TABLE A.1
Future value of $1 at the end of $t$ periods = $(1 + r)^t$

TABLE A.2
Present value of $1 to be received after $t$ periods = $1/(1 + r)^t$

TABLE A.3
Present value of an annuity of $1 per period for $t$ periods = $[1 - 1/(1 + r)^t]/r$

TABLE A.4
Future value of an annuity of $1 per period for $t$ periods = $[(1 + r)^t - 1]/r$

TABLE A.5
Cumulative normal distribution
### TABLE A.1  Future value of $1 at the end of $t$ periods

<table>
<thead>
<tr>
<th>Period</th>
<th>1%</th>
<th>2%</th>
<th>3%</th>
<th>4%</th>
<th>5%</th>
<th>6%</th>
<th>7%</th>
<th>8%</th>
<th>9%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.0100</td>
<td>1.0200</td>
<td>1.0300</td>
<td>1.0400</td>
<td>1.0500</td>
<td>1.0600</td>
<td>1.0700</td>
<td>1.0800</td>
<td>1.0900</td>
</tr>
<tr>
<td>2</td>
<td>1.0201</td>
<td>1.0404</td>
<td>1.0609</td>
<td>1.0816</td>
<td>1.1025</td>
<td>1.1236</td>
<td>1.1449</td>
<td>1.1664</td>
<td>1.1881</td>
</tr>
<tr>
<td>3</td>
<td>1.0303</td>
<td>1.0612</td>
<td>1.0927</td>
<td>1.1249</td>
<td>1.1576</td>
<td>1.1910</td>
<td>1.2250</td>
<td>1.2597</td>
<td>1.2950</td>
</tr>
<tr>
<td>4</td>
<td>1.0406</td>
<td>1.0824</td>
<td>1.1255</td>
<td>1.1699</td>
<td>1.2155</td>
<td>1.2625</td>
<td>1.3108</td>
<td>1.3605</td>
<td>1.4116</td>
</tr>
<tr>
<td>5</td>
<td>1.0510</td>
<td>1.1041</td>
<td>1.1593</td>
<td>1.2167</td>
<td>1.2763</td>
<td>1.3382</td>
<td>1.4026</td>
<td>1.4693</td>
<td>1.5386</td>
</tr>
<tr>
<td>6</td>
<td>1.0615</td>
<td>1.1262</td>
<td>1.1941</td>
<td>1.2653</td>
<td>1.3401</td>
<td>1.4185</td>
<td>1.5007</td>
<td>1.5869</td>
<td>1.6771</td>
</tr>
<tr>
<td>7</td>
<td>1.0721</td>
<td>1.1487</td>
<td>1.2299</td>
<td>1.3159</td>
<td>1.4071</td>
<td>1.5036</td>
<td>1.6058</td>
<td>1.7138</td>
<td>1.8280</td>
</tr>
<tr>
<td>8</td>
<td>1.0829</td>
<td>1.1717</td>
<td>1.2668</td>
<td>1.3686</td>
<td>1.4775</td>
<td>1.5938</td>
<td>1.7182</td>
<td>1.8509</td>
<td>1.9926</td>
</tr>
<tr>
<td>9</td>
<td>1.0937</td>
<td>1.1951</td>
<td>1.3048</td>
<td>1.4233</td>
<td>1.5513</td>
<td>1.6895</td>
<td>1.8385</td>
<td>1.9990</td>
<td>2.1719</td>
</tr>
<tr>
<td>10</td>
<td>1.1046</td>
<td>1.2190</td>
<td>1.3439</td>
<td>1.4802</td>
<td>1.6289</td>
<td>1.7908</td>
<td>1.9672</td>
<td>2.1589</td>
<td>2.3674</td>
</tr>
<tr>
<td>11</td>
<td>1.1157</td>
<td>1.2434</td>
<td>1.3842</td>
<td>1.5395</td>
<td>1.7103</td>
<td>1.8983</td>
<td>2.1049</td>
<td>2.3316</td>
<td>2.5804</td>
</tr>
<tr>
<td>12</td>
<td>1.1268</td>
<td>1.2682</td>
<td>1.4258</td>
<td>1.6010</td>
<td>1.7959</td>
<td>2.0122</td>
<td>2.2522</td>
<td>2.5182</td>
<td>2.8127</td>
</tr>
<tr>
<td>13</td>
<td>1.1381</td>
<td>1.2936</td>
<td>1.4685</td>
<td>1.6651</td>
<td>1.8856</td>
<td>2.1329</td>
<td>2.4098</td>
<td>2.7196</td>
<td>3.0658</td>
</tr>
<tr>
<td>14</td>
<td>1.1495</td>
<td>1.3195</td>
<td>1.5126</td>
<td>1.7317</td>
<td>1.9799</td>
<td>2.2609</td>
<td>2.5785</td>
<td>2.9372</td>
<td>3.3417</td>
</tr>
<tr>
<td>15</td>
<td>1.1610</td>
<td>1.3459</td>
<td>1.5580</td>
<td>1.8009</td>
<td>2.0789</td>
<td>2.3986</td>
<td>2.7590</td>
<td>3.1722</td>
<td>3.6425</td>
</tr>
<tr>
<td>16</td>
<td>1.1726</td>
<td>1.3728</td>
<td>1.6047</td>
<td>1.8730</td>
<td>2.1829</td>
<td>2.5404</td>
<td>2.9522</td>
<td>3.4259</td>
<td>3.9703</td>
</tr>
<tr>
<td>17</td>
<td>1.1843</td>
<td>1.4002</td>
<td>1.6528</td>
<td>1.9479</td>
<td>2.2920</td>
<td>2.6928</td>
<td>3.1588</td>
<td>3.7000</td>
<td>4.3276</td>
</tr>
<tr>
<td>18</td>
<td>1.1961</td>
<td>1.4282</td>
<td>1.7024</td>
<td>2.0258</td>
<td>2.4066</td>
<td>2.8543</td>
<td>3.3799</td>
<td>3.9960</td>
<td>4.7171</td>
</tr>
<tr>
<td>19</td>
<td>1.2081</td>
<td>1.4568</td>
<td>1.7535</td>
<td>2.1068</td>
<td>2.5270</td>
<td>3.0256</td>
<td>3.6165</td>
<td>4.3157</td>
<td>5.1417</td>
</tr>
<tr>
<td>20</td>
<td>1.2202</td>
<td>1.4859</td>
<td>1.8061</td>
<td>2.1911</td>
<td>2.6533</td>
<td>3.2071</td>
<td>3.8697</td>
<td>4.6610</td>
<td>5.6044</td>
</tr>
<tr>
<td>21</td>
<td>1.2324</td>
<td>1.5157</td>
<td>1.8603</td>
<td>2.2788</td>
<td>2.7860</td>
<td>3.3996</td>
<td>4.1406</td>
<td>5.0338</td>
<td>6.1088</td>
</tr>
<tr>
<td>22</td>
<td>1.2447</td>
<td>1.5460</td>
<td>1.9161</td>
<td>2.3699</td>
<td>2.9253</td>
<td>3.6035</td>
<td>4.4304</td>
<td>5.4365</td>
<td>6.6586</td>
</tr>
<tr>
<td>23</td>
<td>1.2572</td>
<td>1.5769</td>
<td>1.9736</td>
<td>2.4647</td>
<td>3.0715</td>
<td>3.8197</td>
<td>4.7405</td>
<td>5.8715</td>
<td>7.2579</td>
</tr>
<tr>
<td>24</td>
<td>1.2697</td>
<td>1.6084</td>
<td>2.0328</td>
<td>2.5633</td>
<td>3.2251</td>
<td>4.0489</td>
<td>5.0724</td>
<td>6.3412</td>
<td>7.9111</td>
</tr>
<tr>
<td>50</td>
<td>1.6446</td>
<td>2.6916</td>
<td>4.3839</td>
<td>7.1067</td>
<td>11.467</td>
<td>18.420</td>
<td>29.457</td>
<td>46.902</td>
<td>74.358</td>
</tr>
<tr>
<td>60</td>
<td>1.8167</td>
<td>3.2810</td>
<td>5.8916</td>
<td>10.520</td>
<td>18.679</td>
<td>32.988</td>
<td>57.946</td>
<td>101.26</td>
<td>176.03</td>
</tr>
</tbody>
</table>

*continued on next page*
### APPENDIX A  Mathematical Tables

<table>
<thead>
<tr>
<th>10%</th>
<th>12%</th>
<th>14%</th>
<th>15%</th>
<th>16%</th>
<th>18%</th>
<th>20%</th>
<th>24%</th>
<th>28%</th>
<th>32%</th>
<th>36%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1000</td>
<td>1.1200</td>
<td>1.1400</td>
<td>1.1500</td>
<td>1.1600</td>
<td>1.1800</td>
<td>1.2000</td>
<td>1.2400</td>
<td>1.2800</td>
<td>1.3200</td>
<td>1.3600</td>
</tr>
<tr>
<td>1.2100</td>
<td>1.2344</td>
<td>1.2996</td>
<td>1.3225</td>
<td>1.3456</td>
<td>1.3924</td>
<td>1.4400</td>
<td>1.4972</td>
<td>1.5376</td>
<td>1.5776</td>
<td>1.6182</td>
</tr>
<tr>
<td>1.3310</td>
<td>1.4815</td>
<td>1.5209</td>
<td>1.5609</td>
<td>1.6430</td>
<td>1.7280</td>
<td>1.9066</td>
<td>2.0972</td>
<td>2.3000</td>
<td>2.5155</td>
<td>2.8507</td>
</tr>
<tr>
<td>1.4641</td>
<td>1.5735</td>
<td>1.6890</td>
<td>1.7940</td>
<td>1.8984</td>
<td>2.0736</td>
<td>2.3642</td>
<td>2.6844</td>
<td>3.0360</td>
<td>3.4210</td>
<td>3.8500</td>
</tr>
<tr>
<td>1.6105</td>
<td>1.7623</td>
<td>1.9254</td>
<td>2.0114</td>
<td>2.1103</td>
<td>2.2188</td>
<td>2.3936</td>
<td>2.6648</td>
<td>3.0076</td>
<td>3.3388</td>
<td>3.7593</td>
</tr>
<tr>
<td>1.9487</td>
<td>2.2107</td>
<td>2.5023</td>
<td>2.6600</td>
<td>2.8262</td>
<td>3.1855</td>
<td>3.5832</td>
<td>4.077</td>
<td>4.5625</td>
<td>5.0299</td>
<td>5.2899</td>
</tr>
<tr>
<td>6.7275</td>
<td>9.6463</td>
<td>13.7430</td>
<td>16.3670</td>
<td>19.4610</td>
<td>27.3930</td>
<td>38.3380</td>
<td>48.053</td>
<td>60.053</td>
<td>72.053</td>
<td>84.053</td>
</tr>
<tr>
<td>7.4002</td>
<td>10.8040</td>
<td>15.6680</td>
<td>18.8220</td>
<td>22.5740</td>
<td>32.3240</td>
<td>46.0050</td>
<td>59.1520</td>
<td>72.4180</td>
<td>87.260</td>
<td>103.26</td>
</tr>
<tr>
<td>8.1403</td>
<td>12.1000</td>
<td>17.9610</td>
<td>21.6450</td>
<td>26.1860</td>
<td>38.1420</td>
<td>55.2060</td>
<td>71.5700</td>
<td>89.260</td>
<td>108.10</td>
<td>128.010</td>
</tr>
<tr>
<td>8.9543</td>
<td>13.5520</td>
<td>20.3620</td>
<td>24.8910</td>
<td>30.3760</td>
<td>45.0080</td>
<td>66.2470</td>
<td>87.8330</td>
<td>111.78</td>
<td>137.81</td>
<td>168.01</td>
</tr>
<tr>
<td>9.8497</td>
<td>15.1790</td>
<td>23.2120</td>
<td>28.6250</td>
<td>35.2360</td>
<td>53.1090</td>
<td>79.4970</td>
<td>111.78</td>
<td>147.81</td>
<td>188.01</td>
<td>234.01</td>
</tr>
<tr>
<td>10.835</td>
<td>17.0000</td>
<td>26.4620</td>
<td>32.9190</td>
<td>40.8740</td>
<td>62.6690</td>
<td>95.3960</td>
<td>126.54</td>
<td>167.81</td>
<td>218.01</td>
<td>278.01</td>
</tr>
<tr>
<td>11.449</td>
<td>29.9600</td>
<td>50.9500</td>
<td>66.2120</td>
<td>85.8500</td>
<td>143.37</td>
<td>237.38</td>
<td>412.54</td>
<td>665.41</td>
<td>1014.3</td>
<td>1469.4</td>
</tr>
<tr>
<td>45.259</td>
<td>93.0510</td>
<td>188.8800</td>
<td>267.86</td>
<td>378.72</td>
<td>503.38</td>
<td>1469.80</td>
<td>2555.90</td>
<td>4042.7</td>
<td>6652.1</td>
<td>10143.0</td>
</tr>
<tr>
<td>117.39</td>
<td>289.0000</td>
<td>700.23</td>
<td>1087.30</td>
<td>1670.70</td>
<td>3927.40</td>
<td>9100.40</td>
<td>18690.00</td>
<td>12143.0</td>
<td>20143.0</td>
<td>32143.0</td>
</tr>
<tr>
<td>304.48</td>
<td>897.6000</td>
<td>2595.90</td>
<td>4384.00</td>
<td>7370.20</td>
<td>20555.00</td>
<td>56348.00</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

*The factor is greater than 99,999.*
### TABLE A.2

Present value of $1 to be received after \( t \) periods = \( \frac{1}{(1 + r)^t} \)

<table>
<thead>
<tr>
<th>Period</th>
<th>Interest Rate</th>
<th>Interest Rate</th>
<th>Interest Rate</th>
<th>Interest Rate</th>
<th>Interest Rate</th>
<th>Interest Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.9901</td>
<td>0.9804</td>
<td>0.9709</td>
<td>0.9615</td>
<td>0.9524</td>
<td>0.9434</td>
</tr>
<tr>
<td>2</td>
<td>0.9803</td>
<td>0.9612</td>
<td>0.9426</td>
<td>0.9246</td>
<td>0.9070</td>
<td>0.8900</td>
</tr>
<tr>
<td>3</td>
<td>0.9706</td>
<td>0.9423</td>
<td>0.9151</td>
<td>0.8890</td>
<td>0.8638</td>
<td>0.8396</td>
</tr>
<tr>
<td>4</td>
<td>0.9610</td>
<td>0.9238</td>
<td>0.8885</td>
<td>0.8548</td>
<td>0.8227</td>
<td>0.7921</td>
</tr>
<tr>
<td>5</td>
<td>0.9515</td>
<td>0.9057</td>
<td>0.8626</td>
<td>0.8219</td>
<td>0.7835</td>
<td>0.7473</td>
</tr>
<tr>
<td>6</td>
<td>0.9420</td>
<td>0.8880</td>
<td>0.8375</td>
<td>0.8003</td>
<td>0.7638</td>
<td>0.7295</td>
</tr>
<tr>
<td>7</td>
<td>0.9327</td>
<td>0.8706</td>
<td>0.8131</td>
<td>0.7999</td>
<td>0.7717</td>
<td>0.7445</td>
</tr>
<tr>
<td>8</td>
<td>0.9235</td>
<td>0.8535</td>
<td>0.7894</td>
<td>0.7607</td>
<td>0.7326</td>
<td>0.7063</td>
</tr>
<tr>
<td>9</td>
<td>0.9143</td>
<td>0.8368</td>
<td>0.7664</td>
<td>0.7302</td>
<td>0.7030</td>
<td>0.6767</td>
</tr>
<tr>
<td>10</td>
<td>0.9053</td>
<td>0.8203</td>
<td>0.7441</td>
<td>0.7056</td>
<td>0.6784</td>
<td>0.6521</td>
</tr>
<tr>
<td>11</td>
<td>0.8963</td>
<td>0.8043</td>
<td>0.7224</td>
<td>0.6806</td>
<td>0.6533</td>
<td>0.6271</td>
</tr>
<tr>
<td>12</td>
<td>0.8874</td>
<td>0.7885</td>
<td>0.7014</td>
<td>0.6568</td>
<td>0.6291</td>
<td>0.6030</td>
</tr>
<tr>
<td>13</td>
<td>0.8787</td>
<td>0.7730</td>
<td>0.6810</td>
<td>0.6066</td>
<td>0.5793</td>
<td>0.5532</td>
</tr>
<tr>
<td>14</td>
<td>0.8700</td>
<td>0.7579</td>
<td>0.6611</td>
<td>0.5775</td>
<td>0.5505</td>
<td>0.5244</td>
</tr>
<tr>
<td>15</td>
<td>0.8613</td>
<td>0.7430</td>
<td>0.6419</td>
<td>0.5553</td>
<td>0.5285</td>
<td>0.5024</td>
</tr>
<tr>
<td>16</td>
<td>0.8528</td>
<td>0.7284</td>
<td>0.6232</td>
<td>0.5339</td>
<td>0.5055</td>
<td>0.4794</td>
</tr>
<tr>
<td>17</td>
<td>0.8444</td>
<td>0.7142</td>
<td>0.6050</td>
<td>0.5134</td>
<td>0.4825</td>
<td>0.4584</td>
</tr>
<tr>
<td>18</td>
<td>0.8360</td>
<td>0.7002</td>
<td>0.5874</td>
<td>0.4936</td>
<td>0.4656</td>
<td>0.4394</td>
</tr>
<tr>
<td>19</td>
<td>0.8277</td>
<td>0.6864</td>
<td>0.5703</td>
<td>0.4746</td>
<td>0.4476</td>
<td>0.4214</td>
</tr>
<tr>
<td>20</td>
<td>0.8195</td>
<td>0.6730</td>
<td>0.5537</td>
<td>0.4564</td>
<td>0.4257</td>
<td>0.4014</td>
</tr>
<tr>
<td>21</td>
<td>0.8114</td>
<td>0.6598</td>
<td>0.5375</td>
<td>0.4388</td>
<td>0.4059</td>
<td>0.3813</td>
</tr>
<tr>
<td>22</td>
<td>0.8034</td>
<td>0.6468</td>
<td>0.5219</td>
<td>0.4220</td>
<td>0.3801</td>
<td>0.3531</td>
</tr>
<tr>
<td>23</td>
<td>0.7954</td>
<td>0.6342</td>
<td>0.5067</td>
<td>0.4057</td>
<td>0.3492</td>
<td>0.3171</td>
</tr>
<tr>
<td>24</td>
<td>0.7876</td>
<td>0.6217</td>
<td>0.4919</td>
<td>0.3901</td>
<td>0.3162</td>
<td>0.2870</td>
</tr>
<tr>
<td>25</td>
<td>0.7798</td>
<td>0.6095</td>
<td>0.4767</td>
<td>0.3751</td>
<td>0.2933</td>
<td>0.2669</td>
</tr>
<tr>
<td>30</td>
<td>0.7419</td>
<td>0.5521</td>
<td>0.4120</td>
<td>0.3083</td>
<td>0.2314</td>
<td>0.1741</td>
</tr>
<tr>
<td>40</td>
<td>0.6717</td>
<td>0.4529</td>
<td>0.3066</td>
<td>0.2083</td>
<td>0.1420</td>
<td>0.0972</td>
</tr>
<tr>
<td>50</td>
<td>0.6080</td>
<td>0.3715</td>
<td>0.2281</td>
<td>0.1407</td>
<td>0.0872</td>
<td>0.0543</td>
</tr>
</tbody>
</table>

*continued on next page*
<table>
<thead>
<tr>
<th></th>
<th>10%</th>
<th>12%</th>
<th>14%</th>
<th>15%</th>
<th>16%</th>
<th>18%</th>
<th>20%</th>
<th>24%</th>
<th>28%</th>
<th>32%</th>
<th>36%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9091</td>
<td>0.8929</td>
<td>0.8772</td>
<td>0.8696</td>
<td>0.8621</td>
<td>0.8533</td>
<td>0.8065</td>
<td>0.7813</td>
<td>0.7576</td>
<td>0.7353</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.8264</td>
<td>0.7972</td>
<td>0.7695</td>
<td>0.7561</td>
<td>0.7432</td>
<td>0.7182</td>
<td>0.6944</td>
<td>0.6504</td>
<td>0.6104</td>
<td>0.5739</td>
<td>0.5407</td>
<td></td>
</tr>
<tr>
<td>0.7513</td>
<td>0.7118</td>
<td>0.6750</td>
<td>0.6575</td>
<td>0.6407</td>
<td>0.6086</td>
<td>0.5787</td>
<td>0.5245</td>
<td>0.4768</td>
<td>0.4348</td>
<td>0.3975</td>
<td></td>
</tr>
<tr>
<td>0.6830</td>
<td>0.6355</td>
<td>0.5921</td>
<td>0.5718</td>
<td>0.5523</td>
<td>0.5158</td>
<td>0.4823</td>
<td>0.4230</td>
<td>0.3725</td>
<td>0.3294</td>
<td>0.2923</td>
<td></td>
</tr>
<tr>
<td>0.6209</td>
<td>0.5674</td>
<td>0.5194</td>
<td>0.4972</td>
<td>0.4761</td>
<td>0.4371</td>
<td>0.4019</td>
<td>0.3411</td>
<td>0.2910</td>
<td>0.2495</td>
<td>0.2149</td>
<td></td>
</tr>
<tr>
<td>0.5645</td>
<td>0.5066</td>
<td>0.4556</td>
<td>0.4323</td>
<td>0.4104</td>
<td>0.3704</td>
<td>0.3349</td>
<td>0.2751</td>
<td>0.2274</td>
<td>0.1890</td>
<td>0.1580</td>
<td></td>
</tr>
<tr>
<td>0.5132</td>
<td>0.4523</td>
<td>0.3996</td>
<td>0.3759</td>
<td>0.3538</td>
<td>0.3139</td>
<td>0.2791</td>
<td>0.2218</td>
<td>0.1776</td>
<td>0.1432</td>
<td>0.1162</td>
<td></td>
</tr>
<tr>
<td>0.4665</td>
<td>0.4039</td>
<td>0.3506</td>
<td>0.3269</td>
<td>0.3050</td>
<td>0.2660</td>
<td>0.2326</td>
<td>0.1789</td>
<td>0.1388</td>
<td>0.1085</td>
<td>0.0854</td>
<td></td>
</tr>
<tr>
<td>0.4241</td>
<td>0.3606</td>
<td>0.3075</td>
<td>0.2843</td>
<td>0.2630</td>
<td>0.2255</td>
<td>0.1938</td>
<td>0.1443</td>
<td>0.1084</td>
<td>0.0822</td>
<td>0.0628</td>
<td></td>
</tr>
<tr>
<td>0.3855</td>
<td>0.3220</td>
<td>0.2697</td>
<td>0.2472</td>
<td>0.2267</td>
<td>0.1911</td>
<td>0.1615</td>
<td>0.1164</td>
<td>0.0847</td>
<td>0.0623</td>
<td>0.0462</td>
<td></td>
</tr>
<tr>
<td>0.3505</td>
<td>0.2875</td>
<td>0.2366</td>
<td>0.2149</td>
<td>0.1954</td>
<td>0.1619</td>
<td>0.1346</td>
<td>0.0938</td>
<td>0.0662</td>
<td>0.0472</td>
<td>0.0340</td>
<td></td>
</tr>
<tr>
<td>0.3186</td>
<td>0.2567</td>
<td>0.2076</td>
<td>0.1869</td>
<td>0.1685</td>
<td>0.1372</td>
<td>0.1122</td>
<td>0.0757</td>
<td>0.0517</td>
<td>0.0357</td>
<td>0.0250</td>
<td></td>
</tr>
<tr>
<td>0.2897</td>
<td>0.2292</td>
<td>0.1821</td>
<td>0.1625</td>
<td>0.1452</td>
<td>0.1163</td>
<td>0.0935</td>
<td>0.0610</td>
<td>0.0404</td>
<td>0.0271</td>
<td>0.0184</td>
<td></td>
</tr>
<tr>
<td>0.2633</td>
<td>0.2046</td>
<td>0.1597</td>
<td>0.1413</td>
<td>0.1252</td>
<td>0.0985</td>
<td>0.0779</td>
<td>0.0492</td>
<td>0.0316</td>
<td>0.0205</td>
<td>0.0135</td>
<td></td>
</tr>
<tr>
<td>0.2394</td>
<td>0.1827</td>
<td>0.1401</td>
<td>0.1229</td>
<td>0.1079</td>
<td>0.0835</td>
<td>0.0649</td>
<td>0.0407</td>
<td>0.0247</td>
<td>0.0155</td>
<td>0.0099</td>
<td></td>
</tr>
<tr>
<td>0.2176</td>
<td>0.1631</td>
<td>0.1229</td>
<td>0.1069</td>
<td>0.0930</td>
<td>0.0708</td>
<td>0.0541</td>
<td>0.0320</td>
<td>0.0193</td>
<td>0.0118</td>
<td>0.0073</td>
<td></td>
</tr>
<tr>
<td>0.1978</td>
<td>0.1456</td>
<td>0.1078</td>
<td>0.0929</td>
<td>0.0802</td>
<td>0.0600</td>
<td>0.0451</td>
<td>0.0258</td>
<td>0.0150</td>
<td>0.0089</td>
<td>0.0054</td>
<td></td>
</tr>
<tr>
<td>0.1799</td>
<td>0.1300</td>
<td>0.0946</td>
<td>0.0808</td>
<td>0.0691</td>
<td>0.0508</td>
<td>0.0376</td>
<td>0.0208</td>
<td>0.0118</td>
<td>0.0068</td>
<td>0.0039</td>
<td></td>
</tr>
<tr>
<td>0.1635</td>
<td>0.1161</td>
<td>0.0829</td>
<td>0.0703</td>
<td>0.0596</td>
<td>0.0431</td>
<td>0.0313</td>
<td>0.0168</td>
<td>0.0092</td>
<td>0.0051</td>
<td>0.0029</td>
<td></td>
</tr>
<tr>
<td>0.1486</td>
<td>0.1037</td>
<td>0.0728</td>
<td>0.0611</td>
<td>0.0514</td>
<td>0.0365</td>
<td>0.0261</td>
<td>0.0135</td>
<td>0.0072</td>
<td>0.0039</td>
<td>0.0021</td>
<td></td>
</tr>
<tr>
<td>0.1351</td>
<td>0.0926</td>
<td>0.0638</td>
<td>0.0531</td>
<td>0.0443</td>
<td>0.0309</td>
<td>0.0217</td>
<td>0.0109</td>
<td>0.0056</td>
<td>0.0029</td>
<td>0.0016</td>
<td></td>
</tr>
<tr>
<td>0.1228</td>
<td>0.0826</td>
<td>0.0560</td>
<td>0.0462</td>
<td>0.0382</td>
<td>0.0262</td>
<td>0.0181</td>
<td>0.0088</td>
<td>0.0044</td>
<td>0.0022</td>
<td>0.0012</td>
<td></td>
</tr>
<tr>
<td>0.1117</td>
<td>0.0738</td>
<td>0.0491</td>
<td>0.0402</td>
<td>0.0329</td>
<td>0.0222</td>
<td>0.0151</td>
<td>0.0071</td>
<td>0.0034</td>
<td>0.0017</td>
<td>0.0008</td>
<td></td>
</tr>
<tr>
<td>0.1015</td>
<td>0.0659</td>
<td>0.0431</td>
<td>0.0349</td>
<td>0.0284</td>
<td>0.0188</td>
<td>0.0126</td>
<td>0.0057</td>
<td>0.0027</td>
<td>0.0013</td>
<td>0.0006</td>
<td></td>
</tr>
<tr>
<td>0.0923</td>
<td>0.0588</td>
<td>0.0378</td>
<td>0.0304</td>
<td>0.0245</td>
<td>0.0160</td>
<td>0.0105</td>
<td>0.0046</td>
<td>0.0021</td>
<td>0.0010</td>
<td>0.0005</td>
<td></td>
</tr>
<tr>
<td>0.0573</td>
<td>0.0334</td>
<td>0.0196</td>
<td>0.0151</td>
<td>0.0116</td>
<td>0.0070</td>
<td>0.0042</td>
<td>0.0016</td>
<td>0.0006</td>
<td>0.0002</td>
<td>0.0001</td>
<td></td>
</tr>
<tr>
<td>0.0221</td>
<td>0.0107</td>
<td>0.0053</td>
<td>0.0037</td>
<td>0.0026</td>
<td>0.0013</td>
<td>0.0007</td>
<td>0.0002</td>
<td>0.0001</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>0.0085</td>
<td>0.0035</td>
<td>0.0014</td>
<td>0.0009</td>
<td>0.0006</td>
<td>0.0003</td>
<td>0.0001</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

*The factor is zero to four decimal places.*
### TABLE A.3 Present value of an annuity of $1 per period for $t$ periods

The present value of an annuity of $1 per period for $t$ periods is given by the formula:

$$PV = \frac{1}{r} \left( 1 - \frac{1}{(1 + r)^t} \right)$$

<table>
<thead>
<tr>
<th>Number of Periods</th>
<th>Interest Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1%</td>
</tr>
<tr>
<td>1</td>
<td>0.9901</td>
</tr>
<tr>
<td>2</td>
<td>1.9704</td>
</tr>
<tr>
<td>3</td>
<td>2.9410</td>
</tr>
<tr>
<td>6</td>
<td>5.7955</td>
</tr>
<tr>
<td>7</td>
<td>6.7282</td>
</tr>
<tr>
<td>8</td>
<td>7.6517</td>
</tr>
<tr>
<td>40</td>
<td>32.8347</td>
</tr>
</tbody>
</table>

*continued on next page*
<table>
<thead>
<tr>
<th>10%</th>
<th>12%</th>
<th>14%</th>
<th>15%</th>
<th>16%</th>
<th>18%</th>
<th>20%</th>
<th>24%</th>
<th>28%</th>
<th>32%</th>
<th>36%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.9091</td>
<td>0.8929</td>
<td>0.8772</td>
<td>0.8696</td>
<td>0.8621</td>
<td>0.8475</td>
<td>0.8333</td>
<td>0.8065</td>
<td>0.7813</td>
<td>0.7576</td>
<td>0.7353</td>
</tr>
<tr>
<td>1.7355</td>
<td>1.6901</td>
<td>1.6467</td>
<td>1.6052</td>
<td>1.5656</td>
<td>1.5278</td>
<td>1.4568</td>
<td>1.3916</td>
<td>1.3315</td>
<td>1.2760</td>
<td></td>
</tr>
<tr>
<td>2.4869</td>
<td>2.4018</td>
<td>2.3216</td>
<td>2.2832</td>
<td>2.2459</td>
<td>2.1743</td>
<td>2.1065</td>
<td>1.9813</td>
<td>1.8684</td>
<td>1.7663</td>
<td>1.6735</td>
</tr>
<tr>
<td>3.1699</td>
<td>3.0373</td>
<td>2.9137</td>
<td>2.8550</td>
<td>2.7982</td>
<td>2.7443</td>
<td>2.6901</td>
<td>2.6404</td>
<td>2.5947</td>
<td>2.5534</td>
<td>2.5156</td>
</tr>
</tbody>
</table>
**TABLE A.4** Future value of an annuity of $1 per period for \( t \) periods = \([(1 + r)^t - 1]/r$

<table>
<thead>
<tr>
<th>Number of Periods</th>
<th>1%</th>
<th>2%</th>
<th>3%</th>
<th>4%</th>
<th>5%</th>
<th>6%</th>
<th>7%</th>
<th>8%</th>
<th>9%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
</tr>
<tr>
<td>2</td>
<td>2.0100</td>
<td>2.0200</td>
<td>2.0300</td>
<td>2.0400</td>
<td>2.0500</td>
<td>2.0600</td>
<td>2.0700</td>
<td>2.0800</td>
<td>2.0900</td>
</tr>
<tr>
<td>5</td>
<td>5.1010</td>
<td>5.2040</td>
<td>5.3091</td>
<td>5.4163</td>
<td>5.5256</td>
<td>5.6371</td>
<td>5.7507</td>
<td>5.8666</td>
<td>5.9847</td>
</tr>
<tr>
<td>19</td>
<td>20.811</td>
<td>22.841</td>
<td>25.117</td>
<td>27.671</td>
<td>30.539</td>
<td>33.760</td>
<td>37.379</td>
<td>41.446</td>
<td>46.018</td>
</tr>
<tr>
<td>21</td>
<td>23.239</td>
<td>25.783</td>
<td>28.676</td>
<td>31.969</td>
<td>35.719</td>
<td>39.993</td>
<td>44.865</td>
<td>50.423</td>
<td>56.765</td>
</tr>
<tr>
<td>22</td>
<td>24.472</td>
<td>27.299</td>
<td>30.537</td>
<td>34.248</td>
<td>38.505</td>
<td>43.392</td>
<td>49.006</td>
<td>55.457</td>
<td>62.873</td>
</tr>
<tr>
<td>23</td>
<td>25.716</td>
<td>28.845</td>
<td>32.453</td>
<td>36.618</td>
<td>41.430</td>
<td>46.996</td>
<td>53.436</td>
<td>60.893</td>
<td>69.532</td>
</tr>
<tr>
<td>24</td>
<td>26.973</td>
<td>30.422</td>
<td>34.246</td>
<td>39.083</td>
<td>44.502</td>
<td>50.816</td>
<td>58.177</td>
<td>66.765</td>
<td>76.790</td>
</tr>
<tr>
<td>25</td>
<td>28.243</td>
<td>32.030</td>
<td>36.459</td>
<td>41.646</td>
<td>47.727</td>
<td>54.865</td>
<td>63.249</td>
<td>73.106</td>
<td>84.701</td>
</tr>
<tr>
<td>30</td>
<td>34.785</td>
<td>40.568</td>
<td>47.575</td>
<td>56.085</td>
<td>66.439</td>
<td>79.058</td>
<td>94.461</td>
<td>113.28</td>
<td>136.31</td>
</tr>
<tr>
<td>40</td>
<td>48.886</td>
<td>60.402</td>
<td>75.401</td>
<td>95.026</td>
<td>120.80</td>
<td>154.76</td>
<td>199.64</td>
<td>259.06</td>
<td>337.88</td>
</tr>
<tr>
<td>50</td>
<td>64.463</td>
<td>84.579</td>
<td>112.80</td>
<td>152.67</td>
<td>209.35</td>
<td>250.34</td>
<td>306.53</td>
<td>406.53</td>
<td>573.77</td>
</tr>
<tr>
<td>60</td>
<td>81.670</td>
<td>114.05</td>
<td>163.05</td>
<td>237.99</td>
<td>353.58</td>
<td>533.13</td>
<td>813.52</td>
<td>1253.2</td>
<td>1944.8</td>
</tr>
<tr>
<td></td>
<td>10%</td>
<td>12%</td>
<td>14%</td>
<td>15%</td>
<td>16%</td>
<td>18%</td>
<td>20%</td>
<td>24%</td>
<td>28%</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
<td>-------</td>
</tr>
<tr>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
<td>1.0000</td>
</tr>
<tr>
<td>2.1000</td>
<td>2.1200</td>
<td>2.1400</td>
<td>2.1500</td>
<td>2.1600</td>
<td>2.1800</td>
<td>2.2000</td>
<td>2.2400</td>
<td>2.2800</td>
<td>2.3200</td>
</tr>
<tr>
<td>18.531</td>
<td>20.655</td>
<td>23.045</td>
<td>24.349</td>
<td>25.733</td>
<td>28.755</td>
<td>32.150</td>
<td>40.238</td>
<td>50.398</td>
<td>63.122</td>
</tr>
<tr>
<td>24.523</td>
<td>28.029</td>
<td>32.089</td>
<td>34.352</td>
<td>36.786</td>
<td>42.219</td>
<td>48.497</td>
<td>64.110</td>
<td>84.853</td>
<td>112.30</td>
</tr>
<tr>
<td>27.975</td>
<td>32.393</td>
<td>37.581</td>
<td>40.505</td>
<td>43.672</td>
<td>50.818</td>
<td>59.196</td>
<td>80.496</td>
<td>109.61</td>
<td>149.24</td>
</tr>
<tr>
<td>31.772</td>
<td>37.280</td>
<td>43.842</td>
<td>47.580</td>
<td>51.660</td>
<td>60.965</td>
<td>72.035</td>
<td>100.82</td>
<td>141.30</td>
<td>196.00</td>
</tr>
<tr>
<td>35.950</td>
<td>42.753</td>
<td>50.980</td>
<td>55.717</td>
<td>60.925</td>
<td>72.939</td>
<td>87.442</td>
<td>126.01</td>
<td>181.87</td>
<td>262.36</td>
</tr>
<tr>
<td>40.545</td>
<td>48.884</td>
<td>59.118</td>
<td>65.075</td>
<td>71.673</td>
<td>87.086</td>
<td>105.93</td>
<td>157.25</td>
<td>233.79</td>
<td>347.31</td>
</tr>
<tr>
<td>45.599</td>
<td>55.750</td>
<td>68.394</td>
<td>75.836</td>
<td>84.141</td>
<td>103.74</td>
<td>128.12</td>
<td>195.99</td>
<td>300.25</td>
<td>459.45</td>
</tr>
<tr>
<td>51.159</td>
<td>63.440</td>
<td>78.969</td>
<td>88.212</td>
<td>98.603</td>
<td>123.41</td>
<td>154.74</td>
<td>244.03</td>
<td>385.32</td>
<td>607.47</td>
</tr>
<tr>
<td>57.275</td>
<td>72.052</td>
<td>91.025</td>
<td>102.44</td>
<td>115.38</td>
<td>146.63</td>
<td>186.69</td>
<td>303.60</td>
<td>494.21</td>
<td>802.86</td>
</tr>
<tr>
<td>64.002</td>
<td>81.699</td>
<td>104.77</td>
<td>118.81</td>
<td>134.84</td>
<td>174.02</td>
<td>225.03</td>
<td>377.46</td>
<td>633.59</td>
<td>1060.8</td>
</tr>
<tr>
<td>71.403</td>
<td>92.503</td>
<td>120.44</td>
<td>137.63</td>
<td>157.41</td>
<td>206.34</td>
<td>271.03</td>
<td>469.06</td>
<td>812.00</td>
<td>1401.2</td>
</tr>
<tr>
<td>79.543</td>
<td>104.60</td>
<td>138.30</td>
<td>159.28</td>
<td>183.60</td>
<td>244.49</td>
<td>326.24</td>
<td>582.63</td>
<td>1040.4</td>
<td>1850.6</td>
</tr>
<tr>
<td>88.497</td>
<td>118.16</td>
<td>158.66</td>
<td>184.17</td>
<td>213.98</td>
<td>289.49</td>
<td>392.48</td>
<td>723.46</td>
<td>1332.7</td>
<td>2443.8</td>
</tr>
<tr>
<td>98.347</td>
<td>133.33</td>
<td>181.87</td>
<td>212.79</td>
<td>249.21</td>
<td>342.60</td>
<td>471.98</td>
<td>898.09</td>
<td>1706.8</td>
<td>3226.8</td>
</tr>
<tr>
<td>164.49</td>
<td>241.33</td>
<td>356.79</td>
<td>434.75</td>
<td>530.31</td>
<td>790.95</td>
<td>1181.9</td>
<td>2640.9</td>
<td>5873.2</td>
<td>12941.</td>
</tr>
<tr>
<td>442.59</td>
<td>767.09</td>
<td>1342.0</td>
<td>1779.1</td>
<td>2360.8</td>
<td>4163.2</td>
<td>7343.9</td>
<td>22729.</td>
<td>69377.</td>
<td></td>
</tr>
<tr>
<td>1163.9</td>
<td>2400.0</td>
<td>4994.5</td>
<td>7217.7</td>
<td>10436.</td>
<td>21813.</td>
<td>45497.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3043.8</td>
<td>7471.6</td>
<td>18535.</td>
<td>29220.</td>
<td>46058.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The factor is greater than 99,999.*
This table shows the probability of observing a value less than or equal to \( d \). For example, as illustrated, if \( d = -0.24 \), then \( N(d) \) is \( 0.4052 \).
CHAPTER 2
1. The balance sheet identity or equation:
   \[ \text{Assets} = \text{Liabilities} + \text{Shareholders' equity} \] [2.1]
2. The income statement equation:
   \[ \text{Revenues} - \text{Expenses} = \text{Income} \] [2.2]
3. The cash flow identity:
   Cash flow from assets = Cash flow to creditors + Cash flow to stockholders
   where
   a. Cash flow from assets = Operating cash flow (OCF) – Net capital spending – Change in net working capital (NWC)
      (1) Operating cash flow = Earnings before interest and taxes (EBIT) + Depreciation – Taxes
      (2) Net capital spending = Ending net fixed assets – Beginning net fixed assets + Depreciation
      (3) Change in net working capital = Ending NWC – Beginning NWC
   b. Cash flow to creditors = Interest paid – Net new borrowing
   c. Cash flow to stockholders = Dividends paid – Net new equity raised

CHAPTER 3
1. The current ratio:
   \[ \text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}} \] [3.1]
2. The quick or acid-test ratio:
   \[ \text{Quick ratio} = \frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}} \] [3.2]
3. The cash ratio:
   \[ \text{Cash ratio} = \frac{\text{Cash}}{\text{Current liabilities}} \] [3.3]
4. The ratio of net working capital to total assets:
   \[ \frac{\text{Net working capital}}{\text{Total assets}} \] [3.4]
5. The interval measure:
   \[ \text{Interval measure} = \frac{\text{Current assets}}{\text{Average daily operating costs}} \] [3.5]
6. The total debt ratio:
   \[ \text{Total debt ratio} = \frac{\text{Total assets} - \text{Total equity}}{\text{Total assets}} \] [3.6]
7. The debt-equity ratio:
   \[ \text{Debt-equity ratio} = \frac{\text{Total debt}}{\text{Total equity}} \] [3.7]
8. The equity multiplier:
   \[ \text{Equity multiplier} = \frac{\text{Total assets}}{\text{Total equity}} \] [3.8]
9. The long-term debt ratio:
   \[ \text{Long-term debt ratio} = \frac{\text{Long-term debt}}{\text{Total equity}} \] [3.9]
10. The times interest earned (TIE) ratio:
    \[ \text{TIE ratio} = \frac{\text{EBIT}}{\text{Interest}} \] [3.10]
11. The cash coverage ratio:
    \[ \text{Cash coverage ratio} = \frac{\text{EBIT} + \text{Depreciation}}{\text{Interest}} \] [3.11]
12. The inventory turnover ratio:
    \[ \text{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Inventory}} \] [3.12]
13. The average days’ sales in inventory:
    \[ \text{Days' sales in inventory} = \frac{\text{365 days}}{\text{Inventory turnover}} \] [3.13]
14. The receivables turnover ratio:
    \[ \text{Receivables turnover} = \frac{\text{Sales}}{\text{Accounts receivable}} \] [3.14]
15. The days' sales in receivables:
   
   \[ \text{Days' sales in receivables} = \frac{365}{\text{Receivables turnover}} \]

16. The net working capital (NWC) turnover ratio:
   
   \[ \text{NWC turnover} = \frac{\text{Sales}}{\text{NWC}} \]

17. The fixed asset turnover ratio:
   
   \[ \text{Fixed asset turnover} = \frac{\text{Sales}}{\text{Net fixed assets}} \]

18. The total asset turnover ratio:
   
   \[ \text{Total asset turnover} = \frac{\text{Sales}}{\text{Total assets}} \]

19. Profit margin:
   
   \[ \text{Profit margin} = \frac{\text{Net income}}{\text{Sales}} \]

20. Return on assets (ROA):
   
   \[ \text{Return on assets} = \frac{\text{Net income}}{\text{Total assets}} \]

21. Return on equity (ROE):
   
   \[ \text{Return on equity} = \frac{\text{Net income}}{\text{Total equity}} \]

22. The price-earnings (PE) ratio:
   
   \[ \text{PE ratio} = \frac{\text{Price per share}}{\text{Earnings per share}} \]

23. The market-to-book ratio:
   
   \[ \text{Market-to-book ratio} = \frac{\text{Market value per share}}{\text{Book value per share}} \]

24. The Du Pont identity:
   
   \[ \text{ROE} = \frac{\text{Net income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}} \times \frac{\text{Return on assets}}{\text{ROE}} \]

   \[ \text{ROE} = \text{Profit margin} \times \frac{\text{Total asset turnover}}{\times \text{Equity multiplier}} \]

**CHAPTER 4**

1. The dividend payout ratio:
   \[ \text{Dividend payout ratio} = \frac{\text{Cash dividends}}{\text{Net income}} \]

2. The internal growth rate:
   \[ \text{Internal growth rate} = \frac{\text{ROA} \times b}{1 - \text{ROA} \times b} \]

3. The sustainable growth rate:
   \[ \text{Sustainable growth rate} = \frac{\text{ROE} \times b}{1 - \text{ROE} \times b} \]

4. The capital intensity ratio:
   \[ \text{Capital intensity ratio} = \frac{\text{Total assets}}{\text{Sales}} \]

\[ \frac{1}{\text{Total asset turnover}} \]

**CHAPTER 5**

1. The future value of $1 invested for \( t \) periods at rate of \( r \) per period:
   \[ \text{Future value} = \$1 \times (1 + r)^t \]

2. The present value of $1 to be received \( t \) periods in the future at a discount rate of \( r \):
   \[ \text{PV} = \$1 \times \frac{1}{(1 + r)^t} = \frac{1}{(1 + r)^t} \]

3. The relationship between future value and present value (the basic present value equation):
   \[ \text{PV} \times (1 + r)^t = \text{FV} \]
   \[ \text{PV} = \frac{\text{FV}}{(1 + r)^t} = \text{FV} \times (1/(1 + r)^t) \]

**CHAPTER 6**

1. The present value of an annuity of \( C \) dollars per period for \( t \) periods when the rate of return or interest rate is \( r \):
   \[ \text{A annuity present value} = \text{C} \times \frac{\left(1 - \text{Present value factor}\right)}{r} \]
   \[ = \text{C} \times \left\{1 - \left[\frac{1}{(1 + r)^t}\right]\right\} \]

2. The future value factor for an annuity:
   \[ \text{A annuity FV factor} = \left[\frac{(\text{Future value factor} - 1)}{r}\right] \]
   \[ = \frac{[(1 + r)^t - 1]}{r} \]

3. A annuity due value = Ordinary annuity value \times (1 + r)

4. Present value for a perpetuity:
   \[ \text{PV for a perpetuity} = \frac{\text{C/r}}{1} \]

5. Effective annual rate (EAR), where \( m \) is the number of times the interest is compounded during the year:
   \[ \text{EAR} = \left[\frac{1 + \text{Quoted rate/m}}{m}\right] - 1 \]

6. Effective annual rate (EAR), where \( q \) stands for the continuously compounded quoted rate:
   \[ \text{EAR} = e^q - 1 \]

**CHAPTER 7**

1. Bond value if bond has (1) a face value of \( F \) paid at maturity, (2) a coupon of \( C \) paid per period, (3) \( t \) periods to maturity, and (4) a yield of \( r \) per period:
   \[ \text{Bond value} = \text{C} \times \left\{1 - \frac{1}{(1 + r)^t}\right\}/r + \frac{F}{(1 + r)^t} \]

2. Bond value
   \[ = \frac{\text{Present value of the coupons} + \text{Present value of the face amount}}{\text{of the coupons}} \]

3. Bond value
   \[ = \frac{\text{Present value}}{\text{of the face amount}} \]
2. The Fisher effect:
\[
1 + r = (1 + R) \times (1 + h)
\]
\[
R = r + h + r \times h
\]
\[
R \approx r + h
\]

**CHAPTER 8**

1. The dividend growth model:
\[
P_o = \frac{D_o \times (1 + g)}{R - g} = \frac{D_1}{R - g}
\]
2. Required return:
\[
R = D_1/P_0 + g
\]

**CHAPTER 9**

1. Net present value (NPV):
\[
NPV = \text{Present value of future cash flows} - \text{Investment cost}
\]
2. Payback period:
\[
\text{Payback period} = \text{Number of years that pass before the sum of an investment's cash flows equals the cost of the investment}
\]
3. Discounted payback period:
\[
\text{Discounted payback period} = \text{Number of years that pass before the sum of an investment's discounted cash flows equals the cost of the investment}
\]
4. The average accounting return (AAR):
\[
\text{AAR} = \frac{\text{Average net income}}{\text{Average book value}}
\]
5. Internal rate of return (IRR):
\[
\text{IRR} = \text{Discount rate of required return such that the net present value of an investment is zero}
\]
6. Profitability index:
\[
\text{Profitability index} = \frac{\text{PV of cash flows}}{\text{Cost of investment}}
\]

**CHAPTER 10**

1. Bottom-up approach to operating cash flows (OCF):
\[
\text{OCF} = \text{Net income} + \text{Depreciation}
\]
2. Top-down approach to operating cash flows (OCF):
\[
\text{OCF} = \text{Sales} - \text{Costs} - \text{Taxes}
\]
3. Tax shield approach to operating cash flows (OCF):
\[
\text{OCF} = (\text{Sales} - \text{Costs}) \times (1 - T) + \text{Depreciation} \times T
\]

**CHAPTER 11**

1. Accounting break-even level:
\[
Q = \frac{(FC + D)}{(P - v)}
\]
2. Relationship between operating cash flow (OCF) and sales volume:
\[
Q = \frac{(FC + OCF)}{(P - v)}
\]

**CHAPTER 12**

1. Variance of returns, \( \text{Var}(R) \) or \( \sigma^2 \):
\[
\text{Var}(R) = \frac{1}{T-1} \left[ E(R_T) - \bar{R} \right]^2 + \cdots + \left( R_T - \bar{R} \right)^2
\]
2. Standard deviation of returns, \( \text{SD}(R) \) or \( \sigma \):
\[
\text{SD}(R) = \sqrt{\text{Var}(R)}
\]

**CHAPTER 13**

1. Risk premium:
\[
\text{Risk premium} = \frac{\text{Expected return} - \text{Risk-free rate}}{\beta}
\]
2. Expected return on a portfolio:
\[
E(R_p) = x_1 \times E(R_1) + x_2 \times E(R_2) + \cdots + x_n \times E(R_n)
\]
3. The reward-to-risk ratio:
\[
\text{Reward-to-risk ratio} = \frac{E[R_p] - R_f}{\beta}
\]
4. The capital asset pricing model (CAPM):
\[
E(R_p) = R_f + [E(R_m) - R_f] \times \beta
\]

**CHAPTER 14**

1. Value of a call option at maturity:
   a. \( C_1 = 0 \) if \( S_2 - E \leq 0 \)
   b. \( C_1 = S_2 - E \) if \( S_2 - E > 0 \)
2. Bounds on the value of a call option:
   a. Upper bound:
\[
C_0 \leq S_0
\]
   b. Lower bound:
\[
C_0 \geq 0 \text{ if } S_2 - E < 0 \\
C_0 \geq S_0 - E \text{ if } S_2 - E \geq 0
\]
3. Value of a call option at maturity:
\[
C_0 = \frac{S_0 - S_2}{1 + R_f}
\]
\[
C_0 = S_0 - E/(1 + R_f)
\]
4. Value of a call that is certain to finish in-the-money:
   \[ C_0 = S_0 - E/(1 + R_i)^t \]
   \[ \text{Call option value} \]
   \[ \text{Stock value} \]
   \[ \text{Present value of the exercise price} \]

CHAPTER 15
1. Required return on equity, \( R_e \) (dividend growth model):
   \[ R_e = \frac{D_0}{P_0} + g \]
2. Required return on equity, \( R_e \) (CAPM):
   \[ R_e = R_f + \beta_e \times (R_M - R_f) \]
3. Required return on preferred stock, \( R_p \):
   \[ R_p = \frac{D}{P_0} \]
4. The weighted average cost of capital (WACC):
   \[ \text{WACC} = \left( \frac{E}{V} \right) \times R_e + \left( \frac{D}{V} \right) \times R_p \]
5. Weighted average flotation cost, \( f_s \):
   \[ f_s = \frac{F}{V} \times f_s + \frac{D}{V} \times f_d \]

CHAPTER 16
1. Rights offerings:
   a. Number of new shares:
      \[ \frac{\text{Number of new shares}}{\text{Subscription price}} = \frac{\text{Funds to be raised}}{\text{Number of rights needed}} \]
      \[ \frac{\text{Number of rights needed to buy a share of stock}}{\text{Old shares}} = \frac{\text{New shares}}{\text{Ex-rights price}} \]
   b. Number of rights needed:
      \[ \frac{\text{Number of rights needed to buy a share of stock}}{\text{Old shares}} = \frac{\text{New shares}}{\text{Ex-rights price}} \]
   c. Value of a right:
      \[ \text{Value of a right} = \text{Rights-on price} - \text{Ex-rights price} \]

CHAPTER 17
1. Modigliani–Miller Propositions (no taxes):
   a. Proposition I:
      \[ V_i = V_o \]
   b. Proposition II:
      \[ R_i = R_a + (R_a - R_d) \times (D/E) \]
2. Modigliani–Miller propositions (with taxes):
   a. Value of the interest tax shield:
      \[ \text{Value of the interest tax shield} \]
      \[ = \left( T_c \times R_d \times D \right) / R_d \]
      \[ = T_c \times D \]
   b. Proposition I:
      \[ V_i = V_o + T_c \times D \]
   c. Proposition II:
      \[ R_i = R_a + (R_a - R_d) \times (D/E) \]
      \[ \times (1 - T_c) \]

CHAPTER 19
1. The operating cycle:
   \[ \text{Operating cycle} = \text{Inventory period} + \text{Accounts receivable period} \]
2. The cash cycle:
   \[ \text{Cash cycle} = \text{Operating cycle} - \text{Accounts payable period} \]

CHAPTER 20
1. Float measurement:
   a. Average daily float:
      \[ \text{Average daily float} = \frac{\text{Total float}}{\text{Total days}} \]
   b. Average daily float:
      \[ \text{Average daily float} = \frac{\text{Average daily receipts}}{\text{Weighted average delay}} \]
   c. Total cost:
      \[ \text{Total cost} = \text{Opportunity costs} + \text{Trading costs} \]
   d. The optimal initial cash balance:
      \[ C^* = \sqrt{\left( 2T 	imes F \right) / R} \]
2. The Baumol–Allais–Tobin (BAT) model:
   a. Opportunity costs:
      \[ \text{Opportunity costs} = \left( C / 2 \right) \times R \]
   b. Trading costs:
      \[ \text{Trading costs} = \left( T / C \right) \times F \]
   c. Total cost:
      \[ \text{Total cost} = \text{Opportunity costs} + \text{Trading costs} \]
   d. The optimal cash balance:
      \[ C^* = L + (3/4 \times F \times \sigma^2 / R)^{1/3} \]
   e. The upper limit:
      \[ U^* = 3 \times C^* - 2 \times L \]

CHAPTER 21
1. The size of receivables:
   \[ \text{Accounts receivable} = \text{Average daily sales} \times A C P \]
2. NPV of switching credit terms:
   a. Present value of switching:
      \[ \text{PV} = \frac{\left( (P - v)(Q' - Q) \right)}{R} \]
   b. Cost of switching:
      \[ \text{Cost of switching} = PQ + v(Q' - Q) \]
   c. NPV of switching:
      \[ \text{NPV of switching} = \left( - [PQ + v(Q' - Q)] + (P - v) \times (Q' - Q) / R \right) \]
3. NPV of granting credit:
   a. With no repeat business:
      \[ \text{NPV} = -v + (1 - \pi)P/(1 + R) \]
   b. With repeat business:
      \[ \text{NPV} = -v + (1 - \pi)(P - v)/R \]

4. The economic order quantity (EOQ) model:
   a. Total carrying costs:
      \[ \text{Total carrying costs} = \frac{\text{Average inventory} \times \text{Carrying costs per unit}}{2} \]
      \[ = \frac{(Q/2) \times \text{CC}}{2} \]
   b. Total restocking costs:
      \[ \text{Total restocking costs} = \frac{\text{Fixed cost per order} \times \text{Number of orders}}{T/Q} \]
      \[ = \frac{F \times (T/Q)}{T/Q} \]
   c. Total costs:
      \[ \text{Total costs} = \text{Carrying costs} + \text{Restocking costs} \]
      \[ = \frac{(Q/2) \times \text{CC}}{2} + \frac{F \times (T/Q)}{T/Q} \]
   d. The optimal order size \( Q^* \):
      \[ Q^* = \sqrt{\frac{2T \times F}{\text{CC}}} \]

---

CHAPTER 22

1. Purchasing power parity (PPP):
   \[ E(S_t) = S_0 \times [1 + (h_{FC} - h_{US})]t \]

2. Interest rate parity (IRP):
   a. Exact, single period:
      \[ F_1/S_0 = (1 + R_{FC})/(1 + R_{US}) \]
   b. Approximate, multiperiod:
      \[ F_t/S_0 = [1 + (R_{FC} - R_{US})]t \]

3. Uncovered interest parity (UIP):
   \[ E(S_t) = S_0 \times [1 + (R_{FC} - R_{US})]t \]

4. International Fisher effect (IFE):
   \[ R_{US} - h_{US} = R_{FC} - h_{FC} \]
# ANSWERS TO SELECTED END-OF-CHAPTER PROBLEMS

## CHAPTER 2

<table>
<thead>
<tr>
<th>Problem</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.2</td>
<td>$165,100</td>
</tr>
<tr>
<td>2.6</td>
<td>$110,000</td>
</tr>
<tr>
<td>2.10</td>
<td>$200</td>
</tr>
</tbody>
</table>
| 2.14    | a. $49,080  
         | b. $22,900  
         | c. $2,050    
         | d. $3,730    |
| 2.18    | a. Tax\_Income = $16,130  
         |       | Tax\_Growth = $2,788,000 |
|         | b. $3,400 |
| 2.22    | a. 2006 = $1,845  
         |       | 2007 = $2,380 |
|         | b. $25 |
|         | c. Fixed assets sold = $70  
         |       | Cash flow from assets = $2,105  
         |       | Cash flow to creditors = $134 |
| 2.26    | Cash flow from assets = −$869.18  
         |       | Cash flow to creditors = −$1,437.00  
         |       | Cash flow to stockholders = $567.82 |

## CHAPTER 3

<table>
<thead>
<tr>
<th>Problem</th>
<th>Answer</th>
</tr>
</thead>
</table>
| 3.2     | Net income = $1.92 million  
         | ROA = 10.67%  
         | ROE = 17.45% |
| 3.6     | EPS = $2.43  
         | DPS = $0.76  
         | BVPS = $19.52  
         | Market-to-book ratio = 2.97 times  
         | PE ratio = 23.88 times |
| 3.10    | 98.61 days |
| 3.18    | $195.27  
         | 3.22    | Firm A: 44.44%  
         |         | Firm B: 50.91% |
| 3.26    | a. 1.48 times; 1.46 times  
         |         | b. 0.86 times; 0.86 times  
         |         | c. 0.52 times; 0.53 times  
         |         | d. 1.16 times  
         |         | e. 8.25 times  
         |         | f. 20.61 times  
         |         | g. 0.52; 0.52  
         |         | h. 2.10; 2.07  
         |         | i. 2.10; 2.07  
         |         | j. 5.94 times  
         |         | k. 8.16 times  
         |         | l. 11.10%  
         |         | m. 12.91%  
         |         | n. 26.69% |
| 3.28    | 16.26% |

## CHAPTER 4

<table>
<thead>
<tr>
<th>Problem</th>
<th>Answer</th>
</tr>
</thead>
</table>
| 4.2     | −$2,035  
         | 4.5     | 5.60%  
         | 4.12    | 8.28%  
         | 4.16    | 11.11%  
         | 4.20    | 1.32 times |
| 4.22    | Sustainable growth rate = 11.39%  
         | New borrowing = $13,671  
         | Internal growth rate = 2.82% |
| 4.28    | 16.26% |

## CHAPTER 5

<table>
<thead>
<tr>
<th>Problem</th>
<th>Answer</th>
</tr>
</thead>
</table>
| 5.2     | $10,338.69  
         | $23,802.15  
         | $143,080.66  
         | $413,943.81 |
| 5.6     | 10.04%  
         | 5.10    | $136,931,471.85  
         | 5.14    | $0.10  
         | 5.18    | $327,975.21  
         |         | $105,599.24 |
CHAPTER 6
6.2  @ 5%: PV, = $45,242.49
     PV, = $38,965.29
     @ 22%: PV, = $25,334.87
     PV, = $25,772.76
6.6  $366,546.89
6.10 $250,000
6.14 First National EAR = 13.92%
     First United EAR = 13.85%
6.18 $23,260.62
6.22 APR = 1,733.33%
     EAR = 313,916,515.69%
6.26 $22,536.47
6.30 8.63% semiannual
     4.22% quarterly
     1.39% monthly
6.38 $701,276.07
6.42 $392,025.82
6.46 Profit = $6,492.27
     Breakeven = 15.54%
6.50 $59,507.30
6.54 $1,232.87
6.58 PV of lease payments = $12,128.49
     PV of purchase = $16,191.18
     Breakeven resale price = $20,161.86
6.60 EAR = 13.64%
6.64 Refundable fee:
     APR = 7.27%
     EAR = 7.52%
     Nonrefundable fee:
     APR = 7.20%
     EAR = 7.40%
6.70 14.52%
6.74 8.47%
CHAPTER 7
7.4  5.83%
7.8  8.30%
7.12 8.45%
7.26 a. 20,000 coupon bonds; 152,241 zeroes
     b. $21,400,000; $152,241,760
7.28 $6,112.81
CHAPTER 8
8.2  10.21%
8.6  $3.40
8.10 $47.55
8.14 $2.81
8.18 Close = $50.60
     Net income = $89,947,090
8.22 a. $42.40
     b. $44.26
CHAPTER 9
9.4  1.43 years; 2.38 years; 3.39 years
9.8  @ 11%: NPV = $5,906.83
     @ 30%: NPV = $3,295.40
9.12 a. IRR A = 20.30%
     IRR B = 18.55%
     b. NPV A = $6,588.52
     NPV B = $7,594.13
     c. Crossover rate = 14.25%
9.16 a. PI I = 1.119
     PI II = 1.264
     b. NPV I = $4,763.34
     NPV II = $3,169.80
9.20 a. C = I/N
     b. C > 1/PVIFA R%,N
     c. C > 2.01/PVIFA R%,N
CHAPTER 10
10.2 $354,000,000
10.8 $1,645,532
10.12 CF 0 = $4,500,000
     CF 1 = $1,864,451
     CF 2 = $2,024,768
     CF 3 = $2,134,781
     NPV = $295,637.42
10.16 $99,136.87
10.22 $0.02757
CHAPTER 11
11.2 Total costs = $5,430,500
     Marginal cost = $29.87
     Average cost = $36.20
     Minimum revenue = $297,800
11.8 D = 582,500
     P = $75.22
     VC = $49.62
11.12 OCF = $39,091
     DOL = 4.837
11.18 DOL = 1.3842
     DOL A = 2.6522
11.22 ΔNPV/ΔP = $140,210
     DNPV/ΔQ = $1,100
11.28 $DOL = 1.1599$
$OCF = +2.58\%$

**CHAPTER 12**
12.2 $R_e = 2.44\%$
$R_p = 15.48\%$
12.6 $2.72\%; 3.11\%$
12.16 $R_e = 11.83\%$
$R_p = 9.62\%$
12.20 $12.51\%; 12.15\%; 11.42\%$

**CHAPTER 13**
13.2 $13.98\%$
13.6 $12.30\%$
13.10 a. $8.41\%$
b. $\sigma_p^2 = .03029$
$\sigma_p = 17.41\%$
13.14 $1.21$
13.18 $0.0833$
13.24 $C = \$313,333$
$R_e = \$211,667$
13.26 $\beta_e = 4.27$
$\beta_p = 0.99$
$\sigma_p = 26.39\%$

**CHAPTER 14**
14.4 a. $9.25$
b. $1.38$
14.8 a. $D_0 = \$900.93$
b. $E_0 = \$382.06$
14.12 $5.11$
14.14 $76.67\%; 23.33\%$
14.16 a. $\$399,118.50$
b. A bandon if $Q < 4,676$
14.22 a. $\$4,811,802$
b. $\$12,403,973$

**CHAPTER 15**
15.2 $14.70\%$
15.4 $R_f = 13.27\%; R_p = 13.18\%$
15.8 Book value = $\$120,000,000$
Market value = $\$106,100,000$
Aftertax cost = $5.17\%$
15.12 a. $E/V = 0.3816$
$D/V = 0.6184$
b. $E/V = 0.8225$
$D/V = 0.1775$

15.16 a. $D/V = 0.2055$
$P/V = 0.0432$
$E/V = 0.7513$
b. $13.49\%$
15.20 Break-even cost = $\$50,638,298$

**CHAPTER 16**
16.2 a. $\$60, anything greater than $0$
b. $909,091, 5.72$
c. $59.26, 0.74$
16.6 $1,270,186$
16.8 No change;
declines by $0.83$;
declines by $1.67$
16.14 $\$3,964.88$

**CHAPTER 17**
17.2 a. $\$1.63, $4.06, $5.69$
b. $\$1.45, $5.20, $7.70$
17.6 a. $\$6.67, $8.18, $5.22$
b. $\$5.75$
c. $\$5.75$
d. $\$5.75$
17.10 $\$2,750,000$
17.12 a. $16.78\%$
b. $13.92\%$
c. $21.63\%, 17.77\%, 13.92\%$
17.16 $\$236,928.57$

**CHAPTER 18**
18.2 a. 2,000 new shares
b. 5,000 new shares
18.4 a. $\$45.00$
b. $\$65.22$
c. $\$52.63$
d. $416,667; 287,000; 356,250, 142,857$
18.8 Shares outstanding = 402,500
Capital surplus = $\$2,647,500$
18.10 New borrowings = $\$1,332$
Capital outlays = $\$2,442$
18.14 $P_0 = \$35.33$
$D = $21.73$

**CHAPTER 19**
19.2 Cash = $\$1,520$
Current assets = $\$5,150$
19.4 a. IJ
b. I,N
c. D, D
d. D, D
APPENDIX C  Answers to Selected End-of-Chapter Problems

APPENDIX 20A

20A.2 $2,535.46

20A.4 a. Opportunity cost = $13.50
    Trading cost = $388.89
    b. $2,415.23

20A.10 6.80%

CHAPTER 21

21.2 $6,090,411

21.6 Sales = $373,690
    Accounts receivable turnover = 8.691 times

21.10 NPV = $580,358.33

21.12 Carrying cost = $8,325
    Order cost = $6,500
    EOQ = 397.63
    Orders = 58.85 per year

Net savings = $1,260

APPENDIX 21A

21A.2 a. 3/10, net 30
    b. $264,000
    d. NPV = $218,046.97
    Break-even price = $98.76
    Break-even discount = 10.89%

21A.4 b. $69.94
    c. NPV = $189,046.97

CHAPTER 20

20.2 a. $68,000
    $58,000
    $10,000
    $29,000
    $39,000

20.6 a. $21,600
    b. 2.48 days
    c. $21,600
    d. $4.00
    e. $13,050

 NPV = $5,850,000
    Net savings = $292,500

19.6 Operating cycle = 87.67 days
    Cash cycle = 39.31 days

19.8 a. $219.00; $234.00; $258.00; $234.60
    b. $204.00; $219.00; $234.00; $258.00
    c. $209.00; $224.00; $242.00; $250.20

19.10 a. $193,333.33
    b. $222,857.14
    c. $252,321.43
    $280,780.57
    $308,250.00

19.14 a. 4.47%
    b. 7.99%
    c. 7.82%

19.18 10.47%
NAME INDEX

Altman, Edward I., 213
Bailey, Herbert S., Jr., 37
Benioff, Mark, 522
Black, Fischer, 607
Blume, Marshal, 390
Bohr, Niels, 92
Brin, Sergey, 522
Buffett, Warren, 192, 615
Coors, Pete, 1
Cottle, Sidney, 599–600
Descartes, 283
Dodd, David, 599–600
Ebbers, Bernie, 10
Ellision, Larry, 12
Fiorina, Carly, 13
Fisher, Irving, 220
Franklin, Benjamin, 136
Gates, Bill, 591
Giacometti, Alberto, 135
Gordon, Myron, 600
Graham, Benjamin, 599–600
Hernandez, Ramon, 146
Hewlett, Walter B., 12–13
Higgins, Robert C., 109
Ibbotson, R. G., 525n
Jobs, Steven, 12
Johnson, Chad, 146
Johnson, William, 1
Judge Judy, 12
Kamen, Dean, 343
Lay, Ken, 496
Lie, Erik, 456
Lucas, George, 12
Merton, Robert C., 458
Miller, Merton, 558–567
Modigliani, Franco, 558–567
Page, Larry, 522
Peltz, Nelson, 1
Procustes, 110
Ritter, Jay R., 513n, 525n, 527
Roll, Richard, 394
Semel, Terry, 12
Siegel, Jeremy J., 388
Sindelar, J. L., 525n
Skilling, Jeff, 496
Stewart, Bennett, 496
Stewart, Martha, 523
Truman, Harry, 590–591
Trump, Donald, 580
Wainwright, Jay, 455
Weaver, Samuel, 311, 503
Winfrey, Oprah, 12
EQUATION INDEX

accounts receivable period, 627
acid-test ratio, 58
announcement, 412
annuity due, 162
average accounting return, 275–276
average collection period, 62
average daily float, 661
balance sheet identity, 23
bond value, 194
break-even accounting, 348–349
cash, 353
financial, 351
general expression, 353
call option pricing, 446
capital asset pricing model, 426
capital gains yield, 243
carrying costs, 709
cash coverage ratio, 61
cash cycle, 628
cash flow from assets, 33
cash ratio, 59
collection float, 660
cost of equity, 481–482
current ratio, 57
days' sales in inventory, 61
days' sales in receivables, 62
debt-equity ratio, 60
degree of operating leverage, 356–357
disbursement float, 660
dividend growth rate, 481
dividend payout ratio, 97
dividends per share, 27
dividend yield, 243
Du Pont identity, 68
earnings per share, 27
economic order quantity, 710
effective annual yield, 166–167
equity multiplier, 60
equivalent annual cost, 325–326
expected return, 404
fixed asset turnover ratio, 63
float, 660
future value, 123
factor, 123, 133
geometric average return, 388–389
historical variance, 382–383
income statement, 26
interest coverage ratio, 60
interest rate parity, 738
internal growth rate, 105
internal rate of return, 277
International Fisher effect, 740
interval measure, 59
inventory period, 630
inventory turnover ratio, 61
long-term debt ratio, 60
market-to-book ratio, 66
net present value, 277
net working capital to total assets, 59
net working capital turnover ratio, 63
operating cash flow, 351
operating cycle, 627
payable period, 631
payables turnover ratio, 63
plowback ratio, 97
portfolio beta, 420
portfolio return, 408
present value, 129, 131
annuity, 155
basic, 133
factor, 133
interest factors, 131
perpetuity, 162–163
price-earnings ratio, 65
price-sales ratio, 65
profit margin, 64
quick ratio, 58
receivables period, 630
receivables turnover ratio, 62
restocking cost, 709
retention ratio, 97
return on assets, 64
return on equity, 64
risk premium, 405
security market line, 426
shareholder's equity, 25
standard deviation of the return, 382
stock valuation constant growth model, 237
dividend growth model, 238
nonconstant growth, 240–242
required return, 243
zero growth, 237
summary, 67
sustainable growth rate, 105
times interest earned ratio, 60
Tobin’s Q ratio, 66
total asset turnover ratio, 63
total debt ratio, 59
total return, 411
unbiased forward rate, 739
uncovered interest parity, 740
value of a call option, 446
variance of the return, 382
weighted average cost of capital, 488–489
SUBJECT INDEX

Note: Key terms are in boldface

ABC approach to inventory management, 706–707
ABN AMRO, 198
Abnormal priority rule (APR), 580
Abnormal return, 529, 530
Absolute purchasing power parity, 733–735
Accelerated cost recovery system (ACRS), 312
modified, 312–313, 314
Accounting break-even, 348–352
cash flow and, 351–352
base case, 351
calculating break-even level, 351
payback and, 352
revisiting, 353
summary, 355
uses for, 350
variables of, 348–349
Accounting insololvency, 579
Accounts payable period, 627
Accounts receivable period, 627, 630
Acid-test ratio, 58–59
Accounts receivable period, 627
Accounting insolvency, 579
Adelphia Communications, 10, 568
American Depositary Receipt (ADR), 596
American Stock Exchange (AMEX), 16
American quote, 729–730
AmeriServe Food Distribution, Inc., 209
Ameritech, 61
AmerisourceBergen, 61
Ameritrade, 61
Amscan, 61
AmeriServe Food Distribution, Inc., 209
Anadarko Petroleum, 613
Announcements, 411–413
Annual accounting rate of return (AARR), 275–277
Ampex, 729
Ampex Corporation, 729
Annual average rate of return (AR), 379–381
Annual cost of equity, 379
Annual cost of capital, 379
Annual average return, 388
geometric average return versus, 387–391
Arrearage, 248
Art Technology Group (ATG), 703
Arbitrage, 447
Arbitrage opportunities, 447
found interest, 737–738
Archer Daniels Midland (ADM), 668–669
Arbitrary average return, 388
geometric average return versus, 387–391
Arrears, 248
Artemis Group, 416
Arts, 609
Arts and crafts, 609
Arvest, 609
Arvest Bank, 609
Asset management ratios, 61–63
Asset turnover ratios, 63
Asset utilization ratios, 61–63
Assets on the balance sheet, 22
assigning receivables, 643
AT&T, 198, 496
Auction markets, 15–16
trading securities in, 16
Automatic dividend reinvestment plans (ADRs or DRIPs), 596
Automatic dividend reinvestment plans (ADRs or DRIPs), 596
Availability delay, 661, 662
Available balance, 659
Average accounting return (AAR), 275–277
advantages and disadvantages of, 277
defined, 275
historical comparison of, 289
return on assets and, 276n
rule, 276
summary, 290
Average collection period (ACP), 62, 630, 691
cash discounts and, 694–695
collection policy and, 703
Average costs versus marginal costs, 347
Average return, 379–381
accounting. SeeA verage accounting return (AAR)
arithmetic, 387–391
calculating, 379
gometric, 387–391
historical record, 379–380
lesson of, 380–381
risk premiums, 380
Siegel on, 388
variability of. SeeVariability of returns
Average tax rate, 30–32
Balance sheet, 22–26
assets on, 22
building the, 23
common-size, 53–54
debts versus equity, 25
equation, 23
example of, 24
left side of, 22
liabilities on, 22–23
liquidity on, 24
market value versus book value, 25–26
net working capital on, 23–24
owner’s equity on, 22–23
percentage of sales approach and, 97–98
right side of, 22–23
Balloon payments, 174–175
Baltimore County Savings Bank, 665
Bank of America, 68
Bank of China, 513
Banker’s acceptance, 695
Banker’s year, 59n
Bankruptcy, 579–582
absolute priority rule, 580
agreements to avoid, 582
Chapter 11, 580, 581
Bankruptcy— Cont.
costs of, 567–569
direct, 568
financial distress costs, 568–569
indirect, 568–569
definitions of financial distress, 579
financial management and, 581–582
legal, 579
liquidation, 579–580
reorganization, 579, 580–581
Bankruptcy Abuse Prevention and Consumer Protection Act of 2005 (BAPCPA), 581
Barnes & Noble, 628
Bausch & Lomb—Allais–Tobin (BAT) model, 680–684
Berkshire Hathaway, 192, 212, 615
Benchmarking, 71–76
BellSouth, 198, 209
Bear markets, 214–219
Bear market, 210
Bear market line (SML), 222–225
Bearer form, 205
BellSouth, 198, 209
Benchmarking, 71–76
peer group analysis, 72–76
SIC codes and, 72–73
time trend analysis, 71–72
Berkshire Hathaway, 198, 212, 615
Best efforts underwriting, 520
Beta coefficient, 417–421, 418, 428
case study of, 438
estimates of, 419–420
portfolio, 420–421
risk premium and, 421–425
basic argument, 423–424
buy low, sell high, 425
fundamental result, 424–425
reward-to-risk ratio, 422, 424
security market line and. See Security market line (SML)
total risk versus, 419
Bid–ask spread, 216, 250
Bid price, 216, 250
setting the, 323–325
Big Board, 250
“Bite the bullet,” 174–175
Black–Scholes option pricing model, 454
Blanket inventory lien, 644
Blanket mortgage, 206
Blume’s formula, 390
BMW, 744
Boeing, 264, 416, 628
Bond markets, 214–219
asked price, 216
bid–ask spread, 216
bid price, 216
buying and selling in, 214–216
clean price, 219
dirty price, 219
as over the counter, 214–216
Bond yields, 193–202
current, 199–200
determinants of, 222–226
default risk premium, 226
inflation premium, 223–225
interest rate risk premium, 224–225
liquidity premium, 224n, 226
taxability premium, 226
term structure of interest rates, 222–225
yield curves and, 225–226
discount, 195
financial calculators for, 200–201
interest rate risk and, 197–198
premium, 195
spreadsheet for, 201–202
yield to maturity, 193
finding, 198–202
Bondholders, 22
Bonds, 21, 192–226, 204
catastrophe, 212
CoCo, 214
convertible. See Convertible bonds
coupon, 193
semiannual, 196
coupon rate, 193
debentures, 204, 206
as debt or equity, 203
default on, 226
disc.ount, 195
default-free, pure, 222
Eurobonds, 272
face value, 103
features, 193, 203–208
floating-rate, 211–212
foreign, 272
government, 209–210
income, 212, 214
interest. See Indenture
inflation and interest rates, 219–222
Fisher effect, 220–221
interest rate risk and, 197–198
marginal revenue and, 347
marginal costs and, 347
marginal revenue and, 347
operating cash flow and, 350–355
operating leverage and, 357–358
summary of measures, 353
tot.al costs and, 346–347
variable costs and, 345
Briggs and Stratton, 496
Bristol-Myers-Squibb, 455, 704
Brokers, 250
Burger King, 209
Burn rate, 59
Business cash advances, 643
Business failure, 579
Business organization, 4–7
accounting, 4–5
analysis of, 458
equity as, on the firm’s assets, 456–459
risk-free debt, 457
risky debt, 457–459
warrants versus, 465–466
ratings of, 208–209
savings, 139, 211–212
short-term, 204
taxes and, 210–211
values, 193–196
warrants and, 212
yield. See Bond yields
zero coupon, 210–211
Book balance, 659
Book value, 25
market value versus. See Market value, book value versus
Borrower, 203
Borrowing short-term, 641–645
cash flow and, 643
commercial paper, 644
compensating balances and, 642–643
factoring, 643–644
inventory loans, 644
letters of credit and, 643
line of credit and, 642
secured loans, 643–644
trade credit, 644
unsecured loans, 642–643
Bottom-up approach to cash flow, 319–320
Break-even analysis, 344–355
cash flow and, 350–355
accounting, 4–5
analysis of, 458
credit policy and, 698, 723
debt and equity, 457–459
dependent on, 226
default risk, 457–459
equity as, on the firm’s assets, 456–459
risk-free debt, 457
risky debt, 457–459
warrants versus, 465–466
Call option, 440
analysis of, 458
equity as, on the firm’s assets, 456–459
risk-free debt, 457
risky debt, 457–459
warrants versus, 465–466

ros3062x_index_Standard.indd   4ros3062x_index_Standard.indd   4 2/9/07   4:01:12 PM 2/9/07   4:01:12 PM
Call option valuation, 446–454
arbitrages and, 447
closer look, 453–454
exercise price and, 450
at expiration, 446
factors that determine, 450
summary, 454
intrinsic value, 448
lower bound, 446–448
risk-free rate and, 450
simple model of, 448–450
part 2, 451–452
stock price and, 450
time to expiration and, 450
upper bound, 446–448
variance of the return on the underlying asset, 452–453

Call premium, 207
Call-protected bond, 207
Call provision, 207
Capital
cost of. See Cost of capital raising. See Raising capital
Capital asset pricing model (CPM), 426–427
summary, 428
Capital budgeting, 2–3
cash flow and. See Cash flow at the Hershey Company, 311
investment criteria. See Investment criteria
options and, 459–464
investment timing decision, 459–461
managerial options. See M Managerial options
practice of, 288–290
weighted cost of capital and, 494
Capital gains, 243n
Capital gains yield, 243
Capital intensity ratio, 97–98
Capital intensive projects, 355
Capital investment decisions
discounted cash flows and. See Discounted cash flow (DCF) valuation
incremental cash flows and. See Incremental cash flows
operating cash flow and. See Operating cash flow
project cash flows and. See Project cash flows
Capital market history, 368–395
average returns. See Average return of five types of financial investments, 373
Ibbotson on, 377
market efficiency and. See Efficient capital market
using, 386–387
variability of returns. See Variability of returns

Capital rationing, 358–359
hard, 359
soft, 358–359
Capital restructuring, 551
Capital spending, 33, 34
equation of, 38
project cash flow and, 308

Capital structure, 3–4, 551–589
bankruptcy and. See Bankruptcy
cost of capital and, 480–481, 553
financial leverage and. See Financial leverage
firm value and stock value, 552–553
marketed claims, 575
M & M. See M & M Proposition I; M & M Proposition II
nonmarketed claims, 575
observed, 577–578
optimal, 553, 569–573
cost of capital and, 570
financial distress and, 573
managerial recommendations, 573
recap of, 571–573
static theory of, 569–570
taxes and, 573
pecking-order theory of, 575–577
implications of, 576
internal financing and, 575–576
target, 480–481
for U.S. industries, 577
Capital structure weights, 485–487
Captive finance company, 700
Carrying costs, 633, 705–706
economic order quantity model and, 709, 710
Cash
decreases in, 626
defined, 625
increases in, 625
reasons for holding, 658–659
compensating balances, 658
costs of holding cash, 658–659
liquidity management and, 659
precautionary motive, 658
speculative motive, 658
transaction motive, 658
sources and uses of, 49–51, 626
Cash and liquidity management, 657–688
collection and. See Cash collection
difference between, 659
disbursements. See Cash disbursements
float, See Float
holding cash. See Cash, reasons for holding
idle cash. See Idle cash, investing
target cash balance and. See Target cash balance
Cash balance, 640–651
float and, 659
target. See Target cash balance

Cash break-even, 353
summary of, 355
Cash budget, 639–641
cash balance, 640–641
cash outflows, 640
sales and cash collections, 639–640
Cash collection, 666–670
accelerating, 669–670
cash concentration, 668–669
components of process, 666
costs and, 311–312
lockboxes, 666–667
over-the-counter, 666
preauthorized payment arrangement, 666
sales and, 639–640
Cash concentration, 668–669
Cash coverage ratio, 61
Cash cycle, 626–632, 627
accounts payable period and, 627
calculating, 629–632
cash flow time line and, 628
defined, 627–628
events and decisions of, 627
interpreting, 632
negative, 628
Cash disbursements, 670–672
categories of, 640
controlled disbursement account, 672
controlling, 671–672
increasing float, 670–671
zero-balance accounts, 671
Cash discounts, 693–695
average collection period and, 694–695
cost of the credit, 694
credit policy effects of, 696
trade discounts, 694
Cash dividends, 591–594
alternative to. See Stock repurchase
chronology of, 592–594
distribution, 591
extra, 591
liquidating, 591
per share, 592
regular, 591
special, 591
standard method of payment, 592
types of, 591
Cash flow, 32–39
annuities. See Annuities from assets, 33–35, 38
capital spending and, 33, 34, 38
change in net working capital, 33, 34, 38
common stock valuation and, 235–236
to creditors, 35, 38–39
discounted. See Discounted cash flow (DCF) valuation
dividends and, 595–596
example of, 37–39
financial markets and, 14
Cash flow— Cont.
financial statements and, 49–53
sources and uses of cash, 49–51
statement of cash flows, 51–53
“free,” 35, 597
future value and. See Future value (FV)
from granting credit, 690–691
incremental. See Incremental cash flows
level, 154–165
nonconventional, 281–282
operating. See Operating cash flow
perpetuities. See Perpetuities
present value. See Present value (PV)
project. See Project cash flows
to stockholders, 35–36, 38–39
summary of, 36
unremitted, 743

“Watch Cash Flow,” 36–37

Cash flow time line, 628
Cash-out, 634
Cash outflows, 640
Cash ratio, 59
Cash surpluses, temporary, 672
Catastrophe (cat) bonds, 212
CBS, 21, 25, 28
Check kiting, 664–665
Check Clearing Act for the 21st Century
Certificates of deposit (CDs), 674
Check Clearing for the 21st Century Act (Check 21), 665
Check kiting, 664–665
ChevronTexaco, 215
Chicago Board of Trade Options Exchange (CBOE), 440–441, 444
Chicago and Eastern Railroad, 198
Chicago Board Options Exchange (CBOE), 440–441, 444
Chrysler, 62, 469
Cisco Systems, 48, 204, 207, 551, 611, 665
Citigroup, 590
Clean price, 603
Cleanup period, 642
Clearing checks, 659
Clientele effect, 603
Coca-Cola, 198, 496, 611–612, 726
CoCo bonds, 214
Collar, 212
Collateral, 206
Collateral value, 693
Collected balance, 659
Collection effort, 704
Collection float, 660
disbursement float versus, 662
Collection policy, 690, 703–704
agining schedule and, 703
collection effort, 704
monitoring receivables, 703–704
Combination approach to MIRR, 286–287
Commercial draft, 695
Commercial paper, 644
Commission brokers, 250
Commitment line of credit, 642
Common equity. See Owner’s equity

Common-size statements, 53–56
balance sheets, 53–54
base year analysis and, 55–56
income statements, 54
statements of cash flows, 55
Common stock, 245–248
buying an election, 246
classes of, 247
cumulative voting, 245–246
dividends from. See Dividends
growth, 236
offered to stockholders. See Rights offerings
proxy voting, 246–247
shareholder rights, 245–246, 247
straight voting, 246
Common stock valuation, 235–245
cash flows, 235–236
constant growth, 237–240
dividend growth model, 238–240
growth stocks, 236
nonconstant growth, 240–243
required return and, 243–244
summary of, 244
supernormal growth, 240–242
two-stage growth, 242–243
zero growth, 237
Common-base year statements, 55
combined common-size and, 55–56

Compensation balances, 642
cost of, 642–643
holding cash and, 658

Compound interest, 122
Continuous, 169–170
effective annual rates and, 165–170
calculating and comparing, 166–167
Concentration banks, 668
Congo, 582
Consol, 162
Constant growth model, 237–240, 244
Consumer credit, 690
Consumer demand, 693
Continental Airlines, 581
Contingency planning, 462
Contribution margin per unit, 348
Controlled disbursement account, 672
Conventional factoring, 643
Conversion premium, 466
Conversion price, 466
Conversion ratio, 466
Conversion value, 467
Convertible bonds, 214, 466–468
call provision on, 468
case study of, 478
features of, 466
value of, 466–468
conversion, 467
floor, 467–468
option, 468
straight bond, 466–467

Coors, 1
Corporate finance
borrowing and homemade leverage, 557
defined, 2, 9
introduction to, 1–17
three questions of, 2
Corporate scandals, 10
Corporate securities and options
call provision on a bond, 468
convertible bonds. See Convertible bonds
insurance, 469
listing of, 16
loan guarantees, 469
put bonds, 469
trading in, 16
warrants, 465–466
call options versus, 465–466
earnings dilution and, 466

Corporations, 6–7
agency problem and, 11–14
directors of, 245–247
financial markets and, 14–16
variations of, 7
Cost. See also specific types of costs
agency, 11
break-even analysis and. See Break-even analysis
credit policy and, 696
historical, 25
time and, 28, 30
Cost-cutting proposals, 321–322
Cost of capital, 479–512
capital structure and, 480–481, 553
optimal, 570
case study, 511–512
debt, 485–486
divisional, 498
equity. See Cost of equity
financial policy and, 480–481
M & M and. See M & M Proposition I; M & M Proposition II
preferred stock, 486
pure play approach, 498–499
retired return versus, 480
security market line and, 428–429,
483–484
unlevered, 564
Weaver on, 503
weighted average. See Weighted average
cost of capital (WACC)

Cost of debt, 485–486
for Eastern Chemical, 491–492
summary of calculations, 495

Cost of equity, 481–485
dividend growth model, 481–483
for Eastern Chemical, 489–491
example of, 484–485
financial leverage and, 559–560
security market line and, 483–485
summary of calculations, 495
value of the firm and, 566–567
Cost of preferred stock, 486
Countrywide Financial, 214
Coupon, 193
negative, 192, 212
semiannual, 196
zero, 210–211
Coupon rate, 193
Covered interest arbitrage, 737–738
Credit, 689–725
Credit analysis, 690, 700–703
accounts receivable approach, 720–721
credit information, 702
credit scoring, 702–703
discounts and default risk, 721–723
five Cs of credit, 702
granting credit, 700–702
one-time sale, 700–701
repeat business, 701–702
one-shot approach, 720
Credit card receivable funding, 643
Credit cost curve, 698–699
Credit information, 702
Credit instruments, 695
Credit period, 692–693
factors that influence, 693
invoice date, 692
length of, 692–693
Credit policy, 689–725
cash discount, 696
components of. See Collection policy;
Credit analysis: Terms of sale
cost effects, 696
cost of debt, 696
discounts and default risk, 721–723
break-even application, 723
evaluating a proposed, 696–698
accounts receivable approach, 720–721
break-even and, 698
NPV of switching policies, 696–697
one-shot approach, 720
optimal, 698–700
 captive finance company and, 700
organizing the credit
function, 699–700
total credit cost curve, 698–699
probability of nonpayment, 696
revenue effects, 695
Credit reports, 702
Credit risk, 693
Credit scoring, 702–703
Creditors, 22, 203
cash flow to, 35
example of, 38–39
Cross rates, 727
key currency, 730
triangle arbitrage and, 730–732
Crossover rate, 285
Cumulative dividends, 248–249
Cumulative voting, 245–246
Currency appreciation and depreciation, 736
Currency swaps, 728
Current assets, 632–638
alternative financing policies and, 634
cash reserves and, 637
considerations in analysis of, 637–638
different policies, 634–637
desirable, 634
ideal case, 634
maturity hedging and, 637
relative interest rates and, 637
on the balance sheet, 22, 625
carrying costs and, 633–634
current liabilities and, 625
financing of, 632–633
flexible policy on, 632–633, 635
in practice, 638
revenue effects, 638
influence, 638
size of the firm’s investment in, 632
Current income, 600
Current liabilities, 22
current assets and, 625
in practice, 638
Current ratio, 57–58
Current yield, 199–200
Customer type, 693
Date of payment, 592
Date of record, 592
Days’ sales in inventory ratio, 61–62
days’ sales in receivables, 62, 630, 691
Dealer markets, 15–16
Dealers, 250
Debentures, 204, 206
Debt. See also Bonds
cost of, 485–486
credit policy and, 696
equity versus, 25, 203, 249
long-term, 203–204
risk-free, 457
risky, 457–459
short-term, 204
unfunded, 204
Debt-equity ratio, 60, 551
optimal capital structure and, 553
sustainable growth rate and, 107
Debt ratio, 60
Debt securities, 203–204. See also Bonds
Debtor, 203
Declaration date, 592
Deed of trust. See Indenture
Default risk, 673
discounts and, 721–723
Default risk premium, 226
Deferred call premium, 207
Degree of operating leverage (DOL), 356–357
Dell Computer, 253, 439
Delta Air Lines, 463
Dependent demand, 705
Depository transfer check (DTC), 668
Depreciable basis, 312n
Depreciation, 59n
cash coverage ratio and, 61
as noncash item, 28
project cash flows and, 312–315
book value versus market value, 313–315
modified ACRS, 312–313, 314
straight-line, 28
written down to zero, 28n
Depreciation tax shield, 320
Derived demand, 705
Diluted basis, 466
Dilution, 540–542
of proportionate ownership, 540
of value, 540–542
Direct agency costs, 11
Direct bankruptcy costs, 568
Direct quote, 729–730
Dirty price, 219
Disbursement float, 659–660
collection float versus, 662
increasing, 670–671
Discount, 129–130
announcements and, 412
cash, 693–695
default risk and, 721–723
trade, 694
Discount bond, 195
Discount rate, 131
appropriate, 480
determining the, 134–135
Discounted cash flow (DCF) valuation, 131, 266
annuities. See Annuities
to buy or not to buy, 322–323
cost-cutting proposals, 321–322
equipment options, 325–327
equivalent annual cost and, 325–327
future value and. See Future value (FV)
level cash flows and, 154–165
multiple cash flows, 147–154
future value of, 147–149
present value of, 150–152
spreadsheet for, 153
timing of, 153–154
using a financial calculator, 152
present value and. See Present value (PV)
Discounted cash flow (DCF) valuation—Cont.
setting the bid price, 323–325
time line and, 147–149
Discounted payback period, 272–275
advantages and disadvantages of, 274
calculating, 275
rule, 272–274
summary, 289
undiscounted cash flow and, 273
Discounting approach to MIRR, 286

Dividend yield, 591
Dividend policy, 590–594
Dividend growth ratio, 96–97, 592
Dividend growth model, 238–240
cost of equity and, 481–483
advantages and disadvantages of, 483
estimating g, 482–483
implementing the approach, 481–482
required return and, 243–244

Dividend growth ratio, 96–97, 592
Dividend policy, 590–623
defined, 594–595
establishing a, 604–608
compromise policy, 607–608
dividend stability, 606–607
residual dividend approach, 604–606
target payout ratio, 604
high-payout factors, 599–601
conclusion, 601
corporate investors, 601
desire for current income, 600
tax-exempt investors, 601
uncertainty resolution, 600–601
irrelevance of, 594–597
dividends set equal to cash flow, 595
homemade dividends and, 596
initial dividends greater than cash flow, 595–596
test questions, 596–597
low-payout factors, 597–599
dividend restrictions, 599
expected return, 598–599
flotation costs, 599
taxes, 597–599
resolution of real-world factors, 602–604
clientele effect, 603
information content of dividends, 602–603
stock dividends. See Stock dividends
stock splits. See Stock splits
survey evidence on, 608–609
sustainable growth rate and, 107

Dividend yield, 243, 592

Dividends, 248, 591–594
Black on, 607
cash. See Cash dividends
characteristics of, 248
common stock valuation and. See Common stock valuation
cumulative, 248–249
date of payment, 592
date of record, 592
declaration date, 592
distribution versus, 591
ex-dividend date, 592, 593–594
growth in, 129
growth stocks and, 236
information content of, 602–603
noncumulative, 248–249
preferred stock, 248–249
restrictions on, 599
stock. See Stock dividends
Dividends per share, 27
Divisional cost of capital, 498
Double taxation, 6–7
dow Corning, 581
Du Pont identity, 67–70, 68
expanded analysis, 69–70
return on equity and, 67–69

Dutch auction underwriting, 521
E. F. Hutton, 664–665
Earnings dilution, 466
earnings per share (EPS) calculating, 27
EBIT and, 554–556
financial leverage and, 554–555
share repurchase and, 612
Eastman Chemical, 479
performance evaluation by, 496–497
weighted average cost of capital, 489–493
calculation of, 492–493
cost of debt, 491–492
cost of equity, 489–491
EBIT (earnings before interest and taxes), 61
break-even, 556
earnings per share and, 554–556
EBITD (earnings before interest, taxes, and depreciation), 61
EBITDA (earnings before interest, taxes, depreciation and amortization), 61
Economic order quantity (EOQ) model, 707–711, 710
carrying costs and, 709, 710
extensions to, 711
inventory depletion and, 707–708
reorder points and, 711
restocking costs and, 710
safety stocks and, 711
shortage costs and, 709
total costs and, 709–710
Economic value added (EVA), 496
EE Savings Bonds, 139, 211–212
Effective annual rate (EAR), 165–170, 166
annual percentage rate and, 168–169
calculating and comparing, 166–167
compounding and, 165–166
continuous, 169–170
the law and, 170
quoted rate, 167–168
Effective market hypothesis (EMH), 392–393
misconceptions about, 393–395
Efficient capital market, 391–395
forms of, 395
hypothesis of, 392–393
misconceptions about, 393–395
price behavior in, 391–392
Roll on, 394
Electronic communications network (ECN), 253
Electronic data interchange (EDI), 665
Electronic Data Systems, 247
Electronic lockboxes, 667
Employee stock options (ESO), 454–456
backdating of, 455
Lie on, 456
features of, 454–455
repricing of, 455
Enron, 10, 496, 568
Equity
as a call option on the firm’s assets, 456–459
cost of, See Cost of equity
debt versus, 25, 203, 249
owner’s. See Owner’s equity
return on, 64–65, 67–70
Equity kickers, 465
Equity multiplier, 60
Equity securities, 203
Equivalent annual cost (EAC), 325–327
Erosion, 305
Estimation risk, 338–339
eToys, 523
Eurobond, 727
Eurocurrency, 727
Eurodollars, 727
European exchange rate, 729–730
European option, 440
Eurotunnel, 342
Ex-dividend date, 592, 593–594
Ex-rights date, 538
Excess return, 380
Exchange rate risk, 743–746
hedging, 744
long-run exposure, 744
managing, 746
short-run exposure, 743–744
translation exposure, 745
Exchange rates, 729–733
cross-rates, 730–732
forward, 732–733
quotations, 729–730

Subject Index

Spot, 732
Triangle arbitrage, 731–732
Exercise price, 440, 450
**Exercising the option, 440**

Expected return, 404–407
dividends, personal taxes and, 598–599
portfolio and, 408–409
risk premium and, 404–405
unequal probabilities and, 405, 407
unexpected returns versus, 411
variance and, 406–407
Expected risk premium, 405
Expiration date, 440
time to, 450
External financing needed (EFN), 98–110
balance sheet and, 98
capacity usage and, 100
growth and, 101–110
determinants of, 107–108
internal rate of, 105
sustainable rate of, 105–110
Extra cash dividend, 591
ExxonMobil, 288, 609, 660

**Face value, 193**
Factoring receivables, 643
cost of, 644
Federal Bankruptcy Reform Act of 1978, 579, 580
Federal Mogul, 582
Federated Department Stores, 613
Fédération Internationale de Football Association (FIFA), 212
Fidelity Magellan, 384
Fiduciary responsibility, 601
Field warehouse financing, 644
Financial Accounting Standards Board (FASB), 745

**Financial break-even, 354**
summary of, 355
Financial distress bankruptcy. See Bankruptcy
capital structure and, 573
definitions of, 579
**Financial distress costs, 568–569**
Financial EDI, 665
Financial leverage, 25, 553–558
basics of, 553–556
corporate borrowing and, 556–557
earnings before interest and taxes and, 555–556
earnings per share and, 554–556
homemade, 557
M&M Proposition II and, 559–560
ratios, 59–61
return on equity and, 554–555
unlevering the stock, 558
Financial management decisions, 2–4
bankruptcy process and, 581–582
capital budgeting, 2–3
capital structure, 3–4
working capital management, 4
Financial management goals, 8–10
agency problem and, 11–13
general, 9
maximizing the value of stock, 9
possible, 8
Sarbanes-Oxley Act and, 10
Financial manager, 2
inventory policy and, 705
Financial markets and the corporation, 14–16
cash flows to and from the firm, 14
primary versus secondary markets, 14–16
Financial planning models, 89–120, 93–95
accomplishments of, 92–93
aggregation and, 91
alternative business plans and, 91
asset requirements and, 94
avoiding surprises, 92
basic policy elements of, 90
caveats regarding, 110
collection, 92–93
described, 89–90
dimensions of, 91
economic assumptions of, 94
examining interactions, 92
exploring options, 92
feasibility and, 92
financial requirements of, 94
growth as goal of, 90–91
internal consistency, 92
planning horizon and, 91
the plug and, 94
pro forma statements and, 93
sales forecast and, 93
short-term. See Short-term finance and planning
simple example of, 94–95
extended version of. See Percentage of sales approach
six Ps of. See financial planning models
Financial ratios, 56–70
acid test ratio, 58–59
asset management, 61–63
capital intensity ratio, 97–98
cash coverage ratio, 61
cash ratio, 59
common, 67
current ratio, 57–58
days’ sales in inventory, 61–62
days’ sales in receivables, 62
debt–equity ratio, 60
dividend payout ratio, 96–97
Du Pont identity, 67–70
equity multiplier, 60
financial leverage ratios, 59–61
fixed asset turnover ratio, 63
interest coverage ratio, 60–61
interval measure, 59
inventory turnover ratio, 61
leverage ratios, 59–61
liquidity, 57–59
long-term debt ratio, 60
market-to-book ratio, 66
market value, 65–66
NAICS and, 75
net working capital to total assets, 59
net working capital turnover ratio, 63
payables turnover ratios, 63
plowback ratio, 97
price-earnings ratio, 65
price-sales ratio, 65–66
profit margin, 64
profitability, 63–65
quick ratio, 58–59
receivables turnover ratio, 62, 73
retention ratio, 97
return on assets, 64–65
return on equity, 64–65, 67–70
solvency, 57–61
long-term, 59–61
short-term, 57–58
times interest earned ratio, 60–61, 73
Tobin’s Q ratio, 66
total asset turnover ratio, 63
total debt ratio, 59–60
turnover, 61–63
Financial risk, 561–562
Financial slack, 576
Financial statements, 48–77
balance sheet. See Balance sheet
cash flow and, 49–53
sources and uses of cash, 49–51
statement of, 51–53
income statement. See Income statement
pro forma. See Pro forma financial statements
ratio analysis of. See Financial ratios
as source of credit information, 702
standardized. See Standardized financial statements
using information from, 71–77
benchmarking. See Benchmarking
internal uses, 71
problems with, 76–77
reasons for, 71
selected information, 74
selected ratios, 75
Finished goods inventory, 705
Firm commitment underwriting, 520
First-stage financing, 514
Fisher effect, 220–221
Fitch, 209
Five Cs of credit, 702
Fixed asset turnover ratio, 63
Fixed assets, 22
Fixed cost, 306n, 346

**ros3062x_index_Standard.indd** 9
Float, 659–665
   availability delay and, 661, 662
   average daily, 661–662
   Check 21 and, 665
   checks in the process of clearing, 659
   collection, 660, 662
   cost of, 662–664
   disbursement, 659–660, 662
   increasing, 670–671
   electronic data interchange and, 665
   end of, 665
   ethical and legal questions, 664–665
   mailing time and, 661, 662
   management of, 661–665
   net, 660
   permanent, 663
   processing delay and, 661
   reducing, 664
   staying afloat, 661
   steady-state, 663n

Floating-rate bonds (floaters), 211–212

Floor brokers, 251
   Floor planning, 644

Floor traders, 251
   Floor value, 467–468
   Flotation costs, 530–534
   abnormal return, 529, 530
   case study of, 532–534
   direct expenses, 530
   dividend policy and, 599
   Green Shoe option, 530
   gross spread, 530
   indirect, 529, 530
   indirect expenses, 530
   underpricing, 530
   weighted average cost of capital and, 501–504
   basic approach, 501–502
   calculating, 502
   internal equity and, 504
   net present value and, 502–503
   Weaver on, 503
   Follow-on offering, 519n

Forbes, 12
   Ford, 4, 53, 91, 100, 209, 247, 569
   Forecasting risk, 338–339

Foreign bonds, 727
   Foreign currency approach to international capital budgeting, 741, 742–743

Foreign exchange market, 728
   currency symbols, 728
   exchange rates and, 728
   See Exchange rates
   forward trades and, 732–733
   participants in, 729
   spot trades and, 732

Forward exchange rates, 732–733
   unbiased, 739

Forward trade, 732
   Fox Meyer Health, 704

Free cash flow, 35, 597
   Frequency distribution, 381–382
   Funding, 204n

Future value (FV), 122–129
   of annuities, 161
   compound growth and, 128
   compound interest and, 122, 123
   compounding and, 122–126
   dividend growth and, 129
   equation, 123
   evaluating investments using, 133–134
   financial calculator for, 126–128
   interest on interest and, 122
   multi-period investing, 122–126
   with multiple cash flows, 147–149
   present value versus, 133
   simple interest and, 122–124
   single period investing, 122
   spreadsheet for, 139
   summary of calculations, 140
   tables of, 123–125

Future value interest factor, 123, 133
   table of, 125

General cash offer, 517

General Electric, 6, 590

General Motors, 53, 89, 91, 100, 211, 247, 569

General partnership, 5
   General partners, 5

Generally Accepted Accounting Principles (GAAP), 25, 77
   income statement and, 27–28

Geometric average return, 388
   arithmetic average return versus, 387–391

Gilts, 727
   Going dark, 10
   “Golden rule,” 245
   Goldman, Sachs and Co., 7, 513
   Google, 247, 339, 522
   Government bonds, 209–210

Green shoe provision, 522, 530
   Gross spread, 520, 530

Growing perpetuity, 164–165, 237
   Growth
      compound, 128
      in dividends, 129
      external financing and, 101–110
      as financial management goal, 90–91
   Growth stocks, 236
   investing in, 387

H. J. Heinz, 1

Halliburton, 582, 590

Hard rationing, 359

Harley Davidson, 48, 254–256

Hedging
   exchange rate risk, 744
   short-term borrowing and, 637

Hershey Company, 311, 503

Hewlett-Packard (HP), 10, 12–13, 416

Historical cost, 25

Holder-of-record date, 538

Home current approach to international capital budgeting, 741–742

Homemade dividend policy, 596

Homemade leverage, 557

Honeywell, 403, 412

Hughes Aircraft, 247

Hurricane Katrina, 212

IBM, 25–26, 416, 612, 657, 726, 745

Idle cash, investing, 672–674

money market securities, 672, 674
planned or possible expenditures, 672
seasonal or cyclical activities, 672, 673
short-term securities, 673–674
temporary surpluses, 672

Iluka Resources, Ltd., 744

Income bonds, 212, 214

Income statement, 26–30, 27
   common-size, 54
   equation, 26
   example of, 27
   GAAP and, 27–28
   noncash items, 28
   percentage of sales approach and, 96–97
   time and cost, 28, 30

Incremental cash flows, 303–306
   aftertax, 306
   erosion and, 305
   financing costs and, 305
   net working capital and, 305
   opportunity cost and, 304
   other issues, 305–306
   relevant, 305
   side effects, 304–305
   stand-alone principle and, 303
   sunk cost and, 304

Incremental costs, 347

Incremental revenue, 347

Indenture, 205–208
   bearer form, 205
   call premium, 207
   call protected bond, 207
   call provision, 207
   collateral for, 206
   debenture, 204, 206
   deferred call provision, 207
   mortgages for, 206
   note, 204, 206
   principle value, 205
   protective covenant, 207–208
   provisions of, 205
   registered form, 205
   repayment, 206–207
   security, 206
   seniority, 206
   sinking fund, 206–207
   terms, 205
Independent demand, 705
Indirect agency costs, 11
**Indirect bankruptcy costs, 568-569**
Indirect exchange rate, 729–730
Inflation and interest rates, 219–222
Fisher effect, 220–221
present values, 221–222
real versus nominal rates, 219–220
Inflation-linked bond, 212
**Inflation premium, 223–225**
**Information content effect, 502–503**
Initial public offering (IPO), 517
costs of, 530–534
quiet period and, 522
underpricing of, 523–529, 530
1999–2000 experience, 523–525
around the world, 527
as cost of selling stock, 530
evidence on, 525–526
reasons for, 526–529
Innovation, 412
**Inside quotes, 253**
Insurance, 469
Intel, 16, 253, 302, 466
Interest, 59
Interest coverage ratio, 60–61
**Interest on interest, 122**
Interest-only loans, 171–172
**Interest rate parity (IRP), 738–739**
**Interest rate risk**
- bonds and, 197–198
- short-term securities and, 673
**Interest rate risk premium, 224–225**
Interest rate swaps, 728
Interest rates
- annual, 168–169
- effective. See Effective annual rate (EAR)
inflation and. See Inflation and interest rates
stated, 166
term structure of, 222–225
**Interest tax shield, 563**
Intermediate-term debt, 204n
**Internal growth rate, 105**
Internal rate of return (IRR), 277–287
advantages and disadvantages of, 286
 calculating, 280, 282
crossover rate and, 285
Descartes’ Rule of Sign and, 283
as discounted cash flow return, 279
historical comparison of, 289
modified. See Modified internal rate of return (MIRR)
multiple rates of return, 281
mutually exclusive investments and,
283–284
net present value profile and, 279
nonconventional cash flows and, 281–282
problems with, 281–285
redeeming qualities of, 285
rule, 277
spreadsheet for, 280
summary, 289, 290
Internal Revenue Service (IRS), 7, 198, 248
International corporate finance, 726–747
capital budgeting, 741–743
foreign currency approach, 741,
742–743
home currency approach, 741–742
unremitted cash flows and, 743
covered interest arbitrage, 737–738
exchange rate risk and. See Exchange rate risk
exchange rates. See Exchange rates for foreign exchange market. See Foreign exchange market
forward rates, 739
future spot rates, 739
interest rate parity, 738–739
international Fisher effect, 740
notations, 735, 737
political risk, 746–747
purchasing power parity and. See Purchasing power parity (PPP)
termology, 727–728
unbiased forward rates, 739
uncovered interest parity, 740
International currency symbols, 728
International Fisher effect (IFE), 740
International Paper Co., 214
Interval measure, 59
**Intrinsic value, 448**
Inventory depletion, 707–708
**Inventory loans, 644**
Inventory management, 704–713
ABC approach, 706–707
carrying costs and, 705–706
derived-demand, 705, 711, 713
economic order quantity and. See Economic order quantity (EOQ) model
financial manager and, 705
just-in-time, 713
materials requirements planning and, 713
shortage costs and, 706
types of inventory and, 705
**Inventory period, 627, 630**
credit period and, 693
inventory turnover ratio, 61, 630
Investment criteria, 264–290
average accounting return. See Average accounting return (ARR)
capital. See Capital investment decisions discounted payback. See Discounted payback period
future value and. See Future value (FV)
internal rate of return. See Internal rate of return (IRR)
net present value. See Net present value (NPV)
net present value. See Payback rule
payback rule. See Payback rule
practice of capital budgeting and, 288–290
present value and. See Present value (PV)
profitability index, 287–288
summarized, 290
**Investment timing decision, 459–461, 460**
Invoice, 692
Ivanhoe Mines, 342
J. Peterman Co., 90–91
JCPenney, 443
JetBlue Airways, 89
Joint stock company, 7
Junk bonds, 209
Altman on, 213
Just-in-time (JIT) inventory, 713
Kanban, 713
Keiretsu, 713
Kerr-McGee, 613
Key employee retention plans (KERPs), 581
Kia Motors, 100
Krispy Kreme, 461–462
Lastminute, 10
Ledger balance, 659
Legal bankruptcy, 579
Lenders, 203
Letter of comment, 516
Letter of credit, 643
Level coupon bond, 193
Leverage ratios, 59–61
Leveraged buyouts (LBOs), 213
Leveraged buyouts (LBOs), 213
Lexmark International, 234
Liabilities, 22–23
Liability and business organization, 5–7
Limited liability company (LLC), 6–7
Limited partnership, 5
**Line of credit, 642**
Lion BioScience, 10
Liquidating dividend, 591
**Liquidation, 579–580**
Liquidity
- on the balance sheet, 24
- management of. See Cash and liquidity management
- measurement of, 57–59
**Liquidity premium, 224n, 226**
Loan agreement (contract), 205n
Loan guarantees, 469
Loans, 171–176
amortized. See Amortized loans
bonds. See Bonds
interest only, 171–172
inventory, 644
pure discount, 171
term, 542–543
Treasurer bills, 171
Lockboxes, 666–667
Lockheed, 469
nature of, 705
Limited partnership, 5
Limited liability company (LLC), 6–7
Limited partnership, 5
Limited partnership, 5
Liabilities, 22–23
Liability and business organization, 5–7
Limited liability company (LLC), 6–7
Limited partnership, 5
Line of credit, 642
Lion BioScience, 10
Liquidating dividend, 591
Liquidation, 579–580
Liquidity
- on the balance sheet, 24
- management of. See Cash and liquidity management
- measurement of, 57–59
Liquidity premium, 224n, 226
Loan agreement (contract), 205n
Loan guarantees, 469
Loans, 171–176
amortized. See Amortized loans
bonds. See Bonds
interest only, 171–172
inventory, 644
pure discount, 171
term, 542–543
Treasurer bills, 171
Lockboxes, 666–667
Lockheed, 469
Lockup agreement, 522
London Interbank Offer Rate (LIBOR), 727–728
London Stock Exchange, 339–340
London Stock Exchange, 339–340
Long-term debt, 203–204. See also Bonds issuing, 542–543
Long-term debt ratio, 60
Long-term financial planning.
See Financial planning
Long-term liabilities, 22
Long-term solvency measures, 59–61
Lowe’s, 339
LYON (liquid yield option note), 469
Lowe’s, 339
Long-term fi
Long-term fi
Long-term debt, 203–204.
Long-term debt, 203–204.
Long-term fi
Long-run exposure to exchange
taxes and, 564–565
Miller on, 561
fi  nancial risk and, 561–562
fi  nancial leverage, 559–560
cost of equity, 559–560
conclusion, 565–566
business risk and, 561–562
pie model, 558–559
Miller on, 561
conclusion, 565–566
financial risk and, 561–562
taxes and, 562–564
static theory of capital structure and,
summary of, 566
unlevered cost of capital and, 564

M & M Proposition I, 558–567
cost of equity, 559–560
financial leverage, 559–560
financial risk and, 561–562
Miller on, 561
taxes and, 564–565
summary of, 566
weighted average cost of capital and,

M & M Proposition II, 559–567
business risk and, 561–562
conclusion, 565–566
executory covenant, 562
financial leverage, 559–560
financial risk and, 561–562
Miller on, 561
taxes and, 564–565
summary of, 566
weighted average cost of capital and,

M anpower Inc., 59
M anville, 581
Marginal costs, 347
Marginal revenue, 347
Marginal tax rate, 30–32
M arket makers, 250–251
Market risk premium, 426
M arket risks, 413, 417
M arket-to-book ratio, 66
M arket value, 25
book value vs., 25–26

depreciation and, 313–315
dilution of value and, 540–542
M arket value added (M VAs), 496
M arketability, 673
M arketed claims, 575
M artha Stewart Omnimedia, 523
M asterCard, 513
M atching principle, 28

M aterials requirements planning (MRP), 713
M aturity, 193
interest rate risk and, 197–198, 673
M aturity factoring, 637
M aturity risk premium, 224n
M cDonald’s, 523
M cGraw-Hill, 234
M ember, 250
M err, 337
M errill Lynch, 21, 214, 250, 519
M ezanne-level fi
M ordex, 588–589
M orge rate, 250
M usinlational, 726
M ultiple rates of return, 281
M unish R., 212
M unicipal notes and bonds (“munis”), 210
M utually exclusive investments, 283–284
N ASDAQ (National Association of Securities
Dealers Automated Quotation) system, 252–254
Capital M arket, 253
described, 16
difference between the NYSE and,
252–253
electronic communications network, 253
inside quotes, 253
National Market, 253
as an over-the-counter market, 253
participants, 253
reporting by, 254–256
N egative covenant, 207
N éiman-M arcus, 73
Net cash infl ow, 640–641
Net float, 660
Net income, 27
N et present value (NPV), 265–269, 266
basic idea, 265–266
credit policy and, 696–697, 722–723
discounted cash fl ow valuation and, 266
estimating. See N et present value estimates
fi  nancial leverage, 559–560
fi  nancial risk and, 561–562
Miller on, 561
taxes and, 564–565
summary of, 566
weighted average cost of capital and,

M anpower Inc., 59
M anville, 581
Marginal costs, 347
Marginal revenue, 347
Marginal tax rate, 30–32
M arket makers, 250–251
Market risk premium, 426
M arket risks, 413, 417
M arket-to-book ratio, 66
M arket value, 25
book value vs., 25–26

depreciation and, 313–315
dilution of value and, 540–542
M arket value added (M VAs), 496
M arketability, 673
M arketed claims, 575
M artha Stewart Omnimedia, 523
M asterCard, 513
M atching principle, 28

M aterials requirements planning (MRP), 713
M aturity, 193
interest rate risk and, 197–198, 673
M aturity factoring, 637
M aturity risk premium, 224n
M cDonald’s, 523
M cGraw-Hill, 234
M ember, 250
M err, 337
M errill Lynch, 21, 214, 250, 519
M ezanne-level fi
M ordex, 588–589
M orge rate, 250
M usinlational, 726
M ultiple rates of return, 281
M unish R., 212
M unicipal notes and bonds (“munis”), 210
M utually exclusive investments, 283–284
N ASDAQ (National Association of Securities
Dealers Automated Quotation) system, 252–254
Capital M arket, 253
described, 16
difference between the NYSE and,
252–253
electronic communications network, 253
inside quotes, 253
National Market, 253
as an over-the-counter market, 253
participants, 253
reporting by, 254–256
N egative covenant, 207
N éiman-M arcus, 73
Net cash infl ow, 640–641
Net float, 660
Net income, 27
N et present value (NPV), 265–269, 266
basic idea, 265–266
credit policy and, 696–697, 722–723
discounted cash fl ow valuation and, 266
estimating. See N et present value estimates
fi  nancial leverage, 559–560
fi  nancial risk and, 561–562
Miller on, 561
taxes and, 564–565
summary of, 566
weighted average cost of capital and,
forecasting risk, 338–339
projected versus actual cash flows, 338
sources of value, 339–340
Net working capital, 23. See also Short-term finance and planning
change in, 33, 34, 38
incremental cash flows and, 305
project cash flows and, 308, 309–312
tracing, 625–626
Net working capital to total assets ratio, 59
Net working capital turnover ratio, 63
Netflix, 529
New York Stock Exchange (NYSE), 16, 216,
247, 250–252
commission brokers, 250
differences between NASDAQ and, 252–253
floor activity, 251–252
floor brokers, 251
floor traders, 251
listing stock on, 16
members, 250–251
operations, 251
order flow, 251
reporting by, 254–256
specialists, 250–251
specialists’ post, 251–252
SuperDOT system, 251
News, 411–413
Nominal rates, 219
Noncash items, 28
Noncommitted line of credit, 642
Nonconstant growth model, 240–242, 244
Noncumulative dividends, 248–249
Nondiversifiable risk, 417
Nonmarketed claims, 575
NoNo bonds, 214
Normal distribution, 384–386
Northeast Utilities, 281
Notes, 204, 206
NUI Corporation, 602–603
NY SE Group, Inc., 250
One-shot approach to credit analysis, 720
Open account, 695
accounting break-even and. See
Accounting break-even accounting definition of, 34
bottom-up approach, 319–320
cash break-even and, 353
conclusion, 321, 354
example of, 37–38
financial break-even and, 354
project, 307–308
sales volume and, 352
tax shield approach, 320
top-down approach, 320
Operating cycle, 626–632, 627
accounts receivable period and, 627
calculating, 629–632
cash flow time line and, 628
credit period and, 693
defined, 627–628
events and decisions of, 627
inventory period and, 627
organization chart and, 629
Operating leverage, 355–358
basic idea, 355–356
break-even and, 357–358
degree of, 356–357
implications of, 356
measuring, 356–357
Opportunity cost, 304
BAT model and, 681–682
Option valuation, 446–450
call. See Call option valuation
Options, 439–469
American, 440
basics of, 440–445
call. See Call option
capital budgeting and, 459–464
investment timing decision and,
459–461
managerial options. See Managerial options
corporate securities and. See Corporate securities and options
employee stock. See Employee stock options (ESO)
European, 440
exercising the, 440
expiration date, 440
explicit, 459
implicit, 459–464
payouts, 444–445
put. See Put option
real, 459
stock option quotations, 444–445
strike price, 440
valuation of. See Option valuation
Oracle, 3, 12, 551
Order costs, 634
Order flow, 251
Ordinary annuity form, 154
Organization chart, 2
illustrated, 3
operating cycle and, 629
Original-issue discount (OID) bond, 210n
Overallocation option, 522
Overdrafting of accounts, 664–665
Oversubscription privilege, 539
Over-the-counter collection, 666
Over-the-counter (OTC) markets, 16, 253
bond markets as, 214–216
foreign exchange markets as, 728
NASDAQ as, 253
Owens Corning, 581
Owner’s equity
on the balance sheet, 22–23
maximizing the value of, 9
Pacific Stock Exchange, 16
Par value bond, 193
Partnership agreement, 5
Partnerships, 5
Payables period, 631
Payables turnover ratios, 63, 631
Payback period, 269–272
discounted. See Discounted payback period
historical approach of, 289
summary, 290
Payback rule, 269–272
advantages and disadvantages of, 272
analyzing, 270–271
calculating, 269–270
defining, 269–270
redeeming qualities of, 271–272
summary of, 272, 289
Pecking-order theory, 575–577
implications of, 576
internal financing and, 575–576
Peer group analysis, 72–76
PepsiCo, 612, 744
Percentage of sales approach, 96–101
balance sheet and, 97–98
capital intensity ratio and, 97–98
dividend payout ratio and, 96–97
external financing needed and, 98
income statement and, 96–97
plowback ratio and, 97
retention ratio and, 97
scenarios, 99–101
Performance evaluation, 496–497
Period costs, 30
Perishability, 693
Perpetuities, 162–163
growing, 164–165, 237
preferred stock as, 163
Pfizer, 657, 726
Planning horizon, 91
Plowback ratio, 97
Political risk, 746–747
Porsche AG, 10
Portfolio risk
diversification and. See Diversification systematic. See Systematic risk
unsystematic, 413–414, 416–417
Portfolios, 407–410, 408
beta coefficient and, 420–421
diversification of, 414–417
expected returns from, 408–409
market, 426
risk and, 416–417
variance, 409–410
standard deviation and, 410, 415
weights, 408
Positive covenant, 207
PowerBall lottery, 121
Precautionary motive, 658
Preemptive right, 247
Preferred stock, 248–249
PowerBall lottery, 121
Precautionary motive, 658
Preemptive right, 247
Profitability index (PI), 287–288
advantages and disadvantages of, 288
historical comparison of, 289
summary, 290
Profitability ratios, 63–65
Project analysis and evaluation, 337–359
break-even analysis, 337–359
capital rationing, 358
hard, 359
soft, 358–359
net present value estimates. See Net present value estimates
operating cash flow. See Operating cash flow
operating leverage. See Operating leverage
what-if analyses. See What-if analyses
Project cash flows, 303, 307–318
capital spending and, 308
cash collections and costs, 311–312
depreciation and, 312–315
book value versus market value, 313–315
modified ACRS, 312–313, 314
example of, 315–318
capital spending, 317
change in NWC, 315–317
conclusion, 318
total cash flow and value, 317–318
incremental. See Incremental cash flows
net working capital and, 308, 309–312
operating, 307–308
pro-forma statements and, 306–308
relevant, 303
stand-alone principle, 303
total cash flow and value, 308–309
Projected risk premium, 405
Promissory note, 695
Prospectus, 516
Protective covenant, 207–208
Proxy fight, 12–13, 247
Proxy voting, 246–247
Public limited companies, 7
Purchasing power parity (PPP), 733–736
absolute, 733–735
currency appreciation and depreciation, 736
relative, 735–736
Pure discount loans, 171
Pure play approach, 498–499
Put bonds, 214, 469
Put option, 440
payoffs, 445
PX RE, 212
Quaker Oats, 496
Quick ratio, 58–59
Quiet period, 522
QUIPS (quarterly income preferred securities), 249
Quoted interest rate, 166
Raising capital, 513–550
early state financing, 514–516
long-term debt, 542–543
selling securities. See Selling securities to the public
shelf registration, 543–544
venture capital. See Venture capital (VC)
Rate of return, 134–135
internal. See Internal rate of return (IRR)
Ratio analysis. See Financial ratios
Raw material inventory, 705
Real option, 459
Real rates, 219
Realization principle, 27
Receipt of goods, 692
 Receivables period, 62, 630, 691
 Receivables turnover ratio, 62, 73, 630
 Recognition principle, 27
Red Hat, Inc., 48
Red herring, 516, 517
Registered form, 205
Registration statement, 516–517
Regular cash dividends, 591
Regulation A, 516
Reinvestment approach to MIRR, 286
Relative purchasing power
parity, 735–736
basic idea, 735
calculation of, 735–736
notations, 735
Reorder points, 711, 712
Reorganization, 579, 580–581
Republic National Bank, 198
Repurchase. See Stock repurchase
Repurchase agreements, 674
Required return
components of, 243–244
cost of capital versus, 480
Residual dividend approach, 604–606
Restocking costs, 710
Restructuring, 551
Retention ratio, 97
Return on assets (ROA), 64–65
average accounting return and, 276n
Return on book assets, 64
Return on book equity, 64
Return on equity (ROE), 64–65, 541n
Du Pont Identity and, 67–70
financial leverage and, 554–555
sustainable growth rate and, 108
Return on net worth, 64
Revenue effects of credit policy, 695
Reverse split, 615–616
Revolving credit arrangement, 642
Reward-to-risk ratio, 422
security market line and, 428
Rights offer (ing), 517, 534–540
advantages of, 534
effects on shareholders, 539–540
exercising a, 537–538
ex-rights date, 538
holder-of-record date, 538
mechanics of, 534–535
number needed to purchase a share, 535–536
oversubscription privilege, 539
underwriting arrangements, 539
value of, 536–537
Risk. See also specific types of risk
beta versus, 419
call options and, 450
forecasting, 338–339
political, 746–747
summary of return and, 428
Risk and return
announcements and news, 411–413
diversification and. See Diversification
expected and unexpected returns, 411
expected return, 404–406
portfolios. See Portfolios
security market line and. See Security market line (SM L)
summary of, 428
systematic. See Systematic risk
unsystematic. See Unsystematic risk
variance and, 406–407
Risk-free rate, 450
Risk-free return, 380
Risk M anagement Association (RMA), 73–75
Risk premium, 380, 403
beta and. See Beta coefficient, risk premium and
projected, 405
RJR Nabisco, 213, 246
Rule of 72, 135, 138–140
S corporation, 6n
Safety reserves, lack of, 634
Safety stocks, 711, 712
Sagient Research Systems, 615–616
Sales forecast, 93
Sales volume and operating cash flow, 352
Salesforce.com, 522
S&P Market Insight, 69
Sarbanes-Oxley Act of 2002 (“Sarbox”), 10
S&P Market Insight, 69
Society for Worldwide Interbank Financial Telecommunications (SWIFT), 729
Soft rationing, 358–359
Sole proprietorship, 5
Sources of cash, 49–51, 626
Special dividend, 591
Specialists, 250–251
Specialist’s post, 251–252
Speculative motive, 658
Spot exchange rate, 732
future, 739
Spot trades, 732
Spreadsheet strategies
bond prices and yields, 201–202
future value, 139
internal rate of return, 280
loan amortization, 176
multiple cash flows, 153
present value, 139
annuity, 157, 158
net, 268
Stafford loans, 173–175
Stakeholders, 14
Stand-alone principle, 303
Standard & Poor’s (S&P), 208–209, 214,
673, 674
Standard deviation, 382
calculating, 382–384
historical record, 384
portfolio variance and, 410
table of, 415
Standard Industrial Classification (SIC) codes, 72–73
Standardization, 693
Standardized financial statements, 53–56
combined, 55–56
common-base year, 55
common-size, 53–55
Standby fee, 539
Standby underwriting, 539
Stanley Works, 604

Security market line (SM L), 403, 426–429
beta and risk premium, 421–425
capital asset pricing model and, 426–427
cost of capital and, 428–429
cost of equity and, 483–485
advantages and disadvantages of, 484
example of, 484–485
implementing the approach, 484
market portfolios and, 426
risk and return, 427
summary, 428
weighted average cost of capital, 497–498
Segway, 342
Selling securities to the public, 516–542
alternative methods of, 517–519
basic procedure, 516–517
costs of. See Flotation costs
dilution, 540–542
of proportionate ownership, 540
of value, 540–542
dribble method of, 543–544
general cash offer, 517
initial public offering. See Initial public offering (IPO)
letter of comment, 516
long-term debt, 542–543
prospectus, 516
red herring, 516, 517
registration statement, 516
Regulation A, 516
rights offer. See Rights offering
seasoned equity offering, 519
SEC and, 516–517
shelf registration, 543–544
small issue exemption, 516
summary of methods of, 519
tombstone, 517
example of, 518
underwriters and. See Underwriters
value of the firm and, 529–530
Semi-strong form efficiency, 395
Seniority, 206
Sensitivity analysis, 343–344
Share warrants, 534
Shareholder value added (SVA), 496
Shareholders. See Stockholders
Shareholders’ equity. See Owner’s equity
Shareholders’ rights, 245–246, 247
Shelf registration, 543–544
Short-run exposure to exchange rate risk, 743–744
Short-term debt, 204
Short-term finance and planning, 624–656
borrowing. See Borrowing short-term
cash and, 625–626
cash budget and. See Cash budget
cash cycle and. See Cash cycle
current assets and. See Current assets
defined, 624
example of, 645–646
flexible policy, 632–633, 635
managers who deal with, 629
net working capital and, 625–626
operating cycle and. See Operating cycle
questions answered by, 624
restrictive policy, 632, 635
Short-term securities, 673–674
Short-term solvency measures, 57–59
Shortage costs, 633–634
economic order quantity model and, 709
Siemens A.G., 10
Sieghl draft, 695
Simmons, 100
Simple interest, 122–124, 123
Simulation analysis, 344–345
Sinking fund, 206–207, 249
Sirius Satellite Radio, 48
Six Ps of financial planning, 90
Small-issues exemption, 516
Society for Worldwide Interbank Financial Telecommunications (SWIFT), 729
Soft rationing, 358–359
Sole proprietorship, 5
Sources of cash, 49–51, 626
Special dividend, 591
Specialists, 250–251
Specialist’s post, 251–252
Speculative motive, 658
Spot exchange rate, 732
future, 739
Spot trades, 732
Spreadsheet strategies
bond prices and yields, 201–202
future value, 139
internal rate of return, 280
loan amortization, 176
multiple cash flows, 153
present value, 139
annuity, 157, 158
net, 268
Stafford loans, 173–175
Stakeholders, 14
Stand-alone principle, 303
Standard & Poor’s (S&P), 208–209, 214,
673, 674
Standard deviation, 382
calculating, 382–384
historical record, 384
portfolio variance and, 410
table of, 415
Standard Industrial Classification (SIC) codes, 72–73
Standardization, 693
Standardized financial statements, 53–56
combined, 55–56
common-base year, 55
common-size, 53–55
Standby fee, 539
Standby underwriting, 539
Stanley Works, 604
<table>
<thead>
<tr>
<th>Subject</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starbucks</td>
<td>253</td>
</tr>
<tr>
<td>Stated interest rate</td>
<td>166</td>
</tr>
<tr>
<td>Statement of cash flows</td>
<td>32, 51-53</td>
</tr>
<tr>
<td>common-size</td>
<td>55</td>
</tr>
<tr>
<td>Statement of Financial Accounting Standards No. 52 (FASB 52)</td>
<td>745</td>
</tr>
<tr>
<td>States of the economy</td>
<td>404-405</td>
</tr>
<tr>
<td>Static theory of capital structure</td>
<td>569-570</td>
</tr>
<tr>
<td>alternative to</td>
<td>575-577</td>
</tr>
<tr>
<td>Stern Stewart and Co.</td>
<td>496</td>
</tr>
<tr>
<td>Stock</td>
<td>common. See Common stock delisting of</td>
</tr>
<tr>
<td>listing of</td>
<td>16</td>
</tr>
<tr>
<td>maximizing the value of</td>
<td>9</td>
</tr>
<tr>
<td>preferred. See Preferred stock trading</td>
<td>16</td>
</tr>
<tr>
<td>Stock dividends</td>
<td>612-615</td>
</tr>
<tr>
<td>benchmark case</td>
<td>614</td>
</tr>
<tr>
<td>details on</td>
<td>613-614</td>
</tr>
<tr>
<td>large</td>
<td>613, 614</td>
</tr>
<tr>
<td>small</td>
<td>613</td>
</tr>
<tr>
<td>trading range and</td>
<td>614-615</td>
</tr>
<tr>
<td>value of</td>
<td>614-615</td>
</tr>
<tr>
<td>Stock markets</td>
<td>249-256</td>
</tr>
<tr>
<td>brokers</td>
<td>250</td>
</tr>
<tr>
<td>dealers</td>
<td>250</td>
</tr>
<tr>
<td>NASDAQ. See NASDAQ (National Association of Securities Dealers Automated Quotation) system</td>
<td></td>
</tr>
<tr>
<td>NYSE. See New York Stock Exchange (NYSE)</td>
<td></td>
</tr>
<tr>
<td>primary markets</td>
<td>14-16, 249</td>
</tr>
<tr>
<td>secondary markets</td>
<td>14-16, 249</td>
</tr>
<tr>
<td>Stock option quotations</td>
<td>440-444</td>
</tr>
<tr>
<td>Stock repurchase</td>
<td>609-612, 610</td>
</tr>
<tr>
<td>cash dividends versus</td>
<td>610-611</td>
</tr>
<tr>
<td>earnings per share and</td>
<td>612</td>
</tr>
<tr>
<td>real-world considerations</td>
<td>611-612</td>
</tr>
<tr>
<td>Stock splits</td>
<td>612-616</td>
</tr>
<tr>
<td>benchmark case</td>
<td>614</td>
</tr>
<tr>
<td>details on</td>
<td>613-614</td>
</tr>
<tr>
<td>example of</td>
<td>613-614</td>
</tr>
<tr>
<td>reverse</td>
<td>615-616</td>
</tr>
<tr>
<td>trading range and</td>
<td>614-615</td>
</tr>
<tr>
<td>value of</td>
<td>614-615</td>
</tr>
<tr>
<td>Stock valuation</td>
<td>common. See Common stock valuation firm value and</td>
</tr>
<tr>
<td>preferred</td>
<td>248</td>
</tr>
<tr>
<td>Stockholders</td>
<td>agency problem. See Agency problem</td>
</tr>
<tr>
<td>cash flow to</td>
<td>35-36</td>
</tr>
<tr>
<td>example of</td>
<td>38-39</td>
</tr>
<tr>
<td>common stock offered to. See Rights offer(ing)</td>
<td></td>
</tr>
<tr>
<td>Stockholders’ equity</td>
<td>See Owner’s equity</td>
</tr>
<tr>
<td>Stockout</td>
<td>634</td>
</tr>
<tr>
<td>Straight bond value</td>
<td>466-467</td>
</tr>
<tr>
<td>Straight voting</td>
<td>246</td>
</tr>
<tr>
<td>Strategic asset allocation</td>
<td>265</td>
</tr>
<tr>
<td>Strategic options</td>
<td>464</td>
</tr>
<tr>
<td>Strike price</td>
<td>440</td>
</tr>
<tr>
<td>Strong form efficiency</td>
<td>395</td>
</tr>
<tr>
<td>Subordinated debt</td>
<td>206</td>
</tr>
<tr>
<td>Sunk costs</td>
<td>304</td>
</tr>
<tr>
<td>SuperDOT system</td>
<td>251</td>
</tr>
<tr>
<td>Surprise, 412. See also Systematic risk; Unsystematic risk</td>
<td></td>
</tr>
<tr>
<td>Sustainable growth rate</td>
<td>105-110</td>
</tr>
<tr>
<td>calculation of</td>
<td>108</td>
</tr>
<tr>
<td>determinants of</td>
<td>107</td>
</tr>
<tr>
<td>Higgins on</td>
<td>109</td>
</tr>
<tr>
<td>profit margins and</td>
<td>109</td>
</tr>
<tr>
<td>Swaps</td>
<td>728</td>
</tr>
<tr>
<td>Sweeteners</td>
<td>465</td>
</tr>
<tr>
<td>Symboin, Inc.</td>
<td>532-534</td>
</tr>
<tr>
<td>Syndicate, 520</td>
<td></td>
</tr>
<tr>
<td>Systematic risk</td>
<td>403, 413</td>
</tr>
<tr>
<td>beta coefficient and</td>
<td>417-421, 428</td>
</tr>
<tr>
<td>capital asset pricing model and</td>
<td>426</td>
</tr>
<tr>
<td>as component of return</td>
<td>413-414</td>
</tr>
<tr>
<td>diversification and</td>
<td>417</td>
</tr>
<tr>
<td>measuring</td>
<td>418-419</td>
</tr>
<tr>
<td>principle</td>
<td>418</td>
</tr>
<tr>
<td>summary</td>
<td>428</td>
</tr>
<tr>
<td>Takeovers</td>
<td>13</td>
</tr>
<tr>
<td>Tangible assets</td>
<td>22</td>
</tr>
<tr>
<td>TANSTAFL</td>
<td>304n</td>
</tr>
<tr>
<td>Target</td>
<td>73</td>
</tr>
<tr>
<td>Target cash balance</td>
<td>679-687</td>
</tr>
<tr>
<td>adjustment costs and</td>
<td>679</td>
</tr>
<tr>
<td>basic idea</td>
<td>679-680</td>
</tr>
<tr>
<td>BAT model. See Baumol-Allais-Tobin (BAT) model</td>
<td></td>
</tr>
<tr>
<td>Miller-Orr model. See Miller-Orr model other factors influencing</td>
<td>686-687</td>
</tr>
<tr>
<td>Target payout ratio</td>
<td>607</td>
</tr>
<tr>
<td>Tax Reform Act of 1986</td>
<td>312</td>
</tr>
<tr>
<td>Tax-shield approach to cash flow</td>
<td>320</td>
</tr>
<tr>
<td>Taxability premium</td>
<td>226</td>
</tr>
<tr>
<td>Taxes/taxation</td>
<td>30-32</td>
</tr>
<tr>
<td>average rates</td>
<td>30-32</td>
</tr>
<tr>
<td>corporate</td>
<td>6-7</td>
</tr>
<tr>
<td>rates of</td>
<td>30</td>
</tr>
<tr>
<td>dividend policy and</td>
<td>597-599</td>
</tr>
<tr>
<td>tax exempt investors</td>
<td>601</td>
</tr>
<tr>
<td>double</td>
<td>6-7</td>
</tr>
<tr>
<td>flat-rate, 31</td>
<td></td>
</tr>
<tr>
<td>incremental cash flows and</td>
<td>306</td>
</tr>
<tr>
<td>interest tax shield and</td>
<td>563</td>
</tr>
<tr>
<td>marginal rates</td>
<td>30-32</td>
</tr>
<tr>
<td>M &amp; M Propositions and</td>
<td>562-565</td>
</tr>
<tr>
<td>static theory of capital structure and</td>
<td>569-570</td>
</tr>
<tr>
<td>summary of</td>
<td>566</td>
</tr>
<tr>
<td>municipal bonds and</td>
<td>210</td>
</tr>
<tr>
<td>short-term securities and</td>
<td>673-674</td>
</tr>
<tr>
<td>stock repurchases and</td>
<td>611-612</td>
</tr>
<tr>
<td>weighted average cost of capital</td>
<td>488</td>
</tr>
<tr>
<td>zero coupon bonds and</td>
<td>210-211</td>
</tr>
<tr>
<td>Technical insolvency</td>
<td>579</td>
</tr>
<tr>
<td>Telecommunications Software Inc.</td>
<td>10</td>
</tr>
<tr>
<td>Term loans</td>
<td>542-543</td>
</tr>
<tr>
<td>Term structure of interest rates</td>
<td>222-225</td>
</tr>
<tr>
<td>Terms of sale</td>
<td>690, 691-695</td>
</tr>
<tr>
<td>basic form</td>
<td>692</td>
</tr>
<tr>
<td>cash discounts</td>
<td>693-695</td>
</tr>
<tr>
<td>credit instruments</td>
<td>695</td>
</tr>
<tr>
<td>credit period</td>
<td>692-693</td>
</tr>
<tr>
<td>Time and costs</td>
<td>28, 30</td>
</tr>
<tr>
<td>Time draft</td>
<td>695</td>
</tr>
<tr>
<td>Time trend analysis</td>
<td>71-72</td>
</tr>
<tr>
<td>Time value of money</td>
<td>121</td>
</tr>
<tr>
<td>future value. See Future value (FV) present value. See Present value (PV) spreadsheet for</td>
<td>139</td>
</tr>
<tr>
<td>summary of calculations</td>
<td>140</td>
</tr>
<tr>
<td>Time Warner</td>
<td>609</td>
</tr>
<tr>
<td>Times interest earned (TIE) ratio</td>
<td>60-61, 73</td>
</tr>
<tr>
<td>Tobin’s Q ratio</td>
<td>66</td>
</tr>
<tr>
<td>Tokyo Stock Exchange</td>
<td>16</td>
</tr>
<tr>
<td>Tombstone</td>
<td>517</td>
</tr>
<tr>
<td>example of</td>
<td>518</td>
</tr>
<tr>
<td>Tootsie Roll</td>
<td>48</td>
</tr>
<tr>
<td>Top-down approach to cash flow</td>
<td>320</td>
</tr>
<tr>
<td>TIPS (trust-registered preferred securities) (toppers)</td>
<td>249</td>
</tr>
<tr>
<td>Total capitalization versus total assets</td>
<td>60</td>
</tr>
<tr>
<td>Total costs (TC)</td>
<td>346-347</td>
</tr>
<tr>
<td>BAT model and</td>
<td>682-683</td>
</tr>
<tr>
<td>economic order quantity model and</td>
<td>709-710</td>
</tr>
<tr>
<td>Total credit cost curve</td>
<td>698-699</td>
</tr>
<tr>
<td>Total current turnover ratio</td>
<td>63</td>
</tr>
<tr>
<td>sustainable growth rate and</td>
<td>107</td>
</tr>
<tr>
<td>Total debt ratio</td>
<td>59-60</td>
</tr>
<tr>
<td>Toyota Motor</td>
<td>90, 121, 288-289</td>
</tr>
<tr>
<td>Toys “R” Us</td>
<td>672</td>
</tr>
<tr>
<td>Trade acceptance</td>
<td>695</td>
</tr>
<tr>
<td>Trade credit</td>
<td>644, 690</td>
</tr>
<tr>
<td>Trade discounts</td>
<td>694</td>
</tr>
<tr>
<td>Trading costs</td>
<td>634</td>
</tr>
<tr>
<td>BAT model and</td>
<td>682</td>
</tr>
<tr>
<td>Trading range</td>
<td>614-615</td>
</tr>
<tr>
<td>Transaction motive</td>
<td>658</td>
</tr>
<tr>
<td>Transactive Report and Compliance Engine (TRACE)</td>
<td>216</td>
</tr>
<tr>
<td>Translation exposure</td>
<td>744</td>
</tr>
<tr>
<td>Treasury issues (T-bills, bonds, notes)</td>
<td>171, 207, 209-210, 214, 216, 674</td>
</tr>
<tr>
<td>price reporting of</td>
<td>218</td>
</tr>
<tr>
<td>TIPS, 212, 223-224</td>
<td></td>
</tr>
<tr>
<td>Treasury yield curve</td>
<td>225-226</td>
</tr>
<tr>
<td>Treynor index</td>
<td>422n</td>
</tr>
<tr>
<td>Triangle arbitrage</td>
<td>730-732</td>
</tr>
<tr>
<td>Tribune Co.</td>
<td>611</td>
</tr>
<tr>
<td>Trust deed</td>
<td>206</td>
</tr>
</tbody>
</table>
Trust receipt, 644
Tulsa National Bank, 667
Turnover ratios, 61–63
Two-stage growth rate, 242–243, 244
Tyco, 10

Unbiased forward rates (UFR), 739
Uncertainty resolution, 600–601
Uncovered interest parity (UIP), 740
Underwriters, 519–523
aftermarket and, 521
best efforts, 520
choosing, 520
competitive offer, 520
Dutch auction, 521
firm commitment, 520
Green Shoe provision, 522
gross spread, 520
lockup agreement, 522
negotiated offer, 520
quiet period, 522
rights offering and, 539
services performed by, 519
standby, 539
syndicate, 520
Unexpected returns, 411
Unfunded debt, 204
Unique risks, 413, 417
United Airlines, 568
Unlevered cost of capital, 564
Unlevering stock, 558
Unlimited liability, 5
Unremitted cash flows, 743
Unseasoned new issue. See Initial public offering (IPO)
Unsystematic risk, 403, 413
as component of return, 413–414
diversification and, 416–417
summary, 428
USA ir, 249
Uses of cash, 49–51, 626
VA Linux, 523
Value Line, 128
Value/valuation
call option. See Call option valuation
capital structure and, 552–553
common stock. See Common stock valuation
of the firm
cost of equity and, 566–567
stock value and, 552–553
market. See Market value

of money. See Future value (FV); Present value (PV)
net present value estimates and, 339–340
Variability of returns, 381–387
frequency distributions and, 381–382
historical record, 384
investing in growth stock, 387
lesson of, 386
normal distribution, 384–386
standard deviation, 382–384
using capital market history, 386–387
variance and, 382–384
Variable costs, 345

Variance, 382
calculating, 382–383
expected returns and, 406–407
historical, 382–383
portfolio, 409–410
standard deviation and, 410
Venture capital (VC), 514–516
choosing a venture capitalist, 515
conclusion, 516
first-stage, 514
mezzanine level, 514
realities of, 515
second-stage, 514
Verizon Communications, 416
Volkswagen, 463
Vulture capitalists, 514n

Watch Cash Flow,” 36–37
Weak form efficiency, 384
Weighted average cost of capital (WACC), 479, 487–497, 488
calculating, 488–489
for Eastman Chemical, 489–493
capital structure weights, 487
divisional cost of capital and, 498
floating costs and, 501–504
lowest possible, 553
performance evaluation and, 496–497
pure play approach and, 498–499
security market line and, 497–498
Stewart on, 496
subjective approach and, 499–500
summary of calculations, 495
taxes and, 488
using the, 495
warehouse problem and, 494
What-if analyses, 340–344
best case/worst case, 342
getting started, 340–341
scenario analysis, 341–342
sensitivity analysis, 343–344
simulation analysis, 344
Wire transfers, 669
Work-in-process inventory, 705

Working capital, 4
Working capital management, 4. See also Short-term finance and planning
Working the Web
beta estimates, 419–420
bond quotes, 215
calculating company growth, 103
capital structure, 578
corporate information, 13
EDGAR company search, 29
electronic communications networks, 254
exchange rates, 729
financial statements to calculate ratios, 76
loan amortization schedule, 174
money left on the table, 526
MoneyChimp calculator, 164
option prices, 443
standard deviation, 384
time value of money, 140
weighted average cost of capital, 493
World Wrestling Federation (WWF), 517, 518, 523
WorldCom, 10, 568
XM Satellite Radio, 48
Yahoo!, 12, 253

Yield to maturity (YTM), 193
finding, 198–202
Yum Brands, 403, 412

Zero-balance accounts, 671
Zero coupon bonds, 210–211
Zero growth model, 237