

**Forecasting Health Insurer
Profitability: 1999-2001**

**Milliman & Robertson, Inc.
Radnor, PA**

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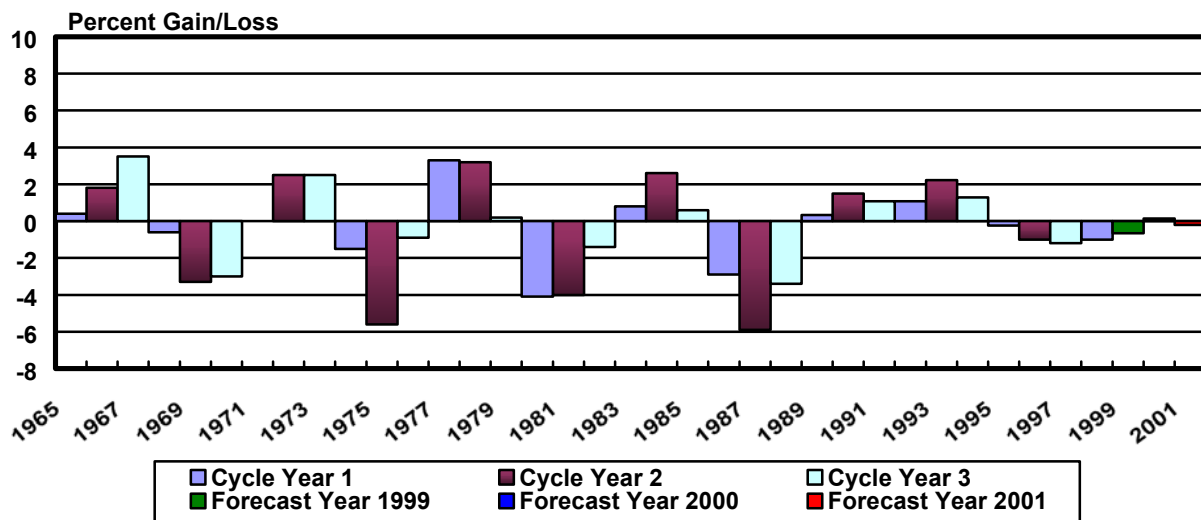
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Underwriting profits predicted to be minimal through 2001 (See *Chart 1* below)

Higher trends and lagging rate increases expected to continue

Chart 1

BLUE CROSS/BLUE SHIELD UNDERWRITING GAIN/LOSS



Forecasting Health Insurer Profitability: 1999-2001

This research report is an update of the report labeled “Forecasting Health Insurer Profitability: 1998-2000” published in August, 1998. This update utilizes Blue Cross/Blue Shield historical results to forecast the financial results of health insurers. The basis of this forecast is an examination of the historical health underwriting cycle as a function of healthcare costs, as measured by the Milliman & Robertson Health Cost Index (HCI), a proprietary measure of healthcare cost increases. Using economic forecast models, this report utilizes forecasted values of the HCI to project underwriting results.

The underwriting losses incurred by the Blue Cross/Blue Shield system between 1995 and 1997 were also extended into 1998. The prolonged losses can be explained by low increases in premiums as companies tried to gain or maintain market share. HMOs and carriers tried to

increase premiums at a higher rate in 1999, but this increase coincided with an uptick in trends. As a result, this report forecasts a continuation of underwriting losses in 1999. Recent data shows that premiums in 2000 are increasing at a higher rate again, especially for small groups, but these increases will need to be sustained if underwriting gains are to resume. *Chart 1* (previous page) shows the history since 1965 of the Blue Cross/Blue Shield system and our three year forecast (1999-2001) of underwriting gains/losses as a percentage of premium. The last four years' losses culminated in a 1.0% underwriting loss in 1998. (These results are consistent with our August, 1998 report which predicted a 1.1% loss for 1998.) Note that these results are exclusive of investment income. Since investment income has been favorable in recent years, including it would result in positive net income for the Blue Cross/Blue Shield plans during the past four years. Furthermore, the high level of investment returns in recent years has probably contributed to the continuation of underwriting losses, since it has helped maintain surplus/contingency reserve levels. The modest improvements in underwriting results reflect the 2nd and, in many instances, the 3rd year of significant rate increases. Also, some insurers have tried to protect their large account business and have still not adequately set rates. Year 2000 may be the final catch-up year as these insurers realize that improved utilization management efforts will not completely bail them out. Additionally, certain products (e.g. POS) have been underpriced in some markets and still need significant attention. It is even doubtful that some of this can be turned around by the year 2000. It is likely to take 2 renewal cycles to clean up.

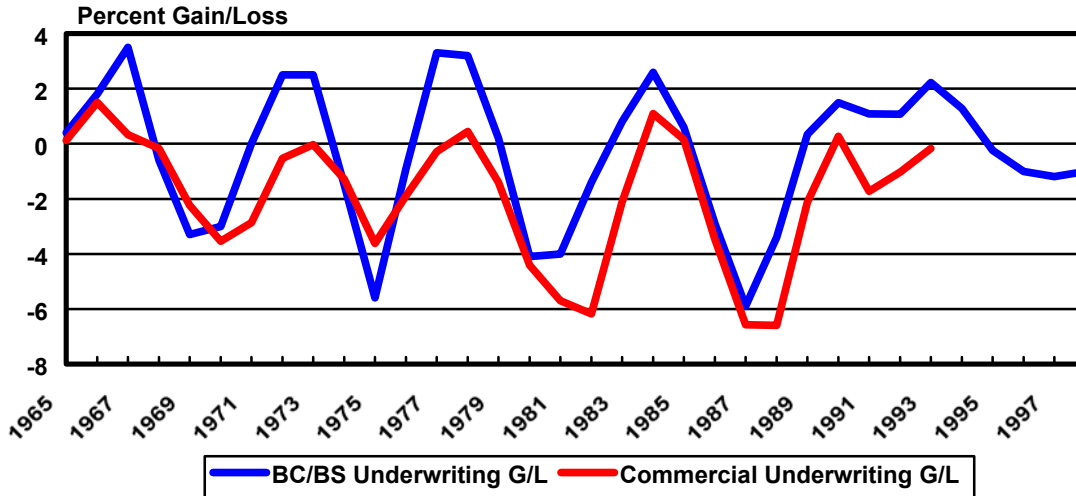
This forecast predicts an underwriting loss of about 0.65% in 1999, followed by a 0.14% gain in 2000, and a 0.21% loss in 2001. These predictions are based on our baseline health cost trend forecasts. However, the effect of managed care backlash and patient protection legislation could produce less favorable results.

During the period between 1965 and 1991, *Chart 1* shows a consistent pattern of three consecutive years of gain followed by three consecutive years of loss. Along with 1998's fourth consecutive year of underwriting loss, following six years of underwriting gain, it appears that a new paradigm of underwriting cycles has developed. Most business cycles, by definition, tend to be recurrent, but do not exhibit the level of regular periodicity seen in the Blue Cross/Blue Shield underwriting results, at least up to 1992. Since 1989, the cycle appears to have changed to one of longer duration, with smaller annual gains and losses, especially considering the forecasts for 1999-2001.

Chart 2 (page 3) illustrates the health insurance gains/losses for commercial carriers compared to Blue Cross/Blue Shield plans. The two carrier classes show consistent results over the time period shown (commercial data is not available after 1993). These results are not completely comparable because of differences in commercial reporting. However, they do exhibit a great deal of consistency in the cyclical patterns.

Chart 2

BLUE CROSS/BLUE SHIELD AND COMMERCIAL UNDERWRITING GAIN/LOSS



Commercial data is not available after 1993

It must also be noted that the results of individual Blue Cross/Blue Shield plans (or even individual commercial carriers) are likely to differ, sometimes substantially, from the underwriting gain/loss cycles displayed in *Charts 1 and 2* – which apply to the entire Blue Cross/Blue Shield or commercial systems. Depending on the size of the individual plan or carrier and its policy towards managing the underwriting cycle, its financial results will vary from the overall system’s results. However, it is likely that the results for individual carriers would exhibit cyclical patterns that are similar to the overall system. Similarly, while many HMOs appear to be having favorable results in recent periods, many others are experiencing losses.

The Underwriting Cycle

Underwriting gains and losses are a result of the difference between revenues and expenses. The former is represented by the amount of premiums earned, and the latter is measured by the amount of incurred claims and other operating expenses. If revenues are rising faster than costs, then gains are likely to occur. Conversely, if the insurer's claims and expenses rise faster than the premiums charged, losses will result.

The key to profitability is the successful management of the relationship between revenues and expenses. Insurers need to have the ability to measure their incurred claim trends adequately. The HCI measures healthcare cost increases for private insurers and can be used as a guide in anticipating future claim costs. It is based on provider and government data, and reflects per capita healthcare cost increases for the overall population, excluding Medicare.

Chart 3 illustrates the Blue Cross/Blue Shield underwriting results compared to healthcare cost trends as represented by the HCI. Examining this graph, it is apparent that underwriting results and healthcare trends as measured by the HCI are inversely correlated.

Chart 3

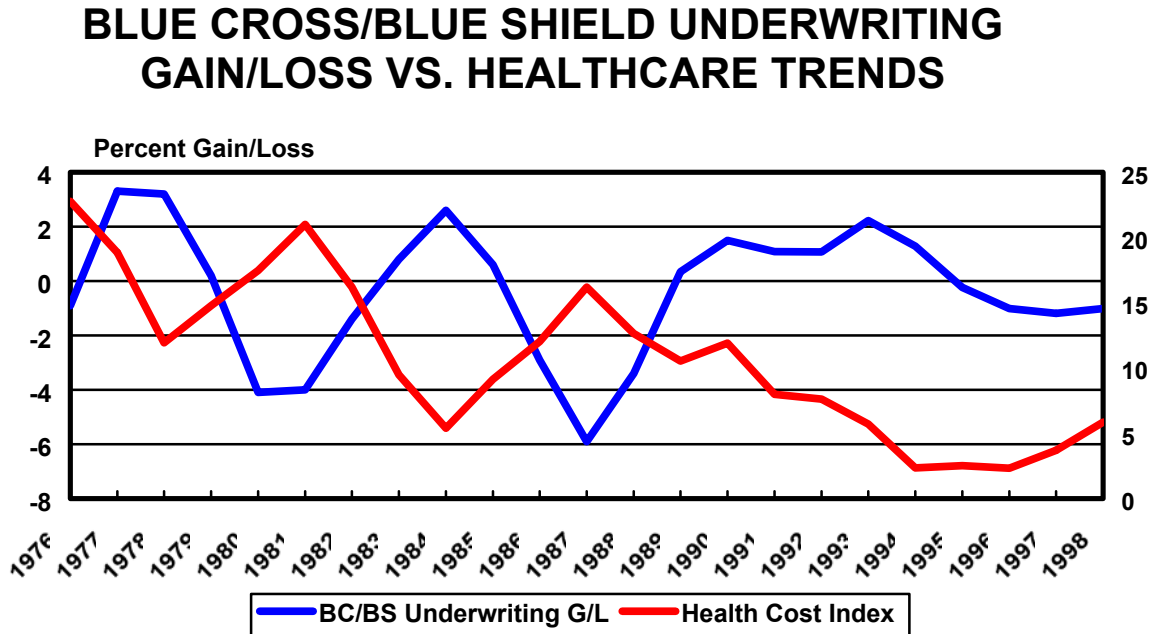
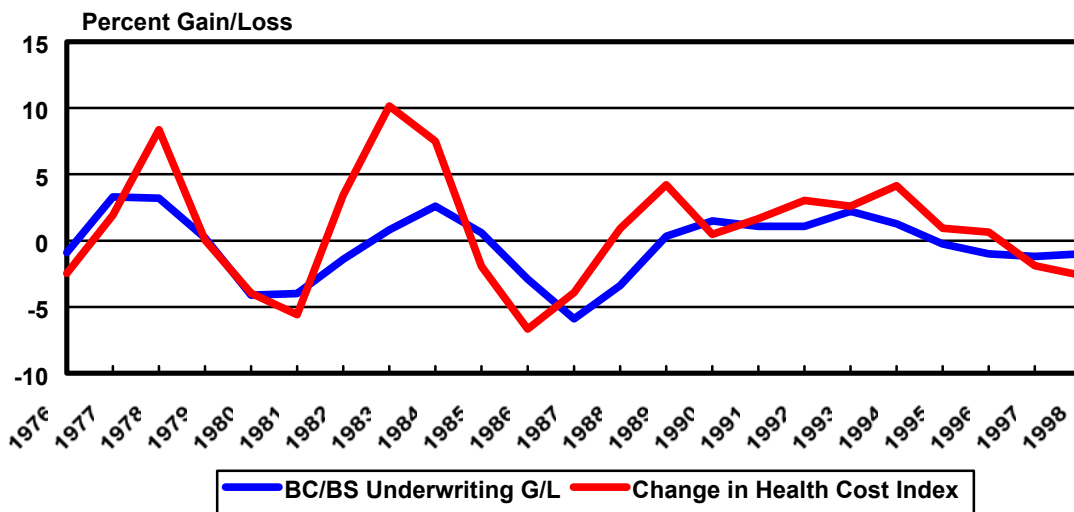


Chart 4 portrays a better visualization of this relationship by reflecting the change in HCI trends 18 months apart and by reversing the scale (changing positive numbers to negative numbers and vice versa) of the HCI trend graph. This 18 month lag follows the premise that cost trends for providers lead health insurance premiums by about 18 months. This lag is due to the time needed to collect and analyze historical claims data and to implement changes in premiums. In many instances, premium rates are guaranteed for 12 months or more. Also, the Blue Cross/Blue Shield plans have many regulatory requirements that impact how quickly they can fully react to changes in the environment.

Chart 4

BLUE CROSS/BLUE SHIELD UNDERWRITING GAIN/LOSS VS. CHANGE IN HEALTHCARE TRENDS



HCI data reflects change in 12-month trends 18 months apart

Further evidence that healthcare claim trends lead health insurance premiums by about 18 months can be obtained by comparing the HCI against the Employment Cost Index - Health Insurance Premiums. The Employment Cost Index - Health Insurance Premiums is the government's unpublished estimate of employers' increase in health insurance premiums. This estimate is measured as a component of the employee benefits costs which are reported quarterly to the Bureau of Labor Statistics. *Charts 5 and 6* (page 6) illustrate twelve month moving averages of the Employment Cost Index versus the HCI. *Chart 5* shows them on the actual time scale, and *Chart 6* shows the HCI trends delayed 18 months to correspond more closely with the Employment Cost Index. The close correspondence between these two graphs is indicative of the delay that exists between changes in claim cost trends and the insurers' recognition of these trend changes in premium rates.

Chart 5

HEALTH COST INDEX VS. EMPLOYMENT COST INDEX

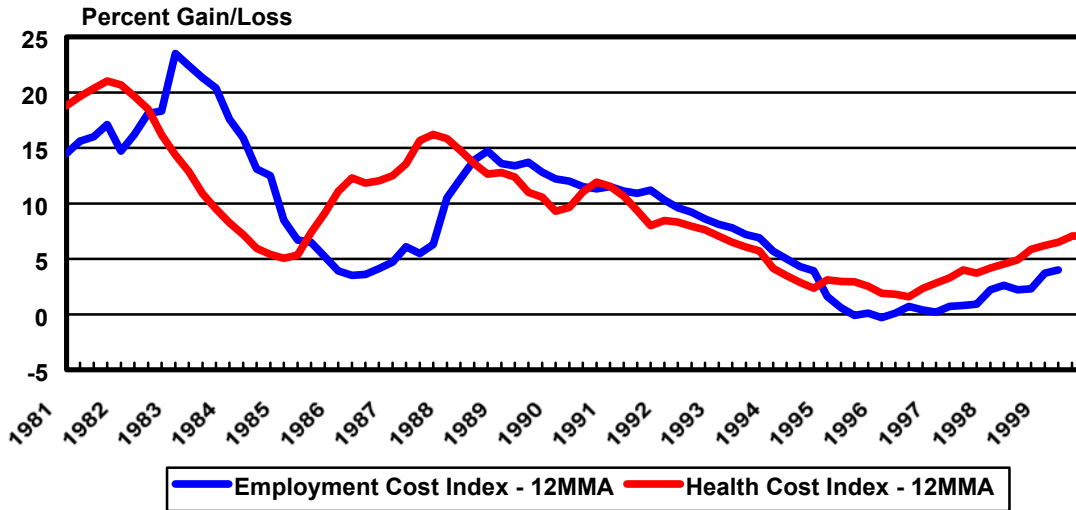
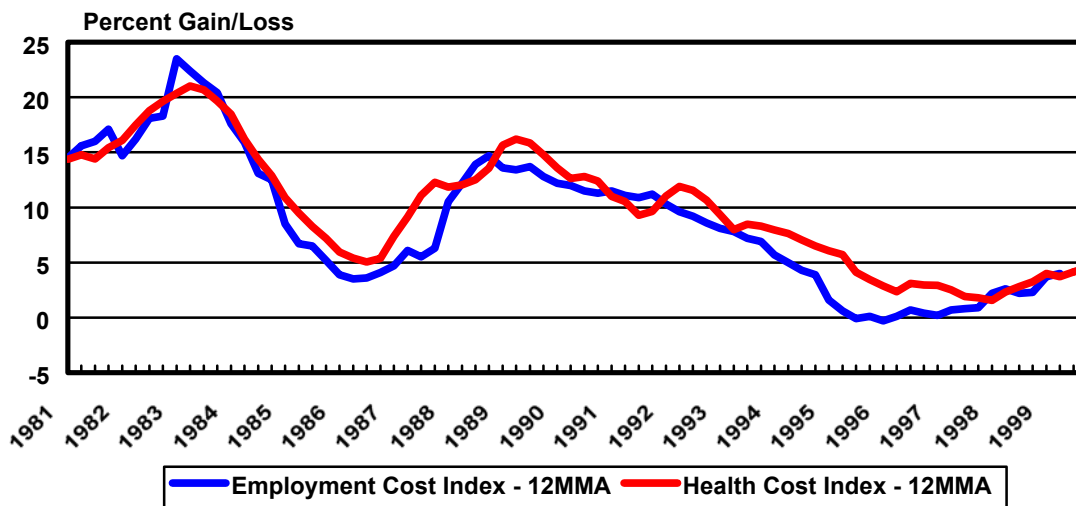


Chart 6

HEALTH COST INDEX VS. EMPLOYMENT COST INDEX



Health Cost Index is shifted forward (lagged) 18 months.

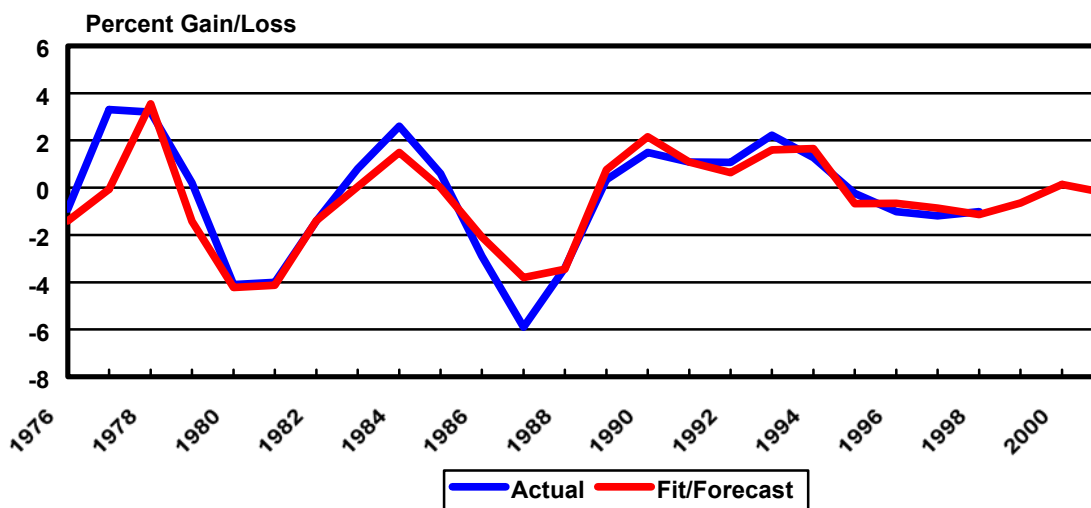
Modeling Profitability

Having established a correlation between Blue Cross/Blue Shield underwriting results and the Health Cost Index, the next step was to formulate a statistical model that enabled the forecasting of underwriting profitability. Clearly the recent pattern of gains and losses reflects the cyclical nature of the underwriting results and is a factor that should be considered in the model. The model is parsimonious and utilizes the difference in HCI trends 18 months apart. It also recognizes the impact of past year gains and losses which affect the relative conservatism (margins, loss recoupment, etc.) in future rates.

Chart 7 displays actual historical underwriting gains and losses versus the fitted values from the forecast model, as well as the projected values of the Blue Cross/Blue Shield system's underwriting gain/loss. Note that the forecast for 2000 uses the 1999 gain/loss forecast to estimate the 1999 surplus level, which can then be used to forecast the 2000 underwriting gain/loss. The same process follows for the year 2001 gain/loss calculation.

Chart 7

BLUE CROSS/BLUE SHIELD UNDERWRITING RESULTS ACTUAL VS. FITTED BASELINE



YEAR	ACTUAL GAIN/LOSS %	FORECASTED GAIN/LOSS %
1996	-1.01	
1997	-1.19	
1998	-1.01	
1999		-0.65
2000		0.14
2001		-0.21

**Source: Blue Cross/Blue Shield Association and Milliman & Robertson, Inc.
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As can be seen in *Chart 7* (previous page), the forecast model produces fitted values that are reasonably close to the actual observed values. Since the HCI is measuring the average market trend, various factors exist that may cause actual trends to differ from the HCI. Different trend scenarios would produce different underwriting gain/loss forecasts. At this point, we believe there is a significant probability that the managed care backlash (discussed in detail in the July, 1998 and July, 1999 issues of the Health Cost Index Report™) and patient protection legislation could increase trends by as much as 1% to 2% above the trend levels in our baseline forecast. If this occurs, underwriting losses would be forecast to increase by about 0.1% to 0.3% during the projection years.

The table above lists the underwriting returns during the past three years and during the three projection years.

Based on this forecast model and our baseline trends, the underwriting loss for 1999 is expected to decrease by about one third from the loss experienced in 1998. In 2000 and 2001, the forecast is for a small gain followed by a small loss. These results seem to confirm that the health underwriting cycle has changed to one of longer duration but lower amplitude. The dampening of the past few years is likely a direct result of the more muted nature of health insurance trends brought about by the increased effectiveness of managed care and the lower inflationary environment. Whether the effect of managed care backlash could change the cycle again, is an issue that bears watching.