S&P CAPITAL IQ

Solutions Exchange Product Spotlight

The Potential Effect Of U.S. Macroeconomic Factors On Company Fundamentals

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How do macroeconomic conditions affect corporate fundamentals? The S&P Capital IQ Solutions Architects team used a comprehensive analytical framework for correlation analysis and stress testing to answer this question. We performed a top-down analysis and identified the sector (consumer discretionary) and the industry (auto components) with the highest historical average positive correlation {1} with total sales, and ultimately identified Stoneridge Inc. as a standout company. Total sales for Stoneridge over the last 10 years have an 85% correlation with U.S. manufacturing capacity utilization. This article highlights what we view to be the value of looking at correlations from a top-down basis to identify potential movements and standout sectors, industries, and companies.

The Landscape

Table 1 shows a heat map of the median sector correlations for total sales for eight Global Industry Classification Standard (GICS) sectors with 23 U.S. macroeconomic factors. We can see that macroeconomic factors like M2 money supply {2}, trade balance, and unemployment have historically {3} been negatively correlated with all sectors. Factors such as GDP nominal, personal income, and personal outlays have demonstrated a positive correlation with all sectors with regard to what we have observed.

In terms of variability, the ISM Purchasing Managers Index has had the largest correlation range (74.4%) across all sectors analyzed, with energy having a negative 32.0% correlation and information technology having a 42.4% correlation {4}. Across U.S. macroeconomic factors, the industrials sector experienced the largest range (121.4%) and standard deviation (45.8%).

Finally, the health care sector has the weakest average correlation for all U.S. macroeconomic factors, and consumer discretionary has the strongest average correlation {5}. The inelastic nature of health care expenses with consumers could account for the sector's weak correlation. For the purposes of this article, we will choose the consumer discretionary sector to do an industry-level investigation of correlations.

Solutions Exchange is developed by S&P Capital IQ's Solutions Architects, a separate and independent team at Standard & Poor's. The objective of this analysis is to gain greater insight into specific events and trends in the market using S&P Capital IQ data and analytics solutions.

February 14, 2012

Table 1: Sector Median Correlations to U.S. Macroeconomic Factors

	Consumer Discr.	Consumer Staple	Energy	Financial	Health Care	Industrial	Info. Tech.	Material
Case Shiller 10	53.0%	38.1%	42.8%	45.5%	35.7%	45.2%	44.2%	43.2%
Case Shiller 20	53.6%	37.3%	42.9%	47.4%	37.1%	45.8%	44.9%	43.1%
Capacity Utiliz MFG	51.0%	44.4%	47.5%	39.0%	33.4%	55.2%	50.4%	59.7%
Conv. 30Y Loan Rates	40.8%	40.5%	43.5%	43.6%	34.6%	47.8%	46.4%	42.9%
CPI	41.2%	50.3%	53.4%	38.0%	39.9%	53.0%	46.1%	51.2%
Durable Goods	50.4%	41.4%	48.4%	40.2%	36.5%	58.2%	51.7%	59.2%
Existing Home Sales	33.2%	-35.6%	-32.3%	29.3%	-28.4%	-37.5%	-32.4%	-31.4%
GDP Growth Rate (%)	33.1%			32.2%	35.1%		33.7%	
GDP Nominal	53.6%	43.9%	46.2%	43.2%	37.1%	57.3%	52.0%	61.2%
Indust. Production Idx	51.8%	44.4%	47.1%	40.4%	35.3%	57.3%	51.1%	61.6%
Inventory Sales Ratio	-38.6%	30.6%	28.9%	-36.4%	29.7%	29.9%	-34.5%	-36.0%
ISM Non-Mfg	39.9%	-29.8%	-34.2%	31.0%	-31.4%	-32.7%	39.4%	37.3%
ISM Purchasing Mgr	41.4%		-32.0%	30.4%	-30.8%	-30.3%	42.4%	40.6%
M2 - 4wk Avg	-44.3%	-33.9%	-44.5%	-37.1%	-27.9%	-50.3%	-51.8%	-48.6%
New 1-Family Homes	43.1%	31.3%	36.1%	39.6%	34.8%	35.8%	38.7%	36.1%
Non-Farm Payroll	47.3%	44.2%	49.0%	48.7%	39.7%	59.5%	52.1%	48.9%
PCE Core	-36.8%	33.5%	30.0%	34.4%	32.0%	-30.7%	-33.7%	-37.5%
Personal Income	47.0%	50.5%	48.9%	43.9%	40.3%	61.1%	50.5%	55.0%
Personal Outlays	52.1%	43.0%	48.9%	47.0%	37.8%	59.2%	50.9%	53.3%
Retail Sales	51.7%	42.6%	47.9%	42.3%	37.5%	57.7%	51.2%	59.1%
Trade Balance	-48.4%	-43.1%	-50.2%	-39.3%	-33.9%	-54.6%	-49.1%	-55.4%
Unemployment Rate	-49.4%	-43.1%	-47.4%	-46.9%	-38.4%	-60.4%	-50.6%	-58.3%
Unit Vehicle Sales	46.6%	41.7%	37.6%	37.6%	32.1%	47.3%	47.9%	50.3%

This table was created using the if Analytics™ correlation database. Correlations are between total sales (revenue) and U.S. macroeconomic factors over the most recent 10-year period. Only correlations with a 90% or greater significance were included. Table elements where there were less than 25 companies with correlation coefficients of 90% or greater significance were excluded. For Example GDP growth rate (%) for consumer staples is left blank. Finally, the telecommunications and utility sectors lacked data for many of the macro factors and were therefore excluded in the whole.

Consumer Discretionary

Table 2 provides a heat-map of median total sales correlations for industries (six-digit GICS code) within the consumer discretionary sector against U.S macroeconomic factors. Again, we noticed that the factors like unemployment rate, trade balance, and M2 money supply have been negatively correlated across the industries. Macroeconomic factors such as personal outlays, the industrial production index, and manufacturing capacity utilization have been positively correlated across the industries.

Taking a closer look at variability among macroeconomic factors, new single-family home sales show the largest correlation range (95.0%), with diversified consumer services having had a negative 31.7% correlation and household durables having had a 63.2% correlation. Existing home sales experienced the highest standard deviation (39.9%) within the consumer discretionary sector.

Across the industries within the consumer discretionary sector, total sales for auto components appear to have had the highest positive correlation {6} with U.S. macroeconomic factors. In addition, auto components experienced the largest standard deviation (48.10%) and the largest range (140.6%), with manufacturing capacity utilization at 73.4% and M2 money supply at negative 67.2%.

Table 2: Consumer Discretionary Median Correlations to U.S. Macroeconomic Factors

	Auto Components	Diversified Consumer Services	Hotels, Restaurants & Leisure	Household Durables	Media	Specialty Retail	Textiles, Apparel & Luxury Goods	Consumer Discr.
Case Shiller 10	42.5%	34.7%	54.0%	62.0%	54.0%	55.4%	53.5%	53.0%
Case Shiller 20	41.8%	33.5%	54.8%	63.3%	55.6%	55.3%	53.3%	53.6%
Capacity Utiliz MFG	73.4%		47.9%	46.8%	57.1%	43.0%	52.7%	51.0%
Conventional 30Y Loan Rates	35.6%		43.9%	42.8%	43.3%	40.4%		40.8%
CPI	45.8%		46.3%	41.7%	39.3%	37.2%		41.2%
Durable Goods	70.4%		46.8%	51.4%	56.0%	43.0%	47.4%	50.4%
Existing Home Sales		41.3%	-31.1%	48.7%	-30.5%	34.6%		33.2%
GDP Nominal	68.3%	37.4%	49.3%	59.7%	52.5%	52.4%	56.7%	53.6%
Indust. Production Index	70.4%		47.8%	48.8%	55.8%	43.9%	53.6%	51.8%
ISM Non-Mfg	52.9%		-28.0%	48.3%	34.2%	36.7%		39.9%
ISM Purchasing Manager	51.3%		-29.4%	45.8%	30.0%	38.4%		41.4%
M2 - 4wk Avg	-67.2%		-44.7%	-38.7%	-37.9%	-43.7%	-42.1%	-44.3%
New One Family Homes	43.1%	-31.7%	39.1%	63.3%	43.3%	38.3%	49.3%	43.1%
Non-Farm Payroll	48.8%	-0.8%	58.2%	43.2%	49.0%	40.3%	49.3%	47.3%
PCE Core	-50.1%		29.4%	-38.2%	-32.9%	-32.2%		-36.8%
Personal Income	52.8%	29.1%	53.9%	48.2%	46.7%	40.1%	50.1%	47.0%
Personal Outlays	59.9%		58.7%	55.0%	52.9%	44.6%	51.6%	52.1%
Retail Sales	71.7%	32.8%	47.2%	53.6%	54.1%	48.4%	50.4%	51.7%
Trade Balance	-59.8%		-46.9%	-56.4%	-48.7%	-44.1%	-41.7%	-48.4%
Unemployment Rate	-64.2%	-36.1%	-52.9%	-53.7%	-55.8%	-45.2%	-50.5%	-49.4%
Unit Vehicle Sales	72.4%		45.5%	45.0%	44.6%	41.5%	44.4%	46.6%

This table was created using the if Analytics™ correlation database. Correlations are between total sales (revenue) and U.S. macroeconomic factors over the most-recent 10-year period. Only correlations with a 90% or greater significance were included. Table elements where there were less than 15 companies with correlation coefficients of 90% or greater significance were excluded. For example, durable goods for diversified consumer services was left blank. Both the macro factors: GDP growth rate (%) and inventory sales ratio, and the industries: automobiles, distributors, internet & catalog retail, leisure equipment & products and multiline retail lacked data for many of the macro factors and were therefore excluded in whole.

Taking A Deeper Dive

Narrowing in on the auto components industry, we have determined the three macroeconomic factors that have been most negatively and positively correlated with total sales for auto components companies and identified the top-correlated companies for each factor. Trade balance, the unemployment rate, and M2 money supply have been on average highly negatively correlated among the auto components companies, whereas manufacturing capacity utilization, unit vehicle sales, and retail sales have been on average highly positively correlated.

Table 3 displays the five most positively correlated companies among the selected macroeconomic factors with total sales. Cooper-Standard Holdings stands out in that it is represented in manufacturing capacity utilization, unit vehicle sales, and retail sales with correlations of 83%, 91%, and 85%, respectively.

Table 4 displays the five most negatively correlated companies among the selected macroeconomic factors with total sales. Tower International Inc. and Cooper-Standard Holdings stand out in that they are represented in each macroeconomic factor. For trade balance, the unemployment rate, and M2 money supply, Tower International had correlations of negative 77%, negative 71%, and negative 85%, respectively, while Cooper-Standard Holdings had correlations of negative 84%, negative 72%, and negative 88%.

Table 3

Top 5 Positively Correlated Companies Within The Auto Components Industry

(%)

--Capacity utiliz MFG--		--Unit vehicle sales--		--Retail sales--	
Stoneridge Inc.	85	Tower International Inc.	93	Tower International Inc.	85
Johnson Controls Inc.	83	Cooper-Standard Holdings	91	Cooper-Standard Holdings	85
Federal-Mogul Corp.	83	Johnson Controls Inc.	83	Federal-Mogul Corp.	83
Cooper-Standard Holdings	83	TRW Automotive Holdings	81	Linamar Corp.	82
Tenneco Inc.	82	Tenneco Inc.	80	Borgwarner Inc.	81
Average	83	Average	86	Average	83

Source: if Analytics.

Table 4

Top 5 Negatively Correlated Companies Within The Auto Components Industry

(%)

--Trade balance--		--Unemployment rate--		--M2; four-week average--	
Cooper-Standard Holdings	(84)	Linamar Corp	(75)	Cooper-Standard Holdings	(88)
Modine Manufacturing	(78)	Johnson Controls Inc	(73)	Tower International	(85)
Tower International	(77)	Cooper-Standard Holdings	(72)	Borgwarner Inc.	(80)
Linamar Corp.	(75)	Tower International	(71)	Linamar Corp.	(79)
Magna International	(70)	Federal-Mogul Corp	(70)	Lear Corp.	(77)
Average	(77)	Average	(72)	Average	(82)

Source: if Analytics.

Macroeconomic Events Calendar

Table 5

Economic Events Calendar

	Trade balance	Unemployment	Capacity utilization	Unit vehicle sales	Retail sales
March	March 9, 2012	March 9, 2012	March 16, 2012	March 1, 2012	March 13, 2012

Source: S&P Capital IQ.

Having identified companies that were the most sensitive to certain macroeconomic movements during the examined time period, we then used the S&P Capital IQ {7} economic events calendar to identify upcoming macroeconomic release dates.

On March 1, 2012, the U.S. Federal Reserve will release data for February unit vehicle sales. Unit vehicle sales increased to 14.13 million in January 2012 {8} from 13.48 million in December 2011. Total sales for Cooper-Standard Holdings, an

auto components company, has been highly positively correlated with retail sales (91%), and as such might see significant moves if this trend continues.

On March 9, 2012, the U.S. Department of Labor will release the February unemployment rate. The unemployment rate fell to 8.3% {9} in January 2012. Significant changes with this highly correlated macroeconomic factor could also result in significant changes in total sales for auto manufacturers.

Conclusions

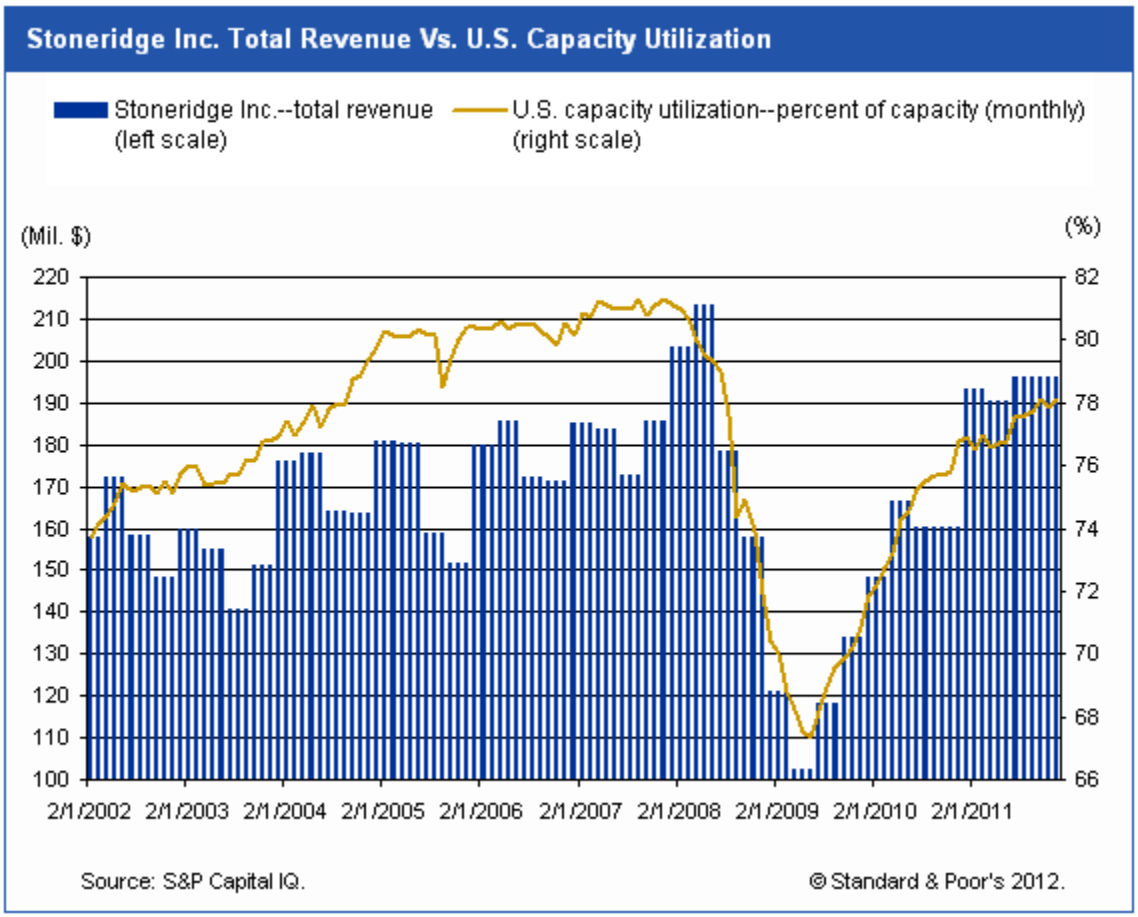
This article highlighted just a few ways that we believe investors can use a comprehensive correlation data set to identify potential trends in aggregate sector data and to identify stand-out companies.

For example, the U.S. auto components industry has been on average highly correlated both negatively and positively with U.S. macroeconomic factors. Manufacturing capacity utilization, on average, has been the most positively correlated macroeconomic factor with the U.S. auto components industry (73.40%). If economic expansion drives manufacturing capacity utilization, auto components companies might benefit from a total sales standpoint. On the other hand, economic contraction could negatively affect the industry.

Stoneridge Inc., a supplier of electronic components for the medium- and heavy-duty truck, automotive, agricultural, and off-highway vehicle markets, stood out among companies in the auto components industry. Stoneridge Inc.'s total sales were the most positively correlated with manufacturing capacity utilization (85%) within the industry, and one to watch when the economy is changing sharply.

While past performance is no guarantee of future results, over the 10-year period between December 2001 and December 2011, Stoneridge Inc.'s total sales have closely tracked U.S. manufacturing capacity utilization (see chart 1). In the previous U.S. economic downturn of 2007 to 2009, a steep contraction in the economy coincided with a drop in total sales for Stoneridge Inc. We believe this could be attributed, among other factors, to Stoneridge's large U.S. industrial customer base, consisting of Navistar International Corp., Deere & Co., Ford Motor Co., General Motors Co., and Chrysler Group LLC, comprising up to 55% of Stoneridge's total sales {10}.

Chart 1



Getting Behind The Data

if Analytics

S&P Capital IQ has created a correlation and forecasting framework, "if Analytics," that allows fundamental analysts to understand the relationships between macroeconomic variables and company financials. Furthermore, it allows them to systematically create macro-driven stress scenarios to forecast company financials.

This framework generates a correlation matrix between independent macroeconomic variables and dependent company fundamentals over two, five, seven, 10, and 20 years. For a set of approximately 314 million correlation coefficients that the correlation engine generated for 7,300 companies and 110 macroeconomic variables, approximately 70 million were found to be at least 90% significant. The correlation matrix also allows analysts to discover macroeconomic variables that are highly correlated. Finally, it is intended to act as a foundation to fundamental analysis by feeding any analytic model that can incorporate forecasted financials.

S&P Capital IQ Economics Calendar

S&P Capital IQ provides a calendar view of macroeconomic events, company specific filings and analyst calls, along with other relevant financial events that will allow a portfolio manager or financial analyst to incorporate these events in a day-to-day analysis.

Notes

{1} We have taken an arithmetic mean (average) of the median aggregate correlations levels used to analyze each of the sectors and industries displayed in table 1 and table 2. The correlation levels in table 1 and table 2 are calculated medians across the particular economic factors and sectors or industries (see table 1 and table 2 footnotes).

{2} M2 represents U.S. money and "close substitutes" for money to quantify the amount in circulation.

{3} All correlations in this document are calculated based on historical data (10-year history) and therefore reflect the correlations as they were over that timeframe. For the remainder of the article, all references to correlation should be assumed to mean historical correlations unless otherwise explicitly noted.

{4} Standard deviation of ISM Purchasing Managers Index across all sectors is 37.5%.

{5} The mean of the median correlations (see footnote 1) for the health care sector is 18.6%, whereas for the consumer discretionary sector, it is 26.7%.

{6} The mean of the median correlations (see footnote 1) across the 21 U.S. macroeconomic factors listed in table 2 for auto components is 32.9%. Diversified consumer services with an average median of 15.9% and hotels, restaurants & leisure with 23.32% are the lowest and second lowest correlations across the 21 U.S. macroeconomic factors, respectively.

{7} S&P Capital IQ's comprehensive financial desktop platform.

{8} Source: S&P Capital IQ's economic calendar; Feb. 1, 2011, Unit Vehicle Sales report for January 2012.

{9} Source: S&P Capital IQ's economic calendar; Feb 3, 2011, Unemployment report for January 2012.

{10} Source: Stonerdige Inc. Form 10-K filed on Feb. 25, 2011; accessed through S&P Capital IQ Platform.

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