1. (15%) It has been suggested that one disadvantage of common stock financing is that share prices tend to decline in recessions, thereby increasing the cost of capital and deterring investment. Discuss this view. Is it an argument for greater use of debt financing?

2. (15%) Discuss this statement: The cost of retained earnings is less than the cost of new outside equity capital. Consequently, it is totally irrational for a firm to sell a new issue of stock and to pay dividends during the same year.

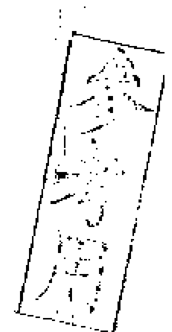
3. (15%) Two large, publicly owned firms are contemplating a merger. No operating synergy is expected. However, since returns on the two firms are not perfectly positively correlated, the standard deviation of earnings would be reduced for the combined corporation. One group of consultants argues that this risk reduction is sufficient grounds for the merger. Another group thinks this type of risk reduction is irrelevant because stockholders could themselves hold the stock of both companies and thus gain the risk reduction benefits without all the hassles and expenses of the merger. Whose position is correct? (15%)

4. (15%) Ron Redwine, financial manager of Blum Industries, is developing the firm's optimal capital budget for the coming year. He has identified the five potential projects shown below. Projects B and B* are mutually exclusive, while the remainder are independent. Neither B nor B* are essential to the firm's operations, so replication is not mandatory.

Project	Cost	CF_{1-N}	Life (N)	IRR	NPV
A	$400,000	$119,326	5	15%	
B	200,000	56,863	5	13	
B*	200,000	35,397	10	12	
C	100,000	27,057	5	11	
D	300,000	79,139	5	10	

The following information was developed for purposes of determining Blum's weighted average cost of capital (WACC):

Interest rate on new debt	8.0%
Tax rate	40.0%
Debt ratio	60.0%
Current stock price, P_0	$20.00
Last dividend, D_0	$2.00
Expected growth rate, g	6.0%
Flotation cost on common, F	19.0%
Expected addition to retained earnings	$200,000



The firm adjusts for differential project risk by adding or subtracting 2.0 percentage points to the firm's marginal cost of capital.

a. Calculate the WACC, and then plot the company's IOS and MCC schedules. What is the firm's marginal cost of capital for capital budgeting purposes?

b. Assume initially that all five projects are of average risk. What is Blum's optimal capital budget? Explain your answer fully.

c. In reality, companies like Blum have hundreds of projects to evaluate each year, hence it is generally not practical to draw the IOS and MCC schedules which include every potential project. Now suppose this situation exists for Blum. Suppose also that the company has 3 divisions, L, A, and H, with low, average, and high risk, respectively, and that the projects within each division can also be grouped into three risk categories. Describe how Blum might go about structuring its capital budgeting decision process and choosing its optimal set of projects. For this purpose, assume that Blum's overall WACC is estimated to be 11.0 percent. As part of your answer, find appropriate divisional and project hurdle rates when differential risk is considered.

Article I

BALANCE YOUR PORTFOLIO WITH BOND FUNDS

Bond funds aren't quite as tough a sell as snow to an Eskimo these days—but neither are they far behind. The red-hot equity market has made these normally staid investment vehicles look downright comatose of late, and no doubt you may still be spooked by the drubbing that bonds took in 1994.

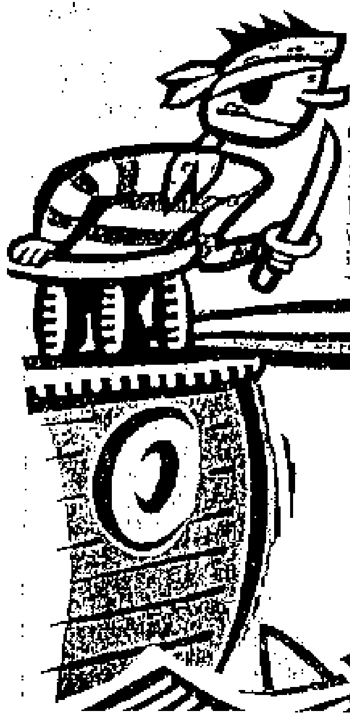
Yet there are some good reasons to consider these funds now. The first is diversification. If your fund portfolio is starting to look like a pure equities play—and with ballooning stock values, many are—now's the time to offset that exposure with bonds. Second, if you have a specific savings goal in mind, like a down payment on a house or looming college tuition years, there's still no match for a short- to intermediate-term bond fund for a decent, consistent rate of return. Third, if you're a money market investor who's disappointed with 1995's nearly invisible payouts, a bond fund can at least provide a dollop more of income.

Don't make the mistake that all bond funds are created equal, though. Just as equity-fund investing involves a risk-tolerance gut check, so does bond-fund investing. After all, people lose money in bonds too: During 1994, long-term Treasury bond funds lost nearly 6%, on average. On this score, it pays to remember one basic rule of risk: With each percentage point change in interest rates, bond prices move in the opposite direction proportionate to the bond's duration (the average weighted time it takes to receive a bond's cash flow). A simple example: A ten-year zero-coupon Treasury bond has a duration of ten, so it will drop 10% if interest rates climb one percentage point. But, a ten-year 6% coupon bond has a duration of seven, so its price would fall 7% with the same uptick in interest rates.

To minimize volatility, stick to a short- to intermediate-maturity fund, where prices are relatively stable. Lately the difference between short- and long-term rates is so small that you give up almost nothing by going with a short maturity of, say, five years. "Intermediate-term bonds have two-thirds of the yield of long-term bonds, but only half the volatility," says David MacEwen, a muni fund manager at Benham. And considering how tight the spread is between corporate and government bond yields these days, government bonds look like a better deal. "With corporate bond funds, you're also assuming the credit risk of the company, with the reward being a higher yield," says Ibbotson consultant Rob Cummisford. "Now the yields are so close that you're not getting the premium on the investment." In late February, the spread between long-term corporate bonds and Treasuries was just 68 basis points.

Major fund families offer a choice of bond-fund categories to satisfy different appetites for risk and reward. But remember, don't let bond funds dominate your portfolio if you want growth. For that, you still need the wild and woolly stock market. — Andrea L. Prochniak

WHAT YOU GET—AND WHAT YOU RISK—WITH BOND FUNDS



Avg. annual return	Short-term U.S. govt.	General U.S. govt.	General municipal	Corp. debt, high-grade	Corp. junk
5-year	6.0%	8.2%	8.3%	9.6%	16.7%
10-year	6.8%	8.2%	8.2%	9.2%	9.6%
Worst qtr. in ten yrs.	−0.7% 2nd qtr. '94	−3.2% 1st qtr. '94	−5.9% 1st qtr. '94	−3.6% 3rd qtr. '87	−7.1% 3rd qtr. '90

LOW — RISK — HIGH

Answer the following questions either in Chinese or English. Please be short and precise and do not exceed the maximum number of lines suggested for each question.

Article I

I-1. (10%)What does this article advise you in terms of investing your money? (Maximum 4 lines)

I-2. (10%)According to this article that the spread between the long-term corporate bonds and Treasuries was tight, so *how and why* should investor reallocate their money among these two alternatives? (Maximum 6 lines)

參考用

Article II.

IS THE STOCK MARKET TOO PRICEY?

There's nothing like a scary stock market drop to get investors wondering whether the market is too high. Consider: The Dow went from 3834 at the start of 1995 to a record 5642 before sliding 171 points on March 8 because of worries over rising interest rates. Fueling that yearlong rise has been a flood of cash from individuals. In January alone small investors poured $29 billion of household assets into stock mutual funds, which is about 57% more than the previous one-month record of $18.4 billion. February's inflows look as if they'll also be off the charts.

All but drowned out by the roar of billions of dollars pouring into the market are a few faint voices warning that the good times can't last. Says Robert Farrell, Merrill Lynch's senior investment adviser and a student of stock market cycles for nearly 40 years: "I'm worried that people have gotten too optimistic about stocks. Every market tends to be met with skepticism most of the way up, but there comes a point when the fear of risk is overtaken by the fear of missing out. That's when people get carried away, and the money starts pouring in." The billion-dollar question, then, is, Will the euphoric highs be obliterated by a nasty, back-to-reality crash? And if so, when? The frightening market swings in early March suggest that stocks are vulnerable. But more reliable indicators are to be found in the classic barometers—price-to-book-value ratios and dividend yields—that Wall Street uses to gauge whether stock valuations have gone off the deep end.

Those indicators all point to the same alarming trend: Prices do seem to be getting out of hand. The price-to-book-value ratio on the S&P, now about 3.5, is miles above its historical average of 1.8 and the highest it's been for at least 30 years. Dividend yields, which have averaged about 4.3% over the past 70 years, now languish at a paltry 2.2%. That anemic level is below even the scary depths dividend yields reached before the 1929, 1972, and 1987 market drops. In fact, it is the lowest it has been since 1926. Other valuation measures, like price-to-sales or the ratio of stock market value to GDP, also appear overextended.

So what does it all mean? Worriers like Farrell explain that markets often stay overvalued for long stretches of time before they come careening back to justifiable price levels, but eventually they always do. "Regression to the mean is what markets are all about," says Farrell.

Bullish analysts have jumped to explain why the market dynamics are different this time. For one thing, they argue, the classic measures of value have become outmoded. The usefulness of book value, for example, has deteriorated because of changes in how companies account for write-downs and acquisitions. Also, the growing number of successful companies in the market index with

Article II (continued)

small book values but valuable intangible assets—information and technology companies, for instance—reduces the relevance of this measure. Similarly, some analysts contend that dividend yields no longer matter as much because by repurchasing their own shares, corporations are actually paying out more of their earnings than is apparent. Share buybacks boost the value of the stock remaining in shareholders' hands.

But Laszlo Birinyi, president of Birinyi Associates, a financial consulting firm, disagrees, saying buybacks have less impact than is widely believed. "The net shrinkage has been overstated by considering all announced buybacks as effective reductions in the number of outstanding shares," says Birinyi. In fact, he says, only about 40% of announced repurchases are actually acted on, and less than half of those shares are taken out of circulation; most are simply fed into employee benefits programs. This underscores the argument that dividend yields are at dangerous lows.

The one issue every analyst and money manager can agree to worry about is the earnings momentum of American companies. The past few years have been a boon to the bottom line, as net profit margins at S&P 400 companies approach their highest levels in 40 years, and returns on equity head to new highs. But these gains will not be sustainable if the economy slows—and despite a recent drop in unemployment, a slowdown is *still* the big concern. At 18.8, the trailing P/E ratio on the S&P remains in reasonable territory, based on historical levels and the current low level of interest rates (the market P/E has averaged about 14 over the past 60 years and was 21 just before the 1987 crash). But according to Salomon Brothers' chief equity analyst David Shulman, the P/E ratio is the only valuation measure that makes the startling rise in the market seem reasonable. Says Shulman: "If the economy slows more and suddenly we find that the 'E' isn't there, then we've got big problems."

Also fretting about the "E" is Jack Bogle, chairman of the $193 billion Vanguard family of mutual funds. According to him, "Corporations have dug deep to slim down and increase shareholder value, but as the economy slows that can't go on much longer." Through restructurings, heavy layoffs, and ample use of leverage, corporate profits have been growing two to four times faster than the underlying economy since 1991. At the end of 1995, consensus estimates by Wall Street analysts showed a forecasted 15% earnings jump for this year. But already it has become clear that earnings for the first quarter will fall short of those rosy expectations, reflecting a slowing economy and lackluster consumer spending.

> **"If the economy slows, then we've got big problems."**

Security analysts typically grow more conservative about estimates as the year wears on. But recently, for the first time in two years, analysts have reduced their estimates by more than the historical norm. "I'm very concerned that earnings estimates are coming down faster than people were expecting," says John Rogers, who manages $1.3 billion for Ariel Capital Management. Because of increasingly disappointing earnings, he expects at minimum a 20% decline in the major blue-chip indexes over the next 12 months. For smaller-cap growth stocks, which typically suffer more in a market decline, he is forecasting a nastier drop of 30% to 35%. Ultimately, says Rogers, "you're buying a share in a business, and if the business is not earning as much, that share should be worth less."

As for the little guy who continues pouring money into stock funds in hopes of replicating last year's 34% return, it's a good time to ask yourself: Do you really want to be heavily exposed to stocks when the deluge of money stops? With the stock allocation in your portfolio now much bigger because of the market's winning streak, it's a pretty good moment to take some money off the table.

Article II

II-3. (20%) What are the bearish and bullish arguments regarding the US equity market in this article? Do you agree with them? (Maximum 10 lines)