

Employment

Indexing, inflation, and the minimum wage

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Executive summary

Amendment 42 on the November 2006 ballot will increase Colorado's minimum wage from \$5.15 per hour to \$6.85 per hour and adjust it annually based on the consumer price index used for Colorado.

Linking or indexing the minimum wage to inflation ensures that it keeps pace with the cost of living and protects the earnings of low-wage workers from losing ground to inflation.

The minimum wage has not been increased since 1997 and has lost about 25 percent of its purchasing power to inflation during that time. The wage is at its lowest value relative to prices in 50 years, and at its lowest value relative to average wages in the economy in 57 years — since 1949.

From 1914 through 2005, inflation in the United States averaged 3.4 percent per year. During the past 20 years, inflation nationally averaged 3.0 percent per year, ranging from a high of 5.4 percent in 1990 to lows of 1.6 percent in 1998 and 2002. In Colorado over the same period, inflation averaged 2.9 percent per year, ranging from a high of 4.7 percent in 2001 to a low of 0.1 percent in 2004.

Many people realize that inflation increases most years, and some express concern that indexing the minimum wage to inflation will result in a wage that businesses cannot afford to pay. However, few people realize that average wages in the economy generally increase faster than inflation. These are the wages paid to the 94 to 97 percent of the workers who would not be affected by increases in the minimum wage.¹

In 1985, the average Colorado wage was \$9.34 per hour and the minimum wage was \$3.35. By 2005, the average wage in Colorado grew to \$20 per hour.

If the state's minimum wage had been indexed to inflation during this period, it would have grown to \$5.96. While indexing the Colorado minimum wage to inflation would have allowed it to keep pace with the cost of living, it still would have grown more slowly compared to higher wages in the economy.

In periods of low inflation, average wages grow faster than inflation and minimum wages indexed to inflation fall behind. During times of high inflation, minimum wages indexed to inflation would grow faster than average wages and the gap between the two would narrow.

In the inflationary decade of 1973-82, inflation increased 140 percent. By comparison, average wages in the national economy increased 90 percent over the same period. In a comparable inflationary period, it is possible a minimum wage indexed to inflation would increase in value more than average wages.

The 1973-82 era was unusual, and economists do not foresee that type of rampant inflation for the coming years. Economic projections for the next five years call for inflation to increase by 3.2 to 3.5 percent a year.²

Given these projections, a new state minimum wage of \$6.85 adopted in 2007 would grow by 23 cents an hour through 2010 and by 25 cents an hour in 2011, to reach \$7.79 an hour. This increase merely keeps the purchasing power of the minimum wage the same as in 2007.

This issue brief reviews historical data on inflation in the United States and Colorado, compares increases in inflation with growth in average wages in the national and Colorado economies, and describes how indexing to inflation affects the value of the minimum wage.



Indexing, inflation and the minimum wage

☐ Inflation in the United States and Colorado

Inflation in the United States

From 1914 through 2005, inflation in the United States averaged 3.43 percent per year.³ While this average rate masks ups and downs, it does reflect the fact that over the past 92 years, U.S. inflation has been modest.

Except for the period from 1973 through 1982, U.S. inflation has rarely exceeded 4 percent. In the 23 years since 1982, inflation topped 5 percent only once — in 1990 — and exceeded 4 percent just four times — in 1984, 1988, 1989 and 1991. It was less than 4 percent in the other 18 years.

During the past 20 years, inflation increased an average of 3 percent per year. It ranged from a high of 5.4 percent in 1990 to lows of 1.6 percent in 1998 and 2002.

Inflation in Colorado

Inflation data for Colorado based on the Denver-Boulder-Greeley inflation index is available beginning in 1965. For the 40 years from 1965 through 2005, inflation in Colorado increased at an average annual rate of 4.8 percent. This time period includes the mid 1970s and early 1980s, when inflation was at historic highs.

In the 23 years since 1982, Colorado’s inflation rate exceeded 5 percent only once — in 1983 — and exceeded 4 percent six times, in 1990, 1993, 1994, 1995, 2000 and 2001. It was less than 4 percent in the other 16 years and below 3 percent in 11 of these years. Over the past 20 years, inflation in Colorado averaged 2.9 percent per year ranging from a high of 4.7 percent in 2001 to a low of 0.1 percent in 2004.

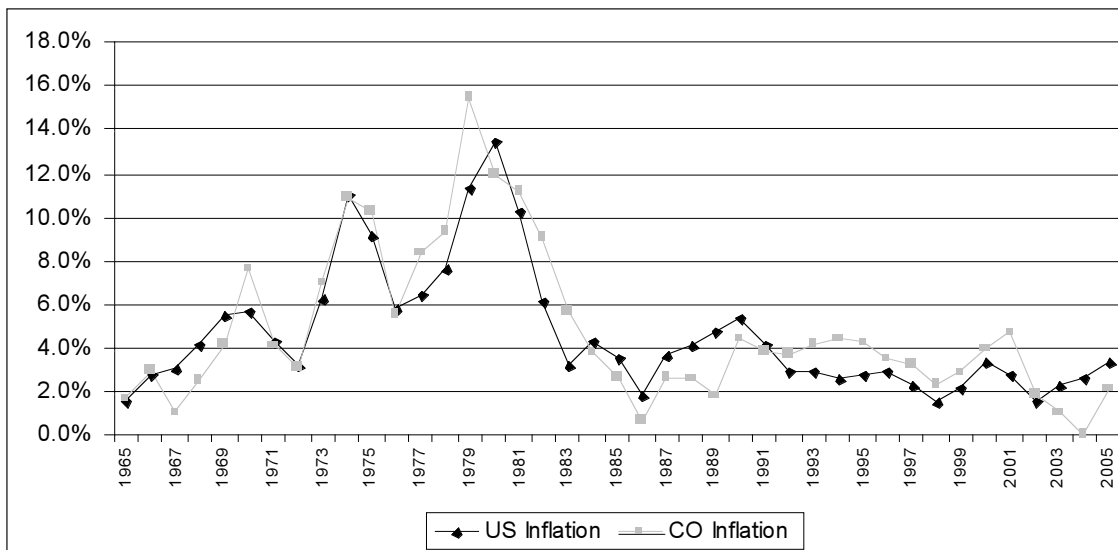
Growth in average wages

One way to measure the value of the minimum wage is to compare it to average wages in the economy. Average wages in the economy generally increase faster than inflation. Workers are generally compensated for their contribution to increased productivity in the economy on top of increases in inflation.

Adjusting the minimum wage annually for inflation will not cause it to grow faster than other wages. It only ensures that the wage maintains its value relative to prices in the market.

If the minimum wage is set at \$6.85 in 2007 and adjusted for inflation, the projected 3.5 percent increase in inflation for 2007 will result in the minimum wage growing by 23 cents, to \$7.08 in

Chart 1. U.S. and Colorado inflation rates, 1965 - 2005



Source: Consumer Price Index – All Items (CPI-U), Colorado Legislative Council.

http://www.state.co.us/gov_dir/leg_dir/lcsstaff/lcs/focus/2006/06consumerpriceindex.pdf



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□ The minimum wage and average wage

2008. This increase merely keeps the purchasing power of the minimum wage in 2008 at the same level it was in 2007.

In periods of high inflation or weak economic growth, inflation might grow slightly faster than the average of all wages. But in other times, average wage growth makes up the difference and outpaces inflation.

Historically, productivity in the U.S. economy has grown by about 2 percent annually. Average wages, after adjusting for inflation, tend to track this growth in productivity. According to Jim Zelenski, an economist with the Colorado Fiscal Policy Institute, this means that over time, a minimum wage that is adjusted for inflation will, on average, fall behind average wages in the economy by about 2 percent per year.⁴

Nationally, the consumer price index increased 740 percent over the 50 years from 1956 through 2005. Over the same period, average wages, not adjusted for inflation, grew by 922 percent.⁵

During this period, which included times of high inflation and recessions, average wages outpaced

inflation. If the minimum wage were indexed to inflation over this period, it would have kept pace with the cost of living but lagged behind other wages in the economy.

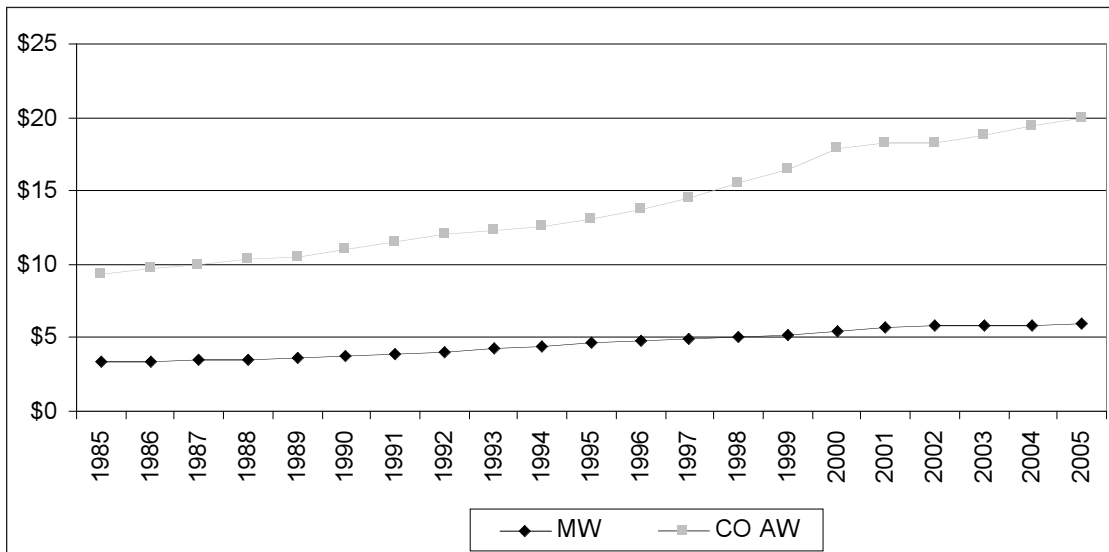
Since 1985, the “mean average” wage in Colorado, as calculated by the Department of Labor and Employment, increased by 114 percent. Inflation in Colorado increased by 78 percent over the same period.

In 1985, the average Colorado wage was \$9.34 per hour and the minimum wage was \$3.35. Over the next 20 years, the average Colorado wage grew to \$20 per hour.

If Colorado’s minimum wage had been indexed to inflation during this period, it would have grown to \$5.96. While indexing the Colorado minimum wage to inflation would have allowed it to keep pace with the cost of living, it still would have grown more slowly than other wages in the economy.⁶

Chart 2 compares the growth in Colorado average wages from 1985 to 2005 with the growth in the minimum wage had it been indexed for inflation.

Chart 2. Growth in Colorado average wages compared to an indexed minimum wage, 1985 - 2005



Sources: Inflation data as reported by the Legislative Council in Consumer Price Index – All Items (CPI-U); average Colorado wages as published by the Colorado Department of Labor and Employment from its Quarterly Census of Employment and Wages.



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High inflation, indexing in other states

The minimum wage compared to average wages

Nationally, the value of the minimum wage relative to average wages was about 50 percent during the 1950s and 1960s. During these decades, it ranged from a low of 44 percent in 1955 to a high of 56 percent of average wages in 1950. Since then, its value relative to average wages declined from 47 percent in 1970 to today's 31 percent. This is the lowest the minimum wage has been compared to average wages since 1949.

Currently, Colorado's minimum wage of \$5.15 is 26 percent of the 2005 Colorado average wage of \$20. If it is raised to \$6.85, it will equal 34 percent of average wages in Colorado, still very low historically.

If inflation and wages increase in the next 20 years at the same rates they grew during the past 20 years, the average Colorado wage would grow by 114 percent, while the minimum wage would by 78 percent. Relative to average wages, the minimum wage would decline from 34 percent to 29 percent.

What happens during periods of high inflation?

Most of the concerns over indexing the minimum wage to inflation center on what would happen during periods of high inflation, such as what the nation experienced from 1973 through 1982. Would indexing to inflation push the minimum wage so high that it becomes excessive?

As described previously, inflation in the United States and Colorado has historically increased at relatively modest rates. The period from 1973 through 1982 was an unusual time and a significant departure from the norm. While not highly probable, it is possible that we could see similar periods of high inflation in the future.

In periods of low inflation, average wages grow faster than inflation and minimum wages indexed to inflation lag average wage growth. During periods of high inflation, minimum wages indexed to inflation could grow faster than average wages and the gap between the two would narrow. When

State experiences with indexing

Currently four states index their minimum wage to inflation. Indexing started in Washington in 1998, continued with Oregon in 2002 and Florida in 2004, and Vermont will begin indexing its minimum wage in 2007. In addition to Colorado, five other states – Arizona, Missouri, Montana, Nevada and Ohio – have proposals on their 2006 ballots to increase their minimum wage and index it to inflation.⁷

Washington and Oregon report that since they began indexing their minimum wage, jobs have grown even in low-wage sectors and inflation in their states dropped relative to the national inflation rate.⁸

Washington's low-wage sectors that employ many minimum wage workers, such as restaurants and agriculture, experienced greater job growth than higher wage sectors during the recent recession.⁹ Since Oregon indexed its minimum wage in January 2003, its job growth is No. 8 in the nation and restaurant jobs have grown faster than other non-farm payroll jobs in the economy.¹⁰

inflation returns to its normally modest rate, average wages would grow faster than inflation and the gap would again widen.

Inflation increased 140 percent over the 10 years from 1973-82. By comparison, average wages in the national economy increased 90 percent over the same period. In a comparable inflationary period, a minimum wage that is indexed to inflation could increase in value more than average wages.

However, today's economic projections call for inflation to increase between 3.2 percent and 3.5 percent during the coming five years. Based on these levels of inflation, the minimum wage will grow by 23 cents an hour each year from 2008 through 2010 and by 25 cents an hour in 2011. By 2011, the \$6.85 minimum wage would reach \$7.79.



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☐ Indexing over the long term

During periods of high inflation, prices for all goods and services rise across the board. The costs of raw materials, supplies and transportation increase for businesses. In addition, businesses charge more for their goods and services and their revenues rise. Under these conditions, the increase in wages for low-wage employees due to indexing represents a very small part of the overall costs of doing business.

Low-wage workers are those who can least afford to see their wages eroded by inflation, and they should not be forced to forgo wage increases during periods of high inflation.

Long-term projection of the effects of indexing

Because high inflation does not appear to be on the horizon, starting with the proposed \$6.85 minimum wage and adjusting it based on the inflation rates we experienced in the 1970s and early 1980s, as some opponents of indexing the wage have done, unfairly states how the minimum wage might grow in times of high inflation.

It is more reasonable to project what might happen over a longer term that includes a period of increasing rates of inflation, mimicking the years before and after the 1973-82 inflationary years. It is highly unlikely that the economy would shift overnight from relatively low and stable inflation to the highest inflation rates our nation and state ever experienced.

As we pointed out above, official economic projections issued by state economists suggest inflation will range from 3.2 to 3.5 percent over the coming five years.¹¹

To project the amount of the minimum wage over the long term, including periods of high inflation, we can begin with the minimum wage of \$6.85 and adjust it for inflation over a 30-year period. Because no inflation estimates extend for 30 years, we have estimated inflation rates based on past experience and what is likely to happen in the near future.

We assumed that inflation over the first five years following a minimum wage increase will equal today's projections for 2007-11. For the following 25 years, we used the Colorado inflation rate from 1965 through 1989. This period includes the highly inflationary 1970s and 1980s, along with the periods leading up to and following them.

In addition to calculating what the minimum wage might reach over 30 years, we also compared it to estimates for average wages in the economy over the same period. This helps put the minimum wage into perspective and provides a benchmark it can be measured against.

To estimate average wages we used projections for total wages and total employment issued by the Legislative Council staff to calculate the statewide "mean average" wages for 2007 through 2011.¹²

For the following 25 years, we used the growth in average wages nationally from 1965-89. This matches the same time frame as our inflation data and represents periods of economic growth, economic decline, high inflation and modest inflation.

Based on these estimates, the minimum wage would increase by 350 percent over 30 years and average wages would rise by 353 percent. In those years with low inflation, average wages grow faster than inflation. In the years with very high inflation, minimum wages indexed to inflation grow faster than average wages.

However, under this scenario, the minimum wage equals 31 percent of average wages in year one and 31 percent of average wages in year 30. While the values of both change over time, their relationship to each other at the end of 30 years remains the same. The minimum wage loses ground to average wages in times of low inflation and gains ground during high inflation.

Chart 3, next page, graphically shows the relationship between the minimum wage and average wages over 30 years based on estimates of inflation rates and growth in average wages.



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Conclusion

Chart 3. Projected value of minimum wage and average wages over 30 years

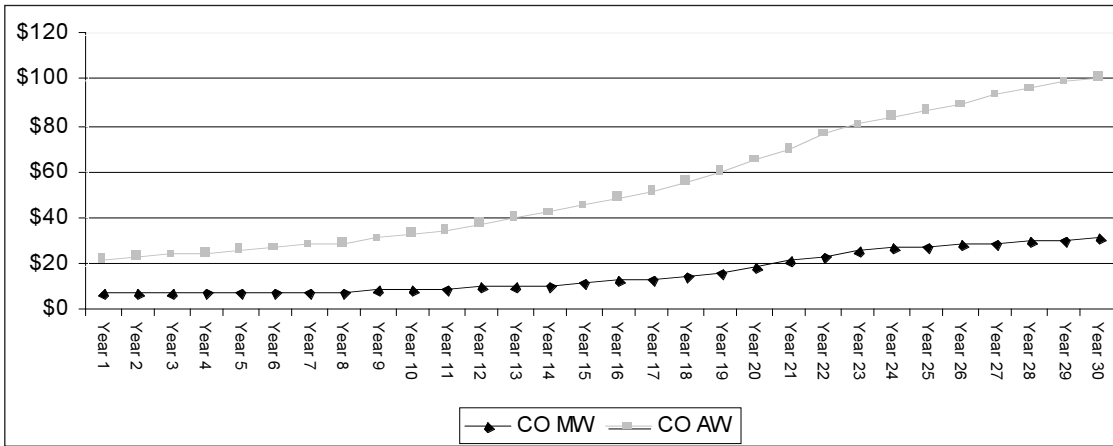


Chart 3 years	Data
1 to 5	Projections for 2007 - 2011
6 to 10	Actual results 1965 - 1969
11 to 20	Actual results 1970 - 1979
21 to 30	Actual results 1980 - 1989

Source: Historical data on the Colorado inflation rate from Legislative Council data. Historical data on national growth in average wages from Economic Policy Institute based on production, non-supervisory workers. Projected inflation rates and growth in average wages is taken from Legislative Council Economic and Revenue Forecast 2006-2011, September 2006.

Conclusion

Over the years, Congress and the states adjusted the minimum wage so it would catch up to increases in the cost of living and growth in average wages in the economy. However, the minimum wage has not been increased since 1997 and it stands at its lowest value relative to prices in more than 50 years. This nine-year hiatus since an increase is the second longest stretch in the history of the U.S. minimum wage.

Raising the minimum wage and indexing it to inflation is a sensible way to restore its value lost to inflation and to ensure it keeps pace with the cost of living in the future.

Experiences of states that index their minimum wage show it can be done without costing jobs, harming the economy or hurting business.

In October, 650 leading economists, including five Nobel Prize winners, endorsed an increase in the minimum wage. Their position stated in part, “As with a federal increase, modest increases in state minimum wages in the range of \$1 to \$2.50 and indexing to protect against inflation can significantly improve the lives of low-income workers and their families, without the adverse effects that critics have claimed.”¹³

Coloradans value hard work. It is only fair that we raise the minimum wage and give low-wage workers their first raise in almost a decade.



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End notes

- ¹ We estimate 73,000, or about 3 percent of the Colorado workforce, earn less than \$6.85 per hour and would be directly affected by the minimum wage increase. Another 65,000 workers, or about 2.6 percent of the Colorado workforce, make slightly more than \$6.85 per hour and will likely get a raise as businesses adjust their wage structures in response to the minimum wage increase. The other 94 to 97 percent of Colorado's workforce will likely not be affected by the minimum wage increase.
- ² [Economic and Revenue Forecast 2006-2011](#), Legislative Council Staff, September 20, 2006. [September 2006 Revenue Forecast](#), Office of State Planning and Budgeting.
- ³ [Average Annual Inflation by Decade](#), Financial Trend Forecaster, InflationData.com. 2006.
- ⁴ "Minimum Wage, Indexing and Economic Productivity," Jim Zelenski, Colorado Fiscal Policy Institute. Sept. 22, 2006.
- ⁵ "Securing the Wage Floor," EPI Briefing Paper No. 177, Michael Ettlinger, Economic Policy Institute, Washington, D.C., Oct. 12, 2006.
- ⁶ Colorado average wages are reported by the Department of Labor and Employment as part of its Quarterly Census of Employment and Wages. Data on the average Colorado wage from 1985 through 2006 are available on the [department's web site](#). The minimum wage was raised to \$3.35 in 1981 but not indexed to inflation nor increased again by the Congress until 1990. If it were indexed to inflation in 1981, it would have been worth \$4.46 by 1985 as opposed to \$3.35.
- ⁷ Ibid.
- ⁸ Ibid.
- ⁹ John Burbank, Economic Opportunity Institute, Seattle, Wash., telephone conference call on Oct. 3, 2006.
- ¹⁰ "Who's Getting Ahead? The State of Working Oregon 2006," Oregon Center for Public Policy, September 2006.
- ¹¹ Economic and Revenue Forecast, Colorado Legislative Council, September 2006. September 2006 Revenue Forecast, Office of State Planning and Budgeting.
- ¹² Economic and Revenue Forecast, Colorado Legislative Council, September 2006.
- ¹³ "Hundreds of Economists Say: Raise the Minimum Wage," Economic Policy Institute, Washington, D.C.