

Book of Triangles

Scenario: 0

Amounts	Paid Loss		Development Age			
AY	12	24	36	48	60	72
2020	720	1,800	2,880	3,600	3,960	4,320
2021	720	1,800	2,880	3,600	3,960	
2022	720	1,800	2,880	3,600		
2023	720	1,800	2,880			
2024	720	1,800				
2025	720					

Counts	Paid Count		Development Age			
AY	12	24	36	48	60	72
2020	2	5	8	10	11	12
2021	2	5	8	10	11	
2022	2	5	8	10		
2023	2	5	8			
2024	2	5				
2025	2					

	paid loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	10%	25%	40%	50%	55%	60%
2021	10%	25%	40%	50%	55%	
2022	10%	25%	40%	50%		
2023	10%	25%	40%			
2024	10%	25%				
2025	10%					

PAID dollars-per-count						
AY	average paid loss		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

Amounts	Rptd Loss		Development Age			
AY	12	24	36	48	60	72
2020	2,160	2,880	3,600	3,960	4,320	4,320
2021	2,160	2,880	3,600	3,960	4,320	
2022	2,160	2,880	3,600	3,960		
2023	2,160	2,880	3,600			
2024	2,160	2,880				
2025	2,160					

Counts	Rptd Count		Development Age			
AY	12	24	36	48	60	72
2020	6	8	10	11	12	12
2021	6	8	10	11	12	
2022	6	8	10	11		
2023	6	8	10			
2024	6	8				
2025	6					

	rptd loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	30%	40%	50%	55%	60%	60%
2021	30%	40%	50%	55%	60%	
2022	30%	40%	50%	55%		
2023	30%	40%	50%			
2024	30%	40%				
2025	30%					

REPORTED dollars-per-count						
AY	average rptd loss		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

(1)	(2)	(3)	(4)	(5)	(6)	(7)		
CY	EP	avg. rate chg.	cum. avg. rt. lvl.	ann. expos. chg.	rt level adj. to 2025	on level EP	CY	EE
2020	7,200		0.0%		1.000	7,200	2020	12.0
2021	7,200	0.0%	0.0%	0.0%	1.000	7,200	2021	12.0
2022	7,200	0.0%	0.0%	0.0%	1.000	7,200	2022	12.0
2023	7,200	0.0%	0.0%	0.0%	1.000	7,200	2023	12.0
2024	7,200	0.0%	0.0%	0.0%	1.000	7,200	2024	12.0
2025	7,200	0.0%	0.0%	0.0%	1.000	7,200	2025	12.0

- (2) = given
 (3) = given
 (4) = $[1 + (4):\text{prior}] \times [1 + (3)] - 1.0$
 (5) = $[(2) / (2):\text{prior}] / [1 + (3)] - 1.0$
 (6) = $[1 + (4):2025] / [1 + (4)]$
 (7) = $(2) \times (6)$

	paid/rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.92	1.00
2021	0.33	0.63	0.80	0.91	0.92	
2022	0.33	0.63	0.80	0.91		
2023	0.33	0.63	0.80			
2024	0.33	0.63				
2025	0.33					

	paid/rptd counts		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.92	1.00
2021	0.33	0.63	0.80	0.91	0.92	
2022	0.33	0.63	0.80	0.91		
2023	0.33	0.63	0.80			
2024	0.33	0.63				
2025	0.33					

Case O/S dollars-per-count						
AY	average case O/S		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	0
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

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Scenario: 1

Amounts	Paid Loss		Development Age			
AY	12	24	36	48	60	72
2020	720	1,800	2,880	3,600	3,960	4,320
2021	720	1,800	2,880	3,600	3,960	
2022	720	1,800	2,880	3,600		
2023	720	1,800	2,880			
2024	720	1,800				
2025	720					

Counts	Paid Count		Development Age			
AY	12	24	36	48	60	72
2020	2	5	8	10	11	12
2021	2	5	8	10	11	
2022	2	5	8	10		
2023	2	5	8			
2024	2	5				
2025	2					

	paid loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	10%	25%	40%	50%	55%	60%
2021	10%	25%	40%	50%	55%	
2022	10%	25%	40%	50%		
2023	10%	25%	40%			
2024	10%	25%				
2025	10%					

PAID dollars-per-count						
AY	average paid loss		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

Amounts	Rptd Loss		Development Age			
AY	12	24	36	48	60	72
2020	2,160	2,880	3,600	3,996	4,356	4,320
2021	2,160	2,880	3,672	3,996	4,356	
2022	2,160	2,952	3,672	3,996		
2023	2,304	2,988	3,672			
2024	2,304	2,988				
2025	2,304					

Counts	Rptd Count		Development Age			
AY	12	24	36	48	60	72
2020	6	8	10	11	12	12
2021	6	8	10	11	12	
2022	6	8	10	11		
2023	6	8	10			
2024	6	8				
2025	6					

	rptd loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	30%	40%	50%	56%	61%	60%
2021	30%	40%	51%	56%	61%	
2022	30%	41%	51%	56%		
2023	32%	42%	51%			
2024	32%	42%				
2025	32%					

REPORTED dollars-per-count						
AY	average rptd loss		Development Age			
	12	24	36	48	60	72
2020	360	360	360	363	363	360
2021	360	360	367	363	363	
2022	360	369	367	363		
2023	384	374	367			
2024	384	374				
2025	384					

(1)	(2)	(3)	(4)	(5)	(6)	(7)		
CY	EP	avg. rate chg.	cum. avg. rt. lvl.	ann. expos. chg.	rt level adj. to 2025	on level EP	CY	EE
2020	7,200		0.0%		1.000	7,200	2020	12.0
2021	7,200	0.0%	0.0%	0.0%	1.000	7,200	2021	12.0
2022	7,200	0.0%	0.0%	0.0%	1.000	7,200	2022	12.0
2023	7,200	0.0%	0.0%	0.0%	1.000	7,200	2023	12.0
2024	7,200	0.0%	0.0%	0.0%	1.000	7,200	2024	12.0
2025	7,200	0.0%	0.0%	0.0%	1.000	7,200	2025	12.0

- (2) = given
 (3) = given
 (4) = $[1 + (4):\text{prior}] \times [1 + (3)] - 1.0$
 (5) = $[(2) / (2):\text{prior}] / [1 + (3)] - 1.0$
 (6) = $[1 + (4):2025] / [1 + (4)]$
 (7) = $(2) \times (6)$

	paid/rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.90	0.91	1.00
2021	0.33	0.63	0.78	0.90	0.91	
2022	0.33	0.61	0.78	0.90		
2023	0.31	0.60	0.78			
2024	0.31	0.60				
2025	0.31					

	paid/rptd counts		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.92	1.00
2021	0.33	0.63	0.80	0.91	0.92	
2022	0.33	0.63	0.80	0.91		
2023	0.33	0.63	0.80			
2024	0.33	0.63				
2025	0.33					

Case O/S dollars-per-count						
AY	average case O/S		Development Age			
	12	24	36	48	60	72
2020	360	360	360	396	396	0
2021	360	360	396	396	396	
2022	360	384	396	396		
2023	396	396	396			
2024	396	396				
2025	396					

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Scenario: 2

Amounts	Paid Loss		Development Age			
AY	12	24	36	48	60	72
2020	720	1,800	2,880	3,600	3,960	4,320
2021	720	1,800	2,880	3,600	3,960	
2022	720	1,800	2,880	3,600		
2023	720	1,800	2,880			
2024	720	1,800				
2025	720					

Counts	Paid Count		Development Age			
AY	12	24	36	48	60	72
2020	2	5	8	10	11	12
2021	2	5	8	10	11	
2022	2	5	8	10		
2023	2	5	8			
2024	2	5				
2025	2					

	paid loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	10%	25%	40%	50%	55%	60%
2021	10%	25%	40%	50%	55%	
2022	10%	25%	40%	50%		
2023	10%	25%	40%			
2024	10%	25%				
2025	10%					

PAID dollars-per-count						
AY	average paid loss		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

Amounts	Rptd Loss		Development Age			
AY	12	24	36	48	60	72
2020	2,160	2,880	3,600	3,906	4,266	4,320
2021	2,160	2,880	3,492	3,906	4,266	
2022	2,160	2,772	3,492	3,906		
2023	1,944	2,718	3,492			
2024	1,944	2,718				
2025	1,944					

Counts	Rptd Count		Development Age			
AY	12	24	36	48	60	72
2020	6	8	10	11	12	12
2021	6	8	10	11	12	
2022	6	8	10	11		
2023	6	8	10			
2024	6	8				
2025	6					

	rptd loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	30%	40%	50%	54%	59%	60%
2021	30%	40%	49%	54%	59%	
2022	30%	39%	49%	54%		
2023	27%	38%	49%			
2024	27%	38%				
2025	27%					

REPORTED dollars-per-count						
AY	average rptd loss		Development Age			
	12	24	36	48	60	72
2020	360	360	360	355	356	360
2021	360	360	349	355	356	
2022	360	347	349	355		
2023	324	340	349			
2024	324	340				
2025	324					

(1)	(2)	(3)	(4)	(5)	(6)	(7)		
CY	EP	avg. rate chg.	cum. avg. rt. lvl.	ann. expos. chg.	rt level adj. to 2025	on level EP	CY	EE
2020	7,200		0.0%		1.000	7,200	2020	12.0
2021	7,200	0.0%	0.0%	0.0%	1.000	7,200	2021	12.0
2022	7,200	0.0%	0.0%	0.0%	1.000	7,200	2022	12.0
2023	7,200	0.0%	0.0%	0.0%	1.000	7,200	2023	12.0
2024	7,200	0.0%	0.0%	0.0%	1.000	7,200	2024	12.0
2025	7,200	0.0%	0.0%	0.0%	1.000	7,200	2025	12.0

- (2) = given
 (3) = given
 (4) = $[1 + (4):\text{prior}] \times [1 + (3)] - 1.0$
 (5) = $[(2) / (2):\text{prior}] / [1 + (3)] - 1.0$
 (6) = $[1 + (4):2025] / [1 + (4)]$
 (7) = $(2) \times (6)$

	paid/rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.92	0.93	1.00
2021	0.33	0.63	0.82	0.92	0.93	
2022	0.33	0.65	0.82	0.92		
2023	0.37	0.66	0.82			
2024	0.37	0.66				
2025	0.37					

	paid/rptd counts		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.92	1.00
2021	0.33	0.63	0.80	0.91	0.92	
2022	0.33	0.63	0.80	0.91		
2023	0.33	0.63	0.80			
2024	0.33	0.63				
2025	0.33					

Case O/S dollars-per-count						
AY	average case O/S		Development Age			
	12	24	36	48	60	72
2020	360	360	360	306	306	0
2021	360	360	306	306	306	
2022	360	324	306	306		
2023	306	306	306			
2024	306	306				
2025	306					

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Scenario: 3

Amounts	Paid Loss		Development Age			
AY	12	24	36	48	60	72
2020	720	1,800	2,880	3,600	3,960	4,320
2021	720	1,800	2,880	3,600	3,960	
2022	720	1,800	2,880	3,600		
2023	720	1,800	2,880			
2024	720	1,800				
2025	720					

Counts	Paid Count		Development Age			
AY	12	24	36	48	60	72
2020	2	5	8	10	11	12
2021	2	5	8	10	11	
2022	2	5	8	10		
2023	2	5	8			
2024	2	5				
2025	2					

	paid loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	10%	25%	40%	50%	55%	60%
2021	10%	25%	40%	50%	55%	
2022	10%	25%	40%	50%		
2023	10%	25%	40%			
2024	10%	25%				
2025	10%					

PAID dollars-per-count						
	average paid loss		Development Age			
AY	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

Amounts	Rptd Loss		Development Age			
AY	12	24	36	48	60	72
2020	2,160	2,880	3,600	4,032	4,392	4,320
2021	2,160	2,880	3,744	4,032	4,392	
2022	2,160	3,024	3,744	4,032		
2023	2,448	3,096	3,744			
2024	2,448	3,096				
2025	2,448					

Counts	Rptd Count		Development Age			
AY	12	24	36	48	60	72
2020	6	8	10	11	12	12
2021	6	8	10	11	12	
2022	6	8	10	11		
2023	6	8	10			
2024	6	8				
2025	6					

	rptd loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	30%	40%	50%	56%	61%	60%
2021	30%	40%	52%	56%	61%	
2022	30%	42%	52%	56%		
2023	34%	43%	52%			
2024	34%	43%				
2025	34%					

REPORTED dollars-per-count						
	average rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	360	360	360	367	366	360
2021	360	360	374	367	366	
2022	360	378	374	367		
2023	408	387	374			
2024	408	387				
2025	408					

(1)	(2)	(3)	(4)	(5)	(6)	(7)		
		avg. rate chg.	cum. avg. rt. lvl.	ann. expos. chg.	rt level adj. to 2025	on level EP	CY	EE
2020	7,200		0.0%		1.000	7,200	2020	12.0
2021	7,200	0.0%	0.0%	0.0%	1.000	7,200	2021	12.0
2022	7,200	0.0%	0.0%	0.0%	1.000	7,200	2022	12.0
2023	7,200	0.0%	0.0%	0.0%	1.000	7,200	2023	12.0
2024	7,200	0.0%	0.0%	0.0%	1.000	7,200	2024	12.0
2025	7,200	0.0%	0.0%	0.0%	1.000	7,200	2025	12.0

- (2) = given
 (3) = given
 (4) = $[1 + (4):\text{prior}] \times [1 + (3)] - 1.0$
 (5) = $[(2) / (2):\text{prior}] / [1 + (3)] - 1.0$
 (6) = $[1 + (4):2025] / [1 + (4)]$
 (7) = $(2) \times (6)$

	paid/rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.89	0.90	1.00
2021	0.33	0.63	0.77	0.89	0.90	
2022	0.33	0.60	0.77	0.89		
2023	0.29	0.58	0.77			
2024	0.29	0.58				
2025	0.29					

	paid/rptd counts		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.92	1.00
2021	0.33	0.63	0.80	0.91	0.92	
2022	0.33	0.63	0.80	0.91		
2023	0.33	0.63	0.80			
2024	0.33	0.63				
2025	0.33					

Case O/S dollars-per-count						
	average case O/S		Development Age			
AY	12	24	36	48	60	72
2020	360	360	360	432	432	0
2021	360	360	432	432	432	
2022	360	408	432	432		
2023	432	432	432			
2024	432	432				
2025	432					

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Scenario: 4

Amounts	Paid Loss		Development Age			
AY	12	24	36	48	60	72
2020	720	1,800	2,880	3,600	3,960	4,320
2021	720	1,800	2,880	3,600	3,960	
2022	720	1,800	2,880	3,600		
2023	720	1,800	2,880			
2024	720	1,800				
2025	720					

Counts	Paid Count		Development Age			
AY	12	24	36	48	60	72
2020	2	5	8	10	11	12
2021	2	5	8	10	11	
2022	2	5	8	10		
2023	2	5	8			
2024	2	5				
2025	2					

	paid loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	10%	25%	40%	50%	55%	60%
2021	10%	25%	40%	50%	55%	
2022	10%	25%	40%	50%		
2023	10%	25%	40%			
2024	10%	25%				
2025	10%					

PAID dollars-per-count						
	average paid loss		Development Age			
AY	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

Amounts	Rptd Loss		Development Age			
AY	12	24	36	48	60	72
2020	2,160	2,880	3,600	3,960	4,392	4,320
2021	2,160	2,880	3,600	4,032	4,392	
2022	2,160	2,880	3,744	4,032		
2023	2,160	3,024	3,744			
2024	2,448	3,096				
2025	2,448					

Counts	Rptd Count		Development Age			
AY	12	24	36	48	60	72
2020	6	8	10	11	12	12
2021	6	8	10	11	12	
2022	6	8	10	11		
2023	6	8	10			
2024	6	8				
2025	6					

	rptd loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	30%	40%	50%	55%	61%	60%
2021	30%	40%	50%	56%	61%	
2022	30%	40%	52%	56%		
2023	30%	42%	52%			
2024	34%	43%				
2025	34%					

REPORTED dollars-per-count						
	average rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	360	360	360	360	366	360
2021	360	360	360	367	366	
2022	360	360	374	367		
2023	360	378	374			
2024	408	387				
2025	408					

(1)	(2)	(3)	(4)	(5)	(6)	(7)		
		avg. rate chg.	cum. avg. rt. lvl.	ann. expos. chg.	rt level adj. to 2025	on level EP	CY	EE
2020	7,200		0.0%		1.000	7,200	2020	12.0
2021	7,200	0.0%	0.0%	0.0%	1.000	7,200	2021	12.0
2022	7,200	0.0%	0.0%	0.0%	1.000	7,200	2022	12.0
2023	7,200	0.0%	0.0%	0.0%	1.000	7,200	2023	12.0
2024	7,200	0.0%	0.0%	0.0%	1.000	7,200	2024	12.0
2025	7,200	0.0%	0.0%	0.0%	1.000	7,200	2025	12.0

- (2) = given
 (3) = given
 (4) = $[1 + (4):\text{prior}] \times [1 + (3)] - 1.0$
 (5) = $[(2) / (2):\text{prior}] / [1 + (3)] - 1.0$
 (6) = $[1 + (4):2025] / [1 + (4)]$
 (7) = $(2) \times (6)$

	paid/rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.90	1.00
2021	0.33	0.63	0.80	0.89	0.90	
2022	0.33	0.63	0.77	0.89		
2023	0.33	0.60	0.77			
2024	0.29	0.58				
2025	0.29					

	paid/rptd counts		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.92	1.00
2021	0.33	0.63	0.80	0.91	0.92	
2022	0.33	0.63	0.80	0.91		
2023	0.33	0.63	0.80			
2024	0.33	0.63				
2025	0.33					

Case O/S dollars-per-count						
	average case O/S		Development Age			
AY	12	24	36	48	60	72
2020	360	360	360	360	432	0
2021	360	360	360	432	432	
2022	360	360	432	432		
2023	360	408	432			
2024	432	432				
2025	432					

Book of Triangles

Scenario: 5

Amounts	Paid Loss		Development Age			
AY	12	24	36	48	60	72
2020	720	1,800	2,880	3,600	3,960	4,320
2021	720	1,800	2,880	3,600	3,960	
2022	720	1,800	2,880	3,600		
2023	1,200	3,000	4,800			
2024	720	1,800				
2025	720					

Counts	Paid Count		Development Age			
AY	12	24	36	48	60	72
2020	2	5	8	10	11	12
2021	2	5	8	10	11	
2022	2	5	8	10		
2023	2	5	8			
2024	2	5				
2025	2					

	paid loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	10%	25%	40%	50%	55%	60%
2021	10%	25%	40%	50%	55%	
2022	10%	25%	40%	50%		
2023	17%	42%	67%			
2024	10%	25%				
2025	10%					

PAID dollars-per-count						
	average paid loss		Development Age			
AY	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	600	600	600			
2024	360	360				
2025	360					

Amounts	Rptd Loss		Development Age			
AY	12	24	36	48	60	72
2020	2,160	2,880	3,600	3,960	4,320	4,320
2021	2,160	2,880	3,600	3,960	4,320	
2022	2,160	2,880	3,600	3,960		
2023	3,600	4,800	6,000			
2024	2,160	2,880				
2025	2,160					

Counts	Rptd Count		Development Age			
AY	12	24	36	48	60	72
2020	6	8	10	11	12	12
2021	6	8	10	11	12	
2022	6	8	10	11		
2023	6	8	10			
2024	6	8				
2025	6					

	rptd loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	30%	40%	50%	55%	60%	60%
2021	30%	40%	50%	55%	60%	
2022	30%	40%	50%	55%		
2023	50%	67%	83%			
2024	30%	40%				
2025	30%					

REPORTED dollars-per-count						
	average rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	600	600	600			
2024	360	360				
2025	360					

(1)	(2)	(3)	(4)	(5)	(6)	(7)		
		avg. rate chg.	cum. avg. rt. lvl.	ann. expos. chg.	rt level adj. to 2025	on level EP	CY	EE
2020	7,200		0.0%		1.000	7,200	2020	12.0
2021	7,200	0.0%	0.0%	0.0%	1.000	7,200	2021	12.0
2022	7,200	0.0%	0.0%	0.0%	1.000	7,200	2022	12.0
2023	7,200	0.0%	0.0%	0.0%	1.000	7,200	2023	12.0
2024	7,200	0.0%	0.0%	0.0%	1.000	7,200	2024	12.0
2025	7,200	0.0%	0.0%	0.0%	1.000	7,200	2025	12.0

- (2) = given
 (3) = given
 (4) = $[1 + (4):prior] \times [1 + (3)] - 1.0$
 (5) = $[(2) / (2):prior] / [1 + (3)] - 1.0$
 (6) = $[1 + (4):2025] / [1 + (4)]$
 (7) = $(2) \times (6)$

	paid/rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.92	1.00
2021	0.33	0.63	0.80	0.91	0.92	
2022	0.33	0.63	0.80	0.91		
2023	0.33	0.63	0.80			
2024	0.33	0.63				
2025	0.33					

	paid/rptd counts		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.92	1.00
2021	0.33	0.63	0.80	0.91	0.92	
2022	0.33	0.63	0.80	0.91		
2023	0.33	0.63	0.80			
2024	0.33	0.63				
2025	0.33					

Case O/S dollars-per-count						
	average case O/S		Development Age			
AY	12	24	36	48	60	72
2020	360	360	360	360	360	0
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	600	600	600			
2024	360	360				
2025	360					

Book of Triangles

Scenario: 6

Amounts	Paid Loss		Development Age			
AY	12	24	36	48	60	72
2020	720	1,800	2,880	3,600	3,960	4,320
2021	744	1,860	2,976	3,720	4,092	
2022	768	1,920	3,072	3,840		
2023	792	1,980	3,168			
2024	816	2,040				
2025	840					

Counts	Paid Count		Development Age			
AY	12	24	36	48	60	72
2020	2	5	8	10	11	12
2021	2	5	8	10	11	
2022	2	5	8	10		
2023	2	5	8			
2024	2	5				
2025	2					

	paid loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	10%	25%	40%	50%	55%	60%
2021	10%	26%	41%	52%	57%	
2022	11%	27%	43%	53%		
2023	11%	28%	44%			
2024	11%	28%				
2025	12%					

PAID dollars-per-count						
AY	average paid loss		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	372	372	372	372	372	
2022	384	384	384	384		
2023	396	396	396			
2024	408	408				
2025	420					

Amounts	Rptd Loss		Development Age			
AY	12	24	36	48	60	72
2020	2,160	2,880	3,600	3,960	4,320	4,320
2021	2,232	2,976	3,720	4,092	4,464	
2022	2,304	3,072	3,840	4,224		
2023	2,376	3,168	3,960			
2024	2,448	3,264				
2025	2,520					

Counts	Rptd Count		Development Age			
AY	12	24	36	48	60	72
2020	6	8	10	11	12	12
2021	6	8	10	11	12	
2022	6	8	10	11		
2023	6	8	10			
2024	6	8				
2025	6					

	rptd loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	30%	40%	50%	55%	60%	60%
2021	31%	41%	52%	57%	62%	
2022	32%	43%	53%	59%		
2023	33%	44%	55%			
2024	34%	45%				
2025	35%					

REPORTED dollars-per-count						
AY	average rptd loss		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	372	372	372	372	372	
2022	384	384	384	384		
2023	396	396	396			
2024	408	408				
2025	420					

(1)	(2)	(3)	(4)	(5)	(6)	(7)		
CY	EP	avg. rate chg.	cum. avg. rt. lvl.	ann. expos. chg.	rt level adj. to 2025	on level EP	CY	EE
2020	7,200		0.0%		1.000	7,200	2020	12.0
2021	7,200	0.0%	0.0%	0.0%	1.000	7,200	2021	12.0
2022	7,200	0.0%	0.0%	0.0%	1.000	7,200	2022	12.0
2023	7,200	0.0%	0.0%	0.0%	1.000	7,200	2023	12.0
2024	7,200	0.0%	0.0%	0.0%	1.000	7,200	2024	12.0
2025	7,200	0.0%	0.0%	0.0%	1.000	7,200	2025	12.0

- (2) = given
 (3) = given
 (4) = $[1 + (4):\text{prior}] \times [1 + (3)] - 1.0$
 (5) = $[(2) / (2):\text{prior}] / [1 + (3)] - 1.0$
 (6) = $[1 + (4):2025] / [1 + (4)]$
 (7) = $(2) \times (6)$

	paid/rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.92	1.00
2021	0.33	0.63	0.80	0.91	0.92	
2022	0.33	0.63	0.80	0.91		
2023	0.33	0.63	0.80			
2024	0.33	0.63				
2025	0.33					

	paid/rptd counts		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.92	1.00
2021	0.33	0.63	0.80	0.91	0.92	
2022	0.33	0.63	0.80	0.91		
2023	0.33	0.63	0.80			
2024	0.33	0.63				
2025	0.33					

Case O/S dollars-per-count						
AY	average case O/S		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	0
2021	372	372	372	372	372	
2022	384	384	384	384		
2023	396	396	396			
2024	408	408				
2025	420					

Book of Triangles

Scenario: 7

Amounts	Paid Loss		Development Age			
AY	12	24	36	48	60	72
2020	720	1,800	2,880	3,600	3,960	4,320
2021	720	1,800	2,880	3,600	3,960	
2022	720	1,800	2,880	3,600		
2023	1,440	3,240	5,040			
2024	1,440	3,240				
2025	1,440					

Counts	Paid Count		Development Age			
AY	12	24	36	48	60	72
2020	2	5	8	10	11	12
2021	2	5	8	10	11	
2022	2	5	8	10		
2023	4	9	14			
2024	4	9				
2025	4					

	paid loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	10%	25%	40%	50%	55%	60%
2021	10%	25%	40%	50%	55%	
2022	10%	25%	40%	50%		
2023	11%	26%	40%			
2024	11%	26%				
2025	11%					

PAID dollars-per-count						
AY	average paid loss		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

Amounts	Rptd Loss		Development Age			
AY	12	24	36	48	60	72
2020	2,160	2,880	3,600	3,960	4,320	4,320
2021	2,160	2,880	3,600	3,960	4,320	
2022	2,160	2,880	3,600	3,960		
2023	3,600	5,040	6,480			
2024	3,600	5,040				
2025	3,600					

Counts	Rptd Count		Development Age			
AY	12	24	36	48	60	72
2020	6	8	10	11	12	12
2021	6	8	10	11	12	
2022	6	8	10	11		
2023	10	14	18			
2024	10	14				
2025	10					

	rptd loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	30%	40%	50%	55%	60%	60%
2021	30%	40%	50%	55%	60%	
2022	30%	40%	50%	55%		
2023	29%	40%	51%			
2024	29%	40%				
2025	29%					

REPORTED dollars-per-count						
AY	average rptd loss		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

(1)	(2)	(3)	(4)	(5)	(6)	(7)		
		avg. rate chg.	cum. avg. rt. lvl.	ann. expos. chg.	rt level adj. to 2025	on level EP	CY	EE
2020	7,200		0.0%		1.000	7,200	2020	12.0
2021	7,200	0.0%	0.0%	0.0%	1.000	7,200	2021	12.0
2022	7,200	0.0%	0.0%	0.0%	1.000	7,200	2022	12.0
2023	12,600	0.0%	0.0%	75.0%	1.000	#####	2023	21.0
2024	12,600	0.0%	0.0%	0.0%	1.000	#####	2024	21.0
2025	12,600	0.0%	0.0%	0.0%	1.000	#####	2025	21.0

- (2) = given
 (3) = given
 (4) = $[1 + (4):\text{prior}] \times [1 + (3)] - 1.0$
 (5) = $[(2) / (2):\text{prior}] / [1 + (3)] - 1.0$
 (6) = $[1 + (4):2025] / [1 + (4)]$
 (7) = $(2) \times (6)$

	paid/rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.92	1.00
2021	0.33	0.63	0.80	0.91	0.92	
2022	0.33	0.63	0.80	0.91		
2023	0.40	0.64	0.78			
2024	0.40	0.64				
2025	0.40					

	paid/rptd counts		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	0.91	0.92	1.00
2021	0.33	0.63	0.80	0.91	0.92	
2022	0.33	0.63	0.80	0.91		
2023	0.40	0.64	0.78			
2024	0.40	0.64				
2025	0.40					

Case O/S dollars-per-count						
AY	average case O/S		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	0
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

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Scenario: 8

Amounts	Paid Loss		Development Age			
AY	12	24	36	48	60	72
2020	720	1,800	2,880	3,960	4,320	4,320
2021	720	1,800	3,600	3,960	4,320	
2022	720	2,880	3,600	3,960		
2023	1,800	2,880	3,600			
2024	1,800	2,880				
2025	1,800					

Counts	Paid Count		Development Age			
AY	12	24	36	48	60	72
2020	2	5	8	11	12	12
2021	2	5	10	11	12	
2022	2	8	10	11		
2023	5	8	10			
2024	5	8				
2025	5					

	paid loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	10%	25%	40%	55%	60%	60%
2021	10%	25%	50%	55%	60%	
2022	10%	40%	50%	55%		
2023	25%	40%	50%			
2024	25%	40%				
2025	25%					

PAID dollars-per-count						
AY	average paid loss		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

Amounts	Rptd Loss		Development Age			
AY	12	24	36	48	60	72
2020	2,160	2,880	3,600	3,960	4,320	4,320
2021	2,160	2,880	3,600	3,960	4,320	
2022	2,160	2,880	3,600	3,960		
2023	2,160	2,880	3,600			
2024	2,160	2,880				
2025	2,160					

Counts	Rptd Count		Development Age			
AY	12	24	36	48	60	72
2020	6	8	10	11	12	12
2021	6	8	10	11	12	
2022	6	8	10	11		
2023	6	8	10			
2024	6	8				
2025	6					

	rptd loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	30%	40%	50%	55%	60%	60%
2021	30%	40%	50%	55%	60%	
2022	30%	40%	50%	55%		
2023	30%	40%	50%			
2024	30%	40%				
2025	30%					

REPORTED dollars-per-count						
AY	average rptd loss		Development Age			
	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

(1)	(2)	(3)	(4)	(5)	(6)	(7)		
		avg. rate chg.	cum. avg. rt. lvl.	ann. expos. chg.	rt level adj. to 2025	on level EP	CY	EE
2020	7,200		0.0%		1.000	7,200	2020	12.0
2021	7,200	0.0%	0.0%	0.0%	1.000	7,200	2021	12.0
2022	7,200	0.0%	0.0%	0.0%	1.000	7,200	2022	12.0
2023	7,200	0.0%	0.0%	0.0%	1.000	7,200	2023	12.0
2024	7,200	0.0%	0.0%	0.0%	1.000	7,200	2024	12.0
2025	7,200	0.0%	0.0%	0.0%	1.000	7,200	2025	12.0

- (2) = given
 (3) = given
 (4) = $[1 + (4):\text{prior}] \times [1 + (3)] - 1.0$
 (5) = $[(2) / (2):\text{prior}] / [1 + (3)] - 1.0$
 (6) = $[1 + (4):2025] / [1 + (4)]$
 (7) = $(2) \times (6)$

	paid/rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	1.00	1.00	1.00
2021	0.33	0.63	1.00	1.00	1.00	
2022	0.33	1.00	1.00	1.00		
2023	0.83	1.00	1.00			
2024	0.83	1.00				
2025	0.83					

	paid/rptd counts		Development Age			
AY	12	24	36	48	60	72
2020	0.33	0.63	0.80	1.00	1.00	1.00
2021	0.33	0.63	1.00	1.00	1.00	
2022	0.33	1.00	1.00	1.00		
2023	0.83	1.00	1.00			
2024	0.83	1.00				
2025	0.83					

Case O/S dollars-per-count						
AY	average case O/S		Development Age			
	12	24	36	48	60	72
2020	360	360	360	0	0	0
2021	360	360	0	0	0	
2022	360	0	0	0		
2023	360	0	0			
2024	360	0				
2025	360					

Book of Triangles
Scenario: 10

Amounts	Paid Loss		Development Age			
AY	12	24	36	48	60	72
2020	720	1,800	3,600	3,960	4,320	4,320
2021	720	2,880	3,600	3,960	4,320	
2022	1,800	2,880	3,600	3,960		
2023	1,800	2,880	3,600			
2024	1,800	2,880				
2025	1,800					

Amounts	Rptd Loss		Development Age			
AY	12	24	36	48	60	72
2020	2,160	2,880	3,600	3,960	4,320	4,320
2021	2,160	2,880	3,600	3,960	4,320	
2022	2,160	2,880	3,600	3,960		
2023	2,160	2,880	3,600			
2024	2,160	2,880				
2025	2,160					

Counts	Paid Count		Development Age			
AY	12	24	36	48	60	72
2020	2	5	10	11	12	12
2021	2	8	10	11	12	
2022	5	8	10	11		
2023	5	8	10			
2024	5	8				
2025	5					

Counts	Rptd Count		Development Age			
AY	12	24	36	48	60	72
2020	6	8	10	11	12	12
2021	6	8	10	11	12	
2022	6	8	10	11		
2023	6	8	10			
2024	6	8				
2025	6					

	paid loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	10%	25%	50%	55%	60%	60%
2021	10%	40%	50%	55%	60%	
2022	25%	40%	50%	55%		
2023	25%	40%	50%			
2024	25%	40%				
2025	25%					

	rptd loss ratio		Development Age			
AY	12	24	36	48	60	72
2020	30%	40%	50%	55%	60%	60%
2021	30%	40%	50%	55%	60%	
2022	30%	40%	50%	55%		
2023	30%	40%	50%			
2024	30%	40%				
2025	30%					

(1)	(2)	(3)	(4)	(5)	(6)	(7)		
		avg. rate chg.	cum. avg. rt. lvl.	ann. expos. chg.	rt level adj. to 2025	on level EP	CY	EE
2020	7,200		0.0%		1.000	7,200	2020	12.0
2021	7,200	0.0%	0.0%	0.0%	1.000	7,200	2021	12.0
2022	7,200	0.0%	0.0%	0.0%	1.000	7,200	2022	12.0
2023	7,200	0.0%	0.0%	0.0%	1.000	7,200	2023	12.0
2024	7,200	0.0%	0.0%	0.0%	1.000	7,200	2024	12.0
2025	7,200	0.0%	0.0%	0.0%	1.000	7,200	2025	12.0

- (2) = given
- (3) = given
- (4) = $[1 + (4):\text{prior}] \times [1 + (3)] - 1.0$
- (5) = $[(2) / (2):\text{prior}] / [1 + (3)] - 1.0$
- (6) = $[1 + (4):2025] / [1 + (4)]$
- (7) = $(2) \times (6)$

PAID dollars-per-count						
	average paid loss		Development Age			
AY	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

REPORTED dollars-per-count						
	average rptd loss		Development Age			
AY	12	24	36	48	60	72
2020	360	360	360	360	360	360
2021	360	360	360	360	360	
2022	360	360	360	360		
2023	360	360	360			
2024	360	360				
2025	360					

Case O/S dollars-per-count						
	average case O/S		Development Age			
AY	12	24	36	48	60	72
2020	360	360	0	0	0	0
2021	360	0	0	0	0	
2022	360	0	0	0		
2023	360	0	0			
2024	360	0				
2025	360					