

3. a. Reported data

	<b>AMR Corp</b>		<b>US Airways</b>	
	<b>1998</b>	<b>1999</b>	<b>1998</b>	<b>1999</b>
Cash and short-term investments	\$ 2,073	\$ 1,791	\$ 1,210	\$ 870
Net receivables	1,543	1,134	355	387
Inventories	596	708	228	226
Other current assets	663	791	571	613
Current assets	\$ 4,875	\$ 4,424	\$ 2,364	\$ 2,096
Accounts payable	1,152	1,115	430	474
Accrued liabilities	2,122	1,956	1,016	1,276
Air traffic liability	2,163	2,255	752	635
Notes payable and current portion LT debt	202	538	71	116
Current liabilities	\$ 5,639	\$ 5,864	\$ 2,269	\$ 2,501
Net working capital	(764)	(1,440)	95	(405)
Current ratio	0.86	0.75	1.04	0.84
Quick ratio	0.64	0.50	0.69	0.50
Cash ratio	0.37	0.31	0.53	0.35

b. Unlike other payables, the air traffic liability will not require cash outlays (other than low marginal costs); instead this obligation is satisfied as customers use their tickets on flights. The air traffic liability should therefore be excluded from computations of short-term liabilities.

c. Adjusted data

	<b>AMR Corp</b>		<b>US Airways</b>	
	<b>1998</b>	<b>1999</b>	<b>1998</b>	<b>1999</b>
Current liabilities (reported)	\$5,639	\$5,864	\$2,269	\$2,501
Air traffic liability	<u>(2,163)</u>	<u>(2,255)</u>	<u>(752)</u>	<u>(635)</u>
Current liabilities (adjusted)	\$3,476	\$3,609	\$1,517	\$1,866
Net working capital (adjusted)	1,399	815	847	230
Current ratio	1.40	1.23	1.56	1.12
Quick ratio	1.04	0.81	1.03	0.67
Cash ratio	0.60	0.50	0.80	0.47

As expected, all of American Airlines' liquidity measures improve when the air traffic liability is removed from current liabilities.

However the adjustments in the table above overstate the firms' liquidity, especially for AMR. A portion of the air traffic liability relates to frequent flyer programs (37% of AMR's 1999 liability and 13% of US Airways' 1999 liability). AMR's frequent flyer obligation is based on the incremental costs of fuel, food, and reservations/ticketing costs (US Airways' approach is similar but includes insurance and other compensation). Thus some portion of the air traffic liability does represent near-term cash outlays.

d. US Airways' short-term liquidity position appears to be stronger than American's at December 31, 1999 as its current ratio and cash ratio are both higher and the quick ratio is that same. However, the higher current and quick ratios evaporate when the air traffic liability is eliminated. This liability is lower for US Airways (relative to total current liabilities). The adjusted data show that all three liquidity ratios are higher for AMR than for US Airways.

While not part of the question, it is worth noting that two of the three 1998 ratios are higher for US Airways than for AMR. While the ratios of both companies declined in 1999, the decline in US Airways' ratios was greater.

e. The 1999 decline in US Airways' air traffic liability indicates that fewer customers were willing to purchase tickets in advance, presumably due to the deterioration in the company's financial position. In contrast, American's air traffic liability increased, although the growth should be compared to past fluctuations and to growth for the rest of the industry.

US Airways filed for bankruptcy in August 2002.

4. Proceeds equal  $\$100,000 / (1.12)^5 = \$56,742$

<b>b.</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
EBIT	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
CFO before interest & taxes	60,000	60,000	60,000	60,000	60,000
Interest expense	6,809	7,626	8,541	9,566	10,714
CFO	60,000	60,000	60,000	60,000	60,000
Times interest earned	7.34	6.56	5.85	5.23	4.67
Times interest earned (cash basis) [Infinite, since no interest is paid. In 2004, when the bond is retired, the payment will be reported as a financing cash outflow.]					

c. For a full-coupon bond, annual interest expense paid in cash would be  $\$56,742 \times .12 = \$6,809$

	2000	2001	2002	2003	2004
EBIT	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
CFO before interest & taxes	60,000	60,000	60,000	60,000	60,000
Interest expense	6,809	6,809	6,809	6,809	6,809
CFO	53,191	53,191	53,191	53,191	53,191
Times interest earned	7.34	7.34	7.34	7.34	7.34
Times interest earned (cash basis)	8.81	8.81	8.81	8.81	8.81

d. Cash flow from operations is higher when zero-coupon bonds are issued because interest is never reported as an operating cash outflow. [Note the infinite cash-basis coverage ratio.] Interest coverage, however, is lower after the first year, and declines as interest expense increases over time, reflecting the steadily increasing principal amount. Full-coupon bonds (if sold at par) result in a constant cash outflow from operations and constant interest expense. Given the Null Company's "steady state," the interest coverage ratio is constant on both accrual and cash flow bases.

e. Given the tax deductibility of accrued but unpaid interest on zero-coupon bonds, cash flow from operations will be higher for both cases. The reported cash flow differences will remain unchanged. For the zero-coupon case, cash flow from operations is even more misleading as the firm must generate sufficient cash from operations to repay the debt at maturity. The obligation must be repaid, regardless of its cash flow classification.