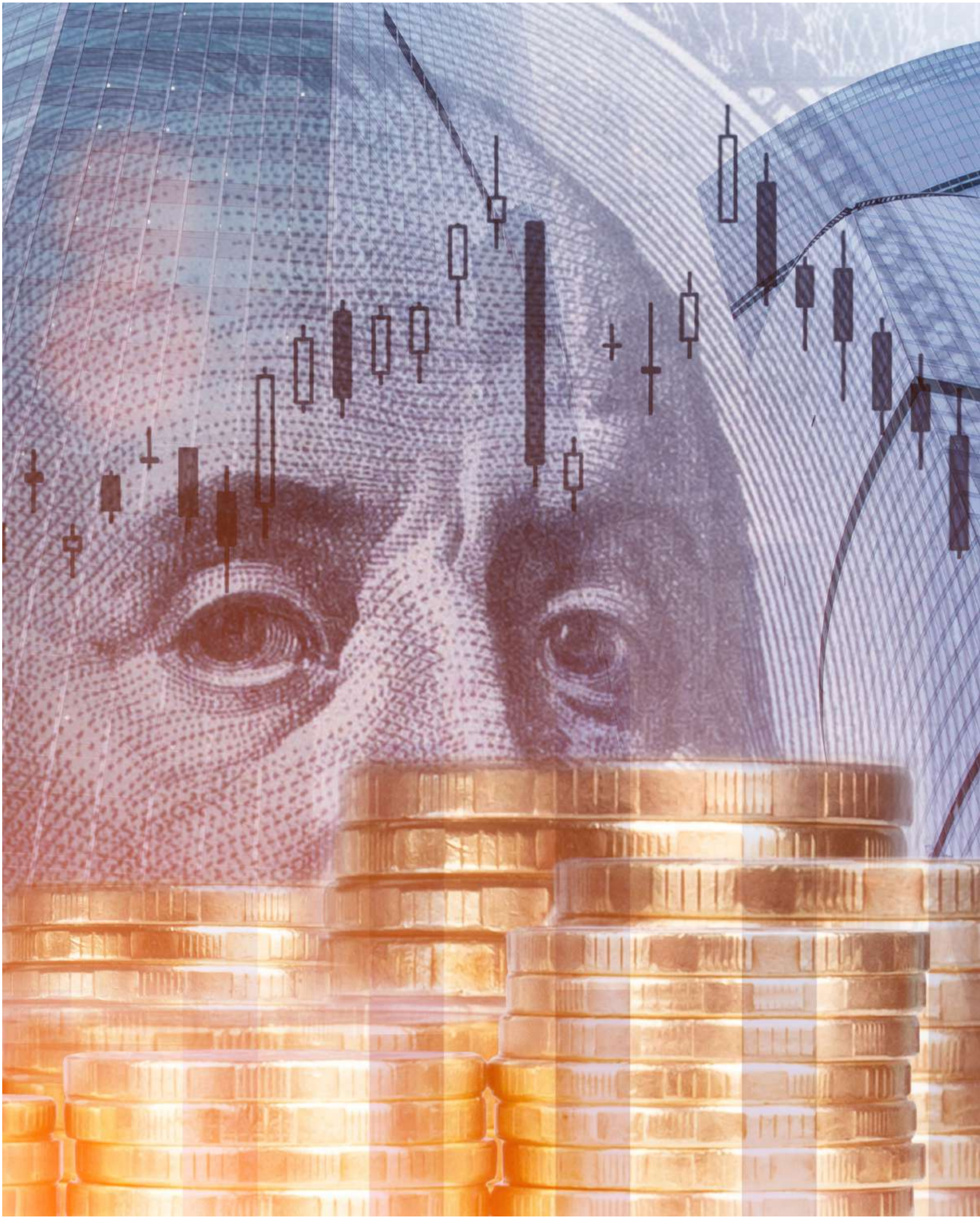
Business Intelligence

GUIDANCE IN AN UNCERTAIN ECONOMY

GAUGING THE RISKS GOING FORWARD 2023 -2024

2023

12930 Worldgate Dr. | Suite 200 | Herndon, VA 20170 USA



Guidance in an Uncertain Economy

Gauging the Risks Going Forward 2023 -2024

PMMI The Association for Packaging and Processing Technologies
12930 Worldgate Drive, Suite 200 | Herndon, VA 20170
Phone: (571) 612-3200 | **pmmi.org/research**

Publication Date: June, 2023

Jorge Izquierdo, Vice President, Market Development, PMMI
Paula Feldman, Senior Director, Business Intelligence, PMMI

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FORWARD

In this report, we will cover the macroeconomic environment. Many of your industries will be slowing down as we go through the rest of this year, and then there will be a mild macroeconomic recession in 2024 that will impact many of your industries. Labor, interest rates, inflation and global issues will also be covered throughout this report.

ITR Economics' knowledge and accuracy lays the foundation of the information shared in this report providing the best economic intelligence to reduce risk and drive practical and profitable business decisions for your company.

The chart below shows that most of the 2022 Forecast Results were over 95% accurate. The accuracy was measured in terms of the 12-month moving total or average. For example, the US GDP data ran through June 2021, so at the end of 2022, the data had been 18 months old with a forecast accuracy of 98.9%.

The one outlier is housing, which is purely a function of the Federal Reserve Board raising the Fed funds rate and the mortgage industry raising them even more than normal.. That alone caused the housing market to fall apart, The affordability problem was not in the home's price but in the mortgage rate. The average mortgage monthly payment went up a little over $600. Two-thirds of that over $400 was because of the interest rate alone. Things will get better!

2022 Forecast Results

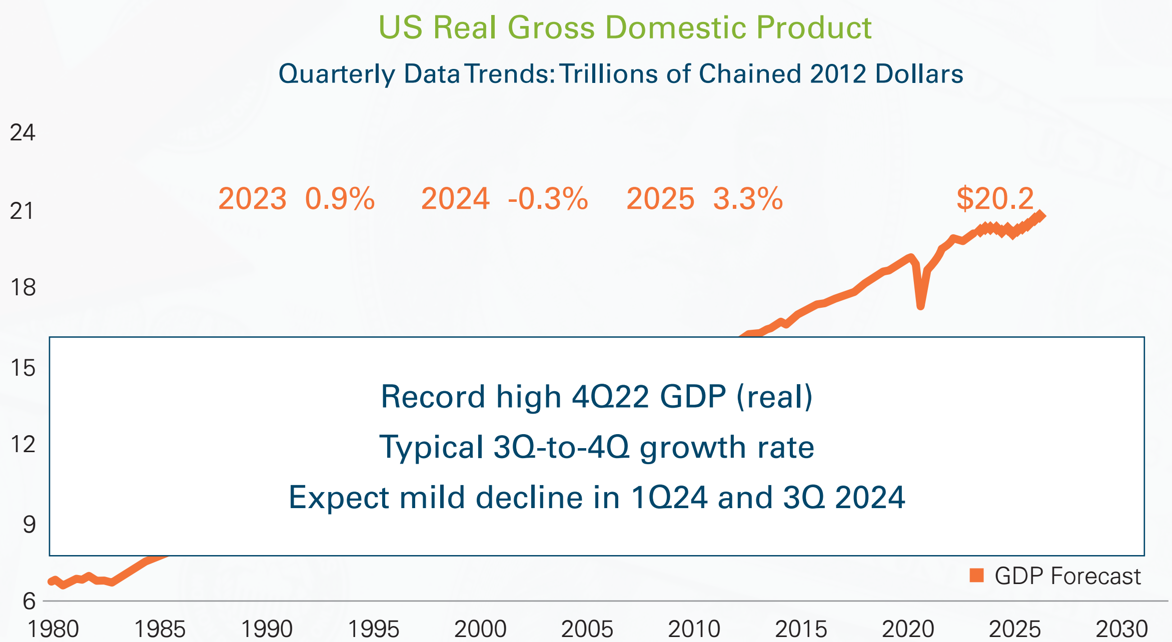
	Duration	Accuracy
U.S. GDP	18	98.9%
U.S. Individual Production	18	98.9%
Europe Individual Production	23	99.6%
Canada Individual Production	24	99.5%
China Individual Production	16	98.5%
Retail Sales	13	98.0%
Housing – Single Family	17	84.8%
Employment – Private Sector	13	98.7%

Source:ITR Economics

SECTION TWO

THE US ECONOMY

EXPECT AN ESSENTIALLY FLAT 2024



GDP is growing at a record high. This is deflated, so this is no trick of inflation. The rate of growth in the fourth quarter 2022 was typical. We're going to see it slowing down. In the first and third quarters of 2024, you're going to see a slight decline in the three-month moving average for US GDP. It's going to be basically a flat year minus 0.3% for the year, and then it's up at a nice pace in 2025.

RATES OF CHANGE MANAGEMENT TOOL

A Powerful Management Tool • Rates of Change

	Raw	3MMT	3/12	12MMT	12/12
Apr-21	5.971				
May-21	5.781				
Jun-21	5.681	17.4			
Jul-21	6.121	17.6			
Aug-21	5.872	17.7			
Sep-21	5.965	18.0			
Oct-21	6.089	17.9			
Nov-21	6.164	18.2			
Dec-21	6.253	18.5			
Jan-22	6.399	18.8			
Feb-22	5.917	18.6			
Mar-22	5.864	18.2		72.1	
Apr-22	7.240	19.0		73.3	
May-22	6.711	19.8		74.3	
Jun-22	6.958	20.9	19.9%	75.6	
Jul-22	7.274	20.9	19.1%	76.7	
Aug-22	6.473	20.7	17.2%	77.3	
Sep-22	7.013	20.8	15.6%	78.4	19.1%
Oct-22	6.839	20.3	13.4%	79.1	18.4%
Nov-22	6.787	20.6	13.3%	79.7	17.8%
Dec-22	6.635	20.3	9.5%	80.1	16.2%
Jan-23	6.601	20.0	6.4%	80.3	14.8%
Feb-23	6.230	19.5	4.8%	80.6	13.6%
Mar-23	5.940	18.8	3.3%	80.7	12.0%

3/12

Based on data from a consecutive 3-month period compared to one year earlier.

Anticipates shifts in business cycle trends.

1/12

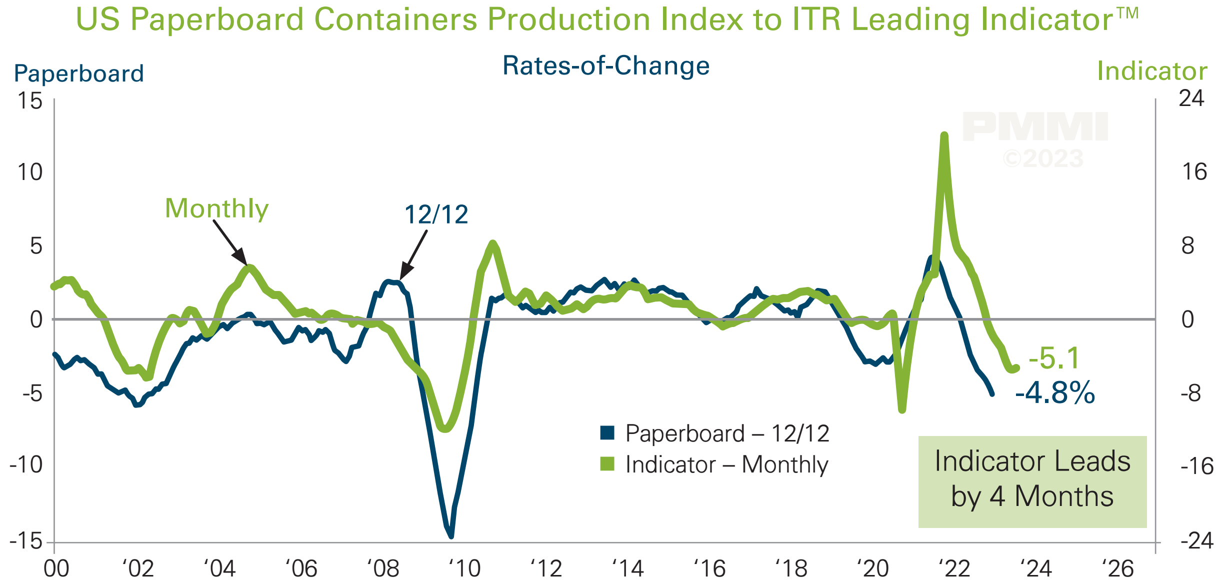
Based on data from a consecutive 12-month period compared to one year earlier.

Defines the business cycle.

The Rates of Change Management Tool is ITR Economics' primary tool. Let's go through the methodology. First, place your sales in the monthly (Raw) column. This column could be your revenue, bookings, shipments, or whatever matters. That's the basis for all forecasting. Then, to forecast your sales going forward, smooth it out to a three-month moving total. After that, conduct a year-over-year comparison to get a 3/12 rate of change. You must perform the 3/12 exercise. Many businesses like to skip that portion but don't, as it indicates what the business cycle pressure is on a near-term basis.

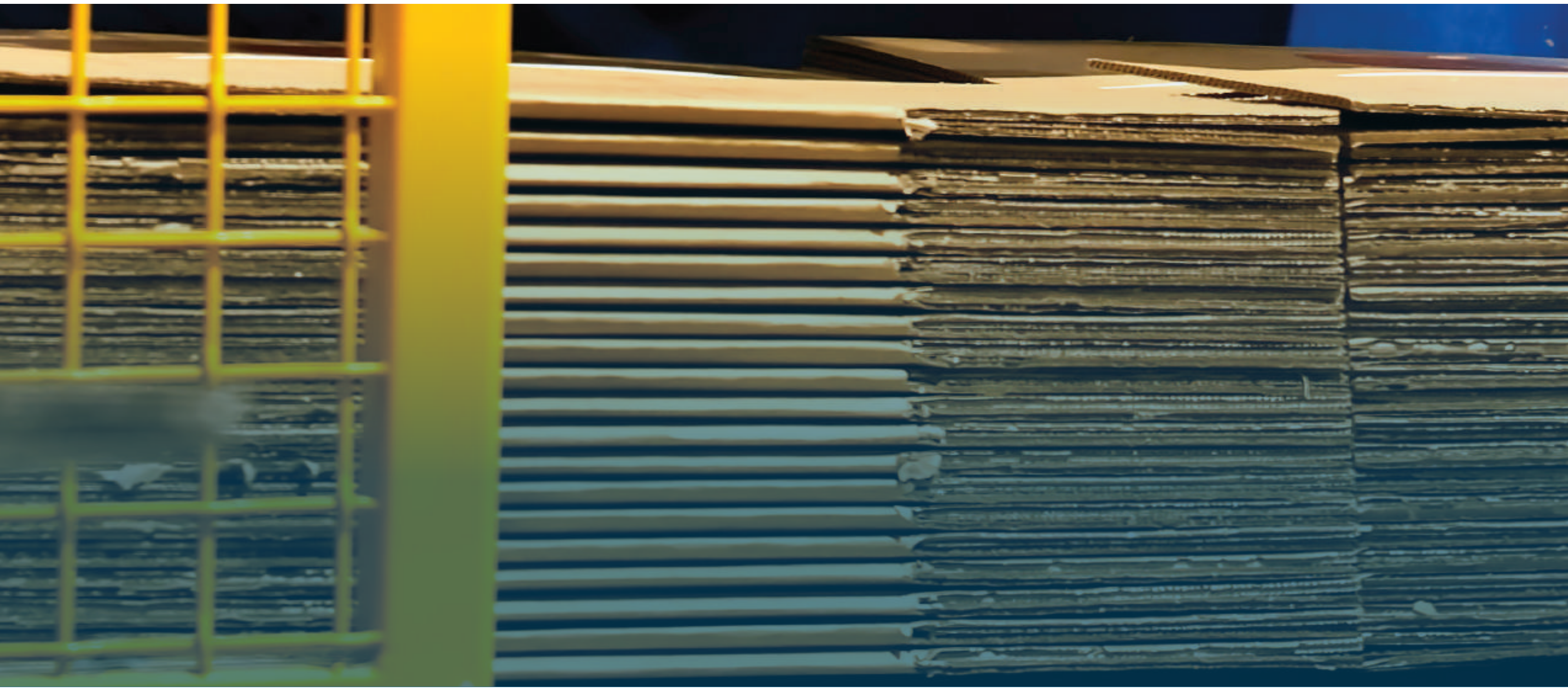
Your quarterly numbers are likely to be volatile, so you smooth them out to a 12-month moving total. Then, you make a year-over-year comparison to get a twelve over twelve rates of change, and in combination, they tell you the future.

LEADING INDICATOR SUGGESTS MORE CYCLICAL DECLINE AHEAD

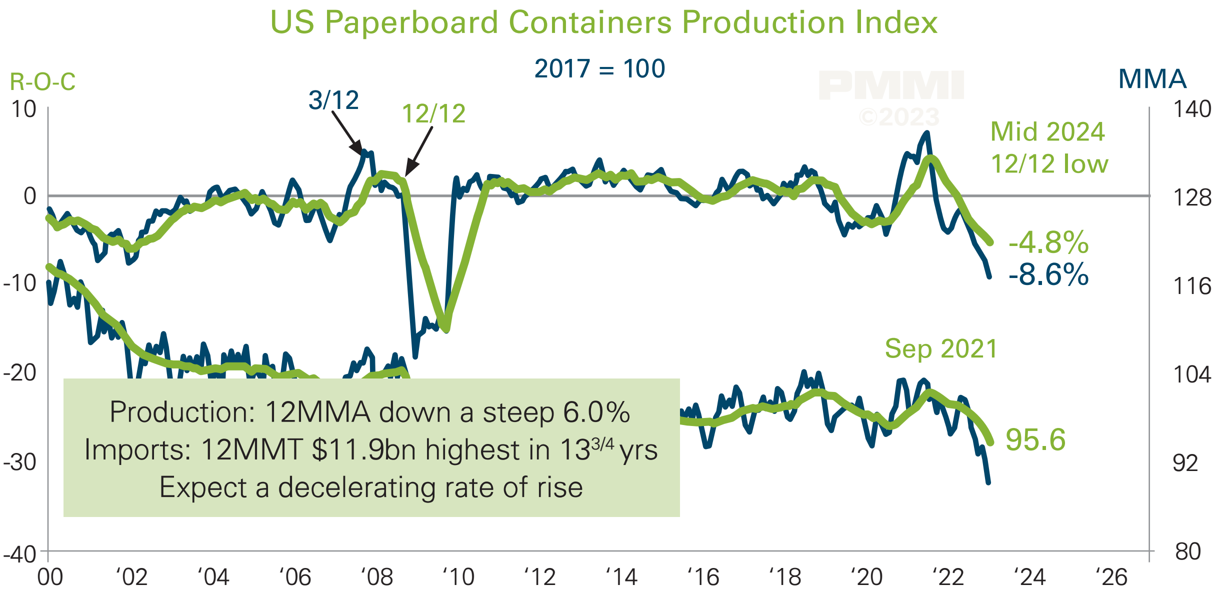


When looking at the US paperboard containers production index, the rates of change are on top. When the 3/12 rate of change, the thin dark line, moves below the green line to 12/12, there's no mathematical probability except whatever is being measured. In this case, paperboard containers production is going to keep going down. It's not going to start turning around anytime soon. That green bottom line at the 12-month moving average cannot begin to increase until the rates of change start moving up, and the 12-month moving average will follow them, so there's always a tip-off. And it'll work the same way in your business.

The rate of change will tell you what will be happening, and it'll even tell you for how long because there's an average response time between the 12/12 and a 12-month moving average reaching a low. Domestic container production is going to continue to go down.



DECLINE INTO THIRD-QUARTER 2024



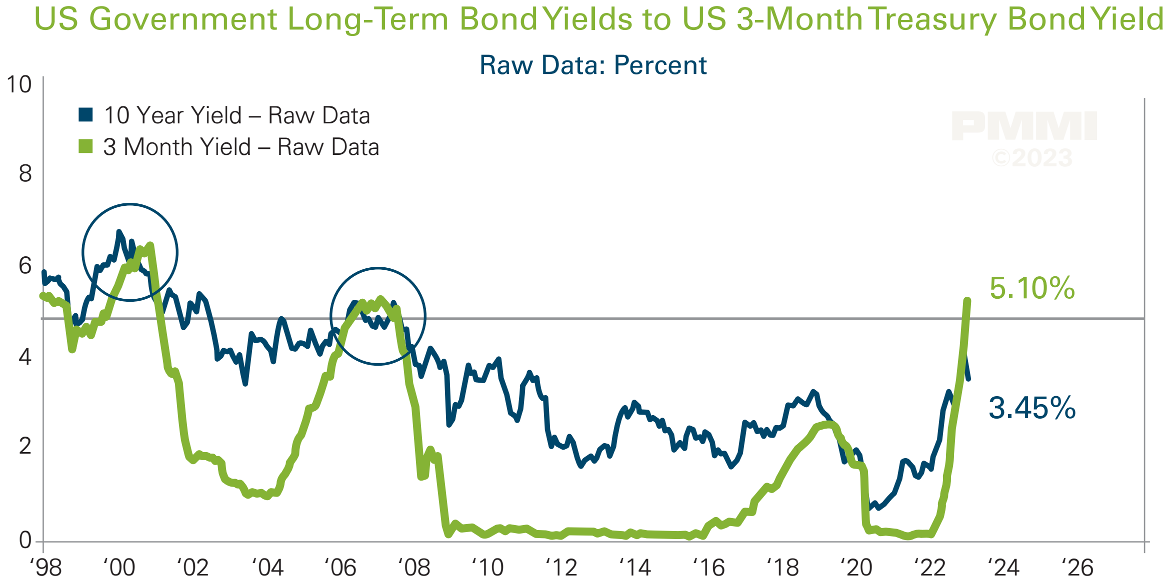
Imports are doing pretty well, continuing up to $11.9 billion, the highest ever seen in over 13 years. There will be a deceleration of the rate of rise in the imports, but there's still plenty of product coming in. It's a domestic side that, for relatively larger than just Federal Reserve Board reasons, is in decline, and it will stay that way for at least the near term. As we look at the- ITR leading indicator, it's undoubtedly signaling that.

To use the leading indicator, find out which one works best for you, and then at that point, you can see six months, sometimes a year, and sometimes longer into the future based upon a usable leading indicator. For example, the blue line shows us what to expect for paperboard containers four months into the future. Other indicators will show you even further out, depending on your cyclical nature. So how can you tell it's going to continue to go down? The math cannot be wrong because of the rates of change and because of the leading indicators.

SECTION THREE

MACROECONOMIC IMPLICATIONS OF THE INVERSE YIELD CURVE

INVERSE YIELD CURVE IN PLACE: BUSINESS CYCLE DECLINE AHEAD

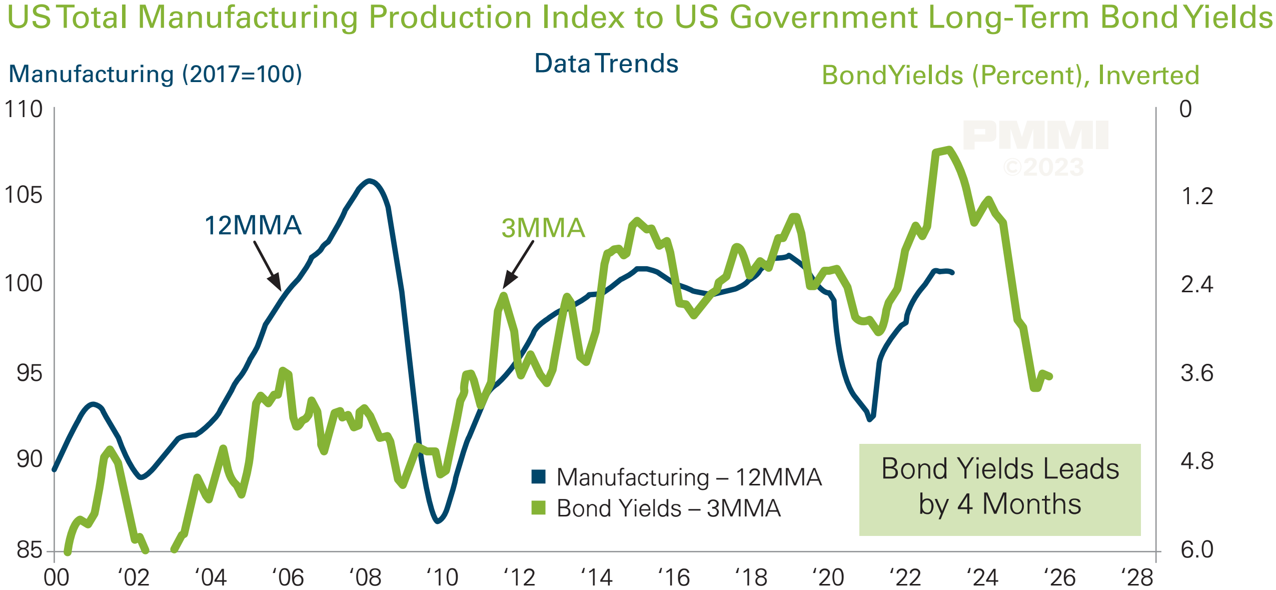


Let's review the macroeconomic implications of the inverse yield curve for the Federal Reserve Board. If you were to look at the forecast accuracy of the Federal Reserve Board, they are right in their forecast less than half the time. But unfortunately, they appear to get it wrong more often than not, and this is one of those cases where they got it wrong.

Disinflation began when the Fed started to raise interest rates. If they had been more patient or wanted to make themselves feel like they were contributing to the cause, they could have increased interest rates by 150, 250 basis points, and deflation would have continued. They could have just stopped there, but they were overly aggressive. Doing this is called doing a Volker. Chairman Powell wanted to do what Paul Volker, Former Chair of the Federal Reserve of the United States, was known for. He raised interest rates precipitously and, in doing so, created an inverse yield curve. That inverse yield curve you see here is a sign of a problem. It is only a sign of the problem; and as a sign of the problem, it says there will be a recession. You can see two inverse yield curves circled there for you.

When we look at the last nine months, there's an 88% probability that we will have a recession in the United States in manufacturing and industrial production beginning late this year. The standard process is when you have an inverse yield curve in place for two months, you know you will have a recession about nine months later, up to 11 months later. It begins late 2023 and will last until late 2024.

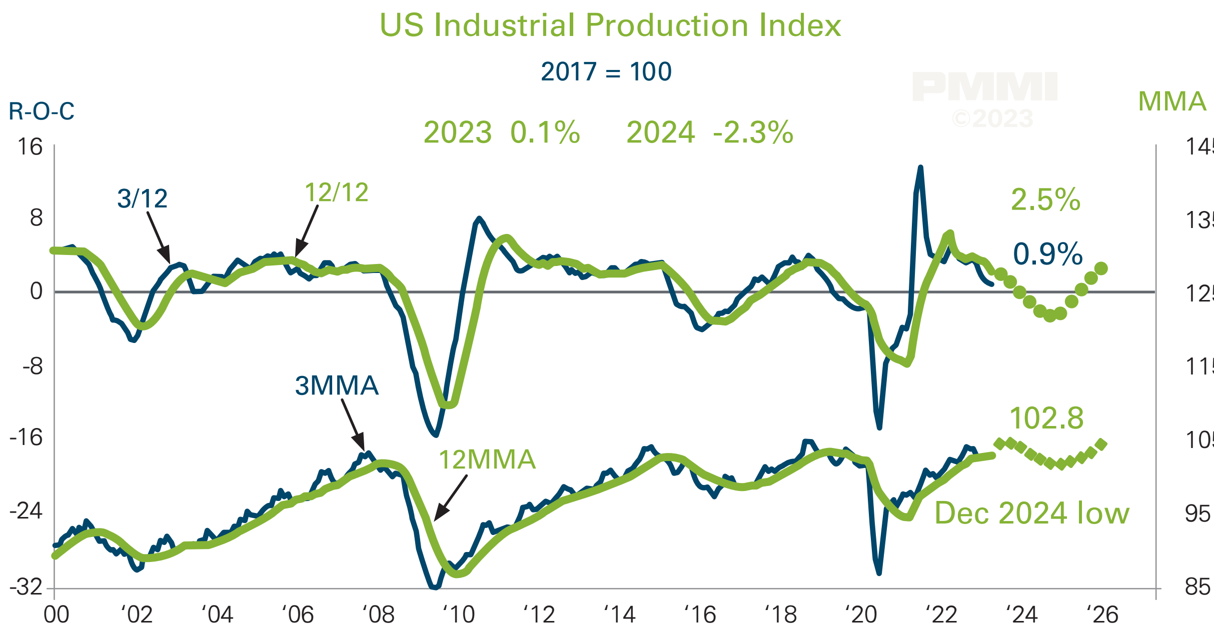
MANUFACTURING IS INTEREST RATE SENSITIVE



This chart shows the US Total Manufacturing Production Index to US Government Long-Term Bond Yields. The light blue line is bond yields, and it's on an inverted scale on the right-hand side. So when that light blue line comes down, interest rates increase. The blue line is manufacturing, so when interest rates rise, this line goes down, and you see a recession.

So there will be a recession in manufacturing, but it will not be very steep. It will be there and impact consumer spending, which will affect a lot of your world. The interest rate movement is also part of quantitative tightening by the Federal Reserve Board. This is why your customers are telling you, "I don't think we want to spend money right now." It's not that they don't need what you're selling; it's not that they don't need what you have. They need efficiency gain, but they're holding onto their cash. They want to avoid getting the credit line going because they're uncertain and because the banks are tightening. They are still determining if they'll be able to get the money later, so they're deciding where to spend money.

DECELERATING RISE THROUGH SEP 2023



It all relates to the afore-mentioned chart, the Federal Reserve Board, and the inverse yield curve. It will produce a mild recession. The bottom diamonds on the chart shows you the recession. That's a peak-to-trough decline of 2.7%, milder than normal, beginning later this year and ending in late 2024. Let's equivocate here. If the Federal Reserve Board raises interest rates beyond another one hundred basis points, maybe even another 150 basis points, if they go beyond that because they're still unhappy with inflation, it will make that a steeper decline. It won't be milder than usual. Their action will make it a steeper decline, normal to median.

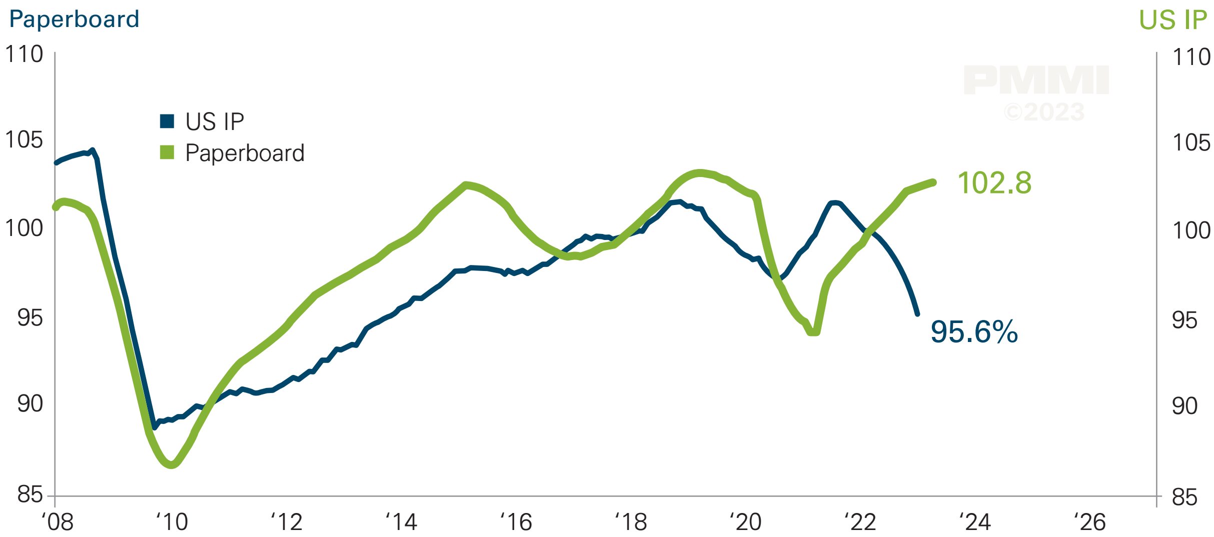
At that point, if they do not begin to undo the inversion and lower interest rates late this year, then we still have an inversion of magnitude into 2024. You will find that this recession will last into 2025. The Federal Reserve Board's actions so far have said it will be mild, it will be the average length, but they have not demonstrated that they're willing to step back at this time. It will be steeper and longer if they don't step back in the next few quarters.

Our biggest concern is the Federal Reserve Board and its actions and what it will do. The second-largest concern is something of a magnitude harder to know, and that is, of course, what China will do in relation to Taiwan.

PAPERBOARD IS MOVING OFF TREND, FOR NOW

US Paperboard Containers Production Index to US Industrial Production Index

Annual Data Trends: 2017 = 100

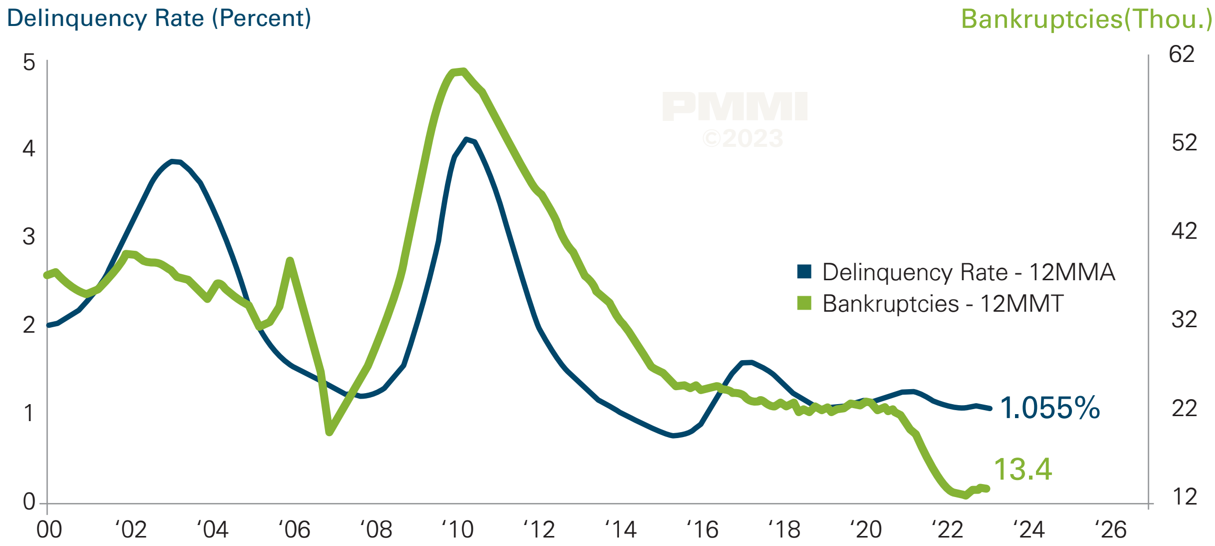


Domestic paperboard containers production usually is interest rate sensitive. Notice the dark blue line that started to move down well before industrial production moved into a decline. Usually, there's some symmetry there. You'll notice the light blue moves with the softness of industrial production, industrial production was still going up, and domestic paperboard productions were going down. That's an international play, a non-domestic economic move.

BUSINESS FINANCIAL HEALTH LOOKS GOOD

US Commercial and Industrial Loan Delinquency Rate to US Business Bankruptcies

Annual Data Trends



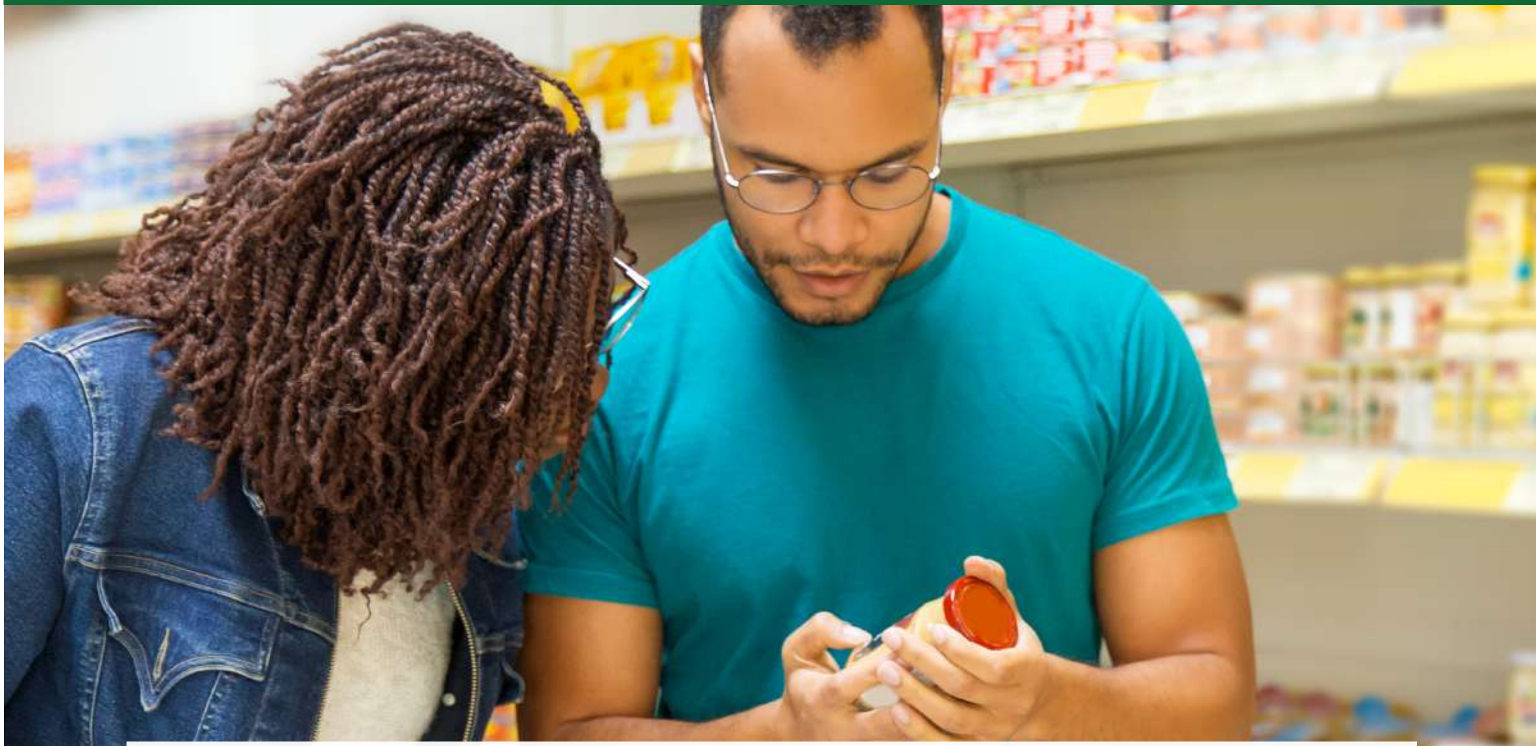
When we look at why this is going to be a mild recession, it begins with the fact that businesses like yours are in such good shape. Delinquencies are low, bankruptcies are low, and companies have a lot of cash. Not a record amount, but it's still an extremely healthy pile of money, and profits are exceedingly high.

So when you combine all of that, there's a feeling in businesses that you're in a good place. By the end of this report, you should understand that your company will remain in a good place, but orders will still be slowing in their rate of rise. You'll be in Phase C, the caution phase, and if you track your dollars, there'll be above year-ago levels through the rest of this year. Then, in 2024, they'll go below year-ago levels. You will eat off your backlog and find that your revenue is satisfactory. Your new orders will drift downward and slow down, perhaps going negative. With your backlog in place, your company should be okay with cash, acceptable with revenue, and okay with bank covenants. Because of the mildness, you should be fine any way you look at it.

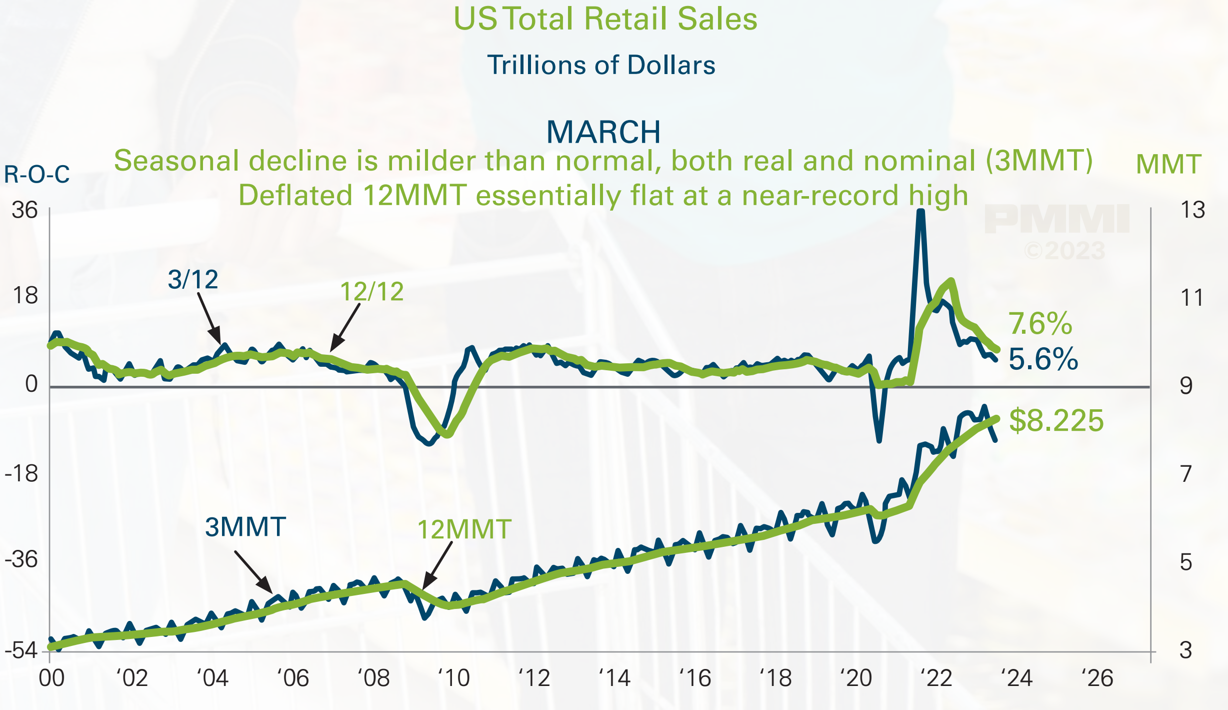
> The only possible danger is if the Federal Reserve Board gets too aggressive, in which case you'll go past your backlog, and then you'll be in a revenue, cash crunch.

SECTION THREE

CONSUMERS



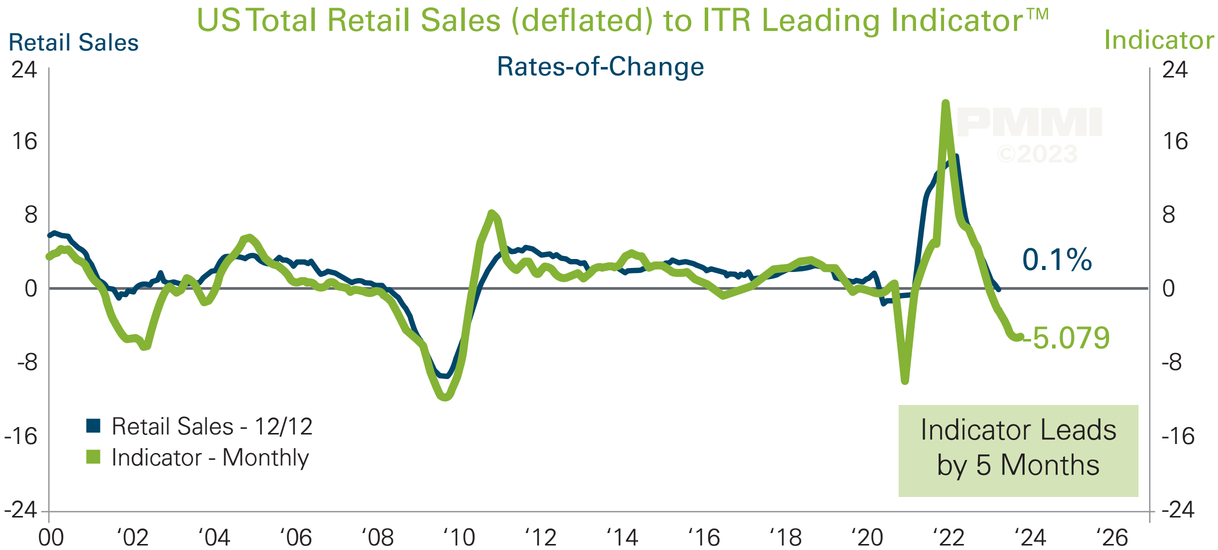
FLAT TO MILDLY NEGATIVE IN 2024



Consumers are where the money's at, and right now, it's good. The rates of change, the top line, 3/12 below the 12/12, certainly signals a slowing in the rate of rise in retail sales. That's the key; it's slowing. This is not in deflated dollars, this is in nominal dollars, so some of that is disinflation. When ITR deflates it, they discover that it's at a record high level on a 12-month moving total basis, basically flat.

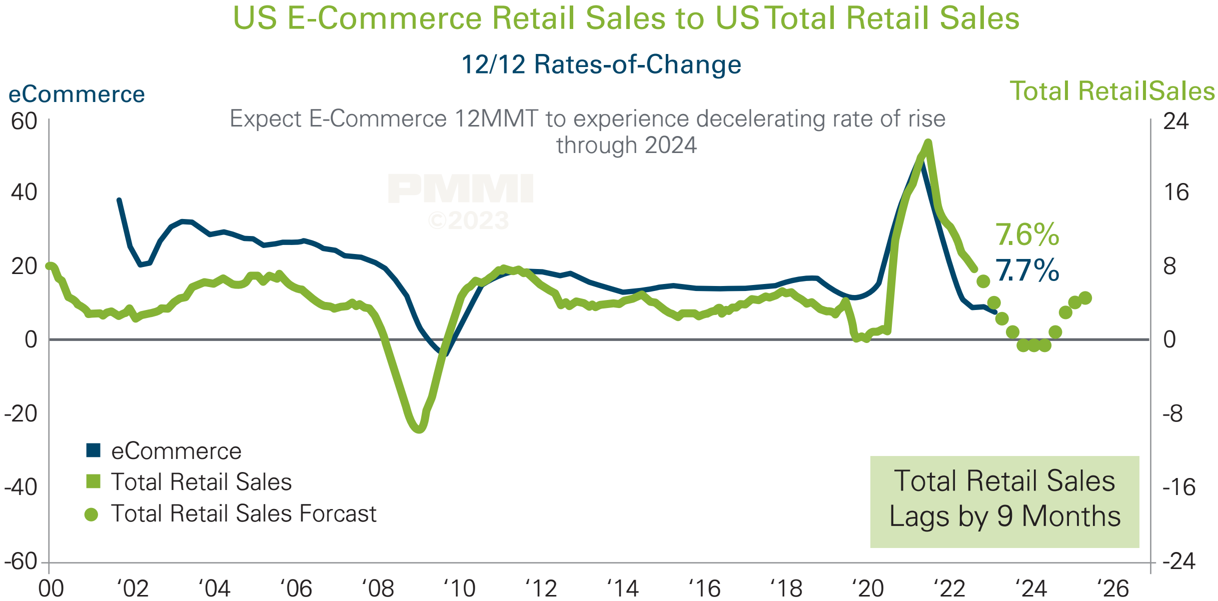
When you read about consumers being hit hard by inflation, that's not entirely true. It's true for the lower quintile, which is not most of your marketplace. The lower quintile got hurt by inflation, but with disinflation going on and wages going up quickly, the ship will be righted. You'll find that the consumers will be able to continue spending, but they will spend less than in the past. This is partially because of higher interest rates and a sense of caution as they move forward. Consumers will spend on what they want for the most part, but at a different pace than before.

GROWING DOWNSIDE PRESSURE ON TOTAL RETAIL SALES (DEFLATED)



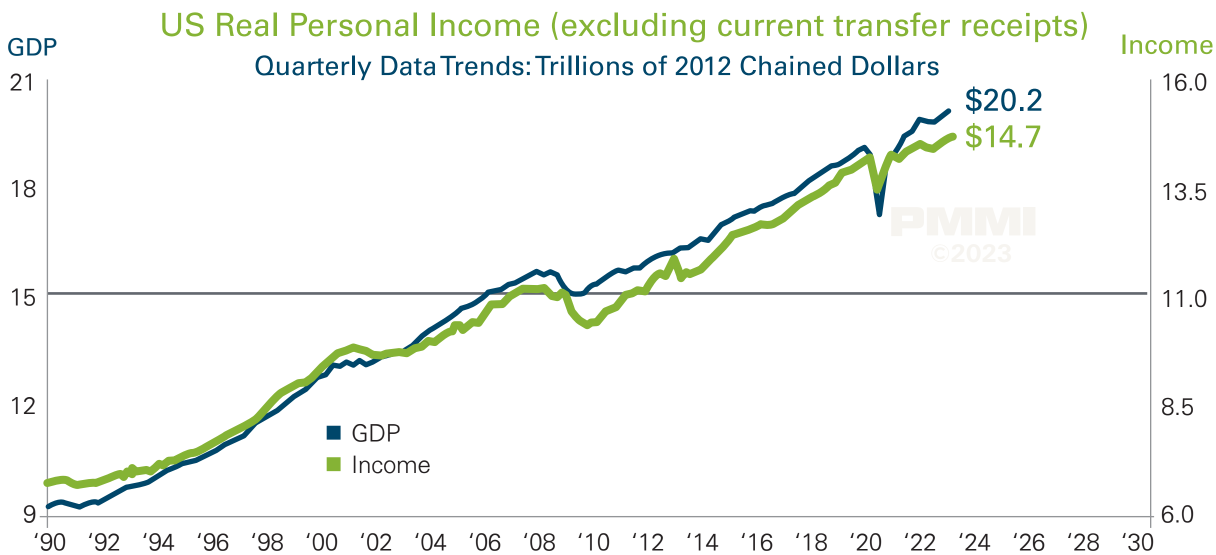
When we look at what's going on in US total retail sales compared to the ITR leading indicator, it shows that the indicator (blue line) leads the way rather nicely. It indicates that retail sales are going to continue to be on the backside of the business cycle. The ITR financial lead indicator and the ITR retail sales lead indicator all show the same thing.

E-COMMERCE IS PROJECTED TO OUTPERFORM RETAIL SALES



Now the good news for everyone is that the e-commerce trend rides above the blue line (retail sales).Retail sales are going to go down to zero growth and a little below. That's going to be different for e-commerce. There are still going to be all of those packages going through e-commerce to the consumer's doorstep. Lots of work will continue, and the repetition will get to you at a different pace. You can see that that blue line is bending a little lower, and you will see a decelerating rate of rise through 2023 and 2024, but it will stay above zero growth. That's positive news.

IMPORTANT THAT WAGES GO UP SLIGHTLY FASTER THAN INFLATION



Consumers overall, the bottom blue line, are in a good place because they're making enough money to adjust for inflation to keep the economy going. Consumers and consumption comprise two-thirds of the US economy. So consumers are an essential signal of that, and if consumers were drowning in inflation, then the blue line would be going down, and there would be a steeper recession on our hands. But we, the consumers, are still above year-ago levels. So it's still climbing, just not as steep a pace.

ABLE TO SERVICE THE DEBT LOADS GOING INTO 2023

US Profits and Delinquency Rates

Delinquency	Monthly	Notes
Auto Loan Delinquency	3.73%	Five year low
Credit Card Delinquency	2.34%	Pre-Covid 10yr avg 2.76%
Residential Delinquency (>90 days)	1.85%	Sep 1.80%, lowest in 15.5 years
Domestic Nonfinancial Profits	$2.07T	Sep $2.09T Record high

The New York Times had an article, and the headline was about how automobile loan delinquencies were climbing. Toward the end of the article, you read that they were sampling the people with the worst credit scores who had car loans and that the percentage of defaults had been increasing. They took the worst possible pool and reported on such a small amount that it had no bearing on the numbers overall. The chart above shows auto loan delinquency rates are the lowest in five years, despite the New York Times article. When you look at what's going on in credit card delinquency, it is shallow. When you look at residential delinquency, extremely low, nothing like 2006 through 2008 when people couldn't handle their mortgages. These are all positive indications that the economy will certainly not fall apart; just going to slow down this year.

THE US MACROECONOMIC SUMMARY

- ☑ Consumers are doing well financially
- ☑ Businesses are profitable and liquidity is high
- ☑ Federal Reserve Board recession

NEXT STEPS

Listen to your numbers and relevant leading indicators.

So, what does all this mean? It means consumers are doing well; if they are doing well financially, it's good for you. Businesses are profitable; liquidity is high. The Federal Reserve Board is creating a recession. ITR recommends taking your numbers and running them through the rate of change analysis. You can access how to do it on ITR's website, **www.itreconomics.com/methodology/**. It takes no time at all; that way, you'll be able to see your company's 3/12 and 12/12. You can also go back historically and put in at least ten years' worth of data. This process will give you a perspective on what you could have known, which is very eye-opening.

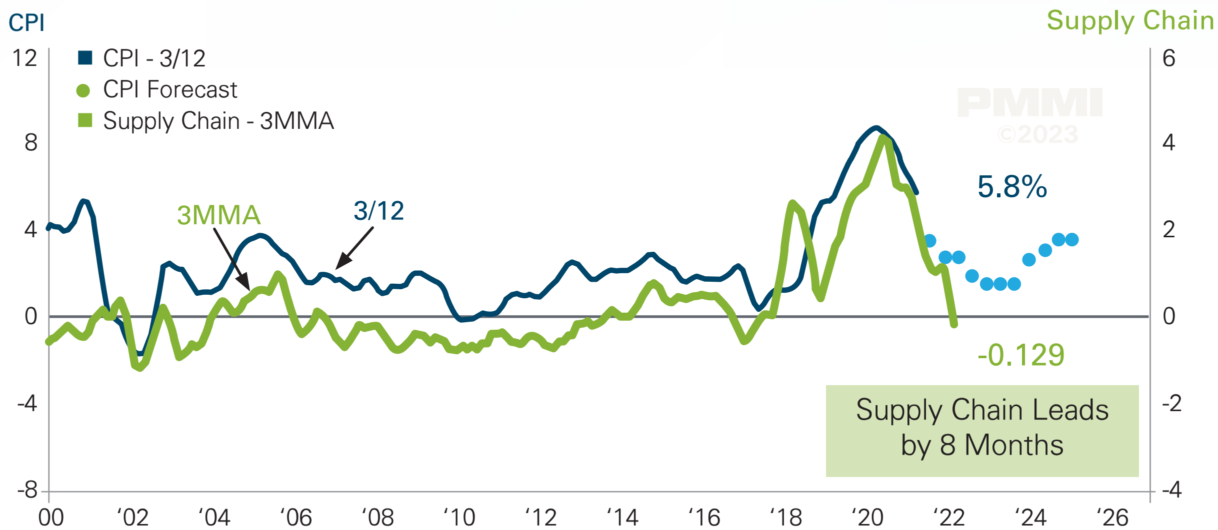
SECTION FOUR

INFLATION TRENDS

SUPPLY CHAIN PRESSURES PORTEND DISINFLATION

US Consumer Price Index to Global Supply Chain Pressure Index

CPI: 3/12 Rate-of-Change, Supply Chain: Quarterly Data Trends



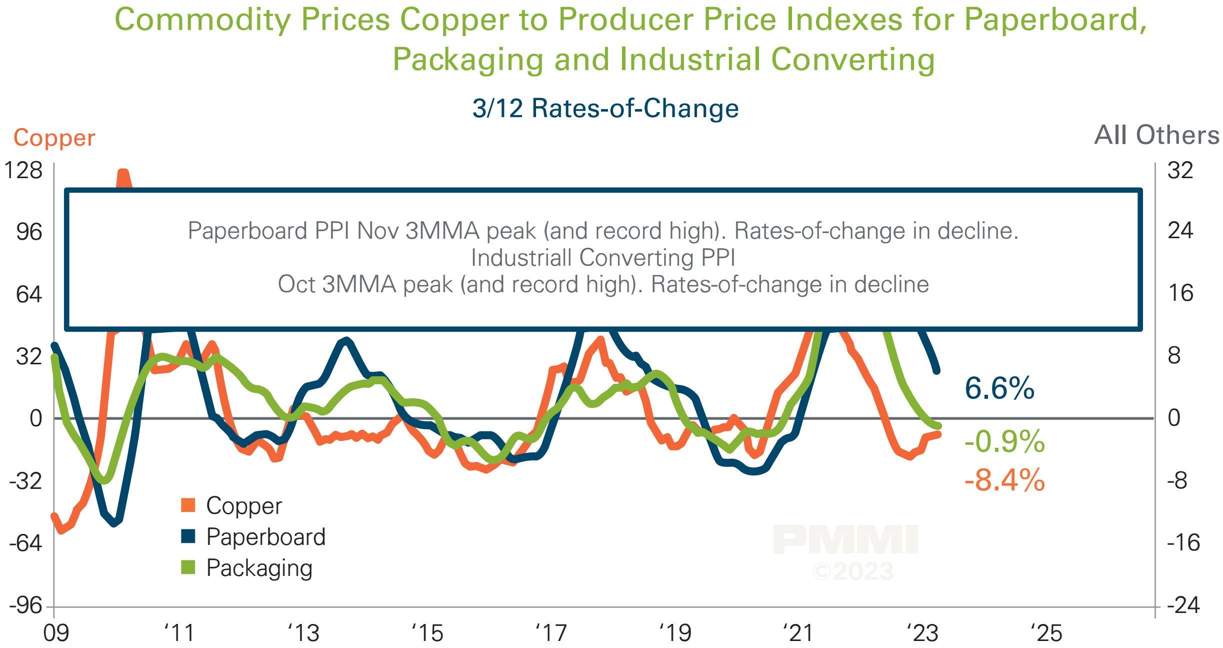
Inflation is waning; disinflation is the technical term. You can look at the dark green line moving down. The dots indicate forecast. You can see inflation coming down through the end of 2024 to about 1.5% to 2%. The Federal Reserve Board will claim the win, inflation will be gone, and everybody will be happy.

You can see the dots in 2025 signifying inflation. Inflation will wane and go quiet for a while, but it will not disappear. It cannot go away because of one essential component that is part of all of our businesses and our cost structure: labor. So while commodity prices can come down and more goods are coming in, the supply chain pressure index is dipping to zero, which means the problem is solved.

Now there's still the golden screw problem that exists. Lots of things are coming in, but there's always one thing you want that's just not available, and it's holding things up. That's called the golden screw.

The golden screw for automotive was chips. The industry had all those cars waiting to be sold and all those cars built, except they needed a computer chip. So they were all lined up waiting for that one component, and so that still exists. But overall, as we look at the cost of things, that's certainly coming down.

COPPER IS THROWING OFF A SIGNAL



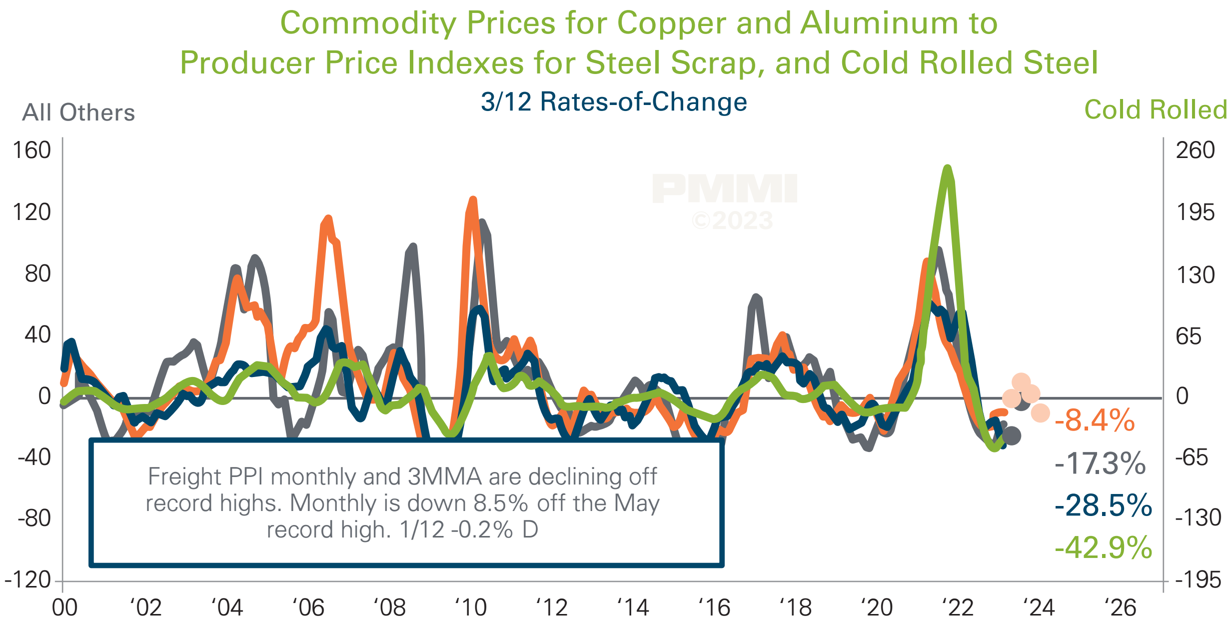
As you look at what's going on in copper, paperboard, and packaging, you can see that paperboard prices are in disinflation, the blue line coming down. It's 6.6% above year ago levels. Packaging is below year ago levels, that's deflation. Copper, which leads the way, is also below year ago levels and experiencing deflation, 8.4% below year ago levels.

Now for copper, the 3/12 rated change is going to move up above that zero line. As it does so, copper will be above year ago levels briefly, and so will nickel, cold rolled steel and steel mill prices and then everything else. You're going to find all kinds of prices moving up to that zero line. Some are going to be close to but below, some will be slightly above. That's not going to last. We're pointing that out because when it happens, don't think that inflation's coming roaring back. It's a bounce and then it's going to go down again on the other side. And as that happens, it will give relief to a lot of businesses. It will certainly slow down price increases or flatten out price increases in lots of industries.

The paperboard industry, the paperboard producer price index is in deflation and the three-month moving average is moving down. The rates of change are signaling, there's more decline in the three-month moving average, that's deflation. We are above year ago levels, but it is still moving lower, which is good news. The industrial converting PPI, same thing. October high, record high but it is moving lower and the rates of changes suggesting that we're going to continue to see more deflation in the producer price index. The sticky part will be the labor component. The material cost can go down, but the labor is only going to go up.

Looking at the grouping, you will notice that copper is going above the zero line, aluminum is bouncing up, and so is cold rolled, but it will be short-lived. In 2024, you will see them go down and continue to be below that zero line. So there's going to be some excellent relief from inflationary pressures.

DISINFLATIONARY TRENDS



General freight pressures are below year-ago levels, less than truckload and contract, short and long distance. There is a deflationary trend going on. You can see the 1/12 that is below year-ago levels and declining, indicating prices on freight movement is going down. This is good news for many industries. With trucking prices coming down, packaging prices coming down, and many raw material prices coming down, it takes some of the pressure out of the macroeconomic system.

INFLATION SUMMARY

- ☑ Inflation is decreasing
- ☑ Fed should stop raising interest rates
- ☑ Banks tightening credit

NEXT STEPS

> Look for interest rates to ease later this year and into 2024

> Plan on downside business cycle pressure in 2024

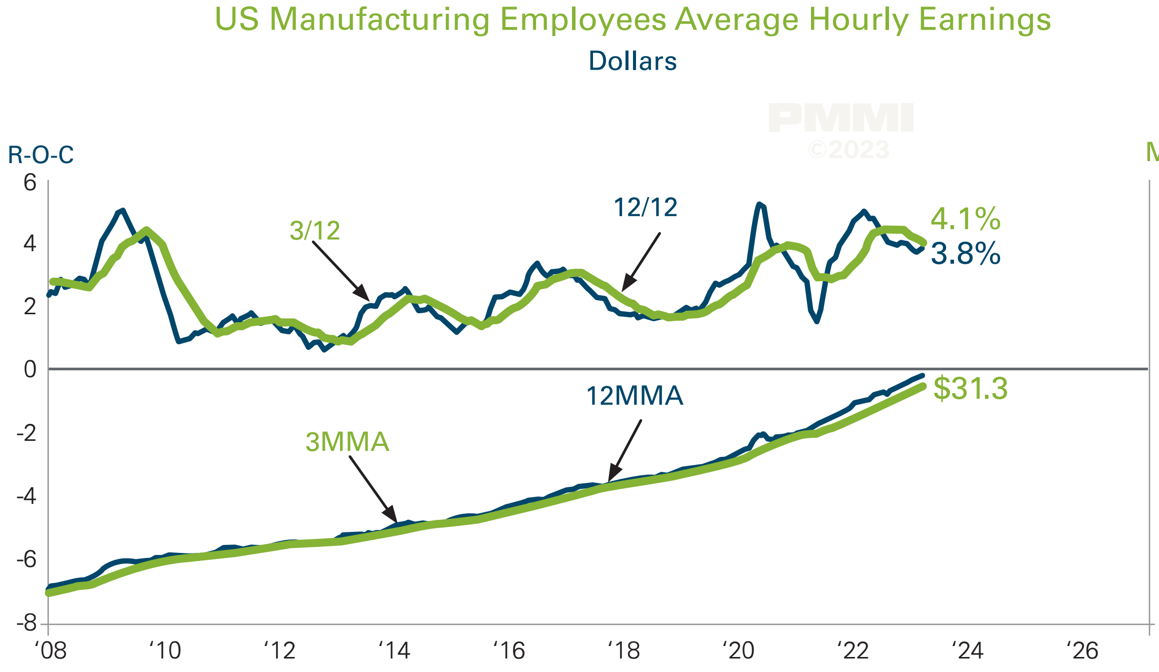
What you should grasp from this inflation summary is that while inflation is decreasing and banks are tightening credit, there's still that tightness going on, but it's temporary. In 2025, we're going to see inflation heat up a little bit again, and then more in 2026. After that, you'll find it wane, but there'll be ascending troughs and peaks, which means climbing interest rates. They'll be going up in 2025 and higher in 2026. They'll generally be going higher, and the low point for the rest of this decade will be in 2024.

When you look at mortgage rates, they go to 4.5% on a 30-year fix. Mortgage rates will be down, prices will be going up in some places slower, other places they'll be coming down, but overall, 2024 is the year to buy a home and then you'll find the equity build will occur to the rest of the decade. You'll have a nice low mortgage payment that you'll enjoy in the 2030 depression.

SECTION FIVE

LABOR

DECELERATING RISE ANTICIPATED FOR 2023



Labor is a big issue, obviously, with a lot of folks. Look at the rates of change. What it's saying is that the average hourly earnings in manufacturing are in a disinflation mode. It's still high at 4.1%. Historically, that's a high rate, and the dollar amount will keep climbing. It is just the speed at which it climbs up which is in question.

OVERALL…

Private Sector Employment record high	**131.408 million** 12MMA
Unemployment –lowest in 21+ years	**5.890 million** 12MMA
Employment Population Ratio	**60.0%** 3MMA
Nov 2019 approx. 11 yr. high	**61.1%**
2010-2019 avg	**59.3%**

Employment 3MMA:

12.917mm
milder-than-average 4Q seasonal decline

Job Openings 3MMA:

696k
lowest in 23 months
2010-2019avg 320k

The employment numbers are high, with a seasonal decline and a milder-than-average seasonal decrease. When you look at the 12-month total, it is at a record high. When you look at job openings, it's the lowest in 23 months. That should make the Federal Reserve Board happy. The exciting part about these numbers is where private sector employment is at a record high. The number of people unemployed is at the lowest we've seen in 21-plus years.

When you look at the employment-population ratio, it's at 60%. Sixty percent is higher than we saw for the decade before COVID and slightly below what we had at the November 2019 peak. The economy grew faster than the workforce, and as it grew faster than the workforce, it's just a question of needing more people. The Federal Reserve Board cannot fix this. So inflation will be with us because wage inflation will be with us for the rest of this decade. It goes away in the Great Depression.

LABOR SUMMARY

- ☑ Disinflation on wages in 2023
- ☑ Tight labor market for years
- ☑ Weakening economic conditions means employees become more likely to stay

NEXT STEPS

> Years of opportunity for automation

> Efficiency gains

Baby boomers are leaving the workforce in high numbers.You're going to have to fight hard every day to get labor. It's all about your culture. It's all about understanding they want to get paid well. They want to do good. They want to be part of the team. It takes communication. It takes all kinds of things to keep people these days. It's hard work. It's not fun. But you try to make it fun for your employees. And as you do all that, you'll gain an advantage, but probably the most significant thing to remember, and the most challenging thing for some people to get past, is you cannot pay enough; you have to pay more than enough. Because if all you're paying is a competitive wage, they'll go to your competitor when they're not happy.

Make it painful for them to go to your competitor, and if you count in the cost of training and hiring and the whole process, you'll probably find it's worth paying them a little more. You'd probably get even more skill sets out of them and productivity out of them and find that it is very worthwhile as you go forward. It will be something that you've been dealing with for a long time, which is why you will be in high demand for the rest of this decade because all your clients are going to be suffering the problem of, where am I going to get the help to get my product out the door? They will be looking to you for efficiency gains, for automation. As you go forward, you'll find many opportunities for you because there's a lack of labor.

You could triple the amount of legal immigration into this country. There would still be a need for more labor. There is no cure for the labor problem. The only good news is that our population is at least still growing, just not fast enough. The population is growing in Canada at a nice clip too. Things are going well there. Immigration is why. Internal population growth needs to be increased to keep the economy growing. There is a lot of excellent immigration in Canada, so you're on good ground there on the people's front.

Nations that have population decline are doomed. In Russia, Japan, and China, population decline is going on. That's economic death. It's just a matter of time.

Mexico is growing faster. There is a nice young population and an enviable labor base, and you're going to find that the North American community, the three of us together, what was called NAFTA, will be strong and vibrant. We will be world-leading in terms of our economic strength because we balance each other well.

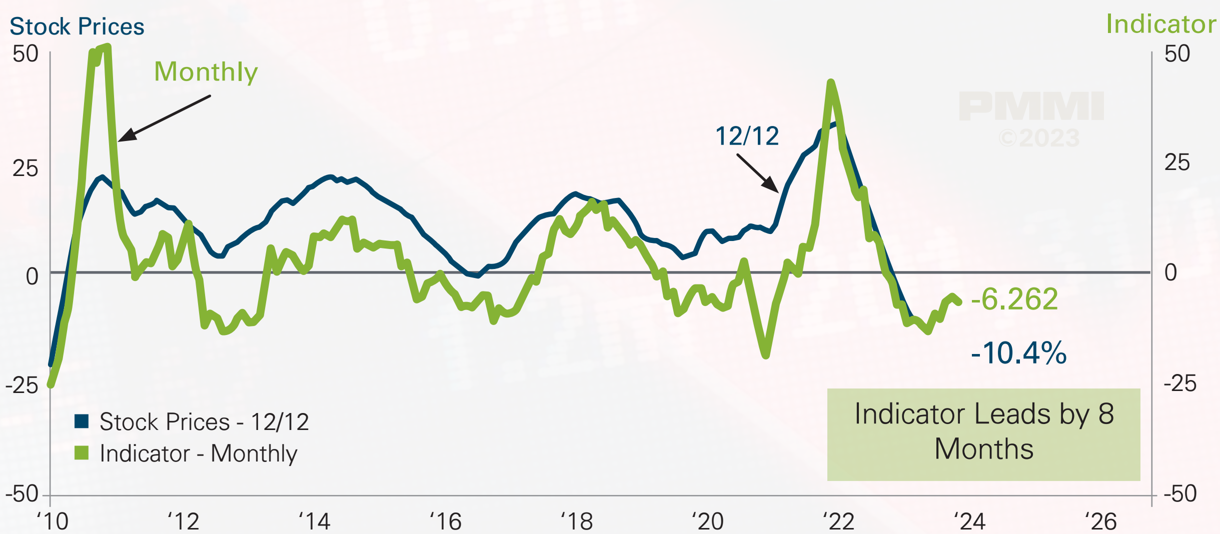
SECTION FIVE

FINANCIAL MARKETS

A POTENTIAL UPSIDE SIGNAL FOR THE NEAR TERM

US S&P 500 Stock Prices Index to ITR Financial Leading Indicator™

Rates-of-Change

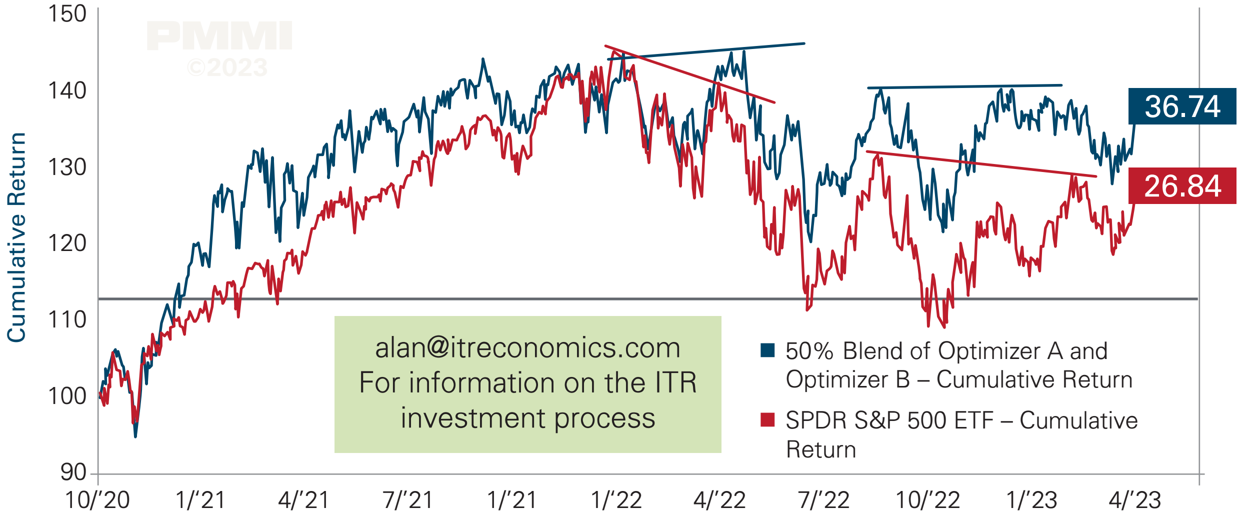


Regarding the financial markets, the ITR economic lead indicator shows some upward movement, and you're going to find that the stock market will follow along on a rate-of-change basis. People will start talking about reaching the low in the stock market. It would help if you remembered that the rising trend in the stock market, given the macroeconomic forecast, is inconsistent, and the macroeconomic forecast generally wins.

When businesses are in a sluggish environment to a mild recession in 2024, the stock market doesn't usually go up when the economy is slowing down. Be cautious of the bounce in the market that you will hear in the media. ITR does not believe it is sustainable at this time.

50/50 BLEND OPTIMIZER OCTOBER 1, 2020 THROUGH MARCH 31, 2023

50/50 Blend Optimizer is made up of 50% Optimizer A, and 50% Optimizer B



With this chart, ITR is showing you that you can do better than the index funds. So please ensure you're not just in an index fund with your 401ks and investments. (red line). The blue line is ITR's optimizer. Speak to your wealth advisor or ask ITR about the optimizer, but for your retirement, only be in an index fund if you like less-than-stellar results.

FINANCIAL MARKETS SUMMARY

- ☑ Higher inflation/interest rates will compress multiples
- ☑ Optimizer Leading Indicator, M2, & Margin Debt signal caution regarding S&P 500
- ☑ Caution does not mean exit the market; continue to build wealth but the strategies will change

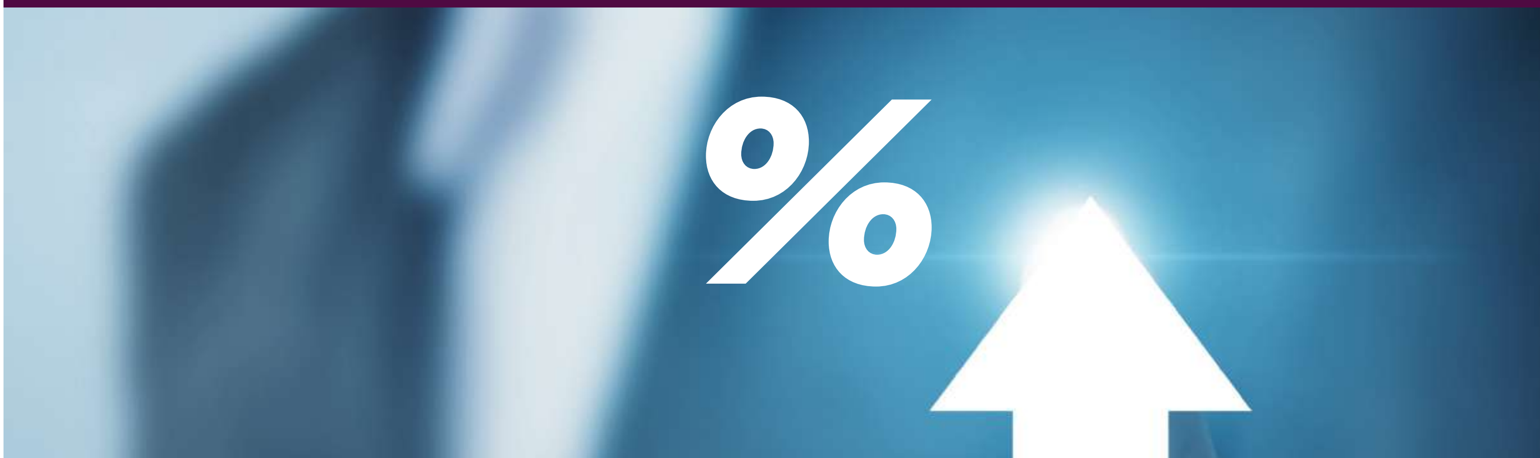
NEXT STEPS

> Assess your strategy given a long-term buy-hold likely not viable through this decade

> Check the markets you sell into for interest rate and equity market sensitivity

SECTION FIVE

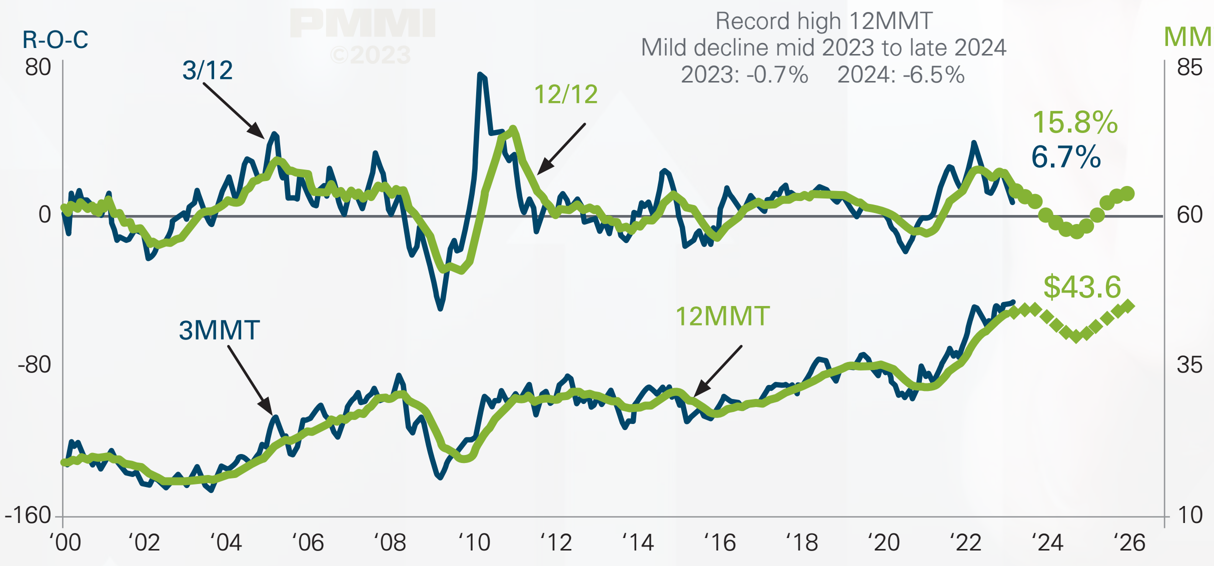
PMMI MARKETS



MILD DECLINE LIKELY IN 2024

US Material Handling Equipment New Orders

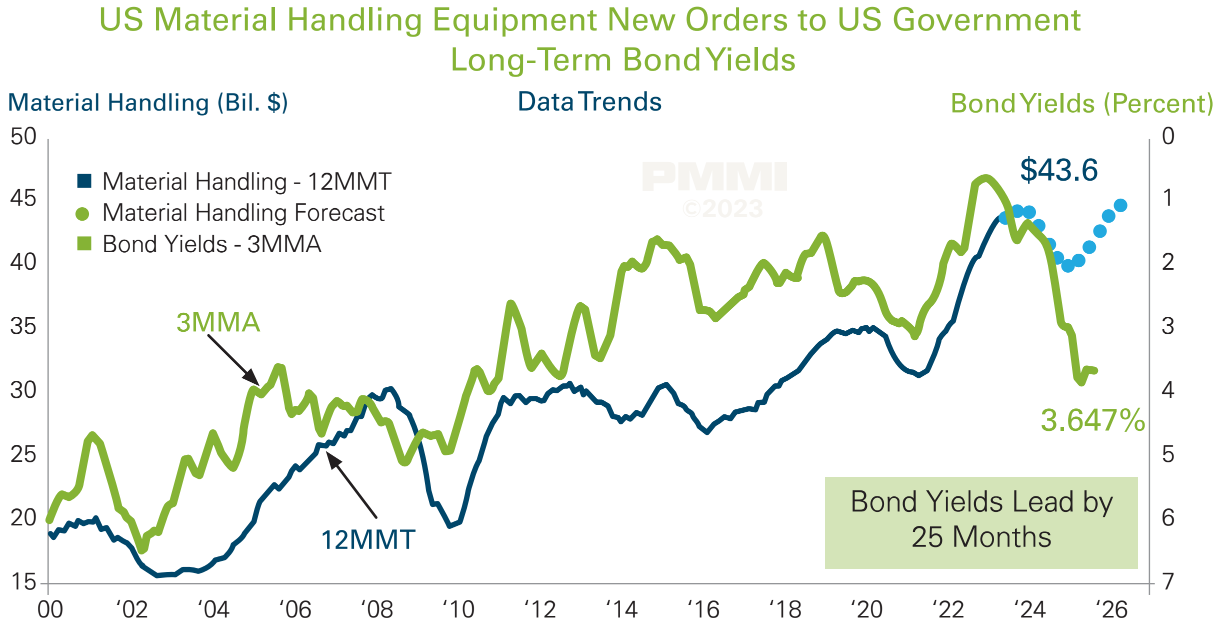
Billions of Dollars



This chart represents material handling equipment new orders which are at a record high amount, as you can see from the green line. But look at the rates of change. The rates of change show that they are reaching a peak before long. The 3/12 is below the 12/12, and the 12/12 is coming down. So while it was at 15.8% above year-ago levels, it will not stay there. It will end in 2023, even with 2022 being a good year.

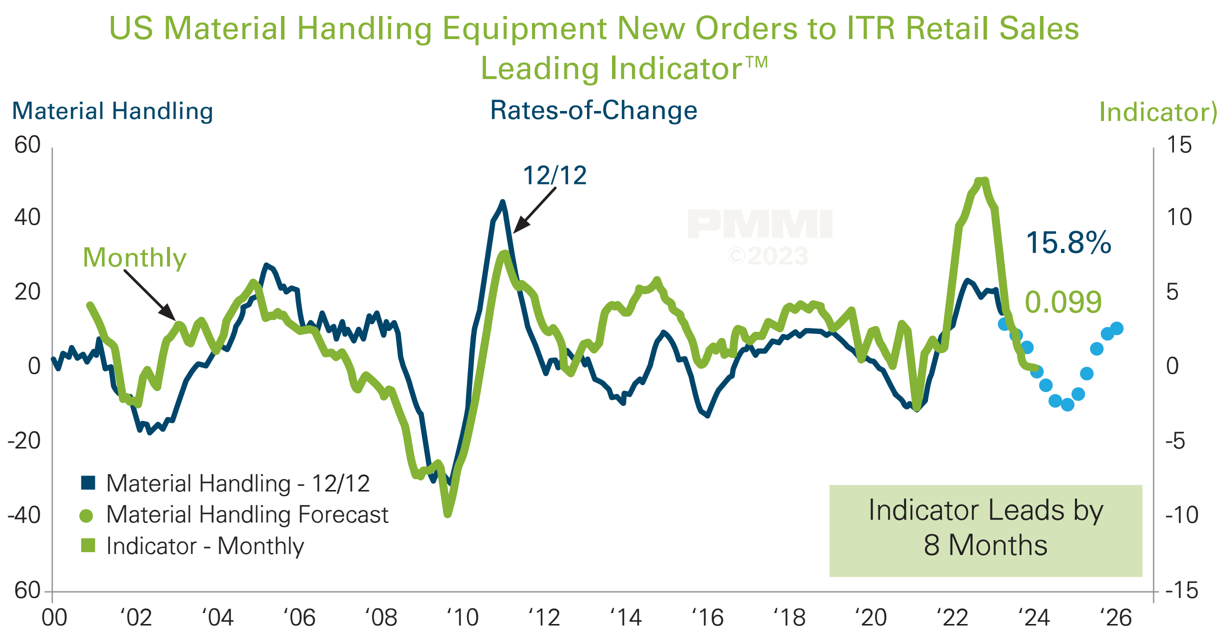
When you look at 2024, you'll notice the diamonds at the bottom decline, and up top, you will see a six-and-a-half percent decline year over year in 2024. Not the worst thing in the world, but not the most pleasant thing either.

NEW ORDERS ARE GENERALLY INTEREST RATE SENSITIVE



Again, this is the long-term interest rate inverted scale. Material handling equipment new orders are interest rate sensitive. The declining trend in the blue line and higher interest rates will negatively pressure material handling equipment new orders. But the circles also increase, indicating a need for material handling equipment. The need for automation, the need for efficiency is going to trump the downward pressure. In the second half of 2024, it'll trump the stress of the interest rate move. You will find yourself in a countercyclical activity when it comes to the efficiency plays the businesses are going to need.

ITR LEADING INDICATOR SUPPORTS THE FORECAST



The ITR retail sales leading indicator says that you will see material handling and the equipment rate of change go down. They're expecting that that rate of change, the blue line, will move downward until about September 2024.

ROBOTIC SHIPMENTS

US Industry | Rates-of-Change

	12/12	Phase	3/12	Phase	Notes
Robotic Shipments (Units)	9.0%	C	7.2%	C	Record high –slowing
Robotic Shipments (Value)	13.0%	C	7.0%	C	5yr high -slowing

Robotic shipments are all in phase C, whether we're talking about units or dollars. Phase C slowing rate of rise, 3/12 is a smaller number than 12/12 leading us to the notes. It is at a record-high level when it comes to units. Still, it's slowing in its rate of rise throughout the year. So watch for those 3/12s as they get smaller and smaller, which will signal potential difficulties in 2024.

SHIPMENTS

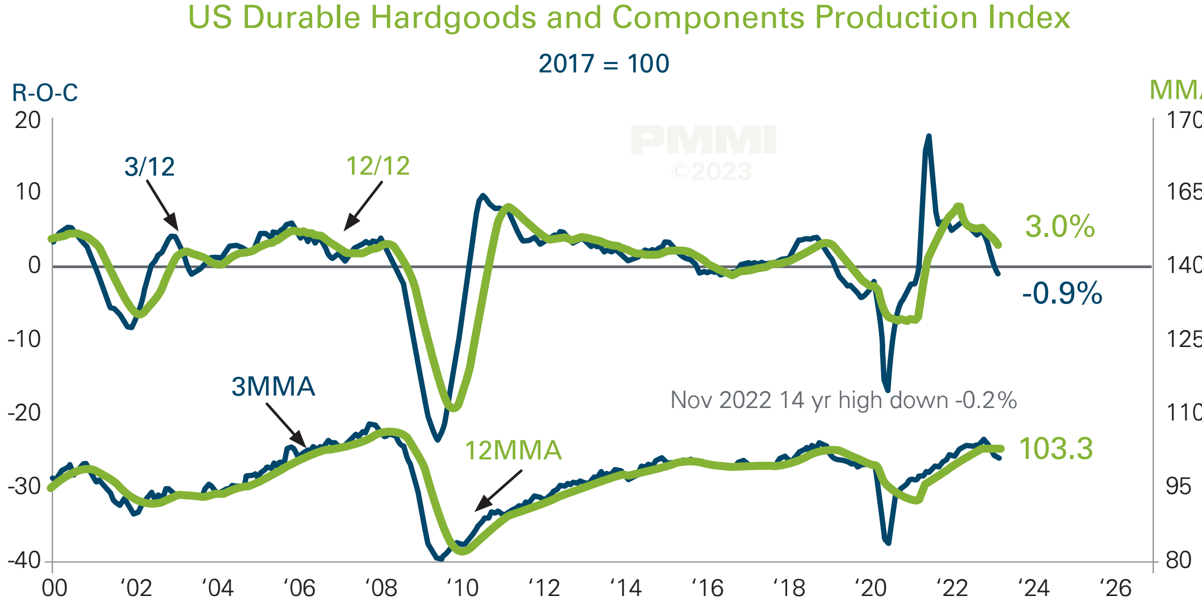
US Industry Shipments | Rates-of-Change

	12/12	Phase	3/12	Phase	Notes
Consumer Goods (all)	15.2%	C	7.0%	C	Record high –slowing
Pharmaceuticals & Medicine	10.8%	B	12.3%	C	Record high
Durable Goods	14.2%	B	11.0%	C	Record high –slowing

Looking at consumer goods, pharmaceuticals, medicine, and durable goods shipments, you will notice it is in phase C and 3/12s across the board. So while it's at record highs, you will see a slowing, and pharma and medicine will continue to move up, but also likely to move up at a slowing pace. But that's going to be the strong one. If you're in pharmaceuticals, medicines, and the medical field, you're going to find that you're going to outperform a lot of people in other industries. The one remarkable thing happening in your industry that others aren't experiencing is that baby boomers are a huge part of the population. And as a large amount of that population is aging, they're going to need increasingly in the way of anything medical, especially pharma and medicines.

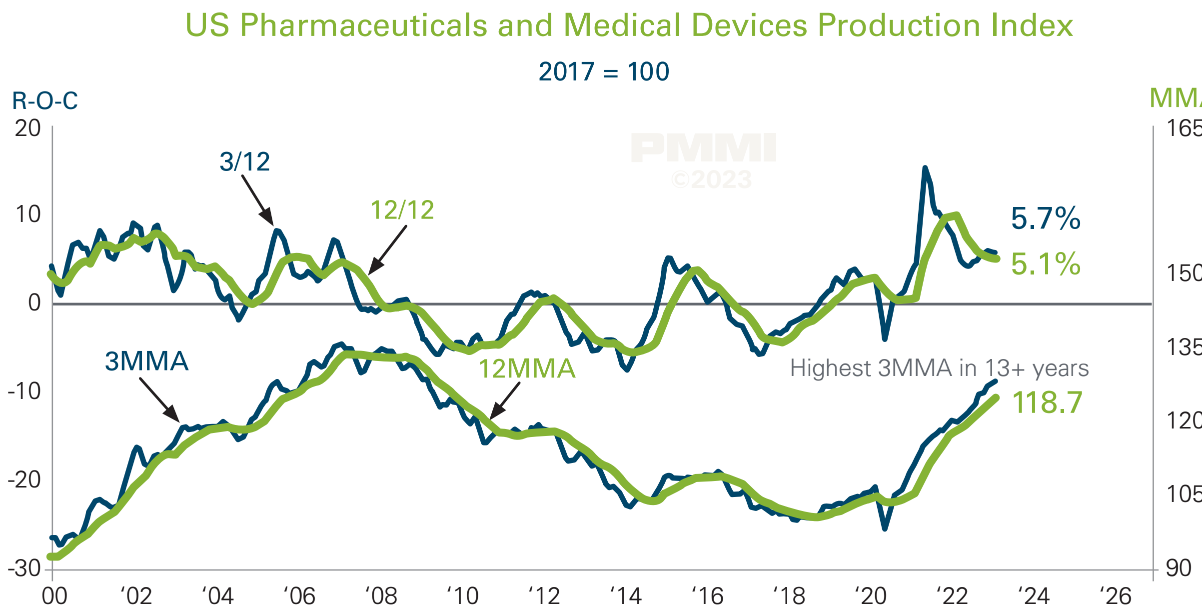
The early 2030s is when we peak. Late in the 2030s is the peak death rate for baby boomers. So you'll have good news for the next eight years, as the 2030s are considered the time for the peak death rate for baby boomers.

MILD DECLINE THROUGH MOST OF 2024



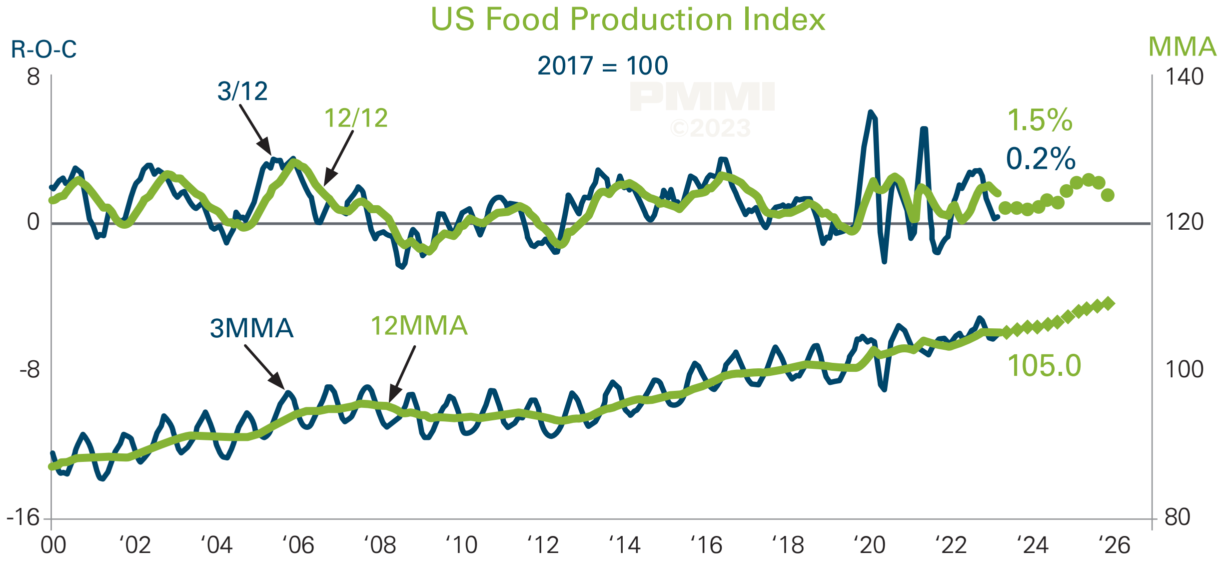
The durable hard goods and components production index, not dollars production, rates of change are signaling a gentle movement downward. It will begin to move down off of the 14-year high from a few months ago.

EXPECT DECELERATING RISE



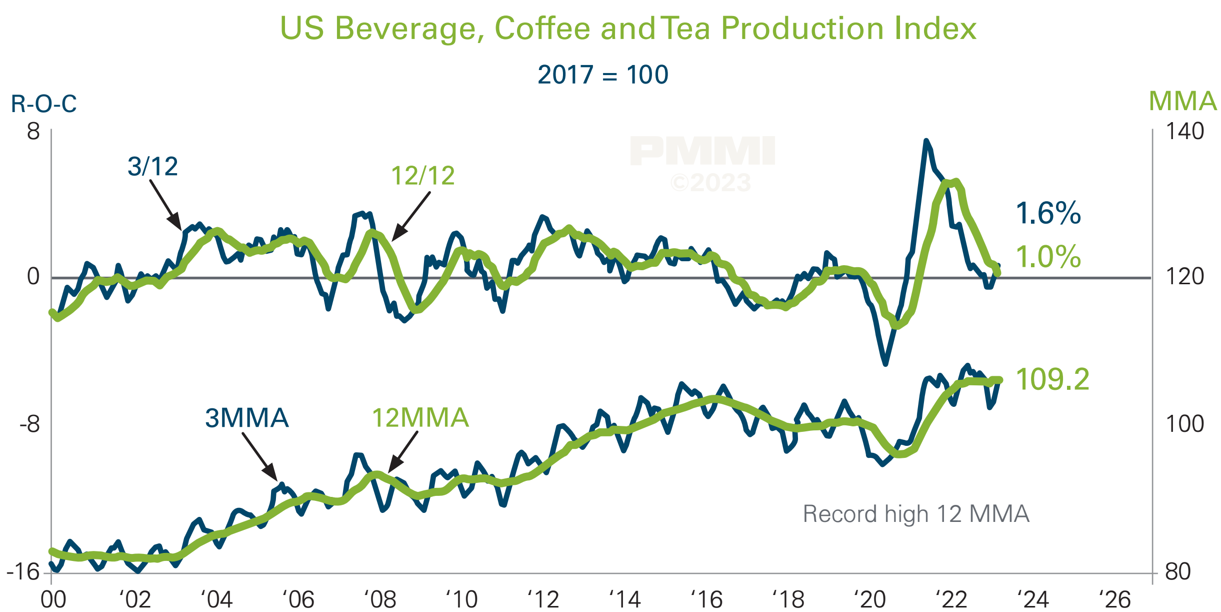
When you look at what's going on in pharma and medical devices, production index, they're the 3/12 rated changes above the 12/12. That means that the green line will continue to increase. The three-month moving average is the highest in 13 years. The 12-month moving average is also moving up. The rates of change say it's not going to move up as vibrantly as it did in the past, but it's still going to move up. So if you're in this field, it will continue to be a good place because a lot of the production is coming back to the United States through reshoring. The decline was because it was going elsewhere, not because we didn't need it. Now that it's coming back and as it's coming back through reshoring, it will provide more opportunities for you.

GROWTH AHEAD –A GREAT PLACE TO BE



Food production is an excellent place to be. The rates of change are showing a slowdown. Anytime you're in the food industry, you have great opportunities to avoid recessions. 2024 might be a slower rate of rise, as shown here. 2025 will pick up speed, but you're not likely to see a downturn in food production until we get to the Great Depression, and even then, it'll be somewhat resilient. It's not bulletproof, but it'll be a better place than many other industries.

SLOWING RATE OF RISE

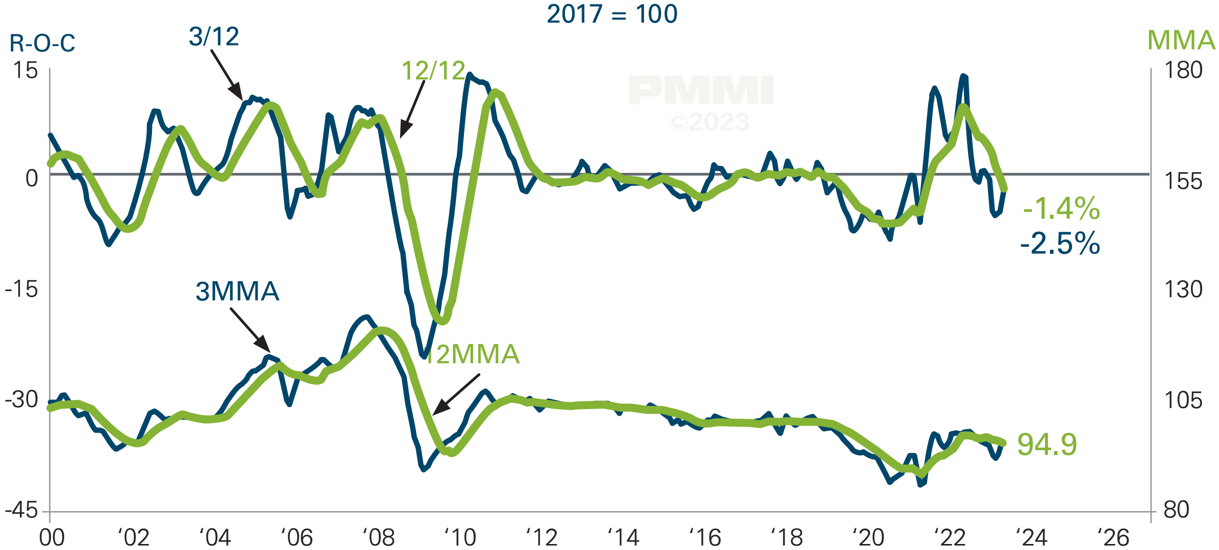


When you look at beverage and coffee and tea production, the rates of change are, again, signaling we're not going to go down but have stopped rising at the same time at a record high level. So beverages, coffee, and tea are doing well, and alcohol consumption will be doing fine. It's a question of what market you sell into when you get to later in life. 2024 is going to be not a problem to be in high-end alcohol consumption, high-end alcohols, because you're going to find that the wealthy do just fine in 2024. If the purchaser is bottom quintile, that's where the pain is in 2024.

DECLINE LIKELY THROUGH MOST OF 2024

US Chemical Products Excluding Pharmaceuticals and Medicines Production Index

2017 = 100



When we look at what's happening in chemical products without pharma, it shows below year-ago levels in decline, and the drop will continue until late 2024.

EXPECT DECELERATING RISE

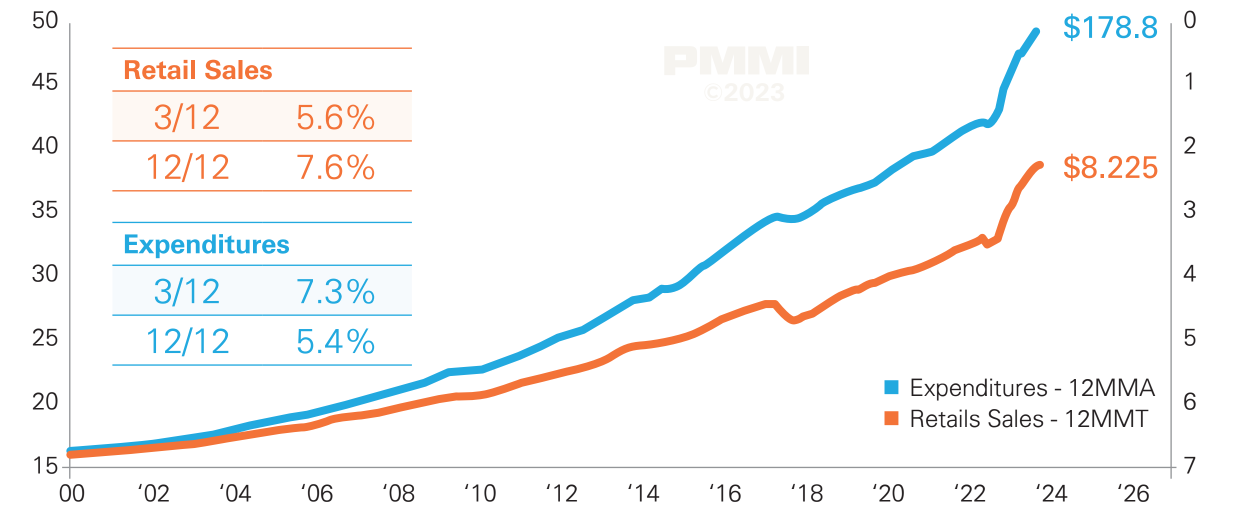
US Soap & Toiletries Production Index

2017 = 100

Soap and toiletry products rates of changes suggest that we're seeing a slowing in the rate of rise; that's about all you're going to see this year is a slowing rate of rise with a potential for some mild decline in 2024. Nothing serious is going on with soap and toiletries.

A PERENNIAL WINNER

US Total Retail Sales to US Personal Care Products Personal Consumption Expenditures



People are spending all kinds of money on personal care. So you're going to find that the rate of rise is going to slow because of disinflation, but it's also going to slow because of the problems in the consumer's pockets as we go through this year.

We mentioned earlier that it would flatten out, going to slow in its rate of rise. That will happen in personal care products and consumer expendables, but look at personal consumption, what people are spending, and the retail sales of these things. You'll notice it slowed down through 2008-2009, a macroeconomic recession. Wouldn't it be nice to have been in an industry that only felt that and only felt that during the great recession? The blip in 2020 was COVID. Instead, we were deprived of going out and buying our cosmetic products for a few weeks and then started purchasing them again.

EXPECT DECELERATION LATER THIS YEAR

US Household Spending | Annual Trend in Billions of Dollars

	12/12	Phase	3/12	Phase	Annual Trend	Direction
PCE Cosmetics, Perfumes, & Bath Products	6.7%	C	8.9%	B	$72.1	Up ^
PCE Hair, Dental, & Shaving Products	4.4%	C	6.4%	B	$93.4	Up ^
Retail Sales Groceries	7.7%	C	5.6%	C	$859.4	Up ^
Retail Sales Health & Personal Care	4.1%	C	7.2%	B	$406.7	Up ^

Household spending, these are good places to be in. In these different areas, you're going to find that phase B is going to last. That little carrot after the word up indicates a record high. All of these are at record high levels. Grocery store sales are slowing down, but they're going to stay at record high levels. They're going to keep moving up. Retail sales of health and personal care, record high level is going to keep moving up.

These are only going to slow in 2024. If that's your industry, then you're going to find yourself thinking, "Okay, my revenue keeps going. I'll get through some of my backlog, but my new orders trend is only going to be in Phase C slowing in the rate of rise." While the rest of the country is going through a macroeconomic recession, and the media's all about how awful things are, you are going to be able to say, "Not me," because we're servicing the right markets. You can ignore all of this, and you won't really have a downturn in your life until you get to the 2030s. That's when the big event happens and these will be impacted in that time period, but not before them. So enjoy the rest of this decade

SECTION FIVE

GLOBAL OUTLOOK

2022 Global Forecast Results

	Duration	Accuracy
World Industrial Production	13	99.6%
Western Europe Industrial Production	23	99.5%
Eastern Europe Industrial Production	15	96.7%
Canada Industrial Production	24	99.7%
China Industrial Production	16	98.5%
Mexico Industrial Production	13	98.4%
Japan Industrial Production	13	98.7%
India Industrial Production	26	98.7%
Germany Industrial Production	13	99.2%
Brazil Industrial Production	13	98.9%

Let's take a look at the world. ITR wants you to see the accuracy of works worldwide. So it's the same methodology, everything is precisely the same, and as you look at the accuracy rates, you can see that the method works in all kinds of different lands and all kinds of different types of economies.

MIXED SIGNALS FROM THE LEADING INDICATORS

Indicator	Trend	Comments
Australia Leading Indicator	Rise	Potential improvement in 2023
Brazil Leading Indicator	Decline	Potential improvement in 2023
Canada Leading Indicator	Decline	Ongoing negative pressure
Eurozone Leading Indicator	Decline	Ongoing negative pressure
Japan Leading Indicator	Decline	Ongoing negative pressure
Mexico Leading Indicator	Rise	Ongoing negative pressure
Major Five Asia Leading Indicator	Rise	Potential improvement in 2023

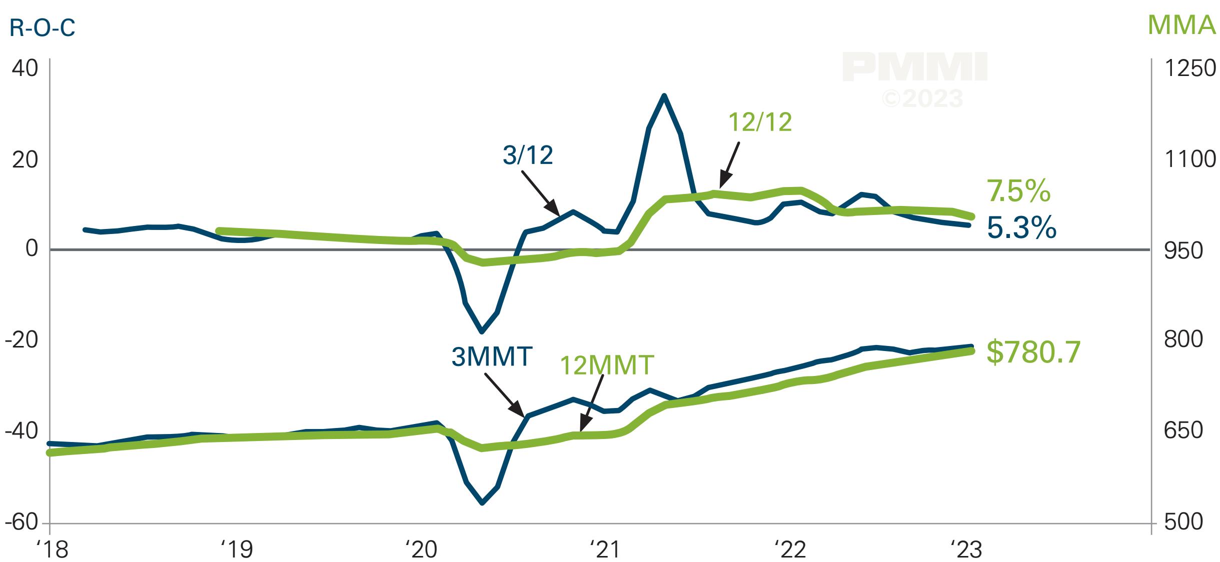
The leading indicators are up in three of these indicators, and ITR added the word potential in the comments because they're not sure of the reality this will happen.

In another world, other than this inflationary period and uncertainty with the Federal Reserve Board, ITR probably wouldn't have the indicated potential improvement. If it's real, it's signaling that there are improvements in Australia, Brazil, and Asia regions this year. It's difficult to believe that anything more than a bounce will occur in the near term and that, like the rest of the world, those three will be moving lower later this year and in 2024.

DECELERATING RISE INTO 2024

Canada Retail Sales

Billions of Canadian Dollars

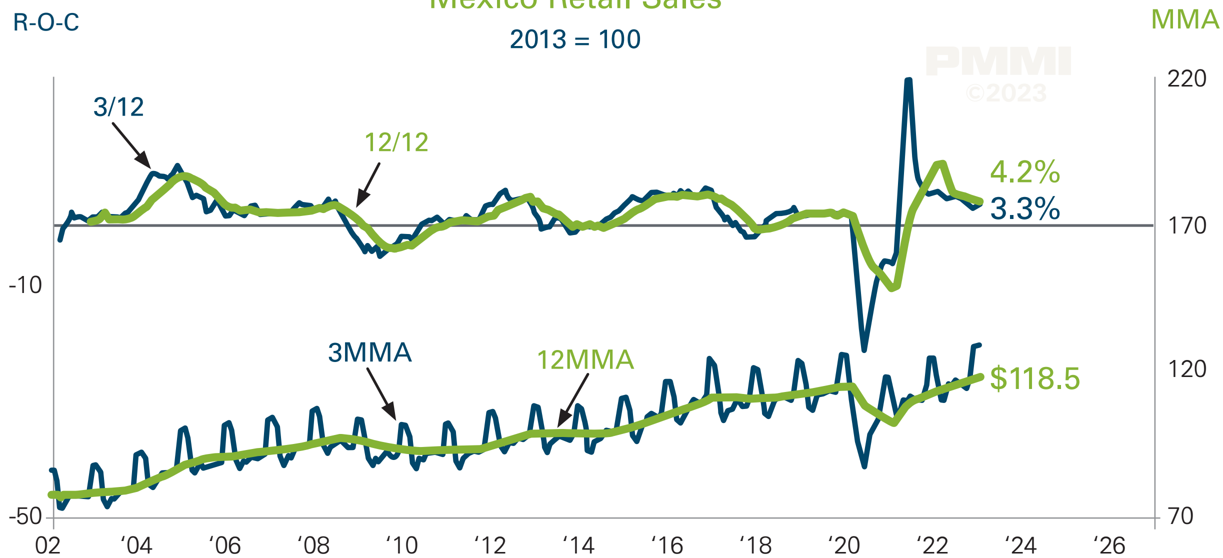


In Canada, retail sales will slow down just like in the United States, and everything that was said about the United States outlook is true for Canada. Obviously, there are some variations depending on which province you're in, but as a nation, you're looking good as you move forward

DECELERATING RISE INTO 2024

Mexico Retail Sales

2013 = 100

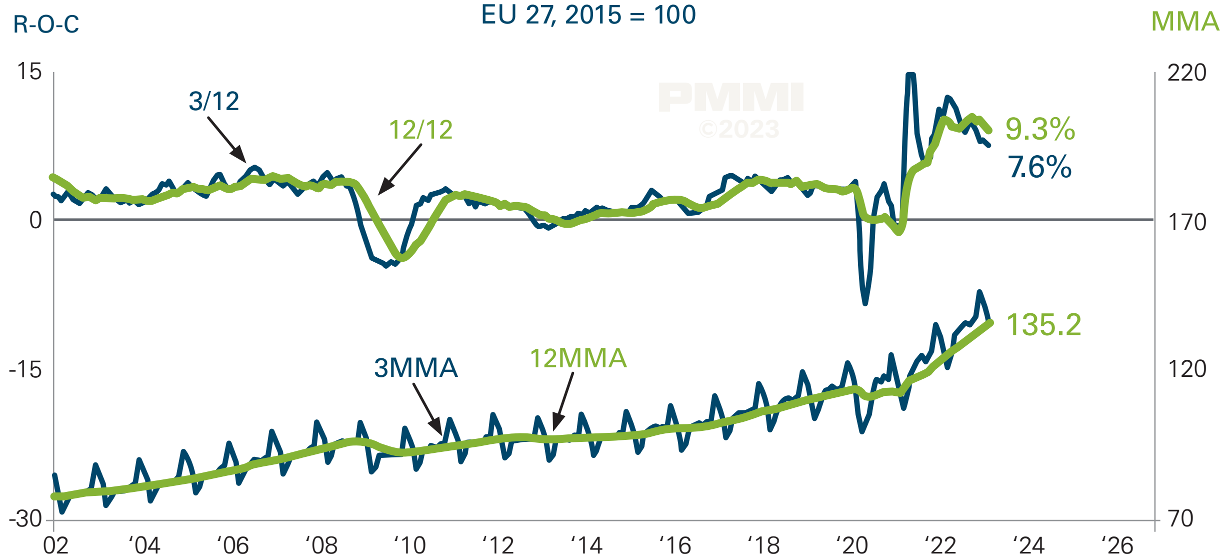


In Mexico, also slowing in the rate of rise, and will continue to slow. The forecast for Mexico is the same as the United States on an industrial production and manufacturing basis.

SIGNALING DECELERATION RISE AHEAD

Europe Retail Trade Index (excluding motor vehicles and motorcycles)

EU 27, 2015 = 100



When you look at Europe, the rates of change are telling you that retail sales are going to slow. As retail sales are going to slow, you're going to end up with a recession in Europe that's going to be steeper than in a large part of the world, primarily because of the problems that we see developing in Germany and because of the impact from the war. They've beaten the odds right now, but as you look at the leading indicators, it's a short-term rise. When you look at what's happening in the retail sales rates of change we find that there are reasons to be concerned about 2024. We were doing much better through this time.

INDUSTRY STATUS

	12/12	Phase	3/12	Phase	Notes
Canada Pharmaceuticals	5.4%	B	3.5%	C	Record high –slowing rise
Europe Pharmaceuticals	17.5%	B	30.4%	C	Record high –slowing rise
China Pharmaceuticals	19.7%	C	14.1%	B	Rising
Canada Food	1.3%	C	-2.4%	D	Declining
Mexico Food	1.6%	B	0.1%	C	Mild decline off record high
Europe Food & Beverage	0.9%	C	-0.6%	D	Mild decline off record high
Canada Chemicals	1.0%	B	2.3%	C	Decelerating rise ahead
Mexico Chemicals	0.2%	D	-6.2%	A	Declining
Europe Chemicals	-7.7%	D	-16.8%	D	Declining –lowest in 12+yrs

Sources: Statistics Canada, Eurostat, China National Bureau of Statistics, Mexico National Institute of Statistics and Geography

Now let's look at these industry stats. Save this chart and study it at your leisure. Canada Pharmaceuticals, phase B, that's good news. Food is in phase D on the 3/12, not good news. Decelerating rise ahead for chemicals near term decline for food and pharma is slowing in its rate of rise. In Mexico, it's the same thing. These trends will give you a sense for what you can expect later this year and impute that into 2024.

When looking at the surface trade between the three nations, it's signaling the same thing we've previously discussed. There's a phase C going on, some deceleration in the rate of rise.

The fact is that you know that the United States is the second-largest manufacturing nation in the world. You know that the United States is the second-largest exporter of goods in the world. We've covered that in past years, but new this year though, is that our largest trading partner in the world is no longer China. Our largest trading partner in the world because they are an economic group, is the EU. And as we have a stronger economic tie with the EU and a diminishing economic tie with China, it leads towards security, stability, more work, and a more secure supply chain than we've had in the past, and that's a big shift that has occurred.

As you look at the strength that we have in North America and the strength that we have by going to Europe, you get a sense that the United States is in a great position going forward as far as business goes. Few nations have what we have and as a triad of nations, nobody has what we have and it's going to hold us in good stead for a long time. ITR shows that the United States is going to be the world's strongest economy through the year 2040.

We get concerned because there's so much negativity, so much in the press that makes it seem like it's all falling apart. ITR wants to make sure they share with you the things that are going so right and the things that are going to be lasting as we go forward. The capital in this country, the knowledge, the educational system, the higher ed systems, the access to energy, the stability that we have in our markets because of our rule of law, we have in this nation, more positives than you can imagine, which is why more foreign direct investment flows into this country than any other country in the world. Other businesses put their money into the United States as a long-term play and hopefully, you have that same attitude and mindset because that will impact the tactics and strategies that you undertake.

LOOKING AHEAD

- > Disinflation and deflation will characterize 2023 and 2024 with an attendant easing of wage inflation.
- > The Fed's actions gave rise to an inverse yield curve. Join us for **Fed Watch** to keep track of how this unfolds.
- > Expect a recession to begin in 2023 and most of 2024.
- > We expect the recession to be mild but that will not be true of every market.
- > Maximize competitive advantages to protect margins.
- > Assess cash needs; credit conditions are tightening.
- > Interest rates are likely to come down before they go further upward.
- > Think about expanding the asset classes you are invested in and how you invest in securities.

Here's the summary. Make sure that you are ready with your own cash, that you're ready with your customers, make sure that you understand what's going on. Make sure that you're protecting your 401ks and your investments through this time period. We think there's some turbulent waters coming.

There are implications on how to manage the business to prepare for 2030. Social security, other consequences for 2030. ITR forecasted the Great Depression would start in the United States. It'll be in the United States, but it may not start here. It will become global and could quickly start in Japan or China and then roll across the ocean into the United States. But it will be a global great depression caused by modern monetary theory, government spending way too much money, and an aging baby boomer population around the world that's going to drain the financial coffers of many, many nations, meaning that they will have a hard time borrowing because interest rates will have to go up on the inflationary movement. It will be a financial mess.

And as that hits into 2033, maybe 2034, social security goes bankrupt. Now, social security going bankrupt doesn't mean any checks. It means a reduced check. Seventy-seven percent of your social security check will be financed by working people. Now, they're going to be the inverse. So many of us retired on social security with fewer people working in a ratio sense, not in a nominal sense, but in a ratio sense, which will make it extremely hard for social security to continue. So millions of Americans getting social security checks of $25,000 could easily see that it is cut by 10, 15, and 25%. For many of us, that's an inconvenience, but for many people, that's a significant hardship and part of the Great Depression.

Now, how do you get your business ready for that? You have to ask yourself first, how do I climb the hill? Become efficient! If you are not investing in efficiencies for your own company, if you're not relentless in pursuing efficiencies through IT, through technology of some kind, do everything you can to drive efficiencies in a period of inflation. And as you can have a smaller cost structure or at least a better-contained cost structure, you can increase your margins and continue to do more. You'll also be able to get ahead of the curve on the labor market because you've driven those efficiencies ruthlessly.

When you look at what getting ready means, it could mean, as you get closer, to say to yourself, I cannot buy into straight-line forecasting. 2027, 2028, and 2029 will feel like excellent years in the world economy. The economy will be up. We'll have figured out how to live with inflation. The politicians will be saying, "Don't worry about

inflation. It's all good. We got this." And as that goes on, there's going to be a tendency to say, "All right, the turbulent waters are gone. We've got this figured out. We can just go with it." If you get that mindset, you'll fall off the cliff. So you must watch for the signs and then, when it comes, you must have a plan already on your shelf.

Plan on how to stay profitable. How do I remain profitable in the declining market, not just in business? What are the costs I'm going to cut? It's not time to start thinking about it; it's time to start doing it. What markets should I be in is what you have to ask yourself now, that will be least impacted by the Great Depression? We have a whole long list of those. You could focus on many markets that would really minimize the downturn, and you don't want to get caught in the ones that'll get hammered. So that takes time for your marketing and sales departments to get you into the right places at the right time.

And once you get to that cost-cutting mode, you want to ensure you're not indiscriminate about it if you have to cut costs. You want to have a plan that is well thought-out, ready to implement. In that period, it will be six years of a negative trend in the economy and six years of recession bouncing down a hill. So you have to be a leader like you've never been before. You have to be a leader who can keep the troops together and positive and not give in to being coming an Eeyore. You must be a positive, realistic leader when people are depressed. That will challenge you in a way you've not been challenged before.

It's not going to be easy, but you can win in a depression by being prepared because it means, let's say, there's high as 25% unemployment, 75% is still working, and they're still buying.

If you have free cash and just put it over there in a sweep account, earning a fraction of a percent while inflation occurs, you lose money. That doesn't work. You have to make sure that your excess cash is in an environment that is returning more than inflation. Now, sometimes, some annuities can do that. You have to check with your insurance brokers about that. You can check with your investment analysts about that. In ITR's optimizer, they have high inflation cyclical rise ETFs that they go to that stay well ahead of inflation. So your goal will be for your business to make sure your cash day's ahead of inflation, and for you personally, your cash stays ahead of inflation, or else when that bubble bursts, you'll have money that doesn't buy as much. Until that deflation comes along, it'll have been a losing situation. And if you're older, you want to avoid heading into retirement with an inflation-impacted cash balance. It'll be painful and make things a lot worse for you.

Let's discuss the US dollar and will any currency replace the US dollar in the next five years? It's actually a very astute question. With everything that is going on and because you read about how the Chinese, Saudis and Russia want to deal in some oil in a RMBs instead of the dollar, it raises that question. The answer ITR has is no. The dollar will remain a reserve currency of the world. We're only a reserve currency, not the reserve currency. But as a reserve currency, it's backed by the good faith and strength of the US government and economy. No one else has that to offer. Their economic problems are insurmountable, so there's no place to go. So almost by default, it remains the US dollar is a reserve currency of the world.

You want to be incredibly careful in an inflationary environment to not be in bonds. If you feel compelled to be in bonds, be in a ladder fund. Then as you have a ladder fund, it's a way to help you with that problem.

ITR's advice is to stay away from bonds. There are better places where you can be safe with your money because that's why people go to bonds. They think it's safe. Well, it's a safe way to make sure you lose money. Everyone can do better than bonds, and that's going to be true until we get to the 2030s. At the end of this decade, you should sell your equities. Sell your equities and go into Swiss bonds, Swedish bonds, Australian bonds, maybe Canadian bonds, not US bonds. We're going to have a financial meltdown. Park those bonds off to the side. You'll find that at first, it seems like a ridiculously small rate of interest because inflation will make it look small, but as the depression becomes global, interest rates will fall, prices will fall, and all of a sudden, you'll be at 3.5%, 4%.Your principal is not going to get eroded, because it's in really strong currencies. Somewhere around 2036, you should think about selling your bonds at a premium.

At that point you might want to go back into equities around 2036. History shows us you're going to get two to four times on your investment. So if you take four million and put it into the market around 2036, you're going to look at eight million, potentially sixteen million by the time the run up is done.

Please expect that the US dollar will become a digital currency in our lifetime. It's not going to be pleasant for a lot of us because we're not going to like it, but it's going to be the same as we went from cash to carrying debit cards. It'll be a digital currency, an evolution in the process of currency. What you won't like about it is that the government knows everything, but guess what? They already do.

They know where you're spending your money; they can look at your bank records. A lot of folks will resist because they don't want the government to have that kind of control. Digital currency will replace paper currency to make debit cards obsolete. You can then move about the country freely, spending cash wherever you want with no transaction fees. It'll be the same as cash, with no transaction fees and unlimited sources based on your bank account. Most people will think it's the best thing since sliced bread. It'll also bury cryptocurrencies because if the US and other nations have digital currencies, there's no need for cryptocurrencies.

Cryptocurrencies will be put under more of a microscope. They'll have more and more regulations and more and more taxation on them because central bankers don't like cryptocurrencies because they undermine the authority of a central bank. It takes away monetary policy, which puts one arm of essential banks behind their back, and they don't like that. So they want to do something to make life difficult for them. One of those steps will be a digital US currency. Don't fear it; accept it. It's not an end times thing; it's just the next step.

You have to make sure that your excess cash is in an environment that is returning more than inflation. Now, sometimes, some annuities can do that. You have to check with your insurance brokers about that. You can check with your investment analysts about that. For example, in ITR's optimizer, they have high inflation cyclical rise ETFs that they go to that stay well ahead of inflation. So your goal will be for your business to make sure your cash day's ahead of inflation, and for you personally, your cash stays ahead of inflation, or else when that bubble bursts, you'll have money that doesn't buy as much. Until that deflation comes along, it'll have been a losing situation. And if you're older, you want to avoid heading into retirement with an inflation-impacted cash balance. It'll be painful and make things a lot worse for you.


475.14
881.18
969.56
265.75
828.52
995.51
228.51
193.48
934.30
-153.42
889.33
761.40
-308.85
761.40
-484.40

PMMI Business Intelligence

PMMI HEADQUARTERS
12930 Worldgate Dr., Suite 200
Herndon, Virginia 20170
T: (571) 612-3200
F: (703) 243-8556
E: pmmi@pmmi.org
www.pmmi.org

PMMI LATIN AMERICA
Homero 418 Piso 7
Col. Miguel Chapultepec
Miguel Hidalgo, D.F. 11570 Mexico
T: + (52 55) 5545 4254
F: + (52 55) 5545 4302
E: latina@pmmi.org
www.pmmi.org.mx/es