Multinational Pooling & Captives
Exploding the Myths

Giles Archibald, FFA
William M. Mercer – New York, USA

Robyn Kow, FIAA
William M. Mercer – Chicago, USA

IACA Conference
Hershey, PA
June 2000

What is Pooling?

- Local benefit plans insured locally with a multinational pooling partner
- Global aggregation (2 or more countries)
- Network draws up an international account
- Pays a “dividend” if “income” exceeds “outgo”
- A way to leverage a multinational’s buying power

Gets close to self experience on a global basis
Here is How it Works:  
Non-Pooled Contracts

<table>
<thead>
<tr>
<th></th>
<th>Acme</th>
<th>Nadir</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premium</td>
<td>500</td>
<td>300</td>
</tr>
<tr>
<td>Less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Claims</td>
<td>400</td>
<td>250</td>
</tr>
<tr>
<td>Equals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurer Retention</td>
<td>100</td>
<td>50</td>
</tr>
</tbody>
</table>

Pooled

<table>
<thead>
<tr>
<th></th>
<th>Acme</th>
<th>Nadir</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Premium</td>
<td>500</td>
<td>300</td>
<td>800</td>
</tr>
<tr>
<td>Less</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Claims</td>
<td>400</td>
<td>250</td>
<td>650</td>
</tr>
<tr>
<td>Insurer Retention</td>
<td>50</td>
<td>30</td>
<td>80</td>
</tr>
<tr>
<td>Equals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surplus</td>
<td>50</td>
<td>20</td>
<td>70</td>
</tr>
</tbody>
</table>
Can Include

- Death
- Disability
- Retirement
- Accident
- Medical

Usually Does Not Affect

- Design
- Local premium
- Local Dividends
- Terms and conditions (except underwriting)
Results

- Savings
- Control
- Information
The Mercer Study: Why we did the study

- International practitioners using "rules of thumb" - no empirical data
- Interesting findings locked away in data?
- We didn’t know where the study would take us until we were deep into it!

What we did

- Approached networks for data - no go!
- Asked companies/clients to send their reports
- Keyed data into an Access database
- Analyzed in Access and Excel
- Prepared report for participants
Factors Analyzed
1. Retentions (the network's cut)

- Lower retentions by combining pools
- LCF lower than SL
- Not a significant difference between networks

2. Overall profitability

<table>
<thead>
<tr>
<th>Income</th>
<th>$mil</th>
<th>Outgo</th>
<th>$mil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Premiums</td>
<td>529.5</td>
<td>Claims</td>
<td>281.4</td>
</tr>
<tr>
<td>Interest</td>
<td>98.8</td>
<td>Res. Incr.</td>
<td>187.9</td>
</tr>
<tr>
<td>628.3</td>
<td></td>
<td>Admin &amp; Risk</td>
<td>49.0</td>
</tr>
<tr>
<td>Local Divs</td>
<td></td>
<td></td>
<td>65.3</td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td>14.9</td>
</tr>
</tbody>
</table>

Surplus = $29.8 million (5.6% Premiums)

(Arithmetic mean of surplus = 8.1%)

For pools with no retirement – Surplus is 4.5% prems

Not as profitable as commonly touted!
3. Profitability of individual pools

- Normal distribution
- Calculated mean and variance
- Greater volatility at lower premium levels

IACA Conference 2000

4. Modeling LCF vs. SL

- Organized data into $1-2 million bands
- Plotted data - fitted normal distributions
- Simulated 5,000 pools, over 5-year period
- Compared stop loss result with loss carry forward (assumed standard charges from earlier regression)
- SL favorable for $1 - $5 million

IACA Conference 2000
5. Country/Contract Profitability

- Set out to prove or disprove folklore

E.g., Contrary to popular belief …
- Positive contributions for:
  - Belgium medical
  - UK disability
  - Accident

What the research did for us

- Knowledge
- Credibility
- Tools for active management of pools

We also looked at whether a linkage to a captive can make economic sense.
Typical Cash Flows

- P = Premium
- C = Claims, taxes, reserve increase, commissions
- R = Retention
- D = Dividend = P - C - R + Interest (if any)

Ideal Cash Flows

Premium = Timing and amount match claims. Retention is minimal

Can a captive link help to achieve this ideal state?
Typical Pool

- Local Company
  - Premium
  - Risk

K%

Local Insurer

Network HQ

Captive Linkage

- Local Company
  - Premium
  - Risk

Local Insurer

Network HQ

Captive

Stop loss risk

Reinsurer
Captive Solution

Seems Attractive:
- Captive bears some/all risk
  - Retention reduction
- Captive receives all premiums and some reserves
  - Earns market interest
- Captives of US companies may get tax advantages

Captive Solution (Cont’d)

But: more players in the game
- Expense can rise
  risk has a value and captive will want to limit its risk
- Narrow reinsurance markets
  investment of premium reserves to match liabilities
  - Liabilities and assets short term and in local currency

Conclusion
  Tax is a rationale
  Is there another rationale?
Other Solutions

Timing and size of premium payment
- Advance dividends
- Local investment of assets in equities
- Limited assumption of risk