Reading: Klann.ReinsComm   (tax effect - easy)   01a-Question
Model: 2017.Spring #26b
Problem Type: change in taxable income - easy version

Given   The following pertains to a reinsurance contract that was commuted:

quota-share percentage	25%	
primary insurer RESERVE direct(gross)	1,460,000	= $_pR^-_{gross}$

discount factor for primary insurer	0.820
discount factor for reinsurer	0.950

REINSURER'S <u>carried</u> loss reserves (prior to commutation)
are higher than the INSURED'S carried reserves by: -10%

commutation price   376,100

Find   change in taxable income for both insurer and reinsurer due to the commutation

Notation
price	=	commutation price
$_pR^-_{ceded}$	=	CEDED carried reserve for primary insurer
$_{re}R^-_{gross}$	=	GROSS carried reserve for reinsurer
d_1	=	discount factor for primary insurer
d_2	=	discount factor for reinsurer

Formulas
change in taxable income for primary insurer	=	price - $(_pR^-_{ceded})$ x d_1
change in taxable income for reinsurer	=	$(_{re}R^-_{gross})$ x d_2 - price

insurer   =   76,800   *(increase)*   (tax effect - easy)   01b-Answer
reinsurer   =   -64,025 *(decrease)*

25% quota-share reinsurance means that 25% is CEDED to reinsurer:

$_pR^-_{ceded}$ = $_pR^-_{gross}$ x   ***qs%***
                   =   1,460,000   x   25%   =   365,000

$_{re}R^-_{gross}$ = $_pR^-_{ceded}$ x   0.90
                         365,000   x   0.90   =   328,500

We now have what we need to substitute into the formulas for change in taxable income:

change in taxable income for primary insurer   =   76,800   *(increase)*
change in taxable income for reinsurer   =   -64,025 *(decrease)*

Reading:	Klann.ReinsComm		(tax effect - easy) 02a-Question	
Model:	2017.Spring #26b			
Problem Type:	change in taxable income - easy version			

Given   The following pertains to a reinsurance contract that was commuted:

quota-share percentage	20%		
primary insurer RESERVE direct(gross)	1,320,000	=	$_pR^-{}_{gross}$
discount factor for primary insurer	0.940		
discount factor for reinsurer	0.920		

REINSURER'S <u>carried</u> loss reserves (prior to commutation)
are higher than the INSURED'S carried reserves by: 2%

commutation price   311,608

Find   change in taxable income for both insurer and reinsurer due to the commutation

Notation

price	=	commutation price
$_pR^-{}_{ceded}$	=	CEDED carried reserve for primary insurer
$_{re}R^-{}_{gross}$	=	GROSS carried reserve for reinsurer
d_1	=	discount factor for primary insurer
d_2	=	discount factor for reinsurer

Formulas

change in taxable income for primary insurer	=	price - $(_pR^-{}_{ceded})$ x d_1
change in taxable income for reinsurer	=	$(_{re}R^-{}_{gross})$ x d_2 - price

insurer   =   63,448 (increase)
reinsurer   =   -63,870 (decrease)

20% quota-share reinsurance means that 20% is CEDED to reinsurer:

$_pR^-_{ceded}$	=	$_pR^-_{gross}$	x	qs%		
	=	1,320,000	x	20%	=	264,000
$_{re}R^-_{gross}$	=	$_pR^-_{ceded}$	x	1.02		
		264,000	x	1.02	=	269,280

We now have what we need to substitute into the formulas for change in taxable income:

change in taxable income for primary insurer	=	63,448	(increase)
change in taxable income for reinsurer	=	-63,870	(decrease)