

Table 7.1 Standard deviation of the funding level in the final year of simulation. (%)

m	$\lambda = 0$	$\lambda = 0.1$	$\lambda = 0.2$	$\lambda = 0.3$	$\lambda = 0.4$	$\lambda = 0.5$	$\lambda = 0.6$	$\lambda = 0.7$	$\lambda = 0.8$	$\lambda = 0.9$
1	19.3	19.6	20.20	21.20	22.45	24.29	27.08	31.88	41.26	146.12
3	28.7	29.63	30.73	32.64	33.81	36.91	39.42	46.57	56.83	294.74
5	37.7	38.63	39.80	43.19	44.54	48.41	50.01	64.06	72.59	496.00
10	62.6	63.86	65.51	66.23	70.72	80.49	82.59	104.04	152.03	502.80
15	117.8	122.64	127.93	132.73	146.63	199.35	200.45	399.57	606.87	1393.3
20	216.0	218.57	220.22	220.96	221.32	383.35	387.09	562.95	808.68	1659.8
25	283.1	300.16	386.94	407.20	418.32	421.05	523.54	692.82	955.38	1838.4

MA(1) Parameter = - 0.1
 Standard deviation = 0.188
 Initial force of interest = 0.031

Table 7.2 Standard deviation of the funding level in the final year of simulation. (%)

m	$\lambda = 0$	$\lambda = 0.1$	$\lambda = 0.2$	$\lambda = 0.3$	$\lambda = 0.4$	$\lambda = 0.5$	$\lambda = 0.6$	$\lambda = 0.7$	$\lambda = 0.8$	$\lambda = 0.9$
1	19.40	19.26	19.35	19.77	20.48	21.57	23.47	26.53	32.64	68.33
3	24.61	25.17	25.92	27.05	27.99	29.85	31.66	35.83	41.81	85.11
5	30.47	31.02	31.77	33.66	33.94	36.74	38.03	43.97	49.83	98.00
10	44.16	44.74	45.53	53.08	47.97	52.86	53.07	67.89	71.68	149.26
15	60.80	61.61	62.78	63.23	66.42	70.36	75.26	85.73	123.81	178.39
20	90.77	92.37	95.21	101.17	103.20	118.85	124.18	125.17	130.12	287.23
25	110.54	127.64	134.53	140.71	153.85	160.30	187.56	188.01	188.02	306.67
30	150.63	154.4	160.8	163.32	171.00	186.35	200.98	254.00	303.96	322.43

MA(1) Parameter = +0.1
 Standard Deviation = 0.188
 Initial Force of interest = 0.031

Table 7.3 Standard deviation of the funding level in the final year of simulation. (%)

m	$\lambda=0$	$\lambda=0.1$	$\lambda=0.2$	$\lambda=0.3$	$\lambda=0.4$	$\lambda=0.5$	$\lambda=0.6$	$\lambda=0.7$	$\lambda=0.8$	$\lambda=0.9$
1	19.14	19.20	19.36	19.76	20.46	21.60	23.43	26.61	33.24	66.85
3	24.51	25.11	26.19	27.13	28.35	29.97	32.29	36.00	43.84	98.24
5	29.91	30.48	32.81	33.81	35.12	36.92	39.60	44.23	50.58	110.43
10	42.99	43.54	51.28	53.47	55.78	59.37	60.62	68.73	104.88	124.56
15	55.93	59.58	60.04	84.30	88.65	95.29	106.41	117.41	125.69	140.78
20	79.18	80.01	81.38	116.61	122.55	131.35	135.40	147.53	155.82	237.23
25	103.13	104.20	112.42	127.92	132.86	133.26	149.30	150.41	166.56	287.93
30	131.02	131.67	131.99	135.93	140.23	143.43	150.50	168.53	176.24	297.42

AR(1) Parameter = - 0.1

Standard deviation = 0.18931

Initial force of interest = 0.03041

Table 7.4 Standard deviation of the funding level in the final year of simulation. (%)

m	$\lambda=0$	$\lambda=0.1$	$\lambda=0.2$	$\lambda=0.3$	$\lambda=0.4$	$\lambda=0.5$	$\lambda=0.6$	$\lambda=0.7$	$\lambda=0.8$	$\lambda=0.9$
1	19.36	19.74	20.32	21.20	22.48	24.34	27.19	32.03	42.62	95.12
3	28.77	29.67	31.36	32.79	34.63	37.12	40.76	46.91	64.12	143.39
5	37.17	38.07	41.84	43.48	45.66	48.78	53.84	64.92	100.50	201.97
10	61.24	62.38	72.22	78.37	86.70	87.95	92.27	106.89	113.70	283.22
15	71.89	78.87	84.98	98.43	102.24	112.09	118.44	127.56	200.39	297.14
20	107.32	160.72	188.17	200.23	203.71	224.75	227.05	236.98	372.15	407.86
25	113.97	229.04	234.53	239.19	264.80	268.01	297.18	300.17	357.91	467.06
30	251.48	258.17	266.89	297.09	312.94	318.65	330.02	375.37	410.75	500.72

AR(1) Parameter = + 0.1

Standard deviation = 0.18931

Initial force of interest = 0.03041

Table 7.5 Standard deviation of the contribution rate in final year of simulation. (%)

m	$\lambda=0$	$\lambda=0.1$	$\lambda=0.2$	$\lambda=0.3$	$\lambda=0.4$	$\lambda=0.5$	$\lambda=0.6$	$\lambda=0.7$	$\lambda=0.8$	$\lambda=0.9$
1	96.2	89.81	83.79	75.09	71.94	63.84	59.52	53.12	48.88	90.58
3	57.02	56.13	55.17	53.70	53.04	52.48	51.05	53.94	54.68	156.92
5	49.75	49.61	49.54	49.80	49.81	52.98	53.81	60.13	67.60	228.83
7	49.00	49.29	52.00	53.89	54.76	58.93	69.98	109.85	113.98	616.92
10	56.10	57.29	59.08	60.98	65.79	80.17	87.21	195.72	320.03	816.33
12	73.86	77.37	80.04	100.53	113.45	119.40	156.98	235.06	653.09	903.15
15	162.91	176.55	200.74	274.59	276.70	300.86	312.56	463.71	947.64	977.04

MA(1) Parameter = - 0.3
 Standard deviation = 0.1808197
 Initial force of interest = 0.03097

Table 7.6 Standard deviation of the contribution rate in the final year of simulation. (%)

m	$\lambda=0$	$\lambda=0.1$	$\lambda=0.2$	$\lambda=0.3$	$\lambda=0.4$	$\lambda=0.5$	$\lambda=0.6$	$\lambda=0.7$	$\lambda=0.8$	$\lambda=0.9$
1	93.03	84.95	77.66	68.53	64.3	55.76	51.18	43.91	38.44	67.09
3	48.4	47.21	45.99	43.84	43.31	41.69	40.23	39.61	38.26	138.57
5	39.95	39.69	39.57	38.99	38.97	38.14	38.09	40.99	41.50	207.03
10	37.20	37.38	37.71	39.07	39.12	47.93	48.32	51.98	72.51	310.56
15	52.17	54.18	56.65	58.82	66.16	83.01	92.90	169.00	249.33	356.53
20	109.14	112.57	113.11	115.18	128.28	142.39	183.65	200.80	307.78	374.53
25	123.90	124.87	129.45	131.32	143.08	155.60	214.98	219.86	348.92	380.10

MA(1) Parameter = - 0.1
 Standard deviation = 0.188
 Initial force of interest = 0.031

Table 7.7 Standard Deviation of the contribution rate in the final year of simulation. (%)

m	$\lambda = 0$	$\lambda = 0.1$	$\lambda = 0.2$	$\lambda = 0.3$	$\lambda = 0.4$	$\lambda = 0.5$	$\lambda = 0.6$	$\lambda = 0.7$	$\lambda = 0.8$	$\lambda = 0.9$
1	93.72	83.57	74.66	63.53	58.86	49.53	44.52	36.54	30.50	31.38
3	41.45	39.86	36.68	35.74	35.23	33.00	31.59	29.71	27.38	45.93
5	32.37	31.55	30.15	29.95	29.57	29.00	28.25	28.00	28.83	62.26
10	26.23	26.16	26.00	25.47	25.95	26.06	29.12	29.39	30.87	90.59
15	26.95	26.86	28.23	30.09	35.24	39.97	40.65	42.81	47.69	105.74
20	33.43	33.90	36.11	37.72	38.21	46.95	46.74	48.25	50.34	113.36
25	45.88	46.82	48.02	48.64	50.02	51.71	58.97	59.76	60.02	116.95
30	46.41	46.95	48.90	49.61	52.67	55.30	61.54	70.89	83.56	118.55

MA(1) Parameter = +0.1
 Standard Deviation = 0.188
 Initial Force of interest = 0.031

Table 7.8 Standard deviation of the contribution rate on the final year of simulation.(%)

m	$\lambda = 0$	$\lambda = 0.1$	$\lambda = 0.2$	$\lambda = 0.3$	$\lambda = 0.4$	$\lambda = 0.5$	$\lambda = 0.6$	$\lambda = 0.7$	$\lambda = 0.8$	$\lambda = 0.9$
1	98.30	85.79	74.76	61.62	55.95	45.41	39.73	30.91	24.50	18.36
3	36.13	34.14	32.28	29.25	28.62	25.96	24.59	22.15	19.60	19.74
5	26.31	25.34	24.44	23.02	22.69	21.53	20.82	19.85	18.44	22.64
10	19.04	18.68	18.36	18.43	17.82	17.59	17.54	17.48	17.44	28.98
15	17.01	16.73	16.57	16.47	16.40	16.35	16.54	17.52	17.86	33.43
20	15.20	16.34	16.36	16.38	16.38	16.95	17.97	19.85	19.90	36.16
25	15.10	15.95	16.05	16.13	16.20	18.00	18.34	21.97	22.91	37.69

MA(1) Parameter = +0.3
 Standard deviation = 0.1808197
 Initial force of interest = 0.03097

Table 7.9 Standard deviation of the contribution rate in the final year of simulation. (%)

m	$\lambda = 0$	$\lambda = 0.1$	$\lambda = 0.2$	$\lambda = 0.3$	$\lambda = 0.4$	$\lambda = 0.5$	$\lambda = 0.6$	$\lambda = 0.7$	$\lambda = 0.8$	$\lambda = 0.9$
1	91.70	80.58	70.57	61.71	53.58	46.05	38.96	32.21	25.67	20.81
3	35.23	33.45	32.24	30.74	29.26	27.74	26.09	24.20	22.11	23.91
5	26.89	25.76	25.47	24.81	24.18	23.53	22.86	22.19	22.16	28.32
10	21.04	18.97	18.94	20.89	20.94	21.17	21.76	23.20	27.05	34.52
15	19.24	17.74	19.12	21.40	21.88	22.66	23.99	26.36	30.75	35.95
20	17.87	17.96	20.08	22.56	23.26	24.31	25.91	28.45	32.46	36.99
25	18.62	18.86	20.10	23.65	24.47	25.67	27.39	29.93	33.62	38.55
30	18.04	20.09	20.18	24.66	25.60	26.90	28.71	31.25	34.77	40.37

AR(1) Parameter = - 0.3
 Standard deviation = 0.18009
 Initial force of interest = 0.030971

Table 7.10 Standard deviation of the contribution rate in the final year of simulation. (%)

m	$\lambda = 0$	$\lambda = 0.1$	$\lambda = 0.2$	$\lambda = 0.3$	$\lambda = 0.4$	$\lambda = 0.5$	$\lambda = 0.6$	$\lambda = 0.7$	$\lambda = 0.8$	$\lambda = 0.9$
1	88.35	79.35	71.10	63.51	56.37	49.58	43.04	36.66	30.52	30.70
3	39.35	37.92	37.17	35.89	34.57	33.17	31.62	29.89	28.70	44.02
5	30.20	29.57	29.34	29.29	29.20	29.17	28.79	28.88	32.62	58.32
10	24.34	24.19	28.55	29.02	29.84	31.29	34.07	39.92	53.56	76.32
15	24.83	25.07	34.25	35.60	37.54	40.46	45.08	52.82	66.17	80.42
20	27.79	27.92	35.86	41.68	44.16	47.66	52.77	60.49	71.98	83.57
25	32.00	32.25	36.21	46.31	49.11	52.92	58.22	65.71	75.95	87.97
30	36.67	37.02	37.53	50.18	53.22	57.27	62.72	70.09	79.65	92.78

AR(1) Parameter = - 0.1
 Standard deviation = 0.18931
 Initial force of interest = 0.03041

Table 7.11 Standard deviation of the contribution rate in the final year of simulation. (%)

m	$\lambda=0$	$\lambda=0.1$	$\lambda=0.2$	$\lambda=0.3$	$\lambda=0.4$	$\lambda=0.5$	$\lambda=0.6$	$\lambda=0.7$	$\lambda=0.8$	$\lambda=0.9$
1	88.88	81.58	74.63	68.15	61.93	55.88	49.93	44.12	39.14	65.84
3	46.20	45.11	45.05	44.07	43.06	41.97	40.83	39.96	45.04	87.73
5	37.55	37.14	37.03	38.28	38.25	38.49	40.62	45.80	56.53	127.45
10	34.68	34.78	52.12	55.68	61.12	69.92	75.33	78.35	80.16	132.87
15	42.92	43.51	86.12	93.16	102.88	106.87	110.09	114.97	121.93	154.13
20	58.71	59.87	89.75	100.53	118.91	126.87	135.37	145.16	159.22	176.17
25	78.80	80.50	92.33	114.19	131.01	138.98	139.00	152.90	186.44	191.48
30	99.98	102.16	105.12	121.75	132.43	141.99	146.48	157.97	189.04	209.17

AR(1) Parameter = + 0.1
 Standard deviation = 0.18931
 Initial force of interest = 0.03041

Table 7.12 Standard deviation of the contribution rate in the final year of simulation. (%)

m	$\lambda=0$	$\lambda=0.1$	$\lambda=0.2$	$\lambda=0.3$	$\lambda=0.4$	$\lambda=0.5$	$\lambda=0.6$	$\lambda=0.7$	$\lambda=0.8$	$\lambda=0.9$
1	93.11	87.56	81.80	76.59	71.57	66.68	61.99	57.96	59.60	95.25
3	59.81	59.66	59.16	58.94	58.84	58.99	60.00	67.50	93.76	117.98
5	52.15	52.28	59.28	61.16	64.80	73.29	98.05	108.67	124.86	278.25
7	53.32	68.89	70.42	74.99	80.86	85.98	99.02	135.76	145.87	362.91
10	67.03	75.98	73.49	79.55	87.94	98.65	114.36	149.41	178.98	389.15
15	126.89	144.26	149.06	150.65	155.67	157.85	182.35	199.99	354.95	462.09

AR(1) Parameter = + 0.3
 Standard deviation = 0.18009
 Initial force of interest = 0.030971

Table 8.1 Standard deviation of the funding level when rates of return follow the Wilkie investment model with an 80:20 equity: bond portfolio.

m	$\lambda = 0$	$\lambda = 0.1$	$\lambda = 0.2$	$\lambda = 0.3$	$\lambda = 0.4$	$\lambda = 0.5$	$\lambda = 0.6$	$\lambda = 0.7$	$\lambda = 0.8$	$\lambda = 0.9$
1	16.91	17.67	18.89	20.93	24.49	31.35	46.61	49.90	69.34	81.22
3	19.27	21.00	23.39	26.80	31.84	39.39	49.39	50.57	75.52	98.03
5	24.00	26.75	29.44	32.16	37.89	42.81	53.05	56.85	89.76	110.43
10	31.95	34.36	39.27	44.75	49.36	55.98	63.44	70.68	100.76	136.09
15	43.2	45.72	48.70	52.76	57.85	62.43	67.55	73.47	108.98	154.77
20	52.76	55.98	63.50	68.97	77.59	81.80	89.00	95.45	128.72	175.03
25	63.97	65.90	68.45	71.87	85.90	95.43	99.52	113.79	156.66	195.34
30	83.56	86.54	88.39	91.87	96.85	103.54	111.15	121.40	170.00	203.65
35	100.76	105.76	112.43	119.11	123.17	130.85	140.34	155.67	182.91	236.99
40	128.47	130.77	133.35	137.77	142.36	149.28	155.58	169.15	199.04	274.12
45	150.59	153.76	156.65	161.23	167.93	174.42	180.22	187.33	210.00	357.05

Table 8.2 Standard deviation of the funding level when rates of return follow the Wilkie Investment model, with a 60:40 equity: bond portfolio.

m	$\lambda = 0$	$\lambda = 0.1$	$\lambda = 0.2$	$\lambda = 0.3$	$\lambda = 0.4$	$\lambda = 0.5$	$\lambda = 0.6$	$\lambda = 0.7$	$\lambda = 0.8$	$\lambda = 0.9$
1	12.99	13.96	14.50	16.00	18.91	20.65	23.75	27.89	36.23	48.90
3	16.78	16.97	17.06	18.07	20.33	24.68	30.92	33.87	51.06	60.10
5	19.23	21.92	22.43	24.97	26.11	30.14	36.27	46.04	66.17	75.92
10	24.09	25.74	27.34	30.14	33.54	36.84	41.06	52.89	79.43	97.76
15	31.05	32.44	35.88	41.59	45.11	48.12	52.63	67.77	97.02	121.40
20	36.34	42.55	44.18	48.36	50.26	60.18	64.03	74.11	107.09	144.00
25	40.78	45.68	50.82	63.17	69.19	71.45	77.39	84.08	121.03	169.65
30	42.04	48.00	52.90	65.84	71.00	85.31	90.22	100.05	133.12	187.73
35	49.87	53.54	55.95	72.99	75.66	89.00	97.56	109.64	140.45	202.88
40	55.98	57.43	59.11	79.17	81.04	94.17	101.46	118.12	151.11	247.23
45	58.96	60.71	63.47	83.82	86.22	99.51	119.99	127.19	159.01	289.72

Table 8.3 Standard deviation of the contribution rate when rates of return follow the Wilkie Investment model, with an 80:20 equity: bond portfolio.

m	$\lambda=0$	$\lambda=0.1$	$\lambda=0.2$	$\lambda=0.3$	$\lambda=0.4$	$\lambda=0.5$	$\lambda=0.6$	$\lambda=0.7$	$\lambda=0.8$	$\lambda=0.9$
1	30.95	28.43	27.03	26.20	24.50	23.00	22.97	21.04	20.85	23.98
3	11.99	11.46	10.98	9.65	8.84	6.69	6.35	8.23	12.55	27.90
5	9.53	8.23	8.17	7.86	7.75	6.58	6.22	9.26	15.98	32.00
10	7.21	6.87	6.55	5.94	5.61	6.45	7.06	9.54	19.44	38.45
15	6.67	6.50	5.93	5.62	5.84	6.38	7.20	10.36	25.59	42.52
20	6.74	6.87	7.39	8.30	8.69	9.45	12.30	15.92	30.61	46.99
25	7.37	7.81	8.36	8.99	9.35	10.37	16.44	20.75	36.77	50.11
30	8.99	9.37	9.96	11.27	15.04	19.38	23.22	28.73	40.11	59.97
35	9.78	10.59	11.77	14.06	17.48	21.33	26.00	32.05	46.37	68.55
40	10.55	12.54	16.57	18.63	21.38	27.64	29.87	35.17	50.95	87.09
45	12.96	14.66	17.50	20.01	24.43	31.36	36.39	43.52	64.22	106.56

Table 8.4 Standard deviation of the contribution rate when rates of return follow the Wilkie Investment model, with a 60:40 equity: bond portfolio.

m	$\lambda=0$	$\lambda=0.1$	$\lambda=0.2$	$\lambda=0.3$	$\lambda=0.4$	$\lambda=0.5$	$\lambda=0.6$	$\lambda=0.7$	$\lambda=0.8$	$\lambda=0.9$
1	23.87	20.94	17.35	16.09	15.94	15.55	12.74	11.55	10.33	15.90
3	10.59	9.35	8.62	7.45	6.35	5.73	4.38	5.97	9.06	18.00
5	8.05	7.53	7.12	6.22	6.01	5.62	5.10	7.46	9.79	25.91
10	5.84	5.33	4.97	4.56	4.23	4.05	6.13	8.14	10.44	28.48
15	5.56	5.17	4.85	4.77	4.88	5.06	6.10	9.00	12.24	33.01
20	4.77	4.35	3.96	3.52	3.07	4.75	5.30	9.42	18.68	39.66
25	4.24	4.14	3.03	3.00	2.98	3.69	5.57	9.74	20.71	46.17
30	4.79	3.96	4.56	5.53	5.66	6.53	6.68	9.93	27.05	50.05
35	4.88	5.04	5.26	5.88	6.04	6.79	7.56	10.53	32.25	57.53
40	4.90	5.58	6.15	6.75	7.00	7.83	8.36	12.27	40.81	66.82
45	5.00	5.77	6.34	7.03	7.57	8.23	8.97	17.93	47.06	75.00