

CONSTRUCTION COST ESTIMATING NEWS 2012



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Five Common-Sense Rules of Successful Cost Estimating

A good estimate must start with a complete understanding of scope of work followed by an accurate quantity takeoff. It's all too easy to miss out identifying items of work in the project. This may be due to absolutely mundane reasons such as missing drawings, details or specs. It could be due to a misinterpretation of the scope based on an ambiguous statement or comment. Or, it could be due to a more serious reason such as lack of experience in conceptualizing the work to be performed in the field.

Understand your resources and their cost to you – material suppliers, labor force, subcontractors, construction equipment, indirect costs, management.

Easier said than done, this requires a thorough analysis of costs. A cost engineer may very well team up with the comptroller, accountant, field superintendent, project manager, purchasing manager. Even outside labor consultants may be hired to reach cost data to be incorporated in estimates. Remember, such data is not static, but changing in time and periodic review and update is a must.

Evaluate your strength and weakness and establish comparative advantage

This is where the upper echelons of management should participate extensively. Typically, they have the background experience not just within the company but with other companies and industries vis-à-vis competition. Once the main parameters are established, the middle management in collaboration within departments may detail out the analysis and attach workable numbers. These, in turn, become the ammunition of choice for the estimating department so that they can come up with an estimate that is not only sufficiently low but also profitable for the company.

Determine appropriate Overhead and Profit rates

In order to achieve optimal overhead and profit applications, item 3 above has to be completed so that risk factors are established and evaluated. Considering the general description of profit as being the return for taking a risk, it's essential that it has to be a calculated risk. To arrive at these figures, not only the company cost structure and records must be thoroughly analyzed but also competition must be evaluated. In general, it is not recommended to trim bid figures from overhead and profit since they represent the long term viability of an ongoing business concern.

Use sound estimator's judgement and keep an open mind and ear

When preparing a bid level estimate, care must be taken to identify not only labor and material cost items shown on the plans, but also labor and cost items that may not be reflected on the plans. This is where good estimating and estimator's judgement comes into play. It's alright to consult a project manager, an engineer, a field superintendent and even a simple workman. A few new ideas here and a few there may mean understanding the project better and trimming estimating costs which may in turn mean a winning and profitable bid as opposed to a disappointing loss.

Happy Estimating!

Construction Forecasts

NEWS & ANALYSIS

Construction Materials Prices Move Up in Feb 2012

The Bureau of Labor Statistics (BLS) reported that the seasonally adjusted (SA) Producer Price Index (PPI) for materials and components used in construction rose 0.2% in December after no change in November. The index was up 3.6% on a year-over-year basis, but was only 3.1% higher than its December 2008 reading. Meanwhile, raw materials used in construction or to produce products used in construction rose a more troublesome 0.5%, its fourth consecutive monthly increase. On the positive side, the index was up a moderate 1.3% from a year earlier.

An index that measures inputs used in nonresidential construction (excluding capital equipment) fell 0.4% in December on a not seasonally adjusted (NSA) basis after remaining unchanged in November. Nonetheless, it was up 5.8% from December 2010.

US Construction-Related Price Indexes

	Percent Change									
	Monthly from Previous Month			3-Month Moving Average from Previous Month			Year-over-year			3 Years Ago
	NSA data unless otherwise indicated			NSA data unless otherwise indicated			NSA data			NSA data
	Dec-11	Nov-11	Oct-11	Dec-11	Nov-11	Oct-11	Dec-11	Nov-11	Oct-11	Dec-11
Composite Indexes (Exclude capital equipment)										
Construction Materials* (Unprocessed materials)	0.5	0.1	0.1	0.2	0.2	0.0	1.3	1.7	1.4	6.1
Materials and Components for Construction* (Processed goods)	0.2	0.0	0.3	0.2	0.0	0.0	3.6	3.8	4.0	3.1
Inputs to Construction (Residential and Nonresidential) (Includes inputs to maintenance and repair)	-0.2	-0.1	-0.6	-0.3	-0.2	-0.4	5.3	6.2	6.9	11.3
Inputs to New Construction	-0.2	0.0	-0.5	-0.3	-0.2	-0.4	5.3	6.2	6.7	10.8
Inputs to Residential Construction	-0.1	0.0	-0.4	-0.2	-0.1	-0.3	4.8	5.5	5.9	8.7
Inputs to Nonresidential Construction	-0.4	0.0	-0.7	-0.4	-0.2	-0.5	5.8	7.0	7.5	NA
Inputs to Commercial Construction	-0.2	-0.1	-0.3	-0.2	-0.1	-0.3	5.0	5.9	6.4	NA
Inputs to Industrial Construction	-0.4	0.5	-0.4	-0.1	0.1	-0.2	5.4	6.4	6.3	NA
Inputs to Heavy Construction	-0.4	-0.1	-0.9	-0.5	-0.3	-0.6	6.2	7.4	8.1	NA
Inputs to Maintenance and Repair	-0.5	-0.4	-1.1	-0.6	-0.5	-0.6	5.3	6.6	8.2	16.5
Inputs to Nonresidential Maintenance and Repair	-0.6	-0.5	-1.2	-0.7	-0.5	-0.7	5.3	6.7	8.4	17.4
Inputs to Res Maintenance and Repair	-0.2	0.0	-0.5	-0.3	-0.2	-0.4	5.5	6.4	6.9	12.3
(indexes include installation and overhead)										
New Warehouse Building Construction	-0.1	0.0	1.6	0.5	0.5	0.6	3.7	3.9	3.9	-0.2
New School Building Construction	0.1	0.1	1.8	0.7	0.5	0.5	4.7	4.5	4.3	3.3
New Office Construction	0.2	0.2	1.0	0.4	0.4	0.3	3.8	3.7	3.3	0.2
New Industrial Building Construction	-0.1	-0.1	1.5	0.4	0.5	0.5	3.3	3.4	3.5	-1.1
Production Index: Construction Supplies*	1.0	-0.2	0.0	0.3	0.1	0.0	4.5	3.0	4.1	-1.5
Retail Sales: Building & Equipment Supplies*	1.6	-1.0	1.4	0.7	0.2	1.0	4.7	4.7	6.1	11.5

*Seasonally-adjusted data for percent changes for monthly and 3-month moving average data

NSA = Not seasonally adjusted, NA = Not Available

Source: Producer Price Index (PPI) - Bureau of Labor Statistics; Production Index - Federal Reserve Board; Retail Sales - Census Bureau

After falling 0.2% in November, SA construction machinery prices advanced 0.6% in December. Further, they were up 4.2% from a year earlier and 6.0% from December 2008.

US Construction-Related Price Indexes

	Percent Change									
	Monthly from Previous Month			3-Month Moving Average from Previous Month			Year-over-year		3 Years Ago	
	NSA data unless otherwise indicated			NSA data unless otherwise indicated			NSA data		NSA data	
	Dec-11	Nov-11	Oct-11	Dec-11	Nov-11	Oct-11	Dec-11	Nov-11	Oct-11	Dec-11
Assembled Equipment										
Hand and Edge tools	0.1	0.0	0.0	0.0	0.1	0.1	1.1	1.0	1.1	0.9
Power Hand Tools	0.3	-0.1	0.1	0.1	0.0	0.0	1.2	0.8	1.0	0.2
Appliances*	-0.4	1.1	0.3	0.3	0.5	0.1	2.5	2.9	1.9	3.7
Furnaces	-0.8	1.0	1.4	0.5	0.9	0.6	5.3	6.8	6.2	4.6
Construction Machinery*	0.6	-0.2	0.0	0.1	0.3	0.5	4.2	4.4	4.1	6.0
Construction Machinery Rental (incl. oilfield equip.)	0.2	-0.4	0.6	0.1	0.1	0.2	0.8	1.2	2.6	0.6
Trucks over 14,000 lbs. GVW	-0.4	0.1	1.3	0.3	0.5	0.4	2.1	2.6	2.6	9.5
Metal Doors, Sash and Trim	0.3	0.0	0.3	0.2	0.1	0.1	7.0	6.6	6.6	4.7

*Seasonally-adjusted data for percent changes for monthly and 3-month moving average data
 NSA = Not seasonally adjusted, NA = Not Available
 Source: Producer Price Index (PPI) - Bureau of Labor Statistics

Cement

Cement prices have started rising, increasing 0.9% in December after advancing 1.2% in November. Prices were up 1.1% from a year earlier but were still down 8.5% from December 2008. As multifamily construction and other commercial construction improve over coming months, cement prices are likely to continue to rise.

US Construction-Related Price Indexes

	Percent Change									
	Monthly from Previous Month			3-Month Moving Average from Previous Month			Year-over-year			3 Years Ago
	NSA data unless otherwise indicated			NSA data unless otherwise indicated			NSA data			NSA data
	Dec-11	Nov-11	Oct-11	Dec-11	Nov-11	Oct-11	Dec-11	Nov-11	Oct-11	Dec-11
Construction Commodities										
Dimension Stone	-0.2	0.6	-0.2	0.1	0.1	0.1	1.3	1.5	2.3	8.4
Cement	0.9	1.2	-0.7	0.4	0.0	-0.5	1.1	-0.2	-1.7	-8.5
Construction Sand, Gravel & Crushed Stone*	0.5	0.1	0.1	0.2	0.2	0.0	1.2	1.4	1.2	5.6
Softwood Plywood	-2.0	1.5	5.0	1.4	2.3	2.1	0.2	3.9	-0.4	2.7
Hardwood Lumber	0.4	-0.3	-1.1	-0.4	-0.8	-0.7	-2.3	-3.6	-3.9	2.7
Softwood Lumber*	-0.4	-1.2	3.6	0.7	0.3	1.6	-0.4	1.7	5.1	8.6
Other Commodities										
Industrial Natural Gas*	-2.6	-4.5	-1.5	-2.9	-2.2	-0.4	-6.1	-1.5	-2.7	-28.8
Plastic Resins & Materials	-4.5	2.0	-3.9	-2.2	0.9	-0.2	10.0	14.1	9.5	20.5
Insulation Materials	0.0	-0.4	0.2	-0.1	-0.2	0.2	5.4	5.4	6.0	9.6
Iron & Steel Scrap	6.6	-6.6	-2.0	-0.8	-2.7	-0.6	11.1	13.0	23.1	135.9
Iron Ore	5.5	1.2	7.9	4.8	0.4	0.0	20.5	14.3	12.9	25.8
Copper Ores	-0.6	-5.1	-9.1	-5.2	-5.6	-6.6	-15.4	-14.5	-13.4	100.9
Copper Base Scrap*	2.7	8.2	-5.5	1.7	2.0	-2.5	-3.2	1.4	1.9	132.4

*Seasonally-adjusted data for percent changes for monthly and 3-month moving average data
NSA = Not seasonally adjusted, NA = Not Available
Source: Producer Price Index (PPI) - Bureau of Labor Statistics

Energy and Related Products

Energy and related prices continued to be mixed in December. Diesel fuel prices fell 3.8% (SA) after surging 7.5% in November. Diesel prices were up 20.2% from a year earlier and 85.4% from December 2008. Meanwhile, industrial natural gas prices continued their recent downward trajectory, falling 2.6% in December, their sixth monthly decline in the last eight months. On a year-over-year basis, they were down 6.1%, and since December 2008 they were down 28.8%. In addition to plentiful supply, undoubtedly the mild winter in much of the country has reduced demand for natural gas, adding to the downward pressure on prices.

On the other side of the coin, asphalt prices (NSA) jumped 6.1% in December after dropping 3.2% the previous month. Further, they were up 34.8% from a year earlier, and 35.1% from December 2008. Asphalt roofing prices rose a more modest 1.0% after falling 5.4% in November. They were up 2.6% from a year earlier and were actually down 1.3% from three years earlier.

Plastic construction products prices slipped 0.1% in December after falling 1.3% in November. However, they were up 3.6% from a year earlier and 6.2% from December 2008. Plastics pipe prices fell 1.1% in December after dropping 5.3% the previous month. They were up 2.1% from December 2010 and 6.8% from December 2008. At the same time, plastics plumbing fixtures prices were unchanged in December after inching up 0.2% in November. They were up 5.0% from a year earlier and 5.4% more from three years earlier.

The jump in oil prices in January will show up in next month's PPI numbers. Higher oil prices will also flow through to related products over the ensuing months.

Copper and Copper Products

Prices for copper and copper products generally fell in the last five months of 2011 — spot market prices for copper were roughly \$1 a pound lower by the end of the year from their July levels, though the decline was slowing in December. Prices for copper ores declined 0.6% in December after dropping 5.1% in November. From December 2010, prices were down 15.4% but had doubled (+100.9%) from three years earlier. Prices of copper base scrap rose the last two months of the year on a seasonally adjusted basis — up 8.2% in November and 2.7% in December. However, prices were down 3.2% from December 2010 but have more than doubled from three years earlier, soaring 132.4%.

Copper and brass mill shapes prices fell 0.4% in December, their fifth consecutive monthly decline. On a year-over-year basis, they were down 9.3% but were up 43.2% from three years earlier. Copper pipe (nonferrous pipe and tube) prices edged up 0.1% in December after plummeting 12.2% in November. They were down 12.2% from a year earlier but up 50.2% from three years earlier.

In January, spot copper prices moved up again, suggesting that prices for copper products could come under upward pressure again if those prices are sustained in February.

US Construction-Related Price Indexes

	Percent Change									
	Monthly from Previous Month			3-Month Moving Average from Previous Month			Year-over-year			3 Years Ago
	NSA data unless otherwise indicated			NSA data unless otherwise indicated			NSA data			NSA data
	Dec-11	Nov-11	Oct-11	Dec-11	Nov-11	Oct-11	Dec-11	Nov-11	Oct-11	Dec-11
Manufactured Materials										
Gypsum Products	0.6	-0.4	3.0	1.0	0.3	-0.1	-1.5	-1.0	-1.0	-8.7
Diesel Fuel*	-3.8	7.5	-5.5	-0.8	2.9	-1.5	20.2	32.4	27.3	85.4
Asphalt	6.1	-3.2	0.2	1.0	-2.8	-1.1	34.8	19.0	25.1	35.1
Asphalt Roofing	1.0	-5.4	2.5	-0.7	-2.0	-0.3	2.6	1.7	7.5	-1.3
Paint	0.3	0.0	0.3	0.2	0.1	0.1	3.8	3.5	5.4	3.2
Plastic Construction Products	-0.1	-1.3	0.0	-0.5	-0.4	0.0	3.6	3.9	5.6	6.2
Plastics Pipe	-1.1	-5.3	-1.6	-2.7	-1.9	-1.0	2.1	3.3	10.3	6.8
Plumbing Fixtures	0.0	0.2	1.1	0.4	0.1	0.1	5.0	5.0	4.8	5.4
Vitreous Plumbing Fixtures	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6	6.1
Ceramic Tile	1.0	-2.0	0.0	-0.4	-0.7	0.1	-0.8	-0.7	-0.1	-2.8
Flat Glass	0.3	-0.3	-0.2	-0.1	0.1	0.2	2.2	1.8	2.1	-4.4
Hot rolled bars, plates & structural shapes	-1.1	-0.4	-0.5	-0.7	-0.3	0.1	12.9	16.8	16.7	15.7
Extruded Aluminum rod, bar and other shapes	-2.7	0.0	-1.4	-1.4	-1.9	-2.1	-0.4	2.1	6.6	4.8
Architectural Metalwork	-0.5	1.4	-0.3	0.2	0.4	-0.1	4.5	5.2	4.8	0.0
Metal Plumbing Fixtures*	0.3	0.0	0.3	0.2	0.1	0.2	2.6	2.8	2.8	4.7
Builders' Hardware	-0.1	-0.6	0.2	-0.2	-0.2	0.6	6.4	6.2	7.5	3.7
Sheet Metal Products	0.0	-0.5	0.6	0.0	0.1	0.3	5.8	5.8	6.6	5.4
Steel Mill Products	-0.6	-1.1	0.4	-0.4	-0.6	-0.3	11.3	13.0	13.6	13.0
Steel Pipe and Tube*	1.0	2.1	1.9	1.7	0.9	-0.1	12.1	13.5	12.9	8.0
Copper and Copper Products	-0.5	-2.7	-8.0	-3.9	-4.0	-4.7	-10.0	-6.8	-2.2	65.1
Copper and Brass Mill Shapes	-0.4	-2.3	-8.3	-3.9	-3.6	-3.9	-9.3	-7.7	-0.2	43.2
Nonferrous Pipe and Tube	0.1	-12.7	-1.6	-4.9	-4.6	-1.2	-12.2	-10.3	8.3	50.2
Building Brick	-0.3	0.5	0.2	0.1	0.1	-0.1	-2.8	-2.4	-4.3	-4.0
Ready Mix Concrete*	0.8	0.7	0.4	0.6	0.3	0.1	0.6	0.1	-0.2	-1.7
Concrete Block & Brick*	-0.7	-0.1	0.8	0.0	0.3	0.3	1.1	1.8	1.9	0.2
Prestressed Concrete	0.2	-0.5	0.0	-0.1	-0.1	0.0	-3.1	-2.2	-1.6	-9.3
Precast Concrete Products	-0.6	0.6	0.8	0.3	0.3	0.1	2.6	3.4	2.6	5.3
Concrete Pipe	0.0	0.4	0.0	0.1	0.2	0.0	1.8	1.6	1.7	-4.4
Wood Kitchen Cabinets	0.0	0.2	0.1	0.1	0.0	0.0	2.3	2.2	2.0	4.0
Millwork (window, door, cabinet)*	0.2	0.1	0.2	0.2	0.1	0.1	1.1	1.0	1.1	2.2
Engineered Wood Products*	0.3	0.9	-0.2	0.3	0.2	-0.4	1.0	1.3	1.0	-0.2
Laminated Plastics	-0.1	0.2	-0.2	0.0	0.6	0.5	4.3	4.4	3.5	4.4

*Seasonally-adjusted data for percent changes for monthly and 3-month moving average data

NSA = Not seasonally adjusted, NA = Not Available

Source: Producer Price Index (PPI) - Bureau of Labor Statistics

Softwood Lumber and Gypsum

Single-family housing construction activity largely determines demand for softwood lumber and gypsum products, both of which have suffered since single-family housing construction peaked in 2006. There has been modest improvement in the single-family housing market over the last few months. Single-family starts and permits increased over the last three months of 2011. New single-family home sales did stumble in December but were up the previous three months.

The PPI for softwood lumber peaked in August 2004. As of December, the index was down almost a third (-31.5%) from that peak. More recently with the slight improvement in single-family housing, softwood lumber prices have moved off their lows (as of December, the index was up 18.4% from its May 2009 cycle low). Still, on a year-over-year basis, the index was down 0.4%.

Late last year, six gypsum producers announced they were raising prices 35% as of January of this year. The PPI for gypsum product prices rose 0.6% in December following a 0.4% decline in November. Possible stockpiling of product by wholesalers, home supply stores, and some builders in anticipation of the price increase may explain the upward pressure on gypsum prices in December. On a year-over-year basis, prices were down 1.5% from a year earlier and 8.7% from three years earlier. With continued (though improving) weak demand for single-family construction, it is hard to see how the sharp increase in gypsum prices can be maintained for long.

Outlook for Construction Materials Prices

With the economy showing modest, but improving growth — the initial report on real (inflation-adjusted) Gross Domestic Product (GDP) growth for fourth quarter 2011 was 2.8% at a seasonally adjusted annual rate, the strongest quarter in over a year — construction materials prices will firm and move roughly in line with general inflation over the next six months. Faster than projected sustained economic growth (3% or higher at an annual rate) will accelerate commercial construction activity and push materials price inflation higher than general inflation. This seems unlikely to happen before the second half of 2012. Troubles in Europe and expected relatively modest growth in the rest of the world will help keep prices from more rapid gains. The strength of the foreign exchange value of the dollar is another factor helping to hold down prices. However, faster growth in the rest of the world than forecast would add to construction materials price inflation as would stimulative action by some European economies (highly unlikely).

Energy prices remain the biggest risk to materials price inflation and the health of the world economy. The recent threat of sanctions against Iran and concern over the fallout for oil supplies pushed oil prices up around \$100 a barrel. The current spike in oil prices is uncomfortable, but not disastrous. A prolonged, even higher increase in oil prices would hurt consumers and adversely affect the growth of the economy, possibly pushing the U.S. back into recession.