

# ALERTdata Blueprints

Supply Chain Management Edition

April 26, 2008

Current Buying Conditions for: NAICS 334418

## Printed Circuit Assemblies

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# Printed Circuit Assemblies

## Price Update

Suppliers in NAICS 334418 increased prices by an average of 0.23% in March. Compared to a year ago, prices are down 4.88%. On a year-over-year basis, prices are falling at a rate of 4.47%. The LMIQ model indicates buyers will find inflation conditions somewhat more favorable than normal. On a scale of 0 to 100 (100 = worst-case inflation environment), current buying conditions score 33, unchanged from February.

### LMIQ Buyer's Briefing

#### Validating supplier statements about changes in costs.

The cost of making a unit of industry output rose 1.1% in March. Compared to a year ago, overall manufacturing costs have increased 4.44% with: per-unit spending on raw materials, up 4.01%; production labor, up 7.62%; energy, up 7.27%; and inbound freight, up 8.07%. Raw materials costs are the primary inflation driver.

#### Evaluating the "fairness" of current price levels.

Since March of last year, industry prices have dropped 4.88%, or 1.1% for each 1% rise in manufacturing costs. After adjusting for price/cost changes and other economic factors, estimates show supplier margins losing \$4.56 per \$100 of market-valued output. Offsetting this loss requires a price hike of 6.84%.

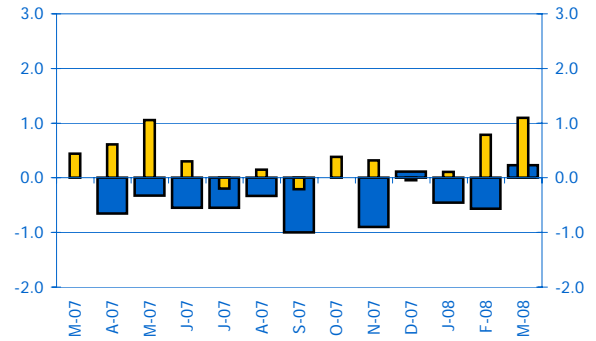
#### Breaking down a supplier's invoice.

For each \$100 of product billed on a buyer's invoice, the LMIQ model estimates \$71.18 currently goes toward covering manufacturing costs while \$28.82 is available for gross margins. This implies a pre-overhead return on production spending of 40.5%. A year ago, suppliers earned a return of 50.1%. Returns have averaged 56.16% over the last five years.

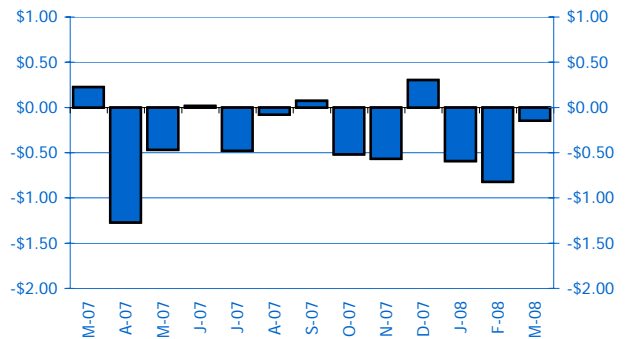
#### Anticipating potential supply disruptions.

The estimated rate of growth in industry output is low and unlikely to strain order fulfillment and distribution efforts. Broad sector-level capacity utilization data suggest there's an upward risk to this conclusion. Analysis of upstream utilization rates indicates suppliers in NAICS 334418 should have reliable access to required raw materials.

Avg. Prices (Blue wide bar) vs. Per-Unit Mfg. Costs (Gold thin bar) (Monthly Percent Change)

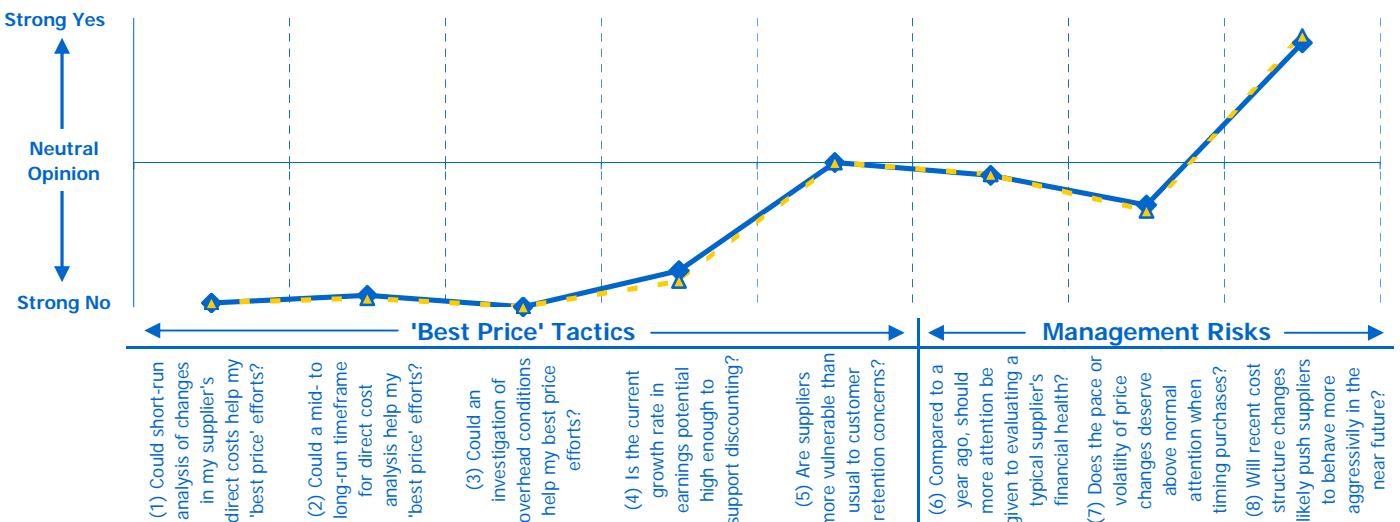


LMIQ Gross Margins (Dollar Change per \$100 of Market-Valued Output)



### 'Best Price' Tactics and Supplier Management Risks

The map below will assist buyers in framing pricing-related discussions with suppliers and will alert buyers to potential management risks. The eight questions along the horizontal axis identify topics that help one to decide if current market prices (for the average industry product) will be vulnerable to discounting. Measured on the vertical axis, the strength of 'yes' and 'no' answers refers to how much data support there is (or is not) for potential discounting and not to the size of a potential discount. Note: The dark, solid line shows answers derived from the March solve of the LMIQ model and the light, dashed line shows answers from February (revised).



Tracking Short-Run Changes in Output Prices, Manufacturing Costs and Margins.

	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08
<b>Average Output Prices</b>												
% Change	-0.65	-0.33	-0.55	-0.55	-0.33	-1.00	0.00	-0.90	0.11	-0.45	-0.57	0.23
% Same-Month-Year-Ago	-2.24	-2.56	-3.09	-3.11	-3.54	-5.01	-6.21	-6.36	-6.06	-5.48	-5.10	-4.88
% Year-over-Year	-1.18	-1.19	-1.31	-1.38	-1.52	-1.88	-2.44	-3.00	-3.53	-3.91	-4.20	-4.47
<b>Per-Unit Manufacturing Costs</b>												
%	0.61	1.05	0.30	-0.20	0.15	-0.21	0.38	0.32	-0.05	0.11	0.79	1.10
% SMYA	3.63	3.29	2.37	2.19	2.08	1.54	2.30	2.68	2.59	2.63	3.76	4.44
% YoY	4.83	4.78	4.53	4.27	3.99	3.58	3.31	3.07	2.88	2.72	2.72	2.79
<b>LMIQ Gross Margins per \$100 of Market-Valued Output</b>												
Margins	\$32.11	\$31.64	\$31.66	\$31.18	\$31.10	\$31.17	\$30.65	\$30.08	\$30.39	\$29.79	\$28.97	\$28.82
\$ Change	-\$1.27	-\$0.47	\$0.01	-\$0.48	-\$0.08	\$0.07	-\$0.52	-\$0.57	\$0.30	-\$0.59	-\$0.82	-\$0.15
\$ Change SMYA	-\$2.59	-\$2.29	-\$1.99	-\$1.70	-\$2.08	-\$2.73	-\$3.95	-\$4.35	-\$4.13	-\$3.75	-\$4.18	-\$4.56

Validating supplier statements about changes in costs.

Total costs rose 0.87% in March and now stand 4.02% above year-ago levels. Prices paid for raw materials are the primary manufacturing-related, cost-control problem. Here, per-unit spending is up 4.01% in the last 12 months. After adjusting for budget importance, this works out to a 'real' or effective cost increase of 2.55%. Note: Raw cost changes reflect how much more or less suppliers have to pay for a particular input. Real changes reflect how much a particular input contributes to the overall change in total costs.

Budget Category	Raw % Change		Real % Change		Benchmark Budget Share
	Current Month	SMYA	Current Month	SMYA	
Manufacturing Costs	1.10	4.44	0.79	3.19	73.82%
Raw Materials	1.22	4.01	0.77	2.55	65.77%
Production Labor	0.00	7.62	0.00	0.50	6.39%
Energy	2.48	7.27	0.01	0.04	0.51%
Inbound Freight	0.40	8.07	0.01	0.10	1.16%
Overhead Costs	0.30	2.95	0.08	0.83	26.18%
<b>Total Costs</b>	<b>0.87</b>	<b>4.02</b>	<b>0.87</b>	<b>4.02</b>	<b>100.00%</b>

Breaking down a supplier's invoice.

After adjusting for inflation, productivity shifts, and other economic factors, the LMIQ model estimates suppliers now spend \$71.18 on manufacturing costs for each \$100 a customer pays on an invoice. The remaining \$28.82 is available for overhead and gross margins. Spending on manufacturing has increased \$4.56 over the last 12 months, and is \$7.14 above its five-year average.

For each \$100 a buyer pays on an invoice...	Current	SMYA	5-Year Average
Spending on Manufacturing	\$71.18	\$66.62	\$64.04
Raw Materials	\$67.74	\$63.08	\$59.91
Production Labor	\$1.45	\$1.76	\$2.42
Energy	\$0.62	\$0.56	\$0.53
Inbound Freight	\$1.37	\$1.23	\$1.18
<b>LMIQ Estimate of Gross Margins</b>	<b>\$28.82</b>	<b>\$33.38</b>	<b>\$35.96</b>
Spending on Overhead	\$28.82	\$27.20	\$26.02

Relating economic climate changes to bottom-line health.

Changes in Market Conditions	Percent Change	
	SOYA	YoY
Price Charged Per-Unit of Output	-5.15	-4.47
Cost of Making a Unit of Output	3.61	2.79
Number of Units of Output Produced	28.63	24.64
<b>The Impact on Key Financial Metrics</b>		
LMIQ Total Revenue	22.03	18.88
Mfg. Spending per \$100 of Market-Valued Output	6.24	4.82
LMIQ Total Gross Margins	6.66	7.39

Validating supplier statements about changes in raw materials costs.

Raw materials costs are up 4.01% from a year ago. Suppliers have struggled hardest with purchases of primary nonferrous metals (except copper and aluminum) -- paying out an increase of 16.65%. After adjusting for relative importance, this equals an effective or 'real' materials cost increase of 0.96%. Note: Raw cost changes reflect changes in what suppliers pay for a particular input. Real changes reflect the relative budget importance of an input. Real changes can be compared against each other to see where a supplier may earn the biggest return on their cost-control efforts.

(n.i. = not itemized by specific material type)	% Change SMYA	
	Raw	Real
<b>Total Raw Materials</b>	<b>4.01</b>	<b>4.01</b>
Semiconductors and related devices (n.i.)	-1.83	-0.45
'Other' electronic components (n.i.)	0.83	0.22
Printed circuit assemblies, loaded boards or modules	-3.09	-0.18
Primary nonferrous metals (except copper and aluminum) (n.i.)	16.65	0.96
Fabricated plastics (n.i.)	3.29	0.09
Custom roll forming products	-3.40	-0.08
'Other' forgings and stampings (n.i.)	5.42	0.12
Communication and energy wire	26.32	0.70
Plastics packaging materials, film and sheet (n.i.)	7.51	0.15
Custom compounded resins	5.14	0.10
All other materials	na	2.39

Evaluating price "fairness".

Over the last 12 months, industry gross margins have fallen \$4.56 per \$100 of product sold. This loss is the net effect of changes in inflation, productivity and other factors. To undo the impact of economic climate changes, a typical supplier would have to raise output prices 6.84% above current market levels.

In order to restore margins to their:	Industry prices would have to...
Year-Ago Level	...rise 6.84%
3-Year Average	...rise 7.39%
5-Year Average	...rise 11.14%
Record High	...rise 20.43%
Record Low	...fall 13.10%

# Printed Circuit Assemblies

(NAICS 334418)

## Negotiator's Scorecard

Current Data Month: March 2008

The last time my company negotiated with a supplier in this industry was...	Since the last time my company negotiated with a supplier...		
	The market price for a typical unit of industry output is...	The cost of manufacturing a typical unit of industry output is...	The margins* generated for each \$100 of product billed on an invoice are...
Feb-08	up 0.23%	up 1.1%	down 15 cents
Jan-08	down 0.34%	up 1.89%	down 97 cents
Dec-07	down 0.79%	up 2%	down \$1.56
Nov-07	down 0.68%	up 1.96%	down \$1.26
Oct-07	down 1.57%	up 2.28%	down \$1.83
Sep-07	down 1.57%	up 2.67%	down \$2.35
Aug-07	down 2.56%	up 2.46%	down \$2.27
Jul-07	down 2.88%	up 2.61%	down \$2.35
Jun-07	down 3.41%	up 2.41%	down \$2.83
May-07	down 3.94%	up 2.72%	down \$2.82
Apr-07	down 4.26%	up 3.8%	down \$3.28
<b>1 Year Ago</b> Mar-07	<b>down 4.88%</b>	<b>up 4.44%</b>	<b>down \$4.56</b>
Feb-07	down 4.88%	up 4.9%	down \$4.33
Jan-07	down 5.8%	up 4.57%	down \$4.72
Dec-06	down 6.8%	up 4.64%	down \$5.69
Nov-06	down 7%	up 4.69%	down \$5.61
Oct-06	down 7.68%	up 4.63%	down \$5.78
Sep-06	down 6.5%	up 4.25%	down \$5.08
Aug-06	down 6%	up 4.59%	down \$4.35
Jul-06	down 5.9%	up 4.86%	down \$4.05
Jun-06	down 6.4%	up 4.84%	down \$4.82
May-06	down 6.4%	up 6.1%	down \$5.11
Apr-06	down 6.4%	up 7.56%	down \$5.87
<b>2 Years Ago</b> Mar-06	<b>down 6.4%</b>	<b>up 8.25%</b>	<b>down \$6.89</b>

\* When estimating margin changes, an attempt is made to account not only for the impact of inflation (changes in output prices and manufacturing costs), but also for changes in productivity and broader structural changes within a given industry.