

Circling the Wagons



➤ What you need to know about forming and operating a captive insurance company from the perspective of:

- A Captive Consultant/Manager
- An Actuary
- A Reinsurance Broker and
- An Investment Advisor

Captive Consultant/Manager

- The wagon master who helps pull together all the needed resources to structure and operate the captive effectively
- Knows the trail
- Knows what questions to ask and how to communicate to other vendors to get you to your strategic destination



Actuaries & Your Captive



Robert W. Van Epps, FCAS, MAAA

Managing Principal

rob.vanepps@fin-risk.com



FINANCIAL RISK ANALYSTS, LLC

Actuaries • Insurance Consultants

706 Northeast Drive, Suite 4

Davidson, NC 28036

(704) 895-9765

An Actu-what-y?



Definition

“a person who specializes in the mathematics of risk, especially as it relates to insurance calculations such as premiums, reserves and dividends.”

- ▶ Actuaries predict future results based on historical experience
- ▶ Must pass a rigorous series of examinations to become credentialed and qualified to sign opinions

Actuarial Roles with your Captive



- Feasibility Study
- On-going Actuarial Support
 - Annual Reserve Review
 - Rate Analysis
 - As Needed
 - ◆ Additional Reserve Reviews
 - ◆ Loss Emergence Testing
 - ◆ Change of Business Plan – update Pro-formas
 - ◆ Reinsurance /Retention Studies

Feasibility Study



What & Why?

What: Study to determine the viability of forming a captive insurance company.

Why: Required by regulators.

Makes sense!

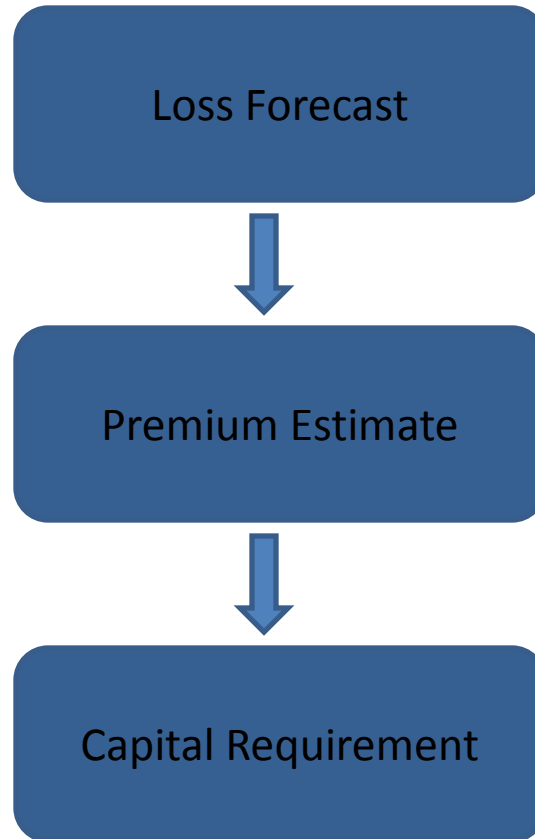
Feasibility Study



Actuarial Analysis

- Forecast Losses & Loss Adjustment Expenses (LAE)
- Develop Premium/Rate
- Capital Requirement
- Pro-forma Financial Statements
- Present results to Captive under several alternative retentions/scenarios

Feasibility Study



Feasibility Study – Loss Forecast



Loss & LAE Forecast – actuary develops an estimate of losses and LAE expected in Captive using actuarial methods based on:

- Experience of client to extent available and credible
- Industry data to supplement analysis as needed

Net loss to Captive will reflect retention, reinsurance coverage

Feasibility Study – Loss Forecast



Client Experience (Company Data)

Data/information that your actuary may request:

- Paid and incurred losses for past 5-10 years
 - Detailed claim data preferred
- Claim counts and claim status
- Exposure information (revenue, # autos, payroll, etc.)
 - Historical and projected
- Premiums
- Historical retentions

Feasibility Study – Loss Forecast



Industry Information

Actuary may rely on industry information as needed

- Loss costs (loss per exposure)
- Loss development patterns
- Loss and exposure trend
- Size of loss distributions (excess loss factors)
- Benefit level changes (workers compensation)

Feasibility Study – Loss Forecast



Actuarial Approach

- Loss Cost applied to projected exposures
- Frequency and Severity
- Expected Loss Ratio
- Stochastic Modeling
 - May be done in conjunction with another method/approach
 - Confidence levels

Forecast should be trended to policy period

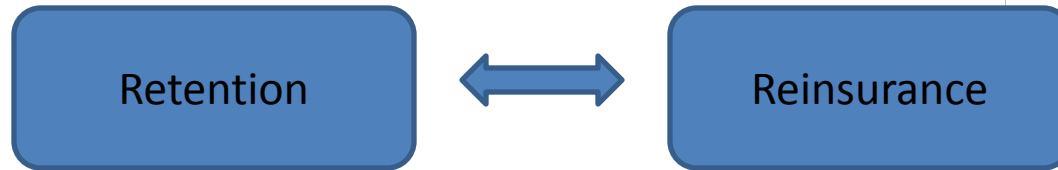
Feasibility Study – Loss Forecast



Direct vs. Net

- Actuary may forecast losses and LAE on a Gross (Direct plus Assumed) and Net basis
- Forecasted net losses to Captive should reflect the Captive's net retention and reinsurance structure.

Feasibility Study – Loss Forecast



Retention & Reinsurance are correlated.

higher retention = higher losses in
Captive = lower reinsurance cost

But higher retention also can mean higher
risk

Feasibility Study – Loss Forecast



Management Considerations

Retention

- Total exposure
- Variability of loss (frequency/severity)
- Available capital
- Cost of reinsurance
- **Risk Appetite**

Reinsurance

- Size of Program
- Variability of loss (frequency/severity)
- Available capital
- **Risk Appetite**

Feasibility Study – Loss Forecast



Reinsurance Structure

Losses Reinsured

- Pro-rata (%) vs. Excess of Loss (XOL)
- Facultative (per risk) vs. Treaty (across all risks)

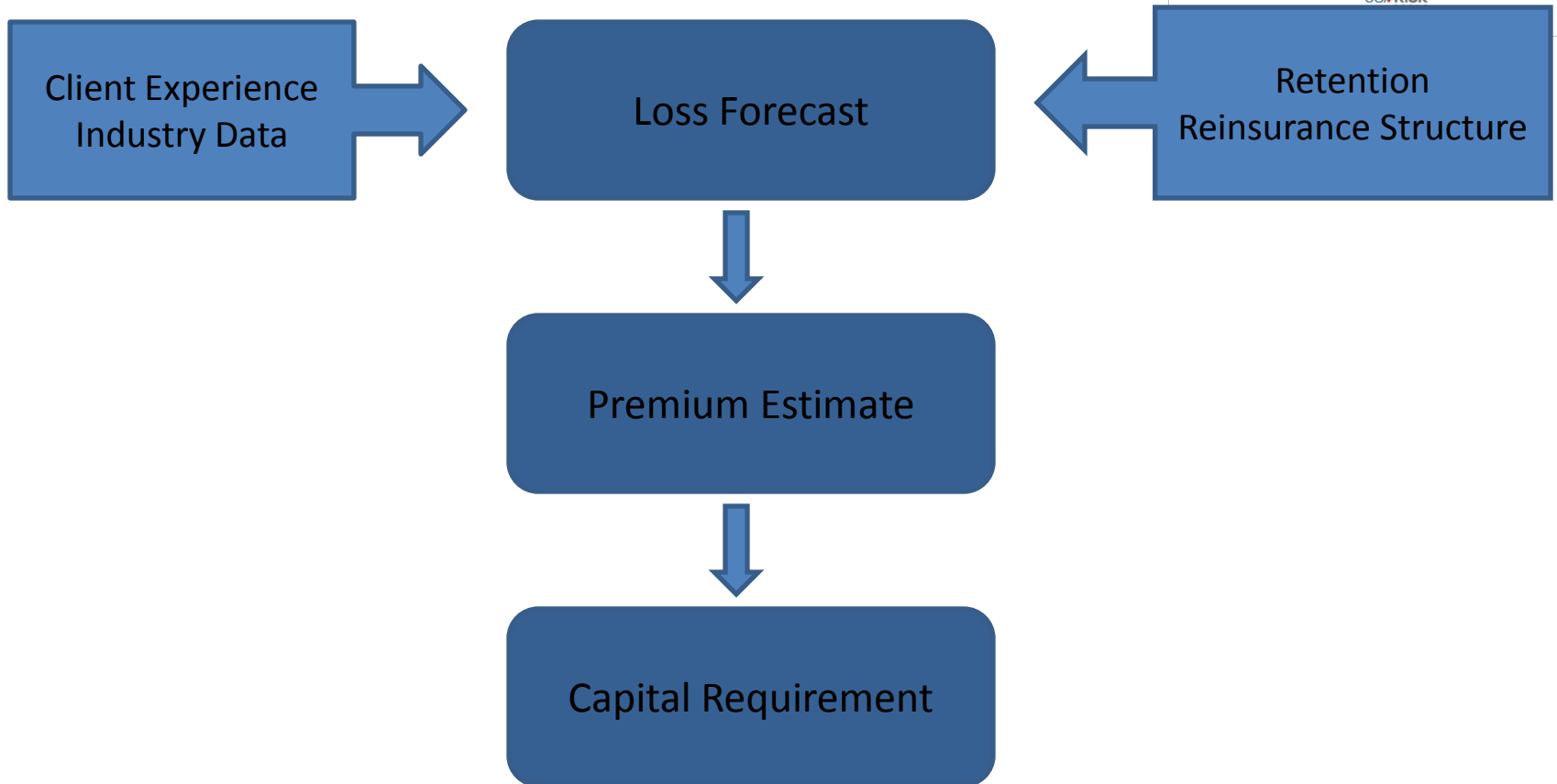
Premium rate

- Fixed or loss sensitive (swing rated)
 - Risk transfer consideration

Feasibility Study



NEW
FRONTIERS
THE 11TH ANNUAL
EXECUTIVE EDUCATIONAL CONFERENCE
USARISK



Feasibility Study - Premium



Premium Determination – actuary develops premiums to be charged in Captive based on:

- Loss & LAE Forecast
- Captive Operating Expenses
 - Captive manager, auditor, actuary, legal, commissions, overhead, etc.
 - Reinsurance and fronting costs
- Risk Margin/Profit Provision
 - Are losses discounted?

Feasibility Study - Premium

Expected Losses
+ Captive Expenses
+ Risk Margin
= PREMIUM

Another way to look at it....

PREMIUM = Rate x Exposures

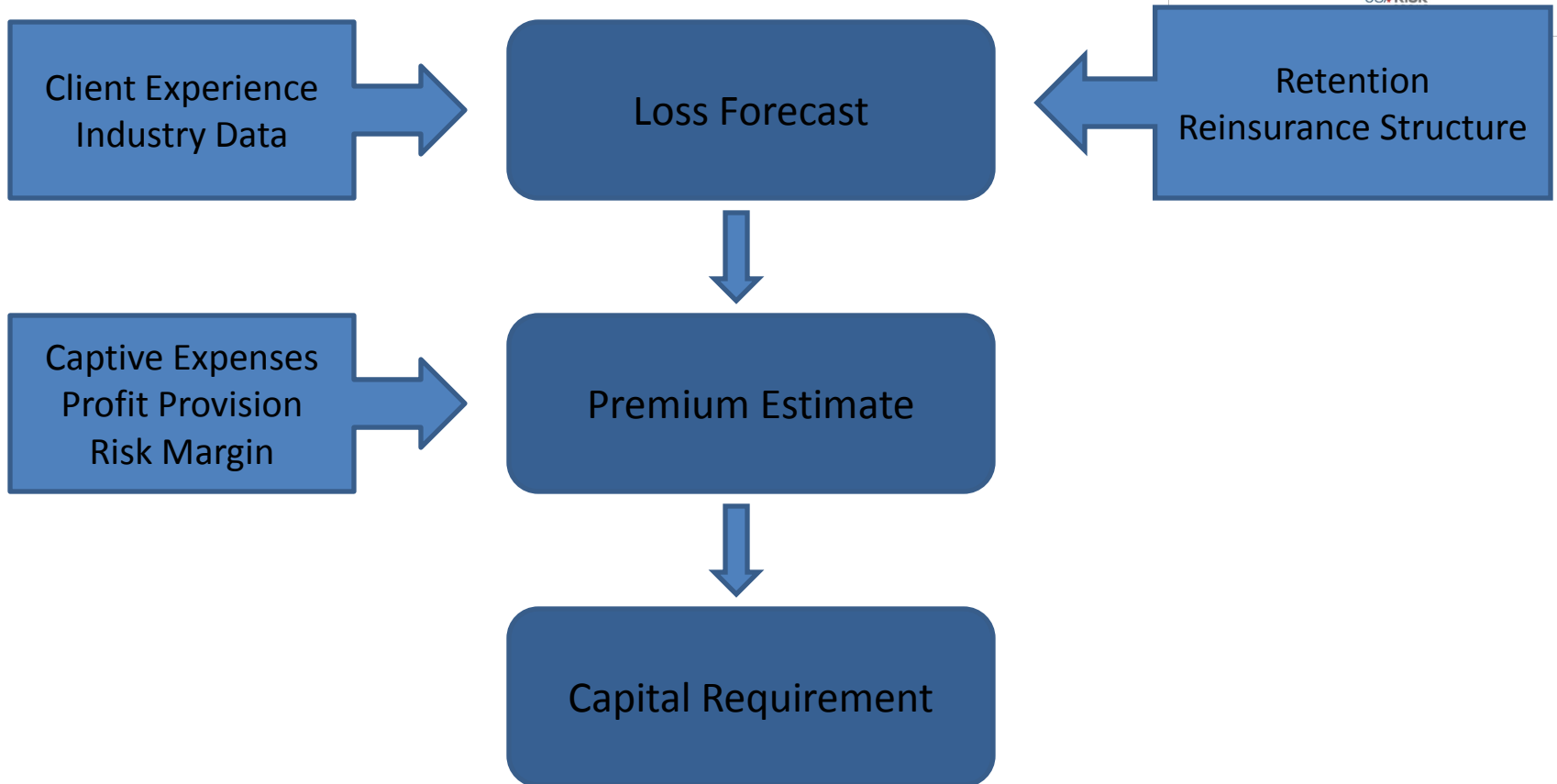
so... Premium/Exposure = Rate



Feasibility Study



< NEW FRONTIERS >
THE 11TH ANNUAL
EXECUTIVE EDUCATIONAL CONFERENCE
USARISK



Feasibility Study - Capital

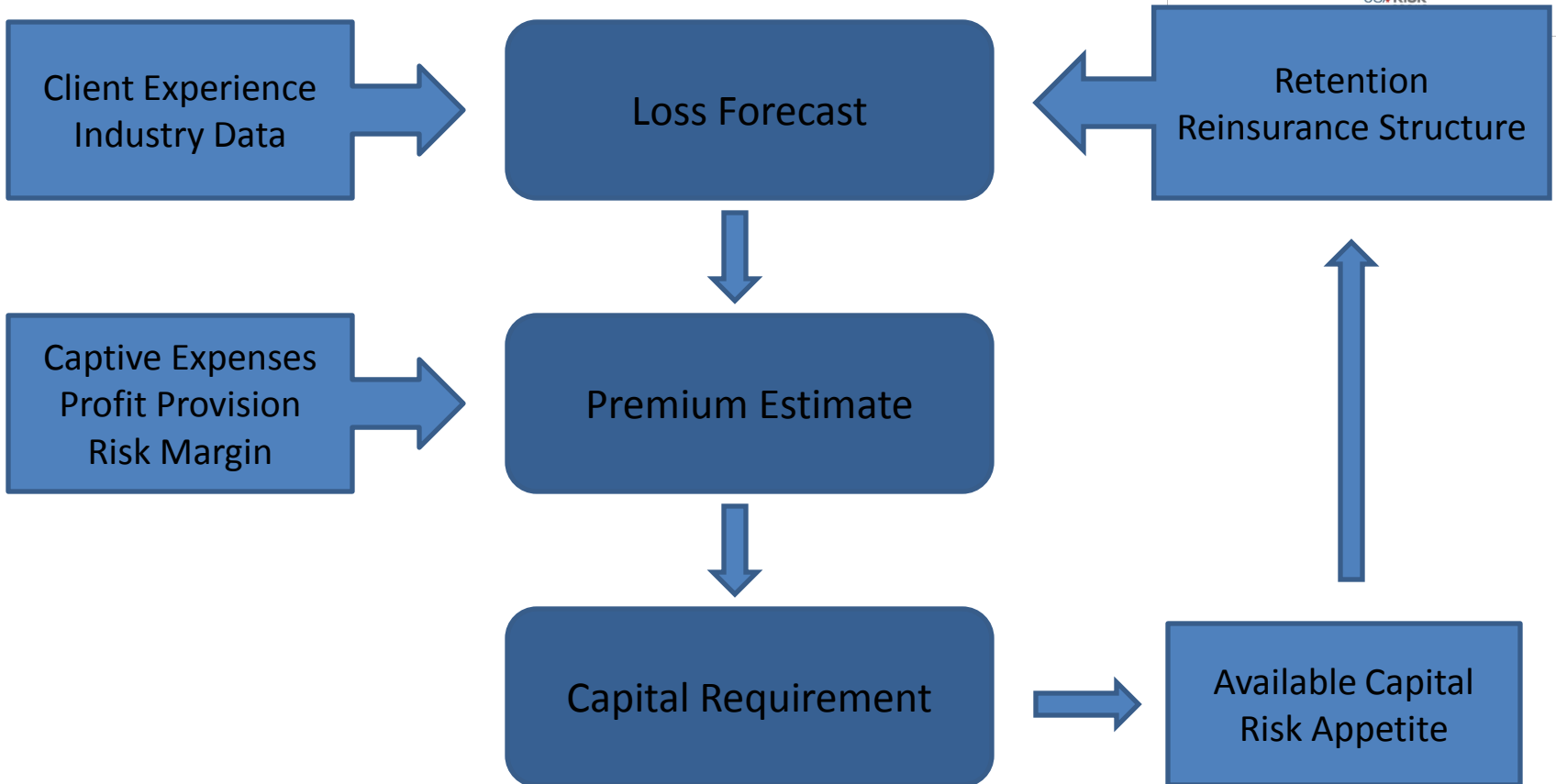


Capital Requirement – actuary can recommend capitalization needed by Captive based on:

- Premium volume
- Expected loss reserve level
- Per claim or aggregate loss retention
- Statutory/regulatory requirements
- Expected frequency/severity of losses

Capital requirement may alter management decision regarding retention & reinsurance structure

Feasibility Study



NEW
< FRONTIERS >
THE 11TH ANNUAL
EXECUTIVE EDUCATIONAL CONFERENCE
USA-RISK

Feasibility Study – Pro-Formas



Pro-forma Financial Statements

- Projected Captive results are based on all of the above ...plus more
- Generally five year projections
 - Balance Sheet, Income Statement, Cash Flow Exhibit
- Base Case and Adverse Scenarios
 - Adverse should represent performance under suitably stressed situation
- May be used by the regulators to evaluate actual performance vs. projected during first years of Captive

Feasibility Study – Report



Actuarial Report

The actuary should provide an Actuarial Report that clearly describes the analysis and findings. The Actuarial Report will be included in the captive application

- Should include key assumptions and findings as well as limitations of the analysis
- Will include pro-formas if actuary prepared them

Actuarial Roles with your Captive



- Feasibility Study
- **On-going Actuarial Support**
 - Annual Reserve Review
 - Rate Analysis
 - As Needed
 - ◆ Additional Reserve Reviews
 - ◆ Loss Emergence Testing
 - ◆ Change of Business Plan – update Pro-formas
 - ◆ Reinsurance /Retention Studies

Annual Reserve Review



Actuary performs an annual analysis of the Captive's exposures and losses to quantify the amount of loss and LAE reserves needed to cover claims incurred to-date.

- Actuary will provide a Statement of Actuarial Opinion regarding the adequacy of the Captive's carried reserves.
 - Reasonable, Excessive (Redundant), Deficient (Inadequate), Qualified, No Opinion
 - Opinion is filed with Annual Report/Statement
- Actuary will provide an Actuarial Report detailing the analysis and findings
 - Not to be filed with regulators

Rate Analysis



- Review and recommend rate changes based on Captive's loss experience, expenses, changes in coverage or exposures.

- In addition, updated rates should reflect, as applicable:
 - Loss trend
 - Exposure trend
 - Updated industry information

Actuarial Roles with your Captive



- Pre-Feasibility
- Feasibility Study
- On-going Actuarial Support
 - Annual Reserve Review
 - Rate Analysis
 - **As Needed**
 - ◆ Additional Reserve Reviews
 - ◆ Loss Emergence Testing
 - ◆ Change of Business Plan – update Pro-formas
 - ◆ Reinsurance /Retention Studies

Actuarial Roles with your Captive



QUESTIONS?

Presenter Bio



Rob Van Epps is the Managing Principal of Financial Risk Analysts, LLC, an actuarial and insurance consulting firm with offices in North Carolina and Connecticut. He has more than 25 year of insurance and actuarial experience.

During Mr. Van Epps' consulting career, he has specialized in the alternative risk market. In this regard he has provided feasibility studies, loss reserve reviews, statements of opinion and other actuarial services to a variety of companies who assume some risk through alternative risk transfer mechanisms. Clients include captive insurance companies, risk-retention groups, self-insured entities and State Insurance Departments.

Prior to joining Financial Risk Analysts, Mr. Van Epps was the Managing Director of AmWINS Actuarial Services, the actuarial services unit the largest wholesale broker in the country, the AmWINS Group. Mr. Van Epps began his actuarial career working for Royal & SunAlliance, a large international property and casualty insurance company.

Mr. Van Epps is a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries. He graduated from Duke University with Bachelor of Science degrees in Mathematics and Zoology.



Reinsurance and captives – a lost ART?

Ken MacDonald

Miller Insurance Services LLP

London

Agenda



- About Miller
- Captives and reinsurance – an evolution
- Why use reinsurance?
- Traditional types of reinsurance
- Non-traditional types of reinsurance
- How London can assist

About Miller - Fast Facts



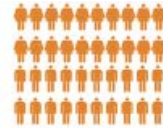
5th

largest producer
of premium to Lloyd's



USD2.5bn

premium per annum
placed on behalf of clients



550+

colleagues
worldwide



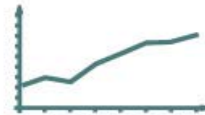
8

international
offices



110

years of
servicing clients



35%

organic growth
in the last 3 years



10

industry
awards won



1

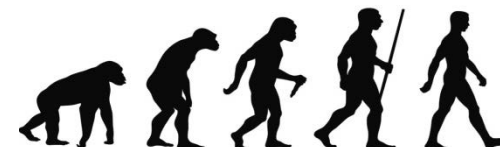
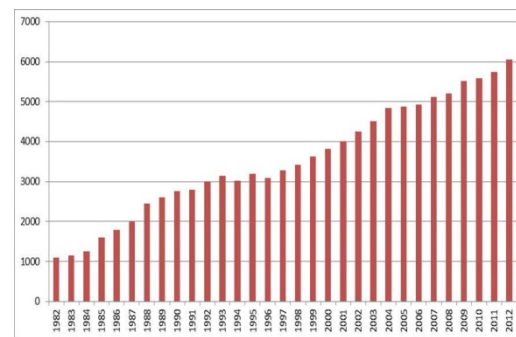
partnership



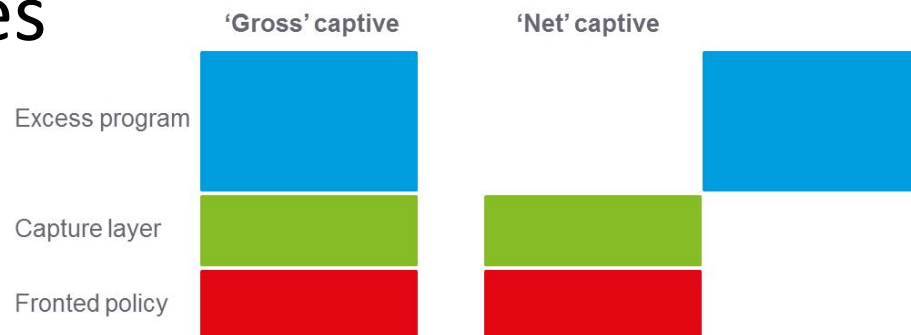
Captives and reinsurance - an evolution



- Captive growth – ever rising
- Use of reinsurance – declining but growing again



- ‘Gross’ vs ‘Net’ captives



Why use reinsurance?

➤ Access to more market

➤ Reduce price

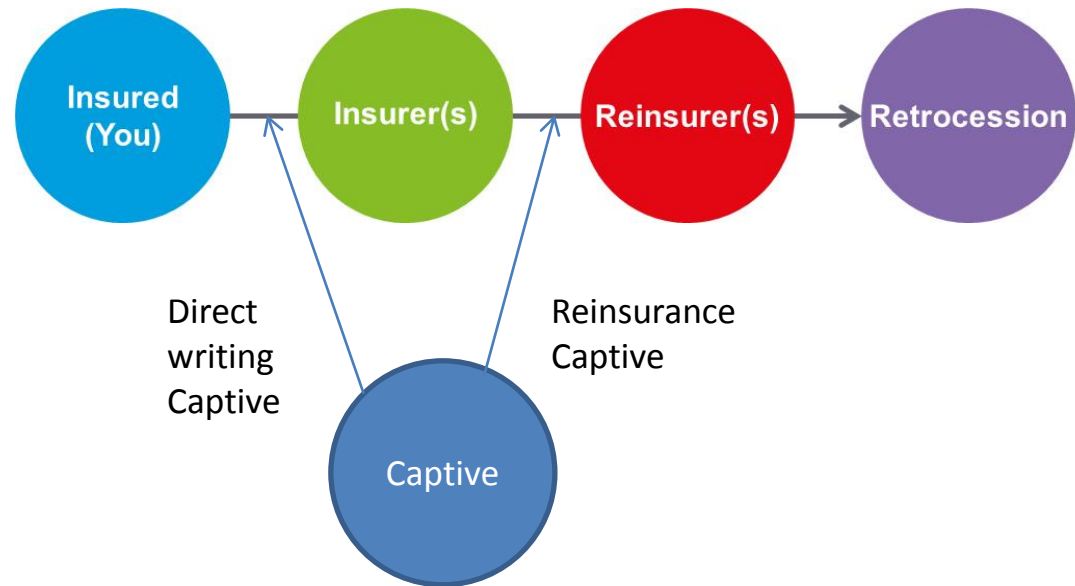
- Drive competition

- Specialty markets

- 'Private' placement

➤ Control

➤ Risk management

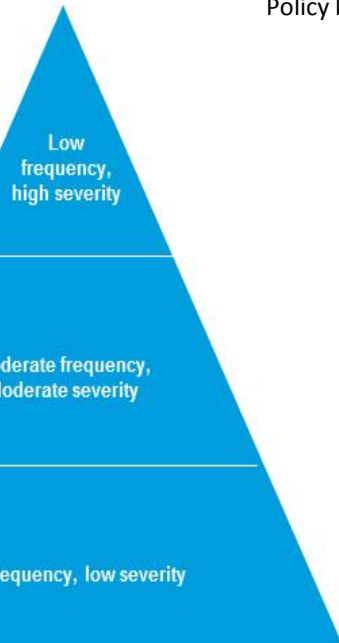


Traditional types of reinsurance

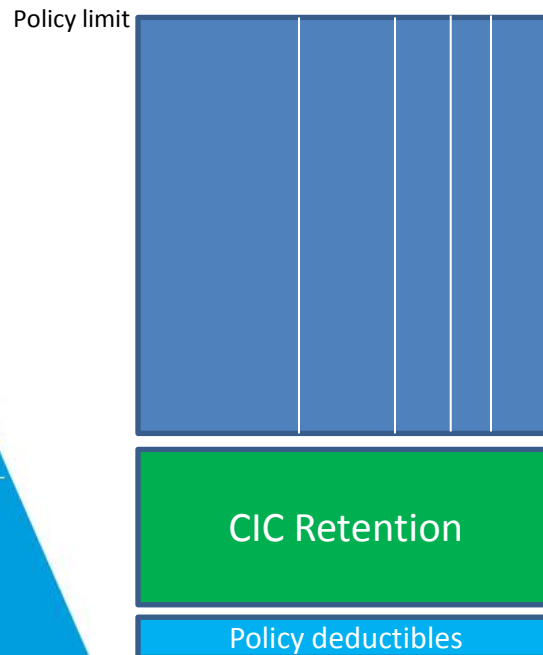


- ◆ Quota share vs excess of loss
- ◆ Aggregate stop loss

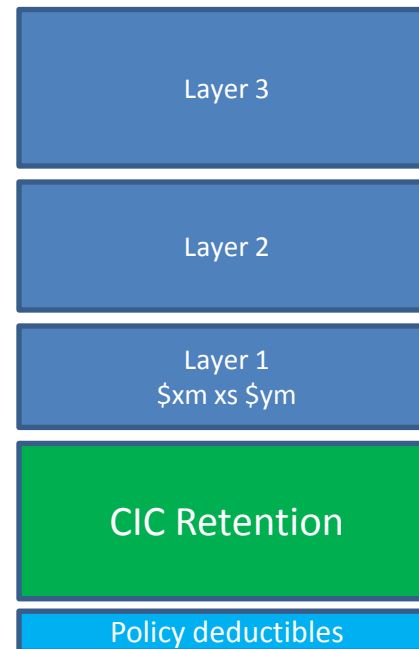
Risk profile



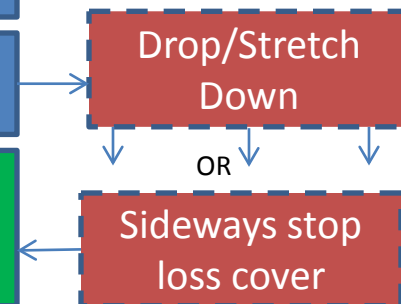
Quota share



Excess of loss



Stop loss



Non-traditional types of reinsurance



When traditional insurance does not meet your requirements

...

multiyear nat cat capacity **probabilistic risk modeling** wrap cover **target risk transfer** **financial flexibility** **scenario based pricing** **unique risks** financial interest **efficient risk financing** **optional cover** **loss of income** performance **linked capacity** **volatility** **budgeting** **retention** optimization **target capital adequacy** complex exposures **captive fronting** **embedded options** **parametric triggers** **retention protection** **balance sheet optimization** spread loss adjustable capacity **blended cover** **solvency protection** hedge accounting **captive run off** **structured credit**

Non-traditional reinsurance

- Multi-line and/or multi-year covers
- Difficult to insure risks
 - Supply chain / NDBI
- Loss portfolio transfer
- Adverse development cover



How London market can assist



- Global reinsurance center
- Strong appetite for international business
- Captive business viewed positively
- Gateway to markets in continental Europe and Asia

48,000 professionals working in the market

£60bn in annual premiums written

£140 bn in claims paid in last 5 years





< **NEW**
FRONTIERS >
THE 11TH ANNUAL
EXECUTIVE EDUCATIONAL CONFERENCE
USARISK
GROUP

Thank-you!



NEW
< FRONTIERS >
THE 11TH ANNUAL
EXECUTIVE EDUCATIONAL CONFERENCE
**US-RISK
GROUP**

Investment Strategies for Captives

Investment Pitfalls to Avoid



- » Waiting too Long
 - To change your asset allocation to coincide with your captive's lifecycle stage
 - To seriously address the investment management program only after significant accumulation of assets in bank deposits (newer captive) or an unexpectedly bad experience with an existing manager
- » Moving too quickly
 - By selecting a manager before an investment plan is designed
 - By allowing the investment manager to provide boilerplate investment guidelines, to pick your asset allocation and using their own performance benchmark
 - By selecting the manager primarily on the basis of recommendations rather than a rigorous qualitative and quantitative screening process
- » Not understanding how to “shop” for an investment manager
 - Ignoring the importance of Insurance Asset management expertise. E.g. asset/liability management (ALM) and the investment program's role in enterprise risk management
 - Selecting the manager with little or no knowledge of their “risk-adjusted” performance (Skill Level) or investment style considerations



Are you ready to pick an investment manager?



1. Do you have assets that need to support liabilities/claims payments?
Investment Plan Design Elements
2. Do you have an Investment Policy Statement (IPS)?
3. Do you have a Strategic Asset Allocation?
4. Do you have Investment Guidelines?
5. Have you designed Performance Benchmarks?
6. Do you have an Actuarial Report and Tax/Accounting Guidance?



Risk Assessment/Plan Design



- ◆ Qualitative risk tolerance measurement
- ◆ Understanding the objectives of the Captive and how they relate to objectives of the parent(s)
- ◆ Viewing risk/reward from an enterprise-wide perspective (ERM)
- ◆ Developing an Strategic Asset Allocation strategy
- ◆ Correlating the risks across the balance sheet and then designing a risk budget
 - Liquidity
 - Reserve
 - surplus
- ◆ Developing constraints for the tactical portfolio manager (ALM)
 - Duration, credit, issuer and sector exposures, asset class, etc.
 - Regulatory, accounting and tax considerations

The Investment Plan

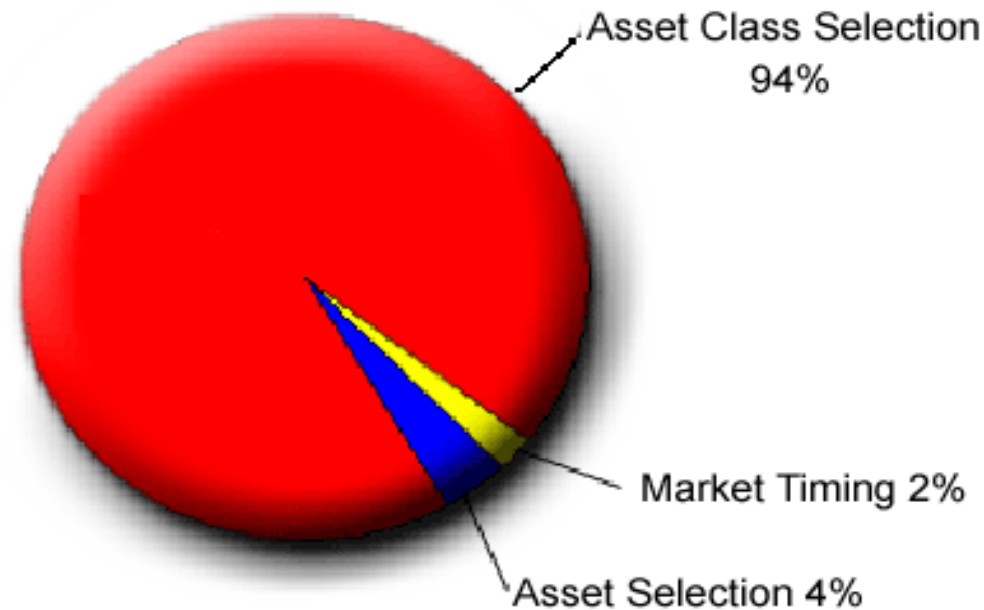
- Governance
- Purpose
- Risk precisely defined
- Reward measurements
- Asset allocation
- Metrics for measuring progress
- Review and revision schedule



The Importance of Strategic Asset Allocation Optimization



Determinants of long term investment results



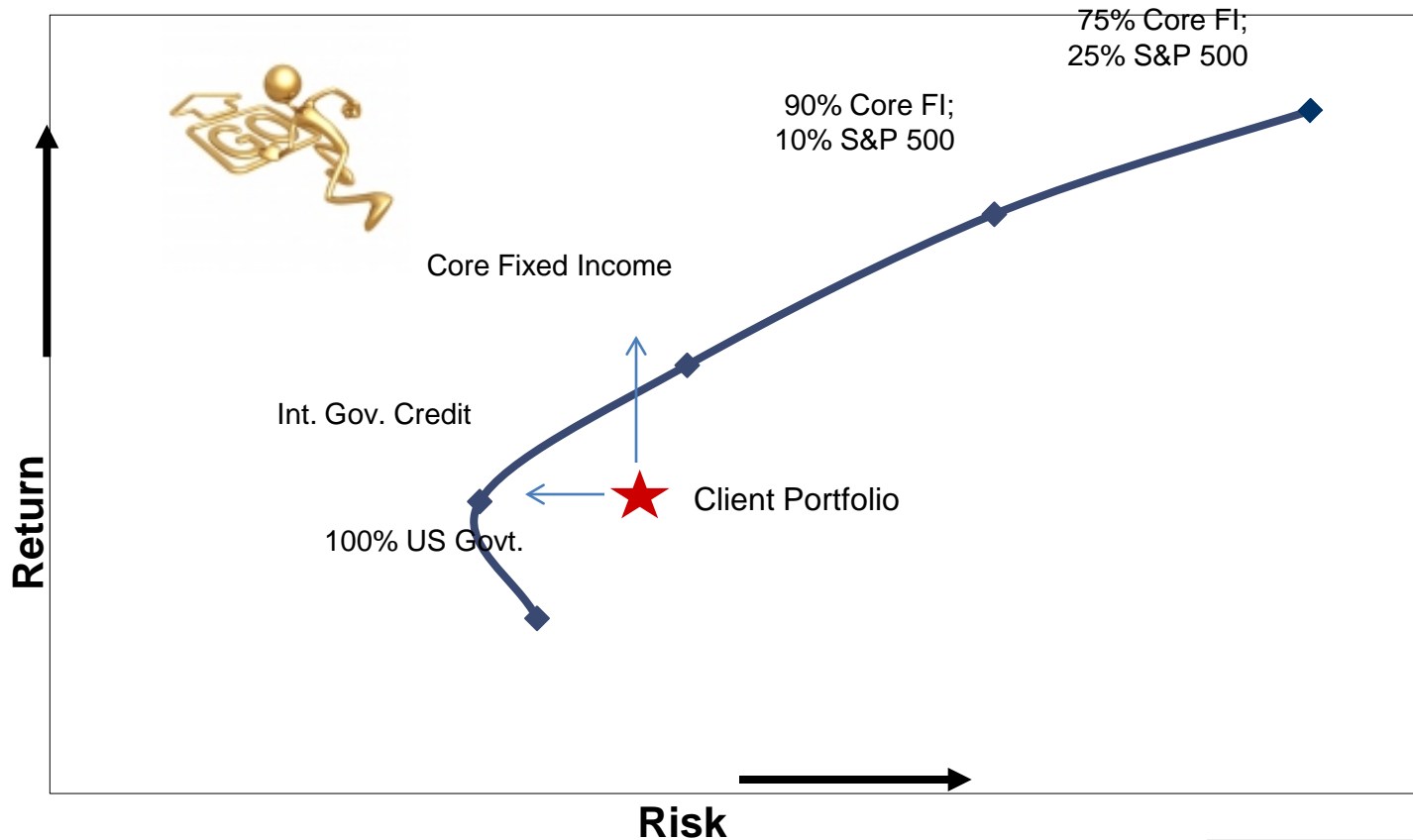
Sources: Ibbotson and Kaplan entitled "Does Asset Allocation Policy Explain 40%, 90% or 100% of Performance?" (2000).

Efficient Frontier Analysis

Optimizing your Investment Result



NEW
FRONTIERS
THE 11TH ANNUAL
EXECUTIVE EDUCATIONAL CONFERENCE
USARISK
GROUP



Portfolio Allocations: Scenario Testing



Proposed Test Allocations for CapVisor Insurance Company Client

\$ 25 MM	Current Mix	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5	Mix 6	Mix 7	Mix 8	Mix 9	Mix 10	Mix 11
		Plus Convts	Plus Converts & High Div	Mix 2 Income Plus High Yield	Mix 3 Plus REITS	Objective: Income growth	Objective: surplus growth	Mix 6 plus Converts	Mix 7 plus High Yield	Mix 6 plus Oil & Gas	Objective: Aggressive surplus growth A	Objective: Aggressive surplus growth B
Cash												
Bonds	78.5	78.5	78.5	78	75	75	70	65	60	60	60	60
Muni												
Common	20	16.5	10	10	10	10	10	10	10	10	20	15
BA												
HY				6					5			
Intl Eq							10	10	10	10	10	10
Convertibles	1.5	5	5	6	5	5		5	5	5	5	5
Oil & Gas						5				5		
EQ high div			6.5		5	5	5	5	5	5		
REITS					5							
HF/PE							5	5	5	5		
EM Debt												5
EM Equity											5	5
Total	100	100	100	100	100	100	100	100	100.0	100.0	100.0	100.0
	Current Mix	Mix 1	Mix 2	Mix 3	Mix 4	Mix 5	Mix 6	Mix 7	Mix 8	Mix 9	Mix 10	Mix 11
Exp Ret	5.72	5.64	5.61	5.5	5.74	5.74	5.9	5.96	6.03	6.14	6.41	6.34
Std Dev	6.67	6.37	6.23	5.96	6.63	6.46	7.17	7.44	7.75	7.92	8.69	8.44
Sharpe	0.41	0.41	0.42	0.42	0.41	0.42	0.40	0.40	0.39	0.40	0.39	0.40

Manager selection criterion



– Philosophy

- “Total Return” or “Yield Maximization”
- Active, passive or blended management

– Process

- Top down or bottom up
- Alpha attribution: duration, yield curve, sector, security selection
- Style analysis
- Tax efficiency

– Performance

- MPT Statistical assessment (Risk-adjusted return analysis)
- After-tax performance
- Adherence to guidelines
- Universe comparison

– Personnel

- Insurance asset management experience
- Insurance regulatory, tax and accounting expertise
- Insurance Accounting and reporting capabilities

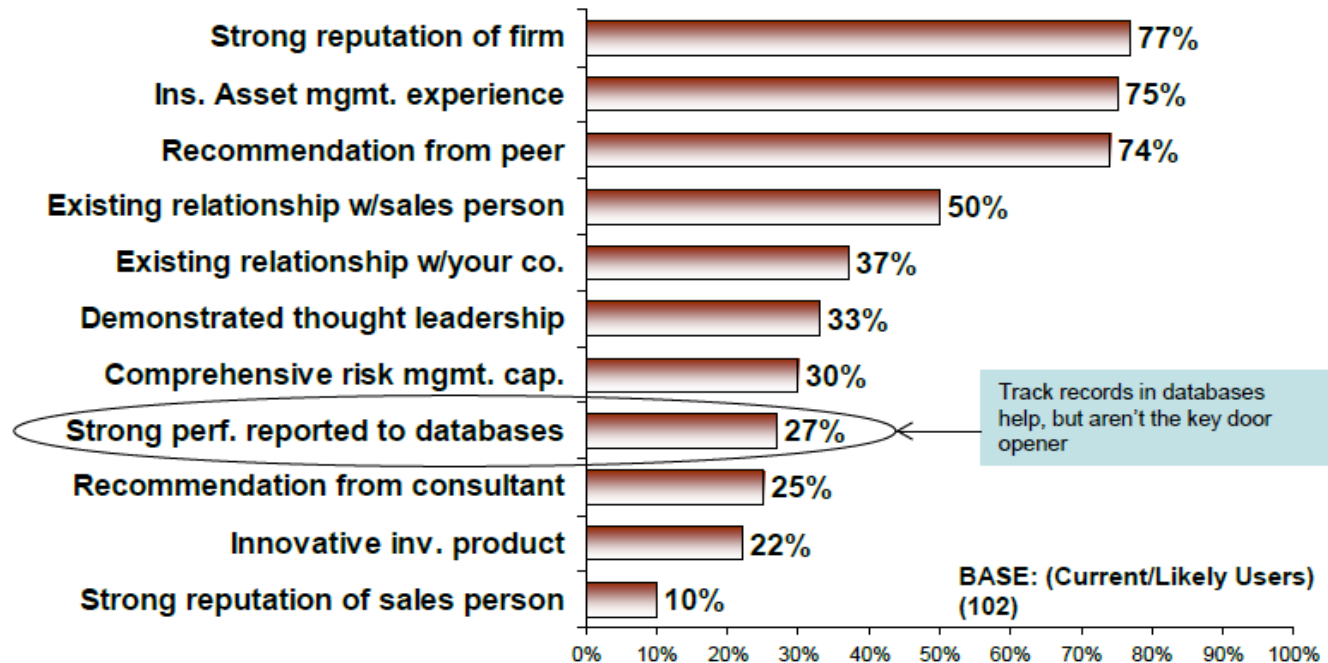
– Client-specific criteria

- Execution of policy objective & adherence to guidelines and regulations
- Fees/Value for service
- Portfolio tax liability management
- Client service and other administrative responsibilities
- Accounting & Reporting efficacy
- Overall relationship efficiency

How investment managers get in the door...

Insurers value relationships, insurance experience and reputation

Factors Influencing Acceptance of First Sales Call From Investment Manager



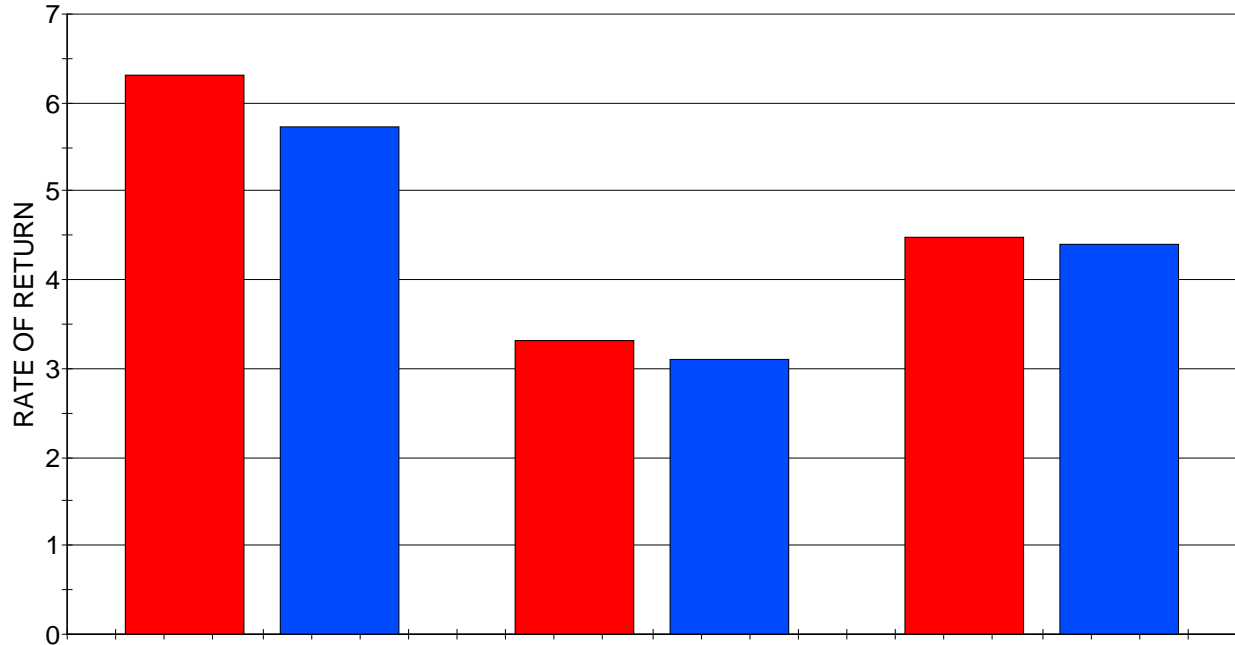
Question: Which of the following factors would be important in influencing you to accept a first sales call from an investment manager?

Source: Insurance Outsourcing Exchange Investment Officer Survey

Nominal Rate of Return (ROR)

Your Manager?

Your manager beats the benchmark over 1, 3 and 5 year time periods



	3/2014-3/2015	3/2012-3/2015	3/2010-3/2015
■ Your Manager, Perhaps	6.32	3.32	4.49
■ Barclays Aggregate	5.72	3.10	4.41

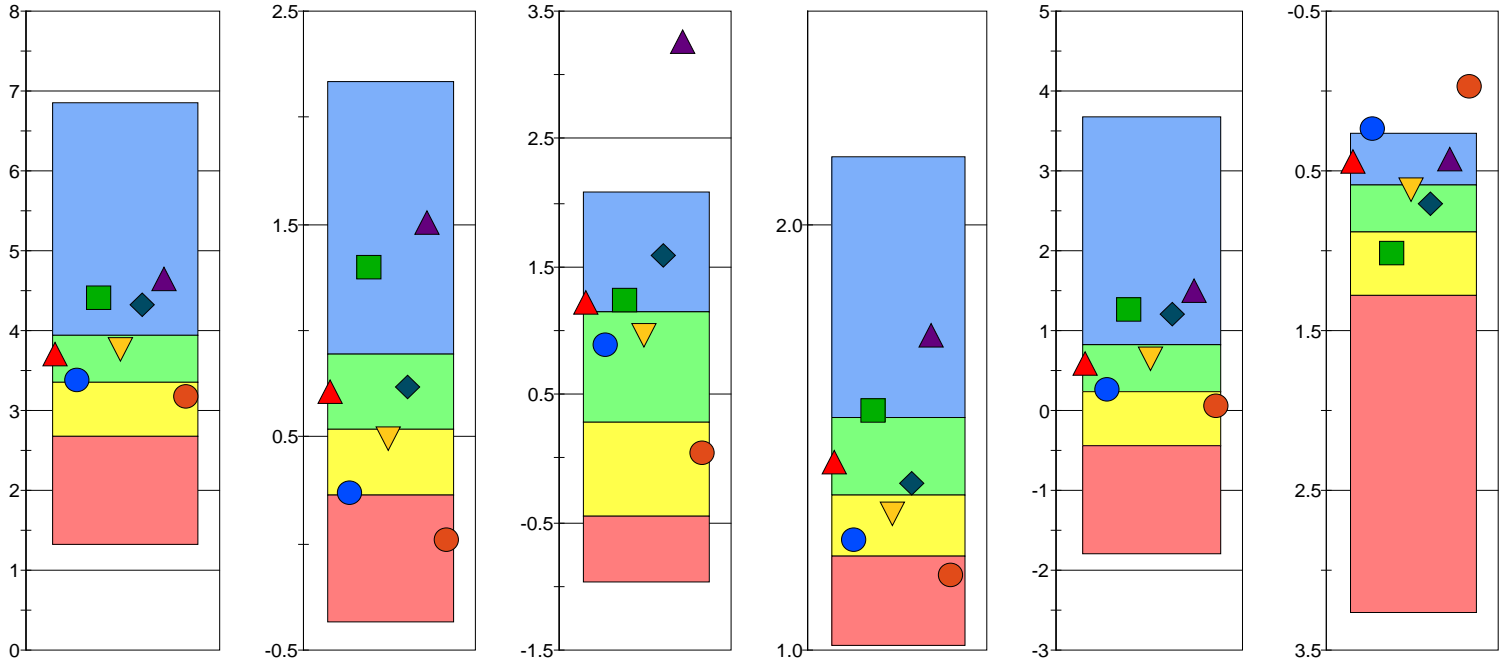
So, we have a great manager , right?

MULTI-STATISTIC QUARTILE RANKING BAR PSN CORE FIXED INCOME MARCH 31, 2012 TO MARCH 31, 2015

Your Manager ?

All managers sampled beat the benchmark (first column)

All managers beat the current manager on a Nominal and Risk-Adjusted basis



	ROR	Alpha	Info Ratio Sample	Sharpe Ratio Samp	Excess Return	Tracking Error Samp
HIGH (0.95)	6.79	2.14	2.04	2.14	3.62	0.30
FIRST QUART	3.89	0.87	1.12	1.54	0.77	0.62
MEDIAN	3.30	0.52	0.25	1.36	0.19	0.91
THIRD QUART	2.62	0.21	-0.49	1.21	-0.49	1.31
LOW (0.05)	1.25	-0.38	-1.01	1.00	-1.85	3.29
MEAN	3.29	0.58	0.32	1.40	0.17	1.07
VALID COUNT	345	345	345	345	345	345

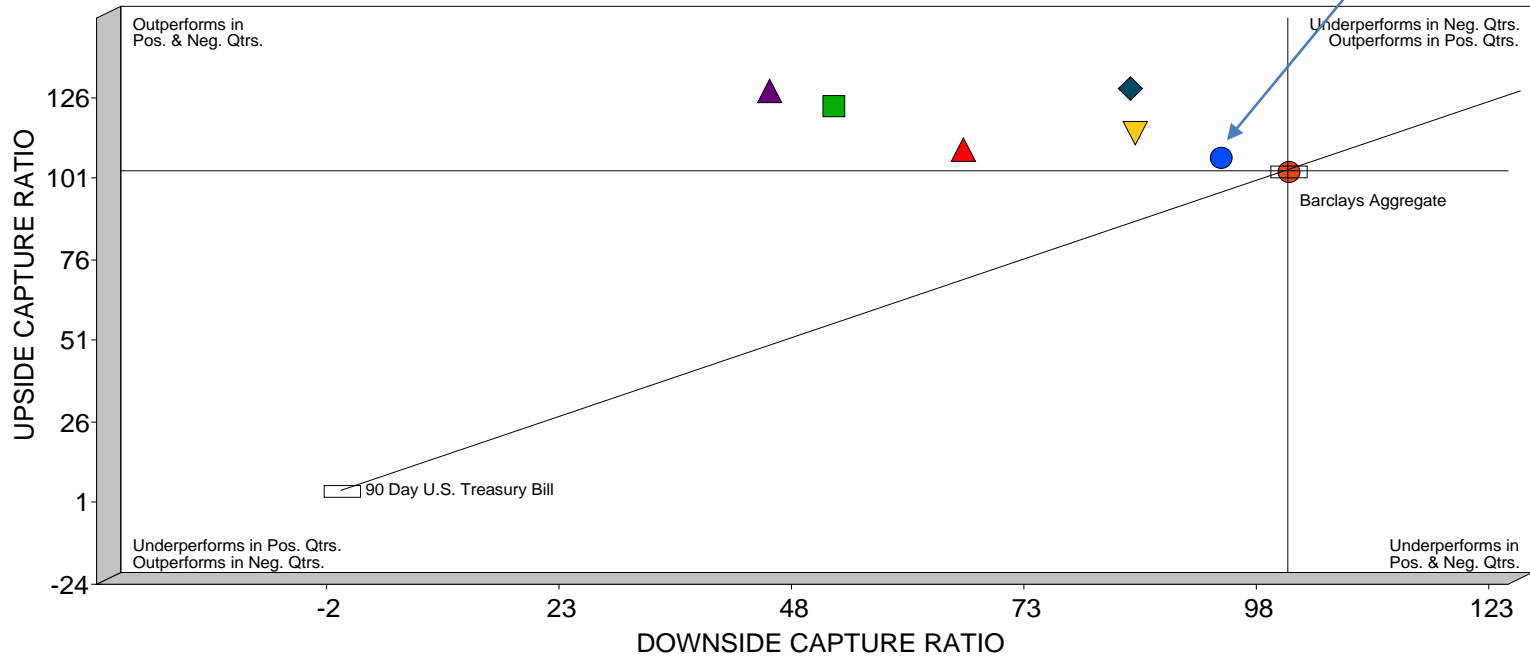
- ▲ Manager B
- Your Manager, Perhaps
- Manager E
- ▼ Manager D
- ◆ Manager A
- ▲ Manager C
- Barclays Aggregate

MARKET CAPTURE

Manager performance in up and down markets

MARCH 31, 2012 TO MARCH 31, 2015

Your Manager ?



	Up Mkt Capt Retrn	Up Cap Ratio	Dnside Cap Return	Dnside Cap Ratio	R-Squared
▲ Manager B	5.70	106.04	-1.68	65.21	0.97
● Your Manager, Perhaps	5.58	103.89	-2.39	92.79	0.99
■ Manager E	6.46	120.22	-1.31	50.98	0.86
▼ Manager D	6.00	111.54	-2.15	83.58	0.95
◆ Manager A	6.74	125.29	-2.14	83.05	0.96
▲ Manager C	6.69	124.49	-1.14	44.21	0.97
● Barclays Aggregate	5.38	100.00	-2.58	100.00	1.00

All sampled managers generate superior returns at lower risk levels than current manager

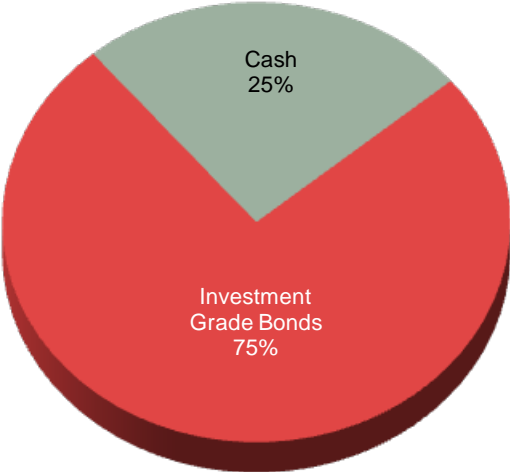
Investment Program Management

- ◆ Managing the manager(s)
- ◆ Measuring program efficacy
- ◆ Re-optimizing Strategic Asset Allocation
- ◆ Performance evaluation: risk-adjusted, after tax returns (if applicable)
- ◆ Continuous investment plan management: review and revise program

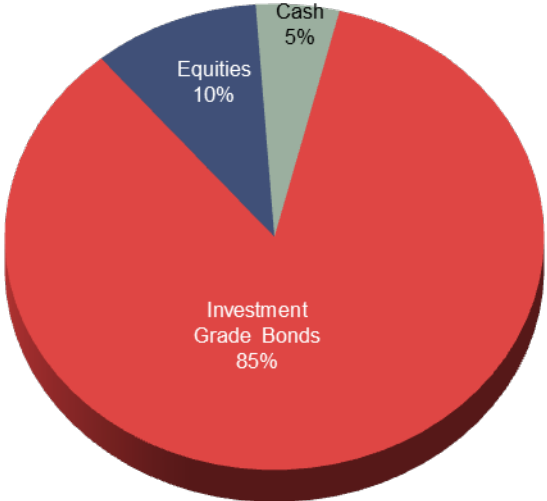


Lifecycle Investing

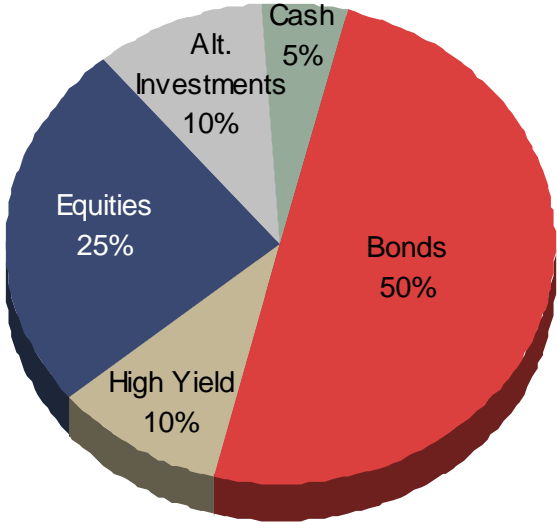
New/Small Captive



Advanced Captive



Mature Captive





This publication is provided by CapVisor Associates, LLC (“CapVisor”) and is intended for sophisticated institutional investors solely for informational purposes. This does not constitute legal or tax advice and is not intended as an offer to sell or a solicitation to buy securities or investment products. Any reference to tax matters is not intended to be used, and may not be used, for the purpose of avoiding penalties under the US Internal Revenue Code or for promotion, marketing or recommendation to third parties. This information has been obtained from sources believed to be reliable that are available upon request. Any opinions expressed are subject to change without notice. Unauthorized use or distribution without prior written permission of CapVisor is prohibited.

Past performance is no guarantee of future returns.

© CapVisor Associates, LLC 2016. All rights reserved.