U.S. Insurance Industry Outlook
*Trends to Look Out For*

Presented by
Stephan Christiansen, FCAS, MAAA
Managing Director
Who we are…

- Founded in 1912; insurance specialists for more than 100 years; investing insurance assets for nearly three decades
- Managing $81.8 billion for 128 clients*
- 274 employees with locations in Hartford, Purchase, London, Cologne and Hong Kong
- Independently owned by Aquiline Capital Partners, Conning employees, and Cathay Financial Holdings

Assets by Client Type*

- 48% Life
- 3% Pension
- 1% Other
- 2% Health
- 46% Property Casualty

Insurance Research

Informing the Insurer Enterprise

Analysts identify industry trends and strategic issues, developed in in-depth Strategic Studies.

Ground-up line-of-business analyses incorporated into an industry forecast.

Performance metrics and line-of-business issues are foundation of research.

Strategic Issues
Identification & Analysis
CEO/CFO

Business Intelligence
Planning & Finance

Foundation Analysis
Business Units

Segment Reports
30 Lines of Business

Strategic Studies
Forecast & Analyses

Analyzing the Industry, Informing the Enterprise
Proprietary Research and Strategic Advisory

- **Projects in Support of Client Strategic Planning**
  - Proprietary Executive Surveys and Analysis
  - Peer Analyses

- **Business Development Support**
  - Quantitative Analysis of Market Segments
  - Acquisition Target Identification
  - Detailed Company Analyses

- **State-Level Premium Forecasting**
  - Analysis of State Regulatory Environment
  - Review of State-Level Drivers and Indicators
  - Premium History and Forecast by Segment by State
1) **Strong performance momentum across most sectors**
   - Discipline in pricing, underwriting, and risk processes
   - But some broad headwinds that could sap growth

2) **Success driven by investments in technology**
   - Systems and analytics

3) **Reaching the increasingly empowered customers**
   - Distribution and service

4) **Internal and external competitive pressures**
   - Seeking growth
   - Alternative capital

5) **Regulatory and health care changes**
   - Create shifting challenges and opportunities
Strong Performance Heading Into 2014

- Discipline in pricing, underwriting, and risk processes

- But some broad headwinds that could sap growth
Outlook P&C, Life, and Health to 2015: Premiums, Returns

P&C

Life

Health

Data source: ©A.M. Best Company—used by permission, Conning analysis

Presented at St. John’s University SRM October 30, 2013
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P&C Pricing—Continuing to Firm, but Flattening?

Source: Council of Insurance Agents & Brokers
Examples: P&C Q1 over Q1 Results

Note: Income = net income less realized capital gains/losses, measured against net premiums earned
Data source: ©A.M. Best Company—used by permission, Conning analysis
Turnaround in Workers’ Comp. Performance and Outlook

![Graph showing Net Premium Change and ROE trends from 2008 to 2015F.](Image)

Data source: ©A.M. Best Company—used by permission, Conning analysis
Improving Outlook in Life and Annuity Sector

Net Operating Gain

- Year Ago Estimate
- Current Estimate

Surplus + AVR

- Year Ago Estimate
- Current Estimate

Data source: ©A.M. Best Company—used by permission, Conning analysis
Universal Life Credited Rates

- Range of the Middle 50%
- Median
- Industry Book Yield

Source: LIMRA International, Inc.
Individual Annuity Product Sales

Source: Statutory data © A.M. Best Company—used by permission, Standard & Poor’s, Action Economics, Conning analysis
The Magnitude of the Problem: Slow Economy, Declining Book Yields

Life and Property-Casualty Insurance Industry Historical Book Yield Rates

Growth Projections for Gross Domestic Product

Note: Calculations based on net investment income divided by net investable assets.
Data source: ©A.M. Best Company—used by permission, Conning analysis; GDP projections by Federal Reserve Bank of Philadelphia
Historical All-Sector Fitted Treasury Spreads

Source: Barclays/Conning Analytics

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Searching for Income Enhancement—Risk/Reward Trade-offs

- High Yield
- Private Placements
- Preferreds/Structured
- Converts/Equity
- High Dividend Income Equity
- Master Limited Partnerships
- Writing Covered Calls
- Closed End Funds

- Supply Chain Finance
- Floaters including Bank Loans
- Securities Lending
- Small Balance Commercial Mortgage Loans
- Premium Tax Credits
- Insurance-Linked Notes
- Hedge Funds Replication
Examining Risk and Return Tradeoffs Using Stochastic Tools

Efficient Frontier, Medical Professional Liability
($ in thousands)

Looking at overall risk, including asset, liability and future contributions
And considering impact on expected value and variability of value (risk) from different asset strategies
A typical MPL carrier might increase value with no increase in overall risk by increasing allocation to corporate credits, equities high yield and noncore assets
If they have more risk tolerance, they could increase value more

Source: Conning AFFIRM®
Examples: SAA in Life and Annuities

5-Year Efficient Frontier

Source: Conning Analytics. Efficient frontiers are created using Conning’s ADVISE® Enterprise Risk Modeler and Investment Optimizer. Projections are based on insurance industry data as of December 31, 2012, economic scenarios generated by Conning’s GEMS® Economic Scenario Generator, and Conning’s assumptions for future industry underwriting results and volatility around those results.
Headwinds: Capital Buildup Works Against Discipline?

**Commercial Lines**

- Surplus
- Premium/Surplus
- Reserves/Surplus

**Personal Lines**

- Surplus
- Premium/Surplus
- Reserves/Surplus

**Capital recovery and buildup includes investment gains and additional capital paid in**

Source: Conning Property-Casualty Forecast & Analysis by Line of Insurance, 2013Q3 Edition. $ in billions
Risk Building in the Loss Reserve Tail?

Percentage of Reserves Older Than Five Years, Compared to Total Carried Reserves by Calendar Year—Total All Lines

- IBNR
- Case
- Total

2005 2006 2007 2008 2009 2010 2011 2012

Data source: ©A.M. Best Company—used by permission, Conning analysis
The homeowners line followed a path similar to personal auto until catastrophe events in 2004-2005 led many large national insurers to de-risk the homeowners portfolio.

Data source: ©A.M. Best Company—used by permission, Conning analysis
Capital recovery and buildup includes investment gains and additional capital paid in
Understanding and Measuring Risk in Policyholder Behavior

Excess Surrenders versus Profile of Spread Between Competitor Rates and Credited Rates

Source: Company Excess Surrender model, Conning research analysis
Capital recovery and buildup includes investment gains and additional capital paid in; premium-to-surplus levels are beginning to rise

Source: Conning Health Forecast & Analysis by Line of Business, 2013 Fall Edition. $ in billions
Stock Valuations: Can They Improve?

Valuation of Publicly Traded Insurance Stocks

Source: Bloomberg, L.P., Conning analysis

P&C Insurance  Life

Source: Bloomberg, L.P., Conning analysis
Investments in Technology and Analytics Paying Off?

- Technology overhaul, replacing legacy systems, moving to the cloud
- Information and analytics transforming at all levels
Improvements Across the Value Chain from Data Access and Technology

- More flexible and rapid market entry and exit
- Broker/agent management
  - Direct response uptake predictions
  - New business quoting filter
- Product Development

- Automated underwriting
  - Risk prediction and rate setting
- Client Acquisition

- Retention assessment and management
  - Subrogation/recovery potential
- Underwriting

- Early fraud detection
  - Enhanced claims process management
- Investment Management

- ESGs and Efficient Frontiers
  - Policy Administration

- Account Servicing
Technology and Data Investments Paying Off?

Amount Spent on IT Increasing—Property-Casualty Sector

$ in billions. Data source: © A.M. Best Company—used by permission, Conning analysis
Technology and Data Investments Paying Off?

Amount Spent on IT Increasing—Life Sector

Data source: © A.M. Best Company—used by permission, Conning analysis
Five stages of data management
- Acquisition and reconciliation
- Integration across the enterprise
- Enhanced and predictive analytics
- Governance
- Data security

Vendors pick up where large companies leave off
“Predictive modeling is the finding and mixing of variables, using advanced statistical techniques, to forecast behaviors and outcomes more accurately.”
Majority of Homeowners Insurers Now Use Predictive Models

By peril rating

- Fire
- Lightning
- Wind
- Hail
- Explosion
- Smoke
- Theft

By peril rating:

- Deductible
- Coverage Amount
- Construction Date
- Location
- Weather Conditions
- Claim History
Auto Insurance Rating Sophistication Continuum

- Speed of Information
- Specificity of Content

- Traditional application-based information
- Predictive analytics
- Dynamic, updatable data
- Telematics
- Social Media

Source: Consumer Trends in Personal Lines Insurance, Conning, 2012

Telematics—vehicles—trucks—what about appliances? factories?
Technology: Reducing Friction, Improving Accuracy in Life Insurance

- Streamlined Underwriting
  - Electronic Applications
  - STP
  - Automatic issue for lower face amounts
  - Faster issuance increases sales by reducing "not taken" policies.
  - Less expensive and more accurate underwriting.

- Predictive Underwriting
  - Algorithmic underwriting
  - Application and underwriting triage

- Predictive Mortality and Policyholder Behavior
  - Combines insurer’s experience with third-party information
  - Begin targeting prospects ready to buy
Analytics in Financial Modeling: Importance of Tail Risk

Tail Value at Risk

Post 2008 Financial

Pre 2008 Financial

Changing Capital Requirement

Losses
Globalized Economic Scenario Modeling to Capture Future Tail Events

Note: For Illustrative Purposes Only

*Source: Bloomberg **Source: GEMS Simulation
Addressing a Changing Customer Base

- Empowered customers and distribution segmentation
- Service delivery arms race: mobile, digital, social networks
- Middle market outperforms: targeting specialized risk and service
- New risks and new opportunities emerge—but sold, not bought
Then:
Almost all communications went through the agent

Now:
Communications travel through many different channels
Ability to View Multiple Quotes Increases Price Transparency

AIG

PROGRESSIVE

Safeco Insurance™
A Liberty Mutual Company

TRAVELERS

THE HARTFORD

MERCURY INSURANCE GROUP
D-to-C Models Need a Greater Push to Stimulate Uptake Response

Advertising Expense, Five Largest Spenders

($ in millions)

Price focus in advertising yields commoditization

Data source: © A.M. Best Company—used by permission, Conning analysis
Segmentation Opportunities—Views Will Vary by Generation

- Depression era → savers
- Boomer generation → spenders
- Generations Y and C → renters?
People Ages 25-44 are:

41% of Facebook Users…

But only 27% of Total US population…

And only 15% own Life insurance

Source: Socialbakers.com
Opportunities to Segment by Income Level

Life Insurance Protection Gap per Household, 2013 Estimate

Note: Calculations do not include health care expenses.
Source: Conning Opportunities in Reaching the Middle Market with Life Insurance—New Pathways to Growth, 2012

Increasing Household Income
Insurers Continue to Advance Service with Mobile Phone Offerings

The GEICO App
Global Wireless Subscribers (6.9 billion projected in 2013)

Source: Mobile Technologies and Empowerment, UNDP, 2012
Regional Opportunities Outstrip National Trends

Personal Automobile Premium Growth, 2011-2015

- Much stronger than average
  - 1 pt. or more
- Stronger than average
  - 0.5 to 1.0 pt.
- About average
  - ±0.5 pt.
- Weaker than average
  - –0.5 to –1.0 pt.
- Much weaker than average
  - –1 pt. or less

Source: Conning “Personal Lines Premium Forecast”
Specialty Markets Defined

Methodology
- Interviews with insurance professionals
  - Underwriters
  - Strategists
  - Wholesalers
  - Service providers

- Specialty is multi-defined marketplace
  - Various definitions, often situational
  - Indefinite, overlapping markets based on
    - perceived level of risk
    - distribution
    - insurer

Specialty Markets Present Higher Growth and Profitability, but Also Risk
ROEs versus Market Share: Middle Market Insurers and Industry

Data source: ©A.M. Best Company—used by permission, Conning analysis
Steady High Performers in Life: Avoiding Capital Losses

Asset Growth Since 1995

Slow, steady asset growth has advantages

Data source: © A.M. Best Company—used by permission, Conning analysis
New Customer Risks and New Opportunities—Sold, Not Bought

- Cyber Risks: Identity, Personal Data, Denial of Service
- Pandemic: Bird Flu/Swine Flu
- Food-borne Pathogens: listeria, salmonella, vibrio, etc.
- Nanotechnology: The Next Asbestos?
- Synthetic Biology: Food Supply and Medical Technology
- Pharma and Antivirals: Product Liability and Water Pollution
- Global Warming and Regulatory Mandates
- **D&O Exposure from JOBS act**
- Securities Class Actions, Patents, Intellectual Property
- Electromagnetic Pollution
- Social Media (Personal Liability)
- BioTerrorism or Water Supply: Slow to Present
- Infrastructure Failure and Business Interruption
- 3D Printing
- Oil and gas fracking
Emergence of a Private Flood Market?

Total Premiums and Total Insured Value under NFIP

(premiums in $ millions and TIV in $ billions)

Source: FEMA; Conning research
Customers’ own risk retention: RRGs, Captives, Deductibles

Global capital: marginalizes dedicated capital, opens new markets

Competition from outside? Challenging the Value Proposition
Traditional Insurance Squeezed by Capital Markets and Self-Insurance

- **Expected Loss**
  - **Low**
  - **High**

  **Severity/Catastrophic**
  - Alternative capital, ILS
  - Peak exposures → capital markets

  **Traditional Insurance**
  - Being squeezed from both ends

  **Frequency**
  - Increased retentions, deductibles, self-insurance, captives
Safety Technology Is Bridging to Intelligence Features

Volvo’s City Safety Technology

Source: Volvocars.com
Contributors to long-term frequency trends

- Graduated driver laws
- Stricter DWI/DUI enforcement
- Safer roads
- Anti-lock brakes
- Aging population
- Reduction in vehicle miles traveled
- Driver monitoring
- Event recorders
- Location tracking

Source: ISO Fast Track; Conning Research
Medical Professional Liability Market Share, Risk Retention Groups

Data source: © A.M. Best Company—used by permission, Conning analysis

Presented at St. John’s University SRM October 30, 2013
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New Capital Changing Insurance and Reinsurance

- Global Platforms
- ILS
  - Nontraditional capital changing reinsurance landscape
  - Swaps, sidecars
  - Reaction of reinsurers, impact on pricing
  - Cat modeling customers gain access to cat models
- Lloyd’s
- Global Capital and Emerging Markets
  - Domestic vs. international players
  - Risk accumulation and credit risk
- Contingent Capital
## New Capital Changing Insurance and Reinsurance

<table>
<thead>
<tr>
<th>Market</th>
<th>Capital Source(s)</th>
<th>Examples</th>
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<tr>
<td>Property Cat</td>
<td>ILS—pension funds, SWFs</td>
<td>Nephila, Fermat</td>
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<td>Annuities</td>
<td>Private equity consolidators</td>
<td>Guggenheim, Athene</td>
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<td>Reinsurance</td>
<td>“Hedge Fund Re”</td>
<td>Third Point, Greenlight, Paulson</td>
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<td>Distribution</td>
<td>Private equity buyers</td>
<td>Madison Dearborn/NFP H&amp;F/Hub Onyx/USI</td>
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Potential New Entrants Challenging the Value Proposition

Examples

- Banks, brokers
- Alternative capital
- Government safety nets and subsidies

But what about....

- Big Box Retailers
  - Walmart
  - Costco

- Technology and eCommerce
  - Google, Amazon
  - Crowdfunding
The Phenomenon Extends Beyond Personal Auto

Life Insurance in Box

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<tr>
<th>Age Group</th>
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<td>AGE 60-65</td>
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Available at your local Walmart Store (if you are in Georgia or South Carolina)

Source: MetLife
Regulatory Complexity Challenging the Business Model

- Multiple layers of jurisdiction
- Competing and sometimes conflicting purposes
- Opportunities for the nimble?
Regulatory Complexity: Solvency Transparency or Social Utility

**Initiatives**
- Global standards; compliance
- “Equality”; looming bank-like oversight
- ORSA; economic capital; from “rules” to “principles”

**Examples**
- Solvency II, Comframe, GSII, IAIS
- Non-bank SIFIs, FIO, PPACA, Fed, HUD NAIC, New York
Sometimes Conflicting Regulatory Initiatives

- **Solvency Regulation** to increase confidence that insurers can meet their obligations—balance sheet and liquidation orientation: standards of measurement of assets, liabilities and risk—statutory, Solvency II, NAIC, and ORSA

- **Securities Regulation** to increase confidence that enterprise effectiveness is fairly represented—going concern: profitability, equity, capital—GAAP, SEC, FASB

- **Accounting** to standardize terms and measurements of performance, NAIC, FASB

- Other government interests to regulate **financial stability, social equity**—FSOC, Fed, IAIS, Congress and legislatures, NAIC, FIO?
Emerging regulations and requirements of the PPACA are reshaping health insurance and health care delivery in all sectors.
Customers may be “central” to traditional health insurance, but typically have very little input into the directing of care or financial aspects of the product.

There is also relatively limited coordination among providers or between insurance companies and providers.

Customers may play a larger and more important role in the future, especially with CDHPs.

ACOs are increasing the interaction of providers and insurers and blurring their traditional roles.
Casualty a Small Part of Medical Payments: Cost Shifting, Anyone?

Percentage of Total Hospital Expenditures by Payer

Source: CMS, Conning analysis
1. Good news: Strong performance—pricing, underwriting, risk discipline
2. Headwinds: Economy and reduced portfolio yields
3. Headwinds: Capital buildup and increasing elements of risk
4. Technology transformation paying off?
5. Data and analytics: application across the value chain
6. Changing customer base: empowered customers and need to segment
7. New models of service through technology: pathway to global?
8. Mid Market outperforms: Targeting specialized risk and service
9. New risks and new opportunities emerging—sold, not bought
10. Customer risk retention: challenging the value proposition
11. Competition from outside: leveraging different parts of the value chain
12. Global capital flows: marginalizing dedicated capital
13. Competition among regulators challenging the competitive market?
14. Health care transformation: more challenges and opportunities
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