

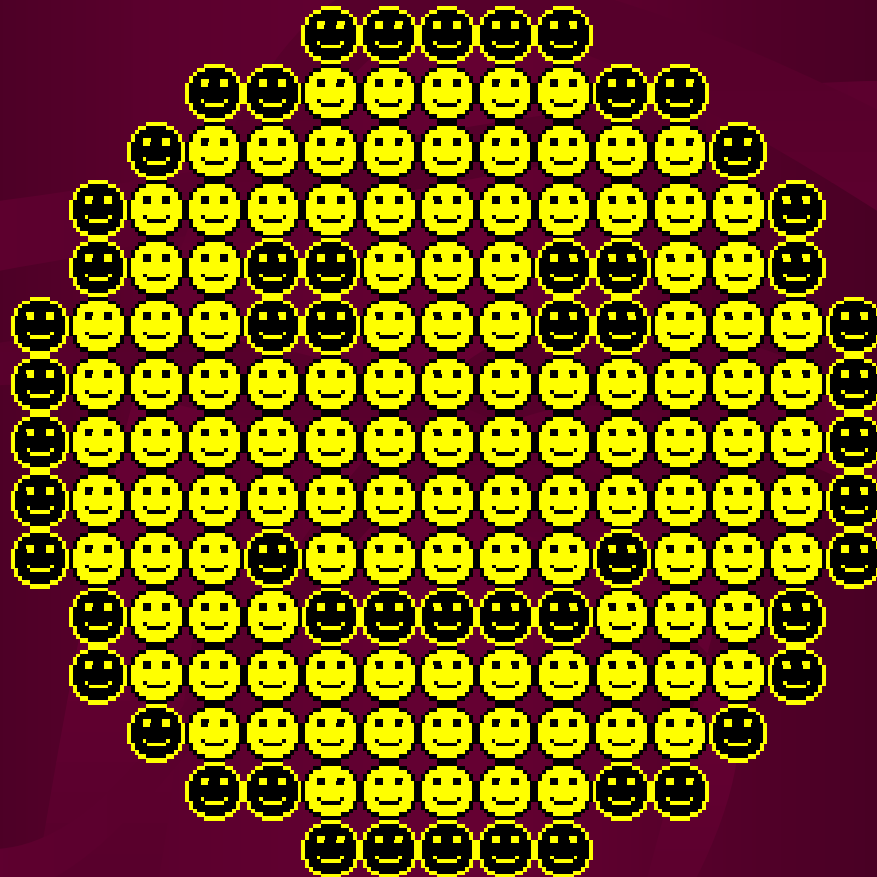
# Small Life Policies – Pricing Considerations

What is the definition of a small  
face life insurance policy?

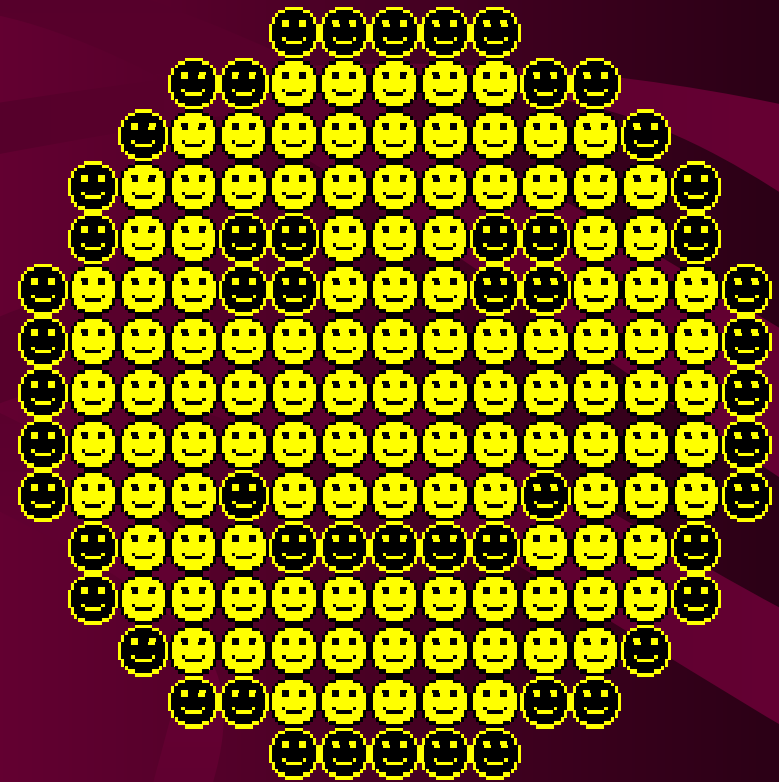
# Large face life insurance policy



# Small face life insurance policy



# Side by Side



Life insurance policies with face  
amount < \$25,000

# Common forms

a) Final Expense / Burial Insurance Policies

b) Pre-Need Life

# What's different about small life policies?

- a) Expenses
- b) Lapses
- c) Distribution / commission
- d) Underwriting / mortality considerations
- e) Incidence of earnings, particularly for paid-up pre-need
- f) Possible regulatory constraints



# Expenses

- ❖ Acquisition, Maintenance, Premium Tax
- ❖ Marginal, but what's marginal?
- ❖ Is it acceptable to use lower expense assumption for smaller policies?
- ❖ OK, but don't kid yourself.

# Lapses

## ❖ Final Expense / Burial Policies

Typically whole life, maybe 20-pay life

Very high first year lapse

Ultimate may be quite low

Significant difference by issue age

## ❖ Pre-Need (Funeral Home Sales)

Single pay or multi-pay (3, 5, 7, 10)

Usually much lower lapses and ultimate may approach zero

# Distribution / Commission

## ❖ Final Expense / Burial Policies

Traditional, high first year, lower years 2-10, ultimate of 3% to 5%

Debit: Times basis, high ultimate commission

## ❖ Pre-Need

May be expressed as a percentage of face

Almost always a chargeback for early deaths and lapses

Some companies do not pay renewals even on multi-pay

# Underwriting / Mortality Considerations

## ❖ Limited underwriting

Simplified issue

Guaranteed issue, with or without “knock out” questions

## ❖ Mortality

Higher than you might expect

Significant anti-selection, especially at younger ages

# Incidence of earnings

- ❖ Discretionary growth on pre-need policies
  
- ❖ Paid up policies
  - a) Interest “spread”
  - b) Valuation mortality vs. pricing mortality
  - c) Maintenance expenses

# Regulatory constraints / issues

## Pre-Need

- a) Discretionary growth OK
- b) Indexed growth (MI, VA)
- c) Minimum growth rate (WA)
- d) Premium constraints

## Final Expense / Burial

Cumulative premium relative to face amount

# Sample – Final Expense Whole Life (Non-Par)

Non-par Level Death Benefit version (simplified issue)

Issue age 65

Face amount = \$10,000

Premium / \$1,000 = \$50.00 (F), \$65.00 (M), no policy fee

Reserve basis = 1980 CSO, 4.5%, Semi-continuous

Cash values = 1980 CSO, 5.5%, Minimum

# Pricing Assumptions

## Expenses

\$50 acquisition per policy

\$20 maintenance per policy, 2.5% inflation

2.5% premium tax



# Pricing Assumptions (cont'd)

- ❖ Interest: 5.25% earned rate, all years
- ❖ Commissions: 95% first year, 20% years 2-3, 10% years 4-10, 3% thereafter
- ❖ Mortality: 150% of 1975-80 S & U grading to 100% over 15 years
- ❖ Underwriting: Simplified Issue, intended to accept standard up through table 4
- ❖ Mode: Monthly, PAC factor = .085

# Pricing Assumptions (cont'd)

- ❖ Distribution: 50% Male / 50% Female
- ❖ Lapses: 33%, 12%, 7%, 6%, 5.5%, 5.0%, 4.5%, 4.0%, 3.5%, 3.0% ultimate
- ❖ FIT: 35% rate, 7.7% DAC tax, tax reserves based on 2004 AFIR (4.82%)
- ❖ Target Surplus:
  - C1: 0.75% of reserves
  - C2: 0.12% of net amount at risk
  - C3: 0.75% of reserves
  - C4: 2.00% of collected premium
- ❖ RBC Formula =  $2 \times \sqrt{(C1 + C3)^2 + C2^2 + C4}$

# Profit Results, Base Case:

## I. Age Specific

	<u>Female</u>	<u>Male</u>
Percent of premium profit		
Pre-FIT	14.2%	10.0%
After-FIT	8.5%	5.9%
Years-to-breakeven (after-tax)	6.4	8.1

## II. Blended

	<u>Male &amp; Female</u>
After-tax, after cost-of-capital ROE	17.6%

# Final Expense Whole Life - Sensitivity Tests

A. Interest rate earned: 5.25%,  
but grading slowly up to 5.75%

## I. Age Specific

Female

Male

Percent of premium profit

Pre-FIT

15.4%

10.8%

After-FIT

9.3%

6.3%

Years-to-breakeven (after-tax)

6.3

7.8

# Final Expense Whole Life - Sensitivity Tests

B. 2001 CSO instead of 1980 CSO (stat & tax reserves, cash values)

## I. Age Specific

Female

Male

Percent of premium profit

Pre-FIT

16.2%

10.8%

After-FIT

9.8%

6.4%

Years-to-breakeven (after-tax)

3.8

5.6

# Final Expense Whole Life - Sensitivity Tests

## C. Mortality Factors applied to Ultimate Table instead of S&U Table

### I. Age Specific

Female

Male

Percent of premium profit

Pre-FIT

-7.8%

-18.7%

After-FIT

-5.7%

-12.8%

Years-to-breakeven (after-tax)

n/a

n/a

# Final Expense Whole Life - Sensitivity Tests

D. Mortality – 125% of expected

II. Blended

Male & Female

After-tax, after cost-of-capital ROE

8.6%

# Pre-Need Product

What's different about pre-need?

Typically, walk-in business.

Motivation is pre-paying a funeral.

Insurance is often secondary consideration.

Producer driven – price is not usually a key issue.

Inflation protection – guaranteed growth vs. discretionary growth.

Underwriting tends to be very limited.



# Sample – 5-Pay Pre-Need Product (Discretionary Growth)

Non-par Level Death Benefit version (simplified issue)

Issue ages 63 and 73

Face amount = \$4,800

Premium / \$1,000 = \$220.00 (63), \$250.00 (73), no policy fee

Reserve basis = 1980 CSO, 3.5%, Semi-continuous

Cash values = 1980 CSO, 5.75%, Minimum

Discretionary growth = 2.5% per year, all years

# Pricing Assumptions

## Expenses

\$40 acquisition per policy

\$20 maintenance per premium-paying policy, \$10 paid-up

2.5% premium tax

# Pricing Assumptions (cont'd)

Interest: 5.25% earned rate, all years

## Commissions:

IA 63: 60% first year, 8% renewal (FY subject to chargeback)

IA 73: 50% first year, 6% renewal (FY subject to chargeback)

## Mortality:

IA 63: 150% of 1975-80 ALB Ultimate, grading to 115% over 15 years

IA 73: 115% of 1975-80 ALB Ultimate, all years

Underwriting: Very simplified Issue, intended to weed out uninsurables

Mode: Monthly, PAC factor = .083

# Pricing Assumptions (cont'd)

## Distribution:

Gender: 50% Male, 50% Female

Issue Age: 50% IA 63, 50% IA 73 (by count)

Lapses: 15% 10% 5% 3% 1.0% ultimate

FIT: 20% rate, 7.7% DAC tax, tax reserves based on 2004 AFIR  
(4.82%)

## Target Surplus:

C1: 0.75% of reserves

C2: 0.12% of net amount at risk

C3: 0.75% of reserves

C4: 2.00% of collected premium

$$\text{RBC Formula} = 2 \times \left\{ \sqrt{(C1 + C3)^2 + C2^2} + C4 \right\}$$

# Profit Results, Base Case:

I. Age Specific	<u>Female</u>		<u>Male</u>	
Percent of premium profit	IA 63	IA 73	IA 63	IA 73
Pre-FIT	15.1%	11.8%	4.5%	1.2%
After-FIT	8.1%	6.6%	1.5%	-0.2%
Years-to-breakeven (after-tax)	2.3	2.5	5.7	n/a
II. Blended	<u>M&amp;F, all ages</u>			
After-tax, after cost-of-capital ROE	21.2%			

# Pre-Need Whole Life - Sensitivity Tests

1980 CSO Reserves, valuation interest rate = 4.5%

Include profit tests that show incidence of earnings for yrs 1- 10 (F 63/73 and M 63/73)

Plan '5PAYF' Age 63 1.00 Unit  
 Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-5.27	4.35	-9.62	0.00	-9.62
2.00	47.77	21.66	26.11	0.00	26.11
3.00	51.69	22.04	29.66	0.00	29.66
4.00	48.49	20.18	28.31	0.00	28.31
5.00	46.10	18.77	27.32	0.00	27.32
6.00	-7.41	-5.04	-2.37	0.00	-2.37
7.00	-7.18	-4.97	-2.22	0.00	-2.22
8.00	-6.93	-4.88	-2.05	0.00	-2.05
9.00	-6.63	-4.78	-1.85	0.00	-1.85
10.00	-6.27	-4.65	-1.61	0.00	-1.61

Plan '5PAYF'

Age 73

1.00 Unit

Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-2.35	5.84	-8.19	0.00	-8.19
2.00	34.69	17.27	17.42	0.00	17.42
3.00	42.23	18.72	23.51	0.00	23.51
4.00	38.71	16.59	22.12	0.00	22.12
5.00	35.68	14.79	20.88	0.00	20.88
6.00	-6.29	-4.95	-1.34	0.00	-1.34
7.00	-5.99	-4.84	-1.15	0.00	-1.15
8.00	-5.64	-4.72	-0.93	0.00	-0.93
9.00	-5.22	-4.56	-0.67	0.00	-0.67
10.00	-4.72	-4.37	-0.36	0.00	-0.36



Plan '5PAYM'

Age 63

1.00 Unit

# Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-25.14	-2.72	-22.42	0.00	-22.42
2.00	26.86	14.14	12.72	0.00	12.72
3.00	33.57	15.44	18.13	0.00	18.13
4.00	31.03	13.76	17.27	0.00	17.27
5.00	29.09	12.44	16.64	0.00	16.64
6.00	-8.50	-5.42	-3.08	0.00	-3.08
7.00	-8.09	-5.27	-2.82	0.00	-2.82
8.00	-7.62	-5.10	-2.52	0.00	-2.52
9.00	-7.07	-4.90	-2.17	0.00	-2.17
10.00	-6.46	-4.68	-1.78	0.00	-1.78

Plan '5PAYM'

Age 73

1.00 Unit

# Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-32.83	-5.01	-27.82	0.00	-27.82
2.00	14.22	9.78	4.44	0.00	4.44
3.00	23.88	11.89	11.99	0.00	11.99
4.00	21.09	9.95	11.14	0.00	11.14
5.00	18.63	8.29	10.34	0.00	10.34
6.00	-5.97	-4.70	-1.27	0.00	-1.27
7.00	-5.48	-4.51	-0.97	0.00	-0.97
8.00	-4.97	-4.31	-0.66	0.00	-0.66
9.00	-4.44	-4.10	-0.33	0.00	-0.33
10.00	-3.86	-3.88	0.02	0.00	0.02

# Pre-Need Whole Life – Sensitivity Tests

2001 CSO reserves at 4.5%, cash values changed to 2001 CSO 5.75%

Include profit tests that show incidence of earnings for yrs 1- 10 (F 63/73 and M 63/73)

**Plan '5PAYF' Age 63 1.00 Unit**  
**Monthly**

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-7.44	3.57	-11.01	0.00	-11.01
2.00	48.18	21.78	26.40	0.00	26.40
3.00	51.85	22.07	29.78	0.00	29.78
4.00	48.29	20.09	28.20	0.00	28.20
5.00	45.23	18.45	26.78	0.00	26.78
6.00	-5.79	-4.47	-1.33	0.00	-1.33
7.00	-5.48	-4.36	-1.12	0.00	-1.12
8.00	-5.15	-4.25	-0.91	0.00	-0.91
9.00	-4.82	-4.13	-0.69	0.00	-0.69
10.00	-4.49	-4.02	-0.47	0.00	-0.47

**Plan '5PAYF' Age 73 1.00 Unit**  
**Monthly**

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-4.01	5.26	-9.27	0.00	-9.27
2.00	38.67	18.66	20.01	0.00	20.01
3.00	44.73	19.60	25.13	0.00	25.13
4.00	40.25	17.14	23.11	0.00	23.11
5.00	36.18	14.97	21.21	0.00	21.21
6.00	-5.51	-4.67	-0.84	0.00	-0.84
7.00	-5.39	-4.63	-0.76	0.00	-0.76
8.00	-5.17	-4.55	-0.62	0.00	-0.62
9.00	-4.79	-4.40	-0.39	0.00	-0.39
10.00	-4.34	-4.23	-0.11	0.00	-0.11

Plan ' 5PAYM '                      Age 63                      1.00 Unit  
 Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-24.82	-2.61	-22.22	0.00	-22.22
2.00	27.61	14.40	13.20	0.00	13.20
3.00	34.21	15.67	18.54	0.00	18.54
4.00	31.52	13.93	17.59	0.00	17.59
5.00	29.05	12.43	16.62	0.00	16.62
6.00	-8.21	-5.32	-2.89	0.00	-2.89
7.00	-7.85	-5.19	-2.66	0.00	-2.66
8.00	-7.44	-5.04	-2.40	0.00	-2.40
9.00	-6.91	-4.85	-2.06	0.00	-2.06
10.00	-6.27	-4.62	-1.65	0.00	-1.65

Plan '5PAYM'

Age 73

1.00 Unit

Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-31.36	-4.52	-26.84	0.00	-26.84
2.00	12.03	9.00	3.03	0.00	3.03
3.00	22.17	11.28	10.89	0.00	10.89
4.00	19.68	9.44	10.24	0.00	10.24
5.00	17.29	7.80	9.49	0.00	9.49
6.00	-5.63	-4.59	-1.04	0.00	-1.04
7.00	-4.89	-4.31	-0.58	0.00	-0.58
8.00	-4.16	-4.03	-0.13	0.00	-0.13
9.00	-3.44	-3.75	0.31	0.00	0.31
10.00	-2.79	-3.50	0.71	0.00	0.71

# Pre-Need Whole Life – Sensitivity Tests

150% of 2001 CSO reserves at 4.5%, cash values at 100% of 2001 CSO 5.75%

Include profit tests that show incidence of earnings for yrs 1- 10 (F 63/73 and M 63/73)



Plan '5PAYF' Age 63 1.00 Unit  
 Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-7.44	3.57	-11.01	0.00	-11.01
2.00	48.18	21.78	26.40	0.00	26.40
3.00	51.85	22.07	29.78	0.00	29.78
4.00	48.29	20.09	28.20	0.00	28.20
5.00	45.23	18.45	26.78	0.00	26.78
6.00	-5.79	-4.47	-1.33	0.00	-1.33
7.00	-5.48	-4.36	-1.12	0.00	-1.12
8.00	-5.15	-4.25	-0.91	0.00	-0.91
9.00	-4.82	-4.13	-0.69	0.00	-0.69
10.00	-4.49	-4.02	-0.47	0.00	-0.47

Plan '5PAYF' Age 73 1.00 Unit  
 Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-4.01	5.26	-9.27	0.00	-9.27
2.00	38.67	18.66	20.01	0.00	20.01
3.00	44.73	19.60	25.13	0.00	25.13
4.00	40.25	17.14	23.11	0.00	23.11
5.00	36.18	14.97	21.21	0.00	21.21
6.00	-5.51	-4.67	-0.84	0.00	-0.84
7.00	-5.39	-4.63	-0.76	0.00	-0.76
8.00	-5.17	-4.55	-0.62	0.00	-0.62
9.00	-4.79	-4.40	-0.39	0.00	-0.39
10.00	-4.34	-4.23	-0.11	0.00	-0.11

Plan ' 5PAYM '      Age 63      1.00 Unit  
 Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-24.82	-2.61	-22.22	0.00	-22.22
2.00	27.61	14.40	13.20	0.00	13.20
3.00	34.21	15.67	18.54	0.00	18.54
4.00	31.52	13.93	17.59	0.00	17.59
5.00	29.05	12.43	16.62	0.00	16.62
6.00	-8.21	-5.32	-2.89	0.00	-2.89
7.00	-7.85	-5.19	-2.66	0.00	-2.66
8.00	-7.44	-5.04	-2.40	0.00	-2.40
9.00	-6.91	-4.85	-2.06	0.00	-2.06
10.00	-6.27	-4.62	-1.65	0.00	-1.65

**Plan ' 5PAYM '                      Age 73                      1.00 Unit**  
**Monthly**

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-31.36	-4.52	-26.84	0.00	-26.84
2.00	12.03	9.00	3.03	0.00	3.03
3.00	22.17	11.28	10.89	0.00	10.89
4.00	19.68	9.44	10.24	0.00	10.24
5.00	17.29	7.80	9.49	0.00	9.49
6.00	-5.63	-4.59	-1.04	0.00	-1.04
7.00	-4.89	-4.31	-0.58	0.00	-0.58
8.00	-4.16	-4.03	-0.13	0.00	-0.13
9.00	-3.44	-3.75	0.31	0.00	0.31
10.00	-2.79	-3.50	0.71	0.00	0.71

# Pre-Need Whole Life – Sensitivity Tests

- ❖ 150% of 2001 CSO reserves at 3.5%, cash values at 100% of 2001 CSO 5.75%
- ❖ Include profit tests that show incidence of earnings for yrs 1- 10 (F 63/73 and M 63/73)

Plan '5PAYF'

Age 63

1.00 Unit

Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-17.35	3.57	-20.92	0.00	-20.92
2.00	35.92	21.01	14.92	0.00	14.92
3.00	43.07	22.13	20.94	0.00	20.94
4.00	40.88	20.36	20.51	0.00	20.51
5.00	38.55	18.90	19.65	0.00	19.65
6.00	-1.66	-3.81	2.15	0.00	2.15
7.00	-1.30	-3.70	2.39	0.00	2.39
8.00	-0.94	-3.57	2.63	0.00	2.63
9.00	-0.59	-3.45	2.86	0.00	2.86
10.00	-0.25	-3.33	3.07	0.00	3.07

Plan '5PAYF' Age 73 1.00 Unit  
 Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-11.71	5.26	-16.97	0.00	-16.97
2.00	29.56	18.06	11.50	0.00	11.50
3.00	38.74	19.67	19.07	0.00	19.07
4.00	35.68	17.38	18.31	0.00	18.31
5.00	32.59	15.35	17.24	0.00	17.24
6.00	-1.09	-4.15	3.06	0.00	3.06
7.00	-1.01	-4.10	3.10	0.00	3.10
8.00	-0.87	-4.03	3.15	0.00	3.15
9.00	-0.64	-3.89	3.25	0.00	3.25
10.00	-0.39	-3.74	3.35	0.00	3.35

Plan '5PAYM'

Age 63

1.00 Unit

Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-33.88	-2.61	-31.28	0.00	-31.28
2.00	16.78	13.71	3.07	0.00	3.07
3.00	26.87	15.73	11.14	0.00	11.14
4.00	25.72	14.20	11.52	0.00	11.52
5.00	24.23	12.86	11.37	0.00	11.37
6.00	-3.61	-4.72	1.11	0.00	1.11
7.00	-3.29	-4.59	1.30	0.00	1.30
8.00	-2.94	-4.44	1.50	0.00	1.50
9.00	-2.50	-4.25	1.75	0.00	1.75
10.00	-2.00	-4.03	2.03	0.00	2.03



# Plan '5PAYM' Age 73 1.00 Unit Monthly

Policy Year	Pre-tax Gain	Income Tax	Gain Oprtns	Incr Target	Disp Profit
1.00	-37.58	-4.52	-33.06	0.00	-33.06
2.00	4.94	8.51	-3.57	0.00	-3.57
3.00	18.02	11.36	6.66	0.00	6.66
4.00	16.97	9.66	7.31	0.00	7.31
5.00	15.58	8.12	7.46	0.00	7.46
6.00	-1.45	-4.17	2.72	0.00	2.72
7.00	-0.98	-3.90	2.93	0.00	2.93
8.00	-0.53	-3.64	3.11	0.00	3.11
9.00	-0.14	-3.39	3.25	0.00	3.25
10.00	0.19	-3.17	3.35	0.00	3.35

# Conclusions / Observations

- ❖ Underwriting is critical
- ❖ Consider your own experience if relevant, even if not fully credible
- ❖ Especially when applications are brief, agents should be monitored
- ❖ Telephone interviews are effective
- ❖ Know your competitors and check frequently for changes
- ❖ Post-underwriting is dangerous
- ❖ Distribution may be a key assumption

# If you find that production is taking off

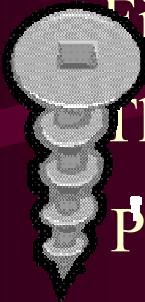
Service does make a difference, but ...

It's probably not your sparkling personality

Final expense products are producer-driven

The market is very efficient

**You**



**Product** is likely underpriced or over-commissioned

Critical to monitor your experience and be ready to change the commission rate and/or the premium rate