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Enterprise Risk Management: One Size Does Not Fit All

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The current operating environment is presenting numerous challenges for health insurance companies to navigate. Increasing competition within the industry along with expected regulatory changes are creating significant pressure on margins and profitability. However, an analysis of existing investment portfolio allocations indicates that a meaningful opportunity exists to enhance investment income by selectively increasing risk tolerance levels. While such a shift in the invested asset base can be a daunting task, enterprise risk management (ERM) solutions can provide valuable insight and a path toward implementation. By employing a holistic view and analyzing both the asset and liability sides of the balance sheet, ERM seeks to determine optimal investment strategies to meet the demands of an evolving operating climate. The health insurance industry should consider the benefits of ERM, as companies look to enhance profitability and meet the financial and regulatory challenges that lie ahead.

Risk-Based Capital

An initial review of risk-based capital (RBC) serves as the foundation for our ERM analysis of risk tolerance levels across health insurers. The importance of the RBC ratio is twofold, as insurance companies must maintain a minimum amount of capital on the balance sheet to remain in business and avoid increased regulatory scrutiny. However, also of note is that a comparison of RBC

ratios across a competitive set provides a measure of risk tolerance, particularly when evaluating a company relative to other insurers of similar size or type.

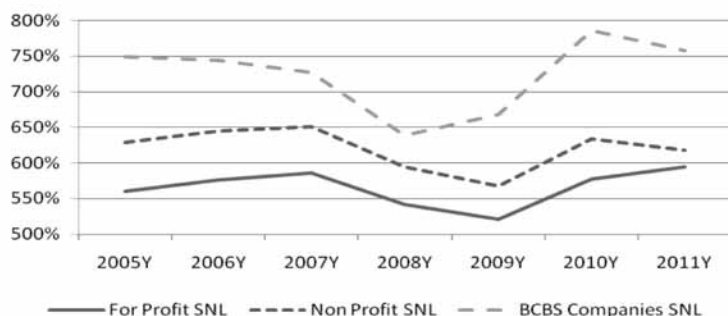
The analysis shown in Exhibit 1 indicates that, as of Dec. 31, 2011, the industry has, on average, returned to pre-2008 RBC ratio levels. Comparing these ratios by company type, we find that BCBS companies (both “for-profit and “not-for-profit” Blues) are targeting the highest amount of RBC, followed by non-profit and for-profit companies. Additionally, this analysis indicates that RBC ratios vary by company size, which we define by the invested asset base. Larger for-profit and non-profit companies have higher RBC ratios than smaller companies, while BCBS companies have roughly the same RBC ratios regardless of size.

With respect to the relative contribution of the components of RBC required capital after covariance, examining the 2010 NAIC RBC results for health insurers reveals the following:

H0 Affiliate Asset Risk	13.89%
H1 Invested Asset Risk	4.31%
H2 Underwriting Risk	79.39%
H3 Credit Risk	0.27%
H4 Business Risk	2.14%
Total Risk	100.00%

While it is not surprising that underwriting risk is the largest component, it is intriguing to find that investment risk, which accounts for a significant portion of total income, accounts for such a small amount of total RBC required capital. We were further surprised by the breakdown of contribution to H1 Invested Asset Risk, which is 0.99 percent for fixed income, 1.62 percent for common stock and 1.70 percent for “other” assets. We note that fixed income, which accounts for the majority of invested assets, accounts for less than 1 percent of RBC required capital. There would appear to be ample room to increase income levels by selectively adding risk to investment portfolios. However, before we further analyze risk tolerance levels across the industry, we should consider the liability side of the balance sheet and possible implications for the invested asset base.

Exhibit 1
RBC Ratio's by Year



Source: Brookfield Analysis on SNL Data

On the Liability Side

Our examination of risk management activity related to liabilities focuses upon medical loss ratios (MLRs). From an ERM perspective, a higher MLR indicates lower underwriting margins and, therefore, may indicate greater reliance on investment income for profitability (or pressure to lower administrative expenses). In turn, this enhanced reliance on investment income may lead to a higher probability of writing business at a loss, which can lead to increased liquidity and operational risks. Therefore, a comparative review of MLRs provides insight into the risk tolerance levels across the health insurance industry.

In Exhibit 2, we compare the MLR of for-profit, non-profit and BCBS companies of various sizes over the past seven years. For the majority of companies surveyed, the MLR for 2010 and 2011 were lower than the previous five year average.

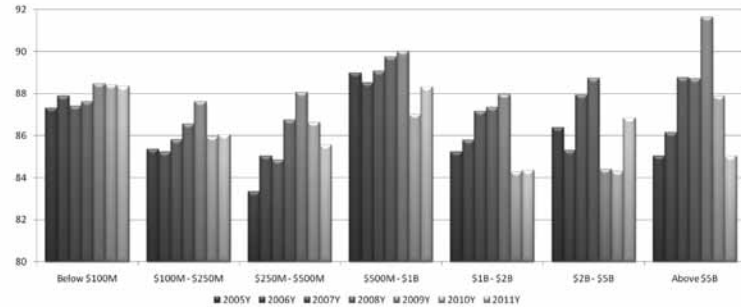
Our analysis indicates that the MLR differs by the type of company, as well as by company size. Focusing on company type, we observe that for-profits average an 86 percent MLR, while non-profits average 92 percent and BCBS companies average 88 percent. Additionally, our analysis demonstrates that MLRs differ by company size. The non-profit MLRs tend to increase with company size, while BCBS MLRs tend to decrease with company size. Our review did not reveal any clear trend with for-profit companies.

Looking forward, the impact of the Affordable Care Act (ACA) on MLRs will need to be considered. With minimum MLR requirements going into effect in 2011, there is now additional pressure on companies to devise methods to offset the loss in underwriting margins and mitigate the increased risks associated with higher MLRs. As a result, a greater reliance on investment income will likely emerge, leading to an enhanced need to evaluate the composition and risk level of investment portfolios.

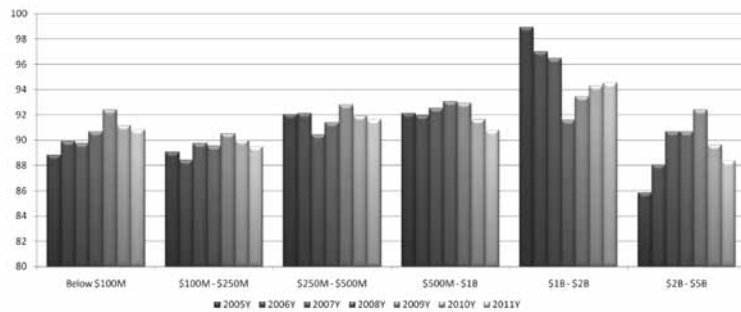
Our evaluation has thus far indicated that companies tend to price at different MLRs, resulting in varying levels of risk tolerance. Importantly, we also observe a meaningful difference in the level of business that

Exhibit 2

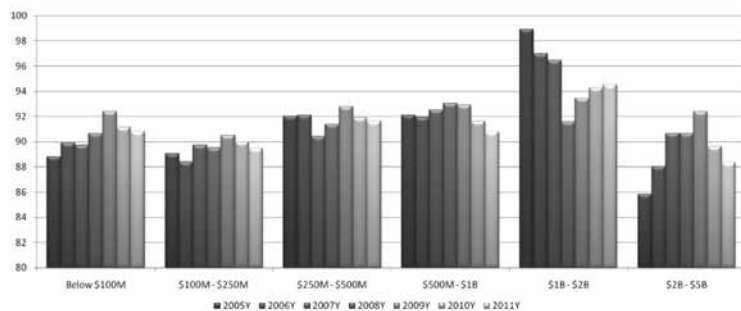
Medical Loss Ratio (%) - For Profit



Medical Loss Ratio (%) - Non Profit



Medical Loss Ratio (%) - BC/BS Companies



Source: Brookfield Analysis on SNL Data

companies are willing to underwrite or generate for a given level of capital and surplus. Exhibit 3 demonstrates that liabilities, which primarily consist of claim reserves related to the amount of business a company has written, range from 77 to 106 percent of capital and surplus. For example, a company with \$100 million in assets and \$50 million of liabilities for every \$50 million of capital and surplus has a

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ratio of 100 percent. Generally, smaller companies have lower ratios, and larger companies have higher ratios. Smaller companies tend to have ratios near 80 percent, meaning that for every dollar of capital on balance sheet, they maintain 80 cents in liabilities. We note that larger companies with ratios near 105 percent are assuming additional risk, as for every \$1 of capital and surplus, they have \$1.05 in liabilities. Larger companies appear to be more comfortable writing a greater amount of business and holding less capital to protect themselves from adverse deviations in claim experience.

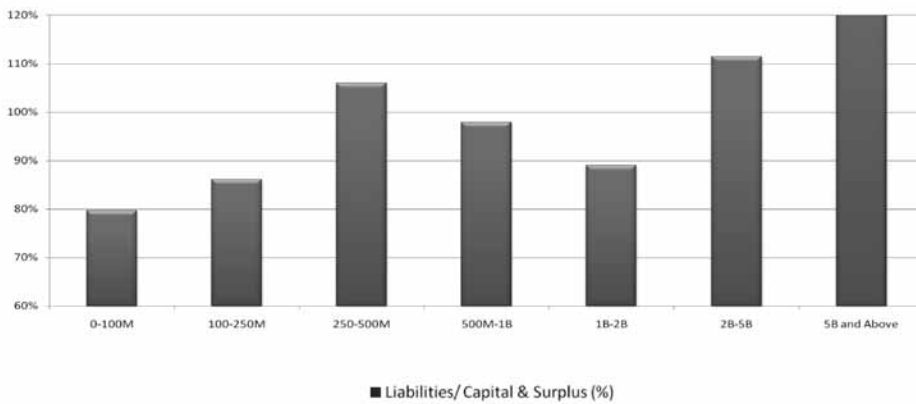
Our analysis of the liability side of the balance sheet has indicated that MLR and RBC ratios vary by

company size and type. Additionally, there appears to be a meaningful relationship between company size and the amount of liabilities written for a given level of surplus. As this is only a sample of the risks to consider in the ERM process, we now turn our attention to the asset side of the balance sheet to search for similar trends.

On the Asset Side

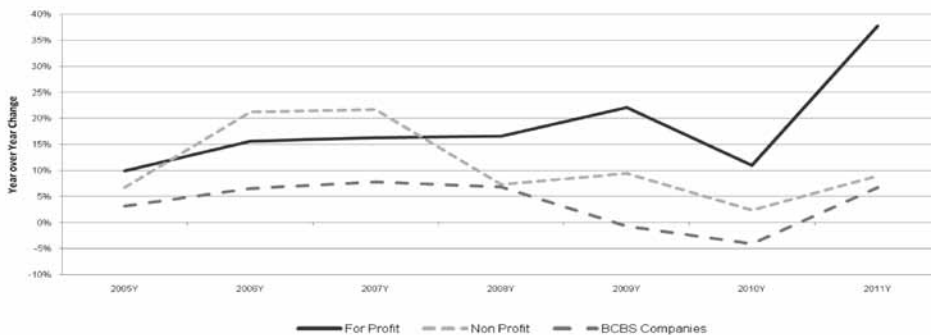
Our comparative ERM analysis of risk tolerance levels on the asset side of the balance sheet focuses on the risks inherent in investment portfolios. These risks include liquidity and credit characteristics, as well as the composition of the invested asset base.

Exhibit 3
Liabilities/Capital & Surplus



Source: Brookfield Analysis on SNL Data

Exhibit 4
Claim & CAE Reserve Growth (%)



Source: Brookfield Analysis on SNL Data

Liquidity Risk

Liquidity risk measures the ability of a company to pay liabilities in a timely manner. Liquidity risks will differ depending upon the type of business a company writes (health, life, or property and casualty (P&C)). Health care is considered a short-tailed line of business, with underwriting liability durations typically between one and three months. Health care companies also tend to have two portfolios—an operating portfolio, which handles day-to-day cash needs and manages liquidity, and an investment portfolio. The former typically has an asset duration of three months, while the latter has a typical asset duration of three to four years.

There are several factors to consider when measuring liquidity risk for a health company. The first factor is the type of business the health company writes, as HMO claims settle much more quickly than PPO and POS claims. Another area to observe is the growth in claim reserves. Typically, claim reserves grow on an annual basis, as demonstrated in Exhibit 4. This is due, in part, to annual medical rate increases and population growth. There will be monthly fluctuations in claim reserves, leading to declines in reserves during some months, as deductibles and out-of-pocket maximums are being satisfied. However, companies that grow reserves year-over-year tend to have lower liquidity needs, as cash inflows to pay future claims generally surpass cash outflows.

An evaluation of risk tolerance levels related to liquidity reveals an important relationship with

company size. Exhibit 5 demonstrates that larger companies tend to have lower current liquidity ratios, calculated as cash and liquid assets as a percent of liabilities, than smaller companies. As such, it would appear that larger companies have a greater tolerance for holding more illiquid assets.

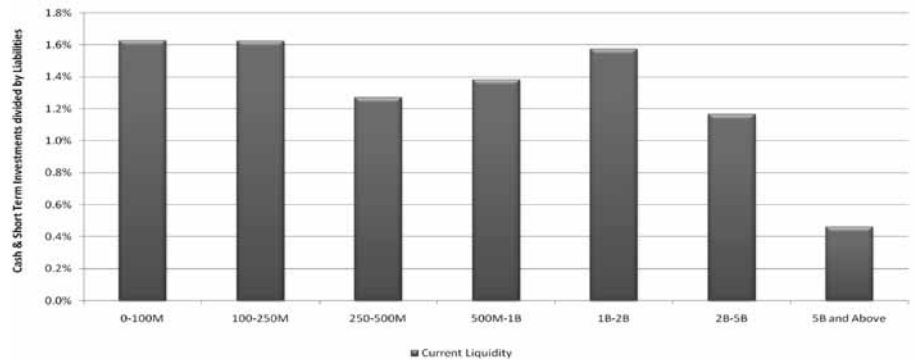
The Role of Credit Risk

Credit risk is the risk of loss caused by a counterparty’s failure to fulfill a promised disbursement. In 2008, at the height of the global financial crisis, credit risk was a major factor impacting overall net investment income for health insurers. When considering credit risk, it is important to remember that for-profit, non-profit and BCBS companies base their investment strategies partially on the objectives of their stakeholders. For-profit companies tend to consider their shareholders and stock analysts, who prefer companies with steady growth in net income and low earnings volatility. As a result, for-profit companies are likely to invest a greater proportion of their asset base in cash and bonds rather than equities. Conversely, non-profit and BCBS companies do not need to consider shareholder preferences and can tolerate more earnings volatility. Additionally, they tend to have higher RBC ratios (see Exhibit 1) and are able to put more capital at risk, leading non-profit and BCBS companies to invest in riskier asset classes relative to for-profit companies.

We categorize risky asset classes as high-yield bonds, common stock, real estate and other investments which typically include amounts invested in hedge funds and private equity companies. The analysis in Exhibit 6 compares the percent of surplus that health care companies invest in these riskier asset classes. Our evaluation indicates this percentage is indeed larger for non-profit and BCBS companies for the aforementioned reasons. Additionally, this analysis demonstrates that for-profit and non-profit companies tend to increase their allocation to riskier asset classes as they grow in size.

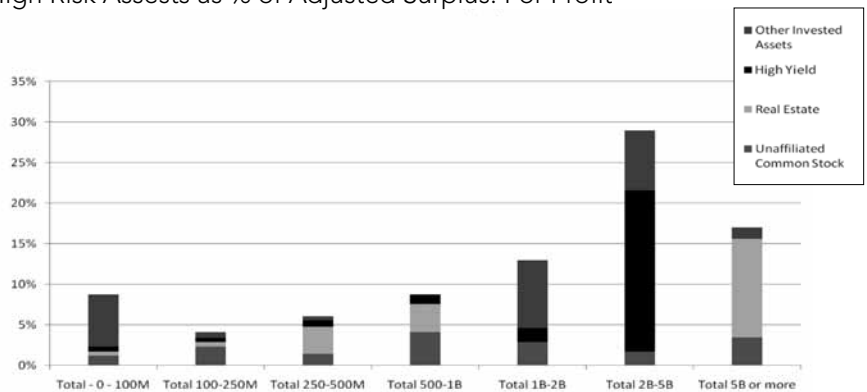
Interestingly, the composition of risky asset investments appears to differ by the type of company. Non-profits tend to invest in owner-occupied real estate, while BCBS companies tend to invest in

Exhibit 5
Current Liquidity

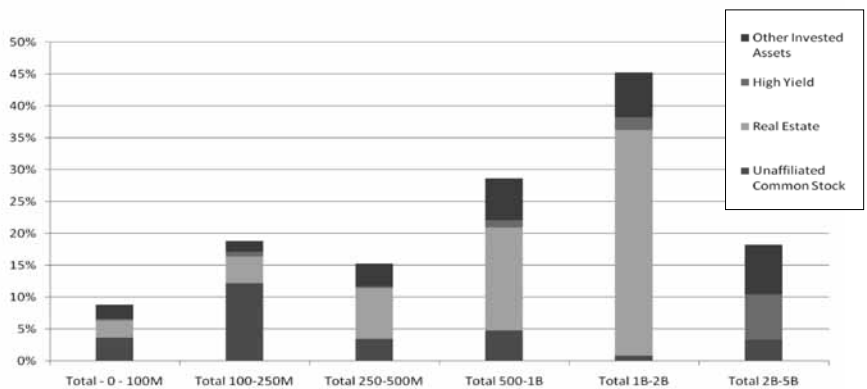


Source: Brookfield Analysis on SNL Data

Exhibit 6
High Risk Assets as % of Adjusted Surplus: For Profit



High Risk Assets as % of Adjusted Surplus: Non-Profit



Source: Brookfield Analysis on SNL Data

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Exhibit 6 continued

High Risk Assets as % of Adjusted Surplus: BCBS Companies

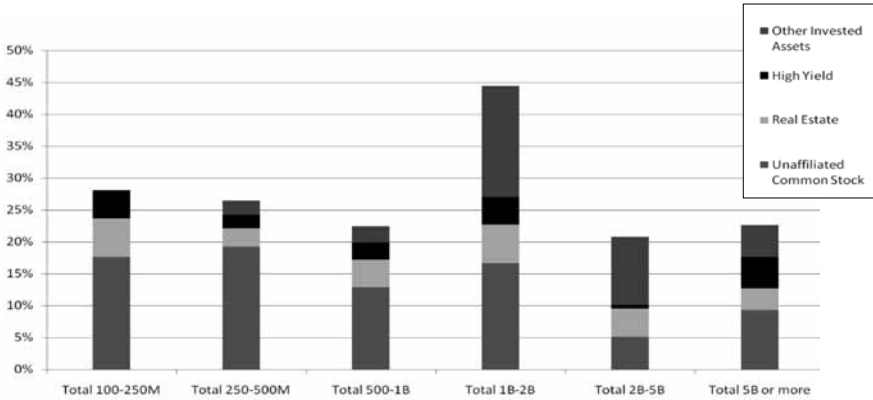
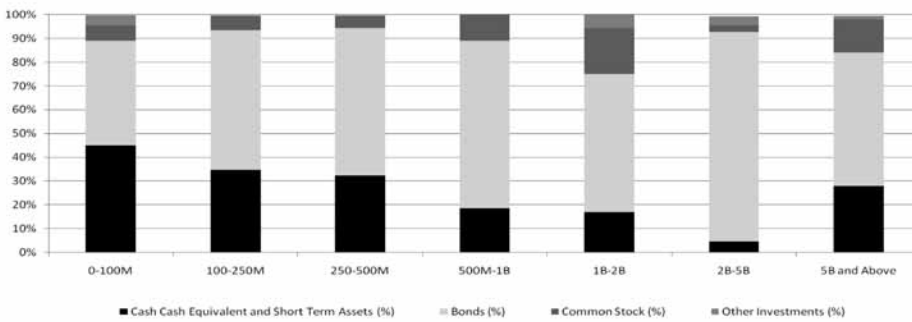
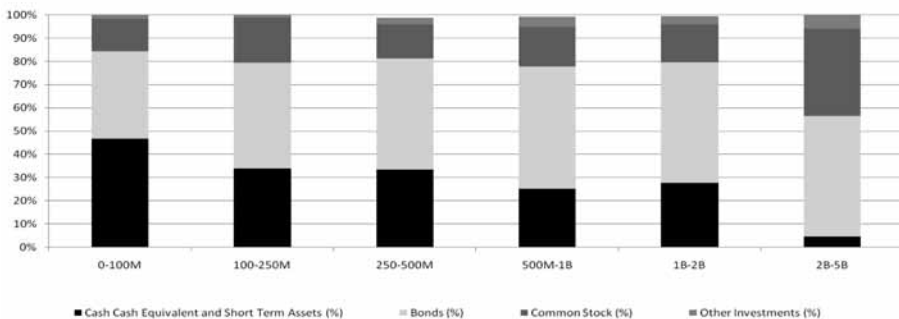


Exhibit 7

Asset Allocation (%) - For Profit



Asset Allocation (%) - Non Profit



equities. There does not appear to be a preferred asset class among for-profit companies.

Investment Risk Comparison

In addition to an evaluation of liquidity and credit risks, a review of investment portfolio composition also reveals several interesting themes. Exhibit 7 compares the asset allocation decisions of health insurance companies by size. Across all company types, it appears that as the invested asset base increases, there tends to be a corresponding increase in allocations to riskier asset classes and a decrease in investment in cash and bonds.

This analysis indicates that as the invested asset base grows, for-profit companies typically invest primarily in bonds, followed by a move into equities and other investments. Non-profit companies, regardless of asset level, follow this pattern as well, but tend to hold a higher percentage of common stock. In fact, non-profit companies with an invested asset base of \$5 billion or larger actually maintained negative cash holdings at year-end. This phenomenon is not entirely uncommon, as we do witness companies borrowing from bank lines on a short-term basis, leading to negative cash on hand. Our analysis also indicates that BCBS companies tend to hold less cash and maintain larger allocations to common stock than the other company types.

Further evidence of the relationship between risk tolerance and invested asset base can be found through an examination of bond portfolios in isolation. Such an analysis reveals that, as the invested asset base increases, the average portfolio rating tends to decrease. In Exhibit 8, we observe that as the invested asset base increases, the allocation to NAIC 1 rated bonds (AAA-A) declines, while the allocation to NAIC 2 (BBB) and NAIC 3-6 (high-yield) bonds rises.

A review of the maturity profile of the asset portfolio also reveals several interesting themes (Exhibit 9). Knowing the average duration of a health care

company's liability portfolio is one to two months and the average maturity of the asset portfolio ranges from three to six years, it would appear that health care companies are comfortable with investment horizons longer than liability durations (ALM mismatch). Additionally, we also note that larger BCBS companies have longer maturity portfolios than smaller BCBS companies, although there is no clear trend with for-profit and non-profit companies.

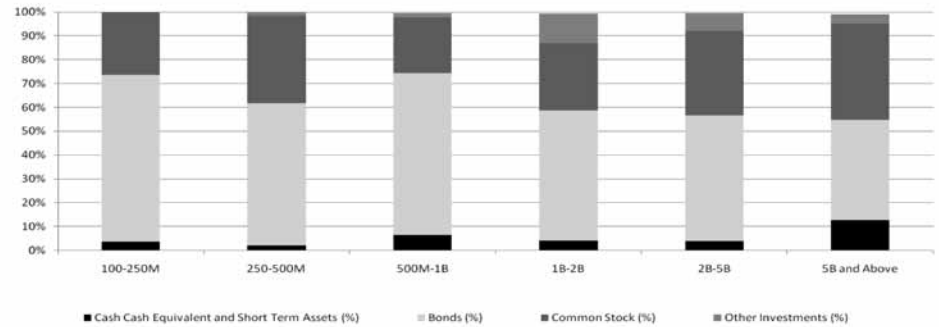
Interestingly, recent capital market trends may drive further changes in asset allocation decisions and risk tolerance levels, as the opportunities to invest for yield have diminished. As demonstrated in Exhibit 10, bond yields have declined meaningfully over the last decade, with the exception of the 2008 crisis period. Prior to 2008, a AAA-rated security yielded approximately 4 percent, whereas, today, that same security would yield closer to 2 percent. Due to this trend, investment income levels have declined and will continue to do so unless risk tolerance levels are re-evaluated, and the credit quality of investment portfolios is adjusted accordingly.

Companies seeking to enhance investment income in an environment of diminishing yields may benefit from a shift in asset allocation to higher-yielding opportunities, including high-yield corporate bonds, securitized mortgage investments, or income-producing equity securities, such as listed infrastructure companies or real estate securities (REITs). With yields ranging from 3.5 to over 7 percent, investment in these asset classes may represent an attractive option for improving current income while remaining within a company's targeted risk spectrum.

Risk Tolerance and Profitability

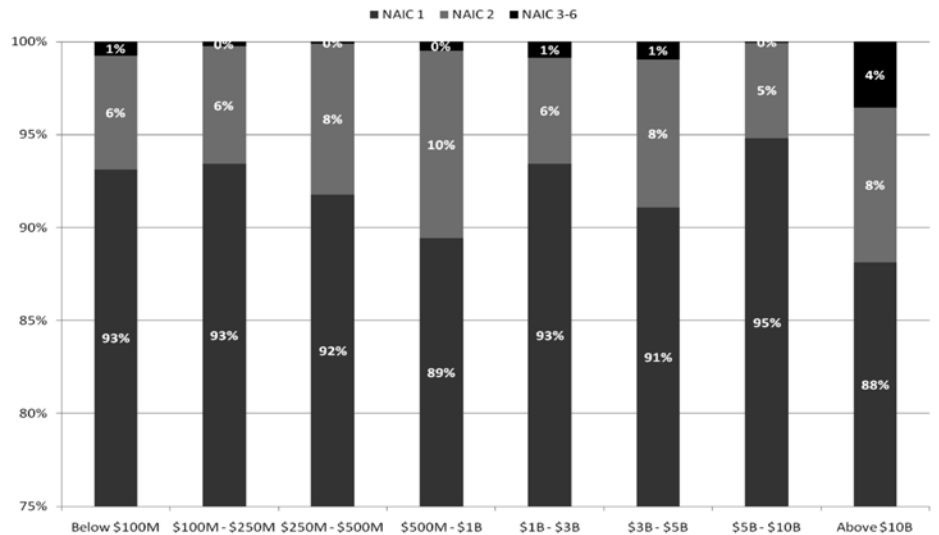
This holistic ERM approach to understanding risk tolerance on both the asset and liability sides of the balance sheet can lead to enhanced strategies for improving overall profitability. Importantly, the source of health care company profitability has evolved over time. As Exhibit 11 demonstrates, underwriting margins (as a percent of premium) were declining for all company types prior to 2009. However, they have rebounded over the past few years due in part to lower-than-expected medical inflation.

Exhibit 7 continued
Asset Allocation (%) - BCBS Companies



Source: Brookfield Analysis on SNL Data

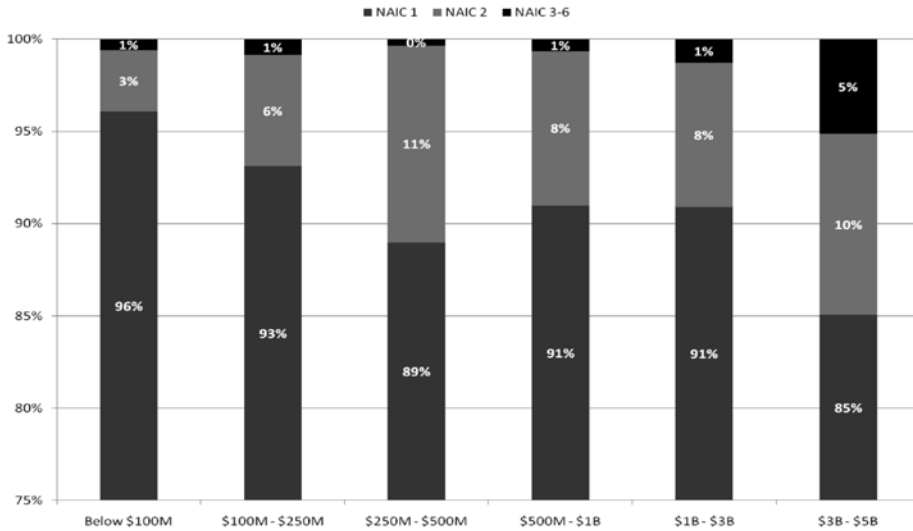
Exhibit 8
2011 - Bond rating Distribution (For - Profit)



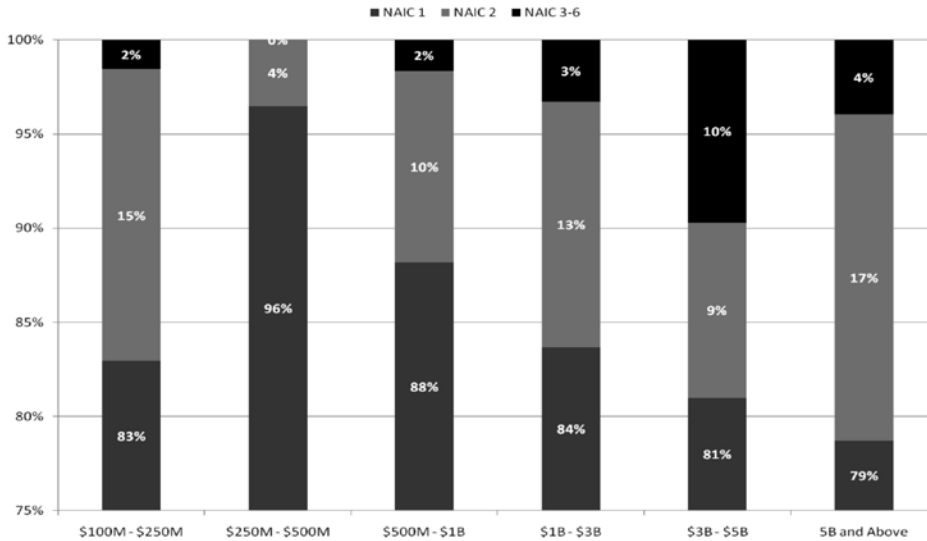
Source: Brookfield Analysis on SNL Data

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Exhibit 8 continued
2011 - Bond Rating Distribution (Non - Profit)



2011 - Bond Rating Distribution (Blue)



At the same time, investment income has been decreasing over the last few years and is now running less than 1 percent for non-profit and for-profit companies (see Exhibit 12). With the expectation of increased pressure on underwriting margins due to competition and regulatory changes (that is, the ACA), companies should examine their investment strategy as a way to offset the potential decline in underwriting gains. As previously demonstrated, investment risk currently comprises a small portion of the overall risk of the firm, providing the opportunity to increase profitability by selectively adding risk to the investment portfolio.

Exhibit 9
Portfolio Maturity

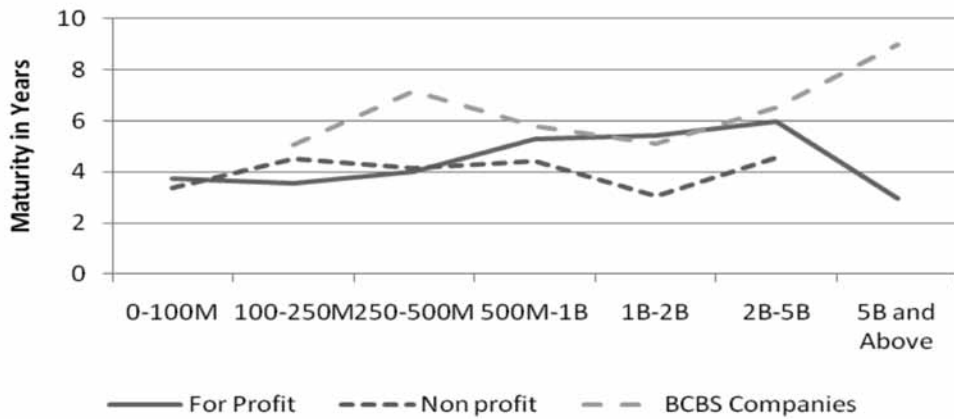
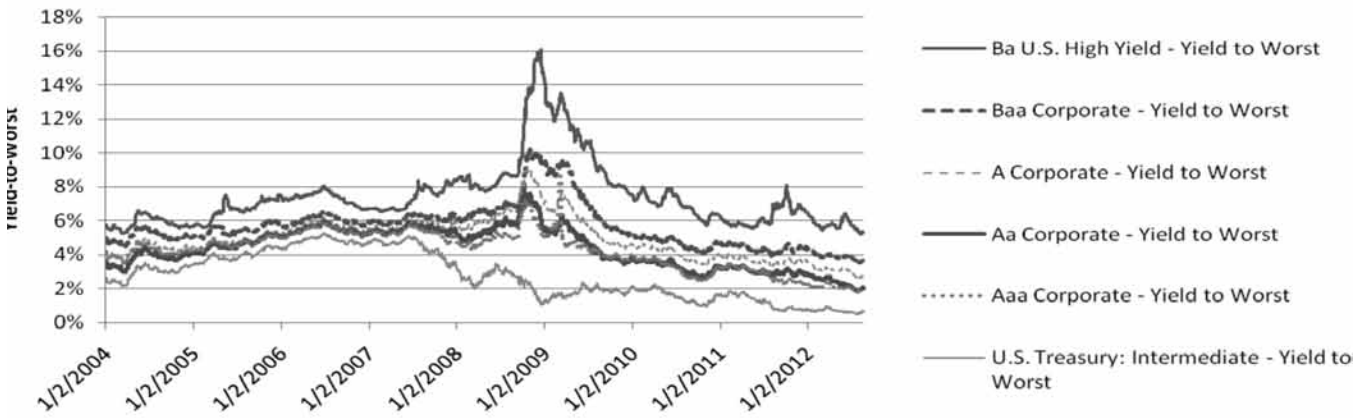


Exhibit 10



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Exhibit 11
Net Underwriting Gains as a % of Net Premiums Earned

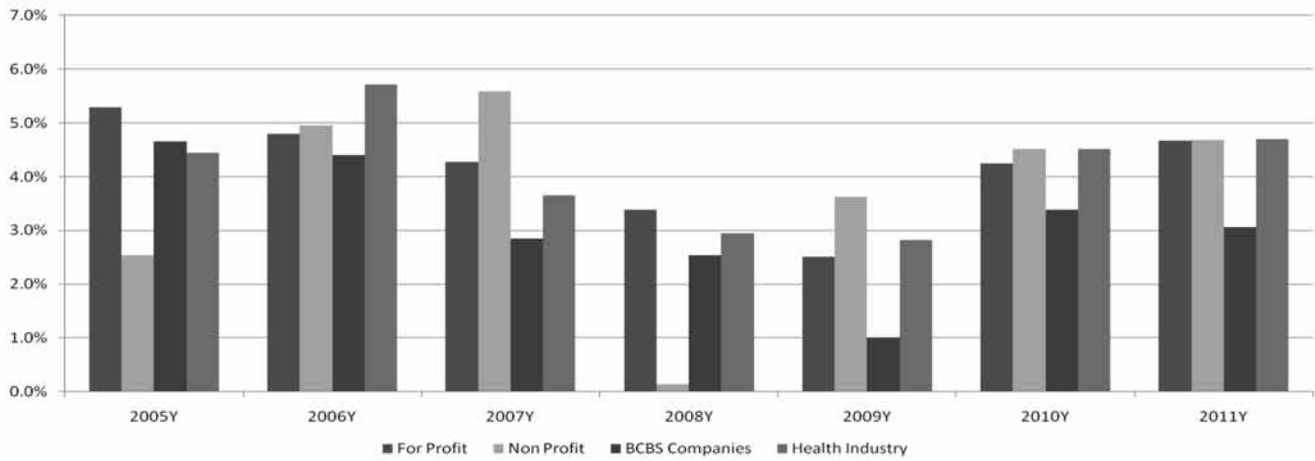
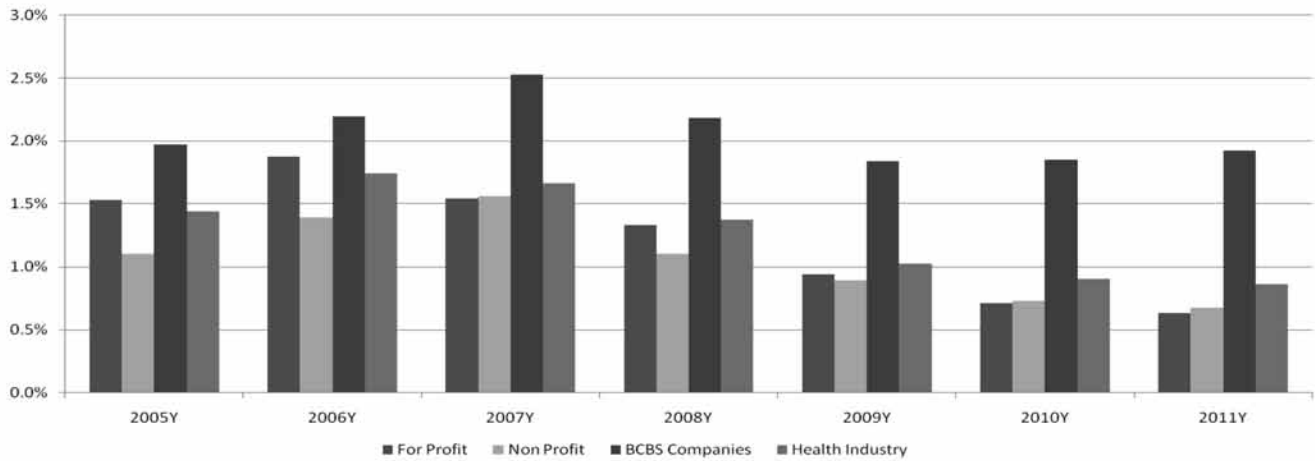


Exhibit 12
Net Investment Income Earns as a % of Net Premiums Earned



Conclusions

Against the backdrop of increasing pressures on profitability due to competition and regulatory changes, health insurance companies are facing the challenging task of improving margins while maintaining appropriate liability coverage and capital ratios. As demonstrated by our extensive analysis, one promising approach would involve selectively increasing risk levels in the invested asset base. This process can be difficult, requiring attention to balance the drivers of both assets and liabilities. ERM solutions can provide a path forward. Utilizing a holistic view, ERM supports the evolving needs of a growing company, particularly in a dynamic financial and regulatory environment. By analyzing the opportunities available on the asset side of the balance sheet and considering the requirements of the liability side, ERM can help design optimal investment strategies to improve profitability.

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