

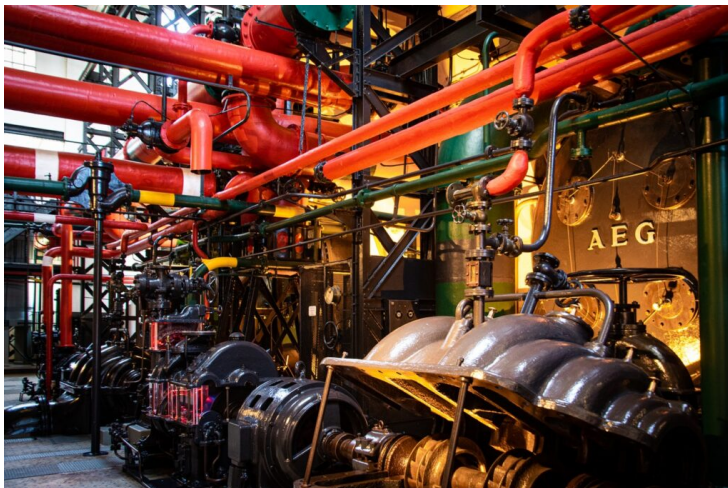
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# Cost Indices

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I know I often am. A key to this work is using cost indices. Unfortunately, accessing the best estimating data is expensive. Often it costs thousands of dollars. This article discusses the easiest to access free sources.

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## Bureau of Labor Statistics (BLS)

The United States Bureau of Labor Statistics compiles the following statistics pertaining to cost estimating:

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- Productivity
- International prices and labor comparisons

The Producer Price indices and the Labor Compensation rates are useful for adjusting engineering and business estimates. You can find the data at: <https://www.bls.gov/data/>.

The *BLS Handbook of Methods* is helpful understanding and accessing the data.

## Producer Prices Indices (PPI)

Producer Price indices measure changes in prices received by producers of most products and services generated by the US economy. It may take some exploring to find the indices that best suit your purpose—being that the BLS has compiled more than 8,000 Producer Price indices—but your patience will be rewarded by finding representative data. And the price is right—free. Go to: <https://www.bls.gov/data/>, and under the major heading “**Inflation & Prices**,” select either “Industry Data” or “Commodity Data” by clicking on the green icon.



From the popup data retrieval wizard, select an

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Chapter 14 of the *BLS Handbook of Methods*

explains the Producer Price indices.

## Labor Costs

The BLS compiles much useful information on labor costs. You also can find this on the data page: <https://www.bls.gov/data/>, under the major heading “**Pay & Benefits.**” There select “Employer Cost for Employee Compensation Total Compensation” by clicking on the green icon.

From the popup data retrieval wizard, select the **Ownership, Compensation Component,** and **Occupation.** The **Compensation Component** “01 Total compensation” is good if you are estimating total labor costs for a project.

Chapter 8 of the *BLS Handbook of Methods*

provides more information on the labor compensation statistics.

Chapter 12 of the *BLS Handbook of Methods*

provides information on non-US labor compensation statistics.

## Consumer Price Index (CPI)

The BLS compiles the often reported Consumer Price Index. The home page is at:

<https://www.bls.gov/cpi/>. The CPI is a measure

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labor cost indices, and productivity indices  
better represent industrial costs.

## RSMeans

[RSMeans](#) is a leading North American source of construction cost information. RSMeans was a pioneer in developing localized cost information for the US and Canada. RSMeans is owned by Gordon, which in turn is owned by Fortive Corporation.

Below are annual indices for 2000-2021.

Historical and current values used to be freely available at:

[www.rsmeansonline.com/references/unit/refpdf/hci.pdf](http://www.rsmeansonline.com/references/unit/refpdf/hci.pdf), but the link was dead as of 14 Jul 2021.

Nevertheless, you can find a copy archived 11 Nov 2020 at:

<https://web.archive.org/web/20201111162743/www.rsmeansonline.com/references/unit/refpdf/hci.pdf>. In addition, Archive.org has earlier copies

going back to 2015, which contain values for the years back to 1964. Recent values (for 2020-2022) come from

<https://www.rsmeans.com/landing-pages/2020-rsmeans-cost-index>,

<https://www.rsmeans.com/landing-pages/2021-rsmeans-cost-index>,

<https://www.rsmeans.com/landing-pages/2022-rsmeans-cost-index>, and similar pages archived

<b>Year</b>	<b>Index</b>
2022 Jan	276.9
2021 Oct	266.6
2021 Jul	257.5
2021 Apr	241.7
2021 Jan	238.3
2020 Oct	235.5
2020 Jul	234.6
2020 Apr	235.6
2020 Jan	239.1
2019 Jul	232.2
2018 Jul	222.9
2017 Jul	213.6
2016 Jul	207.3
2015 Jul	206.2
2014 Jul	204.9
2013 Jul	201.2
2012 Jul	194.6
2011 Jul	191.2

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Year	Index
2008 Jul	180.4
2007 Jul	169.4
2006 Jul	162.0
2005 Jul	151.6
2004 Jul	143.7
2003 Jul	132.0
2002 Jul	128.7
2001 Jul	125.1
2000 Jul	120.9
<b>1993 Jan</b>	<b>100.0</b>

Detailed information is by subscription, with datasets annually costing \$700-\$4,000 each.

## Engineering and News Record (ENR)

The *Engineering and News Record (ENR)*, a popular construction magazine, maintains three widely-used cost indices. These include:

- Construction Cost Index (CCI)
- Building Cost Index (CCI)

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The MCI consists of the price for 2,500 pounds of fabricated structural steel, 1.128 short tons of Portland cement, and 1,088 board feet of 2×4 lumber. The CCI and BCI include both labor and material costs from the Material Cost Index. For labor, the CCI uses 200 hours of common labor, while the BCI uses 68.38 hours of skilled labor averaged from three trades—bricklayers, carpenters, and ironworkers.

Data, prepared for 20 US metropolitan regions, are only available by subscription to the magazine. The subscription cost varies by country of origin, delivery means, and length of subscription, but typical is more than \$100 per year. ENR is owned by BNP Media.

## Chemical Engineering Plant Cost Index (CEPCI)

*Chemical Engineering* magazine publishes the Chemical Engineering Plant Cost Index, which is widely used to quickly evaluate equipment and plant costs for the chemical and process industries. As of 2002, the index consisted of the weighted average of 41 PPIs (industry and commodity indices) and 12 labor cost indices, all reported by the BLS. Major categories of the CEPCI and their weighting as of 2002 included:

Category as of 2002	%
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Category as of 2002	%
Heat exchangers and tanks	17.1%
Process machinery	6.5%
Pipes, valves, fittings	9.6%
Process instruments	5.3%
Pumps and compressors	3.2%
Electrical equipment	3.5%
Structural supports and misc.	5.3%
Construction labor	29.0%
Engineering and supervision	15.8%
Buildings (materials and contractors)	4.6%
<b>Total</b>	<b>100.0%</b>

You can find a lengthy article on the makeup of the CEPCI by William M. Vataavuk, "Updating the CE Plant Cost Index," which appeared in *Chemical Engineering* in January 2002 (page 62-70) at:

[https://www.chemengonline.com/Assets/File/CE PCI\\_2002.pdf](https://www.chemengonline.com/Assets/File/CE PCI_2002.pdf)

The magazine editors reported in 2021 issues of the publication that "Starting in April 2007,

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Statistics (BLS),” and “Starting in March 2008, the data series for chemical industry special machinery was replaced because the series was discontinued by BLS (see Chem. Eng., April 2018, p. 76-77).”

Web access to the CEPCI is a pricey \$699.97 per year (as of April 2021). However, many professionals can qualify for a free subscription to *Chemical Engineering* magazine. The index is published monthly with indices being 3 months behind the publication date.

Cost professionals recommend only using the index back 5 years due to changes in technology, construction practices, labor efficiency, and formulation of the index. The following table shows values for the last 20 years.

### CEPCI 2001 to Present

Year	CEPCI
2021 Nov Prelim	772.5
2021 Oct	761.4
2021 Sep	754.0
2021 Aug	735.2
2021 Jul	720.2
2021 Jun	701.4

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Year	CEPCI
2021 May	686.7
2020	596.2
2019	607.5
2018	603.1
2017	567.5
2016	541.7
2015	556.8
2014	576.1
2013	567.3
2012	584.6
2011	585.7
2010	550.8
2009	521.9
2008	575.4
2007	525.4
2006	499.6
2005	468.2
2004	444.2

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Year	CEPCI
2002	395.6
2001	394.3
<b>1957-1959</b>	<b>100.0</b>

## Marshall & Swift (M&S)

Another source of cost data—which once was popular for industry, but today is focused on commercial and residential real estate building data—is [Marshall & Swift](#). Marshall & Swift is owned by CoreLogic.

## Summary

Cost indices are an essential engineering tool. The basic RSMeans and CEPCI indices are useful tools for developing quick, scoping estimates. BLS indices are helpful for estimating capital and operating costs. More detailed cost estimates require detailed estimating techniques and subscription to expensive cost databases, such as those provided by RSMeans.

## Photo Credit

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