Chapter 13
Dividend Policy

An-Najah National University

Prepared by Instructor: E.Shatha Qamhieh

Managerial Finance

Dividend Fundamentals

- ***Retained Earnings:*** they are earnings that are not distributed to owners and are considered as an internal financing source.
- ***Dividends:*** they are a distribution of a portion of a company's earnings, decided by the board of directors, to a class of its shareholders.
- ***payout policy:*** is the Decisions that a firm makes regarding whether to distribute cash to shareholders, how much cash to distribute, and the means by which cash should be distributed.
- ***dividend policy*** The firm's plan of action to be followed whenever it makes a dividend decision.

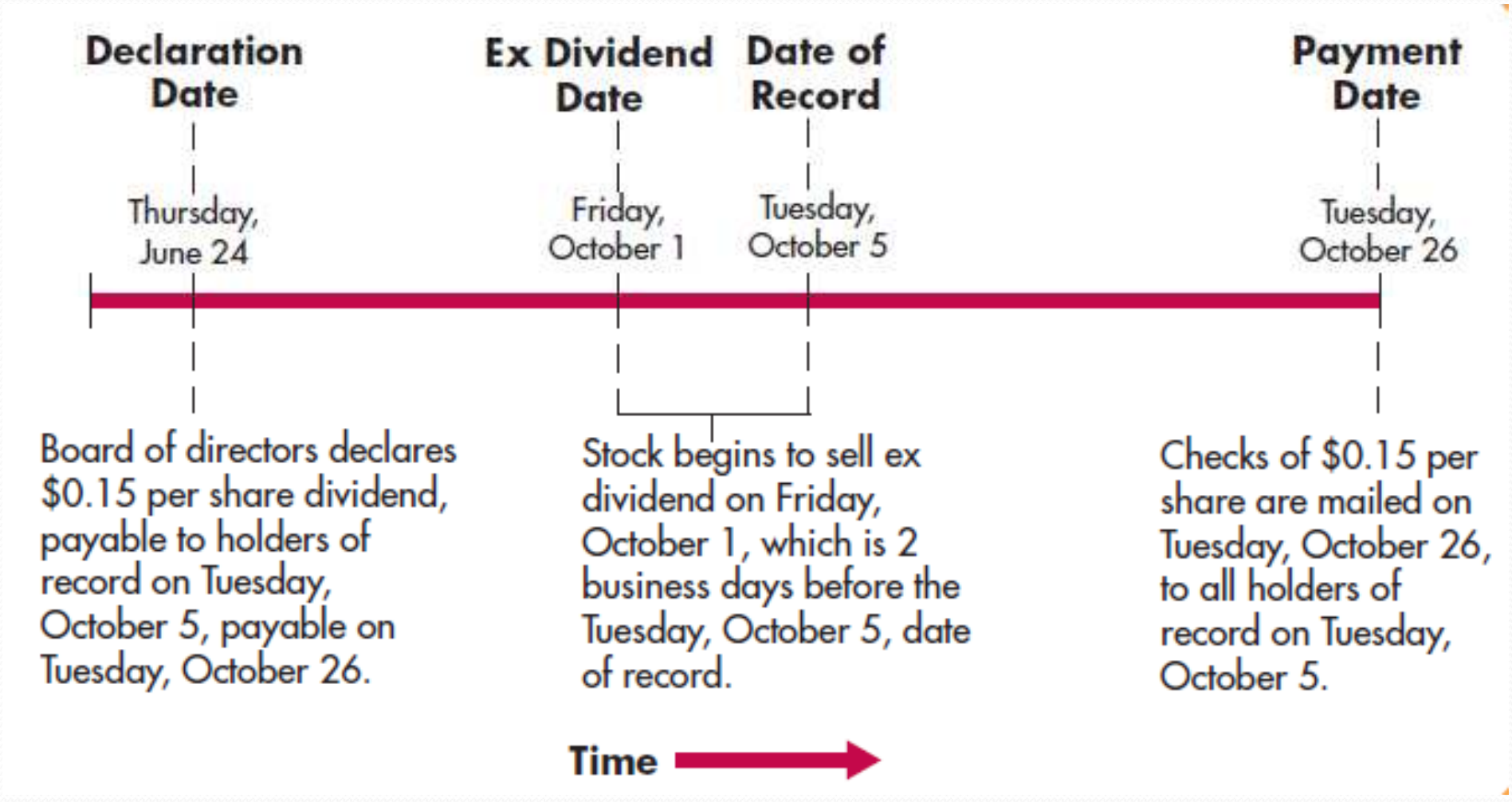
Dividend Fundamentals

- ***Date of Record (dividends) :*** Set by the firm's directors, the date on which all persons whose names are recorded as stockholders receive a declared dividend at a specified future time.
- ***ex Dividend:*** A period beginning 2 business days prior to the date of record, during which a stock is sold without the right to receive the current dividend.
- ***Payment Date:*** Set by the firm's directors, the actual date on which the firm mails the dividend payment to the holders of record.

- ***Declaration Date:*** is the date when a firm's board of directors declare a dividend , they issue a statement indicating the *dividend amount* and setting important dates—*the date of record, the ex-dividend date, and the payment date.*
- ***holders of record:*** are all persons whose names are recorded as stockholders on the date of record and they receive the current declared dividend.
- Because of the time needed to make bookkeeping entries when a stock is traded, the stock begins selling ex dividend 2 business days prior to the date of record. Purchasers of a stock selling ex dividend do not receive the current dividend.
- to determine the first day on which the stock sells ex dividend we subtract 2 business days from the date of record, if a 2 day weekend intervenes, subtract 4 days.
- Ignoring general market fluctuations, the stock price is expected to drop by the amount of the declared dividends on the ex dividend date.

Dividend Payment Time Line:

It is the time line for the announcement and payment of a cash dividend



Examples on Dividend Time Line:

If a stock is selling ex dividend on Monday 3rd of October, the investors will receive the declared dividends if they purchase the stock (holidays are Saturday and Sunday) :

1) On ex dividend date, Monday 3rd of October.
2) After ex dividend date, on Tuesday 4th of October.
3) Before ex dividend date, on Saturday 1st of October.
4) Non of the above.

If the date of record is Monday 1st of August, the investors will receive the declared dividends if they purchase the stock (holidays are Saturday and Sunday) :

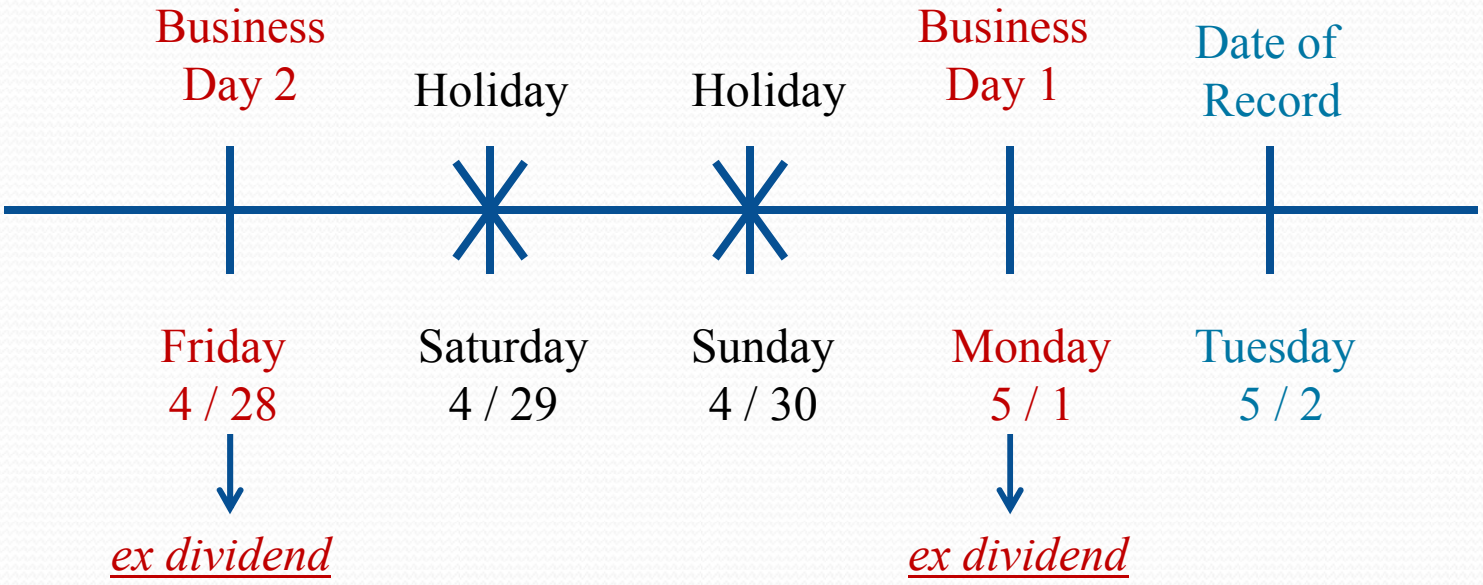
1) On Tuesday 2nd of August.
2) On Monday 1st of August.
3) On Thursday 28th of July.
4) On Wednesday 27th of July.

E–1

Stephanie's Cafes, Inc., has declared a dividend of $1.30 per share for shareholders of record on Tuesday, May 2. The firm has 200,000 shares outstanding and will pay the dividend on May 24. *How much cash will be needed to pay the dividend? When will the stock begin selling ex dividend?* (holidays are Saturday and Sunday)

cash needed to pay the dividend = DPS × No. of shares

cash needed to pay the dividend = $1.30 × 200,000 = $ 260,000



The stock begins selling ex dividend on Friday, April 28th

key accounts affected by dividends:

A Company board of directors declared an $0.80 cash dividend for holders of record on Friday, July 2nd. The firm had 100,000 shares of stock outstanding. The payment (distribution) date was Monday, August 2nd.

Before the dividend declaration, the relevant accounts showed the following :

Cash	$200,000	Dividends Payable	$ 0
		Retained Earnings	1,000,000

After the dividend declaration, the relevant accounts showed the following :

Cash	$200,000	Dividends Payable	$ 80,000
		Retained Earnings	920,000

After the dividend distribution, the relevant accounts showed the following :

Cash	$120,000	Dividends Payable	$ 0
		Retained Earnings	920,000

Example :

If a Company board of directors declared an $0.60 cash dividend for holders of record on Wednesday, January4th. The firm had 100,000 shares of stock outstanding. The payment (distribution) date was Wednesday, February 8th.

Complete the following accounts:

Before the dividend declaration, the relevant accounts showed the following :

Cash	$ 500,000	Dividends Payable	$ 0
		Retained Earnings	160,000

After the dividend declaration, the relevant accounts showed the following :

Cash	$ 500,000	Dividends Payable	$ 60,000
		Retained Earnings	100,000

After the dividend distribution, the relevant accounts showed the following :

Cash	$ 440,000	Dividends Payable	$ 0
		Retained Earnings	100,000

P–1

Wood Shoes declared a cash dividend of $1.10 per share for holders of record on Monday, July 10. The firm has 300,000 shares of common stock outstanding and has set a payment date of July 31. Prior to the dividend declaration, the firm's key accounts were as follows:

Cash	$500,000	Dividends payable	$ 0
		Retained earnings	2,500,000

a) Show the affected key accounts after the meeting (declaration).
b) When is the *ex dividend date?*
c) What values would the key accounts have after the July 31 payment date?
d) What effect, if any, will the dividend have on the firm's total assets?
e) Ignoring general market fluctuations, what effect, if any, will the dividend have on the firm's stock price on the ex dividend date?

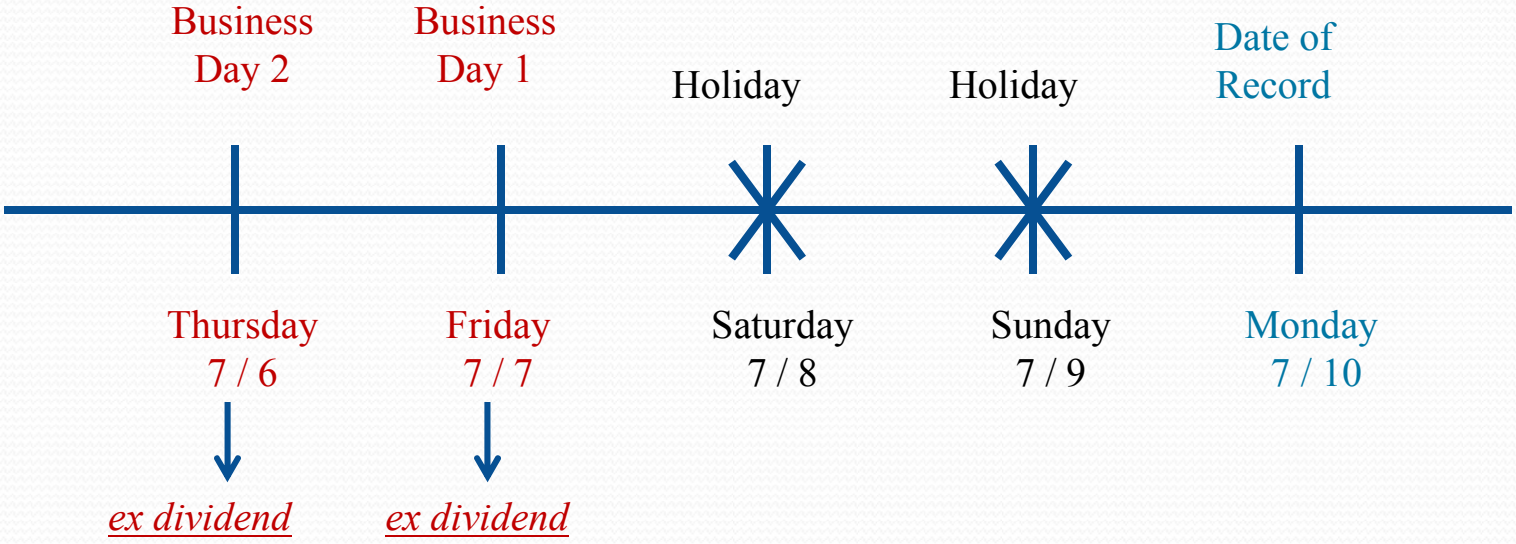
a) Dividends amount after declaration = DPS × No. of shares = $1.10 × 300,000 = $ 330,000

Retained earnings balance after declaring dividends = Retained balance before - Dividends amount
= $2,500,000 – $330,000 = $ 2,170,000

Affected accounts balances after the meeting :

Dividends Payable	$ 330,000
Retained Earnings	2,170,000

b) Ex dividend date: is Thursday, July 6.



c) Values of key accounts after the July 31 payment date (payment day):

Cash	$170,000	Dividends Payable	$ 0
		Retained Earnings	2,170,000

d) The dividend payment will result in a decrease in total assets equal to the amount of the payment.

e) Ignoring general market fluctuations, the stock price would be expected to drop by the amount of the declared dividend on the ex dividend date.

The Residual Theory of Dividends:

The **residual theory** of dividends suggests that dividend paid by a firm should be viewed as a residual—the amount left over after all acceptable investment opportunities have been undertaken.

Table 13.1 Applying the Residual Theory of Dividends for each of three available IOSs :

	Investment opportunities schedules		
Item	**IOS_1**	**IOS_2**	**IOS_3**
(1) New financing or investment (Fig. 13.2)	$1,500,000	$2,400,000	$3,200,000
(2) Retained earnings available (given)	$1,800,000	$1,800,000	$1,800,000
(3) Equity needed [70% × (1)]	1,050,000	1,680,000	2,240,000
(4) Dividends [(2) − (3)]	$ 750,000	$ 120,000	$ 0[a]
(5) Dividend payout ratio [(4) ÷ (2)]	41.7%	6.7%	0%

[a]In this case, additional new common stock in the amount of $440,000 ($2,240,000 needed − $1,800,000 available) would have to be sold; no dividends would be paid.

Using the Residual Theory of dividends complete the following:

Item		Investment opportunities IOS -1	IOS -2	IOS -3
(1)	New financing or investment	$ 3,000,000	$ 2,000,000	$ 1,000,000
(2)	Retained earnings available	$ 1,200,000	$ 1,200,000	$ 1,200,000
(3)	Equity needed for IOS [60%]	(1,800,000)	(1,200,000)	(600,000)
(4)	Dividends	$ 0	$ 0	$ 600,000
(5)	Dividends payout ratio	0%	0%	50%

Which investment opportunity will need additional new common stock? How much?

Additional new common stock for **IOS -1** = Equity needed for IOS - Retained earning

Additional new common stock for **IOS -1** = $1,800,000 - $1,200,000 = $ 600,000

Explain the results.

The amount of dividends paid is reduced as capital expenditures increase. Thus, if the firm chooses larger capital investments, dividend payment will be smaller or nonexistent.

E–2

Chancellor Industries has retained earnings available of $1.2 million. The firm plans to make two investments that require financing of $950,000 and $1.75 million, respectively.

Chancellor uses a target capital structure with 60% debt and 40% equity. Apply the *residual theory to determine what dividends, if any, can be paid* out, and calculate the resulting *dividend payout ratio.*

New financing or investment	**$ 1,750,000**	**$ 950,000**
Retained earnings available	$ 1,200,000	$ 1,200,000
Equity needed for IOS [40%]	700,000	380,000
Dividends	$ 500,000	$ 820,000
Dividends payout ratio	41.6%	68.3%

P–3

You are to estimate the dividends using the following information:

1. The company follows a residual dividend policy.
2. The capital expenditure amounts are $2 million, $3 million, and $4 million.
3. The forecasted level of potential retained earnings next year is $2 million.
4. The target or optimal capital structure is a debt ratio of 40%.

a) Compute the amount of the dividend (or the amount of new common stock needed) and the dividend payout ratio for each of the three capital expenditure amounts.

b) Compare, contrast, and discuss the amount of dividends (calculated in part a) associated with each of the three capital expenditure amounts.

Capital expenditure	**$ 2,000,000**	**$ 3,000,000**	**$ 4,000,000**
Retained earnings available	$ 2,000,000	$ 2,000,000	$ 2,000,000
Equity needed [60%]	1,200,000	1,800,000	2,400,000
Dividends	$ 800,000	$ 200,000	$ 0
Dividends payout ratio	40%	10%	0%

b) The amount of dividends paid is reduced as capital expenditures increase. Thus, if the firm chooses larger capital investments, dividend payment will be smaller or nonexistent.

Factors affecting Dividend Policy:

1. Legal Constraints
2. Contractual Constraints
3. Internal Constraints
4. Growth Prospects
5. Owner Considerations
6. Market Considerations

1) Legal Constraints:

- Most states prohibit corporations from paying out as cash dividends any portion of the firm's "legal capital," which is typically measured by the par value of common stock. Other states define legal capital to include not only the par value of the common stock but also any paid-in capital in excess of par.
- These *capital impairment restrictions are generally established to provide a sufficient equity base to protect creditors' claims.*

- The stockholders' equity account of Miller Flour Company, a large grain processor, is presented in the following table.

Miller Flour Company
Stockholders' Equity

Common stock at par	$100,000
Paid-in capital in excess of par	200,000
Retained earnings	140,000
Total stockholders' equity	$440,000

- If legal capital is defined as the par value of common stock, the firm could pay out cash dividends of:

$$\$200,000 + \$140,000 = \$340,000$$

- If legal capital is defined as the par value of common stock and Paid-in capital in excess of par, the firm could pay out cash dividends of:

$$\$140,000$$

- Firms sometimes impose an earnings requirement limiting the amount of dividends. With this restriction, the firm cannot pay more in cash dividends than the sum of its most recent and past retained earnings. However, *the firm is not prohibited from paying more in dividends than its current earnings.*
- A firm that has an operating loss in the current period can still pay cash dividends as long as sufficient retained earnings against which to charge the dividend are available and, of course, as long as it has the cash with which to make the payments.
- Assume that Miller Flour Company in the year just ended has $30,000 in earnings available for common stock dividends. The firm has past retained earnings of $140,000.

Miller Flour Company
Stockholders' Equity

Common stock at par	$100,000
Paid-in capital in excess of par	200,000
Retained earnings	140,000
Total stockholders' equity	$440,000

it can legally pay dividends of up to:
$140,000 + $30,000 = $170,000

- If a firm has overdue liabilities or is legally insolvent or bankrupt, most states prohibit its payment of cash dividends.

Legal Constraints: conclusions

- "**legal capital**" is measured by
  1. the par value of common stock
  2. or par value plus paid-in-capital.
- Dividends are also sometimes limited to the sum of the firm's most recent and past retained earnings—although payments in excess of current earnings is usually permitted.
- Most states also prohibit dividends when firm's have overdue liabilities, is legally insolvent, or bankrupt.

E–3

Ashkenazi Companies has the following stockholders' equity account:

Common stock (350,000 shares at $3 par)	$1,050,000
Paid-in capital in excess of par	2,500,000
Retained earnings	750,000
Total stockholders' equity	$4,300,000

Assuming that state laws define legal capital solely as the par value of common stock, *how much of a per-share dividend can Ashkenazi pay?* If legal capital were more broadly defined to include all paid-in capital, how much of a *per-share dividend* could Ashkenazi pay?

$$(DPS) = \frac{\text{Cash dividends to common stock}}{\text{No. of shares of common stock outstanding}}$$

If legal capital is common stock at par:

$$(DPS) = \frac{\$2{,}500{,}000 + \$750{,}000}{350{,}000}$$

$$(DPS) = \frac{\$3{,}250{,}000}{350{,}000} = \$9.29$$

If legal capital is common stock at par and paid In capital in excess of par:

$$(DPS) = \frac{\$750{,}000}{350{,}000}$$

$$(DPS) = \$2.14$$

P–4

The Howe Company's stockholders' equity account follows:

Common stock (400,000 shares at $4 par)	$1,600,000
Paid-in capital in excess of par	1,000,000
Retained earnings	1,900,000
Total stockholders' equity	$4,500,000

The earnings available for common stockholders from this period's operations are $100,000, which have been included as part of the $1.9 million retained earnings.

a. What is the *maximum dividend per share that the firm can pay? (Assume that legal capital includes all paid-in capital.)*

b. If the firm has $160,000 in cash, what is the largest per-share dividend it can pay without borrowing?

c. Indicate the accounts and changes, if any, that will result if the firm actually pays the dividends indicated in parts a and b.

d. Indicate the effects of an $80,000 cash dividend on stockholders' equity.

a) *The maximum dividend per share that the firm can pay if the legal capital includes all paid-in capital.*

$$\textbf{Maximum (DPS)} = \frac{\$1{,}900{,}000}{400{,}000} = \$4.75 \text{ per share}$$

b) Largest per-share dividend that the firm can pay without borrowing :

$$\textbf{Non borrowing (DPS)} = \frac{\$160{,}000}{400{,}000} = \$.4 \text{ per share}$$

c) Accounts and changes that will result if the firm actually pays the dividends indicated in parts a and b. (after payment date)

In **a**, cash and retained earnings each decreased by $1,900,000.
In **b**, cash and retained earnings each decreased by $160,000.

d) Effects of an $80,000 cash dividend on stockholders' equity :

Retained earnings (and hence stockholders' equity) decrease by $80,000.

P–5

A firm has $800,000 paid-in capital, retained earnings of $40,000 (including the current year's earnings), and 25,000 shares of common stock outstanding. In the current year, it has $29,000 of earnings available for the common stockholders.

a) What is the most the firm can pay in cash dividends to each common stockholder? (Assume that legal capital includes *all paid-in capital.)*
b) What effect would a cash dividend of $0.80 per share have on the firm's balance sheet entries?
c) If the firm cannot raise any new funds from external sources, what do you consider the key constraint with respect to the magnitude of the firm's dividend payments? Why?

a) $$\textit{Maximum (DPS)} = \frac{\$40{,}000}{25{,}000} = \$1.6 \text{ per share}$$

b) A $20,000 decrease in cash and retained earnings is the result of an $0.80 per share dividend ($0.80 per share × 25,000 common share = $20,000)

c) Cash is the key constraint, *because* a firm cannot pay out more in dividends than it has in cash, unless it borrows.

2) Contractual Constraints

- Often the firm's ability to pay cash dividends is constrained by restrictive provisions in a loan agreement.
- Example on loan agreements with restrictive provisions are **bond indentures** (indentures are contract terms of the bond which are also referred to as a deed of trust).
- Generally, these constraints prohibit the payment of cash dividends until the firm achieves a certain level of earnings, or they may limit dividends to a certain dollar amount or percentage of earnings.
- Constraints on dividends help to protect creditors from losses due to the firm's insolvency.
- Any violation of these constraints generally trigger the demand for immediate payment.

3) Internal Constraints

- A company's ability to pay dividends is usually constrained by the ***amount of available cash*** rather than the level of retained earnings against which to charge them.
- Although it is possible to borrow to pay dividends, lenders are usually reluctant to grant them because using the funds for this purpose produces no operating benefits that help to repay them.

4) Growth Prospects:

- how much does the firm expect to grow and what assets it will need to acquire. It must evaluate its profitability and risk to develop insight into its ability to raise capital externally.
- In addition, the firm must determine the cost and speed with which it can obtain financing. Generally, a large, *mature firm:* has adequate access to new capital, whereas *a rapidly growing firm:* may not have sufficient funds available to support its acceptable projects.
- A growth firm is likely to have to depend heavily on internal financing through retained earnings, so it is likely that such a firm will not pay any dividend s or that it will pay out only a very small percentage of its earnings as dividends.
- A more established firm (mature firm) is in a better position to pay out a large proportion of its earnings, particularly if it has ready sources of financing.

Growth Prospects: Conclusions:

1. Newer, rapidly-growing firms generally pay little or no dividends.
2. Because these firms are growing so quickly, they must use most of their internally generated funds to support operations or finance expansion.
3. Large, mature firms generally pay cash dividends since they have access to adequate capital and may have limited investment opportunities.

5) Owner Considerations

The firm must establish a policy that has a favorable effect on the wealth of the *majority of owners.*

One consideration is the tax status of a firm's owners:

1. *If a* firm has a large percentage of wealthy stockholders who have sizable incomes, it may decide to pay out a *lower percentage of its earnings to allow the owners to* delay the payment of taxes until they sell the stock. Because cash dividends are taxed at the same rate as capital gains, this strategy benefits owners through the tax deferral rather than as a result of a lower tax rate.
2. Lower-income shareholders, however, who need dividend income, will prefer a *higher payout of earnings*.

A second consideration is the owners' investment opportunities:

A firm should not retain funds for investment in projects yielding lower returns than the owners could obtain from external investments of equal risk. If it appears that the owners have better opportunities externally, the firm should pay out a higher percentage of its earnings. If the firm's investment opportunities are at least as good as similar-risk external investments, a lower payout is justifiable.

A final consideration is the potential dilution of ownership:

If a firm pays out a high percentage of earnings, new equity capital will have to be raised with common stock. The result of a new stock issue may be dilution of both control and earnings for the existing owners. By paying out a low percentage of its earnings, the firm can minimize the possibility of such dilution.

Owner Considerations: Conclusions:

1. The firm must establish a policy that has a favorable effect on the **wealth of the majority of its owners.**
2. If a firm has a large percentage of wealthy shareholders, it may decide to pay out a lower percentage of its earnings to allow them to delay the payment of taxes until they sell the stock.
3. Because cash dividends are taxed at the same rate as capital gains, this strategy benefits owners through tax deferral rather than as a result of a lower tax rate. A second consideration is the **owner's investment opportunities**.
4. A firm should not retain funds for investment projects yielding lower returns that the owners could obtain from external investments of equal risk.
5. A final consideration is the potential **dilution of ownership**.
6. If a firm pays out a high percentage of earnings, new equity capital will have to be raised with common stock.

6) Market Considerations

- Stockholders are believed to value a fixed or increasing level of dividends as opposed to a fluctuating pattern of dividends.

- In addition, stockholders are believed to value a policy of continuous dividend payment. Because regularly paying a fixed or increasing dividend eliminates uncertainty about the frequency and magnitude of dividends, the returns of the firm are likely to be discounted at a lower rate. This should result in an increase in the market value of the stock and therefore an increase in the owners' wealth.

- A final market consideration is informational content. Shareholders often view a dividend payment as a signal of the firms' future success. *A stable and continuous dividend is a positive signal*, conveying the firm's good financial health. Shareholders are likely to consider *a passed dividend payment due to a loss or to very low earnings* as a negative signal.

- The nonpayment of the dividend creates uncertainty about the future, which is likely to result in lower stock value. Owners and investors generally explain a dividend payment during a period of losses as an indication that the loss is merely temporary.

Market Considerations: Conclusion:

- Perhaps the most important aspect of dividend policy is that the firm maintain a level of **predictability**.
- Stockholders that prefer dividend-paying stocks prefer a continuous stream of fixed or increasing dividends.
- Shareholders also view the firm's dividend payment as a "**signal**" of the firm's future prospects.
- Fixed or increasing dividends are often considered a "**positive**" signal, while erratic and decreasing (changeable) dividend payments are viewed as "**negative**" signals.

Types of Dividend Policies

1. ***Constant-Payout-Ratio Dividend Policy***

   A dividend policy based on the payment of *a certain percentage of earnings* to owners in each dividend period.

2. ***Regular Dividend Policy***

   A dividend policy based on the payment of *a fixed-dollar dividend* in each period.

3. ***Low-Regular-and-Extra Dividend Policy***

   A dividend policy based on paying *a low regular dividend*, supplemented by *an additional ("extra") dividend* when earnings are higher than normal in a given period.

4. ***Residual dividend policy.***

1. *Constant-Payout-Ratio Dividend Policy* *a certain percentage Dividend*

It is a type of dividend policy that involves the use of a constant payout ratio.

dividend payout ratio

Indicates the percentage of each dollar earned that a firm distributes to the owners in the form of cash. It is calculated by dividing the firm's cash dividend per share by its earnings per share.

$$\textit{dividend payout ratio} = \frac{DPS}{EPS}$$

The problem with this policy is that (Disadvantage) :

1. If the firm's earnings drop or if a loss occurs in a given period, the dividends may be low or even nonexistent.
2. Because dividends are often considered an indicator of the firm's future condition and status, the firm's stock price may be adversely affected (it may decrease the market price of common stock).

$$\text{dividend payout ratio} = \frac{DPS}{EPS}$$

$$\text{dividend payout ratio} = DPS \div EPS$$

$$= \frac{\text{Cash dividends distributed to common stock}}{\text{No. of shares of common stock outstanding}} \div \frac{\text{Earnings available to common stock}}{\text{No. of shares of common stock outstanding}}$$

$$= \frac{\text{Cash dividends distributed o common stock}}{\cancel{\text{No. of shares of common stock outstanding}}} \times \frac{\cancel{\text{No. of shares of common stock outstanding}}}{\text{Earnings available to common stock}}$$

$$\text{dividend payout ratio} = \frac{\text{Cash dividends distributed to common stock}}{\text{Earnings available to common stock}}$$

The following data are for a firm's earnings, dividends, and average stock prices for the past 6 years:

Year	Earnings/share	Dividends/share	Average price/share
2012	−$0.50	$0.00	$42.00
2011	3.00	1.20	52.00
2010	1.75	0.70	48.00
2009	−1.50	0.00	38.00
2008	2.00	0.80	46.00
2007	4.50	1.80	50.00

Dividends increased in 2010 and in 2011 but decreased in the other years. In years of decreasing dividends, the firm's stock price dropped; when dividends increased, the price of the stock increased. The firm's dividend payments appear to make its owners uncertain about the returns they can expect.

- Some firms use the constant-payout-ratio dividend policy but it is not recommended.
- Regulated utilities in low-growth areas can use a constant payout ratio dividend policy because their capital requirements are usually low and their earnings are more stable than those of most firms.

2. *Regular Dividend Policy* *a fixed-dollar dividend*

The **regular dividend policy is based on the payment of a fixed-dollar dividend in each period.** Often, firms that use this policy *increase the regular dividend once a sustainable increase in earnings has occurred. Under this policy, dividends are almost never decreased.*

Often **a regular dividend policy is built around a target dividend-payout ratio.** *Under this policy, the firm attempts to pay out a certain percentage of earnings, but rather than let dividends fluctuate it pays a stated dollar dividend and adjusts that dividend toward the target payout as proven earnings increases occur.*

Target dividend-payout ratio

A dividend policy under which the firm attempts to pay out a certain percentage of earnings as a stated dollar dividend and adjusts that dividend toward a target payout as proven earnings increases occur.

The dividend policy of a company is to pay annual dividends of $1.00 per share until per-share earnings have exceeded $4.00 for 3 consecutive years. At that point, the annual dividend is raised to $1.50 per share, and a new earnings plateau is established. The company does not anticipate decreasing its dividend unless its liquidity is in jeopardy. Data for the company earnings, dividends, and average stock prices for the past 12 years follow.

Year	Earnings/share	Dividends/share	Average price/share
2012	$4.50	$1.50	$47.50
2011	3.90	1.50	46.50
2010	4.60	1.50	45.00
2009	4.20	1.00	43.00
2008	5.00	1.00	42.00
2007	2.00	1.00	38.50
2006	6.00	1.00	38.00
2005	3.00	1.00	36.00
2004	0.75	1.00	33.00
2003	0.50	1.00	33.00
2002	2.70	1.00	33.50
2001	2.85	1.00	35.00

- Whatever the level of earnings, the company paid dividends of $1.00 per share through 2009.
- In 2010, the dividend increased to $1.50 per share because earnings in excess of $4.00 per share had been achieved for 3 years.
- In 2010, the company also had to establish a new earnings plateau for further dividend increases.

➢ *The company's' average price per share exhibited a stable, increasing behavior in spite of a somewhat volatile pattern of earnings.*

In the previous example, the company appears to have a target dividend payout ratio of around 35 percent:

In 2001, the dividend payout ratio = DPS ÷ EPS
= $1.00 ÷ $2.85 = 35%

In 2010, the regular dividend was raised to $1.50 per share.
the dividend payout ratio = $1.50 ÷ $4.60 = 33%

3. *low-regular-and-extra dividend policy*

A dividend policy based on paying a low regular dividend, supplemented by an additional ("extra") dividend when earnings are higher than normal in a given period.

By calling the additional dividend an **extra dividend, the firm avoids setting expectations that the dividend increase will be permanent.** This policy is especially common among companies that experience cyclical shifts in earnings.

extra dividend:
An additional dividend optionally paid by the firm when earnings are higher than normal in a given period.

Advantages of establishing a low regular and extra dividend policy by the firm are:

1. Gives investors the stable income necessary to build confidence in the firm.
2. The extra dividend permits them to share in the earnings from an especially good period.
3. Firms using this policy must raise the level of the regular dividend once proven increases in earnings have been achieved.
4. The extra dividend should not be a regular event; otherwise, it becomes meaningless.
5. The use of a target dividend-payout ratio in establishing the regular dividend level is advisable.

Forms of Dividends

1. Cash dividends
2. Stock dividends
3. Stock splits (not a formal type)
4. Stock repurchases.

2. Stock dividends:

It is the payment, to existing owners, of a dividend in the form of stocks.

Characteristics of a stock dividends:

1. Firms pay stock dividends as a replacement for or a supplement to cash dividends.
2. In a stock dividend, investors receive additional shares in proportion to the shares they already own.
3. No cash is distributed, and no real value is transferred from the firm to investors.
4. Because the number of outstanding shares increases, the stock price declines roughly in line with the amount of the stock dividend.

Small (ordinary) stock dividend:

It is a stock dividend that represents less than 20 percent to 25 percent of the common stock outstanding when the dividend is declared. Small stock dividends are most common.

Accounting Aspects of stock dividends:

In an accounting sense, the payment of a stock dividend is a shifting of funds between stockholders' equity accounts rather than an outflow of funds.

Example on accounting entries of stock dividends for the company :

The current stockholders' equity accounts of a company are the following:

Preferred stock	$ 300,000
Common stock (100,000 shares at $4 par)	400,000
Paid-in capital in excess of par	600,000
Retained earnings	700,000
Total stockholders' equity	$2,000,000

- If the company declared a 10% stock dividend when the market price of its stock is $15 per share, what will be the resulting account balances?

Changes in account balances after declaring 10% stock dividend at $15 market price per share:

1) Total No. of shares for Common stock after stock dividend declaration
= No. of common shares before stock dividends × (100% + stock dividends %)
Total no. of shares for Common stock =100,000 shares × (100% + 10%) = 110,000 shares

2) Par value of common stock after stock dividend declaration
= Total no. of shares for Common stock × $ par value per common share
Par value of total common stock =110,000 shares × $ 4 = $440,000

3) Paid-in capital in excess of par for common stock after stock dividend declaration
= [new no. of shares for Common stock × ($market price per share - $par value)]+original amount
Paid-in capital in excess of par for common = [10,000 shares × ($15 - $4)] + $ 600,000
= $110,000 + $ 600,000 = $ 710,000

4) Retained earnings balance after stock dividends
= retained earnings before stock dividends - (Total no. of common shares × $market price per share)
Retained earnings after stock dividends = 700,000 - (110,000 × $15) = $550,000

5) Total stockholders' equity = Preferred stock $300,000
+ Common stocks at par +$440,000
+ Paid in capital in excess of common par +$710,000
+ Retained earning + $550,000
= $2,000,000

The resulting account balances after declaration will be the following :

Preferred stock	$ 300,000
Common stock (110,000 shares at $4 par)	440,000
Paid-in capital in excess of par	710,000
Retained earnings	550,000
Total stockholders' equity	$2,000,000

The firm's **total stockholders' equity has not changed**; funds have merely been shifted among stockholders' equity accounts.

Stock dividends Shareholders viewpoint:

1. The shareholder receiving a stock dividend receives nothing of value.
2. After the dividend is paid, the per-share value of the shareholder's stock decreases in proportion to the dividend and the market value of his or her total holdings in the firm remains unchanged. Therefore stock dividends are usually nontaxable.
3. The shareholder's proportion of ownership in the firm also remains the same.
4. As long as the firm's earnings remain unchanged, so does stockholder's share of total earnings. (However, if the firm's earnings and cash dividends increase when the stock dividend is issued, an increase in share value is likely to result.)

Example on accounting aspects of stock dividends from the investor viewpoint:

1. An investor owns %10 of common stock shares of the company.
2. Total number of common stock issued and outstanding is 100,000 shares.
3. The company's most recent earnings were $220,000 and are not expected to change in the near future.
4. Before stock dividends, market price is $15 per share.
5. The company declared 10% stock dividend.

The value of the investor portfolio before the stock dividend:

Number of shares owned by the investor's:

Ownership percentage × Total no. of shares outstanding

%10 × 100,000 shares = 10,000 shares.

Market value for the investor portfolio is:

Market price per share × no. of shares owned by the investor

$15 per share × (.1 × 100,000) = $15 × 10,000 shares = $150,000

Earning per share for each investor is:

EPS = Earnings available to common stock / no. of common shares outstanding

= $220,000 / 100,000 shares = $2.20 per share

Total earnings for this investor are:

Total Earnings = EPS × no. of shares owned by the investor.

= $2.20 per share × 10,000 shares = $22,000

After receiving the 10% stock dividend:

New number of shares owned by the investor's:

= Ownership percentage × Total new no. of shares outstanding

= %10 × (100,000 shares + .1 × 100,000) = %10 × 110,000 shares

= 11,000 shares.

New market price per share:

= old market price per share × (old no. of shares / new no. of shares)

= $15 × (100,000 / 110,000) = $13.64

Market value for the investor portfolio is:

= New Market price per share × no. of shares owned by the investor

= $13.64 per share × 11,000 = $150,000

Earning per share for each investor is:

EPS = Earnings available to common stock / no. of common shares outstanding

= $220,000 / 110,000 shares = $2 per share

Total earnings for this investor are:

Total Earnings = EPS × no. of shares owned by the investor.

= $2 per share × 11,000 shares = $22,000

In summary, if the firm's earnings remain constant and total cash dividends do not increase, a stock dividend results in a lower per-share market value for the firm's stock.

Disadvantage of stock dividend from the Company's Viewpoint:

1. Stock dividends are more costly to issue than cash dividends.
2. IF the stock dividend is paid so as to retain cash to satisfy past-due bills, a decline in market value may result.

Advantages of stock dividend from the Company's Viewpoint:

1. Firms find the stock dividend to be a way to give owners something without having to use cash.
2. Generally, when a firm needs to preserve cash to finance rapid growth, it uses a stock dividend.
3. When the stockholders recognize that the firm is reinvesting the cash flow so as to maximize future earnings, the market value of the firm should at least remain unchanged.

3. ***Stock split:***

It is a method used to lower the market price of a firm's stock by increasing the number of shares belonging to each shareholder.

Reverse stock split

A method used to raise the market price of a firm's stock by exchanging a certain number of outstanding shares for one new share.

Characteristics of a stock splits:

1. It is not a formal type of dividend, but has an effect on a firm's share price similar to that of stock dividends.
2. In a 2-for-1 split, two new shares are exchanged for each old share, with each new share being worth half the value of each old share.
3. A stock split has no effect on the firm's capital structure and is usually nontaxable.
4. It is used if a firm believes that its stock is priced too high and that lowering the market price will enhance trading activity.
5. Stock splits are often made prior to issuing additional stock to enhance that stock's marketability and stimulate market activity.
6. It is not unusual for a stock split to cause a slight increase in the market value of the stock, attributable to its informational content and to the fact that total dividends paid commonly increase slightly after a split.

Example on accounting aspects of stock splits for the company :

A company had 200,000 shares of $2-par-value common stock and no preferred stock outstanding. Because the stock is selling at a high market price, the firm has declared a 2-for-1 split. The current stockholders' equity accounts before stock split are the following:

Common stock (200,000 shares at $2 par)	$ 400,000
Paid-in capital in excess of par	4,000,000
Retained earnings	2,000,000
Total stockholders' equity	$6,400,000

The current stockholders' equity accounts after 2-for-1 stock split are the following:

Common stock (400,000 shares at $1 par)	$ 400,000
Paid-in capital in excess of par	4,000,000
Retained earnings	2,000,000
Total stockholders' equity	$6,400,000

The stock split had an insignificant effect on the firm accounts.

Characteristics of a reverse stock splits:

1. The firm exchanges a certain number of outstanding shares for one new share.
2. In a 1-for-3 split, one new share is exchanged for three old shares.
3. In a reverse stock split, the firm's stock price rises due to the reduction in shares outstanding.
4. Firms may conduct a reverse split if their stock price is getting so low that the exchange where the stock trades threatens to delist the stock.

For example, the New York Stock Exchange requires that the average closing price of a listed security must be no less than $1 over any consecutive 30-day trading period. In June of 2010, the video chain Blockbuster asked shareholders to approve a reverse stock split to prevent the NYSE from delisting Blockbuster's stock. Shareholders didn't approve the measure, and the NYSE delisted Blockbuster stock the following month.

Example on accounting entries of reverse stock split for the company :

A company had 400,000 shares of $1-par-value common stock and no preferred stock outstanding. Because the stock is selling at a low market price, the firm has declared a 1-for-2 reverse split.

The current stockholders' equity accounts before reverse stock split are the following:

Common stock (400,000 shares at $1 par)	$ 400,000
Paid-in capital in excess of par	4,000,000
Retained earnings	2,000,000
Total stockholders' equity	$6,400,000

The current stockholders' equity accounts after 1-for-2 reverse stock split are the following:

Common stock (200,000 shares at $2 par)	$ 400,000
Paid-in capital in excess of par	4,000,000
Retained earnings	2,000,000
Total stockholders' equity	$6,400,000

The reverse stock split had an insignificant effect on the firm accounts.

4. Stock repurchase

It is the repurchase of outstanding stocks in the marketplace by the issuing firm.

Importance and advantages of stock repurchase are:

1. Enhance shareholder value.
2. Increase EPS and ROE resulting in a higher market price.
3. Discourage an unfriendly or hostile takeover.
4. To alter the firm capital structure.
5. Having shares available for employees stock option plans.
6. Retiring shares which is similar to the payout of cash dividends.
7. Partial liquidation since it decreases the number of shares outstanding.

Stock repurchase enhance shareholder value by:

1. Reducing number of shares outstanding.
2. Raising earning per share.
3. Raising market price per share because repurchase offer price > market price.
4. Sending a positive signal to investors in the marketplace that management believes the stock is undervalued
5. Providing a temporary floor for the stock price which may have been declining.

Stock repurchase is viewed as a cash dividend because of the following characteristics:

1. When firms repurchase common stock for retirement, the motive is to distribute excess cash to owners.
2. As long as earnings remain unchanged, the repurchase reduces the number of shares outstanding which will raise earning per share and market price per share.
3. An owner tax-deferral benefit may result from repurchase.
4. The stock repurchase will result in a type of reverse dilution because it reduces number of shares outstanding and increases both EPS and market price per share.
5. The net effect of stock repurchase is similar to the payment of cash dividends.

Example on stock repurchase:

A company wants to make stock repurchases and has the following data:

- Earnings available to common stock = $2,100,000 (Earnings remain constant).
- Number of common stock issued and outstanding = 700,000 shares.
- Earnings per share = $3
- Cash dividends = $1,400,000
- Market price per share = $38
- Price to earnings ratio (P/E) = 12.66 times.

1. *Calculate dividend per share (DPS).*
2. *If the firms repurchase its stocks at a price = $40 per share, How many shares can it repurchase?*
3. *How many shares will remain outstanding after stock repurchase?*
4. *Calculate the new earnings per share after making stock repurchase.*
5. *Calculate new market price per share after making repurchase using the price / earnings ratio.*
6. *Compare the stockholders position between cash dividends and stock repurchase.*

Solution:

1. *Calculating dividend per share (DPS):*

$$(DPS) = \frac{\text{Cash dividends to common stock}}{\text{No. of shares of common stock outstanding}}$$

$$(DPS) = \frac{\$1,400,000}{700,000 \text{ shares}}$$

$$(DPS) = \$2 \text{ per share}$$

2. *If the firms repurchase its stocks at a price = $40 per share, number of shares the firm can repurchase is:*

$$\text{No. of repurchased shares} = \frac{\text{Cash used for repurchase}}{\text{Repurchase price per share}}$$

$$\text{No. of repurchased shares} = \frac{\$1,400,000}{\$40} = 35,000 \text{ shares repurchased}$$

3. *Number of shares that will remain outstanding after stock repurchase is:*

No. of shares outstanding after repurchase = No. of shares outstanding before – no. of shares repurchased

No. of shares outstanding after repurchase = 700,000 share – 35,000 share

= 665,000 shares

4. *Calculating the new earnings per share after making stock repurchase:*

$$\textit{New (EPS)} = \frac{\textit{Earnings available to common stock}}{\textit{New No. of shares of common stock outstanding}}$$

$$\textit{New (EPS)} = \frac{\$2{,}100{,}000}{665{,}000 \text{ shares}} = \textit{\$3.157 per share}$$

5. *Calculating the new market price per share after making repurchase using the price / earnings ratio.*

Given the Price to earnings ratio (P/E) = 12.66 times.

$$\textbf{Price to earning ratio} = \frac{\textbf{Market price per share}}{\textbf{EPS}}$$

$$12.66 = \frac{\textbf{Market price per share after stock repurchase}}{\$3.157 \text{ per share}}$$

$$\textbf{Market price per share after stock repurchase} = 12.66 \times \$3.157 \text{ per share}$$

$$= \$39.967 \cong \$40$$

6. Comparing the stockholders position between cash dividends and stock repurchase.

If the company makes cash dividend

Stockholders receive cash dividend = $2 per share

If the company makes stock repurchase:

Stockholders receive Capital gains per share (increase in share price) :

Capital Gain per share = Market price after stock repurchase – Market price before stock repurchase

= $ 40 per share - $ 38 per share

= $ 2 per share

Conclusion:

The stockholders' position does not change between cash dividends and stock repurchase, in both cases he will have $2 per share as long as earnings remain constant and unchanged.

The accounting entries that result from repurchasing common stocks:

1. Stock repurchase will result in a reduction in cash.
2. Stock repurchase will result in establishment of a contra capital account called "Treasury Stock".
3. Treasury Stock is deducted from stockholders' equity
4. The treasury stock account is used in the balance sheet to indicate repurchased shares

Example:

The Key accounts before repurchase are the following:

Common stock (200,000 shares at $2 par)	$ 400,000	Cash balance $3,000,000
Paid-in capital in excess of par	4,000,000	
Retained earnings	2,000,000	
Total stockholders' equity	$6,400,000	

The Key accounts after repurchase with $1,400,000 are the following:

Common stock (200,000 shares at $2 par)	$ 400,000	Cash balance $1,600,000
Paid-in capital in excess of par	4,000,000	
Retained earnings	2,000,000	
Treasury stocks	(1,400,000)	
Total stockholders' equity	$5,000,000	

Repurchase process

The company first will inform its shareholders with its purpose from making this repurchase
Select a method for repurchasing
Perform repurchasing

Their are three basic methods for stock repurchase:

1. Purchase shares on open market.
2. Purchase shares using a tender offer.
3. Purchase shares on negotiated basis.

Characteristics of Open market operations:

1. it is usually perceived by the market as a positive signal.
2. It places upward pressure on the price of the share if the number of shares repurchased is large

Characteristics of a Tender offer:

1. It is a formal offer to purchase a given number of shares of the firm's stock at a specified price.
2. The tender offer will include both the number of shares the company is looking to repurchase and the price range they are willing to pay.
3. The price is set above current market price to attract sellers (almost always at a premium to the market price).
4. If the number of shares desired cannot be repurchased through a tender offer, the firm can obtain the additional shares through open market operations
5. Tender offers are preferred when a large number of shares are repurchased because the company intentions are clearly stated and each stockholder has the opportunity to sell shares at the tendered price

Characteristics of a negotiated basis:

1. It is the purchase of a large block of shares from one or more major stockholders.
2. The firm has to state its purpose from this repurchase.
3. The repurchase price must be fair and equitable in view of the interests and opportunities of the remaining shareholders.

Self test Problem:

Stock repurchase The Off-Shore Steel Company has earnings available for common stockholders of $2 million and has 500,000 shares of common stock outstanding at $60 per share. The firm is currently contemplating the payment of $2 per share in cash dividends:

a) Calculate the firm's current *earnings per share (EPS) and price/earnings (P/E) ratio.*
b) If the firm can repurchase stock at $62 per share, how many shares can be purchased in lieu of making the proposed cash dividend payment?
c) How much will the EPS be after the proposed repurchase? Why?
d) If the stock sells at the old P/E ratio, what will the market price be after repurchase?
e) Compare and contrast the earnings per share before and after the proposed repurchase.
f) Compare and contrast the stockholders' position under the dividend and repurchase alternatives.

a)

$$\text{Earnings per share (EPS)} = \frac{\$2{,}000{,}000 \text{ earnings available}}{500{,}000 \text{ shares of common outstanding}}$$

$$= \underline{\underline{\$4.00/\text{share}}}$$

$$\text{Price/earnings (P/E) ratio} = \frac{\$60 \text{ market price}}{\$4.00 \text{ EPS}} = \underline{\underline{15}}$$

b) Proposed dividends = 500,000 shares × $2 per share = $1,000,000

$$\text{Shares that can be repurchased} = \frac{\$1{,}000{,}000}{\$62} = \underline{\underline{16{,}129}} \text{ shares}$$

c) *After proposed repurchase:*

Shares outstanding = 500,000 − 16,129 = 483,871

$$\text{EPS} = \frac{\$2{,}000{,}000}{483{,}871} = \underline{\underline{\$4.13}}\text{/share}$$

d) Market price = $4.13/share × 15 = $\underline{\underline{61.95}}$/share

e) The earnings per share (EPS) are higher after the repurchase because there are fewer shares of stock outstanding (483,871 shares versus 500,000 shares) to divide up the firm's $2,000,000 of available earnings.

f) In both cases, the stockholders would receive $2 per share—a $2 cash dividend in the dividend case or an approximately $2 increase in share price ($60.00 per share to $61.95 per share) in the repurchase case. (*Note:* The difference of $0.05 per share ($2.00 − $1.95) is due to rounding.)

E–4

The board of Kopi Industries is considering a new dividend policy that would set dividends at 60% of earnings. The recent past has witnessed earnings per share (EPS) and dividends paid per share as follows:

Year	EPS	Dividend/share
2009	$1.75	$0.95
2010	1.95	1.20
2011	2.05	1.25
2012	2.25	1.30

Based on Kopi's historical dividend payout ratio, discuss whether a *constant payout ratio Of 60% would benefit shareholders.*

For year 2012 the dividend payout ratio = DPS / EPS = 1.30 / 2.25 = 57.8%
For year 2011 the dividend payout ratio = DPS / EPS = 1.25 / 2.05 = 60.9%
For year 2010 the dividend payout ratio = DPS / EPS = 1.20 / 1.95 = 61.5%
For year 2009 the dividend payout ratio = DPS / EPS = 0.95 / 1.75 = 54.3%

- The company have been using a dividend payout ratio around %60 in the recent years. However we do not recommend using constant payout ratio unless the company operates in a low-growth area and its capital requirements are low and their earnings are projected to be stable in the future. If the earnings fluctuate, the dividends will vary and in years of losses, no dividends are provided. The reduction in dividends will reduce market price per share.

E–5

The current stockholders' equity account for Hilo Farms is as follows:

Common stock (50,000 shares at $3 par)	$150,000
Paid-in capital in excess of par	250,000
Retained earnings	450,000
Total stockholders' equity	$850,000

Hilo has announced plans to issue an additional 5,000 shares of common stock as part of its stock dividend plan. The current market price of Hilo's common stock is $20 per share. Show how the proposed *stock dividend would affect the stockholder's* equity account.

After stock dividends, the equity accounts will be the following:

Common stock (55,000 shares at $3 par)	$165,000
Paid-in capital in excess of par	335,000
Retained earnings	350,000
Total stockholders' equity	$850,000

P–6

Bennett Farm Equipment Sales, Inc., is in a highly cyclic business. Although the firm has a target payout ratio of 25%, its board realizes that strict adherence to that ratio would result in a fluctuating dividend and create uncertainty for the firm's stockholders. Therefore, the firm has declared a regular dividend of $0.50 per share per year with extra cash dividends to be paid when earnings justify them. Earnings per share for the last several years are as follows:

Year	EPS	Year	EPS
2012	$3.00	2009	$2.80
2011	2.40	2008	2.15
2010	2.20	2007	1.97

a) Calculate the payout ratio for each year on the basis of the regular $0.50 dividend and the cited EPS.

Year	Payout %	Year	Payout %
2007	25.4	2010	22.7
2008	23.3	2011	20.8
2009	17.9	2012	16.7

b) Calculate the difference between the regular $0.50 dividend and a 25% payout for each year.:

First we calculate DPS at 25% payout = EPS × 25% = DPS

for year 2007 the DPS = 1.97 × .25 = $.49

Then the difference = actual regular dividends – DPS at 25% payout ratio

year 2007 Diff. = $.5 - $.49 = $.01

year 2008 Diff. = $.5 - $.54 = - $.04

Year	DPS at 25% Payout	Actual Payout	$ Diff.	Year	DPS at 25% Payout	Actual Payout	$ Diff.
2007	$0.49	.50	0.01	2010	0.55	.50	- 0.05
2008	0.54	.50	- 0.04	2011	0.60	.50	- 0.10
2009	0.70	.50	- 0.20	2012	0.75	.50	- 0.25

c) Bennett has established a policy of paying an extra dividend of $0.25 only when the difference between the regular dividend and a 25% payout amounts to $1.00 or more. Show the regular and extra dividends in those years when an extra dividend would be paid. What would be done with the "extra" earnings that are not paid out?

- In this example the firm would not pay any extra dividend since the actual dividend did not amount to a minimum of $1.00 in any year. When the "extra" dividend is not paid, the extra cash can be used for additional investment by placing the funds in a short-term investment account.

d) The firm expects that future earnings per share will continue to cycle but will remain above $2.20 per share in most years. What factors should be considered in making a revision to the amount paid as a regular dividend? If the firm revises the regular dividend, what new amount should it pay?

- If the firm expects the earnings to remain above the EPS of $2.20 the dividend should be raised to $0.55 per share. The 55 cents per share will retain the 25% target payout but allow the firm to pay a higher regular dividend without jeopardizing the cash position of the firm by paying too high of a regular dividend.

For a target 25% payout ratio the DPS = EPS × 25%

At this target payout ratio, the new regular DPS = $2.20 × .25 = $.55

Then the new low regular DPS = $.55 per share.

P–7

Over the last 10 years, a firm has had the earnings per share shown in the following table.

Year	Earnings per share	Year	Earnings per share
2012	$4.00	2007	$2.40
2011	3.80	2006	1.20
2010	3.20	2005	1.80
2009	2.80	2004	−0.50
2008	3.20	2003	0.25

A. If the firm's dividend policy were based on a constant payout ratio of 40% for all years with positive earnings and 0% otherwise, what would be the annual dividend for each year?
B. If the firm had a dividend payout of $1.00 per share, increasing by $0.10 per share whenever the dividend payout fell below 50% for two consecutive years, what annual dividend would the firm pay each year?
C. If the firm's policy were to pay $0.50 per share each period except when earnings per share exceed $3.00, when an extra dividend equal to 80% of earnings beyond $3.00 would be paid, what annual dividend would the firm pay each year?
D. Discuss each dividend policy described in parts a through c.

a.

Year	Dividend	Year	Dividend
2003	$ 0.10	2008	$ 1.28
2004	0.00	2009	1.12
2005	0.72	2010	1.28
2006	0.48	2011	1.52
2007	0.96	2012	1.60

b.

Year	Dividend	Year	Dividend
2003	$ 1.00	2008	$ 1.10
2004	1.00	2009	1.20
2005	1.00	2010	1.30
2006	1.00	2011	1.40
2007	1.00	2012	1.50

c.

Year	Dividend	Year	Dividend
2003	$ 0.50	2008	$ 0.66
2004	0.50	2009	0.50
2005	0.50	2010	0.66
2006	0.50	2011	1.14
2007	0.50	2012	1.30

d. With a constant-payout policy, if the firm's earnings drop or a loss occurs the dividends will be low or nonexistent. A regular dividend or a low-regular-and-extra dividend policy reduces owner uncertainty by paying relatively fixed and continuous dividends.

P–8

Given the earnings per share over the period 2005–2012 shown in the following table, determine the annual dividend per share under each of the policies set forth in parts **a through d.**

Year	Earnings per share
2012	$1.40
2011	1.56
2010	1.20
2009	−0.85
2008	1.05
2007	0.60
2006	1.00
2005	0.44

a) Pay out 50% of earnings in all years with positive earnings.
b) Pay $0.50 per share and increase to $0.60 per share whenever earnings per share rise above $0.90 per share for two consecutive years.
c) Pay $0.50 per share except when earnings exceed $1.00 per share, in which case pay an extra dividend of 60% of earnings above $1.00 per share.
d) Combine the policies described in parts b and c. When the dividend is raised (in part b), raise the excess dividend base (in part c) from $1.00 to $1.10 per share.
e) Compare and contrast each of the dividend policies described in parts a through d.

a.

Year	Dividend	Year	Dividend
2005	$0.22	2009	$0.00
2006	0.50	2010	0.60
2007	0.30	2012	0.78
2008	0.53	2013	0.70

b.

Year	Dividend	Year	Dividend
2005	$0.50	2009	$0.50
2006	0.50	2010	0.50
2007	0.50	2011	0.60
2008	0.50	2012	0.60

c.

Year	Dividend	Year	Dividend
2005	$0.50	2009	$0.50
2006	0.50	2010	0.62
2007	0.50	2011	0.84
2008	0.53	2012	0.74

d.

Year	Dividend	Year	Dividend
2005	$0.50	2009	$0.50
2006	0.50	2010	0.62
2007	0.50	2011	0.88
2008	0.53	2012	0.78

e. Part **a.** uses a constant-payout-ratio dividend policy, which will yield low or no dividends if earnings decline or a loss occurs.

Part **b .** uses a regular dividend policy, which minimizes the owners' uncertainty of earnings.

Part **c.** uses a low-regular-and-extra dividend policy, giving investors a stable income which is necessary to build confidence in the firm.

Part **d.** still provides the stability of Plans **b.** and **c.** but allows for larger future dividend growth.

P–9

Firm Columbia Paper has the following stockholders' equity account. The firm's common stock has a current market price of $30 per share.

Preferred stock	$100,000
Common stock (10,000 shares at $2 par)	20,000
Paid-in capital in excess of par	280,000
Retained earnings	100,000
Total stockholders' equity	$500,000

a) Show the effects on Columbia of a 5% stock dividend.
b) Show the effects of (1) a 10% and (2) a 20% stock dividend.
c) In light of your answers to parts a and b, discuss the effects of stock dividends on stockholders' equity.

	a. 5% Stock Dividend
Preferred Stock	$100,000
Common Stock (10,500 shares at $2.00 par)	21,000
Paid-in Capital in Excess of Par	294,000
Retained Earnings	85,000
Stockholders' Equity	$ 500,000

	b. (1) 10% Stock Dividend
Preferred Stock	$100,000
Common Stock (11,000 shares at $2.00 par)	22,000
Paid-in Capital in Excess of Par	308,000
Retained Earnings	70,000
Stockholders' Equity	$500,000

	b. (2) 20% Stock Dividend
Preferred Stock	$100,000
Common Stock (12,000 shares at $2.00 par)	24,000
Paid-in Capital in Excess of Par	336,000
Retained Earnings	40,000
Stockholders' Equity	$500,000

c) Stockholders' equity has not changed. Funds have only been redistributed between the stockholders' equity accounts.

P–10

Milwaukee Tool has the following stockholders' equity account. The firm's common stock currently sells for $4 per share.

Preferred stock	$ 100,000
Common stock (400,000 shares at $1 par)	400,000
Paid-in capital in excess of par	200,000
Retained earnings	320,000
Total stockholders' equity	$1,020,000

a) Show the effects on the firm of a *cash dividend of $0.01, $0.05, $0.10, and* $0.20 per share.
b) Show the effects on the firm of a 1%, 5%, 10%, and 20% *stock dividend.*
c) Compare the effects in parts a and b. What are the significant differences between the two methods of paying dividends?

a.

	Cash Dividend			
	$0.01	$0.05	$0.10	$0.20
Preferred Stock	$100,000	$100,000	$100,000	$100,000
Common Stock (400,000 shares at $1.00 par)	400,000	400,000	400,000	400,000
Paid-in Capital in Excess of Par	200,000	200,000	200,000	200,000
Retained Earnings	316,000	300,000	280,000	240,000
Stockholders' Equity	$1,016,000	$1,000,000	$980,000	$940,000

b.

	Stock Dividend 1%
Preferred Stock	$100,000
Common Stock (404,000 shares at $1.00 par)	404,000
Paid-in Capital in Excess of Par	212,000
Retained Earnings	304,000
Stockholders' Equity	$1,020,000

b.

	Stock Dividend 5%
Preferred Stock	$100,000
Common Stock (420,000 shares at $1.00 par)	420,000
Paid-in Capital in Excess of Par	260,000
Retained Earnings	240,000
Stockholders' Equity	$1,020,000

b.

	Stock Dividend 10%
Preferred Stock	$100,000
Common Stock (440,000 shares at $1.00 par)	440,000
Paid-in Capital in Excess of Par	320,000
Retained Earnings	160,000
Stockholders' Equity	$1,020,000

b.

	Stock Dividend 20%
Preferred Stock	$100,000
Common Stock (480,000 shares at $1.00 par)	480,000
Paid-in Capital in Excess of Par	440,000
Retained Earnings	0
Stockholders' Equity	$1,020,000

Stock dividends do not affect stockholders' equity; they only redistribute retained earnings into common stock and additional paid-in capital accounts. Cash dividends cause a decrease in retained earnings and, hence, in overall stockholders' equity.

P–13

Growth Industries' current stockholders' equity account is as follows:

Preferred stock	$ 400,000
Common stock (600,000 shares at $3 par)	1,800,000
Paid-in capital in excess of par	200,000
Retained earnings	800,000
Total stockholders' equity	$3,200,000

a) Indicate the change, if any, expected if the firm declares a 2-for-1 stock split.
b) Indicate the change, if any, expected if the firm declares a 1-for-1.5 *reverse* stock split.
c) Indicate the change, if any, expected if the firm declares a 3-for-1 stock split.
d) Indicate the change, if any, expected if the firm declares a 6-for-1 stock split.
e) Indicate the change, if any, expected if the firm declares a 1-for-4 *reverse stock split.*

a. CS = $1,800,000 (1,200,000 shares at $1.50 par)
b. CS = $1,800,000 (400,000 shares at $4.50 par)
c. CS = $1,800,000 (1,800,000 shares at $1.00 par)
d. CS = $1,800,000 (3,600,000 shares at $0.50 par)
e. CS = $1,800,000 (150,000 shares at $12.00 par)

P–15

Mammoth Corporation is considering a 3-for-2 stock split. It currently has the stockholders' equity position shown. The current stock price is $120 per share. The most recent period's earnings available for common stock are included in retained earnings.

Preferred stock	$ 1,000,000
Common stock (100,000 shares at $3 par)	300,000
Paid-in capital in excess of par	1,700,000
Retained earnings	10,000,000
Total stockholders' equity	$13,000,000

a) What effects on Mammoth would result from the *stock split?*
b) What change in stock price would you expect to result from the stock split?
c) What is the maximum cash dividend per share that the firm could pay on common stock before and after the stock split? (Assume that legal capital includes *all paid-in capital.)*
d) Contrast your answers to parts a through c with the circumstances surrounding a 50% *stock dividend.*
e) Explain the differences between stock splits and stock dividends.

a. There would be a decrease in the par value of the stock from $3 to $2 per share. The shares outstanding would increase to 150,000. The common stock account would still be $300,000 (150,000 shares at $2 par).

b. The stock price would decrease by one-third to $80 per share.

c. Before stock split: ($10,000,000 ÷ 100,000) = $100 per share
After stock split: ($10,000,000 ÷ 150,000) = $66.67 per share

d. (a) A 50% stock dividend would increase the number of shares to 150,000 but would not entail a decrease in par value. There would be a transfer of $150,000 into the common stock account and $5,850,000 in the paid-in capital in excess of par account from the retained earnings account, which decreases to $4,000,000.

(b) The stock price would change to approximately the same level.

(c) Before dividend: ($10,000,000 ÷ 100,000) = $100 per share
After dividend: ($4,000,000 ÷ 150,000) = $26.67 per share

e. Stock splits cause an increase in the number of shares outstanding and a decrease in the par value of the stock with no alteration of the firm's equity structure. However, stock dividends cause an increase in the number of shares outstanding without any decrease in par value. Stock dividends cause a transfer of funds from the retained earnings account into the common stock account and paid-in capital in excess of par account.

P–16

The board of Wicker Home Health Care, Inc., is exploring ways to expand the number of shares outstanding in an effort to reduce the market price per share to a level that the firm considers more appealing to investors. The options under consideration are a 20% stock dividend and, alternatively, a 5-for-4 stock split. At the present time, the firm's equity account and other per-share information are as follows:

Preferred stock	$ 0
Common stock (100,000 shares at $1 par)	100,000
Paid-in capital in excess of par	900,000
Retained earnings	700,000
Total stockholders' equity	$1,700,000
Price per share	$30.00
Earnings per share	$3.60
Dividend per share	$1.08

a) Show the effect on the equity accounts and per-share data of a 20% *stock dividend.*
b) Show the effect on the equity accounts and per-share data of a 5-for-4 *stock split.*
c) Which option will accomplish Wicker's goal of reducing the current stock price while maintaining a stable level of retained earnings?
d) What legal constraints might encourage the firm to choose a stock split over a stock dividend?

a. A 20% stock dividend would increase the number of shares to 120,000 but would not entail a decrease in par value. There would be a transfer of $20,000 into the common stock account and $580,000 [($30 - $1) x 20,000] in the paid-in capital in excess of par account from the retained earnings account. The per-share earnings would decrease since net income remains the same but the number of shares outstanding increases by 20,000.

$$\text{EPS}_{\text{stock dividend}} = \frac{\$360{,}000}{120{,}000} = \$3.00$$

b. There would be a decrease in the par value of the stock from $1 to $0.80 per share. The shares outstanding would increase to 125,000. The common stock account would still be $100,000 (125,000 shares at $0.80 par). The per-share earnings would decrease since net income remains the same but the number of shares outstanding increases by 25,000.

$$\text{EPS}_{\text{stock split}} = \frac{\$360{,}000}{125{,}000} = \$2.88$$

c. The option in part b, the stock split, will accomplish the goal of reducing the stock price while maintaining a stable level of retained earnings. A stock split does not cause any change in retained earnings but reduces the price of the shares in the same proportion as the split ratio.

d. The firm may be restricted in the amount of retained earnings available for dividend payments, whether cash or stock dividends. Stock splits do not have any impact on the firm's retained earnings.

P–17

The following financial data on the Bond Recording Company are available:

Earnings available for common stockholders	$800,000
Number of shares of common stock outstanding	400,000
Earnings per share ($800,000 / 400,000)	$2
Market price per share	$20
Price/earnings (P/E) ratio ($20 / $2)	10

The firm is currently considering whether it should use $400,000 of its earnings to pay cash dividends of $1 per share or to repurchase stock at $21 per share.

a) Approximately how many shares of stock can the firm repurchase at the $21 per-share price, using the funds that would have gone to pay the cash dividend?
b) Calculate the *EPS after the repurchase. Explain your calculations.*
c) If the stock still sells at 10 times earnings, what will the *market price be after the* repurchase?
d) Compare the pre- and post-repurchase earnings per share.
e) Compare and contrast the stockholders' positions under the dividend and repurchase alternatives. What are the tax implications under each alternative?

a. Shares to be repurchase $d = \frac{\$400{,}000}{\$21.00} = 19{,}047$ shares

b $\text{EPS} = \frac{\$800{,}000}{380{,}953} = \$2.10$ per share

If 19,047 shares are repurchased, the number of common shares outstanding will decrease and earnings per share will increase.

c. Market price: $2.10 x 10 = $21.00 per share

d. The stock repurchase results in an increase in earnings per share from $2.00 to $2.10.

e. The pre-repurchase market price is different from the post-repurchase market price by the amount of the cash dividend paid. The post-repurchase price is higher because there are fewer shares outstanding.
Cash dividends are taxable to the stockholder. If the firm repurchases stock, taxes on the increased value resulting from the purchase are deferred until the shares are sold.