

SMMA Quarterly Economic Report March 2009

Prepared by the Institute for Trend Research

The Macroeconomic Overview:

The US economy is in the midst of its worst recession in 35 years. There are few correlated leading indicator signs telling us when the recovery will begin. The increase in the Money Supply from the Federal Reserve Board and the rise in Corporate Bond Prices offer some tentative encouragement for 2010. We await further confirmation from some other leading indicators.

We have lowered our forecast for US Industrial Production in 2009. The drop in the year-over-year projected decline is a function of: a) the difficulties in the credit markets being exacerbated by federal intervention and promised intervention, b) the overall nature of the downturn within the consumer segment of the economy being more negative than we anticipated, and c) the recent FRB revision to the production data.

The revised forecast calls for an Industrial Production 12/12 low in December 2009. We expect 2009 to come in approximately 11.3% below 2008. A slow data trend recovery will begin in 2010 with the year ending down slightly from 2009 at -0.6%.

Retail Sales for the 12 months through February are 2.3% below last year. Rising unemployment, falling home values and a deep concern about the prospects for 2009 and beyond have pushed consumer confidence to unusually low levels.

Housing Starts are still declining at an accelerating rate. Annual Housing Starts are currently 36.6% below the year-ago level. The number of annual Housing Starts (12MMT) through February was the lowest recorded number in over 61 years. The low point in the housing market 12/12 is expected to occur in the third quarter of 2009 with the 12MMT beginning a slow recovery late in the year. The problems in housing are now evident in the nonresidential sector and will be a drag on the economy well into 2010.

The recent passing of a \$787 billion stimulus plan has not changed our outlook for this recession, but the Federal Reserve's aggressive actions have been beneficial in terms of lower interest rates and therefore potentially a positive for the 2010 recovery. In 2009 we expect to see early signs of recovery in the US Leading Indicator, Purchasing Managers Index, Housing, and Retail Sales. Sustainable recovery trends will develop, ultimately leading to a macroeconomic recovery. With or without the stimulus, we expect an overall gradual recovery to take shape in 2010.

Global markets are providing no upside signals. Europe, Mexico, Brazil, and Japan are in recession. China's worst fears have been realized as export orders have fallen, leading to a decline in growth that is well below the government's minimum acceptable level. The slowdown in China is spilling over into Southeast Asia.

Management Objectives™

The next 18 months will be difficult for most industries. Companies with high leverage and a scarcity of cash will have trouble surviving. However, a downturn can provide opportunities as well. A slower pace of activity can provide time to plan new product and business strategies to implement in the next upturn. If you have excess cash, look for competitors/complementary businesses to buy at a reduced price. There could also be bargains on equipment and machinery. Keep in mind that there will be a recovery, even if it now appears far off.

US Industrial Production

Trend: **Decline**

Outlook: Decline into 2010

Estimated Annual Growth Rates:

2009: -11.3%
2010: -0.6%

The US Industrial Production Index is expected to continue declining at an accelerating rate through the end of 2009. By mid 2010 we expect to see the onset of a discernible and sustainable data trend recovery.

In February, annual Industrial Production came in 4.4% below the year-ago level. The 3MMA (not shown) is well below the same quarter last year at -11.2%. We have not seen a 3/12 figure this low since 1975, a strong signal that this recession is far from over. Look for sustainable reversal trends in Housing, the PMI, Retail Sales, and the US Leading Indicator in 2009 for early signs of an Industrial Production and macroeconomic recovery in 2010.

Key input for planning: Continue work force reductions and cut costs wherever possible.

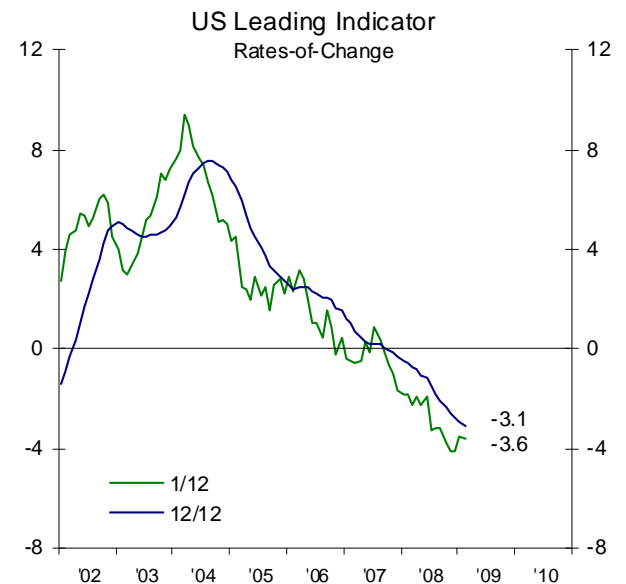
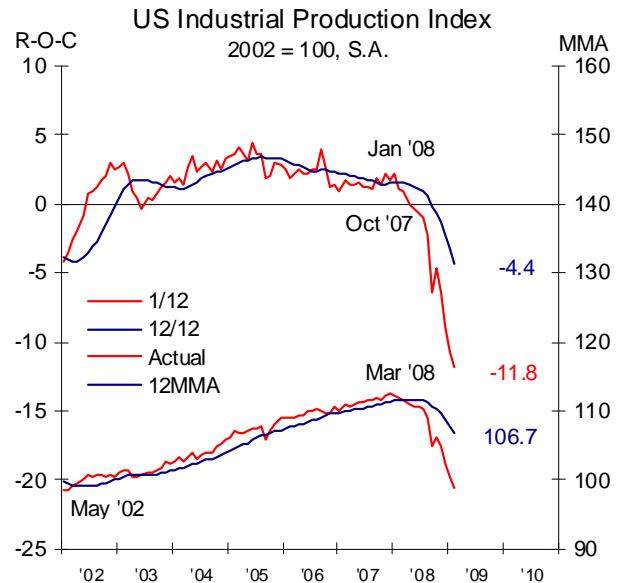
US Leading Indicator

The US Leading Indicator 1/12 posted a mild increase in December and January, but as anticipated, the trend proved unsustainable. In February the 1/12 moved slightly lower, a bad sign for near-term economic stability.

The 1/12 is at -3.6%, down from -3.5% last month. You can see from the chart that the small bump in the trend seen over the past few months is hardly worth getting too excited about. The 12/12, at -3.1%, is the lowest it has been in 26 years.

We expect to see another quarter of 1/12 volatility before a sustainable rising trend develops sometime this summer, at which point it will be a confirmation of our forecast for a macroeconomic recovery in early 2010.

The *Purchasing Managers Index* edged higher for the second consecutive month as did the 1/12 rate-of-change. The moves are encouraging in terms of seeing the recession dissipate toward the end of this year. However, as yet, the gains do not constitute confirmed upside leading indicator signals for 2010. The February Index came in at 35.8 versus 35.6 last month. The 1/12 is at -26.6% with December 2008 holding as the tentative low. The recent improvement was caused by production contracting at a decelerating pace; new orders were still shrinking at a fast clip. Even with that, a few more months of 1/12 rise, followed by an upward passing of the 12/12 and we will have cause to celebrate.



North America Light Vehicle Production

12MMA Trend: **Decline**

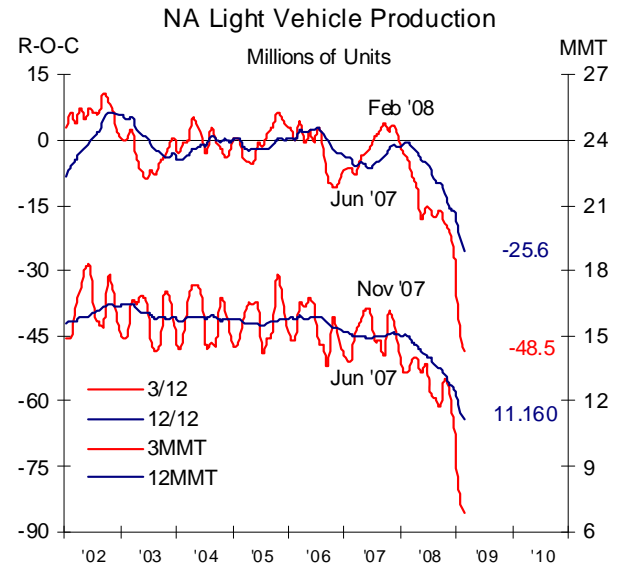
Outlook: Decline through 2009

Estimated Annual Growth Rates:

2009: -24.8%

2010: - 0.6%

North America Light Vehicle Production is declining at an accelerating pace with no sign of slowing just yet. The forecast calls for a 12/12 reversal in the third quarter of 2009. Production will remain in Phase A through 2010 with a slow data trend recovery beginning in the first half of the year.



Annual North America Light Vehicle Production is currently 25.6% below the year-earlier level. This is the fastest 12MMT decline since 1981. The 3MMT is currently a staggering 48.5% below the year-ago level. Do not expect to see any improvement in the 12MMT data trend until the quarterly figures begin a sustainable rising trend. For now, plan on further 12/12 decline.

Key input for planning: The recovery is still a couple of quarters away, but now is the time to start thinking about what resources will be needed to satisfy demand when it begins to pick up again.

Industrial Machinery Production

12MMA Trend: **Decline**

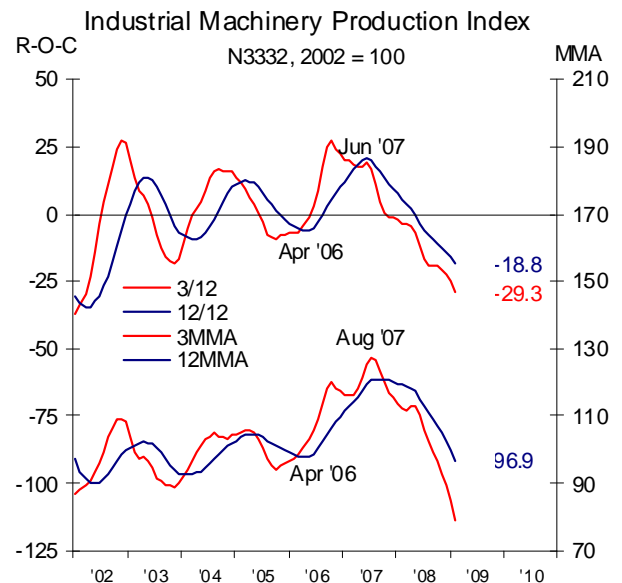
Outlook: Decline through late 2010

Estimated Annual Growth Rates:

2009: -16.2%

2010: - 9.1%

Annual Industrial Machinery Production is 18.8% below the year-earlier level. The 3MMA is currently 29.3% below the same quarter last year and indicates further 12/12 decline is probable in the near term, although a 12/12 low is expected later this year. The recovery in this market will take shape slowly in 2010, pending an Industrial Production recovery.



Industrial Machinery New Orders confirms the bad news for Production. Annual New Orders are 23.4% below the year-ago level. New Orders for the last quarter are 45.6% below the same period last year, suggesting annual New Orders, and thus Production, will continue to decline in 2009.

Key Input for Planning: Avoid long-term purchase commitments. Production may be slower than originally anticipated in 2010.

Metalworking Machinery New Orders

12MMT Trend: **Decline**

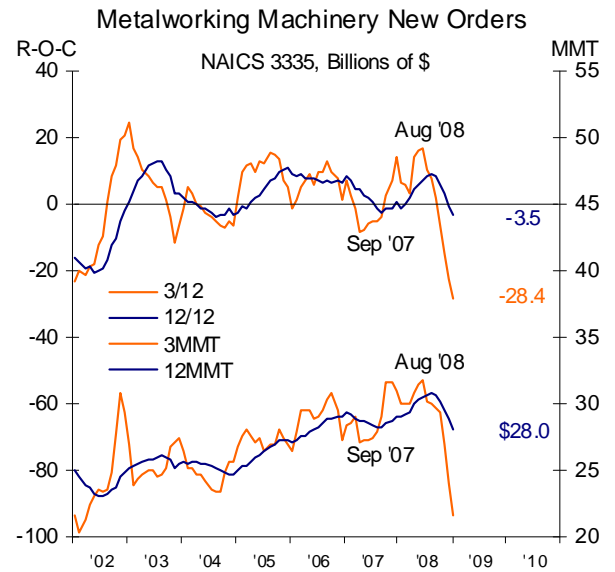
Outlook: Decline into 2010

Estimated Annual Growth Rates:

2009: -24.8%

2010: -14.8%

The recessionary trend in Metalworking Machinery New Orders has solidified and the severity of what is to come can be seen in the 3MMT, which has not been this low in almost seven years. The data trend will continue on this downward path through this year and next.



Demand is slowing and orders are being pushed out, resulting in a 2.9% drop in the number of orders from December to January. Orders on an annual basis are 3.5% below the year-earlier level. Production for the last quarter was 28.4% below the same period last year. The severity of the 3/12 decline is a clear signal of further 12/12 decline.

Key Input for Planning: Cut expenses and hoard cash as you will need it to cover expenses down the road. Assume you are looking at a minimum of six quarters of declining revenues ahead.

Mining Production (w/o Oil & Gas)

12MMA Trend: **Negative**

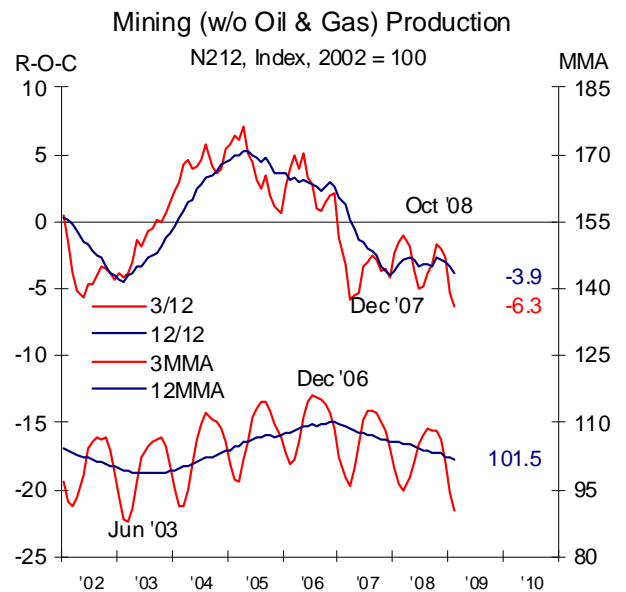
Outlook: Decline into 2010

Estimated Annual Growth Rates:

2009: -12.5%

2010: - 3.0%

Mining Production is quickly heading toward its worst recession since the early 1980s. The forecast calls for the data trend decline to last through the first half of 2010. We expect 2009 to come in 12.5% below 2008. In 2010, Production will move into Phase A with the year ending an additional 3.0% below 2009.



Annual Mining Production through February is 3.9% below the year-earlier level. Quarterly Production is 6.3% below the same period last year, marking the worst 3/12 rate of change decline in over 13 years. All indicators point to further 12/12 and 12MMA data trend decline in 2009.

Key Input for Planning: Be sure to communicate your competitive advantages to customers in order to maintain margins.

Ship Production

12MMA Trend: **Decline**

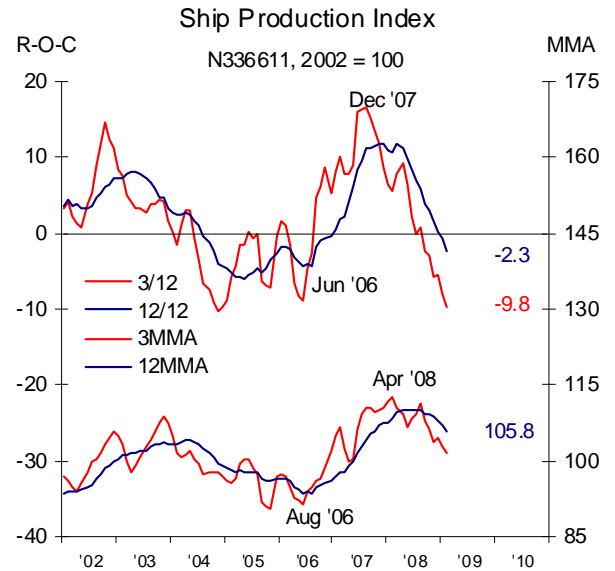
Outlook: Decline through 2010

Estimated Annual Growth Rates:

2009: - 5.7%

2010: - 7.7%

Ship Production moved into Phase D, recession, in early 2009. Declining Industrial Production trends around the world will have a severe negative influence on Ship Production through 2010. We expect 2009 to finish approximately 5.7% below 2008. In 2010, the 12MMA will continue to decline, with Production for the year coming in 7.7% below 2009.



The rates-of-change support the current forecast for further contraction in the Ship Production industry. The 12MMA decline has been in place since early 2008. Based on the rate-of-change trends, the decline will continue to accelerate in the near term. Annual Production is currently 2.3% below the year-ago level. The 3MMA is 9.8% below the same quarter last year and tells us that the 12/12 will continue to fall.

Key Input for Planning: Phase D Management Objectives apply. Plan for a prolonged recession.

Canada

12MMA Trend: **Negative**

Outlook: Decline into 2010

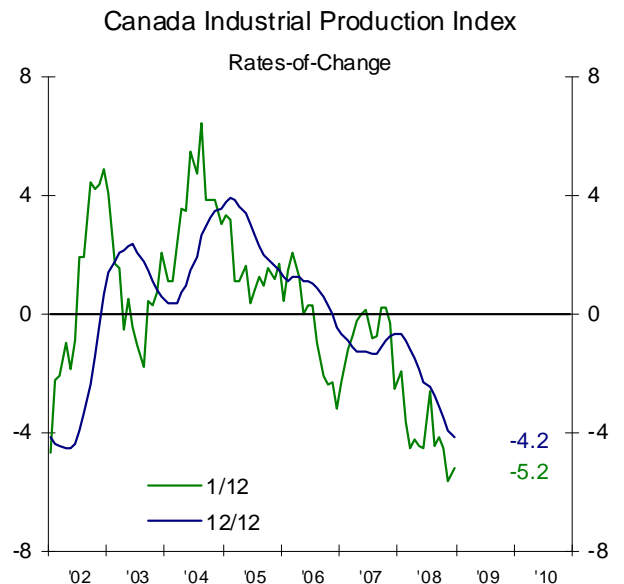
Estimated Annual Growth Rates:

2009: - 8.1%

2010: - 4.3%

The recession in Canada continues to deepen with contracting Industrial Production, falling demand for exports, and declining commodity prices.

Annual Industrial Production is currently 4.2% below the year-ago level. Quarterly production is down 5.1%, suggesting the production decline will continue to increase its pace.



The Bank of Canada cut its benchmark lending rate to 0.5%, the lowest rate ever, in an attempt to spur economic growth. Canada has already injected C\$31 billion into financial markets to promote lending.

Key Input for Planning: Select targets of opportunity where price will get the business.

The Global Economy:

Europe: Fewer jobs, lower output and financial problems are pushing Europe toward its worst recession since WW II. Annual Industrial Production is currently 3.5% below the year-earlier level. Production for the last quarter is down 12.0% from the same period last year. Plan on a 9.1% 12MMA contraction in 2009.

The preliminary Euro Zone Manufacturing PMI for February fell to 33.6 from 33.4 in January, washing out a small January gain. Indexes for output, new orders and employment all fell to new lows.

Southeast Asia: The Southeast Asia Industrial Production Index is falling precipitously. All countries included in the index are now in decline.

The collapse of consumer demand in the US, particularly for consumer durable goods that make up a large portion of Asian exports to the US, and the dramatic slowdown in China have dealt a punishing combination to the economies in Southeast Asia. Annual Production is currently 1.0% below the year-ago level, and the 3/12, at 16.8%, suggests further 12/12 decline lies ahead.

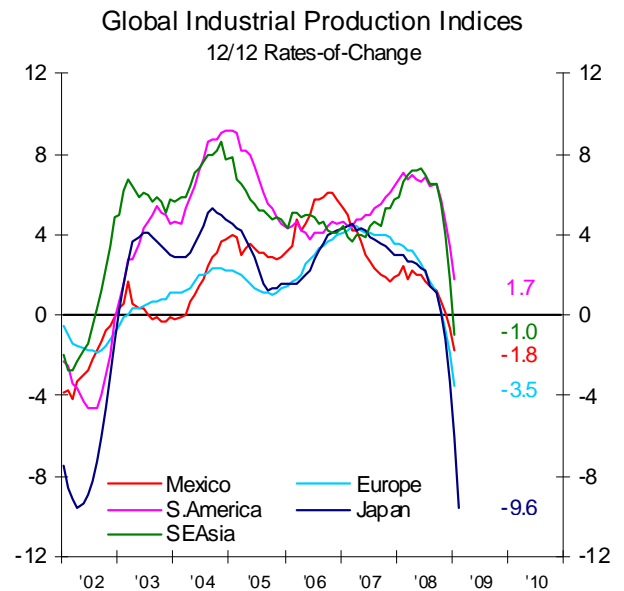
In January, China's exports fell by 17.5% compared to the year earlier reflecting falling global demand. This export driven economy will continue to struggle as long as the global recession deepens. Industrial Production (12MMA basis) is 12.8% above the year-earlier level for now, but all indications point to slower growth in 2009.

Japan: Japan Industrial Production is quickly declining and is not providing any evidence of a 12MMA reversal in the near term. In February, Production came in 37.7% below the same month last year; the worst year-over-year decline in the last 60 years. Annual Production is 9.6% below the year-earlier level. Look for a 13.0% to 14.0% 12MMA decline in 2010.

South America: The economies of South America, which rely heavily on commodity exports, have moved into recession due to the drop in global demand. Industrial Production is currently 1.7% above the year-ago level; however, the 12MMA is moving lower off an October 2008 peak. Quarterly Production is 8.1% below the same period last year suggesting further 12MMA decline lies ahead.

Brazil Industrial Production has moved into Phase C, but the data trend has already begun to contract. January Production was 17.2% below the same month last year, the worst year-over-year decline in nearly 18 years. Massive layoffs increased unemployment by 1.4 percentage points from December to January, pushing the unemployment rate to 8.2%.

Mexico: Mexico Industrial Production is in recession. The 12MMA has declined since the April 2008 peak. Annual Production is now 1.8% below the year-earlier level. The 3/12, at -7.2%, is the lowest in over 13 years. Light Vehicle Production for the quarter ending in February is 34.9% below the same period last year. Mexico will likely continue to fall deeper into recession until a global economic recovery begin and Mexico sees an increase in demand for their exports.



ITR – Four Phases of a Business Cycle

12/12 Rate-of-Change Rising

- Phase A:** *
- Data trend is slowing in its rate of decline.
 - Data trend usually reaches a low and begins to rise before the end of this phase.

- Phase B:** *
- Data trend is experiencing the strongest part of the business cycle rise.

12/12 Rate-of-Change Declining

- Phase C:** *
- Data trend becomes progressively milder in the business cycle rise.
 - Data trend usually reaches a peak and begins to decline before the end of this phase.

- Phase D:** *
- Data trend is experiencing the steepest part of the business cycle decline.

Checking Points of Cyclical Progress:

As the rate-of-change cycle moves from the beginning low point through the peak and down to the final low, it passes through several Checking Points. The progress of the rate-of-change through each checking point during the cycle helps to establish whether a cyclical trend is just beginning, is about to reverse, or is in the steepest part of the trend. A 1/12 may be substituted for a 3/12.

Positive Checking Points

- | | |
|--------------------------------|---|
| 1. 3/12 low | The rate-of-change is making the transition from the previous cycle's decline to rise in the current business cycle. Checking points #1 and #2 reflect this activity. |
| 2. 3/12 passes above the 12/12 | |
| 3. 12/12 reaches a low | The onset of business cycle rise is observed. |
| 4. 3/12 crosses above 0% | The entry of the cycle into its steepest part of the rising trend is observed. |
| 5. 12/12 crosses above 0% | |

Negative Checking Points

- | | |
|-----------------------------------|---|
| 6. 3/12 reaches a high | Checking points #6 and #7 indicate that the business cycle is making the transition from rise to decline. |
| 7. 3/12 downward passes the 12/12 | |
| 8. 12/12 reaches a high | Business cycle decline begins with checking point #8. |
| 9. 3/12 crosses below 0% | The entry of the cycle into its steepest part of the decline is with checking points #9 and #10. |
| 10. 12/12 value crosses below 0% | |

Phase Management Objectives™

Phase Late A - Recovery:

1. Positive leadership modeling (culture turns to behavior)
2. Establish goals: tactical goals which lead to strategic achievement
3. Develop a system for measurement and accountability re:#2
4. Align compensation plans with #2 and #3
5. Be keenly aware of the BE (Break Even) point and check it regularly
6. Judiciously expand credit
7. Check distributions systems for readiness to accommodate increased activity
8. Review and uncover competitive advantages
9. Invest in customer market research (know what they value)
10. Improve efficiencies with investment in technology and software
11. Start to phase out marginal opportunities
12. Add sales staff
13. Build inventories (consider lead time and turn rate)
14. Introduce new product lines
15. Capital equipment orders
16. Begin advertising and sales promotions
17. Hire "top" people
18. Implement plans for facilities expansion
19. Implement training programs

Phase Early B - Growth:

1. Accelerate training
2. Check the process flow for possible future bottlenecks
3. Continue to build inventory
4. Increase prices
5. Consider outside manufacturing sources if internal pressures becoming tight
6. Find the answer to "What next?"
7. Open distribution centers
8. Use improved cash flow to improve corporate governance
9. Use cash to create new competitive advantages
10. Watch your debt-to-equity ratio and ROI
11. Maintain/pursue quality: don't let complacency set in

Phase Late B Early C - Prosperity:

1. Stay in stock on A items, be careful with C items
2. Consider selling the business in a climate of maximum "goodwill"
3. Penetrate new selected accounts
4. Develop plan for lower activity in traditional, mature markets
5. Freeze all expansion plans (unless related to "what is next")
6. Spin off undesirable operations
7. Consider taking on subcontract work if the backside of the cycle looks recessionary
8. Stay realistic – beware of linear budgets
9. Begin missionary efforts into new markets
10. Communicate competitive advantages to maintain margins

Phase Late C - Warning:

1. Begin work force reductions
2. Set budget reduction goals by department
3. Avoid long-term purchase commitments late in the price cycle
4. Concentrate on cash and balance sheet
5. Reduce advertising & inventories
6. De-emphasize commodity/services in anticipation of diminishing margins
7. Weed out inferior products (lose the losers)
8. Encourage distributors to decrease inventory
9. Identify and overcome any competitive disadvantages
10. Make sure you and the management team are not in denial
11. Cross train key people
12. Watch Accounts Receivable aging
13. Increase the requirements for justification of capital expenditures
14. Evaluate vendors for strength (don't get caught honoring their warranties with no one to accept returned goods)
15. Manage the backlog through pricing and delivery, try to fill the funnel

Phase Early D - Recession:

1. Continue force reduction
2. Reduce advertising – be very selective
3. Continue to avoid long-term purchase commitments
4. Review all lease agreements
5. Increase the requirements for justification of capital equipment
6. Eliminate all overtime
7. Reduce overhead labor
8. Combine departments with like capabilities and reduce management
9. Select targets of opportunity where price will get the business
10. Tighten credit policies – increase scrutiny
11. Look for opportunistic purchases
12. Grab market share as your competitor dies

Phase Late D - Recession / Early A - Early Recovery

1. Prepare training programs
2. Negotiate union contracts if possible
3. Develop advertising & marketing programs
4. Enter or renegotiate long-term leases
5. Look for additional vendors
6. Capital expenditures & acquisitions considered in light of market-by-market potential
7. Make acquisitions – use pessimism to your advantage
8. People will be scared – lead with optimism and “can do” attitude

Definition of Terms

Moving Totals

Moving totals are used to smooth out the volatility inherent to monthly data, particularly at the product or company level. An annual moving total goes one step further in that it also removes *seasonal* change from the data series under consideration. This is desirable when the objective is to discern and forecast the underlying *cyclical* trend for the subject data series.

A moving total is simply the total of the monthly data for the stated number of months. For example, the 3 month moving total (3MMT) for November 2008 would be the total of the September 2008, October 2008, and November 2008 monthly data. When December 2008 data becomes available, you simply drop September from the calculation and add December. The December 2008 3MMT is thus comprised of the activity recorded in October, November, and December 2008. 3MMTs are used to illustrate the seasonal changes inherent to the data series. They are also used when forecasting specific product activity on a quarterly basis.

Example: Housing Starts 3MMT

September	2008	.133	
October	2008	.140	
November	2008	.121	3MMT = .394

A 12 month moving total (12MMT) is derived by adding 12 consecutive months of activity together. The 12MMT for November 2008 is the total derived when adding the Housing Starts (or bookings or sales) figures for December 2007 through November 2008. To ease the calculation process, as each new month of data becomes available, add the newest figure and drop the previous oldest figure. In our example, the November 2008 12MMT can be quickly derived by adding the November 2008 monthly figure to the October 2008 12MMT, and then subtracting the November 2007 number from the subtotal. 12MMTs are used to define the *business cycle trend* inherent to the subject time series. When ITR refers to a data trend, it is referring to the 12MMT trend.

Example: Housing Starts 12MMT

November	2007	.117		
December	2007	.101		
January	2008	.106		
February	2008	.108		
March	2008	.133	3MMT = .347	
April	2008	.151		
May	2008	.154		
June	2008	.155	3MMT = .460	
July	2008	.155		
August	2008	.141		
September	2008	.133	3MMT = .429	12MMT = 1.595
October	2008	.140	3MMT = .414	12MMT = 1.594
November	2008	.121	3MMT = .394	12MMT = 1.598

There are times when it is desirable to calculate a 12 month moving average (12MMA). A 12MMA is calculated in the same way as the 12MMT, with the additional step of the sum of the 12 months of activity will be divided by 12 to reflect the monthly average level of activity over the preceding year. A

12MMA will look exactly like a 12MMT when plotted on a chart. 12MMAs are used instead of 12MMTs when one of the following is being observed: an index; percentages (for interest rates or inflation); inventories.

Rate-of-Change

Rate-of-change comparisons are utilized for various purposes, all of which relate to the data trend. A 12/12 rate-of-change (discussed below) is more sensitive to changes in cyclical trends and can be used to anticipate trend reversals, often before the data trend even begins to show signs of weakening. An understanding of the timing relationship between a 12/12 rate-of-change and the particular data trend allows for the development of dependable timing estimates for data trend highs and lows. The rate of rise or decline in the rate-of-change is often indicative of the recovery or recession expected in the data series. In general, the rate-of-change provides a reflection of change in a data trend before the change becomes apparent in either the 3MMT or 12MMT.

Calculating Rate-of-Change:

A rate-of-change figure is simply the ratio of a number in a data series to a preceding number in that data series. The time interval between the numbers is fixed. One rate-of-change figure can tell you instantly whether activity is running below or above this time last year, and by how much. Consecutive rates-of-change will reveal whether activity levels are getting progressively better or worse compared to last year. It is the rate-of-change of a data series which is used to illustrate and measure *cyclical* change and identify *trends*.

The most common rate-of-change is the **12/12**. As is the case for all rates-of-change, the numerator denotes the data aggregation involved; the denominator indicates the time intervals. The 12 in the numerator of the 12/12 designation specifies that a 12MMT comparison is being made. The 12 in the denominator signifies that the time interval is 12 months (for all of our work represented by this text, the time interval will be fixed at 12 months). The 12/12 rate-of-change for July 2008, expressed as a percent, would be calculated as follows:

$$\frac{\text{July 2008 12MMT } 1.591}{\text{July 2007 12MMT } 1.618} = - 1.7\% \quad 12/12$$

The July 2008 12MMT was 1.7% below the July 2007 12MMT. [Prior to January, the 12/12 amplitude would have been expressed as 98.3 (100% - 1.7% = 98.3 amplitude).] What we would next want to see is if this figure were trending upward or downward. By doing so, we could begin to give definition to change specifically relating to the *business cycle*.

Of course it is possible that when a 12/12 calculation is made the result will be positive.

$$\frac{\text{November 2008 12MMT } 1.599}{\text{November 2007 12MMT } 1.582} = + 1.1\% \quad 12/12$$

[Prior to January 2009, this would have been expressed as a 12/12 amplitude of 101.1]. The 1.1% rate-of-change figure reflects the fact that activity for the 12 months ending November 2008 was 1.1% above the level of activity posted for the 12 months ending November 2007. The 12/12 is providing a snapshot of a given month. It shows where business stands today in relation to the annual total of one year ago. What becomes paramount to anticipating future change is whether this figure is moving upward (i.e. 3.0%) or downward (i.e. -1.7%).

The 12/12 is used to define business cycle change for the subject data series. ITR research has shown that business cycle change for any given data series is going to be most measurable and forecastable when using the rate-of-change for the series as opposed to the actual data. Repetitive trend characteristics (timing and dynamics) can more easily be observed, measured, and utilized for anticipating change when using the 12/12 rate-of-change.

Another rate-of-change frequently used in measuring cyclical change is the **3/12**. As the numerator indicates, the figures being compared are 3MMTs. The time interval is fixed at 12 months. The 3MMT is not used to define the business cycle of the data series per se, but rather is utilized as a tool to better enable us to anticipate shifts in the business cycle trend (changes in the cyclical momentum). The 3MMT is calculated as follows:

$$\frac{\text{January 2008 3MMT } .324}{\text{January 2007 3MMT } .345} = - 6.0\% \quad 3/12$$

Sales for the 3 months ending January 2008 were down 6.0% from the year before. Monitor to see if this figure is improving (approaching 0.0%) or decreasing (falling further below -6.0%) to gauge what the business cycle momentum is for the subject data series. The 3/12 and the 12/12 are the two most frequently used rates-of-change when analyzing company or market data.

There are times when a **1/12** rate-of-change will be employed. Dividing the most recent monthly figure by the monthly figure of one year ago derives the 1/12. The 1/12 is frequently too volatile for use at the company level. It is used primarily for aggregate, macroeconomic data series, which are not prone to significant swings from one month to the next. The 1/12 is calculated as follows:

$$\frac{\text{February 2008 actual monthly data } .108}{\text{February 2007 actual monthly data } .120} = - 9.6\% \quad 1/12$$

Business is down 9.6% from this same time one year ago. [Prior to January 2009, the 1/12 amplitude would have been expressed as 90.4]. What we need to know next is whether this figure is part of an upward trend or downward trend. We can also observe if the February 2008 1/12 rate-of-change is higher or lower than the February 2008 3/12. If it were higher and part of a sustainable trend, then we would have empirical evidence that the 3/12 trend is approaching a cyclical low. If the 3/12 is approaching a low, the 12/12 trend is also moving closer and closer to the low. In other words, we would have our first empirical indication of impending business cycle rise. All this refers to a system of *Checking Points* developed by ITR, which provides for the orderly observation and anticipation of relatively near-term reversals in predominant business cycle trends.