

Appendix 8: Present Worth Factors

In all tables in this appendix, the columns represent interest rates (%) and rows the market discount rates (%).

Table A8.1 $n = 5$											
d	i										
	0	1	2	3	4	5	6	7	8	9	10
0	5.0000	5.1010	5.2040	5.3091	5.4163	5.5256	5.6371	5.7507	5.8666	5.9847	6.1051
1	4.8534	4.9505	5.0495	5.1505	5.2534	5.3585	5.4655	5.5747	5.6859	5.7993	5.9149
2	4.7135	4.8068	4.9020	4.9990	5.0980	5.1989	5.3018	5.4067	5.5136	5.6226	5.7336
3	4.5797	4.6695	4.7610	4.8544	4.9495	5.0466	5.1455	5.2463	5.3491	5.4538	5.5606
4	4.4518	4.5382	4.6263	4.7161	4.8077	4.9010	4.9962	5.0932	5.1920	5.2927	5.3954
5	4.3295	4.4127	4.4975	4.5839	4.6721	4.7619	4.8535	4.9468	5.0419	5.1388	5.2375
6	4.2124	4.2925	4.3742	4.4574	4.5423	4.6288	4.7170	4.8068	4.8984	4.9916	5.0867
7	4.1002	4.1774	4.2561	4.3363	4.4181	4.5014	4.5864	4.6729	4.7611	4.8509	4.9424
8	3.9927	4.0671	4.1430	4.2204	4.2992	4.3795	4.4613	4.5447	4.6296	4.7162	4.8043
9	3.8897	3.9614	4.0346	4.1092	4.1852	4.2626	4.3415	4.4219	4.5038	4.5872	4.6721
10	3.7908	3.8601	3.9307	4.0026	4.0759	4.1506	4.2267	4.3042	4.3831	4.4636	4.5455
11	3.6959	3.7628	3.8309	3.9003	3.9711	4.0432	4.1166	4.1913	4.2675	4.3451	4.4241
12	3.6048	3.6694	3.7351	3.8022	3.8705	3.9401	4.0109	4.0831	4.1566	4.2314	4.3077
13	3.5172	3.5796	3.6432	3.7079	3.7739	3.8411	3.9095	3.9792	4.0502	4.1224	4.1960
14	3.4331	3.4934	3.5548	3.6174	3.6811	3.7460	3.8121	3.8794	3.9480	4.0177	4.0888
15	3.3522	3.4104	3.4698	3.5303	3.5919	3.6546	3.7185	3.7835	3.8498	3.9172	3.9858
16	3.2743	3.3307	3.3881	3.4466	3.5061	3.5668	3.6285	3.6914	3.7554	3.8206	3.8869
17	3.1993	3.2539	3.3094	3.3660	3.4236	3.4823	3.5420	3.6028	3.6647	3.7277	3.7918
18	3.1272	3.1800	3.2337	3.2885	3.3442	3.4010	3.4587	3.5176	3.5774	3.6384	3.7004
19	3.0576	3.1087	3.1608	3.2138	3.2677	3.3227	3.3786	3.4355	3.4934	3.5524	3.6124
20	2.9906	3.0401	3.0905	3.1418	3.1941	3.2473	3.3014	3.3565	3.4126	3.4697	3.5277

Table A8.2 $n = 10$

d	i										
	0	1	2	3	4	5	6	7	8	9	10
0	10.000	10.462	10.950	11.464	12.006	12.578	13.181	13.816	14.487	15.193	15.937
1	9.4713	9.9010	10.354	10.832	11.335	11.865	12.425	13.014	13.635	14.289	14.979
2	8.9826	9.3825	9.8039	10.248	10.716	11.209	11.728	12.275	12.851	13.458	14.097
3	8.5302	8.9029	9.2954	9.7087	10.144	10.603	11.085	11.594	12.129	12.692	13.286
4	8.1109	8.4586	8.8246	9.2098	9.6154	10.042	10.492	10.965	11.462	11.986	12.537
5	7.7217	8.0464	8.3881	8.7476	9.1258	9.5238	9.9425	10.383	10.846	11.334	11.847
6	7.3601	7.6637	7.9830	8.3188	8.6720	9.0434	9.4340	9.8447	10.277	10.731	11.208
7	7.0236	7.3078	7.6065	7.9205	8.2506	8.5976	8.9624	9.3458	9.7488	10.172	10.618
8	6.7101	6.9764	7.2562	7.5501	7.8590	8.1836	8.5246	8.8828	9.2593	9.6547	10.070
9	6.4177	6.6674	6.9298	7.2053	7.4946	7.7984	8.1176	8.4527	8.8047	9.1743	9.5625
10	6.1446	6.3791	6.6253	6.8837	7.1550	7.4398	7.7388	8.0526	8.3820	8.7279	9.0909
11	5.8892	6.1097	6.3410	6.5837	6.8383	7.1055	7.3858	7.6800	7.9887	8.3126	8.6524
12	5.6502	5.8576	6.0752	6.3033	6.5425	6.7934	7.0566	7.3326	7.6221	7.9257	8.2442
13	5.4262	5.6216	5.8263	6.0410	6.2660	6.5018	6.7491	7.0083	7.2801	7.5651	7.8638
14	5.2161	5.4003	5.5932	5.7953	6.0071	6.2291	6.4616	6.7053	6.9607	7.2284	7.5089
15	5.0188	5.1925	5.3745	5.5650	5.7646	5.9736	6.1926	6.4219	6.6621	6.9137	7.1773
16	4.8332	4.9973	5.1691	5.3489	5.5371	5.7341	5.9404	6.1564	6.3826	6.6194	6.8674
17	4.6586	4.8137	4.9760	5.1458	5.3235	5.5094	5.7040	5.9076	6.1207	6.3437	6.5772
18	4.4941	4.6409	4.7943	4.9548	5.1227	5.2983	5.4819	5.6741	5.8751	6.0853	6.3053
19	4.3389	4.4779	4.6232	4.7750	4.9338	5.0997	5.2733	5.4547	5.6444	5.8429	6.0504
20	4.1925	4.3242	4.4618	4.6056	4.7558	4.9128	5.0769	5.2484	5.4277	5.6151	5.8110

Table A8.3 $n = 15$											
d	i										
	0	1	2	3	4	5	6	7	8	9	10
0	15.000	16.097	17.293	18.599	20.024	21.579	23.276	25.129	27.152	29.361	31.772
1	13.865	14.851	15.926	17.098	18.375	19.767	21.285	22.942	24.748	26.718	28.867
2	12.849	13.738	14.706	15.759	16.906	18.156	19.517	21.000	22.616	24.377	26.297
3	11.938	12.741	13.614	14.563	15.596	16.719	17.942	19.273	20.722	22.300	24.017
4	11.118	11.845	12.634	13.492	14.423	15.436	16.536	17.733	19.035	20.451	21.991
5	10.380	11.039	11.754	12.530	13.372	14.286	15.279	16.357	17.529	18.802	20.187
6	9.7122	10.311	10.960	11.664	12.426	13.254	14.151	15.125	16.182	17.329	18.575
7	9.1079	9.6535	10.244	10.883	11.575	12.325	13.138	14.019	14.974	16.010	17.134
8	8.5595	9.0573	9.5954	10.177	10.807	11.488	12.225	13.024	13.889	14.826	15.842
9	8.0607	8.5159	9.0073	9.5380	10.111	10.731	11.402	12.127	12.912	13.761	14.681
10	7.6061	8.0230	8.4726	8.9576	9.4811	10.046	10.657	11.317	12.030	12.802	13.636
11	7.1909	7.5735	7.9856	8.4297	8.9085	9.4249	9.9822	10.584	11.233	11.935	12.694
12	6.8109	7.1627	7.5411	7.9485	8.3872	8.8598	9.3693	9.9187	10.511	11.151	11.842
13	6.4624	6.7864	7.1346	7.5090	7.9116	8.3450	8.8116	9.3143	9.8560	10.440	11.070
14	6.1422	6.4412	6.7621	7.1067	7.4769	7.8750	8.3031	8.7638	9.2598	9.7940	10.370
15	5.8474	6.1237	6.4200	6.7378	7.0789	7.4451	7.8386	8.2616	8.7165	9.2060	9.7328
16	5.5755	5.8313	6.1053	6.3989	6.7136	7.0512	7.4135	7.8025	8.2205	8.6697	9.1527
17	5.3242	5.5615	5.8153	6.0869	6.3778	6.6895	7.0236	7.3820	7.7667	8.1796	8.6233
18	5.0916	5.3120	5.5475	5.7992	6.0685	6.3567	6.6654	6.9962	7.3507	7.7310	8.1392
19	4.8759	5.0809	5.2998	5.5335	5.7832	6.0501	6.3357	6.6414	6.9688	7.3196	7.6957
20	4.6755	4.8666	5.0703	5.2875	5.5194	5.7671	6.0318	6.3148	6.6176	6.9417	7.2887

Table A8.4 $n = 20$											
d	i										
	0	1	2	3	4	5	6	7	8	9	10
0	20.000	22.019	24.297	26.870	29.778	33.066	36.786	40.995	45.762	51.160	57.275
1	18.046	19.802	21.780	24.009	26.524	29.362	32.568	36.190	40.284	44.913	50.150
2	16.351	17.885	19.608	21.546	23.728	26.186	28.958	32.084	35.612	39.594	44.093
3	14.877	16.221	17.727	19.417	21.317	23.453	25.857	28.564	31.613	35.050	38.926
4	13.590	14.771	16.092	17.571	19.231	21.093	23.185	25.536	28.180	31.156	34.506
5	12.462	13.503	14.665	15.965	17.419	19.048	20.874	22.922	25.222	27.806	30.710
6	11.470	12.391	13.417	14.562	15.840	17.269	18.868	20.659	22.665	24.916	27.442
7	10.594	11.411	12.320	13.332	14.459	15.717	17.122	18.692	20.448	22.414	24.617
8	9.8181	10.546	11.353	12.250	13.247	14.358	15.596	16.977	18.519	20.242	22.169
9	9.1285	9.7785	10.498	11.296	12.181	13.164	14.258	15.476	16.834	18.349	20.039
10	8.5136	9.0959	9.7390	10.450	11.238	12.112	13.082	14.160	15.359	16.694	18.182
11	7.9633	8.4866	9.0632	9.6998	10.403	11.182	12.044	13.001	14.063	15.243	16.556
12	7.4694	7.9410	8.4596	9.0307	9.6607	10.356	11.125	11.977	12.920	13.967	15.129
13	7.0248	7.4509	7.9186	8.4326	8.9983	9.6218	10.310	11.070	11.910	12.841	13.872
14	6.6231	7.0094	7.4323	7.8962	8.4057	8.9660	9.5830	10.263	11.014	11.844	12.762
15	6.2593	6.6103	6.9939	7.4137	7.8738	8.3788	8.9338	9.5445	10.217	10.959	11.779
16	5.9288	6.2487	6.5975	6.9784	7.3951	7.8514	8.3520	8.9017	9.5062	10.172	10.905
17	5.6278	5.9199	6.2379	6.5845	6.9628	7.3764	7.8291	8.3252	8.8697	9.4680	10.126
18	5.3527	5.6203	5.9110	6.2271	6.5715	6.9472	7.3577	7.8067	8.2985	8.8379	9.4301
19	5.1009	5.3465	5.6128	5.9019	6.2162	6.5584	6.9316	7.3389	7.7843	8.2718	8.8061
20	4.8696	5.0956	5.3402	5.6052	5.8928	6.2053	6.5453	6.9159	7.3202	7.7619	8.2452

Table A8.5 $n = 25$											
d	i										
	0	1	2	3	4	5	6	7	8	9	10
0	25.000	28.243	32.030	36.459	41.646	47.727	54.865	63.249	73.106	84.701	98.347
1	22.023	24.752	27.929	31.633	35.958	41.014	46.933	53.869	62.003	71.550	82.762
2	19.523	21.832	24.510	27.622	31.245	35.470	40.401	46.164	52.906	60.800	70.051
3	17.413	19.375	21.644	24.272	27.322	30.867	34.994	39.804	45.417	51.974	59.639
4	15.622	17.298	19.229	21.459	24.038	27.028	30.498	34.531	39.224	44.693	51.071
5	14.094	15.532	17.184	19.085	21.277	23.810	26.740	30.137	34.079	38.660	43.990
6	12.783	14.024	15.444	17.072	18.943	21.098	23.585	26.458	29.784	33.639	38.112
7	11.654	12.729	13.954	15.356	16.961	18.803	20.923	23.364	26.183	29.440	33.210
8	10.675	11.611	12.674	13.885	15.269	16.851	18.666	20.750	23.148	25.912	29.103
9	9.8226	10.641	11.568	12.620	13.817	15.182	16.743	18.530	20.580	22.936	25.648
10	9.0770	9.7960	10.607	11.525	12.566	13.749	15.097	16.636	18.396	20.412	22.727
11	8.4217	9.0560	9.7693	10.574	11.482	12.512	13.682	15.012	16.530	18.264	20.248
12	7.8431	8.4051	9.0349	9.7426	10.540	11.440	12.459	13.615	14.929	16.425	18.133
13	7.3300	7.8300	8.3884	9.0138	9.7159	10.506	11.398	12.406	13.548	14.846	16.322
14	6.8729	7.3195	7.8167	8.3716	8.9926	9.6892	10.473	11.356	12.353	13.483	14.764
15	6.4641	6.8646	7.3089	7.8033	8.3547	8.9713	9.6625	10.439	11.314	12.301	13.417
16	6.0971	6.4575	6.8562	7.2983	7.7898	8.3377	8.9500	9.6357	10.406	11.272	12.249
17	5.7662	6.0918	6.4508	6.8476	7.2875	7.7763	8.3207	8.9286	9.6090	10.372	11.230
18	5.4669	5.7620	6.0864	6.4439	6.8390	7.2766	7.7626	8.3036	8.9072	9.5822	10.339
19	5.1951	5.4635	5.7576	6.0809	6.4370	6.8303	7.2657	7.7489	8.2864	8.8857	9.5555
20	4.9476	5.1924	5.4600	5.7532	6.0753	6.4300	6.8215	7.2547	7.7351	8.2692	8.8642

Table A8.6 $n = 30$

d	i										
	0	1	2	3	4	5	6	7	8	9	10
0	30.000	34.785	40.568	47.575	56.085	66.439	79.058	94.461	113.283	136.308	164.494
1	25.808	29.703	34.389	40.042	46.878	55.164	65.225	77.462	92.367	110.545	132.735
2	22.396	25.589	29.412	34.002	39.529	46.201	54.270	64.050	75.922	90.353	107.916
3	19.600	22.235	25.374	29.126	33.624	39.029	45.541	53.404	62.914	74.435	88.413
4	17.292	19.481	22.076	25.163	28.846	33.254	38.541	44.900	52.563	61.813	73.000
5	15.372	17.203	19.363	21.919	24.955	28.571	32.891	38.065	44.276	51.746	60.748
6	13.765	15.307	17.116	19.246	21.765	24.751	28.302	32.537	37.601	43.668	50.953
7	12.409	13.716	15.241	17.028	19.131	21.612	24.549	28.037	32.190	37.147	43.076
8	11.258	12.372	13.667	15.176	16.942	19.017	21.461	24.351	27.778	31.851	36.704
9	10.274	11.230	12.335	13.618	15.111	16.856	18.904	21.313	24.157	27.523	31.518
10	9.4269	10.253	11.202	12.299	13.569	15.046	16.771	18.792	21.166	23.965	27.273
11	8.6938	9.4112	10.232	11.175	12.262	13.520	14.982	16.687	18.681	21.022	23.776
12	8.0552	8.6819	9.3954	10.211	11.147	12.225	13.472	14.918	16.603	18.572	20.879
13	7.4957	8.0462	8.6699	9.3795	10.190	11.119	12.188	13.423	14.855	16.520	18.464
14	7.0027	7.4888	8.0371	8.6578	9.3634	10.169	11.091	12.151	13.375	14.792	16.438
15	6.5660	6.9975	7.4819	8.0278	8.6456	9.3473	10.147	11.063	12.115	13.327	14.729
16	6.1772	6.5620	6.9921	7.4748	8.0185	8.6332	9.3310	10.126	11.035	12.078	13.279
17	5.8294	6.1742	6.5579	6.9868	7.4677	8.0091	8.6208	9.3146	10.104	11.007	12.041
18	5.5168	5.8271	6.1710	6.5538	6.9813	7.4604	7.9995	8.6082	9.2981	10.083	10.979
19	5.2347	5.5150	5.8247	6.1679	6.5496	6.9757	7.4531	7.9898	8.5956	9.2816	10.061
20	4.9789	5.2333	5.5132	5.8222	6.1646	6.5453	6.9700	7.4456	7.9801	8.5828	9.2649