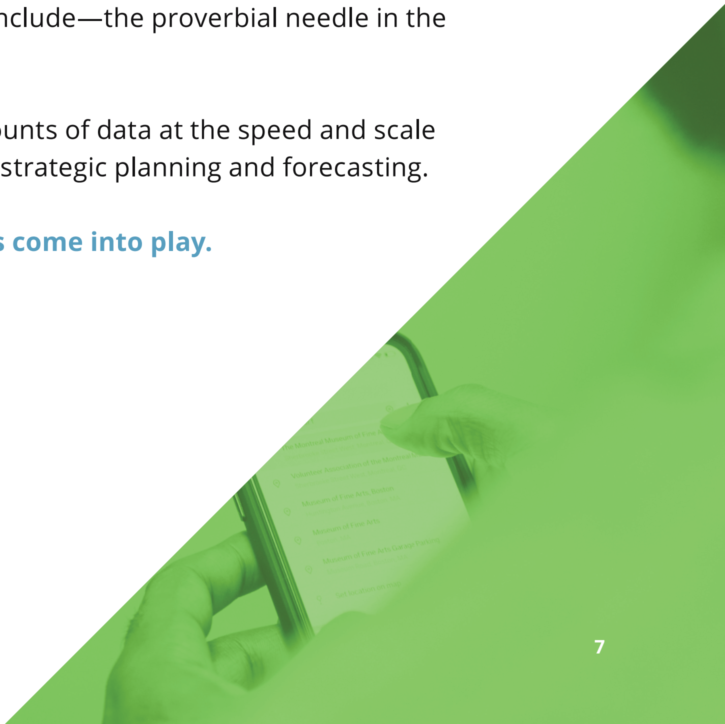
Twenty years ago, the difficulty was lack of data.

Today, the opposite is true. As of right now, in 2020, there are about 40 trillion gigabytes of data. Tomorrow, another 2.5 quintillion bytes of data will be generated and by 2025 this figure will increase five-fold.

For companies that want to account for external factors in their forecasts the challenge is finding the RIGHT external data to include—the proverbial needle in the haystack.

This requires being able to analyze massive amounts of data at the speed and scale needed to deliver timely, actionable insights for strategic planning and forecasting.

**That's where intelligent forecasting solutions come into play.**



# Intelligent Forecasting with External Data

## If intelligent forecasting is the future, then the future is already here.

Advances like machine learning, advanced algorithms, cloud computing, and Big Data have made intelligent forecasting a reality.

Intelligent forecasting solutions give you the ability to systematically identify and quantify the influence of economic and other external factors on future business outcomes.

It's a breakthrough that increases the accuracy, efficiency, and timeliness of planning and forecasting. And its impact is being felt across the enterprise, from the Senior Executive team to FP&A and the Office of the CFO to Operations, Marketing, and Sales.

**Accounting for the influence of external factors in the forecasting and planning process involves four basic steps:**

1. Identify relevant leading indicators
2. Establish the economic baseline
3. Inform the forecasting process
4. Refresh forecasts to monitor risk

| TRADITIONAL FORECASTING | INTELLIGENT FORECASTING |
|---|---|
| Manual | Automated |
| Internal Data | External and Internal Data |
| Time Consuming | Objective |
| Static | Constantly Updating |
| One-Offs | Repeatable at Scale |

# *Examples of Leading Indicators*

Each company, each brand, each product has a unique set of leading indicators which are events that most consistently happen in advance of the company's own change in performance. Wages typically increase before consumers are willing to make significant purchases of durable goods. Drivers travel significant distances before they purchase new tires. And warehouse inventories typically fall before companies increase their production levels.

By identifying the unique leading indicators for a given company or product, Prevedere can accurately and consistently forecast future changes in business performance.

*Examples of leading indicators for two very different businesses*

**MANUFACTURER OF PROPANE TANKS**

| *Sample Indicator* | *Lead Time (in Months)* | |
|---|---|---|
| **Employment in Garden Supply Stores →** | 3 | Increased overall spending on yard and garden supplies demonstrated an increased desire and willingness to spend on outdoor activities, including new grills and replacement tanks. |
| **Number of Employees: Bars, Taverns and Nightclubs →** | 6 | While the nightclubs may not be purchasing propane tanks directly, employment in this sector suggests increased spending on all recreation, leisure, and personal consumption items including those associated with propane tanks. |
| **Number of Employees: Recreational and Vacation Camps →** | 6 | Camp hiring and spending is more directly related to the purchase of propane tanks as both are directly driven in part by outdoor recreation activities. |
| **Propane Sales by Firms that Produce, Import or Transport Propane →** | 9 | Again, a relatively direct relationship between increased sales of propane, resulting in a drop in established inventories of propane tanks, reflecting the nine-month delay in the production and purchases of new tanks. |

**AUTOMOTIVE GOODS RETAILER**

| *Leading Indicator* | *Lead Time (in Months) and Relevance* | |
|---|---|---|
| **Total Private Construction Spending →** | 6 | Construction Spending reflects the overall strength of an economy. Retail spending is higher in stronger economies and lower in weaker times. Using as a leading indicator of retail spending on automotive parts may be especially effective as there is often a direct relationship between the construction industry and do-it-yourself automotive repairs. |
| **Vehicle Miles Traveled →** | 9 | There is an obvious and direct relationship between the amount people drive and their future need for automotive goods. Tracking miles driven, as reported by the Census Bureau, is a very effective signal for future sales of these goods. |
| **Total Weather Events: Heavy Snow →** | 1 & 5 | In specific geographies significant winter weather events result in the need for driving assistance supplies including tire chains. This urgent need will bring large numbers of people into the store to purchase the chains, then a slightly smaller number of people will return four months later to return the subsequently unused chains. Both visits will include significant add on purchases, contributing to the overall revenue numbers. |

# Companies with leading indicators achieve 2.95% higher Return on Assets and 4.15% higher Return on Equity.

**WHARTON SCHOOL OF BUSINESS**
**AT THE UNIVERSITY OF PENNSYLVANIA**

# What is the Future for Business?

Every forecast and model before the crisis has essentially been rendered inept and discarded. But the process of forecasting and planning remains applicable. With the decline of COVID-19 cases, it's time to prepare for what comes next. It's already time to ask ourselves what's going to happen in the second half of the year and into early 2021. This process begins with identifying new relevant leading indicators.

It is crucial to strive for realistic planning with reasonable expectations. This brings us to hard-hitting impact statements in terms of what the baseline scenario looks like when it comes to thinking about planning for the second half of the year. At Prevedere, we've been putting together baseline scenarios in consideration of the full range of options. When we talk about the potential impacts, we have prepared highlights of a likely baseline scenario to begin planning for the second half of 2020. This looks different for every business.

Is there a way to build forecasting scenarios that look at a conservative, moderate, and potentially harsh economic model planning? Yes. We have to consider all scenarios from the extreme Great Depression to a minor recession even when we're probably going to be somewhere in between. Scenario planning provides "baseline scenarios" that include optimistic, median, and pessimistic scenarios. It's vital to forecast with a broader range of expectations, particularly at this moment in history, considering the elevated uncertainty. With infinite possibilities, understanding the importance of data is critical.

# Data as the Key to Scenario Planning

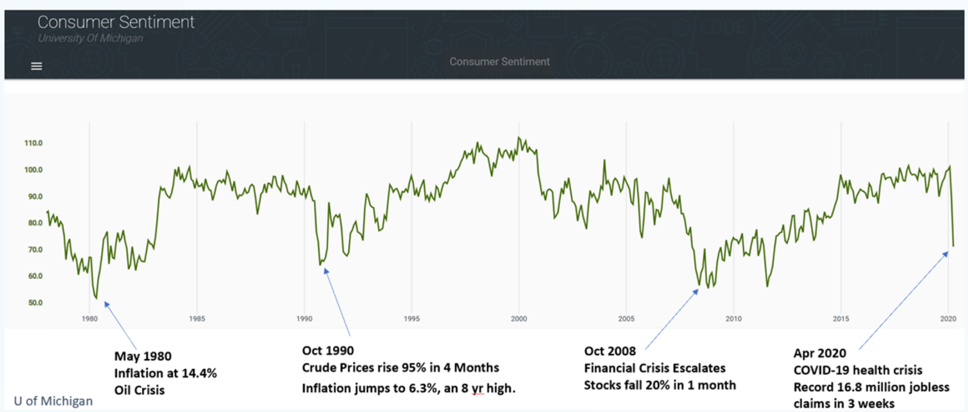
To mimic what is going to happen in the United States or any other country from an economic crisis perspective, we generally look at leading indicators that often signal recessions one, two, three quarters in advance. Throughout the COVID-19 pandemic crisis, those indicators were virtually useless because of the rapidity of the economic downturn.

We've been through a shock factor, a lot like a light switched from on U.S. economy was humming along with relatively strong GDP growth a spending right up until we were all told to practice social distancing, and nonessential businesses, and finally to shelter in place. Quite literally economy was flipped upside down, spiraling into a recession. We don't have any traditional leading indicators for this crisis, but we can look at the timing of how events transpired in other countries to predict what the rebound might look like.

# A Unique Recession

The categories that are most impacted now are affected by the sheltering in place order. There isn't a need to buy apparel. And going out to eat, even if you wanted to, isn't an option. These impacts are enormous compared to not only a year ago, but to even just a few months ago, back when we were looking at this health crisis from the outside looking in.

For solidified economic reasons, this is a shock, and we should compare this shock to previous shocks in US economic history dating back through history. Using consumer sentiment data from the University of Michigan, we can look back at a few cases where we saw a very steep decline in consumer sentiment in a single one- or two-month period, as has happened with this April 2020 COVID-19 crisis. The current pandemic has pushed consumer sentiment from 20-year highs down to the lowest levels we've seen since coming out of the last recession back in 2008 to 2010. That is significant to industry and business across sectors and oceans alike.




The most recent comparable to April 2020 is in 2008 with the financial crisis when stocks fell 20% in one month, and we saw consumer sentiment fall to near-record lows. However, each of these crises has a different cause. But what we're looking at is how the consumer reacts to each crisis. For example, the May 1980 and even the October 1990 crises were driven by a rapid increase in oil prices. Whereas today we're seeing the opposite, even seeing negative prices on oil, which would have been just unfathomable just a few months ago. In all of these examples, consumer sentiment fell very swiftly even after long periods of above-average consumer sentiment.

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**We have found that having a machine learning forecast solution as a guardrail to our business has improved our forecast accuracy and our ability to better guide resources.**

**VICTOR CASALINO**
*CFO, Microsoft Americas*

# The Economic Scenario Planning Solution

Prevedere developed the an economic scenario planning solution to address the current situation in which data is evolving at unprecedented rates and is not following the patterns that are used in traditional forecasting models.

The solution provides companies with a clearer vision as they revise their forecasts and identify potential scenarios that could impact industries. This offering enhances the ability for financial executives to build dynamic planning models for their organizations and adjust quickly to possible market changes in advance of any key inflection points.

Further, Prevedere's economic scenario planning identifies which economic indicators will impact a company's business, alerts them at the first signs of an economic inflection point, and helps to answer questions as to the projected length and longevity of those situations.

### HERE ARE JUST A FEW EXAMPLES:

#### HEDGING AGAINST A SLOWDOWN AT A SPECIALTY RETAILER

How long can a product line keep growing at 20%? That was the question facing executives at a leading specialty retailer. Turns out, the product line was targeted at 18- to 24-year old women and leading indicators signaled that these consumers were getting squeezed. Prevedere's economic model projected a lower 8% growth rate, which represented a $300 million revenue miss. With this market risk exposed, the executive team put contingency plans in place for pricing and promotions and a stronger focus on online sales.

*TAKEAWAY →*

*It can be politically tough to adjust a growth rate downwards. An objective, market-driven forecast can help leadership land on a realistic target. And if the forecast projects an unexpected softening in the market, people can take steps to protect profitability during the downturn.*

> "Market indicators give us a much better directional sense of where the business is going."
>
> — DIVISION CFO

## PREDICTING MARKET SWINGS AT AN INDUSTRIAL MANUFACTURER

When the energy market took a dive in 2016, this manufacturer was caught off-guard. Demand dropped dramatically and the company was left with a sizable investment in unsold inventory. Now the manufacturer uses Prevedere to predict and prepare for market swings. Demand outlooks for the company's primary end markets (Energy, Automotive, and Commercial Construction) increase forecast accuracy. And supply chain executives have better information to manage inventory, production levels, and logistics.

**TAKEAWAY →**
*Forecasting is tricky for manufacturers because they're often several steps removed from their end markets. Econometric models help manufacturers get a handle on what's driving end-market demand and when that demand is likely to increase or decrease over the next 12 to 24 months.*

> "The risk of having too much inventory is reduced, which has a positive impact on our use of working capital."
>
> — VICE PRESIDENT, CORPORATE STRATEGY & INVESTOR RELATIONS

## PREDICTIONS COME TRUE AT A GLOBAL BEVERAGE COMPANY

In 2016, a world leader in premium beverages experienced a significant slowdown in sales despite a strong economy. Why? For answers, the North America CFO turned to Prevedere to determine the external factors driving beverage sales. Since then, Prevedere's econometric models accurately predicted a softening in the market in 2017 and a turnaround in 2018. The company has adopted Prevedere in its European and Asian operations and uses insights into future headwinds and tailwinds to optimize production, pricing, and marketing spend.

**TAKEAWAY →**
*A strong economy doesn't always mean smooth sailing ahead. Business performance can be influenced by less obvious underlying drivers that may not be in sync with macroeconomic trends. Forecasts based on your unique leading indicators are a better predictor of future sales.*

> "I am able to maximize opportunities where the forecast is upbeat and minimize the impact where it isn't."
>
> — NORTH AMERICA CFO

# Planning for "What's Next"

The platform offers three scalable solutions that can be customized for an individual company:

- The Watch List monitors for industry-level directional changes as new data is released and identifies upcoming economic inflection points.
- "What if" Scenario Planning assesses the impact of plausible economic scenarios and identifies the potential impact on a business, through customized models that are developed by Prevedere's team of economists.
- The (Re)Planning Tool leverages external indicators within a company's planning models to deliver clearer guidance and accuracy on the evolving impact of the economic situation in 2020 and beyond.

Economic scenario planning was built using Prevedere’s ERIN Engine, which can be integrated into any data lake or data warehouse or can be imported into most BI and analytics tools, including Microsoft PowerBI, Tableau, SAS, Excel, and many others.

***To learn more about Prevedere’s Economic Scenario Planning Slution visit: www.prevedere.com/economic-scenario-planning***

**SEE**

how economic activity impacts performance

**SOLVE**

for upcoming risks and opportunity

**SUCCEED**

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