AGC's Construction Inflation Alert

Reported by AGC Chief Economist Ken Simonson

Tracking the Surge in Construction Costs, 2001-2006

In early 2006, construction materials are continuing to rise in cost more than the overall rate of inflation, following a pattern that emerged in 2004 and 2005. But the price indexes for various types of construction and different materials have diverged from last year's cost drivers. The prospects for the remainder of 2006 are similarly mixed.

This report is intended to assist contractors, building owners and developers, public budgeting and planning officials, and others to understand changes in construction costs relative to the rest of the economy over the past five years, the impact of recent developments such as the Gulf coast hurricanes, and factors that are likely to affect costs in the next 12 months or so. The report relies on data from the Bureau of Labor Statistics (BLS), as well as information provided by contractors, suppliers and media.

The BLS data include the percentage change in the consumer price index for all urban consumers (CPI-U), numerous producer price indexes (PPIs), and the employment compensation index (ECI) for construction. Data are presented for the 12-month periods ending in December 2001 through 2005, and for the latest three months-through January 2006 (except the ECI, which is available only through December 2005). The most recent data are subject to revision; in addition, the data are not seasonally adjusted, so the latest three months may not be representative of a typical 12-month movement in costs.

Construction Materials Costs Have Outpaced Overall Consumer, Producer Prices

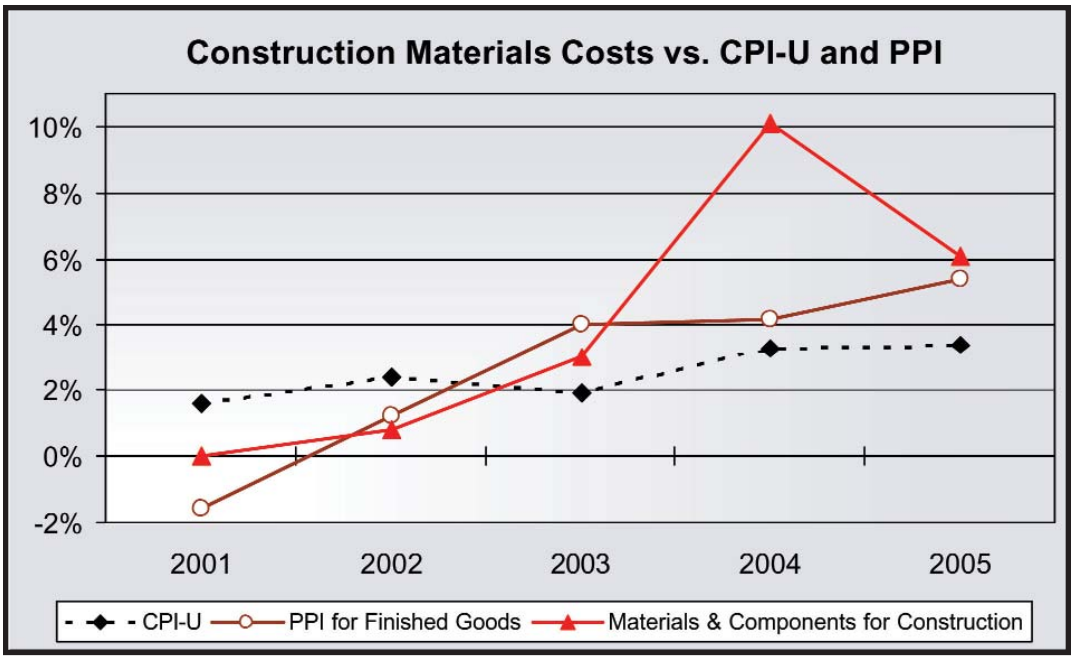
The CPI-U, which measures the prices consumers pay for a fixed "basket" of goods and services, is the most commonly cited measure of the rate of inflation. In 2001 through 2003, the CPI-U rose roughly two percent per year. The rate moved up to 3.3 percent in 2004 as the price of crude oil and specifically, petroleum products bought by consumers, jumped. The same factors pushed up consumer prices at a similar rate, 3.4 percent, in 2005. In the three months through January 2006 (the latest available), the rate dropped 0.5 percent, reflecting a recent drop in energy prices. *(See Chart 1(Page 2) and Table 1 (Page 7).)*

The most frequently cited PPI, that for finished goods, has been more volatile than the CPI, and has accelerated steadily from -1.6 percent in 2001 to +5.4 percent in 2005.

The sole PPI for a finished construction type is the PPI for new warehouse construction, which dates only to December 2004. That index rose 7.6 percent in 2005 and 1.6 percent in the past three months (a 6.6 percent annual rate). However, there are PPIs for construction equipment and materials. The PPIs for different producing industries are weighted separately into PPIs for construction industry segments. In addition, the ECI measures quarterly changes in wage and benefits costs.

The cost of materials was flat in 2001, rose moderately in 2002 and 2003, then shot up by 10.1 percent in 2004. In 2005, that index climbed slightly more than the overall PPI, 6.1 percent vs. 5.4 percent. In the latest three months, the construction materials PPI has risen a steep 2.5 percent (an annual rate of 10 percent), while the CPI-U and overall PPI fell.

Chart 1



The cost of construction machinery and equipment was nearly stable in 2001-03, then climbed six percent in 2004 and five percent in 2005. The 1.5 percent increase in the past three months corresponds to an annual rate of six percent.

The change in wages and benefits for construction, as measured by the ECI, has been relatively steady for the past five years, rising between 2.4 percent (in 2004) and 4.3 percent (in 2001). The latest reading, covering the quarter ending in December 2005, was up 0.3 percent, an annual rate of just 1.2 percent.

Cost Changes for Highway and Heavy Construction Have Outstripped Building Construction

There has been substantial variation in the amount of inflation experienced by different construction segments in the past two years, although all segments have been hit by greater price increases than has the average business or consumer. The cost increases are approximated by BLS industry PPIs, which weight the producer prices of construction materials by the proportions used by that industry segment. As with commodity PPIs, industry PPIs do not take into account costs of labor, equipment or services. Five industry PPIs are shown below; BLS also produces PPIs for the residential and nonresidential repair and maintenance construction sectors. (*See Chart 2 (Page 3) and Table 2 (Page 7).)*

Prices for each of five segments moved very similarly in 2001-03. All declined in 2001, rose by one percent or less in 2002, and rose by 2-3 percent in 2003.

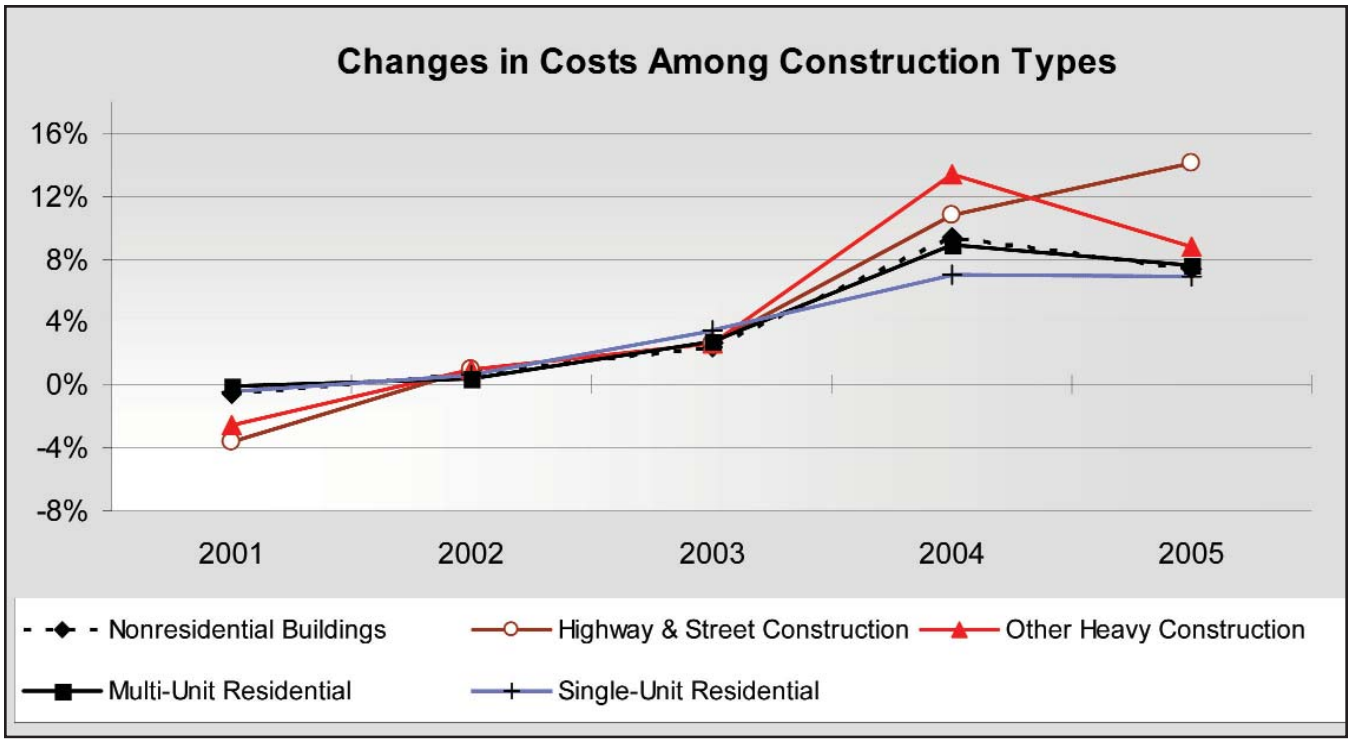
In 2004, prices by segment diverged sharply, reflecting different patterns in the materials most used by each segment. The PPIs for highway and street construction and other heavy construction shot up at rates of 10.8 percent and 13.4 percent, respectively, reflecting the huge increases in steel, concrete, diesel fuel and asphalt prices discussed below. The indexes for nonresidential and multi-unit residential buildings went up about nine percent each, while the PPI for materials used in single-unit residential construction rose seven percent.

In 2005, the PPI for highway and street construction rose 14.1 percent, pushed up by further large increases in diesel and asphalt prices.

In 2005, these differences persisted, although all of the industry PPIs moderated slightly, rising 6.9 percent (single-unit residential) to 9.4 percent (nonresidential buildings), except the highway and street construction PPI. That index rose 14.1 percent, pushed up by further large increases in diesel and asphalt prices. A flattening or drop in steel prices helped cool the increase in other construction industry PPIs. In addition, falling prices of lumber, plywood, and oriented-strand board (OSB) slowed the increase in residential construction costs.

In the past three months, these rankings have reversed. A steep decline in diesel and asphalt prices has brought down the indexes for highway and street construction and other heavy construction by 2.2 percent and 0.6 percent (annual rates of -8.5 percent and -2.4 percent), respectively. Building construction costs have been nearly flat for non-residential construction but have risen 1.0 percent for multi-unit and 1.4 percent for single-unit (annual rates of 4.0 percent and 5.7 percent), reflecting higher costs for brick, concrete, gypsum, plastic, and copper products but lower prices for wood and some steel products.

Chart 2



Cost Changes Vary Widely by Material

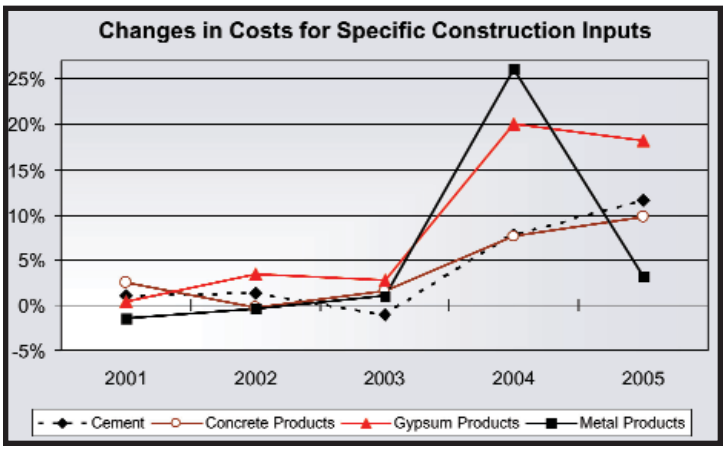
The indexes for specific materials show why the industry indexes vary so much, and why construction materials costs overall exceed the general rate of inflation. Changes in some construction materials prices closely follow price changes for the crude materials used to make them. Thus, this section draws on a mix of PPIs for crude materials, materials used in construction among other industries, and materials specific to construction. The discussion and table are grouped around metals; concrete and brick; petroleum and natural gas derivatives; and gypsum and wood products. *(See Charts 3 and 4 (Page 4) and Table 3 (Page 7).)*

Most PPIs for materials used in construction had either small increases throughout 2001-03 or a mix of increases and decreases. By 2004, however, there were several extreme increases.

Steel mills raised their prices very suddenly and sharply in the first five months of 2004. Prices for automotive and appliance steel leveled off or retreated by year-end, but strong demand kept construction steel prices rising. For example, the average price of all steel mill products rose 48.8 percent, whereas the price of steel pipe and tube was up 66 percent. By 2005, slipping demand from automotive and appliance users of steel, plus an increase in imports, drove down the overall price of steel mill products by 3.6 percent. But continuing strong demand from contractors pushed up the price of fabricated iron and steel pipe, tube, and fittings (5.5 percent), fabricated structural metal for buildings (3.3 percent), and fabricated steel plate (one percent). In the past three months, these construction steel indexes have taken differing directions: 3.9 percent, -0.2 percent, and 1.9 percent, respectively. This reflects crosscurrents in the world steel market, in which predictions differ sharply among analysts about the likely supply-demand balance. In particular, China varies between importing steel for its infrastructure, private construction, and consumer products demand, and opening new mills that add to exports.

Strong worldwide demand for copper, along with unrest in ore-producing regions, has kept ore and scrap prices rising by 30-65 percent over the past three years. As a result, the PPI for copper and brass mill shapes rose roughly 30 percent in both 2004 and 2005, and was up another 11.2 percent in the last three months (annual rate of 57 percent).

Chart 3



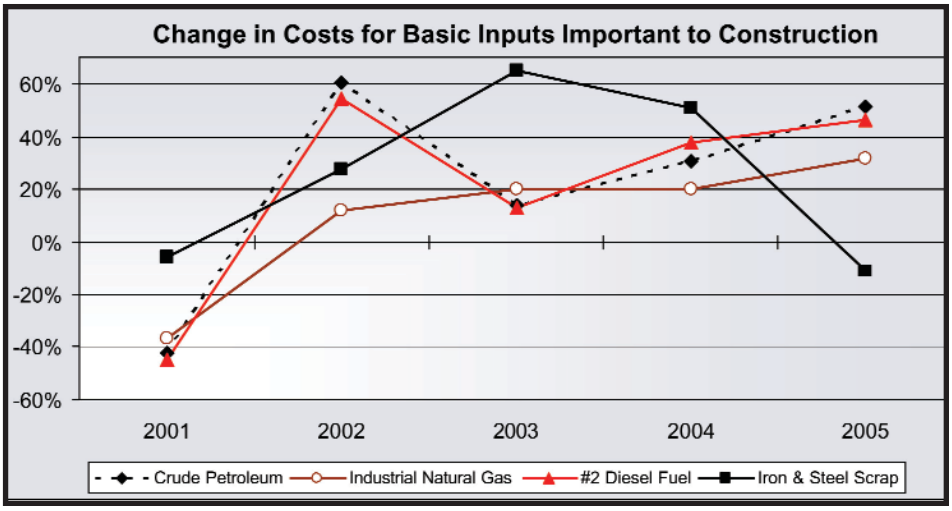
Concrete prices have accelerated steadily, from -0.3 percent in 2002 to 9.8 percent in 2005, with a further 3.5 percent increase in the latest three months (annual rate of 14.8 percent). These increases have tracked an increase in the cost of cement, which rose 11.7 percent in 2005 and 3.2 percent in the last three months (annual rate of 13.4 percent). Costs for construction sand/gravel/crushed stone (up 7.5 percent in 2005, 2.9 percent in the past three months) and diesel fuel used to transport and mix concrete have also been rising at five to seven percent per year. Domestic cement production has been nearly stagnant, while consumption has been rising at 5-7 percent per year, making the U.S. steadily more dependent on imports. Although there is plenty of cement worldwide, ocean shipping costs, port congestion, and problems with rail and barge shipments have driven up cement prices and caused widespread shortages. Cement and concrete producers in more than 30 states reported shutdowns or delivery interruptions in 2004 and 2005.

Diesel fuel and asphalt prices have been extremely volatile in the past several years, with an upward tilt. Both products come directly from crude oil. The index for domestically produced crude petroleum has varied from a drop of 42.4 percent in 2001 to a gain of more than 50 percent in 2002 and 2005, with a drop of 2 percent in the last three months. Correspondingly, the PPI for #2 diesel fuel fell 44.7 percent in 2001, rose by 13-54 percent in 2002-05, and fell 25.8 percent in the last three months. The PPI for asphalt was up 10-18 percent in 2003 (the first year it was calculated on its current basis) to 2005 and has fallen 8.1 percent in the latest quarter.

Industrial natural gas prices rose 20 percent in 2003 and 2004 and 31.5 percent in 2005 before falling 2.3 percent in the last three months. The 2005 increase was aggravated by damage from Hurricanes Katrina and Rita to offshore platforms and processing plants, which shrank supplies just before the winter heating season. Record warm temperatures in January drove natural gas futures prices down. The price increases are a major reason for the 22.6 percent increase in 2005 in the PPI for plastic construction products that use natural gas as a feedstock, such as polyvinyl chloride (PVC) pipe, membranes and geotextiles, paints and coatings, and some types of insulation and roofing material. Prices of those products rose 10.7 percent in the last three months, propelled partly by a severe shortage of PVC resin after a resin plant in Texas was shut down following two explosions. (The plant has reportedly resumed full production.) Natural gas is used as well to heat and dry some brick and structural clay tile, which rose 9.5 percent in price in 2005 and 5 percent in the last three months (22 percent annual rate).

Gypsum products prices rose 20 percent in 2004, 18.2 percent in 2005, and 5.6 percent in the last three months (24 percent annual rate). Very high demand from single- and multi-unit home building, home improvements, and some nonresidential building categories, in the face of relatively flat production, have kept prices soaring. Damage to plants and inventories from Hurricane Katrina worsened supply shortages.

Chart 4



Construction Demand and Costs Both Head Higher for 2006

Total construction spending rose nine percent in 2005. Double-digit increases occurred in single- and multi-family residential, hospital, multi-retail (general merchandise stores such as "big box" and warehouse-type stores, shopping centers, and shopping malls), manufacturing, highway and street, water and sewer construction. All of the nonresidential categories look as if they will do well again in 2006. In addition, hotels and resorts, freight transportation and distribution facilities, and other healthcare categories may improve from 2005. A mild slowdown in the residential categories appears likely, although perhaps not for the first few months.

Hurricanes

Rebuilding from Hurricanes Katrina, Rita, and Wilma is not likely to have much impact on national markets for materials or labor. The rebuilding from Katrina will apparently be very protracted, and the overall level of construction in Louisiana will probably remain below pre-hurricane levels for several months at least. Construction employment in the state fell by 27,000, seasonally adjusted, from August to September. Only 7,000 jobs were added from September to December. Many of the two million evacuees from Katrina are likely to resettle elsewhere, adding to demand for housing, retail, consumer services, and some public construction in a variety of other states. In south Florida, demand for roofers and window installers for high-rise buildings will be elevated for several more months but there should be little market impact elsewhere.

With a generally strong outlook for construction activity, materials prices are likely to rise faster than the overall rate of consumer or producer prices again in 2006. The rate of increase for construction materials and components prices could be closer to the 10.1 percent rate of 2004 than the 6.1 percent rate of 2005. Once again, however, prices are likely to vary greatly by type of material and project.

Metals

The outlook for metals is mixed. Steel prices are likely to stay close to their 2005 average but with significant month-to-month variations as the world supply-demand balance and shipping costs fluctuate. Recent record prices for copper on commodity exchanges suggest that copper pipe, fittings, and wire will also rise more. Raw aluminum prices also have been rising, implying that the price of architectural aluminum will rise more.

Cement and concrete prices seem headed still higher in 2006. Very little domestic cement capacity is expected to come online, while demand from nonresidential construction (which is more concrete-intensive than residential) will continue to rise. Exceptionally warm and dry weather in January allowed more concrete-pouring to occur than usual, which may mean shortages appear earlier this year than in years when cement makers and importers rebuilt stocks in the winter. One favorable development is an agreement between the U.S. and Mexico that aims to lower the antidumping duty on Mexican cement from the current $26 per ton to $3 per ton. If that takes effect in April, as expected, Mexican cement should start replacing cement from China, Korea, Thailand, Greece, or Venezuela, all of which currently supply more to the U.S. than Mexico does, despite the longer transit times and higher shipper rates. However, the agreement includes state and regional quotas on Mexican cement that will limit the relief.

Oil & Natural Gas

Oil and natural gas prices have fallen sharply from their post-hurricane highs. However, production from the Gulf of Mexico is still down by more than 15 percent, keeping supplies tight. As of mid-March, the national average retail price of diesel fuel was around $2.55 per gallon, 60 cents below the record set after Rita but 35 cents (16 percent) higher than a year ago. In percentage terms, the off-highway diesel price, which does not include 45-50 cents of highway taxes, was up even more. It appears diesel prices for 2006 as a whole will be up 10-30 percent over 2005, with wide month-to-month variation. These prices affect contractors through the cost of operating off-road equipment and construction trucks, and in the fuel surcharges truckers add to delivery bills for materials, equipment, and debris hauling. Asphalt prices also will be elevated and may go higher by year-end, as refiners introduce more desulfurization equipment that leaves less liquid asphalt at the end of the refining process. Construction plastics prices should come down from recent highs but average 10-20 percent higher than year-ago levels. Other products that rely on natural gas or that have high transport costs, such as paints and coatings, insulation, and brick, are likely to rise 5-10 percent in price.

The prices of gypsum products and lumber and wood products should ease by year-end. Demand will soften if residential construction slows, and supply should increase if plants now under construction come online as expected.

Equipment costs are expected to continue rising at the 5-6 percent rate of the past two years. Demand has remained strong, and components suppliers have had trouble filling orders in some cases. Tires for large equipment have been very hard to come by due to limited specialized tiremaking capacity and robust worldwide demand from mines and the U.S. military, in addition to the construction industry.

Labor costs have yet to accelerate from the 3.7 percent pace in 2005. Data from the Construction Labor Research Council suggest new contracts contain similar raises to previous contracts. Despite record construction employment (7.5 million in February, seasonally adjusted, up 4.7 percent from February 2005), most contractors have not reported greater difficulty than in the past in filling crafts positions. The most difficult positions to fill appear to be supervisors, project managers, and cost estimators.

Conclusion

The construction industry has much less opportunity that many other industries have to reduce or substitute materials. As a result, rising construction activity is likely to mean higher materials costs, particularly when domestic production is barely rising for many materials transportation costs are high. All of these conditions are likely to continue in 2006. Therefore, 2006 is likely to be another year of elevated construction materials prices, with selective shortages.

In contrast, labor costs are likely to grow only moderately. The industry benefits from the large number of new "baby boomlet" entrants in the workforce. There are fewer job openings in manufacturing, normally an alternative to construction for many workers.

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Ken has 30 years of experience analyzing, advocating and communicating about economic and tax issues. Before joining AGC, he spent three years as senior economic advisor in the Office of Advocacy of the U.S. Small Business Administration and 13 years as vice president and chief economist for the American Trucking Associations. He also worked with the President's Commission on Industrial Competitiveness, the U.S. Chamber of Commerce, the Federal Home Loan Bank Board, and an economic consulting firm.

Ken writes The Data DIGest, a weekly one-page email newsletter that summarizes the latest economic news relevant to construction. He is co-author of AGC's monthly Construction Tax News, a one-page email covering federal and state tax developments affecting the industry.

Ken has a BA in economics from the University of Chicago and an MA in economics from Northwestern University. He is a board member of the National Association for Business Economics.

Appendix 1

Table 1: Construction Materials Costs vs. CPI-U and PPI

	Percentage change in 12 months ending:					
	12/01	12/02	12/03	12/04	12/05	Oct./05-Jan./06
CPI-U	1.6	2.4	1.9	3.3	3.4	-0.5
PPI for finished goods	-1.6	1.2	4.0	4.2	5.4	-0.6
New warehouse construction (finished cost)	N/A	N/A	N/A	N/A	7.6	1.6
Materials and components for construction	0.0	0.8	3.0	10.1	6.1	2.5
Construction machinery and equipment	-0.1	1.9	1.3	6.0	5.0	1.5
ECI for construction	4.3	3.2	3.4	2.4	3.7	0.3 (Sept.-Dec./05)

Table 2: Changes in Costs Among Construction Types

	Percentage change in 12 months ending:					
	12/01	12/02	12/03	12/04	12/05	Oct./05-Jan./06
Nonresidential buildings	-0.5	0.7	2.4	9.4	7.4	0.1
Highway and street construction	-3.6	1.0	2.6	10.8	14.1	- 2.2
Other heavy construction	-2.6	1.0	2.6	13.4	8.8	- 0.6
Multi-unit residential	-0.1	0.4	2.7	8.9	7.6	1.0
Single-unit residential	-0.4	0.6	3.5	7.0	6.9	1.4

Table 3: Changes in Costs for Specific/Basic Construction Inputs

	Percentage change in 12 months ending:					
	12/01	12/02	12/03	12/04	12/05	Oct./05-Jan./06
Iron ore	1.5	- 1.3	1.6	6.7	15.5	3.7
Iron and steel scrap	- 5.6	27.8	64.9	50.8	-10.9	2.9
Steel mill products	- 6.1	11.1	1.7	48.8	- 3.6	3.0
Hot-rolled bars, plates, and structural shapes	- 4.3	2.1	11.3	53.8	- 0.9	0.1
Steel pipe and tube	- 3.7	9.1	3.3	66.0	1.1	2.3
Copper ores	-19.6	3.6	37.4	65.1	34.1	N/A
Copper base scrap	-17.4	11.2	30.7	34.5	52.0	9.6
Copper and brass mill shapes	- 9.5	- 1.6	11.6	29.6	31.0	11.2
Aluminum mill shapes	- 2.9	- 0.9	- 0.5	9.9	6.6	4.6
Structural, architectural, pre-engineered metal prods	- 1.5	- 0.4	1.0	26.1	3.1	1.3
Fabricated structural metal	- 1.3	- 2.4	0.1	24.7	3.0	0.5
Fabricated structural metal for buildings	- 1.5	- 3.3	- 0.1	20.0	3.3	- 0.2
Architectural and ornamental metalwork	- 0.1	3.7	0.7	23.5	5.9	0.8
Fabricated iron and steel pipe, tube, and fittings	0.6	0.1	1.2	32.6	5.5	3.9
Nonferrous pipe, tube, and fittings	0.9	0.8	-0.4	3.6	20.1	7.5
Fabricated steel plate	0.6	- 1.0	0.6	7.6	1.0	1.9
Prefabricated metal buildings	0.0	4.0	- 0.7	35.5	2.8	- 4.3
Cement	1.0	1.3	- 1.1	7.9	11.7	3.2
Construction sand/gravel/crushed stone	3.3	2.5	2.4	4.3	7.5	2.9
Concrete products	2.5	- 0.3	1.5	7.6	9.8	3.5
Concrete block and brick	2.3	1.6	3.2	4.7	8.1	2.3
Concrete pipe	4.4	1.7	1.4	5.5	8.6	5.8
Ready-mixed concrete	2.5	- 1.1	2.1	8.7	11.6	4.1
Precast concrete products	0.7	0.3	2.5	6.0	6.4	1.2
Prestressed concrete products	5.3	1.8	- 0.2	8.2	3.8	0.9
Brick and structural clay tile	5.3	1.9	0.7	3.0	9.5	5.0
Crude petroleum (domestic production)	-42.4	60.6	14.3	30.5	51.3	- 2.0
Industrial natural gas	-36.7	12.2	20.3	20.1	31.5	- 2.3
Plastic resins and materials	- 9.8	9.2	6.4	28.6	11.5	0.3
#2 diesel fuel	-44.7	54.4	13.0	37.9	46.3	-25.8
Asphalt	N/A	N/A	10.0	18.3	17.8	- 8.1
Paving mixtures and blocks	0.9	2.0	3.7	4.3	14.2	4.3
Asphalt felts and coatings	4.6	- 0.6	6.3	4.1	17.1	6.4
Prepared asphalt & tar roofing & siding products	5.0	- 1.7	5.3	4.6	18.5	6.5
Plastic construction products	- 2.7	3.1	3.2	7.2	22.6	10.7
Rubber and plastic plumbing products	- 6.3	8.7	5.8	17.8	38.9	N/A
Insulation materials	0.4	- 1.5	2.0	8.6	2.6	4.0
Architectural coatings	2.9	0.6	3.9	5.3	9.2	2.8
Gypsum products	0.4	3.4	2.8	20.0	18.2	5.6
Lumber and plywood	- 2.9	1.4	3.1	5.0	- 1.0	- 1.7

Appendix 2 - Producer Price Indexes Relevant to Construction

There is no overall price index that reflects all of the costs incurred by contractors. The only PPI so far for any type of finished construction work, an index for new warehouse construction, dates only from December 2004. BLS intends to roll out PPIs for other building types in the next few years. Nevertheless, the PPI does include numerous subindexes that indicate how specific construction costs are changing.

In general, PPIs measure the cost at a U.S. producer's loading dock or other point of sale. Thus, PPIs do not capture the transportation, insurance, freight, labor, equipment, and overhead costs or profit that the user (e.g., construction firm) incurs.

There are several types of PPIs. The published monthly PPI report (at www.bls.gov/ppi) shows PPIs for finished goods, including subindexes for various types of capital equipment; intermediate materials, supplies, and components; and crude materials for further processing. In addition, there are industry PPIs.

The PPI for finished goods, the most frequently cited, reflects the U.S. manufacturer or final producer's selling price of goods produced for final consumption. It differs from the CPI in that it does not capture the retailer or final vendor's additional costs and markup. Also, the PPI includes only goods, not the services that make up the bulk of consumer purchases. Although most finished goods PPIs are for goods sold to consumers, there is one that applies to construction-the PPI for construction machinery and equipment.

Another set of PPIs is for intermediate goods, materials, and components-items produced for other businesses that then produce finished goods. Like finished goods PPIs, these PPIs measure the price at the U.S. producer's point of sale. Although some intermediate PPIs are specific to one set of customers (e.g., concrete products are sold almost exclusively to construction-related business), other PPIs cover a range of products that many businesses buy (e.g., steel mill products). Thus, these PPIs vary in how closely they reflect the selling prices of items purchased for use in construction.

A third set of PPIs is for crude goods-the basic materials that are turned into intermediate and finished goods. These include both virgin materials, such as crude oil and ores, and scrap. The connection between crude goods and intermediate or finished goods can be relatively direct (e.g., cement and construction sand/gravel/crushed stone go directly into concrete products) or involve many stages. Moreover, the change in final prices may be influenced by substitution of other inputs, use of imports, etc. Thus, the movement of crude prices provides a hint, not a definite sign, of how final or intermediate prices will vary.

Industry PPIs show the weighted average of the producer prices of the goods bought by an industry for all of its purposes. In the case of construction industry types, most of the goods in the industry indexes are used to construct the project types (e.g., nonresidential, single- and multi-family residential buildings, highway, other heavy), but the indexes also include materials that contractors buy for their own overhead.

The indexes included in this report cover a range of items used for construction but not all. Specialty and subcontractors may find other PPIs more pertinent to their businesses at the "Get Detailed Statistics" section of the PPI homepage, www.bls.gov/ppi.

The following BLS table, showing the list of material and supply inputs that are purchased by the construction sector and the percentage of the finished goods PPI that each represents, is reproduced from ftp://ftp.bls.gov/pub/special.requests/ppi/soprel06.txt.

SOP Code	Commodity Code	Index	Relative Importance (Revised) 1997	Relative Importance (Former) 1997
2200		Materials and components for construct	12.635	12.646
	034503	Nonwovens and felt goods	.003	.003
	038303	Industrial and other fabricated produc	.008	.008
	039101	Textile fibers, yarns, and fabrics, n.	.001	.001
	061302	Other inorganic chemicals	.013	.013
	062101	Architectural coatings	.157	.157
	062103	Special purpose coatings, incl. marine	.084	.084
	062301	Allied and miscellaneous paint product	.044	.044

067904	Adhesives and sealants	.069	.069
067909	Other miscellaneous chemical products	.008	.008
071201	Tires	.019	.019
071202	Inner tubes	.000	.000
071203	Tread rubber, tire sundries, & repair	.003	.003
071303	Rubber and plastic belts and belting	.001	.001
071304	Rubber hose	.001	.001
071306	Miscellaneous rubber products, n.e.c	.011	.011
072106	Plastic construction products	.956	.955
072205	Unsupported plastic film/sheet/other s	.130	.130
072304	Laminated plastic sheets, rods, and tu	.018	.018
072901	Other plastic products	.081	.081
081105	Flooring, siding, and cut stock	.043	.043
081106	Softwood lumber, not edge worked, not	.289	.289
081107	Softwood lumber MFPM	.035	.035
081203	Hardwood dimension	.019	.019
081204	Hardwood flooring	.058	.058
081205	Hardwood lumber, not edge worked, not	.075	.075
081206	Hardwood lumber MFPM	.015	.015
082101	General millwork	.780	.780
082201	Prefabricated structural members	.254	.238
082301	Miscellaneous millwork products	.005	.005
083103	Softwood veneer and plywood	.102	.094
083201	Hardwood plywood and related products	---	.045
083301	Softwood veneer, incl veneer backed	---	.017
083401	Hardwood plywood veneer	---	.018
083501	Hardwood veneer and plywood	.071	---
084903	Wood ties, siding, shingles, & shakes	.021	.021
084904	Sawn wood fence stock, wood lat, and c	.003	.003
086101	Prefabricated wood buildings & compone	.142	.142
087101	Treated wood	.148	.153
087102	Contract wood preserving	.005	.006
091303	Packaging and industrial converting pa	.007	.007
091305	Coated and laminated paper, n.e.c.	.003	.003
091506	Office supplies and accessories	.006	.006
091508	Pressed and molded pulp goods	.005	.005
091509	Misc. converted paper and board produc	.032	.031
092201	Particleboard and fiberboard	.074	.074
092202	Hardboard and fabricated hardboard pro	.015	.015
092301	Board: asphalt, hardpressed, insul. ro	.011	.011
093201	Circulation	.006	.006
093203	Other periodicals: circulation/adverti	---	.001
093501	Manifold business forms	.008	.008
101502	Pressure & soil pipe & fittings, cast	.103	.103
101504	Gray & ductile iron castings, other	.092	.092
101505	Malleable iron castings	.004	.004
101506	Carbon, stainless, and alloy investmen	.020	.020
101507	Other steel castings, carbon steel	.007	.007
101508	Other steel casting, high alloy & stai	.006	.006
101509	Other steel castings, low alloy steel	.006	.006
101702	Semifinished steel mill products	.057	.057
101703	Hot rolled sheet and strip, incl. tin	.143	.144
101704	Hot rolled bars, plates, & structural	.126	.127
101705	Steel wire	.157	.159
102501	Aluminum mill shapes	.014	.014
102502	Copper and brass mill shapes	.018	.018
102504	Nickel alloy mill shapes	.001	.001
102505	Titanium mill shapes	.001	.001
102519	Other mill shapes	.002	.002
102603	Nonferrous wire and cable	.410	.413

104101	Builders hardware	.049	.049
104105	Other hardware, n.e.c.	.014	.014
104201	Hand and edge tools	.016	.016
105201	Vitreous china fixtures	.039	.040
105402	Plumbing fixture fittings and trim	.135	.136
105601	Enameled iron & metal sanitary ware	.061	.061
106101	Steam and hot water equipment	.001	.001
106201	Floor & wall furnaces/heaters/parts	.082	.083
106301	Other heating, non-elect., parts	.074	.074
106401	Domestic heating stoves	.011	.011
106601	Water heaters, domestic	.030	.031
107102	Metal doors and frames, exc. storm	.169	.170
107103	Metal window sash and frames, exc. sto	.203	.205
107104	Metal molding and trim and storefronts	.021	.022
107105	Storm sash and doors	.019	.019
107106	Screens and weatherstrip	.061	.062
107201	Metal tanks	.106	.107
107301	Sheet metal products	.542	.547
107404	Nonferrous pipe, tube, and fittings	.022	.022
107405	Fabricated structural metal	.392	.395
107407	Miscellaneous metal work	.118	.119
107408	Architectural and ornamental metalwork	.191	.192
107409	Fabricated iron & steel pipe, tube & f	.099	.100
107501	Heat exchangers and condensers	.046	.046
107601	Fabricated steel plate	.058	.059
107701	Steel power boilers	.009	.009
107801	Nuclear steam supply systems	.008	.008
107901	Prefab. metal bldg systems, ex. farm s	.131	.132
107902	Other prefab. & portable metal buildin	.047	.048
107903	Panels, parts, & sections for prefab b	.016	.016
108102	Externally thread. fasteners, ex. airc	.005	.005
108103	Internally thread. fasteners, ex. airc	.001	.001
108104	Nonthreaded fasteners, except aircraft	.002	.002
108106	Other formed fasteners	.001	.001
108302	Residential	.027	.028
108303	Commercial/institutional or industrial	.099	.099
108305	Lighting equipment, n.e.c.	.059	.059
108801	Ferrous wire rope, cable and strand	.056	.057
108802	Steel nails and spikes	.027	.028
108807	Ferrous wire cloth, other woven wire p	.007	.007
108809	Other fabricated ferrous wire products	.088	.088
108905	Other metal products	.036	.037
108907	Metal stampings n.e.c.	.005	.005
114102	Industrial pumps	.012	.012
114107	Parts & attach for air & gas compresso	.004	.004
114108	Industrial spraying equipment	.004	.004
114112	Other pumps, including parts	.011	.011
114113	Domestic water systems	.002	.002
114115	Air & gas compressors and vacuum pumps	.001	.001
114201	Elevators & escalators	.044	.044
114402	Conveying equipment	.002	.002
114701	Fans and blowers, except portable	.047	.047
114801	Heat transfer equipment	.187	.186
114802	Unitary air conditioners	.236	.235
114806	Other a/c and refrigeration equipment	.017	.017
114809	Parts & accessories for a/c & refrig.	.007	.007
114902	Metal valves, except fluid power	.144	.143
114903	Metal pipe fittings, flanges, and unio	.043	.043
114908	Filters and strainers	.006	.006
114911	Other miscellaneous general purpose eq	.011	.011
117101	Current carrying	.162	.161

117102	Noncurrent carrying	.204	.203
117522	Switchgear and switchboard apparatus	.162	.161
117602	Radio & television communication equip	.140	.139
117703	Parts for electric lamps/bulbs	.000	.000
117704	Electric lamp bulbs and tubes	.003	.003
117901	Storage batteries	.002	.002
118105	Environmental controls	.161	.160
118201	Process control instruments	.000	.000
118401	Fluid meters and counting devices	.002	.002
118901	Aircraft engine instruments	.000	.000
118904	Nuclear radiation detect.& monitoring	.000	.000
118905	Physical properties and kinematic test	.001	.001
118906	Comm., geophysical & general instrumen	.000	.000
121101	Metal household furniture	.003	.003
121501	Porch and lawn furniture	.002	.002
122101	Wood office furniture and store fixtur	.047	.047
122204	Partitions and fixtures	.032	.032
122301	Public building furniture	.009	.009
123101	Carpets & rugs	.093	.092
123201	Hard surface floor coverings	.031	.031
124104	Other major appliances	.036	.036
124301	Vacuum cleaners	.002	.002
124401	Small household appliances	.007	.007
131105	Sheet, plate, and float glass	.009	.009
132201	Cement	.079	.079
133111	Structural block	.094	.094
133121	Decorative block	.011	.011
133131	Concrete brick	.007	.007
133141	Paving blocks	.012	.012
133201	Concrete pipe	.091	.091
133301	Ready-mixed concrete	.866	.865
133401	Precast concrete products	.225	.225
133501	Prestressed concrete products	.077	.077
134201	Brick, except ceramic, glazed & refrac	.069	.069
134202	Glazed brick struct., hollow & facing	.004	.004
134401	Ceramic floor and wall tile	.027	.027
134501	Structural clay products, n.e.c.	.006	.006
135201	Clay refractories	.025	.024
135301	Refractories, non clay	.032	.032
136101	Prep. asphalt & tar roofing & siding p	.208	.208
136201	Other asphalt roofing	.038	.038
137101	Gypsum products	.172	.172
139201	Mineral wool for structural insulation	.129	.129
139401	Paving mixtures and blocks	.312	.312
139501	Cut stone and stone products	.029	.029
139801	Gaskets and gasketing material	.002	.002
139802	Packing and sealing	.002	.002
139902	Other nonmetallic minerals, n.e.c.	.027	.027
139903	Nonmetallic mineral products, n.e.c.	.002	.002
159A04	Signs and advertising displays	.009	.009

1/ The relative importance of a component of the PPI represents its value weight that is allocated to a particular stage-of-processing (SOP) category--Finished Goods, Intermediate Materials, or Crude Materials. This value is expressed as a percentage of the total weight of the SOP category. The "Revised" column shows relative importance figures for December 2005, based on 1997 shipment values from the Census of Manufactures and other sources, and reflects all sample revisions effective January 2006. The "Former" column provides relative importance figures for the same month before any sample revision. Groupings and subtotals may not add exactly to totals because of rounding. A dash in the "Former" column indicates that the series was introduced in January 2006, and a dash in the "Revised" column indicates that the series was discontinued as of January 2006. The value "0.000" represents any percentage less than 0.0005.