NCCI Holdings, Inc.

Gauging the Economy

Spring • 2007

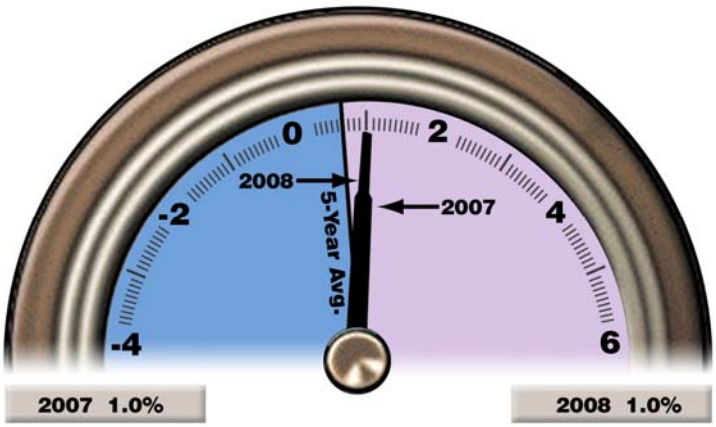
Gauging Current Conditions:

The Economic Outlook and Its Impact on Workers Compensation

The gauges below reflect the consensus economic outlook for 2007 and for 2008 for key factors that typically impact workers compensation. Each gauge also provides some context for the outlook, relative to a historical average of the previous five years.

Slowing Job Growth May Foster Frequency Declines

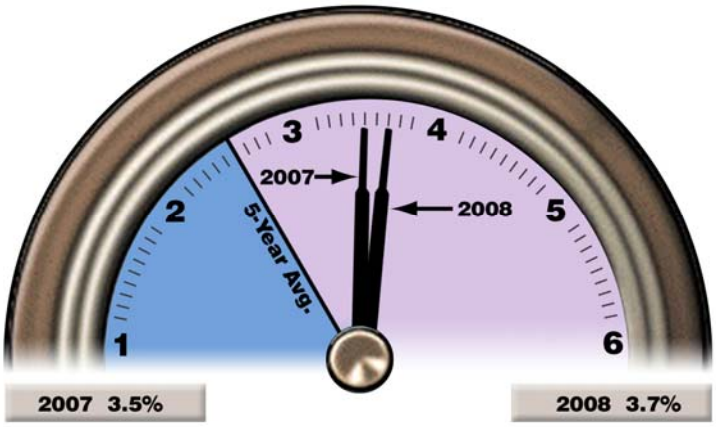
Job growth is expected to slow somewhat in 2007–2008, vs. 2006 when it was 2.1%. Such moderation typically occurs as expansions age. That slowing may reduce upward pressure on claim frequency to the extent that fewer less-trained workers are added to payrolls. The actual direction of claim frequency will depend on the balance between such employment-related effects and a wide range of other forces that have contributed to the ongoing decline in frequency since the early 1990s.



Private Sector Employment Growth Slowing

Continued Wage Gains Suggest Further Increases in Indemnity Severity

Wage gains are expected to average a bit over 3.5% in 2007–2008, reflecting relatively tight labor markets (the unemployment rate is expected to remain relatively low, at an average of 4.8%) as well as a partial flow-through to workers of the ongoing increases in productivity. The rise in wages suggests further increases in indemnity severity since indemnity benefits are tied to wage growth in most states.



Average Weekly Wages Continue to Rise

The Quickening Pace of Medical Care Prices Suggests Further Upward Pressure on Medical Severity

Medical care price inflation shows no signs of abating, with increases in the medical care component of the Consumer Price Index (CPI) expected to average 4.8% in 2007 and 5.2% in 2008 vs. 4.0% in 2006. Those increases are likely to be reflected in additional upward pressure on medical severity.

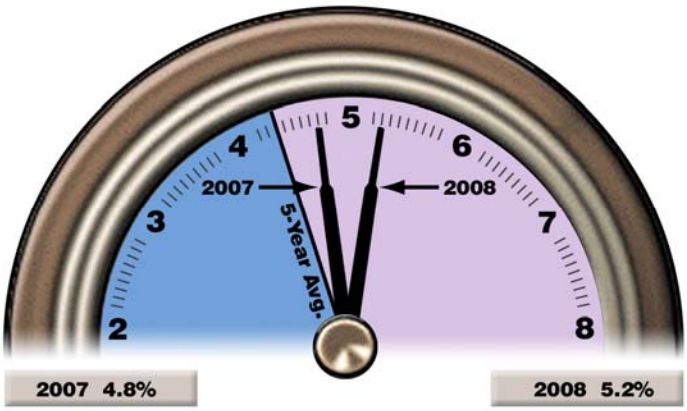


Exhibit 3—Medical Care Price Increases Continuing

Increasing Interest Rates in 2007–2008 Suggest Better News on Investment Income From Fixed-Income Securities

The Fed has kept short-term rates unchanged since June 2006, reflecting a balance between its desire to keep inflation in check and its concerns that weakness in housing could undercut the expansion. Long-term yields, meanwhile, have fluctuated in a narrow range. Looking ahead, prospects for continued-but-moderate economic expansion suggest some additional upward pressure on long-term yields. Such higher yields will provide a boost to fixed-income returns on newly invested funds.

The effect of higher yields on the stock market is less certain. However, if earnings remain upbeat and the current ripple in the financial infrastructure (in terms of sub-prime lenders) turns out to be only that, higher yields may not stand in the way of carriers achieving realized capital gains on their stock portfolios. (The “gauge” shows the rate of the seven-year Treasury note because the average maturity of Treasury securities held by P&C carriers is roughly seven years.)

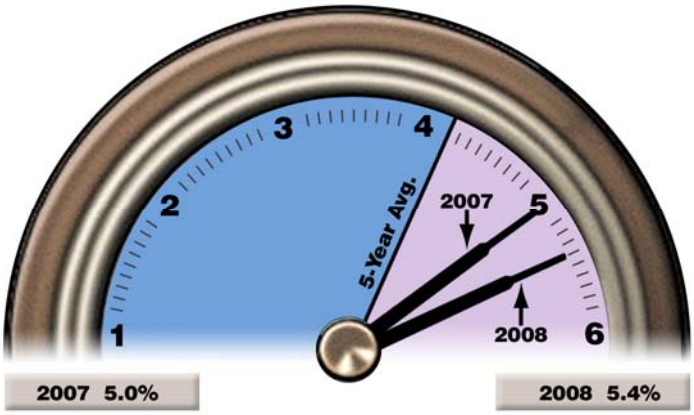


Exhibit 4—Interest Rates Rising
(as measured by yields on 7-yr Treasury notes)

Behind the Gauges
Macro-Economic Conditions

The following set of charts focuses on macro-economic conditions and their implications for the P&C industry.

Real Gross Domestic Product (GDP)

- Growth in 2007 is expected to moderate vs. 2006, reflecting weakness in housing and a slowdown in the rate of motor vehicle production in the early part of the year. Prospects brighten a bit in 2008, as the drag from housing wanes and as the economy benefits from ongoing increases in business investment and related productivity growth. In addition, anticipated stability in energy prices will help to restrain inflationary pressures and enable the Federal Reserve to refrain from raising short-term rates.
- This forecast suggests some upward pressure on claim frequency, which tends to rise during periods of economic expansion. Whether frequency will, in fact, turn higher depends on the extent to which such expansion-related pressures will be offset by the ongoing improvements in workplace safety, which have contributed to the pervasive decline in frequency since the early 1990s.

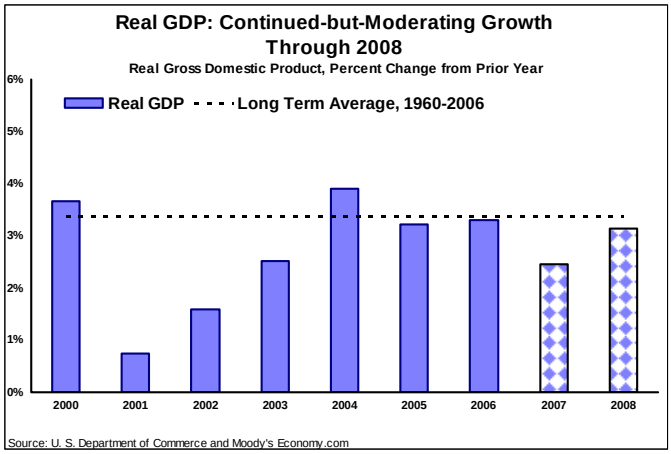


Exhibit 5

Economic Growth Drivers

- Consumers are expected to be a key growth driver in 2007–2008 (consumers account for roughly two-thirds of spending in the economy). Exports, business investment (in equipment, software, and structures), and government purchases of goods and services are also expected to provide ongoing support to the expansion. In contrast, residential construction will provide only a small contribution to growth, largely reflecting an anticipated bounce back in housing activity in 2008. (Both residential and nonresidential construction are key sectors for workers compensation because of their more hazardous nature.)
- Imports will be the largest drag on GDP growth, reflecting both ongoing strong demand for oil as well as the inflow of lower cost manufactured goods from abroad. Spending on imported products is treated as a negative factor in measuring GDP because GDP measures domestic production.

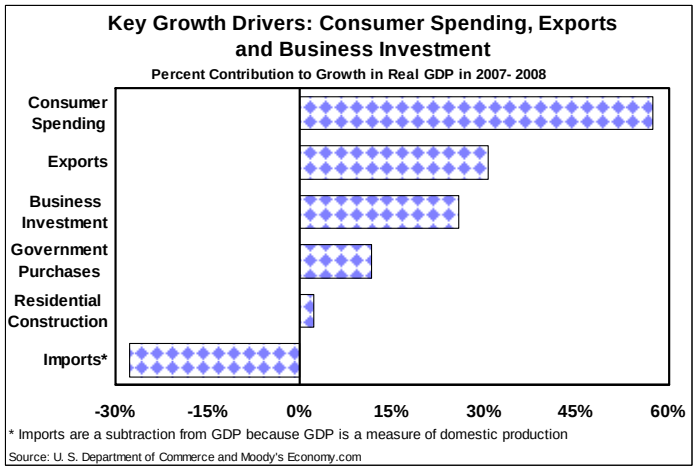


Exhibit 6

Labor Markets

- Labor markets are expected to remain tight in 2007–2008, with the unemployment rate little changed from that seen in 2006. Job growth, meanwhile, is expected to moderate—not at all unusual for this stage of an economic expansion.
- All of this suggests that the exposure base for workers compensation will be increasing in the years ahead. Moreover, there may also be some additional upward pressure on both indemnity severity and frequency. Severity may rise as a result of a faster pace of wage gains (reflective of continued labor market tightness). Pressures on frequency may increase as inflows of newly hired workers reduce the experience level of the workforce (although the slower rate of increase in employment may be less than was the case in 2005 and 2006).

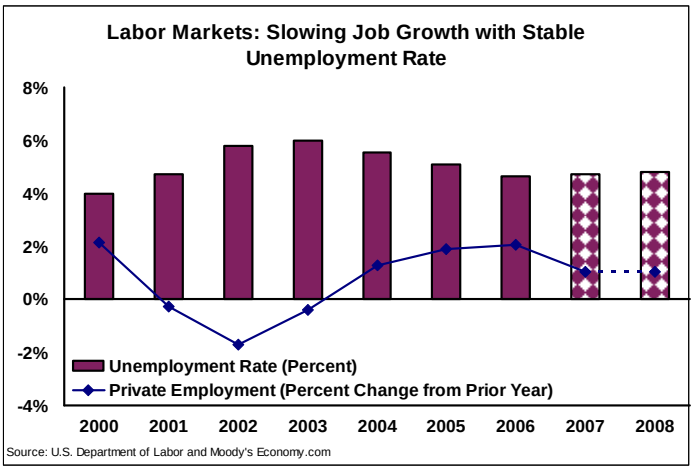


Exhibit 7

Inflation

- The Consumer Price Index (CPI) increased 3.2% in 2006, down slightly from 2005. That rise masked substantial volatility in the CPI last year—an acceleration in inflation in the first half and a slowing in the rate of price increases in the second half—all related to swings in energy prices. Overall price increases are expected to decline somewhat in 2007 (as oil prices are expected to ease a bit during the year) and then edge higher in 2008, reflecting, in part, the type of price pressures typically associated with maturing expansions.
- Less optimistic is the news on medical inflation, where the medical care component of the CPI is expected to increase 4.8% in 2007 and 5.2% in 2008, after a 4.0% rise in 2006. Although not ideally suited as a measure of medical care inflation in workers compensation, the forecasted increases in the medical CPI suggest ongoing upward pressure on medical severity in the years immediately ahead.

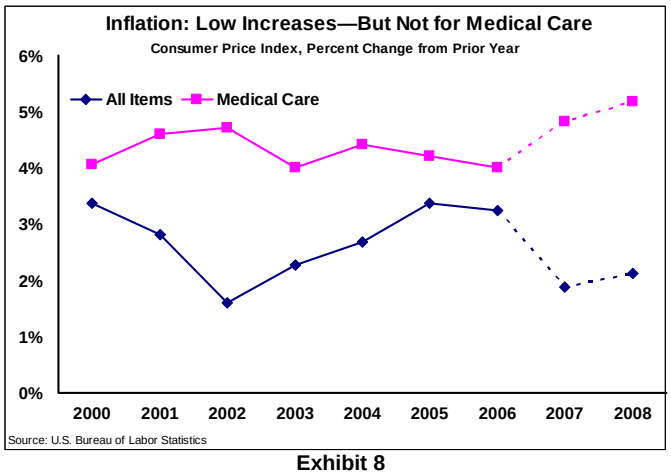


Exhibit 8

Interest Rates

- After pushing the federal funds interest rate up to 5.25% in June 2006, the Federal Reserve has taken a wait-and-see stance on further rate hikes. Most recently, it has suggested that it no longer has a bias toward raising rates further, given improved prospects for inflation and some signs of slowing in the economy's growth. Long-term rates, meanwhile, have fluctuated in a narrow range. They are expected to edge higher this year and next, reflecting, in part, heightened demand for credit from the ongoing expansion.
- Rising interest rates will boost investment income of P&C insurers on their new investments. At the same time, however, the market value of long-term securities held in P&C portfolios will be reduced.

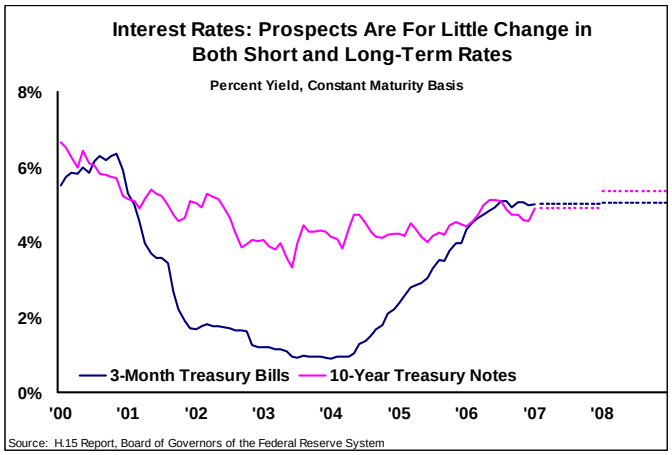


Exhibit 9

Dollar Exchange Rate

- The weakness in the dollar seen in 2006 has continued into 2007 (shown here on a trade-weighted and inflation-adjusted basis). Subsequent dollar movements will depend on a number of factors, including differences in anticipated rates of return as well as shifting mixes of assets and liabilities in portfolios abroad.
- From a workers compensation perspective, changes in the dollar's value are likely to most directly impact exposure in trade-intensive manufacturing industries. In addition, the extent to which changes in foreign asset holdings impact US interest rates, so will prospects for overall economic growth and employment also be affected. (For additional discussion of factors affecting the dollar's exchange rate and implications for workers compensation, see the Implications article in Gauging the Economy, Vol. 2, 2005.)

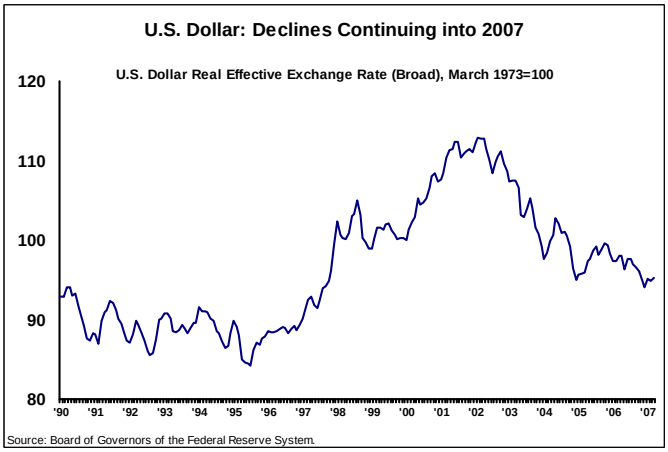


Exhibit 10

Implications
Pop Goes the Bubble!

Housing's recent weakness, if it deepens, will have substantial impacts both on the overall economy and on workers compensation

The news coming out of the housing sector is of ongoing concern. While there are some glimmerings of hope that the slide in housing may be ending, as single-family housing starts edged higher in February and March (the first consecutive monthly rise since July 2005) and the inventory of unsold homes may have peaked, other housing indicators are continuing to deteriorate. For example, existing single-family home sales plummeted in March (and are nearly 12% below their year-ago level). March also showed declines in both permits and starts for multifamily housing.

The media is replete with analyses as to the extent of the housing slide and the impact on the overall economy should there be further deterioration. Robert Shiller, an economist from Yale University well known for his studies in behavioral finance (and author of "Irrational Exuberance," published just prior to the bursting of the stock market bubble in 2001) perhaps best summed up the current uncertainties in the housing market outlook: "Listen hard and watch out."[1]

Just as the future direction of housing will have a significant impact on the overall economy, so will it also affect the workers compensation industry. This article focuses on those latter impacts. Its key conclusions:

- So far the slump in housing has mainly affected specialty trades in the residential sector. However, if the decline continues, with a recession in its wake, there could be substantial impacts on exposure.
- A marked decline in construction-related exposure would likely place some downward pressure on average frequency and severity because of the relatively hazardous nature of the construction sector.
- Financial markets have so far taken in stride the recent declines in housing and related weakness in mortgage-markets. However, a significant worsening in current economic conditions could adversely affect equity markets while at the same time cause the Fed to lower interest rates. All this suggests that insurance industry portfolio managers are likely to face increased uncertainties in the months ahead.

Focus on Exposure

From a workers compensation perspective, the weakness in the housing sector is likely to have its most immediate impact in terms of reduced exposure. NCCI data suggests that exposure for contracting-related occupations (mainly in the construction industry) accounts for 7% of total exposure in all NCCI states ($109 billion out of $1,554 billion). That percentage is in-line with national wage and salary data reported by the Bureau of Labor Statistics (BLS), which indicates construction wages account for 6.8% of total wages and salaries in 2005 ($306 billion out of $4,480 billion).

Ideally, given the weakness in housing, one would want to focus on changes in exposure in the residential construction sector. Such drill-downs are best approximated using BLS data, since NCCI's occupation-based class codes do not lend themselves to sub-industry analyses (e.g., residential vs. commercial construction).

As shown in Exhibit 1, 38% of construction industry wages in 2005 were classified by the BLS as being in residential construction, 47% in nonresidential construction and 15% in heavy and civil engineering construction (mainly roads and bridges). Those in residential construction include persons managing/supervising the construction of both single and multifamily housing (such as general contractors, operative builders, and employees of design building and project management firms) as well as a wide range of specialty trade contractors. That latter category comprises nearly two-thirds of residential construction wages.

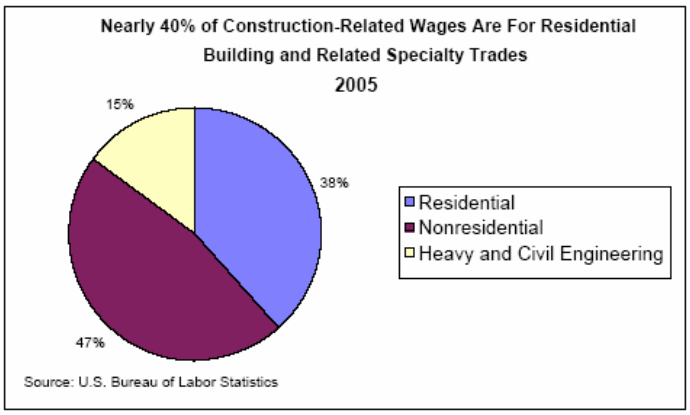


Exhibit 1

Because data on industry wages are available only with a substantial lag, changes in employment are perhaps the best indicator of how the current weakness in housing is affecting exposure. So far, the weakness in housing has been confined largely to residential specialty trades contractors, where some 124,000 jobs have been lost since February 2006—a decline of 6% at an annual rate, based on seasonally adjusted data through December (see Exhibit 2).

Exhibit 2

In contrast, jobs in nonresidential construction and in heavy civil engineering construction have been trending higher (Exhibit 3). Overall construction

[1] Karl E. Case and Robert J. Shiller, "Full House", The Wall Street Journal, August 30, 2006.

employment, including both residential and nonresidential, reached a high in the third quarter of 2006 and has been declining modestly since then.

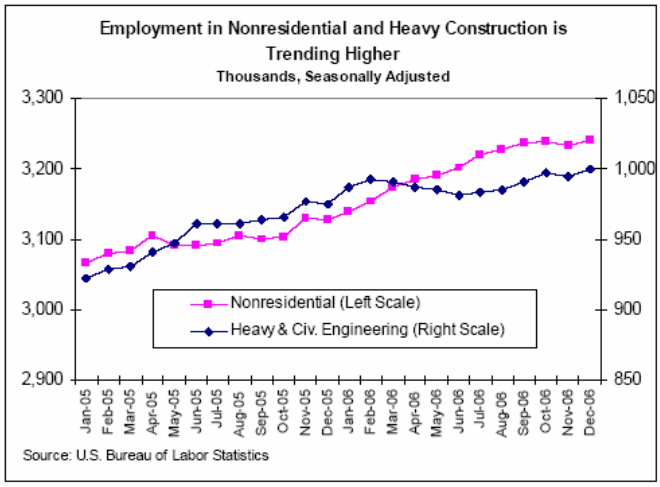


Exhibit 3

Housing is a key sector in the economy, both directly (in terms of residential construction) and in terms of other industries (e.g., furniture, appliances and a wide range of other housing-related goods and services). Weakness in housing has preceded a downturn in the economy as a whole in past business cycles. If the slump in housing worsens markedly, resulting in the onset of a new recession, then the impact on employment/exposure could be substantial, both for the construction sector and the overall economy.

Exhibit 4 shows the possible extent of that impact based on data on construction employment from eight previous recession periods in the post-World War II period.[2]

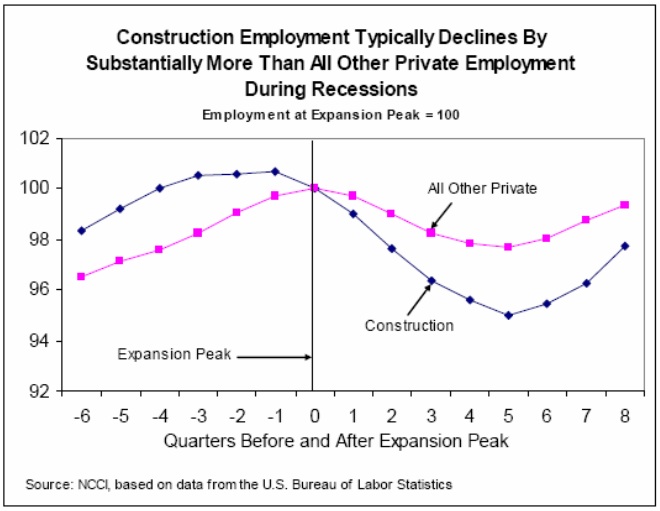


Exhibit 4

In the Exhibit, the "0" point on the horizontal scale represents the peak of an economic expansion and the negative and positive numbers are quarters before and after the peak. For each of eight post-World War II business cycles, the level of construction employment and all other private employment (that is total private employment less construction employment) are indexed so that its value is set to 100 at the peak of the business cycle. The indexes for the various cyclical periods are then averaged to develop the composites shown in the chart.

The chart indicates, that, on average, construction employment declined by 5.0% five quarters after the peak (five quarters is roughly the length of the average recession, based on the eight cyclical episodes included in this analysis). After five quarters, construction employment gradually began to improve, although its level by the end of eight quarters was still roughly 2% below that seen at the average expansion's peak. In contrast, all other private sector employment declined by less than half as much (2.3%) five quarters after the average expansion's peak.

The chart also shows that downturns in construction jobs typically precede downturns in the overall economy[3] while upturns in construction employment tend to be more vigorous than that for the economy as a whole, providing an engine of growth for a more broad-based recovery. (Please see the footnote for the reasons why turning points in the housing industry tend to lead those in the economy as a whole.)[4]

[2] Recession periods are those determined by the National Bureau of Economic Research. The eight recession periods used in this analysis include recessions beginning in 1953, 1957, 1960, 1969, 1973, 1981, 1990 and 2001.

[3] As previously noted, construction industry employment may have "peaked" in the third quarter of 2006. At the same time, all other private sector employment has continued to increase. Clearly, it is too soon to opine as to whether the recent weakness in overall construction jobs (which has been relatively modest so far) is foreshadowing the onset of a broader-based decline in overall economic activity.

[4] Here is how housing leads the way—both on the upside and downside of the business cycle.

Leading on the Upside: During economic recessions, the combination of low interest rates (reflecting both weak aggregate demand and Federal Reserve easing to foster economic growth) and "bargain-basement" home prices gradually lead home buyers to re-enter the housing market. Media reports on the glimmerings of a housing recovery tend to spark further increases in home-buying/building activity, as potential homeowners decide that it's time to "get into the market" before prices rise and while mortgage interest rates remain low. Spurred, in part, by increases in housing and housing-related goods and services, the economy as a whole begins to improve. (While jobs in residential construction tend to pick up early in a recovery, jobs in nonresidential construction sectors take longer to recover, as businesses wait for confirmation of improved economic conditions before embarking on new building projects.)

Leading on the Downside: Once the expansion gets into high gear, builders typically boost the number of homes they build "on spec." Good economic times also lead home builders and sellers of existing homes to ask for (and get) higher-and-still higher prices. The supply of homes for sale also typically rises in such periods, as homeowners decide that the time is right to "cash out." At the same time that the housing sector is booming, demand pressures from the ongoing expansion begin to press on the economy's supply capabilities, resulting in increased inflation and upward pressure on interest rates (both from Fed actions and the tightening economy). The combination of higher financing costs, sky-high asking prices for homes, the overhang of homes on the market and possible buyer concerns about the staying power of the expansion (as interest rates rise) eventually lead to an often-sharp contraction in housing and to weakness in industries dependent on housing. This sets the stage for a more general weakening of the economy. (Nonresidential construction projects, and related employment, are also sensitive to rising interest rates and concerns about the economic outlook.)

For workers compensation, all this suggests that at current employment levels, an "average" recession would result in a decline in contracting industry exposure of roughly $5.5 billion (5% of the $109 billion exposure base for contracting for NCCI states)[5] and a decline in overall exposure of $39 billion (2.3% of the $1.5 trillion exposure base for all industries, also based on data for NCCI states). However, most of the decline in overall exposure will have been recovered by roughly two years after the start of the recession based on the analysis underlying Exhibit 4.

Claim Frequency and Severity

Housing-related weakness in exposure will likely result in some downward pressure in both average claim frequency and severity because of the relatively hazardous nature of construction-industry employment.

Claim Frequency

NCCI measures claim frequency in terms of the number of lost-time claims per $1 million of wage adjusted payroll. As shown in Exhibit 5, the Contracting industry group (which is dominated by construction-related occupations) is seen to have the second highest lost-time claim frequency, 0.727 claims per million dollars of wage-adjusted payroll, just a bit below that for the Miscellaneous category, which includes truckers, bus drivers, chauffeurs, and security/protective occupations—all of an especially hazardous nature.

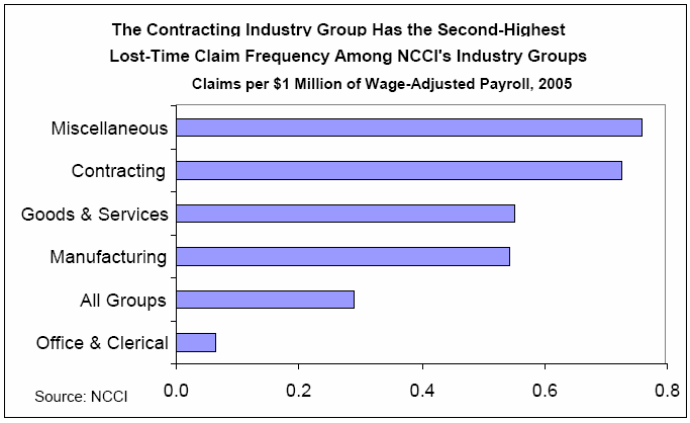


Exhibit 5

One factor reducing the average frequency for the Contracting industry group is that nearly 10% of contracting exposure is from the contractor-supervisory occupation (class code 5506), where frequency for policies expiring in 2005 was just 0.176. In contrast, roofers and carpenters (working on detached dwellings) have especially high frequency 1.682 and 1.514 claims per million dollars of wage adjusted payroll, respectively.

Analyses by injury type show that the Contracting group has the highest frequency of permanent total injuries and is in a virtual tie with the Miscellaneous industry group in terms of having the highest frequency for permanent partial injuries. Fatal injuries in the Contracting group are somewhat less frequent than in the transportation services-dominated Miscellaneous group, although the fatality rate in Contracting is still more than three times that in Manufacturing.

These NCCI results are also seen in BLS lost-time incidence rate data, which measure the rate of injuries and illnesses per 10,000 full-time-equivalent employees. As shown in Exhibit 6, the lost-time incidence rate in the construction industry is the highest of all major BLS industry groupings and roughly 75% higher than that in the private industry as a whole.

Exhibit 6

Indemnity and Medical Severity

Construction related jobs also have the highest indemnity and medical severity (measured in terms of cost per case). That is seen in Exhibit 7, which compares both severity measures across NCCI's major industry groupings. Indemnity severity is 57% higher than the average for all industry groups, while medical severity is 36% above the all-industry average.

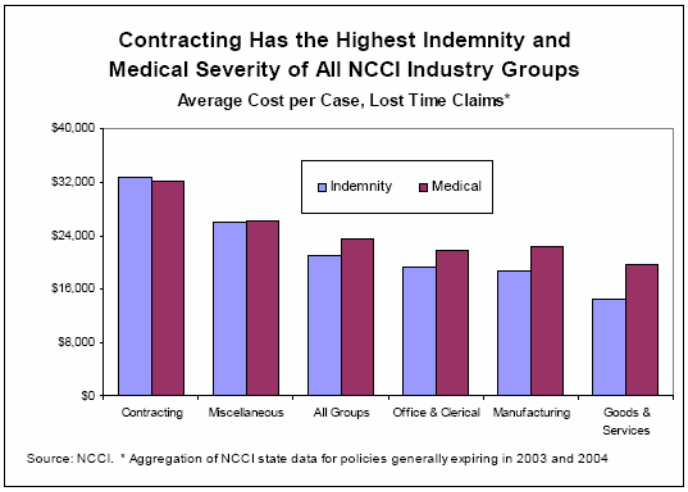


Exhibit 7

[5] Data based on NCCI states, excluding Texas. (Data provided to NCCI by the state of Texas uses a somewhat different classification system than NCCI.)

Financial Market Implications

So far, the weakness in housing has had a limited impact on financial markets—although sub-prime lenders are coming under substantial pressure because of high default rates (as second-tier borrowers are now seeing sharp increases in monthly payments as mortgage rates are reset from low teaser-rates). However, should housing markets deteriorate further, pushing the economy into recession, the financial waters could become increasingly choppy.

Indeed, the stock market's recent sell off, in part sparked by former Fed Chairman Greenspan's comments regarding the possibility of a recession later this year, suggests that equity markets are extremely sensitive to prospective economic developments. The extent of any stock market reaction to signs that the weakness in housing is spreading to the economy as a whole will depend on both the extent of the perceived economic weakness and the speed and magnitude of any Federal Reserve response in terms interest rate cuts.

Significantly, a weakening in the stock market could affect the P&C industry's ability to realize capital gains on its common stock holdings (unaffiliated common stock holdings represent about 14% of P&C invested funds as of year-end 2005). Such gains were likely substantial in 2006, given the near 14% rise in the S&P 500 stock price index (computed on a year-end basis). In contrast, lower interest rates could create profit opportunities among fixed-income securities (which comprise upwards of 70% of the industry's vestment portfolio). However, such profit opportunities might be eroded, if not reversed, if financial markets become concerned that the Fed's easing may contribute to an acceleration in inflation down the road, resulting in upward pressure on long-term interest rates. Clearly, uncertainties abound, and developments in the next several months will be particularly telling in terms of the economy's course in the year ahead.

Summary and Conclusion

A further deterioration in the housing sector could have serious implications for both the economy as a whole and for the workers compensation industry. Such weakness, if it continues and deepens, could well lead to a recession. That in turn could result in substantial declines in exposure—not only in construction but in all sectors of the economy. Average frequency and severity would also likely decline under such circumstances, reflecting the high frequency and indemnity/medical costs per claim in the contracting/construction sector.

The spillover into the financial markets of the weakness in the housing sector will also bear careful watching, given the importance of investment income in the industry's overall returns.

NCCI's economists will continue to track developments in the housing and construction industries—as well as in the economy as a whole—and will provide updated analyses as developments warrant.