How does accounting quality (loss reserve estimation quality) in the insurance industry affect operating efficiency?

More competition -> lower price -> more losses -> lower capacity -> higher prices -> more profits -> repeat

Data:

Firm level data:

1. Balance sheet variables: Total assets, capital, %liquid assets, %debt.
2. Income statement variables: Return on equity, return on assets, investment return
3. Firm characteristics: Public/private, state

Business line level data:

1. Loss ratio, expense ratio, combined ratio.
2. Total premium; ~~policies; average price per policy~~

State/industry level data:

1. Total premium; ave ?volume growth rate; ~~number of policies issued and its growth rate; average policy premium and its growth rate~~
2. Average loss ratio; expense ratio;
3. Economy-wide controls: Inflation rate; GDP growth

Explore the following:

1. Using a rolling window, estimate the **loss reserve estimation quality for each firm-line-year, and each firm-year**.
2. Regress premium revenue growth (as well as the % growth in number of policy issued, and % in average premium) on combined ratio, controlling for firm characteristics, industry profitability, and inflation GDP GROWTH?. How does **future premium growth (price and volume)** respond to **its own past profitability and industry average profitability**? **How about future profitability**? (ROA, ROE over 1 year, 2 year, or 3 years).
3. Continue with the above regression. Interact combined ratio with the loss reserve accuracy measure. **How does loss reserve estimation quality affect the relationship**?