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Did someone say recession? How manufacturers can create resilience during downturns

Introduction

Among the exasperating aspects of economic downturns are that they are difficult to predict, they are only labeled many months into the pattern, and they affect industry and populations in different ways. But one thing is known: Downturns are a natural part of the market cycle, and the more prepared a company can be heading into a downturn, the more likely it will be able to survive and thrive during the recovery. This article identifies signals and patterns in US manufacturing economic and financial data from past recessions and recoveries and suggests approaches that manufacturers could take to create resilience ahead of future downturns. For a broader discussion on how recessions affect the overall US economy, please read "*What to expect when you're expecting … a recession*."[1]

Building resilience in the face of changing economic cycles

Since the postwar era, the US economy has been through 12 recession periods—that is, a recession every 6.1 years—each lasting about 12 months (figure 1).[2] During the past two decades, the economy has been through two recorded downturns, each of which impacted industrial production activity. An interesting aspect, however, is that the movement of manufacturing indicators
has been erratic even during periods of overall US economic stability. This unpredictability likely suggests that some of the traditional barometers for manufacturing health may not reflect the new dynamics of today's economy.

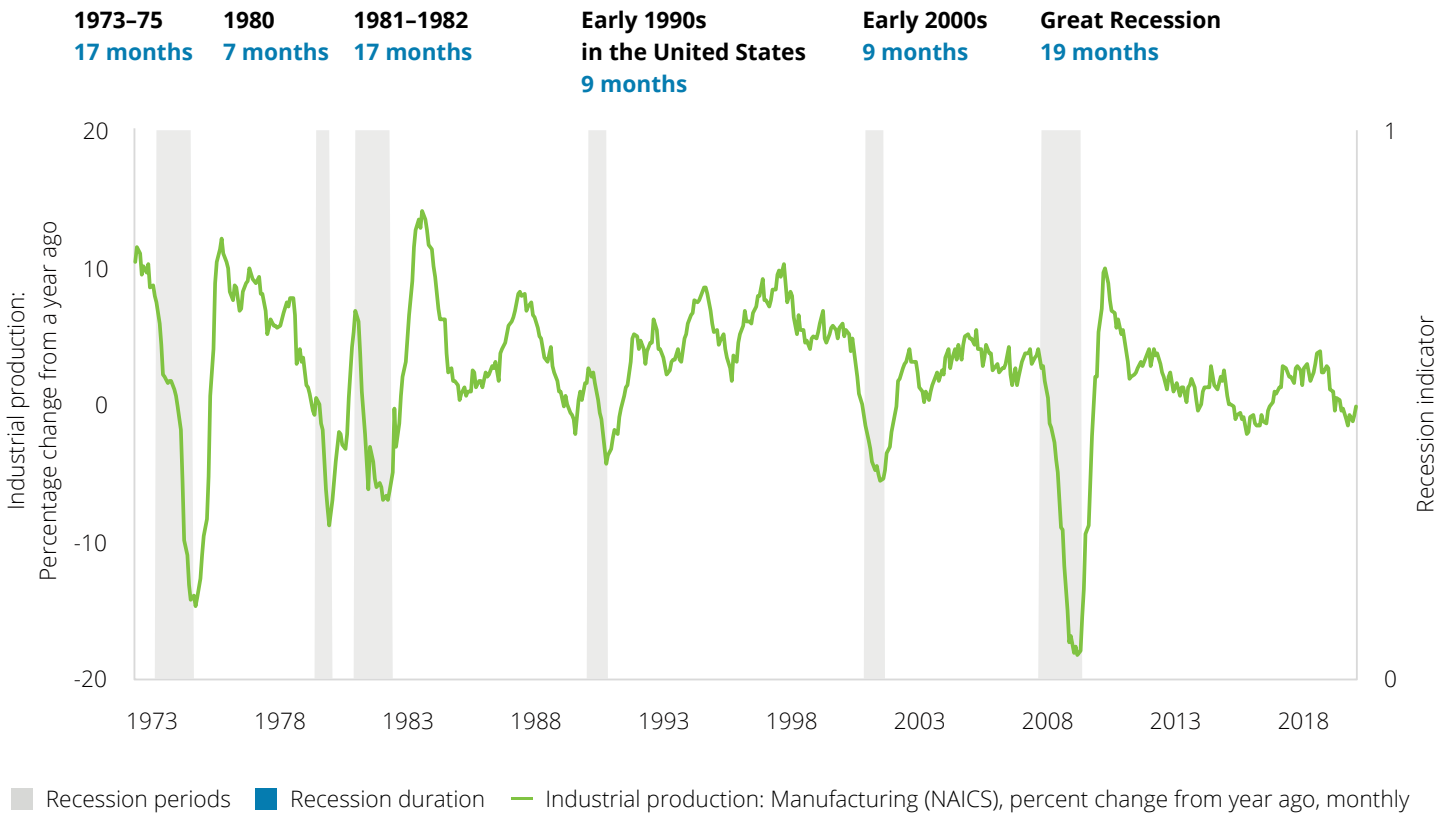
Irrespective of the reason or the duration, both the economy and companies are likely to be impacted by a future recession. The important aspect for manufacturers is to first understand how they were impacted during the past recessions and second, find ways to build resilience for the upcoming ones.

What can industrial manufacturers learn from past recessions?

Historically, the impact on industrial manufacturing has been more severe than other industries

A look back at the past recessions suggests that they can be caused by a variety of forces—from low confidence in investments, oil shocks, or federal and financial policies to manufacturing order slowdowns, credit bubbles, and even housing bubbles.[3] Therefore, the impact of each recession is also not the same, but one constant is that manufacturing historically suffers worse than most other sectors. In 2020, the factors that could lead to a recession could be anything from trade policies to high debt levels, a global pandemic, or even a geopolitical crisis.[4]

Figure 1. The cyclical nature of manufacturing activity amid multiple recessions



Source: Deloitte analysis of data from the Federal Reserve Economic Research.

Regardless of what caused a recession, analysis of historic data suggests that the durable goods sector (which is inclusive of industrial manufacturing) is a more recession-sensitive sector and bears a higher impact when compared with nondurables and services sectors.[5] Durables businesses tend to hold back on their investments, and their customers tend to hold back on purchasing, during times of uncertainties. In comparison, the nondurables and services sectors are typically less vulnerable, because consumers cannot really forgo purchasing things like food, education, or health services.[6] Industry GDP numbers reflect this. During the Great Recession, the US manufacturing industry lost 10 percent of its GDP, compared with only 4 percent for the overall economy. The same trend holds true for corporate profits (figure 2).

Deep declines in industrial manufacturing are followed by relatively faster recoveries when compared with the overall economy

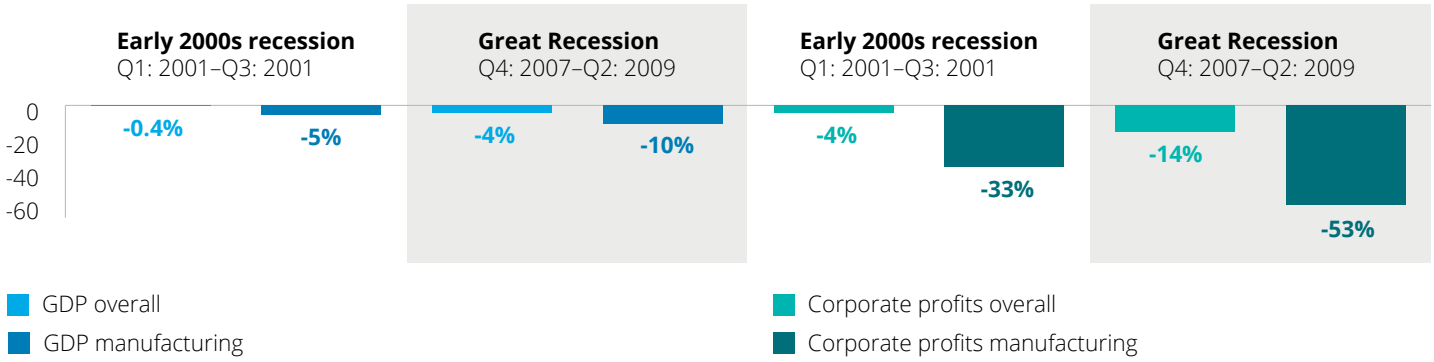
Even as they experience steeper declines during recessions, US manufacturers also tend to witness higher recoveries than the overall economy during the postrecession periods (figure 3). It is likely that industrial manufacturing companies will continue to experience higher impacts during future recessions, followed by better postrecession recovery.

Industrial manufacturers may be more exposed to a recession and potentially stand to lose more than other industries. In fact, during the Great Recession, 4 in 10 companies[†] that filed for bankruptcy were from the industrial manufacturing sector.

[†] A total of 292 companies filed for Chapter 11 bankruptcy between 2008 and 2012. Out of these, 116 were companies with manufacturing NAICS codes (31–33).

Figure 2. Recession impact of industrials manufacturing is more severe than other industries

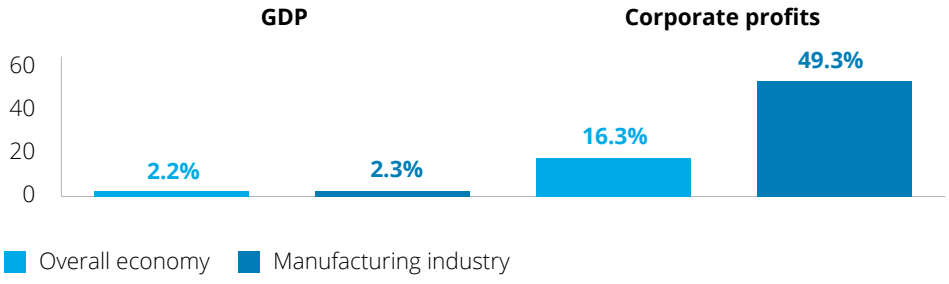
Declines in GDP and corporate profits during the past two recessions, US overall vs. US manufacturing



Source: Deloitte analysis of data from BEA/Haver Analytics.
Note: Declines measured from the peak (the month when activity reaches its highest level and begins to fall) to the trough (when activity stops falling and expansion starts again) during a recession. This analysis includes data from the early 2000s recession and the Great Recession of 2008.

Figure 3. Manufacturing observed faster recoveries when compared with the overall economy

Average 12-month post-recession recovery during the past two recession periods, US overall vs. US manufacturing



Source: Deloitte analysis of data from BEA/Haver Analytics.
Note: Post-recession recovery is measured as the net change from the trough (when activity stops falling and expansion starts again) and the following four quarters. This analysis includes data from the early 2000s recession and the Great Recession of 2008.

Industrial manufacturers saw, on average, 3x higher recoveries in corporate profits in the 12-month period following the past two recessions. This suggests it is imperative for industrial manufacturers to be prepared to take advantage of increased business opportunities during the recovery periods.

Manufacturers have found ways to enhance production efficiency during the recovery periods

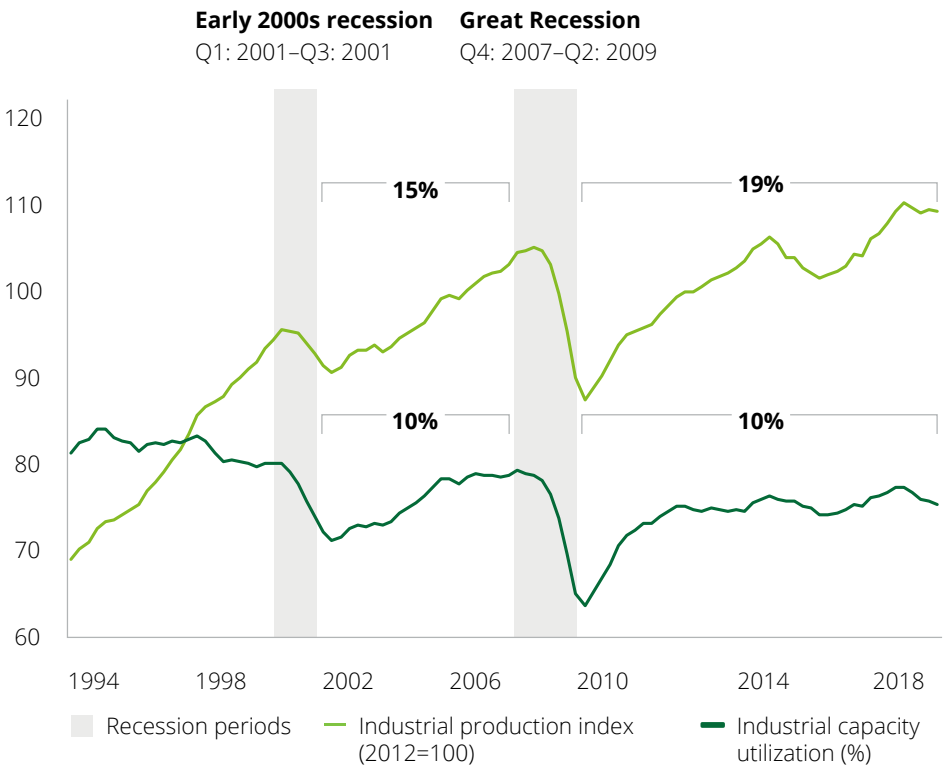
Another aspect for US industrial manufacturers to consider is that during the past two recession recovery periods, production grew 15 percent and 19 percent respectively (figure 4). And surprisingly, the increment in output is not a direct result of incremental increases in manufacturing capacity utilization (MCU)—with only 10 percent increments following both recessions. Prior to the end of 2007, MCU was stable at around 79 percent. During the Great Recession, MCU fell to a low of 64 percent but made a partial recovery by early 2012. Since early 2012, capacity utilization has been stable at levels of 75 percent.[7] This indicates that manufacturers have been able to find new ways to produce more with similar or lower capacity levels.

What has changed since the last recession?

For manufacturing leaders, the 21st century brought with it an operating landscape that is unlike anything before, affecting how the industry operates and behaves when the next recession inevitably occurs. Below are several new nuances to the economic landscape that affect manufacturers.

Figure 4. US manufacturing industry saw significantly higher gains in production output despite flat capacity utilization

US industrial production index vs. capacity utilization



Production and capacity utilization data tells us the capacity utilization is stabilized around the levels of 75 percent, below the historic highs of 80s in 1990, despite record-high production figures observed in 2019. This indicates that the companies likely used recession as an opportunity to divest their underperforming assets and invest in further enhancing efficiencies.

Source: Deloitte analysis of data from Federal Reserve/FRED.
Note: The recession periods are indicated in gray and measured from the peak (the month when activity reaches its highest level and begins to fall) to the trough (when activity stops falling and expansion starts again) during a recession.

Fiscal policies have become more accommodating and work to smooth peaks and valleys

In response to the Great Recession, the US Federal Reserve reduced the interest rates from 5.22 percent in September 2007 to almost 0 percent by end of December that year.[8] This was intended to encourage businesses to borrow money and, by extension, enhance capital investments. Over the ensuing decade, the Federal Reserve has maintained a tight grip on rates, most recently relaxing them due to rising levels of uncertainty, falling business investment, lack of inflation, and signals of recession in the services sectors.[9]

The recovery in manufacturing has become protracted

We earlier discussed that the manufacturing industry lost approximately one-tenth of its GDP during the Great Recession of 2008—the highest-ever decline during the past 11 recessions (figure 2).[10] The manufacturing sector also posted higher 12-month recoveries compared with the overall economy. However, what's been changing is how long it takes manufacturing to return to prerecession levels, a new wrinkle for the industry. In 2000, it took 33 months to reach prerecession levels. In the period after 2008, it took 59 months (figure 5). Spending nearly double the amount of time to recover from a future recession could have a significant impact on many manufacturers' long-term viability.

Riding out the next recession: Two key approaches

Despite the overall US manufacturing industry's recovery following the recession of 2008–2009, the industry also witnessed more than 100 industrial manufacturing companies filing for Chapter 11 bankruptcy at some point of time during or shortly after.[12] This likely indicates that, while some companies may not have survived the downturn, other resilient companies were better prepared to navigate through recessions and take advantage of the recovery periods. We performed a statistical analysis to determine the areas where the resilient companies performed better—and two distinct areas emerged (see appendix for full details).

Figure 5. Postrecession recovery period duration to reach similar production levels

Recession	Production contraction from precrisis peak to trough	Recovery from trough to precrisis peak (months)
1973 recession	7.2%	24
1980 recession	5.2%	11
1981 recession	6.0%	9
1990 recession	4.3%	15
Early 2000s recession	9.6%	33
Great Recession of 2008	22.6%	59

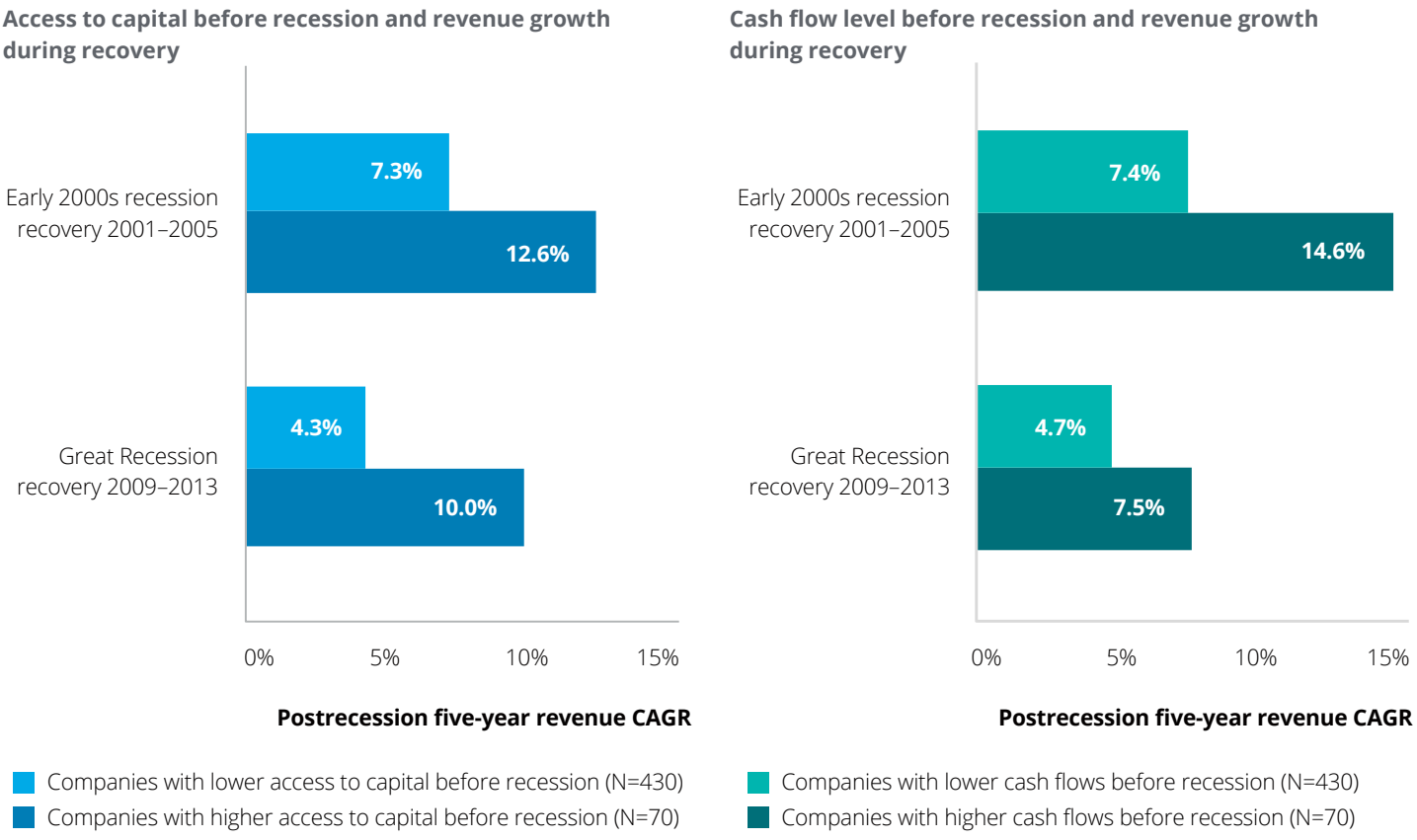
Source: MAPI Foundation, "The Post-Recession State of US Manufacturing."[11]

At 59 months (about 6 years), the 2007–2008 recovery was the longest over the past 11 recessions, indicating the protracted recovery time for manufacturers could bring additional strain to the industry during future downturns.

Liquidity seems critical to survive recession periods and take advantage of recovery periods

Liquidity emerged as the most important metric distinguishing recession-resilient manufacturers from others. Per our analysis, manufacturers with easier access to capital and relatively lower debts were not only able to better navigate through a recession, but also posted higher revenue growth during the recovery periods. Manufacturers with higher interest coverage (indicates how easily a company can pay interest on its outstanding debt) were able to generate capital when they needed it and invest back into their operations. A better cash position indicates higher ability to make interest and principal payments. Therefore, during the recession periods, when some companies are dealing with a cash crunch, cash-flow–resilient manufacturers can effectively support their operations and capital assets. This resulted in significantly higher average annual revenue growth of 12.6 percent and 10.0 percent during the five-year recovery period post the two recessions (figure 6). Other companies, in comparison, posted average revenue growth figures of 7.3 percent and 4.3 percent.

Figure 6. Higher liquidity before recessions bears higher returns during recovery



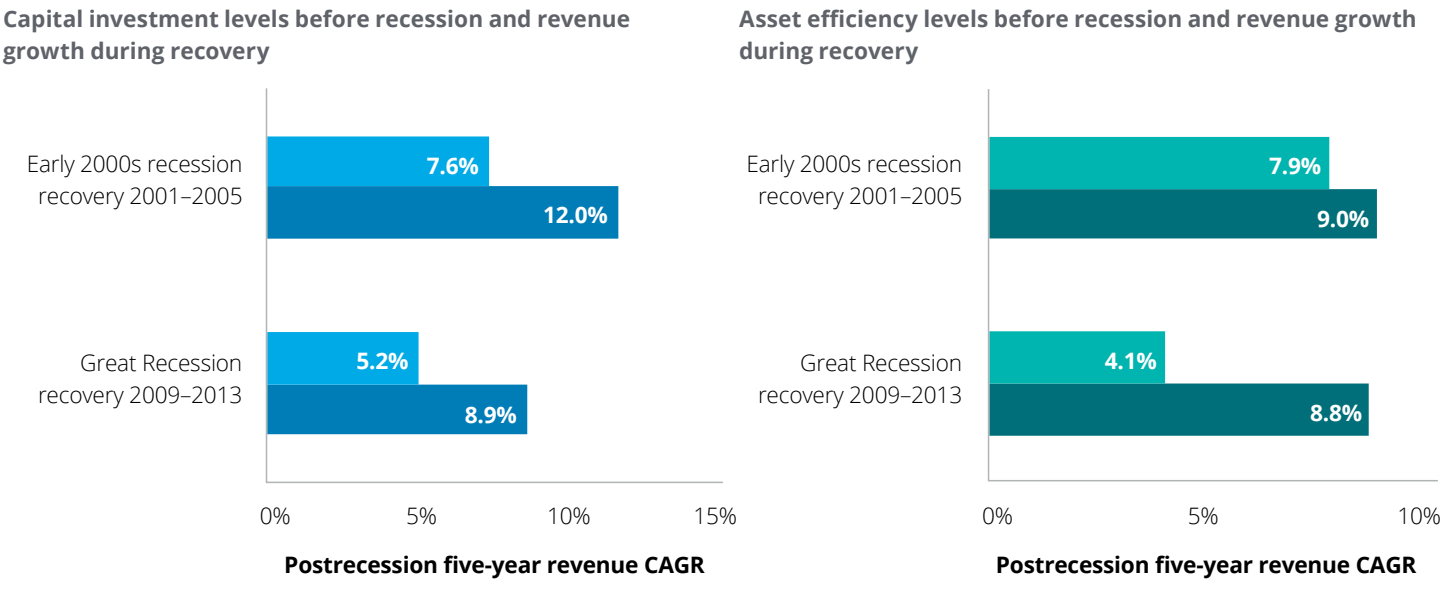
Note: N represents the sample size.
Source: Data for 500 industrial manufacturing companies (NAICS code 31–33) from CAPIQ.

Capital investments in assets and technologies can further elevate recovery

When heading into a slowdown or a possible recession, a basic instinct is to often dial down on capital investments and wait for the onset of recovery periods. Certain companies, however, think differently. Per Deloitte analysis, some industrial manufacturers invested more during the years leading to a recession. Heading into the early 2000s recession (1996–2000), resilient manufacturers (manufacturers with higher capex levels, as indicated in figure 7) invested $15.10 for every $100 of revenue compared with other companies, who invested only $4.70. Similarly, during the five years leading to the Great Recession (2004–2008), the same group invested $14.80 for every $100 of revenue compared with other manufacturers, who invested just $3.40. As a result of these capital investments into technologies and assets, these manufacturers observed much higher revenue growth during the recovery phases. This measure was further enhanced when manufacturers funded these investments through cash flow from their operations (figure 7). These manufacturers observed better top-line growth and kept their balance sheet strong and healthy (that is, without significantly altering their capital structure), though they also observed slightly higher impairment charges during recovery periods, likely due to goodwill being written off.

Such investments can be targeted at acquiring new digital equipment and infrastructure—aimed at producing goods more efficiently. We already observed how industrial manufacturers seem to be producing more with less (figure 4), indicating increasing production efficiency. Being an asset-heavy business, the manufacturing industry requires a constant influx of investments to improve asset productivity and lower costs. Our analysis of 500+ industrial manufacturers also revealed that certain manufacturers are more active in finding ways to reduce asset costs and increase income. Such companies are considered asset-efficiency leaders and were able to better absorb the gains during recovery periods, posting higher revenue gains versus their peers.

Figure 7. Higher investments before recessions bear higher returns during recovery periods



Note: N represents the sample size.
Source: Data for 500 industrial manufacturing companies (NAICS code 31–33) from CAPIQ.

Approaches for manufacturers to consider for navigating through downturns

Prophylactic measures for manufacturers to better absorb the next downturn and position themselves for the upturn typically include better insights management into cash flow and making targeted capital investments.

Prevent liquidity crisis by increasing insights into cash flow

Liquidity is critical to any business and often drives the development of processes, controls, and tools to support good business decisions in any economic cycle. Often, it is recession or financial distress that prompts organizations to pay more attention to cash flow management.[13] The usual tools used are operating level cash flow statements that are GAAP-driven, including net income and related adjustments for noncash items and changes in working capital.[14]

However, cash on the balance sheet is different from absolute liquidity and may not provide the level of insights that would help control cash more closely. Instead of using indirect methods, manufacturers can pivot to direct methods of cash flow management that focus on including additional levels of an organization.[15]

Measures such as direct cash flow modeling cover major liquidity drivers that influence week-to-week cash flow while making more high-level assumptions in areas that are less material and more unpredictable. This direct cash flow modeling can likely help manufacturers identify areas of the business where cash flow is less predictable than leadership would prefer. These areas can help manufacturers better manage current debt levels and enhance their ability to pay off debt. It can also improve working capital, which not only elevates a company's capacity to exploit new business opportunities, but also could be a strategic advantage during times of stress.

Make targeted capital investments to increase asset efficiency and productivity

Better cash flow management helps manufacturers increase access to capital and invest into technologies, process, and people. Tools and technology such as artificial intelligence (AI) and Industry 4.0–related technology such as robotic process automation (RPA) can help manufacturers create a competitive edge. Manufacturers should focus their digital investments in one of the following areas in the coming 12–24 months to ensure they are not left behind.

- **Invest in process-related innovation:** Process-based innovations can often be more rewarding than the more common product- and customer-based innovations due to the additional spillover effects.[16,17] Among the many direct benefits of process improvements are better production output and inventory optimization, which lead to reduced costs.[18] Alternatively, innovation that automates material movement could yield labor savings. Such process innovations could go a long way in helping manufacturers produce more with less, in turn enhancing efficiency and productivity of their assets and employees.[19]
- **Digital might just help early adopters build recession resiliency:** Transformation from digitization has emerged as one of the key factors that affect manufacturing competitiveness. Digital can be used to increase revenues by creating new offerings or to optimize operations to take out costs. Manufacturers could make a move towards digitization by building out the enabling core that will power the key Industry 4.0 use cases important to their industry. Manufacturers who successfully implement digital initiatives will likely weather the next economic downturn better than the 48 percent of manufacturers who have yet to get started.[20]

New decade brings new challenges for industrial manufacturers

The US economy avoided recession for the longest time ever during the past decade. The arrival of the next decade brings with it challenges both known and unknown. Economic recessions continue to remain one of the uncertainties that will likely challenge manufacturers; their causes, timing, and impact continue to perplex the whole economy. Now is the time for manufacturers to prepare using one or more of the approaches above to shield themselves during any future recession and maximize growth during the recovery period that follows.

Appendix

Research methodology

This article is part of a broader research initiative in which Deloitte identified five factors that are expected to have an impact on manufacturers in the next 10 years. Each varies in the time horizon of its impact, the scale of disruption it could deliver, and the level of influence manufacturers have over its progression (figure 8). Nonetheless, all five are expected to redefine how manufacturing will possibly look by 2030.

This article describes these economic pattern shifts in detail and tries to measure the impact on manufacturers. This article also suggests some of the primary ways manufacturers can create resiliency ahead of the next economic shift. As part of this initiative, we performed a linear discriminant analysis on 700+ industrial manufacturing companies from NAICS 31–33. Below is a more detailed view of the analysis. More than 20 metrics were analyzed as part of this analysis, with access to capital or cash position and investments coming out as the top two areas.

- **Step 1:** We created two company sets
  - **Set A** – Active industrial manufacturing companies (N=510)
  - **Set B** – Industrial manufacturing companies that filed Chapter 11 between 1994 and 2018 (N=178)
- **Step 2:** Using CAPIQ, we collected data on various financial metrics for each set of companies
- **Step 3:** We conducted a linear discriminant analysis to reduce the number of dimensions (financial metrics) in a data set while retaining as much information as possible—leaving us with 14 metrics
- **Step 4:** We then determined the most important variables out of a total 14 variables and their respective importance (on a scale of 1 to 100), which can likely differentiate between set A and set B companies
- **Step 5:** Finally, we analyzed set A companies (active companies) based on the important metrics from step 4

Figure 8. Five disruptive factors expected to impact manufacturing this decade and beyond

Transformative shifts	Degree of disruption	Manufacturers' preparedness	Time horizon of impact
Economic pattern shifts	🟡	🟡	🔴
Trade dynamism	🔴	🔴	🔴
Digitization	🔴	🔴	🟡
Talent and future of work	🔴	🔴	🟡
Electrification	🟢	🟡	🟢
	🔴 High 🟡 Moderate 🟢 Low	🔴 Not prepared 🟡 Somewhat prepared 🟢 Well prepared	🔴 Short-term 🟡 Medium-term 🟢 Long-term

Source: Deloitte analysis. Short-term is 1–3 years; medium-term is 4–6 years; long-term is 7–10+ years.

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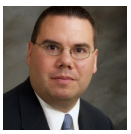

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