MAASAI MARA UNIVERSITY

REGULAR UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR
SECOND YEAR FIRST SEMESTER

SCHOOL OF BUSINESS AND ECONOMICS
BACHELOR OF SCIENCES IN FINANCIAL ECONOMICS

COURSE CODE: ECF 2103-1
COURSE TITLE: CORPORATE FINANCE I

DATE: 1ST APRIL, 2022   TIME: 0830-1030
_____
INSTRUCTIONS TO CANDIDATES

1. Answer Question ONE and any other three questions

This paper consists of ~~Five (4)~~ printed pages. Please turn over.

I

Question 1

(a) You can buy a car for $30,000 now, or pay for it one year from now (2 marks) $35,000. What interest rate are you being offered?

(b) Say that you are buying a refrigerator, and make a $400 payment (2 marks) one year from now and a $400 payment two years from now. What is the present value of your total payment given an interest rate of 3%?

(c) What is the present value of $20,000 paid 12 years from now using (2 marks) a discount rate of 10% compounded quarterly?

(d)
    (i)   Differentiate between primary and financial markets   (2 marks)
    (ii)   Explain any 4 major roles of financial markets   (8 marks)

(e) Explain any 2 critiques of the Modigliani and Miller Theorem 1   (4 marks)

Question 2

(f) Differentiate between ordinary annuity and annuity due   (2 marks)

(g) Two banks offer different interest rates. One offers 10% (3 marks) compounded annually. The other offers 9.75% compounded monthly. Compare the effective annual interest rate for each and recommend on the one that is better.

(h) A debt of $10,000 is amortized by making equal payments at the (10 marks) end of every six months for three years, and interest is 6% compounded semi-annually. Construct its amortization schedule

Question 3

(a) You must decide whether or not to purchase new capital (10 marks) equipment. The cost of the machine is $5,000. It will produce the following cash flows. The appropriate discount rate is 10 percent.

Year	Cash Flow ($)
1	700
2	900
3	1,000
4	1,000
5	1,000
6	1,000
7	1,250
8	1,375

    (i)   Using NPV technique, should you purchase the equipment?   (6 marks)

    (ii)   What is the IRR of the equipment?   (3 marks)

(b) Explain any three demerits of payback period as a capital budgeting (6 marks) technique.

Question 4

(a) Define the three forms of market efficiency. (6 marks)

(b) Give a statement of the Modigliani Theorem I (2 marks)

(c) Rayburn Manufacturing is currently an all-equity firm. The firm's equity is worth $2 million. The cost of that equity is 18 percent. Rayburn pays no taxes. Rayburn plans to issue $400,000 in debt and to use the proceeds to repurchase stock. The cost of debt is 10 percent

(i) After Rayburn repurchases the stock, what will the firm's overall cost of capital be? (3 marks)

(ii) After the repurchase, what will the cost of equity be? (2 marks)

(iii) Explain your result in (ii). (2 marks)

SOME FINANCIAL ECONOMICS FORMULAE

✓ CAPM	$Expected\ return = r_f + \beta(r_m - r_f)$ $Where: \quad r_f = risk - free\ rate, \beta = beta, and\ r_m = return\ on\ the\ market$
✓ Expected Portfolio Return	$(\hat{R}_P) = W_1X_1 + W_2X_2 + \cdots + W_nX_n \equiv \sum_{i=1}^{n} W_iX_i$
✓ Future value of a Single Cash Flow	$Future\ value = PV\ (1 + r)^n$
✓ Future Value of an Annuity Due	$FVAND_n = PMT\left[\frac{(1+i)^n - 1}{i}\right](1 + i)$
✓ Future Value of an Ordinary Annuity (FVAN$_n$)	$FVAN_n = PMT[\frac{(1+i)^n - 1}{i}]$
✓ Internal Rate of Return (IRR)	$r_a + \left(\frac{NPV_a}{NPV_a - NPV_b}\right) \times (r_b - r_a)$
✓ Portfolio Standard Deviation	$\delta(portfolio) = \sqrt{X_A^2\delta_A^2 + 2X_AX_B\delta_{AB} + X_B^2\delta_B^2}$
✓ Present Value of a Single Cash Flow	$PV = \frac{FV_n}{(1+i)^n}$
✓ Present Value of Annuity Due	$PVAD = PMT\left[\frac{1-\frac{1}{(1+i)^n}}{i}\right](1 + i)$
✓ Present Value of Ordinary Annuity	$PVOA = PMT\left[\frac{1-\frac{1}{(1+i)^n}}{i}\right]$
✓ Value of the Levered firm	$V_L = \frac{EBIT(1-T_C)}{r_0} + T_CB$
✓ Value of the Unlevered Firm	$V_u = \frac{EBIT(1-T_C)}{r_0}$

Table A1 - Present value interest factors for single cash flows. Formula: $\dfrac{1}{(1+i)^n}$

Period (n) / per cent (i)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929	0.8850	0.8772
2	0.9803	0.9612	0.9426	0.9246	0.9070	0.8900	0.8734	0.8573	0.8417	0.8264	0.8116	0.7972	0.7831	0.7695
3	0.9706	0.9423	0.9151	0.8890	0.8638	0.8396	0.8163	0.7938	0.7722	0.7513	0.7312	0.7118	0.6931	0.6750
4	0.9610	0.9238	0.8885	0.8548	0.8227	0.7921	0.7629	0.7350	0.7084	0.6830	0.6587	0.6355	0.6133	0.5921
5	0.9515	0.9057	0.8626	0.8219	0.7835	0.7473	0.7130	0.6806	0.6499	0.6209	0.5935	0.5674	0.5428	0.5194
6	0.9420	0.8880	0.8375	0.7903	0.7462	0.7050	0.6663	0.6302	0.5963	0.5645	0.5346	0.5066	0.4803	0.4556
7	0.9327	0.8706	0.8131	0.7599	0.7107	0.6651	0.6227	0.5835	0.5470	0.5132	0.4817	0.4523	0.4251	0.3996
8	0.9235	0.8535	0.7894	0.7307	0.6768	0.6274	0.5820	0.5403	0.5019	0.4665	0.4339	0.4039	0.3762	0.3506
9	0.9143	0.8368	0.7664	0.7026	0.6446	0.5919	0.5439	0.5002	0.4604	0.4241	0.3909	0.3606	0.3329	0.3075
10	0.9053	0.8203	0.7441	0.6756	0.6139	0.5584	0.5083	0.4632	0.4224	0.3855	0.3522	0.3220	0.2946	0.2697
11	0.8963	0.8043	0.7224	0.6496	0.5847	0.5268	0.4751	0.4289	0.3875	0.3505	0.3173	0.2875	0.2607	0.2366
12	0.8874	0.7885	0.7014	0.6246	0.5568	0.4970	0.4440	0.3971	0.3555	0.3186	0.2858	0.2567	0.2307	0.2076
13	0.8787	0.7730	0.6810	0.6006	0.5303	0.4688	0.4150	0.3677	0.3262	0.2897	0.2575	0.2292	0.2042	0.1821
14	0.8700	0.7579	0.6611	0.5775	0.5051	0.4423	0.3878	0.3405	0.2992	0.2633	0.2320	0.2046	0.1807	0.1597
15	0.8613	0.7430	0.6419	0.5553	0.4810	0.4173	0.3624	0.3152	0.2745	0.2394	0.2090	0.1827	0.1599	0.1401
16	0.8528	0.7284	0.6232	0.5339	0.4581	0.3936	0.3387	0.2919	0.2519	0.2176	0.1883	0.1631	0.1415	0.1229
17	0.8444	0.7142	0.6050	0.5134	0.4363	0.3714	0.3166	0.2703	0.2311	0.1978	0.1696	0.1456	0.1252	0.1078
18	0.8360	0.7002	0.5874	0.4936	0.4155	0.3503	0.2959	0.2502	0.2120	0.1799	0.1528	0.1300	0.1108	0.0946
19	0.8277	0.6864	0.5703	0.4746	0.3957	0.3305	0.2765	0.2317	0.1945	0.1635	0.1377	0.1161	0.0981	0.0829
20	0.8195	0.6730	0.5537	0.4564	0.3769	0.3118	0.2584	0.2145	0.1784	0.1486	0.1240	0.1037	0.0868	0.0728
21	0.8114	0.6598	0.5375	0.4388	0.3589	0.2942	0.2415	0.1987	0.1637	0.1351	0.1117	0.0926	0.0768	0.0638
22	0.8034	0.6468	0.5219	0.4220	0.3418	0.2775	0.2257	0.1839	0.1502	0.1228	0.1007	0.0826	0.0680	0.0560
23	0.7954	0.6342	0.5067	0.4057	0.3256	0.2618	0.2109	0.1703	0.1378	0.1117	0.0907	0.0738	0.0601	0.0491
24	0.7876	0.6217	0.4919	0.3901	0.3101	0.2470	0.1971	0.1577	0.1264	0.1015	0.0817	0.0659	0.0532	0.0431
25	0.7798	0.6095	0.4776	0.3751	0.2953	0.2330	0.1842	0.1460	0.1160	0.0923	0.0736	0.0588	0.0471	0.0378

Table A2 - Future value interest factors for single cash flows. Formula: $(1+r)^n$

Period (n) / per cent (i)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
1	1.0100	1.0200	1.0300	1.0400	1.0500	1.0600	1.0700	1.0800	1.0900	1.1000	1.1100	1.1200	1.1300	1.1400	1.1500
2	1.0201	1.0404	1.0609	1.0816	1.1025	1.1236	1.1449	1.1664	1.1881	1.2100	1.2321	1.2544	1.2769	1.2996	1.3225
3	1.0303	1.0612	1.0927	1.1249	1.1576	1.1910	1.2250	1.2597	1.2950	1.3310	1.3676	1.4049	1.4429	1.4815	1.5209
4	1.0406	1.0824	1.1255	1.1699	1.2155	1.2625	1.3108	1.3605	1.4116	1.4641	1.5181	1.5735	1.6305	1.6890	1.7490
5	1.0510	1.1041	1.1593	1.2167	1.2763	1.3382	1.4026	1.4693	1.5386	1.6105	1.6851	1.7623	1.8424	1.9254	2.0114
6	1.0615	1.1262	1.1941	1.2653	1.3401	1.4185	1.5007	1.5869	1.6771	1.7716	1.8704	1.9738	2.0820	2.1950	2.3131
7	1.0721	1.1487	1.2299	1.3159	1.4071	1.5036	1.6058	1.7138	1.8280	1.9487	2.0762	2.2107	2.3526	2.5023	2.6600
8	1.0829	1.1717	1.2668	1.3686	1.4775	1.5938	1.7182	1.8509	1.9926	2.1436	2.3045	2.4760	2.6584	2.8526	3.0590
9	1.0937	1.1951	1.3048	1.4233	1.5513	1.6895	1.8385	1.9990	2.1719	2.3579	2.5580	2.7731	3.0040	3.2519	3.5179
10	1.1046	1.2190	1.3439	1.4802	1.6289	1.7908	1.9672	2.1589	2.3674	2.5937	2.8394	3.1058	3.3946	3.7072	4.0456
11	1.1157	1.2434	1.3842	1.5395	1.7103	1.8983	2.1049	2.3316	2.5804	2.8531	3.1518	3.4785	3.8359	4.2262	4.6524
12	1.1268	1.2682	1.4258	1.6010	1.7959	2.0122	2.2522	2.5182	2.8127	3.1384	3.4985	3.8960	4.3345	4.8179	5.3503
13	1.1381	1.2936	1.4685	1.6651	1.8856	2.1329	2.4098	2.7196	3.0658	3.4523	3.8833	4.3635	4.8980	5.4924	6.1528
14	1.1495	1.3195	1.5126	1.7317	1.9799	2.2609	2.5785	2.9372	3.3417	3.7975	4.3104	4.8871	5.5348	6.2613	7.0757
15	1.1610	1.3459	1.5580	1.8009	2.0789	2.3966	2.7590	3.1722	3.6425	4.1772	4.7846	5.4736	6.2543	7.1379	8.1371
16	1.1726	1.3728	1.6047	1.8730	2.1829	2.5404	2.9522	3.4259	3.9703	4.5950	5.3109	6.1304	7.0673	8.1372	9.3576
17	1.1843	1.4002	1.6528	1.9479	2.2920	2.6928	3.1588	3.7000	4.3276	5.0545	5.8951	6.8660	7.9861	9.2765	10.7613
18	1.1961	1.4282	1.7024	2.0258	2.4066	2.8543	3.3799	3.9960	4.7171	5.5599	6.5436	7.6900	9.0243	10.5752	12.3755
19	1.2081	1.4568	1.7535	2.1068	2.5270	3.0256	3.6165	4.3157	5.1417	6.1159	7.2633	8.6128	10.1974	12.0557	14.2318
20	1.2202	1.4859	1.8061	2.1911	2.6533	3.2071	3.8697	4.6610	5.6044	6.7275	8.0623	9.6463	11.5231	13.7435	16.3665
21	1.2324	1.5157	1.8603	2.2788	2.7860	3.3996	4.1406	5.0338	6.1088	7.4002	8.9492	10.8038	13.0211	15.6676	18.8215
22	1.2447	1.5460	1.9161	2.3699	2.9253	3.6035	4.4304	5.4365	6.6586	8.1403	9.9336	12.1003	14.7138	17.8610	21.6447
23	1.2572	1.5769	1.9736	2.4647	3.0715	3.8197	4.7405	5.8715	7.2579	8.9543	11.0263	13.5523	16.6266	20.3616	24.8915
24	1.2697	1.6084	2.0328	2.5633	3.2251	4.0489	5.0724	6.3412	7.9111	9.8497	12.2392	15.1786	18.7881	23.2122	28.6252
25	1.2824	1.6406	2.0938	2.6658	3.3864	4.2919	5.4274	6.8485	8.6231	10.8347	13.5855	17.0001	21.2305	26.4619	32.9190

Table A3 - Present value interest factors for an ordinary annuity. Formula: $\left[\dfrac{1-\frac{1}{(1+i)^n}}{i}\right]$

Period (n) / per cent (i)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%
1	0.9901	0.9804	0.9709	0.9615	0.9524	0.9434	0.9346	0.9259	0.9174	0.9091	0.9009	0.8929
2	1.9704	1.9416	1.9135	1.8861	1.8594	1.8334	1.8080	1.7833	1.7591	1.7355	1.7125	1.6901
3	2.9410	2.8839	2.8286	2.7751	2.7232	2.6730	2.6243	2.5771	2.5313	2.4869	2.4437	2.4018
4	3.9020	3.8077	3.7171	3.6299	3.5460	3.4651	3.3872	3.3121	3.2397	3.1699	3.1024	3.0373
5	4.8534	4.7135	4.5797	4.4518	4.3295	4.2124	4.1002	3.9927	3.8897	3.7908	3.6959	3.6048
6	5.7955	5.6014	5.4172	5.2421	5.0757	4.9173	4.7665	4.6229	4.4859	4.3553	4.2305	4.1114
7	6.7282	6.4720	6.2303	6.0021	5.7864	5.5824	5.3893	5.2064	5.0330	4.8684	4.7122	4.5638
8	7.6517	7.3255	7.0197	6.7327	6.4632	6.2098	5.9713	5.7466	5.5348	5.3349	5.1461	4.9676
9	8.5660	8.1622	7.7861	7.4353	7.1078	6.8017	6.5152	6.2469	5.9952	5.7590	5.5370	5.3282
10	9.4713	8.9826	8.5302	8.1109	7.7217	7.3601	7.0236	6.7101	6.4177	6.1446	5.8892	5.6502
11	10.3676	9.7868	9.2526	8.7605	8.3064	7.8869	7.4987	7.1390	6.8052	6.4951	6.2065	5.9377
12	11.2551	10.5753	9.9540	9.3851	8.8633	8.3838	7.9427	7.5361	7.1607	6.8137	6.4924	6.1944
13	12.1337	11.3484	10.6350	9.9856	9.3936	8.8527	8.3577	7.9038	7.4869	7.1034	6.7499	6.4235
14	13.0037	12.1062	11.2961	10.5631	9.8986	9.2950	8.7455	8.2442	7.7862	7.3667	6.9819	6.6282
15	13.8651	12.8493	11.9379	11.1184	10.3797	9.7122	9.1079	8.5595	8.0607	7.6061	7.1909	6.8109
16	14.7179	13.5777	12.5611	11.6523	10.8378	10.1059	9.4466	8.8514	8.3126	7.8237	7.3792	6.9740
17	15.5623	14.2919	13.1661	12.1657	11.2741	10.4773	9.7632	9.1216	8.5436	8.0216	7.5488	7.1196
18	16.3983	14.9920	13.7535	12.6593	11.6896	10.8276	10.0591	9.3719	8.7556	8.2014	7.7016	7.2497
19	17.2260	15.6785	14.3238	13.1339	12.0853	11.1581	10.3356	9.6036	8.9501	8.3649	7.8393	7.3658
20	18.0456	16.3514	14.8775	13.5903	12.4622	11.4699	10.5940	9.8181	9.1285	8.5136	7.9633	7.4694
21	18.8570	17.0112	15.4150	14.0292	12.8212	11.7641	10.8355	10.0168	9.2922	8.6487	8.0751	7.5620
22	19.6604	17.6580	15.9369	14.4511	13.1630	12.0416	11.0612	10.2007	9.4424	8.7715	8.1757	7.6446
23	20.4558	18.2922	16.4436	14.8568	13.4886	12.3034	11.2722	10.3711	9.5802	8.8832	8.2664	7.7184
24	21.2434	18.9139	16.9355	15.2470	13.7986	12.5504	11.4693	10.5288	9.7066	8.9847	8.3481	7.7843
25	22.0232	19.5235	17.4131	15.6221	14.0939	12.7834	11.6536	10.6748	9.8226	9.0770	8.4217	7.8431

Table A4 - Future value interest factors for an ordinary annuity. Formula: $\left[\dfrac{(1+i)^n-1}{i}\right]$

Period (n) / per cent (k)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2	2.010	2.020	2.030	2.040	2.050	2.060	2.070	2.080	2.090	2.100	2.110	2.120	2.130	2.140
3	3.030	3.060	3.091	3.122	3.153	3.184	3.215	3.246	3.278	3.310	3.342	3.374	3.407	3.440
4	4.060	4.122	4.184	4.246	4.310	4.375	4.440	4.506	4.573	4.641	4.710	4.779	4.850	4.921
5	5.101	5.204	5.309	5.416	5.526	5.637	5.751	5.867	5.985	6.105	6.228	6.353	6.480	6.610
6	6.152	6.308	6.468	6.633	6.802	6.975	7.153	7.336	7.523	7.716	7.913	8.115	8.323	8.536
7	7.214	7.434	7.662	7.898	8.142	8.394	8.654	8.923	9.200	9.487	9.783	10.089	10.405	10.730
8	8.286	8.583	8.892	9.214	9.549	9.897	10.260	10.637	11.028	11.436	11.859	12.300	12.757	13.233
9	9.369	9.755	10.159	10.583	11.027	11.491	11.978	12.488	13.021	13.579	14.164	14.776	15.416	16.085
10	10.462	10.950	11.464	12.006	12.578	13.181	13.816	14.487	15.193	15.937	16.722	17.549	18.420	19.337
11	11.567	12.169	12.808	13.486	14.207	14.972	15.784	16.645	17.560	18.531	19.561	20.655	21.814	23.045
12	12.683	13.412	14.192	15.026	15.917	16.870	17.888	18.977	20.141	21.384	22.713	24.133	25.650	27.271
13	13.809	14.680	15.618	16.627	17.713	18.882	20.141	21.495	22.953	24.523	26.212	28.029	29.985	32.089
14	14.947	15.974	17.086	18.292	19.599	21.015	22.550	24.215	26.019	27.975	30.095	32.393	34.883	37.581
15	16.097	17.293	18.599	20.024	21.579	23.276	25.129	27.152	29.361	31.772	34.405	37.280	40.417	43.842
16	17.258	18.639	20.157	21.825	23.657	25.673	27.888	30.324	33.003	35.950	39.190	42.753	46.672	50.980
17	18.430	20.012	21.762	23.698	25.840	28.213	30.840	33.750	36.974	40.545	44.501	48.884	53.739	59.118
18	19.615	21.412	23.414	25.645	28.132	30.906	33.999	37.450	41.301	45.599	50.396	55.750	61.725	68.394
19	20.811	22.841	25.117	27.671	30.539	33.760	37.379	41.446	46.018	51.159	56.939	63.440	70.749	78.969
20	22.019	24.297	26.870	29.778	33.066	36.786	40.995	45.762	51.160	57.275	64.203	72.052	80.947	91.025
21	23.239	25.783	28.676	31.969	35.719	39.993	44.865	50.423	56.765	64.002	72.265	81.699	92.470	104.768
22	24.472	27.299	30.537	34.248	38.505	43.392	49.006	55.457	62.873	71.403	81.214	92.503	105.491	120.436
23	25.716	28.845	32.453	36.618	41.430	46.996	53.436	60.893	69.532	79.543	91.148	104.603	120.205	138.297
24	26.973	30.422	34.426	39.083	44.502	50.816	58.177	66.765	76.790	88.497	102.174	118.155	136.831	158.659
25	28.243	32.030	36.459	41.646	47.727	54.865	63.249	73.106	84.701	98.347	114.413	133.334	155.620	181.871

Table A5 - Present value interest factors for an annuity due. Formula $\left[\dfrac{1-\frac{1}{(1+i)^n}}{i}\right](1+i)$

Period (n) / per cent (k)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
1	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
2	1.990	1.980	1.971	1.962	1.952	1.943	1.935	1.926	1.917	1.909	1.901	1.893	1.885	1.877	1.870
3	2.970	2.942	2.913	2.886	2.859	2.833	2.808	2.783	2.759	2.736	2.713	2.690	2.668	2.647	2.626
4	3.941	3.884	3.829	3.775	3.723	3.673	3.624	3.577	3.531	3.487	3.444	3.402	3.361	3.322	3.283
5	4.902	4.808	4.717	4.630	4.546	4.465	4.387	4.312	4.240	4.170	4.102	4.037	3.974	3.914	3.855
6	5.853	5.713	5.580	5.452	5.329	5.212	5.100	4.993	4.890	4.791	4.696	4.605	4.517	4.433	4.352
7	6.795	6.601	6.417	6.242	6.076	5.917	5.767	5.623	5.486	5.355	5.231	5.111	4.998	4.889	4.784
8	7.728	7.472	7.230	7.002	6.786	6.582	6.389	6.206	6.033	5.868	5.712	5.564	5.423	5.288	5.160
9	8.652	8.325	8.020	7.733	7.463	7.210	6.971	6.747	6.535	6.335	6.146	5.968	5.799	5.639	5.487
10	9.566	9.162	8.786	8.435	8.108	7.802	7.515	7.247	6.995	6.759	6.537	6.328	6.132	5.946	5.772
11	10.471	9.983	9.530	9.111	8.722	8.360	8.024	7.710	7.418	7.145	6.889	6.650	6.426	6.216	6.019
12	11.368	10.787	10.253	9.760	9.306	8.887	8.499	8.139	7.805	7.495	7.207	6.938	6.687	6.453	6.234
13	12.255	11.575	10.954	10.385	9.863	9.384	8.943	8.536	8.161	7.814	7.492	7.194	6.918	6.660	6.421
14	13.134	12.348	11.635	10.986	10.394	9.853	9.358	8.904	8.487	8.103	7.750	7.424	7.122	6.842	6.583
15	14.004	13.106	12.296	11.563	10.899	10.295	9.745	9.244	8.786	8.367	7.982	7.628	7.302	7.002	6.724
16	14.865	13.849	12.938	12.118	11.380	10.712	10.108	9.559	9.061	8.606	8.191	7.811	7.462	7.142	6.847
17	15.718	14.578	13.561	12.652	11.838	11.106	10.447	9.851	9.313	8.824	8.379	7.974	7.604	7.265	6.954
18	16.562	15.292	14.166	13.166	12.274	11.477	10.763	10.122	9.544	9.022	8.549	8.120	7.729	7.373	7.047
19	17.398	15.992	14.754	13.659	12.690	11.828	11.059	10.372	9.756	9.201	8.702	8.250	7.840	7.467	7.128
20	18.226	16.678	15.324	14.134	13.085	12.158	11.336	10.604	9.950	9.365	8.839	8.366	7.938	7.550	7.198
21	19.046	17.351	15.877	14.590	13.462	12.470	11.594	10.818	10.129	9.514	8.963	8.469	8.025	7.623	7.259
22	19.857	18.011	16.415	15.029	13.821	12.764	11.836	11.017	10.292	9.649	9.075	8.562	8.102	7.687	7.312
23	20.660	18.658	16.937	15.451	14.163	13.042	12.061	11.201	10.442	9.772	9.176	8.645	8.170	7.743	7.359
24	21.456	19.292	17.444	15.857	14.489	13.303	12.272	11.371	10.580	9.883	9.266	8.718	8.230	7.792	7.399
25	22.243	19.914	17.936	16.247	14.799	13.550	12.469	11.529	10.707	9.985	9.348	8.784	8.283	7.835	7.434

Table A6 - Future value interest factors for an annuity due. Formula: $\left[\dfrac{(1+i)^n-1}{i}\right](1+i)$

Period (n) / per cent (k)	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
1	1.010	1.020	1.030	1.040	1.050	1.060	1.070	1.080	1.090	1.100	1.110	1.120	1.130	1.140	1.150
2	2.030	2.060	2.091	2.122	2.153	2.184	2.215	2.246	2.278	2.310	2.342	2.374	2.407	2.440	2.473
3	3.060	3.122	3.184	3.246	3.310	3.375	3.440	3.506	3.573	3.641	3.710	3.779	3.850	3.921	3.993
4	4.101	4.204	4.309	4.416	4.526	4.637	4.751	4.867	4.985	5.105	5.228	5.353	5.480	5.610	5.742
5	5.152	5.308	5.468	5.633	5.802	5.975	6.153	6.336	6.523	6.716	6.913	7.115	7.323	7.536	7.754
6	6.214	6.434	6.662	6.898	7.142	7.394	7.654	7.923	8.200	8.487	8.783	9.089	9.405	9.730	10.067
7	7.286	7.583	7.892	8.214	8.549	8.897	9.260	9.637	10.028	10.436	10.859	11.300	11.757	12.233	12.727
8	8.369	8.755	9.159	9.583	10.027	10.491	10.978	11.488	12.021	12.579	13.164	13.776	14.416	15.085	15.786
9	9.462	9.950	10.464	11.006	11.578	12.181	12.816	13.487	14.193	14.937	15.722	16.549	17.420	18.337	19.304
10	10.567	11.169	11.808	12.486	13.207	13.972	14.784	15.645	16.560	17.531	18.561	19.655	20.814	22.045	23.349
11	11.683	12.412	13.192	14.026	14.917	15.870	16.888	17.977	19.141	20.384	21.713	23.133	24.650	26.271	28.002
12	12.809	13.680	14.618	15.627	16.713	17.882	19.141	20.495	21.953	23.523	25.212	27.029	28.985	31.089	33.352
13	13.947	14.974	16.086	17.292	18.599	20.015	21.550	23.215	25.019	26.975	29.095	31.393	33.883	36.581	39.505
14	15.097	16.293	17.599	19.024	20.579	22.276	24.129	26.152	28.361	30.772	33.405	36.280	39.417	42.842	46.580
15	16.258	17.639	19.157	20.825	22.657	24.673	26.888	29.324	32.003	34.950	38.190	41.753	45.672	49.980	54.717
16	17.430	19.012	20.762	22.698	24.840	27.213	29.840	32.750	35.974	39.545	43.501	47.884	52.739	58.118	64.075
17	18.615	20.412	22.414	24.645	27.132	29.906	32.999	36.450	40.301	44.599	49.396	54.750	60.725	67.394	74.836
18	19.811	21.841	24.117	26.671	29.539	32.760	36.379	40.446	45.018	50.159	55.939	62.440	69.749	77.969	87.212
19	21.019	23.297	25.870	28.778	32.066	35.786	39.995	44.762	50.160	56.275	63.203	71.052	79.947	90.025	101.444
20	22.239	24.783	27.676	30.969	34.719	38.993	43.865	49.423	55.765	63.002	71.265	80.699	91.470	103.768	117.810
21	23.472	26.299	29.537	33.248	37.505	42.392	48.006	54.457	61.873	70.403	80.214	91.503	104.491	119.436	136.632
22	24.716	27.845	31.453	35.618	40.430	45.996	52.436	59.893	68.532	78.543	90.148	103.603	119.205	137.297	158.276
23	25.973	29.422	33.426	38.083	43.502	49.816	57.177	65.765	75.790	87.497	101.174	117.155	135.831	157.659	183.168
24	27.243	31.030	35.459	40.646	46.727	53.865	62.249	72.106	83.701	97.347	113.413	132.334	154.620	180.871	211.793
25	28.526	32.671	37.553	43.312	50.113	58.156	67.676	78.954	92.324	108.182	126.999	149.334	175.850	207.333	244.712