THE OPEN UNIVERSITY OF SRI LANKA
COMMONWEALTH EXECUTIVE MASTER OF BUSINESS/PUBLIC
ADMINISTRATION
FINAL EXAMINATION – DECEMBER 2013
MCP 2610 – CORPERATE FINANCE



DURATION: THREE (03) HOURS

Date: 12.12.2013

Time: 9.30 a.m. - 12.30 p.m.

Key instructions

- This paper consists of seven (07) questions
- Answer five (05) questions only
- Use of non Programmable Calculators are allowed.
- Show your workings clearly
- Start answering a new question on a separate page
- Any assumptions made should be indicated

Question No.1

- a. "The objective of financial management is not to maximize profit but the shareholder's wealth". Discuss.

 (4 marks)
- b. What are the key financial management decisions? Explain.

(8 marks)

c. Discuss what is meant by "Agency Theory" in the context of corporate setting. Your answer should address the relating concepts of agency theory such as agency conflicts, agency cost, goal congruence etc. (8 marks)

(Total 20 Marks)

Question No.2

a. What is time value of money? What are its determinants? Explain

(4 marks)

- b. Assume that you deposited Rs. 250,000 in a bank account today. The bank pays a rate of interest of 12% per annum and you expect to keep the deposit for five (5) years.
 - i. What is the value of your deposit at the end of the fifth (5th) year if the bank compounds interest annually?
 - ii. If the bank compounds interest monthly what is the value of your deposit after five years?
 - iii. With respect to part ii above, what is the effective rate of interest that you would receive from the bank? (6 marks)
- c. Assume you are the financial controller of Alpha PLC. On behalf of your organization you are required to negotiate a bank loan of Rs.5 000,000 from ABC Bank. As per the negotiation with bank's credit officer the agreed terms of the loan are given below.
 - Loan is to be paid in five (5) equal <u>annual</u> installments.
 - Interest rate 20% (fixed)

- i. What factors that ABC Bank would consider when granting the loan to your firm?
- ii. What is the value of the annual loan installment?
- iii. Prepare the loan repayment schedule for the five years.

(10 Marks)

(Total 20 Marks)

Question No.3

- a. You are the financial controller of Shanghi Express Engineers PLC (an overseas company). Your company has bid for a highway construction project in Sri Lanka. As per the terms of the project, <u>after</u> completion of the construction, your company can manage the highway for 10 years enjoying its income. After ten years of management the ownership will be transferred to the government of Sri Lanka. In this regards Sri Lankan government will have to pay Rs.15000mn (Rs.15bn) to your company. Other relevant information is given below.
 - Construction will take three (3) years to complete and during the construction period expected cash <u>outflows</u> are given below.

Year 0	Rs.1000 mn
Year 1	Rs.2500 mn
Year 2	Rs.2500 mn
Year 3	Rs.2000 mn

- Highway will be opened and for operation and public are allowed to use from the forth (4th) year onwards.
- Estimated annual income is Rs.2200 mn
- Annual maintenance expense of the highway has been estimated to Rs.200mn.
- It is assumed that both operating income and expenses will remain constant during the first ten years of operation.
- Cost of capital of the project of Shanghi Express is 20%.

Required

- 1. Estimate the net cash flow of the project (show your figure in million)
- 2. Based on Net Present Value (NPV), give your recommendation for the project.
- 3. What are the other non financial factors that you would consider before making final decision about the project? (12 marks)
- b. Government of Sri Lanka Expects to construct an inland Harbor in the southern province. Initial investment of the project has been estimated to Rs.25000mn. it is expected that the project will generate an annual operating cash inflow of Rs.3300mn. The annual operating expenses of the project (excluding depreciation) have been estimated to be Rs.800 mn. It is expected these operating cash inflows and outflows will remain constant for an indefinite period in the future. Government bond rate is 12.5%.

Required

- 1. What is the project payback period?
- 2. Based on net present value (NPV) method, comment on the financial viability of the harbor. (08 marks)

(Total 20 Marks)

Question No.4

- a. List four (04) alternative sources of capital available for company to finance its long term assets. Rank them by considering their relative cost. (2 marks)
- b. Discuss the merits and demerits of using debt capital over equity. (4 marks)
- c. Cost of Equity of Alpha PLC is 20%. The company can borrow any amount of money at an interest rate of 16%. Corporate tax rate is 40%. Compute the Weighted Average Cost of Capitals (WACC) of Alpha, if debt financing represents 40% of the total capital.

 (2 marks)
- d. Capital structure of Gamma PLC consists of debt and equity capital only. Debt represents 30% of the capital structure and company has raised debt capital by issuing irredeemable debentures that are entitled to receive annual interest at a rate of 18%. Corporate tax rate is 40%.

 Government Treasury bill rate is 8% and market return is 18%. The assets beta factor.

Government Treasury bill rate is 8% and market return is 18%. The assets beta factor applicable of Gamma PLC is 1.8.

You are required to calculate;

The weighted average cost of capital (WACC) of Gamma PLC. (You should show your workings for computation of cost of debt capital and equity capital separately)

(6 marks)

- e. Mega PLC has a target capital structure of 60% equity and balance from debt capital. Company has recently paid a dividend per share of Rs. 2.50 for its equity shares. It is expected this dividend will grow at a constant rate of 6% in the future. Equity shares of the firm are currently traded in the market at Rs. 30/=. All debt capital has been financed at fixed annual interest of 15%. Corporate tax rate is 40%.
 - i. When it comes to consider the cost of debt capital for WACC estimation purpose why it is always adjusted for tax? (2 marks)
 - ii. Estimate the WACC of Mega PLC

(4 marks)

(Total 20 Marks)

Question No.5

- a. What is meant by capital structure? Explain with a suitable example. (4 marks)
- b. Discuss the following capital structure theories
 - i. Net income approach
 - ii. Net operating income approach
 - iii. Traditional theory
 - iv. Modigliani and Miller (M&M) theory

(4x4=16 marks)

(Total 20 Marks)

- a. Combank PLC has issued Rs.1000 debentures redeemable in 10 years at its face value. These debentures are entitled to receive an annual coupon interest at 15%. The remaining time to maturity of debentures is 5 years.
 - a. If the investors required rate of return is 14%, what is the value of the debenture?
 - b. If the economy's average interest rate expects to come down further, how it will affect the market price debenture? (5 marks)
- b. As the financial controller of Mega PLC you purchased 100,000 shares of Buddy PLC at Rs.80/= per share as a short term investment. You received an interim dividend of R.4 and soon after the receipt of dividend you disposed all the shares at Rs.100 each. What is the total return you earned by investing in Buddy PLC? Show the working for dividend yield and capital gain separately. (5 marks)
- c. EPS of Gamma PLC has been Rs.20/= for the prior period of which the company has paid out 80% as dividend. Return on investment of Gamma PLC is 30%. As the financial controller you are in the process of valuing the share price of Gamma PLC. Your company's required rate of return is 26%.
 - i. What is the dividend growth rate of Gamma PLC.
 - ii. Estimate the value of a share of Gamma PLC.

(5 marks)

- d. You are the financial controller of Lanka Venture PLC. You have been advised by the board of directors to make a valuation on Beta PLC for an acquisition purpose. You have been provided following information.
 - Beta has reported an EPS of Rs.15 for the prior period.
 - Beta PLC has been adopted to make 100% dividend payout.
 - Number of ordinary shares of Beta PLC listed in the market 1,000,000.
 - Lanka Ventures required rate of return is 20%.
 - ii. Estimate the value of a share of Beta PLC.
 - iii. What is the value you would recommend your top management to offer in acquiring the Beta PLC? (5 marks)

(Total 20 Marks)

Question No.7

- a. Explain with suitable real life examples what is meant by "ordinary annuity" and "annuity due" (5 marks)
- b. What is meant by dividend yield and capital yield that an investor may expect by investing in shares? (5 marks)
- c. Discuss the advantages of investing funds in the stock market as opposed to investing in real estate such as land and buildings. (5 marks)
- d. You are the financial controller of Mega PLC. You have been requested by the board to analyze the available investment opportunities in the market to invest the firm's surplus funds in the short run. What are the factors you consider when analyzing the alternative investment opportunities? (5 marks)

(Total 20 Marks)

Rights Reserved -

Formula Sheet

Debt to Equity = <u>Fixed Interest Bearing Debt Capital</u>

Total Equity Capital

Earnings Per Share = <u>Profit after Tax – Preferred Dividend</u>

No. of Ordinary Shares issued

Dividend Per Share = Ordinary Dividend Paid

No. of Ordinary Shares issued

Price Earning Ratio = <u>Market Price Per Share</u>

Earnings Per Share

Present value of a single cash flow = $FV \times 1/(1+r)^n$

Future value = $PV \times (1+r)^n$

Present value of a perpetuity/

Zero growth model discount)

P/r

(p - perpetual cash flow, r - rate of

PV of a growing perpetuity/

Gordon' model

 $D_0 (1+g)/(r-g)$

Growth rate = Retention rate x Return on investment

Future value if the interest is

compounded several times per year =

 $PV \times (1 + r/m)^{n \times m}$

Effective interest rate = $(1+r/m)^m - 1$

Present Value of an Annuity =

 $A \left[\frac{1-1/(1+r)^n}{r} \right]$

Future Value of an Annuity =

 $A \overbrace{\frac{(1+r)^n-1}{r}}^{n}$

r = interest rate, n = number of years, m = no. of interest compounding times per year

Cost of equity (CAPM) $K_e = R_f + (R_m - R_f) \times b$

 R_{f} risk free rate, R_{m} = market return, b = beta factor (assets specific risk)

Cost of equity (growth modal) $K_e = [D_0 (1+g) / MP] + 1$ (MP represents current market price)

1% 2% 3% 4% 6% 7% 8% 10% 11% 12% 13% 14% 15% 14% 15% 14% 15% 14% 15% 14% 15% 14% 15% 14% 15% 14%	1% 2% 3% 4% 6% 7% 6% 7% 10% 10% 11% 12% 13% 14% 16% 16% 10% 10% 10% 11% 11% 16% 11%		Future value interest fact	ne	ntere	St ta	ctor of	_ ゅ っ			מס	%	ğ	per period at 1% for n periods,		FVIF(I,n).			
1020 1030 1040 1060 1070 1100 1110 1120 1130 1140 1150 1160 1160 1100 1100 1110 1120 1130 1140 1150 1160 1160 1100 1122 1254 1277 1300 1323 1331 1388 1301 1322 1254 1482 1492 1592 1294 1500 1323 1331 1388 1402 1425 1482 1492 160 150 140 160 1433 140 150 140 150 140 150 140 150 140 150 140 150 140 150 140 150 140 150 140 150 140 150 140 150 140 150 140 150 140 150 140 150 150 150 150 150 150 150 150 150 150 150 150 150 150	1,020 1,030 1,040 1,060 1,050 1,050 1,100 1,110 1,120 1,130 1,140 1,150 1,160 1,160 1,050 1,050 1,050 1,050 1,050 1,050 1,160 <td< th=""><th></th><th>1%</th><th>2%</th><th>3%</th><th>4%</th><th>2%</th><th>%9</th><th>%2</th><th>%8</th><th>%6</th><th>10%</th><th>11%</th><th>12%</th><th>13%</th><th>14%</th><th>15%</th><th>16%</th><th>17%</th></td<>		1%	2%	3%	4%	2%	%9	%2	%8	%6	10%	11%	12%	13%	14%	15%	16%	17%
1.040 1.061 1.082 1.142 1.146 1.166 1.188 1.210 1.224 1.277 1.300 1.323 1.346 1.081 1.082 1.146 1.266 1.381 1.366 1.482 1.267 1.381 1.366 1.381 1.366 1.381 1.362 1.443 1.686 1.482 1.561 1.561 1.482 1.562 1.581 1.361 1.482 1.562 1.361 1.361 1.482 1.582 1.361 1.362 1.482 1.582 1.361 1.362 1.481 1.562 1.882 1.362 1.481 1.582 1.362 1.882 1.383 1.482 1.362 1.3	1,040 1,081 1,082 1,104 1,165 1,166 1,188 1,217 1,232 1,254 1,271 1,285 1,286 1,381 1,388 1,405 1,413 1,414 1,581 1,416 1,581 1,404 1,581 1,404 1,581 1,404 1,581 1,404 1,581 1,592 1,682 1,782 1,689 1,782 1,689 1,782 1,681 1,782 1,682 1,782 1,681 1,782 1,682 1,782 1,782 1,782 1,882 1,494 1,891 1,892 1,484 1,581 1,782 1,892 <td< td=""><td></td><td>1.010</td><td>1.020</td><td>1.030</td><td>1.040</td><td>1.050</td><td>1.060</td><td>1.070</td><td>1.080</td><td>1.090</td><td>1.100</td><td>1.110</td><td>1.120</td><td>1.130</td><td>1.140</td><td>1.150</td><td>1.160</td><td>1.170</td></td<>		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	1.160	1.170
1.061 1.053 1.125 1.156 1.256 1.256 1.256 1.256 1.331 1.368 1.405 1.443 1.482 1.521 1.561 1.084 1.126 1.126 1.126 1.127 1.276 1.341 1.360 1.441 1.518 1.742 1.620 1.630 1.6	1.061 1.083 1.125 1.168 1.191 1.256 1.260 1.331 1.388 1.405 1.443 1.587 1.591 1.591 1.591 1.591 1.592 <td< td=""><td></td><td>1.020</td><td>1.040</td><td>1.061</td><td>1.082</td><td>1.103</td><td>1.124</td><td>1.145</td><td>1.166</td><td>1.188</td><td>1.210</td><td>1.232</td><td>1.254</td><td>1.277</td><td>1.300</td><td>1.323</td><td>1.346</td><td>1.369</td></td<>		1.020	1.040	1.061	1.082	1.103	1.124	1.145	1.166	1.188	1.210	1.232	1.254	1.277	1.300	1.323	1.346	1.369
1.082 1.176 1.262 1311 1360 1.427 1.686 1.762 1.870 1.899 1.772 1.891 1.762 1.892 1.791 1.891 1.792 1.891 1.792 1.892 1.891 1.892 1.892 1.792 1.892 1.792 1.892 1.892 1.892 1.892 1.892 1.892 1.892 1.892 1.892 1.892 1.892 1.892 1.892 2.892 2.172 2.862 2.862 2.893 3.062 3.262 2.802 2.892 2.172 2.862 2.863 2.862 2.863 3.868 1.883 1.884 1.884 1.884 1.884 1.884 1.884 1.884 1.884 2.972 2.884 2.866 2.877 3.004 3.262 2.672 2.869 2.877 3.884 4.888 5.486 3.893 2.877 3.004 3.896 3.878 4.898 5.478 3.893 3.894 4.811 4.891 4.898 5.369 3	1.082 1.170 1.216 1.361 1.360 1.412 1.614 1.685 1.674 1.680 1.749 1.749 1.811 1.104 1.159 1.277 1.380 1.469 1.539 1.611 1.685 1.762 1.842 1.925 2.011 2.100 1.901 1.901 1.902 1.902 1.902 1.902 2.11 2.362 2.602 2.802 2.011 2.100 2.21	_	1.030	1.061	1.093	1.125	1.158	1.191	1.225	1.260	1.295	1.331	1.368	1.405	1.443	1.482	1.521	1.561	1.602
1.104 1.159 1.276 1.338 1.469 1.539 1.611 1.685 1.762 1.842 1.925 2.011 2.100 1.126 1.194 1.266 1.340 1.419 1.561 1.687 1.677 1.772 1.870 1.974 2.082 2.195 2.213 2.436 1.149 1.230 1.340 1.401 1.564 1.764 1.886 1.986 2.076 2.11 2.082 2.869 2.875 3.269 2.875 2.896 2.895 3.266 2.883 3.089 2.772 3.086 2.875 3.086 2.875 3.086 3.286 2.868 2.875 3.089 3.707 4.046 4.411 1.243 1.384 1.480 1.629 1.791 1.867 2.872 2.884 2.896 2.773 3.096 3.256 2.868 3.896 2.772 4.046 4.411 1.258 1.234 1.269 2.772 2.884 3.896 2.772	1.104 1.159 1.277 1.338 1.469 1.539 1.611 1.685 1.762 1.925 2.011 2.100 1.126 1.134 1.256 1.340 1.469 1.539 1.611 1.687 1.762 1.82 1.925 2.195 2.313 2.436 1.149 1.256 1.340 1.419 1.564 1.666 1.744 1.828 1.949 2.714 2.082 2.165 2.393 3.059 2.175 2.486 2.868 2.868 2.868 2.868 2.868 2.868 2.868 2.868 2.868 3.270 4.046 4.411 1.243 1.367 1.696 1.741 1.888 1.999 2.144 2.086 2.476 2.688 2.868 2.863 3.069 3.275 3.004 3.285 3.878 3.896 4.428 4.411 1.248 1.898 2.705 2.992 2.752 2.869 2.823 3.106 3.356 3.259 2.853 3.896		1.041	1.082	1.126	1.170	1.216	1.262	1,311	1.360	1.412	1.464	1.518	1.574	1.630	1.689	1.749	1.811	1.874
1.126 1.194 1.265 1.340 1.419 1.567 1.687 1.677 1.772 1.870 1.974 2.082 2.195 2.131 2.436 1.149 1.250 1.316 1.407 1.694 1.674 1.688 1.774 1.888 1.992 2.174 2.005 2.217 2.060 2.863 3.278 1.195 1.367 1.689 1.787 1.888 1.999 2.172 2.305 2.680 2.863 3.273 1.294 1.384 1.489 1.689 2.105 2.367 2.869 3.773 3.004 3.255 3.695 3.773 3.004 3.267 3.696 3.777 3.004 3.256 3.696 3.777 4.411 1.777 1.888 2.105 2.367 2.689 3.707 4.046 4.411 1.777 3.883 3.395 3.707 4.046 4.667 4.889 5.492 6.896 4.335 4.818 5.305 5.936 4.411 4.411	1.126 1.194 1.265 1.340 1.419 1.5604 1.667 1.677 1.772 1.870 1.974 2.082 2.195 2.313 2.436 1.149 1.230 1.346 1.664 1.666 1.774 1.828 1.949 2.076 2.211 2.352 2.560 2.860 2.826 1.149 1.230 1.376 1.684 1.864 1.869 1.774 1.868 2.773 3.094 3.252 3.678 2.868 2.873 3.094 3.252 3.678 3.806 2.476 2.868 3.806 4.726 4.641 4.411 1.249 1.384 1.689 1.869 2.169 2.169 2.863 3.162 3.707 4.066 4.411 1.249 1.384 1.689 1.869 2.169 2.869 2.879 3.004 3.25 3.618 3.104 3.25 3.618 3.804 4.316 6.869 3.804 4.316 6.869 3.804 4.316		1.051	1.104	1.159	1.217	1.276	1.338	1 403	1.469	1.539	1.611	1.685	1.762	1.842	1.925	2.011	2.100	2.192
1.149 1.230 1.316 1.407 1.504 1.606 1.714 1.828 1.949 2.076 2.211 2.353 2.502 2.660 2.826 1.172 1.267 1.360 1.774 1.584 1.774 1.681 1.983 2.144 2.306 2.476 2.668 2.863 3.059 3.278 1.192 1.364 1.477 1.684 1.778 1.681 2.893 3.106 3.396 3.269 3.273 3.089 3.278 3.693 3.278 3.693 3.707 4.411 1.721 3.882 2.409 2.722 2.893 3.106 3.396 3.707 4.411 1.411 3.893 3.409 3.896 4.335 4.818 5.360 5.936 1.411 1.721 3.883 4.898 5.492 6.147 1.411 1.721 3.883 4.898 5.492 6.153 5.996 1.411 1.411 1.721 3.883 4.898 5.492 6.153 6.147 4.310 </td <td>1.149 1.230 1.316 1.407 1.504 1.606 1774 1.826 1.949 2.076 2.211 2.353 2.502 2.660 2.825 1.172 1.267 1.369 1.774 1.864 1.774 1.869 2.172 2.305 2.476 2.668 2.853 3.059 3.278 1.1219 1.344 1.480 1.629 1.791 2.862 2.863 3.106 3.395 3.707 4.046 4.411 1.243 1.344 1.480 1.629 1.791 2.367 2.469 2.883 3.106 3.395 3.707 4.046 4.411 1.243 1.349 1.659 2.015 2.367 2.663 3.896 4.336 4.886 5.306 3.278 1.268 1.469 1.669 2.172 2.869 2.883 4.366 4.886 4.316 4.411 1.268 1.469 1.665 1.886 2.102 2.252 2.518 2.813</td> <td></td> <td>1.062</td> <td>1.126</td> <td>1.194</td> <td>1.265</td> <td>1.340</td> <td>1.419</td> <td>1.501</td> <td>1.587</td> <td>1.677</td> <td>1.772</td> <td>1.870</td> <td>1.974</td> <td>2.082</td> <td>2.195</td> <td>2.313</td> <td>2.436</td> <td>2.565</td>	1.149 1.230 1.316 1.407 1.504 1.606 1774 1.826 1.949 2.076 2.211 2.353 2.502 2.660 2.825 1.172 1.267 1.369 1.774 1.864 1.774 1.869 2.172 2.305 2.476 2.668 2.853 3.059 3.278 1.1219 1.344 1.480 1.629 1.791 2.862 2.863 3.106 3.395 3.707 4.046 4.411 1.243 1.344 1.480 1.629 1.791 2.367 2.469 2.883 3.106 3.395 3.707 4.046 4.411 1.243 1.349 1.659 2.015 2.367 2.663 3.896 4.336 4.886 5.306 3.278 1.268 1.469 1.669 2.172 2.869 2.883 4.366 4.886 4.316 4.411 1.268 1.469 1.665 1.886 2.102 2.252 2.518 2.813		1.062	1.126	1.194	1.265	1.340	1.419	1.501	1.587	1.677	1.772	1.870	1.974	2.082	2.195	2.313	2.436	2.565
1.172 1.267 1.369 1.477 1.594 1.772 1.267 1.369 1.477 1.983 2.144 2.305 2.476 2.658 2.853 3.059 3.278 3.059 3.277 3.004 3.252 3.518 3.305 1.219 1.344 1.480 1.651 1.689 1.838 1.699 2.172 2.369 2.773 3.004 3.252 3.518 3.395 3.707 4.046 4.411 1.243 1.384 1.539 1.710 1.896 2.162 2.382 2.589 3.106 3.395 3.707 4.046 4.411 1.248 1.384 1.539 1.710 1.896 2.105 2.382 2.589 3.170 3.896 4.335 4.818 5.350 5.936 5.936 1.411 1.411 1.411 1.411 1.411 1.411 1.411 1.411 1.411 1.411 1.411 1.411 1.411 1.411 1.411 1.411 1.411 1.411 1.411 </td <td>1.172 1.267 1.369 1.477 1.594 1.776 1.369 2.476 2.658 2.853 3.059 3.277 3.059 3.253 3.059 3.277 <td< td=""><td></td><td>1.072</td><td>1.149</td><td>1.230</td><td>1.316</td><td>1.407</td><td>1.504</td><td>1.606</td><td>1,714</td><td>1.828</td><td>1.949</td><td>2.076</td><td>2.211</td><td>2.353</td><td>2.502</td><td>2.660</td><td>2.826</td><td>3.001</td></td<></td>	1.172 1.267 1.369 1.477 1.594 1.776 1.369 2.476 2.658 2.853 3.059 3.277 3.059 3.253 3.059 3.277 <td< td=""><td></td><td>1.072</td><td>1.149</td><td>1.230</td><td>1.316</td><td>1.407</td><td>1.504</td><td>1.606</td><td>1,714</td><td>1.828</td><td>1.949</td><td>2.076</td><td>2.211</td><td>2.353</td><td>2.502</td><td>2.660</td><td>2.826</td><td>3.001</td></td<>		1.072	1.149	1.230	1.316	1.407	1.504	1.606	1,714	1.828	1.949	2.076	2.211	2.353	2.502	2.660	2.826	3.001
1.195 1.305 1.423 1.551 1.689 1.838 1.999 2.172 2.358 2.558 2.773 3.004 3.252 3.518 3.803 1.219 1.344 1.480 1.629 1.791 1.967 2.159 2.367 2.594 2.839 3.106 3.395 3.707 4.046 4.411 1.243 1.384 1.539 1.710 1.898 2.105 2.352 2.580 2.853 3.152 3.479 3.836 4.226 4.652 5.117 1.258 1.426 1.601 1.796 2.012 2.252 2.518 2.813 3.138 3.498 3.896 4.336 4.818 5.350 5.936 1.294 1.469 1.665 1.886 2.133 2.410 2.720 3.066 3.452 3.883 4.369 5.492 6.153 6.986 1.319 1.513 1.732 1.980 2.262 2.518 2.972 4.177 4.785 5.474 6.264 7.796 8.137 9.266 1.348 1.348 1.248 1.348 <td>1.195 1.305 1.423 1.561 1.889 1.838 1.999 2.172 2.358 2.558 2.773 3.004 3.252 3.518 3.803 1.219 1.344 1.480 1.629 1.781 1.367 2.159 2.377 2.694 2.839 3.106 3.395 3.707 4.046 4.411 1.243 1.384 1.529 1.771 1.886 2.165 2.352 2.580 2.853 3.162 3.498 3.836 4.226 4.652 5.117 1.254 1.409 1.704 1.896 2.105 2.322 2.580 2.853 3.498 3.836 4.226 4.652 5.117 1.244 1.568 1.665 1.886 2.132 2.410 2.720 3.066 3.452 3.883 4.389 5.492 6.153 6.886 1.346 1.565 1.801 2.079 2.297 2.342 3.797 4.310 4.888 5.492 6.153 6.886 1.346 1.581 1.801 2.079 2.957 2.937 3.342 3.741 4.310 4.887 5.536 6.243 6.748 1.346 1.801 2.079 2.952 2.952</td> <td>-</td> <td>1.083</td> <td>1.172</td> <td>1.267</td> <td>1.369</td> <td>1.477</td> <td>1.594</td> <td>1.718</td> <td>1,851</td> <td>1.993</td> <td>2.144</td> <td>2.305</td> <td>2.476</td> <td>2.658</td> <td>2.853</td> <td>3.059</td> <td>3.278</td> <td>3.511</td>	1.195 1.305 1.423 1.561 1.889 1.838 1.999 2.172 2.358 2.558 2.773 3.004 3.252 3.518 3.803 1.219 1.344 1.480 1.629 1.781 1.367 2.159 2.377 2.694 2.839 3.106 3.395 3.707 4.046 4.411 1.243 1.384 1.529 1.771 1.886 2.165 2.352 2.580 2.853 3.162 3.498 3.836 4.226 4.652 5.117 1.254 1.409 1.704 1.896 2.105 2.322 2.580 2.853 3.498 3.836 4.226 4.652 5.117 1.244 1.568 1.665 1.886 2.132 2.410 2.720 3.066 3.452 3.883 4.389 5.492 6.153 6.886 1.346 1.565 1.801 2.079 2.297 2.342 3.797 4.310 4.888 5.492 6.153 6.886 1.346 1.581 1.801 2.079 2.957 2.937 3.342 3.741 4.310 4.887 5.536 6.243 6.748 1.346 1.801 2.079 2.952 2.952	-	1.083	1.172	1.267	1.369	1.477	1.594	1.718	1,851	1.993	2.144	2.305	2.476	2.658	2.853	3.059	3.278	3.511
1.105 1.244 1.480 1.629 1.791 1.967 2.159 2.397 2.694 2.899 3.106 3.395 3.707 4.046 4.411 1.116 1.243 1.384 1.539 1.710 1.898 2.705 2.367 2.893 3.152 3.479 3.896 4.226 4.652 5.117 1.127 1.268 1.426 1.601 1.796 2.012 2.252 2.518 2.813 3.498 3.896 4.335 4.818 5.350 5.936 1.127 1.268 1.469 1.661 1.796 2.012 2.252 2.518 2.813 3.498 3.896 4.335 4.818 5.360 5.896 5.896 4.316 4.818 5.360 5.896 4.316 4.898 5.492 6.153 6.886 1.986 1.178 1.388 1.383 4.368 5.366 5.316 2.898 4.316 6.886 1.388 1.389 4.898 5.492 6.153 6.158	1.106 1.249 1.344 1.480 1.629 1.791 1.967 2.367 2.594 2.839 3.106 3.396 3.707 4.046 4.4411 1.116 1.243 1.384 1.539 1.710 1.898 2.105 2.352 2.580 2.853 3.152 3.479 3.836 4.226 4.652 5.117 1.127 1.268 1.426 1.601 1.796 2.012 2.252 2.518 2.813 3.498 3.896 4.335 4.818 5.356 5.936 1.138 1.294 1.469 1.665 1.886 2.133 2.410 2.720 3.068 3.452 3.883 4.363 4.888 5.492 6.153 6.886 1.149 1.319 1.512 1.527 1.306 3.452 3.883 4.363 4.888 5.492 6.153 6.886 1.140 1.318 1.529 2.579 2.937 3.426 3.747 6.254 7.738 8.137		1.094	1.195	1.305	1.423	1.551	1.689	1.838	1.999	2.172	2.358	2.558	2.773	3.004	3.252	3.518	3.803	4.108
1.116 1.243 1.384 1.539 1.710 1.898 2.105 2.252 2.518 2.850 2.853 3.152 3.479 3.836 4.226 4.652 5.117 1.127 1.268 1.426 1.601 1.796 2.012 2.252 2.518 2.813 3.498 3.896 4.335 4.818 5.350 5.936 1.138 1.294 1.469 1.665 1.886 2.133 2.410 2.720 3.066 3.452 3.896 4.363 4.818 5.350 6.536 6.886 1.149 1.319 1.513 1.732 1.980 2.261 2.937 3.342 3.797 4.310 4.887 5.536 6.261 7.076 7.988 1.161 1.346 1.558 1.801 2.079 2.937 3.342 3.797 4.310 4.887 5.536 6.261 7.086 8.137 9.266 1.173 1.373 1.605 1.873 2.183 2.540 2.952 3.428 3.970 4.565 5.31 6.044 7.690 9.024	1.116 1.243 1.384 1.539 1.710 1.898 2.705 2.850 2.863 3.152 3.479 3.836 4.226 4.652 5.117 1.127 1.268 1.426 1.601 1.796 2.012 2.252 2.518 2.813 3.498 3.896 4.335 4.818 5.350 5.936 1.138 1.294 1.469 1.665 1.886 2.133 2.410 2.720 3.066 3.452 3.883 4.363 4.898 5.492 6.153 6.886 1.149 1.319 1.513 1.732 1.980 2.261 2.579 2.937 3.797 4.310 4.887 5.535 6.261 7.076 7.988 1.161 1.346 1.563 1.801 2.079 2.997 3.797 4.786 5.896 7.986 9.766 6.264 7.076 7.988 1.173 1.373 1.602 2.893 3.970 4.596 5.311 6.140 7.696	9	1.105	1.219	1.344	1.480	1.629	1.791	1.967	2.159	2.367	2.594	2.839	3.106	3.395	3.707	4.046	4.411	4.807
1.268 1.426 1.601 1.796 2.012 2.252 2.518 2.813 3.498 3.896 4.335 4.818 5.350 5.936 1.294 1.469 1.665 1.886 2.133 2.410 2.720 3.066 3.452 3.883 4.363 4.898 5.492 6.153 6.886 1.319 1.513 1.732 1.980 2.267 2.937 3.342 3.797 4.310 4.887 5.536 6.261 7.076 7.988 1.346 1.558 1.801 2.079 2.937 3.797 4.717 4.785 5.474 6.254 7.076 7.988 1.346 1.568 1.801 2.079 2.952 3.476 3.970 4.777 4.785 5.474 6.254 7.038 8.137 9.266 1.400 1.653 1.948 2.952 2.693 3.750 4.717 5.60 6.844 7.690 9.024 10.761 12.468 1.486 <td< td=""><td>1.127 1.268 1.426 1.601 1.796 2.012 2.252 2.518 2.813 3.498 3.896 4.335 4.818 5.350 5.936 1.138 1.294 1.469 1.665 1.886 2.133 2.410 2.720 3.066 3.452 3.883 4.363 4.898 5.492 6.153 6.886 1.149 1.319 1.513 1.732 1.980 2.261 2.579 2.937 3.342 3.797 4.310 4.887 5.536 6.261 7.076 7.988 1.161 1.346 1.558 1.801 2.079 2.397 2.372 3.642 4.177 4.785 5.474 6.254 7.138 8.137 9.266 1.173 1.373 1.605 1.873 2.692 3.426 3.970 4.596 6.866 7.866 9.276 10.748 1.173 1.373 1.605 1.382 2.540 2.952 3.426 3.970 4.596 6.866 7.866 9.276 10.748 1.184 1.400 1.663 3.870</td></td<> <td>1</td> <td>1.116</td> <td>1.243</td> <td>1.384</td> <td>1.539</td> <td>1.710</td> <td>1.898</td> <td>2.105</td> <td>2.332</td> <td>2.580</td> <td>2.853</td> <td>3.152</td> <td>3.479</td> <td>3.836</td> <td>4.226</td> <td>4.652</td> <td>5.117</td> <td>5.624</td>	1.127 1.268 1.426 1.601 1.796 2.012 2.252 2.518 2.813 3.498 3.896 4.335 4.818 5.350 5.936 1.138 1.294 1.469 1.665 1.886 2.133 2.410 2.720 3.066 3.452 3.883 4.363 4.898 5.492 6.153 6.886 1.149 1.319 1.513 1.732 1.980 2.261 2.579 2.937 3.342 3.797 4.310 4.887 5.536 6.261 7.076 7.988 1.161 1.346 1.558 1.801 2.079 2.397 2.372 3.642 4.177 4.785 5.474 6.254 7.138 8.137 9.266 1.173 1.373 1.605 1.873 2.692 3.426 3.970 4.596 6.866 7.866 9.276 10.748 1.173 1.373 1.605 1.382 2.540 2.952 3.426 3.970 4.596 6.866 7.866 9.276 10.748 1.184 1.400 1.663 3.870	1	1.116	1.243	1.384	1.539	1.710	1.898	2.105	2.332	2.580	2.853	3.152	3.479	3.836	4.226	4.652	5.117	5.624
1.138 1.294 1.469 1.665 1.886 2.133 2.410 2.720 3.066 3.452 3.883 4.363 4.898 5.492 6.153 6.886 1.149 1.319 1.513 1.732 1.980 2.261 2.579 2.937 3.342 3.797 4.310 4.887 5.535 6.261 7.076 7.988 1.161 1.346 1.558 1.801 2.079 2.237 2.759 3.172 3.642 4.177 4.785 5.474 6.254 7.138 8.137 9.266 1.173 1.373 1.605 1.873 2.183 2.540 2.952 3.426 3.70 4.566 5.31 6.130 7.067 8.137 9.266 1.184 1.400 1.653 1.948 2.292 2.693 3.159 3.700 4.328 5.054 5.896 6.866 7.986 9.276 10.761 12.468 1.196 1.428 1.707 2.026 2.407 2.854 3.380 3.996 4.717 5.560 6.544 7.690 9.024 <td>1.138 1.294 1.669 1.686 2.133 2.410 2.720 3.066 3.452 3.883 4.363 4.896 5.492 6.153 6.886 1.149 1.319 1.513 1.722 1.980 2.261 2.579 2.937 3.342 3.797 4.310 4.887 5.536 6.261 7.076 7.988 1.161 1.346 1.568 1.801 2.079 2.397 2.729 3.970 4.310 4.887 5.536 6.261 7.076 7.988 1.173 1.373 1.605 1.873 2.183 2.426 3.970 4.596 6.311 6.130 7.067 8.137 9.368 1.184 1.400 1.653 1.948 2.292 2.693 3.159 3.700 4.328 5.054 7.986 9.276 10.761 12.468 1.196 1.428 1.704 2.854 3.380 3.966 4.717 5.60 9.646 11.523 13.743 16.377</td> <td></td> <td>1.127</td> <td>1.268</td> <td>1.426</td> <td>1.601</td> <td>1.796</td> <td>2.012</td> <td>2.252</td> <td>2.518</td> <td>2.813</td> <td>3.138</td> <td>3.498</td> <td>3.896</td> <td>4.335</td> <td>4.818</td> <td>5.350</td> <td>5.936</td> <td>6.580</td>	1.138 1.294 1.669 1.686 2.133 2.410 2.720 3.066 3.452 3.883 4.363 4.896 5.492 6.153 6.886 1.149 1.319 1.513 1.722 1.980 2.261 2.579 2.937 3.342 3.797 4.310 4.887 5.536 6.261 7.076 7.988 1.161 1.346 1.568 1.801 2.079 2.397 2.729 3.970 4.310 4.887 5.536 6.261 7.076 7.988 1.173 1.373 1.605 1.873 2.183 2.426 3.970 4.596 6.311 6.130 7.067 8.137 9.368 1.184 1.400 1.653 1.948 2.292 2.693 3.159 3.700 4.328 5.054 7.986 9.276 10.761 12.468 1.196 1.428 1.704 2.854 3.380 3.966 4.717 5.60 9.646 11.523 13.743 16.377		1.127	1.268	1.426	1.601	1.796	2.012	2.252	2.518	2.813	3.138	3.498	3.896	4.335	4.818	5.350	5.936	6.580
1.149 1.319 1.513 1.732 1.980 2.261 2.579 2.937 3.342 3.797 4.310 4.887 5.535 6.261 7.076 7.988 1.161 1.346 1.558 1.801 2.079 2.397 2.759 3.172 3.642 4.177 4.785 5.474 6.254 7.138 8.137 9.266 1.173 1.373 1.605 1.873 2.183 2.540 2.952 3.426 3.970 4.595 5.311 6.130 7.067 8.137 9.368 10.748 1.184 1.400 1.653 1.948 2.292 2.693 3.159 3.700 4.328 5.054 5.895 6.866 7.986 9.276 10.761 12.468 1.184 1.400 1.653 1.202 2.693 3.159 3.700 4.328 5.054 5.895 6.866 7.986 9.276 10.761 12.468 1.208 1.457 1.754 6.116 7.263 8.613 10.197 12.056 14.263 16.777 1.220 1.	1.149 1.316 1.513 1.732 1.980 2.261 2.579 2.937 3.342 3.797 4.310 4.887 5.535 6.261 7.076 7.988 1.161 1.346 1.558 1.801 2.079 2.397 2.759 3.172 3.642 4.177 4.785 5.474 6.254 7.138 8.137 9.266 1.173 1.373 1.605 1.873 2.182 3.426 3.970 4.586 5.311 6.130 7.067 8.137 9.266 1.184 1.400 1.653 1.948 2.292 2.693 3.159 3.700 4.328 5.054 5.896 6.866 7.986 9.276 10.761 12.468 1.196 1.428 1.702 2.026 2.407 2.854 3.380 3.996 4.717 5.560 6.544 7.690 9.024 10.576 12.468 1.208 1.436 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 9.646 11.523 13.743 16.367 19.461		1.138	1.294	1.469	1.665	1.886	2.133	2.410	2.720	3.066	3.452	3.883	4.363	4.898	5.492	6.153	6.886	7.699
1.161 1.346 1.568 1.801 2.079 2.397 2.759 3.172 3.642 4.177 4.785 5.474 6.254 7.138 8.137 9.266 1.173 1.373 1.605 1.873 2.183 2.540 2.952 3.426 3.970 4.596 5.311 6.130 7.067 8.137 9.368 10.748 1.184 1.400 1.653 1.948 2.292 2.693 3.159 3.700 4.328 5.054 5.896 6.866 7.986 9.276 10.761 12.468 1.196 1.428 1.702 2.026 2.407 2.854 3.380 3.996 4.717 5.600 6.544 7.690 9.024 10.575 12.375 14.463 1.208 1.457 1.754 2.107 2.527 3.026 3.617 4.316 5.142 6.116 7.263 8.613 10.197 12.056 14.261 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646	1.161 1.346 1.568 1.801 2.079 2.397 2.759 3.172 3.642 4.177 4.785 5.474 6.254 7.138 8.137 9.266 1.173 1.373 1.605 1.873 2.183 2.540 2.952 3.426 3.970 4.596 5.311 6.130 7.067 8.137 9.368 10.748 1.184 1.400 1.653 1.948 2.292 2.693 3.159 3.700 4.328 5.054 5.896 6.866 7.986 9.276 10.761 12.468 1.196 1.428 1.702 2.026 2.407 2.854 3.380 3.996 4.717 5.560 6.544 7.690 9.024 10.576 12.375 14.463 1.208 1.457 1.754 2.107 2.527 3.026 3.617 4.316 5.142 6.116 7.263 8.613 10.197 12.056 14.232 16.777 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 <td< td=""><td></td><td>1.149</td><td>1.319</td><td>1.513</td><td>1.732</td><td>1.980</td><td>2.261</td><td>2.579</td><td>2.937</td><td>3.342</td><td>3.797</td><td>4.310</td><td>4.887</td><td>5.535</td><td>6.261</td><td>7.076</td><td>7.988</td><td>9.007</td></td<>		1.149	1.319	1.513	1.732	1.980	2.261	2.579	2.937	3.342	3.797	4.310	4.887	5.535	6.261	7.076	7.988	9.007
1.173 1.373 1.605 1.873 2.183 2.540 2.952 3.426 3.970 4.595 5.311 6.130 7.067 8.137 9.358 10.748 1.184 1.400 1.653 1.948 2.292 2.693 3.159 3.700 4.328 5.054 5.895 6.866 7.986 9.276 10.761 12.468 1.196 1.428 1.702 2.026 2.407 2.854 3.380 3.996 4.717 5.560 6.544 7.690 9.024 10.575 12.375 14.463 1.208 1.457 1.754 2.107 2.527 3.026 3.617 4.316 5.142 6.116 7.263 8.013 10.197 12.056 14.232 16.777 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646 11.523 13.743 16.367 19.461	1.173 1.373 1.605 1.873 2.183 2.540 2.952 3.426 3.970 4.595 5.311 6.130 7.067 8.137 9.358 10.748 1.184 1.400 1.653 1.948 2.292 2.693 3.159 3.700 4.328 5.054 5.895 6.866 7.986 9.276 10.761 12.468 1.196 1.428 1.702 2.026 2.407 2.854 3.380 3.996 4.717 5.600 6.544 7.690 9.024 10.575 12.376 14.463 1.208 1.457 1.764 2.107 2.653 3.617 4.316 5.142 6.116 7.263 8.613 10.197 12.056 14.232 16.777 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646 11.523 13.743 16.367 19.461		1.161	1.346	1.558	1.801	2.079		2.759		3.642	4.177	4.785	5.474	6.254	7.138	8.137	9.266	10.539
1.184 1.400 1.653 1.948 2.292 2.693 3.159 3.700 4.328 5.054 5.895 6.866 7.986 9.276 10.761 12.468 1.196 1.428 1.702 2.026 2.407 2.854 3.380 3.996 4.717 5.560 6.544 7.690 9.024 10.575 12.375 14.463 1.208 1.457 1.754 2.107 2.527 3.026 3.617 4.316 5.142 6.116 7.263 8.613 10.197 12.056 14.232 16.777 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646 11.523 13.743 16.367 19.461	1.184 1.400 1.653 1.948 2.292 2.693 3.159 3.700 4.328 5.054 5.895 6.866 7.986 9.276 10.761 12.468 1.196 1.428 1.702 2.026 2.407 2.854 3.380 3.996 4.717 5.560 6.544 7.690 9.024 10.575 12.375 14.463 1.208 1.457 1.754 2.107 2.527 3.026 3.617 4.316 5.142 6.116 7.263 8.613 10.197 12.056 14.232 16.777 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646 11.523 13.743 16.367 19.461		1.173	1.373	1.605	1.873	2.183	2.540	2.952	3.426	3.970	4.595	5:311	6.130	7.067	8.137	9.358	10.748	12.330
1.196 1.428 1.702 2.026 2.407 2.854 3.380 3.996 4.717 5.560 6.544 7.690 9.024 10.575 12.375 14.463 1.208 1.457 1.754 2.107 2.527 3.026 3.617 4.316 5.142 6.116 7.263 8.613 10.197 12.056 14.232 16.777 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646 11.523 13.743 16.367 19.461	1.196 1.428 1.702 2.026 2.407 2.854 3.380 3.996 4.717 5.560 6.544 7.690 9.024 10.575 12.375 14.463 1.208 1.457 1.754 2.107 2.527 3.026 3.617 4.316 5.142 6.116 7.263 8.613 10.197 12.056 14.232 16.777 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646 11.523 13.743 16.367 19.461 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646 11.523 13.743 16.367 19.461		1.184	1.400	1.653	1.948	2.292	2.693	3.159	3.700	4.328	5.054	5.895	6.866	7.986	9.276	10.761	12.468	14.426
1.200 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646 11.523 13.743 16.367 19.461 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646 11.523 13.743 16.367 19.461 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646 11.523 13.743 16.367 19.461	1.208 1.457 1.754 2.107 2.527 3.026 3.617 4.316 5.142 6.116 7.263 8.613 10.197 12.056 14.232 16.777 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646 11.523 13.743 16.367 19.461 1.220 1.486 1.806 2.191 2.653 3.207 3.870 4.661 5.604 6.727 8.062 9.646 11.523 13.743 16.367 19.461		1.196	1.428	1.702	2.026	2.407	2.854	3.380	3.996	4.717	5.560	6.544	7.690	9.024	10.575	12.375	14.463	16.879
1,220 1,486 1,806 2,191 2,653 3,207 3,870 4,661 5,604 6,727 8,062 9,646 11,523 13,743 16,367 19,461	1,220 1,486 1,806 2,191 2,653 3,207 3,870 4,661 5,604 6,727 8,062 9,646 11,523 13,743 16,367 19,461		1.208	1.457	1.754	2.107	2.527	3.026	3.617	4.316	5.142	6.116	7.263	8.613	10.197	12.056	14.232	16.777	19.748
			1.220	1.486	1.806	2.191	2.653						8.062	9.646	11.523	13.743	16.367	19.461	23.106
													٠						
																•			

Pres	Present value	/alue	inter	interest factor	ctor	of \$1	per I	period at	d at i	i% for	n pe	n periods	•	PVIF(i,n)	<i>ب</i>			
Period	1%	2%	3%	4%	5%	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%	16%	17%	18%
	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718
ω	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437
თ	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314
œ	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191
	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319	0.286	0.257	0.231	0.208	0.187	0.168	0.152	0.137
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084
16	0.853	0.728	0.623	0.534	0.458	0.394	0.339	0.292	0.252	0.218	0.188	0.163	0.141	0.123	0.107	0.093	0.081	0.071
17	0.844	0.714	0.605	0.513	0.436	0.371	0.317	0.270	0.231	0.198	0.170	0.146	0.125	0.108	0.093	0.080	0.069	0.060
18	0.836	0.700	0.587	0.494	0.416	0.350	0.296	0.250	0.212	0.180	0.153	0.130	0.111	0.095	0.081	0.069	0.059	0.051
19	0.828	0.686	0.570	0.475	0.396	0.331	0.277	0.232	0.194	0.164	0.138	0.116	0.098	0.083	0.070	0.060	0.051	0.043
20	0.820	0.673	0.554	0.456	0.377	0.312	0.258	0.215	0.178	0.149	0.124	0.104	0.087	0.073	0.061	0.051	0.043	0.037
25	0.780	0.610	0.478	0.375	0.295	0.233	0.184	0.146	0.116	0.092	0.074	0.059	0.047	0.038	0.030	0.024	0.020	0.016
30	0.742	0.552	0.412	0.308	0.231	0.174	0.131	0.099	0.075	0.057	0.044	0.033	0.026	0.020	0.015	0.012	0.009	0.007
35	0.706	0.500	0.355	0.253	0.181	0.130	0.094	0.068	0.049	0.036	0.026	0.019	0.014	0.010	0.008	0.006	0.004	0.003
40	0.672	0.453	0.307	0.208	0.142	0.097	0.067	0.046	0.032	0.022	0.015	0.011	0.008	0.005	0.004	0.003	0.002	0.001
50	0.608	0.372	0.228	0.141	0.087	0.054	0.034	0.021	0.013	0.009	0.005	0.003	0.002	0.001	0.001	0.001	0.000	0.000

Period 1	1% 0.990	2% 0.980	3% 0.971	4% 0.962	5% 0.952	6% 0.943	7% 0.935	8% 0.926		9%	9% 10% 0.917 0.909	10% 11% 0.909 0.901	10% 11% 12% 0.909 0.901 0.893	10% 11% 12% 13% 0.909 0.901 0.893 0.885	10% 11% 12% 13% 14% 0.909 0.901 0.893 0.885 0.877	10% 11% 12% 13% 14% 15% 0.909 0.901 0.893 0.885 0.877 0.870	10% 11% 12% 13% 14% 15% 0.909 0.901 0.893 0.885 0.877 0.870
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783		1.759	1.759 1.736	1.736 1.713	1.736 1.713 1.690	1.736 1.713 1.690 1.668	1.736 1.713 1.690 1.668 1.647	1.736 1.713 1.690 1.668 1.647 1.626	1.736 1.713 1.690 1.668 1.647 1.626
ω	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577		2.531	2.531 2.487	2.487 2.444	2.487 2.444 2.402	2.487 2.444 2.402 2.361	2.487 2.444 2.402 2.361 2.322	2.487 2.444 2.402 2.361 2.322 2.283	2.487 2.444 2.402 2.361 2.322 2.283
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312		3.240	3.240 3.170	3.170 3.102	3.170 3.102 3.037	3.170 3.102 3.037 2.974	3.170 3.102 3.037 2.974 2.914	3.170 3.102 3.037 2.974 2.914 2.855	3.170 3.102 3.037 2.974 2.914 2.855
ហ	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993		3.890	25622.05	3 791 3.696	3.791 3.696 3.605	3791 3.696 3.605 3.517	3万91 3.696 3.605 3.517 3.433	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623		4.486	4.486 4.355	4.355 4.231	4.355 4.231 4.111	4.355 4.231 4.111 3.998	4.355 4.231 4.111 3.998 3.889	4.355 4.231 4.111 3.998 3.889 3.784	4.355 4.231 4.111 3.998 3.889 3.784
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206		5.033	5.033 4.868	4.868 4.712	4.868 4.712 4.564	4.868 4.712 4.564 4.423	4.868 4.712 4.564 4.423 4.288	4.868 4.712 4.564 4.423 4.288 4.160	4.868 4.712 4.564 4.423 4.288 4.160
œ	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747		5.535		5.535 5.335 5.146	5.535 5.335 5.146 4.968	5,535 5,335 5,146 4,968 4,799	5.535 5.335 5.146 4.968 4.799 4.639	5.535 5.335 5.146 4.968 4.799 4.639 4.487	5.535 5.335 5.146 4.968 4.799 4.639 4.487
ဖ	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247		5.995		5.995 5.759 5.537	5.995 5.759 5.537 5.328	5.995 5.759 5.537 5.328 5.132	5.995 5.759 5.537 5.328 5.132 4.946	5.995 5.759 5.537 5.328 5.132 4.946 4.772	5.995 5.759 5.537 5.328 5.132 4.946 4.772
6	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710		6.418		6.418 6.145 5.889	6.418 6.145 5.889 5.650	6.418 6.145 5.889 5.650 5.426	6.418 6.145 5.889 5.650 5.426 5.216	6.418 6.145 5.889 5.650 5.426 5.216 5.019	6.418 6.145 5.889 5.650 5.426 5.216 5.019
=	10.368	9.787	9.253	8.760	8.306	7.887	7.499	7.139	•	6.805		6.805 6.495 6.207	6.805 6.495 6.207 5.938	6 80 R 8 8 C R 8 O R 9 R 6 R 7 R 9 R 9 R 6 R 7 R 9 R 9 R 9 R 9 R 9 R 9 R 9 R 9 R 9	6805 6495 6207 5938 5687 5453	6.805 6.495 6.207 5.938 5.687 5.453 5.234	6.805 6.495 6.207 5.938 5.687 5.453 5.234
12	11.255	10.575	9.954	9.385	8.863	8.384	7.943	7.536	٠,		7 161			0.000 0.480 0.207 0.800 0.007	0.000 0.100 0.100 0.000 0.100		
13	12.134	11.348)									7.161 6.814 6.492	7.161 6.814 6.492 6.194	7.161 6.814 6.492 6.194 5.918	7.161 6.814 6.492 6.194 5.918 5.660	7.161 6.814 6.492 6.194 5.918 5.660 5.421	7.161 6.814 6.492 6.194 5.918 5.660 5.421
14	13.004	12.106	10.635	9.986	9.394	8.853	8.358	7.902	_		7.487	7.161 6.814 6.492 7.487 7.103 6.750	7.161 6.814 6.492 6.194 7.487 7.103 6.750 6.424	7.161 6.814 6.492 6.194 5.918 7.487 7.103 6.750 6.424 6.122	7.161 6.814 6.492 6.194 5.918 5.660 7.487 7.103 6.750 6.424 6.122 5.842	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583
5	13.865	12.849	10.635 11.296	9.986 10.563	9.394 9.899	8.853 9.295	8.358 8.745	7.904 8.244			7.487	7.161 6.814 6.492 7.487 7.103 6.750 7.786 7.367 6.982	7.161 6.814 6.492 6.194 7.487 7.103 6.750 6.424 7.786 7.367 6.982 6.628	7.161 6.814 6.492 6.194 5.918 7.487 7.103 6.750 6.424 6.122 7.786 7.367 6.982 6.628 6.302	7.161 6.814 6.492 6.194 5.918 5.660 7.487 7.103 6.750 6.424 6.122 5.842 7.786 7.367 6.982 6.628 6.302 6.002	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724
16	14.718	13.578	10.635 11.296 11.938	9.986 10.563 11.118	9.394 9.899 10.380	8.853 9.295 9.712	8.358 8.745 9.108	7,904 8,244 8,559			7.487 7.786 8.061	7.161 6.814 6.492 7.487 7.103 6.750 7.786 7.367 6.982 8.061 7.606 7.191	7.161 6.814 6.492 6.194 7.487 7.103 6.750 6.424 7.786 7.367 6.982 6.628 8.061 7.606 7.191 6.811	7.161 6.814 6.492 6.194 5.918 7.487 7.103 6.750 6.424 6.122 7.786 7.367 6.982 6.628 6.302 8.061 7.606 7.191 6.811 6.462	7.161 6.814 6.492 6.194 5.918 5.660 7.487 7.103 6.750 6.424 6.122 5.842 7.786 7.367 6.982 6.628 6.302 6.002 8.061 7.606 7.191 6.811 6.462 6.142	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847
17	15.562	14.292	11.296 11.938 12.561	9.986 10.563 11.118 11.652	9.394 9.899 10.380 10.838	8.853 9.295 9.712 10.106	8.358 8.745 9.108 9.447	7.904 8.244 8.559 8.851			7.487 7.786 8.061 8.313	7.161 6.814 6.492 7.487 7.103 6.750 7.786 7.367 6.982 8.061 7.606 7.191 8.313 7.824 7.379	7.161 6.814 6.492 6.194 7.487 7.103 6.750 6.424 7.786 7.367 6.982 6.628 8.061 7.606 7.191 6.811 8.313 7.824 7.379 6.974	7.161 6.814 6.492 6.194 5.918 7.487 7.103 6.750 6.424 6.122 7.786 7.367 6.982 6.628 6.302 8.061 7.606 7.191 6.811 6.462 8.313 7.824 7.379 6.974 6.604	7.161 6.814 6.492 6.194 5.918 5.660 7.487 7.103 6.750 6.424 6.122 5.842 7.786 7.367 6.982 6.628 6.302 6.002 8.061 7.606 7.191 6.811 6.462 6.142 8.313 7.824 7.379 6.974 6.604 6.265	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954
18	16.398		10.635 11.296 11.938 12.561 13.166	9.986 10.563 11.118 11.652 12.166	9.394 9.899 10.380 10.838 11.274	8.853 9.295 9.712 10.106 10.477	8.358 8.745 9.108 9.447 9.763	7,904 8,244 8,559 8,851 9,122			7.487 7.786 8.061 8.313 8.544	7.161 6.814 6.492 7.487 7.103 6.750 7.786 7.367 6.982 8.061 7.606 7.191 8.313 7.824 7.379 8.544 8.022 7.549	7.161 6.814 6.492 6.194 7.487 7.103 6.750 6.424 7.786 7.367 6.982 6.628 8.061 7.606 7.191 6.811 8.313 7.824 7.379 6.974 8.544 8.022 7.549 7.120	7.161 6.814 6.492 6.194 5.918 7.487 7.103 6.750 6.424 6.122 7.786 7.367 6.982 6.628 6.302 8.061 7.606 7.191 6.811 6.462 8.313 7.824 7.379 6.974 6.604 8.544 8.022 7.549 7.120 6.729	7.161 6.814 6.492 6.194 5.918 5.660 7.487 7.103 6.750 6.424 6.122 5.842 7.786 7.367 6.982 6.628 6.302 6.002 8.061 7.606 7.191 6.811 6.462 6.142 8.313 7.824 7.379 6.974 6.604 6.265 8.544 8.022 7.549 7.120 6.729 6.373	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954 8.544 8.022 7.549 7.120 6.729 6.373 6.047	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954 8.544 8.022 7.549 7.120 6.729 6.373 6.047
19	17.226	14.992	10.635 11.296 11.938 12.561 13.166 13.754	9.986 10.563 11.118 11.652 12.166 12.659	9.394 9.899 10.380 10.838 11.274 11.690	8.853 9.295 9.712 10.106 10.477 10.828	8.358 8.745 9.108 9.447 9.763 10.059	7.904 8.244 8.559 8.851 9.122 9.372		7.487 7.786 8.061 8.313 8.544 8.756	la di la	6.814 6.492 7.103 6.750 7.367 6.982 7.606 7.191 7.824 7.379 8.022 7.549 8.201 7.702	6.814 6.492 6.194 7.103 6.750 6.424 7.367 6.982 6.628 7.606 7.191 6.811 7.824 7.379 6.974 8.022 7.549 7.120 8.201 7.702 7.250	6.814 6.492 6.194 5.918 7.103 6.750 6.424 6.122 7.367 6.982 6.628 6.302 7.606 7.191 6.811 6.462 7.824 7.379 6.974 6.604 8.022 7.549 7.120 6.729 8.201 7.702 7.250 6.840	6.814 6.492 6.194 5.918 5.660 7.103 6.750 6.424 6.122 5.842 7.367 6.982 6.628 6.302 6.002 7.606 7.191 6.811 6.462 6.142 7.824 7.379 6.974 6.604 6.265 8.022 7.549 7.120 6.729 6.373 8.201 7.702 7.250 6.840 6.467	6.814 6.492 6.194 5.918 5.660 5.421 7.103 6.750 6.424 6.122 5.842 5.583 7.367 6.982 6.628 6.302 6.002 5.724 7.606 7.191 6.811 6.462 6.142 5.847 7.824 7.379 6.974 6.604 6.265 5.954 8.022 7.549 7.120 6.729 6.373 6.047 8.201 7.702 7.250 6.840 6.467 6.128	6.814 6.492 6.194 5.918 5.660 5.421 7.103 6.750 6.424 6.122 5.842 5.583 7.367 6.982 6.628 6.302 6.002 5.724 7.606 7.191 6.811 6.462 6.142 5.847 7.824 7.379 6.974 6.604 6.265 5.954 8.022 7.549 7.120 6.729 6.373 6.047 8.201 7.702 7.250 6.840 6.467 6.128
20	18.046	14.992 15.678	10.635 11.296 11.938 12.561 13.166 13.754 14.324	9.986 10.563 11.118 11.652 12.166 12.659 13.134	9.394 9.899 10.380 10.838 11.274 11.690 12.085	8.853 9.295 9.712 10.106 10.477 10.828 11.158	8.358 8.745 9.108 9.447 9.763 10.059 10.336	7.904 8.244 8.559 8.851 9.122 9.372 9.604			7.487 7.786 8.061 8.313 8.544 8.756 8.950	7.161 6.814 6.492 7.487 7.103 6.750 7.786 7.367 6.982 8.061 7.606 7.191 8.313 7.824 7.379 8.544 8.022 7.549 8.756 8.201 7.702 8.950 8.365 7.839	7.161 6.814 6.492 6.194 7.487 7.103 6.750 6.424 7.786 7.367 6.982 6.628 8.061 7.606 7.191 6.811 8.313 7.824 7.379 6.974 8.544 8.022 7.549 7.120 8.756 8.201 7.702 7.250 8.950 8.365 7.839 7.366	7.161 6.814 6.492 6.194 5.918 7.163 6.710 6.750 6.424 6.122 7.786 7.367 6.982 6.628 6.302 8.361 7.606 7.191 6.811 6.462 8.313 7.824 7.379 6.974 6.604 8.544 8.022 7.549 7.120 6.729 8.756 8.201 7.702 7.250 6.840 8.950 8.365 7.839 7.366 6.938	7.161 6.814 6.492 6.194 5.918 5.660 7.487 7.103 6.750 6.424 6.122 5.842 7.786 7.367 6.982 6.628 6.302 6.002 8.061 7.606 7.191 6.811 6.462 6.142 8.313 7.824 7.379 6.974 6.604 6.265 8.544 8.022 7.549 7.120 6.729 6.373 8.756 8.201 7.702 7.250 6.840 6.467 8.950 8.365 7.839 7.366 6.938 6.550	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954 8.544 8.022 7.549 7.120 6.729 6.373 6.047 8.756 8.201 7.702 7.250 6.840 6.467 6.128 8.950 8.365 7.839 7.366 6.938 6.550 6.198	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954 8.544 8.022 7.549 7.120 6.729 6.373 6.047 8.756 8.201 7.702 7.250 6.840 6.467 6.128 8.950 8.365 7.839 7.366 6.938 6.550 6.198
25	22.023	14.992 15.678 16.351	10.635 11.296 11.938 12.561 13.166 13.754 14.324 14.877	9.986 10.563 11.118 11.652 12.166 12.659 13.134 13.590	9.394 9.899 10.380 10.838 11.274 11.690 12.085	8.853 9.295 9.712 10.106 10.477 10.828 11.158 11.470	8.358 8.745 9.108 9.447 9.763 10.059 10.336 10.594	7.904 8.244 8.559 8.851 9.122 9.372 9.604 9.818			7.487 7.786 8.061 8.313 8.544 8.756 8.950 9.129	7.161 6.814 6.492 7.487 7.103 6.750 7.786 7.367 6.982 8.061 7.606 7.191 8.313 7.824 7.379 8.544 8.022 7.549 8.756 8.201 7.702 8.950 8.365 7.839 9.129 8.514 7.963	7.161 6.814 6.492 6.194 7.487 7.103 6.750 6.424 7.786 7.367 6.982 6.628 8.061 7.606 7.191 6.811 8.313 7.824 7.379 6.974 8.544 8.022 7.549 7.120 8.756 8.201 7.702 7.250 8.950 8.365 7.839 7.366 9.129 8.514 7.963 7.469	7.161 6.814 6.492 6.194 5.918 7.161 6.814 6.492 6.194 5.918 7.487 7.103 6.750 6.424 6.122 7.786 7.367 6.982 6.628 6.302 8.061 7.606 7.191 6.811 6.462 8.313 7.824 7.379 6.974 6.604 8.544 8.022 7.549 7.120 6.729 8.756 8.201 7.702 7.250 6.840 8.950 8.365 7.839 7.366 6.938 9.129 8.514 7.963 7.469 7.025	7.161 6.814 6.492 6.194 5.918 5.660 7.487 7.103 6.750 6.424 6.122 5.842 7.786 7.367 6.982 6.628 6.302 6.002 8.061 7.606 7.191 6.811 6.462 6.142 8.313 7.824 7.379 6.974 6.604 6.265 8.544 8.022 7.549 7.120 6.729 6.373 8.756 8.201 7.702 7.250 6.840 6.467 8.950 8.365 7.839 7.366 6.938 6.550 9.129 8.514 7.963 7.469 7.025 6.623	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954 8.544 8.022 7.549 7.120 6.729 6.373 6.047 8.756 8.201 7.702 7.250 6.840 6.467 6.128 8.950 8.365 7.839 7.366 6.938 6.550 6.198 9.129 8.514 7.963 7.469 7.025 6.623 6.259	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954 8.544 8.022 7.549 7.120 6.729 6.373 6.047 8.756 8.201 7.702 7.250 6.840 6.467 6.128 8.950 8.365 7.839 7.366 6.938 6.550 6.198 9.129 8.514 7.963 7.469 7.025 6.623 6.259
30	25.808	14.992 15.678 16.351 19.523	10.635 11.296 11.938 12.561 13.166 13.754 14.324 14.324 14.877	9.986 10.563 11.118 11.652 12.166 12.659 13.134 13.652	9.394 9.899 10.380 10.838 11.274 11.690 12.085 12.462 14.094	8.853 9.295 9.712 10.106 10.477 10.828 11.158 11.470 12.783	8.358 8.745 9.108 9.447 9.763 10.059 10.336 10.654	7,904 8,244 8,559 8,851 9,122 9,372 9,372 9,818 10,675	4 4 0 4 6 4 8 10		7.487 7.786 8.061 8.313 8.544 8.756 8.950 9.129 9.823	7.161 6.814 6.492 7.487 7.103 6.750 7.786 7.367 6.982 8.061 7.606 7.191 8.313 7.824 7.379 8.544 8.022 7.549 8.756 8.201 7.702 8.950 8.365 7.839 9.129 8.514 7.963 9.823 9.077 8.422	7.161 6.814 6.492 6.194 7.487 7.103 6.750 6.424 7.786 7.367 6.982 6.628 8.061 7.606 7.191 6.811 8.313 7.824 7.379 6.974 8.544 8.022 7.549 7.120 8.756 8.201 7.702 7.250 8.950 8.365 7.839 7.366 9.129 8.514 7.963 7.469 9.823 9.077 8.422 7.843	7.161 6.814 6.492 6.194 5.918 7.161 6.814 6.492 6.194 5.918 7.487 7.103 6.750 6.424 6.122 7.786 7.367 6.982 6.628 6.302 8.061 7.606 7.191 6.811 6.462 8.313 7.824 7.379 6.974 6.604 8.544 8.022 7.549 7.120 6.729 8.756 8.201 7.702 7.250 6.840 8.950 8.365 7.839 7.366 6.938 9.129 8.514 7.963 7.469 7.025 9.823 9.077 8.422 7.843 7.330	7.161 6.814 6.492 6.194 5.918 5.660 7.487 7.103 6.750 6.424 6.122 5.842 7.786 7.367 6.982 6.628 6.302 6.002 8.061 7.606 7.191 6.811 6.462 6.142 8.313 7.824 7.379 6.974 6.604 6.265 8.544 8.022 7.549 7.120 6.729 6.373 8.756 8.201 7.702 7.250 6.840 6.467 8.950 8.365 7.839 7.366 6.938 6.550 9.129 8.514 7.963 7.469 7.025 6.623 9.823 9.077 8.422 7.843 7.330 6.873	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954 8.544 8.022 7.549 7.120 6.729 6.373 6.047 8.756 8.201 7.702 7.250 6.840 6.467 6.128 8.950 8.365 7.839 7.366 6.938 6.550 6.198 9.129 8.514 7.963 7.469 7.025 6.623 6.259 9.823 9.077 8.422 7.843 7.330 6.873 6.464	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954 8.544 8.022 7.549 7.120 6.729 6.373 6.047 8.756 8.201 7.702 7.250 6.840 6.467 6.128 8.950 8.365 7.839 7.366 6.938 6.550 6.198 9.129 8.514 7.963 7.469 7.025 6.623 6.259 9.823 9.077 8.422 7.843 7.330 6.873 6.464
35	29.409	14.992 15.678 16.351 19.523 22.396	10.635 11.296 11.938 12.561 13.166 13.754 14.324 14.324 14.324 14.324 14.324 14.324 19.600	9.986 10.563 11.118 11.652 12.166 12.659 13.134 13.590 15.622 17.292	9.394 9.899 10.380 10.838 11.274 11.690 12.085 12.462 14.094 15.372	8.853 9.295 9.712 10.106 10.477 10.828 11.158 11.470 12.783 13.765	8.358 8.745 9.108 9.447 9.763 10.059 10.336 10.594 11.654 12.409	7,904 8.244 8.559 8.851 9.122 9.372 9.604 9.818 10.675 11.258	440/40/00		7.487 7.786 8.061 8.313 8.544 8.756 8.950 9.129 9.823 10.274	7.161 6.814 6.492 7.487 7.103 6.750 7.786 7.367 6.982 8.061 7.606 7.191 8.313 7.824 7.379 8.544 8.022 7.549 8.756 8.201 7.702 8.950 8.365 7.839 9.129 8.514 7.963 9.823 9.077 8.422 10.274 9.427 8.694	7.161 6.814 6.492 6.194 7.487 7.103 6.750 6.424 7.786 7.367 6.982 6.628 8.061 7.606 7.191 6.811 8.313 7.824 7.379 6.974 8.544 8.022 7.549 7.120 8.756 8.201 7.702 7.250 8.950 8.365 7.839 7.366 9.129 8.514 7.963 7.469 9.823 9.077 8.422 7.843 10.274 9.427 8.694 8.055	7.161 6.814 6.492 6.194 5.918 7.161 6.814 6.492 6.194 5.918 7.487 7.103 6.750 6.424 6.122 7.786 7.367 6.982 6.628 6.302 8.061 7.606 7.191 6.811 6.462 8.313 7.824 7.379 6.974 6.604 8.544 8.022 7.549 7.120 6.729 8.756 8.201 7.702 7.250 6.840 8.950 8.365 7.839 7.366 6.938 9.129 8.514 7.963 7.469 7.025 9.823 9.077 8.422 7.843 7.330 10.274 9.427 8.694 8.055 7.496	7.161 6.814 6.492 6.194 5.918 5.660 7.487 7.103 6.750 6.424 6.122 5.842 7.786 7.367 6.982 6.628 6.302 6.002 8.061 7.606 7.191 6.811 6.462 6.142 8.313 7.824 7.379 6.974 6.604 6.265 8.544 8.022 7.549 7.120 6.729 6.373 8.756 8.201 7.702 7.250 6.840 6.467 8.950 8.365 7.839 7.366 6.938 6.550 9.129 8.514 7.963 7.469 7.025 6.623 9.823 9.077 8.422 7.843 7.330 6.873 10.274 9.427 8.694 8.055 7.496 7.003	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.964 8.544 8.022 7.549 7.120 6.729 6.373 6.047 8.756 8.201 7.702 7.250 6.840 6.467 6.128 8.950 8.365 7.839 7.366 6.938 6.550 6.198 9.129 8.514 7.963 7.469 7.025 6.623 6.259 9.823 9.077 8.422 7.843 7.330 6.873 6.464 10.274 9.427 8.694 8.055 7.496 7.003 6.566	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954 8.544 8.022 7.549 7.120 6.729 6.373 6.047 8.756 8.201 7.702 7.250 6.840 6.467 6.128 8.950 8.365 7.839 7.366 6.938 6.550 6.198 9.129 8.514 7.963 7.469 7.025 6.623 6.259 9.823 9.077 8.422 7.843 7.330 6.873 6.464 10.274 9.427 8.694 8.055 7.496 7.003 6.566
40	32.835	14.992 15.678 16.351 19.523 22.396 24.999	10.635 11.296 11.938 12.561 13.166 13.754 14.324 14.324 14.324 14.327 17.413 19.600 21.487	9.986 10.563 11.118 11.652 12.166 12.659 13.134 13.590 15.622 17.292 18.665	9.394 9.899 10.380 10.838 111.274 111.690 12.085 12.462 14.094 15.372 16.374	8.853 9.295 9.712 10.106 10.477 10.828 11.158 11.470 12.783 13.765 14.498	8.358 8.745 9.108 9.447 9.763 10.059 10.336 10.594 11.654 12.409 12.948	7,904 8,244 8,559 8,851 9,122 9,372 9,604 9,818 10,675 11,258	440 - 44 0 0 0		7.487 7.786 8.061 8.313 8.544 8.756 8.950 9.129 9.823 10.274 10.567	7.161 6.814 6.492 7.487 7.103 6.750 7.786 7.367 6.982 8.061 7.606 7.191 8.313 7.824 7.379 8.544 8.022 7.549 8.756 8.201 7.702 8.950 8.365 7.839 9.129 8.514 7.963 9.823 9.077 8.422 10.274 9.427 8.694 10.567 9.644 8.855	7.161 6.814 6.492 6.194 7.487 7.103 6.750 6.424 7.786 7.367 6.982 6.628 8.061 7.606 7.191 6.811 8.313 7.824 7.379 6.974 8.544 8.022 7.549 7.120 8.756 8.201 7.702 7.250 8.950 8.365 7.839 7.366 9.129 8.514 7.963 7.469 9.823 9.077 8.422 7.843 10.274 9.427 8.694 8.055 10.567 9.644 8.855 8.176	7.161 6.814 6.492 6.194 5.918 7.161 6.814 6.492 6.194 5.918 7.487 7.103 6.750 6.424 6.122 7.786 7.367 6.982 6.628 6.302 8.361 7.606 7.191 6.811 6.462 8.313 7.824 7.379 6.974 6.604 8.544 8.022 7.549 7.120 6.729 8.756 8.201 7.702 7.250 6.840 8.950 8.365 7.839 7.366 6.938 9.129 8.514 7.963 7.469 7.025 9.823 9.077 8.422 7.843 7.330 10.274 9.427 8.694 8.055 7.496 10.567 9.644 8.855 8.176 7.586	7.161 6.814 6.492 6.194 5.918 5.660 7.487 7.103 6.750 6.424 6.122 5.842 7.786 7.367 6.982 6.628 6.302 6.002 8.061 7.606 7.191 6.811 6.462 6.142 8.313 7.824 7.379 6.974 6.604 6.265 8.544 8.022 7.549 7.120 6.729 6.373 8.756 8.201 7.702 7.250 6.840 6.467 8.950 8.365 7.839 7.366 6.938 6.550 9.129 8.514 7.963 7.469 7.025 6.623 9.823 9.077 8.422 7.843 7.330 6.873 10.274 9.427 8.694 8.055 7.496 7.003 10.567 9.644 8.855 8.176 7.586 7.070	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954 8.544 8.022 7.549 7.120 6.729 6.373 6.047 8.756 8.201 7.702 7.250 6.840 6.467 6.128 8.950 8.365 7.839 7.366 6.938 6.550 6.198 9.129 8.514 7.963 7.469 7.025 6.623 6.259 9.823 9.077 8.422 7.843 7.330 6.873 6.464 10.274 9.427 8.694 8.055 7.496 7.003 6.566 10.567 9.644 8.855 8.176 7.586 7.070 6.617	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954 8.544 8.022 7.549 7.120 6.729 6.373 6.047 8.756 8.201 7.702 7.250 6.840 6.467 6.128 8.950 8.365 7.839 7.366 6.938 6.550 6.198 9.129 8.514 7.963 7.469 7.025 6.623 6.259 9.823 9.077 8.422 7.843 7.330 6.873 6.464 10.274 9.427 8.694 8.055 7.496 7.003 6.566 10.567 9.644 8.855 8.176 7.586 7.070 6.617
2		14.992 15.678 16.351 19.523 22.396 24.999 27.355	10.635 11.296 11.938 12.561 13.166 13.754 14.324 14.324 14.877 17.413 19.600 21.487 23.115	9.986 10.563 11.118 11.652 12.166 12.659 13.134 13.134 13.590 15.622 17.292 18.665 19.793	9.394 9.899 10.380 10.838 11.274 11.690 12.085 12.462 14.094 15.372 16.374 17.159	8.853 9.295 9.712 10.106 10.477 10.828 11.158 11.158 12.783 13.765 14.498 15.046	8.358 8.745 9.108 9.447 9.763 10.059 10.336 10.594 11.654 11.654 12.409 12.948 13.332	7,904 8,244 8,559 8,851 9,122 9,372 9,604 9,818 11,258 11,258	440 20000		7.487 7.786 8.061 8.313 8.544 8.756 8.950 9.129 9.823 10.274 10.567 10.757	7.161 6.814 6.492 7.487 7.103 6.750 7.786 7.367 6.982 8.061 7.606 7.191 8.313 7.824 7.379 8.544 8.022 7.549 8.756 8.201 7.702 8.950 8.365 7.839 9.129 8.514 7.963 9.823 9.077 8.422 10.274 9.427 8.694 10.567 9.644 8.855 10.757 9.779 8.951	7.161 6.814 6.492 6.194 7.487 7.103 6.750 6.424 7.786 7.367 6.982 6.628 8.061 7.606 7.191 6.811 8.313 7.824 7.379 6.974 8.544 8.022 7.549 7.120 8.756 8.201 7.702 7.250 8.950 8.365 7.839 7.366 9.129 8.514 7.963 7.469 9.823 9.077 8.422 7.843 10.274 9.427 8.694 8.055 10.567 9.644 8.855 8.176 10.757 9.779 8.951 8.244	7.161 6.814 6.492 6.194 5.918 7.161 6.814 6.492 6.194 5.918 7.487 7.103 6.750 6.424 6.122 7.786 7.367 6.982 6.628 6.302 8.061 7.606 7.191 6.811 6.462 8.313 7.824 7.379 6.974 6.604 8.544 8.022 7.549 7.120 6.729 8.756 8.201 7.702 7.250 6.840 8.950 8.365 7.839 7.366 6.938 9.129 8.514 7.963 7.469 7.025 9.823 9.077 8.422 7.843 7.330 10.274 9.427 8.694 8.055 7.496 10.567 9.644 8.855 8.176 7.586 10.757 9.779 8.951 8.244 7.634	7.161 6.814 6.492 6.194 5.918 5.660 7.487 7.103 6.750 6.424 6.122 5.842 7.786 7.367 6.982 6.628 6.302 6.002 8.061 7.606 7.191 6.811 6.462 6.142 8.313 7.824 7.379 6.974 6.604 6.265 8.544 8.022 7.549 7.120 6.729 6.373 8.756 8.201 7.702 7.250 6.840 6.467 8.950 8.365 7.839 7.366 6.938 6.550 9.129 8.514 7.963 7.469 7.025 6.623 9.823 9.077 8.422 7.843 7.330 6.873 10.274 9.427 8.694 8.055 7.496 7.003 10.567 9.644 8.855 8.176 7.586 7.070 10.757 9.779 8.951 8.244 7.634 7.105	7.161 6.814 6.492 6.194 5.918 5.660 5.421 7.487 7.103 6.750 6.424 6.122 5.842 5.583 7.786 7.367 6.982 6.628 6.302 6.002 5.724 8.061 7.606 7.191 6.811 6.462 6.142 5.847 8.313 7.824 7.379 6.974 6.604 6.265 5.954 8.544 8.022 7.549 7.120 6.729 6.373 6.047 8.756 8.201 7.702 7.250 6.840 6.467 6.128 8.950 8.365 7.839 7.366 6.938 6.550 6.198 9.129 8.514 7.963 7.469 7.025 6.623 6.259 9.823 9.077 8.422 7.843 7.330 6.873 6.464 10.274 9.427 8.694 8.055 7.496 7.003 6.566 10.567 9.644 8.855 8.176 7.586 7.070 6.617 10.757 9.779 8.951 8.244 7.634 7.105 6.642	7.161 6.814 6.492 6.194 5.918 5.660 7.487 7.103 6.750 6.424 6.122 5.842 7.786 7.367 6.982 6.628 6.302 6.002 8.061 7.606 7.191 6.811 6.462 6.142 8.313 7.824 7.379 6.974 6.604 6.265 8.544 8.022 7.549 7.120 6.729 6.373 8.756 8.201 7.702 7.250 6.840 6.467 8.950 8.365 7.839 7.366 6.938 6.550 9.129 8.514 7.963 7.469 7.025 6.623 9.823 9.077 8.422 7.843 7.330 6.873 10.274 9.427 8.694 8.055 7.496 7.003 10.567 9.644 8.855 8.176 7.586 7.070 10.757 9.779 8.951 8.244 7.634 7.105

	146.63	130.03	115.38	102.44	91.025	80.947	72.052	64.203	57.275	51.160	45.762	40.995	36.786	33.066	29.778	26.870	24.297	22.019	20	-
	123.41	110.28	98.603	88.212			63.440	56.939	51.159	46.018	41.446	37.379	33.760	30.539	27.671	25.117	22.841	20.811	19 6	
	87.068 103.74	/8.9/9 93.406	/1.6/3 84.141	65.075 75.836		53.739 61 725	48.884 55 750	44.501 50 396	40.545 45.599	36.974	33.750 37.450	30.840	28.213	25.840	23.698	21.762	20.012	19.430	18	
	72.939	66.649	60.925	55.717		46.672	42.753	39.190	35.950	33.003	30.324	27.888	25.673	23.657	21.825	20.157	18.639	17.258	16	
	60.965	56.110	51.660	47.580		40.417	37.280	34.405	31.772	29.361	27.152	25.129	23.276	21.579	20.024	18.599	17.293	16.097	15	
	50.818	47.103	43.672	40.505		34.883	32.393	30,095	27.975	26.019	24.215	22.550	21.015	19.599	18.292	17.086	15.974	14.947	14	
	42.219	39.404	36.786	34.352		29.985	28.029	26.212	24.523	22.953	21.495	20.141	18.882	17.713	16.627	15.618	14.680	13.809	13	
	34.931	32.824	30.850	29.002		25.650	24.133	22.713	21.384	20.141	18.977	17.888	16.870	15.917	15.026	14.192	13.412	12.683	12	
	28.755	27.200	25.733		23.045	21.814	20.655	19.561	18.531	17.560	16.645	15.784	14.972	14.207	13.486	12.808	12.169	11.567	_==	
	23.521	22.393	21.321	+		18.420	17.549	16.722	15.937	15.193	14.487	13.816	13.181	12.578	12.006	11.464	10.950	10.462	10	
	19.086	18.285	17.519		16.085	15.416	14.776	14.164	13.579	13.021	12.488	11.978	11.491	11.027	10.583	10.159	9.755	9.369	9	
¥.	15.327	14.773	14.240		13.233	12.757	12.300	11.859	11.436	11.028	10.637	10.260	9.897	9.549	9.214	8.892	8.583	8.286	œ	
	12.142	11.772	11.414	عثنت	10.730	10.405	10.089	9.783	9.487	9.200	8.923	8.654	8.394	8.142	7.898	7.662	7.434	7.214	7	
	9.442	9.207	8.977	8.754	8.536	8.323	8.115	7.913	7.716	7.523	7.336	7.153	6.975	6.802	6.633	6.468	6.308	6.152	6	
	7.154	7.014	6.877		6.610	6.480	6.353	6.228	6.105	5.985	5.867	5.751	5.637	5.526	5.416	5.309	5.204	5.101	5	
	5.215	5.141	5.066		4.921	4.850	4.779	4.710	4.641	4.573	4.506	4.440	4.375	4.310	4.246	4.184	4.122	4.060	4	
	3.572	3.539	3.506		3.440	3.407	3.374	3.342	3.310	3.278	3.246	3.215	3.184	3.153	3.122	3.091	3.060	3.030	ယ	
	2.180	2.170	2.160		2.140	2.130	2.120	2.110	2.100	2.090	2.080	2.070	2.060	2.050	2.040	2.030	2.020	2.010	2	
	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	1.000	1.000		
	18%	17%	16%	15%	14%	13%	12%	11%	10%	9%	8%	7%	6%	5%	4%	3%	2%	1%	Period	
<u></u>									, (E)	FVIFA(i,n).	F					4	-			
		Hods,	n pe	701	i at is	period at 1% for n periods		OT &	nuity	y anı	rdina	an o	or or	it Taci	iteres	Future value interest factor of an ordinary annuity of \$1 per	re va	nını		
		!. } }	5	1 5	- 11:0	,		- - -	1.1				2	1 6	•			1		_