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In[144]:= returnRate = 0.08;
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In[145]:= ngdpGrowthRate = 0.05;
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In[146]:= dividendPayoutRate = 0.04;
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In[147]:= taxTake[i_] := (1 + ngdpGrowthRate)i
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```
In[148]:= eoy[-1] = 0
```

```
Out[148]= 0
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In[149]:= eoy[0] = 1;
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In[150]:= eoy[i_] := (eoy[i - 1]) ((1 + returnRate) - dividendPayoutRate) + taxTake[i]
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In[151]:= ret[-1] = 0;
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```
In[152]:= ret[0] = 0;
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In[153]:= ret[i_] := eoy[i - 1] returnRate
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In[154]:= raisedFromPriorTaxes[i_] := ret[i - 1] (1 + ngdpGrowthRate) + taxTake[i]
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In[155]:= newTaxNeeded[i_] := (taxTake[i] + eoy[i - 1] (returnRate)) - raisedFromPriorTaxes[i]
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In[156]:= Table[{i, eoy[i], ret[i], taxTake[i] + ret[i], raisedFromPriorTaxes[i],
  newTaxNeeded[i],  $\frac{\text{newTaxNeeded}[i]}{(1 + \text{ngdpGrowthRate})^i}$ }, {i, 0, 30}] // TableForm
```

```
Out[156]//TableForm=
```

0	1	0	1.	1.	0.	0.
1	2.09	0.08	1.13	1.05	0.08	0.0761905
2	3.2761	0.1672	1.2697	1.1865	0.0832	0.0754649
3	4.56477	0.262088	1.41971	1.33319	0.086528	0.0747461
4	5.96287	0.365182	1.58069	1.4907	0.0899891	0.0740343
5	7.47766	0.477029	1.75331	1.65972	0.0935887	0.0733292
6	9.11686	0.598213	1.93831	1.84098	0.0973322	0.0726308
7	10.8886	0.729349	2.13645	2.03522	0.101226	0.0719391
8	12.8016	0.871091	2.34855	2.24327	0.105275	0.071254
9	14.865	1.02413	2.57546	2.46597	0.109486	0.0705753
10	17.0885	1.1892	2.8181	2.70423	0.113865	0.0699032
11	19.4824	1.36708	3.07742	2.959	0.11842	0.0692375
12	22.0576	1.55859	3.35445	3.23129	0.123156	0.068578
13	24.8255	1.76461	3.65025	3.52217	0.128083	0.0679249
14	27.7985	1.98604	3.96597	3.83277	0.133206	0.067278
15	30.9893	2.22388	4.30281	4.16427	0.138534	0.0666373
16	34.4118	2.47915	4.66202	4.51795	0.144075	0.0660026
17	38.0803	2.75294	5.04496	4.89512	0.149838	0.065374
18	42.0101	3.04642	5.45304	5.29721	0.155832	0.0647514
19	46.2175	3.36081	5.88776	5.72569	0.162065	0.0641348
20	50.7195	3.6974	6.35069	6.18215	0.168548	0.0635239
21	55.5342	4.05756	6.84352	6.66823	0.17529	0.062919
22	60.6808	4.44274	7.368	7.18569	0.182301	0.0623197
23	66.1796	4.85447	7.92599	7.7364	0.189594	0.0617262
24	72.0519	5.29437	8.51947	8.32229	0.197177	0.0611383
25	78.3203	5.76415	9.1505	8.94544	0.205064	0.0605561
26	85.0088	6.26562	9.8213	9.60803	0.213267	0.0599793
27	92.1426	6.8007	10.5342	10.3124	0.221798	0.0594081
28	99.7484	7.37141	11.2915	11.0609	0.230669	0.0588423
29	107.854	7.97987	12.096	11.8561	0.239896	0.0582819
30	116.491	8.62836	12.9503	12.7008	0.249492	0.0577268

```
In[164]:= cumulativeIncrementalTaxes[n_] :=  $\sum_{i=0}^n \text{newTaxNeeded}[i] (1 + \text{ngdpGrowthRate})^{n-i}$ 
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In[165]:= Table[{i, cumulativeIncrementalTaxes[i], taxTake[i]}, {i, 0, 30}] // TableForm
```

```
Out[165]//TableForm=
```

0	0.	1.
1	0.08	1.05
2	0.1672	1.1025
3	0.262088	1.15763
4	0.365182	1.21551
5	0.477029	1.27628
6	0.598213	1.3401
7	0.729349	1.4071
8	0.871091	1.47746
9	1.02413	1.55133
10	1.1892	1.62889
11	1.36708	1.71034
12	1.55859	1.79586
13	1.76461	1.88565
14	1.98604	1.97993
15	2.22388	2.07893
16	2.47915	2.18287
17	2.75294	2.29202
18	3.04642	2.40662
19	3.36081	2.52695
20	3.6974	2.6533
21	4.05756	2.78596
22	4.44274	2.92526
23	4.85447	3.07152
24	5.29437	3.2251
25	5.76415	3.38635
26	6.26562	3.55567
27	6.8007	3.73346
28	7.37141	3.92013
29	7.97987	4.11614
30	8.62836	4.32194