Case Takeda, Pfizer 1

1 and 2 *110303*

[millions ¥]

Activity Analysis:

		Takeda		Pfizer
Inventory Turnover	COGS ÷ Average Inventory. 435787 ÷ (107767 + 107049) /2 =	4.0573	»	1.4500
Number of days of inventory	365 ÷ Inventory Turnover 365 ÷ 4.0573 =	89.9613	«	251.0000
Accounts Receivable Turnover	Net Sales ÷ Trade receivables 844643 ÷ (196019 + 202608) /2 =	4.2378	«	4.7800
Number of Days Receivables	365 ÷ Accounts Receivable Turnover	86.1296	»	76.3598
Fixed Assets Turnover	Net Sales ÷ Average Fixed Assets 844643 ÷ (224229 + 232092) /2 =	3.7020	»	3.3200
Total Assets Turnover	Net Sales ÷ Average Total Assets 844643 ÷ (1326999 + 1296202) /2 =	0.6440	«	0.8400

* Receivables does not include "Due to unconsolidated subsidiaries and affiliates".

Comparison of Takeda and Pfizer: Takeda's operations seem to be more efficient than Pfizer's. Other than receivables turnover, Takeda's activity ratios are superior to those of Pfizer. the most pronounced difference is the inventory ratio (1) qqJIT inventory systems prevalent in Japan as well as other (superior) management techniques used in Japan may be responsible for the differences. It is also possible that the inventory turnover differs because of Takeda's chemical business, whose operating characteristics may differ from the drug business. the fixed asset and total asset turnover ratios may be affected by differing accounting methods. Examples include faster depreciation methods (chapter 8) accounting for acquisitions (chapter 14), and the greater use of unconsolidated subsidiaries (chapter 13), permitting it to record lower assets (showing only net assets of unconsolidated subsidiaries).

(1) as noted in the chapter, Pfizer inventory turnover seems abnormally low. However, see question 5 below wl Roche's inventory turnover is similar to that of Pfizer.

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Liquidity Analysis:

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								Takeda		Pfizer
Purchases	COGS	+	End Inv.	-	Beg Inv					
	435,787	+	107,767	-	107,049	=		436,505		
Payable Turnover	Purchases	÷	Average Trade Payables							
	436505÷ (91431+90660) /2 =							4.7944	»	2.4500
Average number of days receivables	365	÷	Payable Turnover							
	365	÷	4.79					76.1311	«	149.0000
Length of cash cycle	Average number of days of inventory in stock							89.9613	«	251.0000
	Average number of days of receivables on hand							86.1296	»	76.3598
	Length of operating cycle							176.0909		327.3598
	Length of operating cycle payables outstanding							76.1311	«	149.0000
	Length of cash cycle							99.9598	«	178.3598
Current Ratio	Current Assets	÷	Current Liabilities							
	913,263	÷	280,058	=				3.2610	»	1.2200
Quick Ratio										
(	Cash	+	Marketable securities	+	AR	) /2 =	Current Liabilities			
(	313,798	+	227,032	+	196,019	) /2 =	280,058	2.6311	»	0.9000
Cash Ratio										
(	Cash	+	Marketable securities			) /	Current Liabilities			
(	313,798	+	227,032			) /	280,058	= 1.9311	»	0.4800
Cash from Operations Ratio	CFO	÷	Current Liabilities							
	104,979	÷	280,058					= 0.3748	»	0.3300
Projected	=	COGS	+	operating expense		-	depreciation			
Expenditures		435,787	+	266,636		+	32,651			
	=	669,772								
Defensive Interval (Days)	365	x	Quick assets	÷	Projected					
	365	x	736,849	÷	669,772			401.5544	»	273.0000

Comparison of Takeda and Pfizer: Takeda's superior inventory turnover ratio results in a more favorable opera and cash cycle. as noted in the chapter, (with respect to Exhibit 4-1 -common-size balance sheets of Takeda and Pfizer), Takeda had a much stronger cash position than Pfizer. Over 41% of its assets are cash and marketable securities as compared to 23% for Pfizer. the strong cash (and MS) position is the primary factor responsible for Takeda's superior liquidity ratios. However, note that the cash from operations ratio does not exhibit the same superiority (0.37 compared to 0.33) the difference in defensive intervals may reflect significant differences in R& expenditures as a % of sales (9% for Takeda versus 19% for Pfizer in 1999 - both companies report R&D in SG&

Case Takeda, Pfizer 3

Restated

Consolidated Statements of Income

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Net Sales			844,643
Cost of Sales			435,787
Gross profit			408,856
Selling, general and administrative expenses			
266,636	- 77,487		189,149
Research and Development expense			77,487
Operating Income as Reported			142,220
Equity in earnings in uncosloidated subsidiaries & a		35,981	
Loss on sales of PPE		(332)	
Exchange gains		(734)	
Other net		(2,537)	
Minority Interests		(1,368)	31,010
Operating Income			173,230
Interest and Dividend Income			8,603
Earnings before Interest and Taxes			181,833
Interest Expense			(1,059)
Earnings before taxes			180,774
Income taxes	49.24%		89,019
Net income			91,755

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Balance Sheet		1999	1998	Average	110303
Assets					
Time deposits		274,585	362,789		
Marketable securities		227,032	92,845		
Investment Securities		36,612	38,430		
Financial Assets	*a*	538,229	494,064		
Operating Assets	*b - a*	788,770	802,038		
Total assets	*b*	1,326,999	1,296,102		
Liabilities and Owners Equity					
Trade payables					
Trade notes		11,277	12,373		
Trade accounts		80,154	78,287		
Income taxes payable		38,698	54,902		
Trade payables		130,129	145,562		
Trade payables		130,129	145,562		
Due to unconsolidated subsidiaries and affiliates		21,603	20,101		
Accrued expenses		68,464	76,014		
Other current liabilities		48,382	49,472		
Retirement benefits		93,961	96,809		
Reserve for SMON compensation		5,886	6,115		
Minority Interests		29,863	28,166		
Operating liabilities		398,288	422,239	410,264	
Bank loans		9,361	9,509		
Current portion of long-term debt		2,119	24,077		
Short-term debt		11,480	33,586		
Long-term debt		9,858	10,896		
Total debt		21,338	44,482	32,910	
Equity		907,373	829,381	868,377	
Total assets		1,326,999	1,296,102	1,311,551	

Summary Balance sheet

Operating Assets	788,770	802,038	795,404
Financial Assets	538,229	494,064	516,147
	1,326,999	1,296,102	1,311,551
Operating liabilities	398,288	422,239	410,264
Debt	21,338	44,482	32,910
Equity	907,373	829,381	868,377
	1,326,999	1,296,102	
Total capital (debt + equity)	928,711	873,863	901,287
Total capital (including trade)	1,058,840	1,019,425	

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Long Term Debt and Solvency Analysis

Ratios

										Takeda		Pfizer
Leverage	Total assets	÷	Equity	1,311,551	÷	868,377				1.5103		
	Average Operating liabilities	÷	Total capital (debt + equity)									
	410,264	÷	901,287							0.4552		
	Average Operating liabilities	÷	Equity									
	410,264	÷	868,377							0.4724		
Debt to Equity				21,338	÷	907,373				0.0235	«	0.4600
Debt to Capital				21,338	÷	928,711				0.0230	«	0.3100
Debt to equity	**Average**			32,910	÷	868,377				0.0379	»	
Times Interest Earned												
	EBIT	÷	Interest expe	181,833	÷	1,059				171.7025	»	20.0000
Capital expenditure ratio												
	CFO	÷	Capital exper	104,979	÷	27,847				3.7698	»	2.0600
CFO to debt				104,979	÷	21,338				4.9198	»	0.5600

Comparison of Takeda and Pfizer: Takeda's superior inventory turnover ratio results in a more favorable operating and cash cycle. as noted in the chapter, (with respect to Exhibit 4-1 -common-size balance sheets of Takeda and Pfizer), Takeda had a much stronger cash position than Pfizer. Over 41% of its assets are cash and marketable securities as compared to 23% for Pfizer. the strong cash (and MS) position is the primary factor responsible for Takeda's superior liquidity ratios. However, note that the cash from operations ratio does not exhibit the same superiority (0.37 compared to 0.33) the difference in defensive intervals may reflect significant differences in R&D expenditures as a % of sales (9% for Takeda versus 19% for Pfizer in 1999 - both companies report R&D in SG&A).

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Takeda's reported superiority may also reflect benefits from its extensive use of unconsolidated subsidiaries, keeping debt off the parent's balance sheet. to the extent that some debt is held by those subsidiaries, interest expense is understated as well.

Profitability Analysis

											110303	**Takeda**	**Pfizer**
Gross Margin %									408,856	÷	844,643	=	48.41%	84.40%
Operating Margin									142,220	÷	844,643	=	16.84%	28.90%
Margin before Interest & Tax														
		EBIT	÷	Sales					181,833	÷	844,643	=	21.53%	28.88%
Profit Margin		Net Income	÷	Sales					91,755	÷	844,643	=	10.86%	19.70%
EBIT(1-t)	=	Net Income	+	Inter. Exp.	x	(1-tax)								
		91,755	+	1,059	x	50.76%	=	92,293						
	=	EBIT	x	(1-tax)										
		181,833	x	50.76%			=	92,293						
ROA [Pre Interest & tax]														
		EBIT	÷	Average asse					181,833	÷	1,311,551	=	13.86% «	24.10%
ROA		EBIT(1-t)	÷	Average asse					92,293	÷	1,311,551	=	**7.04%**	**17.30%**
ROTC (pretax)		EBIT	÷	Average total					181,833	÷	901,287	=	20.17%	35.30%
ROTC		EBIT(1-t)	÷	Average total					92,293	÷	901,287	=	**10.24%**	**25.50%**
ROE (pretax)		Earnings before taxes	÷	Average Equ					180,774	÷	868,377	=	20.82%	50.20%
ROE		Net Income	÷	Average Equ					91,755	÷	868,377	=	**10.57%**	**36.20%**

Comparison of Takeda and Pfizer: the first three categories examined (activity, liquidity and solvency) indicate Takeda is stronger than Pfizer. However, in the profitability category, Pfizer's performance is far superior to tha Takeda in every area. the superiority stems from the firms' respective gross margins, much higher for Pfizer tha Takeda. as noted in the chapter (see p. 117), this is partially due to the Japanese environment wherein firms are subject to "price controls" limiting their ability to mark-up pharmaceutical products. Additionally, 29% of Take revenues are non-pharmaceutical (with lower gross margins) compared to 8% for Pfizer.

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Takada's lower returns also reflect its high cash position as returns on cash equivalents are far lower than retur operating activities. Return on equity for Pfizer is also enhanced by its debt leverage, which Takeda lacks.

Comparison of Takeda and Pfizer - Overall summary: Financial statement analysis is carried out by and for cre well as equity investors. in comparing Pfizer and Takeda we come across an interesting dichotomy. Because of strong liquidity and solvency position, Takeda would be the stronger candidate for a credit granting decision. I risky than PfizerqqOn the other hand, the lower risk implies a potentially lower return as seen in Takeda's lowe profitability relative to that reported by Pfizer. Thus for the equity investor, (assuming the risk differential is nc onerous) Pfizer maybe be a preferred investment. This does not imply that Pfizer is a risky credit decision - onl is riskier compared to Takeda.

The comparative analysis of Takeda and Pfizer is limited insofar as it ignores the following factors:

- § Takeda's large chemicals business limits its comparability to a pure drug company like Pfizer.
- § Ratios are based on financial data that reflect differing accounting methods and assumptions.
- § Economic, political and cultural environments in which the two firms operate (i.e. United States versus Jap the firms' risk and return profiles.

For these reasons, ratio analysis is just the beginning. the analyst should examine these factors to determine the extent to which ratio differences reflect underlying operating differences rather than accounting methods or otl factors.

This does not imply that Pfizer is a risky credit decision - only that it is riskier compared to Takeda.

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Disaggregations of Pretax ROA and ROE (Exhibit 4-12)

Interest on Assets	1,059	÷	1,311,551	=	0.08%								
	A. Return on Assets								**B. Return on Equity**				
	Margin before Interest & Tax	x	Total Assets Turnover	=	ROA [Pre Interest & tax]	-	Interest on Assets	=	Post interest pretax ROA	x	Leverage	=	ROE (pretax)
Takeda	21.53%	x	0.64	=	13.86%	-	0.08%	=	13.78%	x	1.51	=	20.82%
Pfizer	28.88%	x	0.83	=	24.07%	-	1.21%	=	22.86%	x	2.20	=	50.21%

Disaggregations of ROE after tax (Exhibit 4-14)

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A. Three component disaggregation

	Profit margin	x	Total Assets Turnover	=	Net Income / Average Total	x	Leverage	=	ROE
Takeda	10.86%	x	0.64	=	7.00%	x	1.51		10.57%
Pfizer	19.74%	x	0.83	=	16.46%	x	2.20	=	36.15%

B. Five component disaggregation

	Taxes	x	Financing	x	Operations		
	Net Income / EBT	x	EBT/ EBIT	x	Margin before Interest & Tax	=	Profit margin
Takeda	50.76%	x	0.99	x	21.53%	=	10.86%
Pfizer	72.00%	x	0.95	x	28.88%	=	19.74%

Disaggregations of ROE and relationship to ROTC and ROA

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Interest rate	1,059	÷	32,910	=	3.22%
After tax cost of debt	3.22%	x	50.76%	=	1.63%

Through ROTC

	ROTC	+ [	ROTC	-	After tax cost of debt	] x	Debt to equity	=	ROE
Takeda	10.24%	+	10.24%	-	1.63%	]	0.038		10.57%
Pfizer	25.45%	+	25.45%	-	3.87%	]	0.496	=	36.15%

	ROA	+ [	ROA	-	0	] x	Operating liability to total capital	=	ROTC
Takeda	7.04%	+ [	7.04%	-		]	0.455		10.24%
Pfizer	17.33%	+ [	17.33%			]	0.468	=	25.45%

		Margin before Interest & Tax	x	(1-tax)	x	Total Assets Turnover	=	ROA
C	Takeda	21.53%	x	50.76%	x	0.64	=	7.04%
	Pfizer	28.88%	x	72.00%	x	0.83	=	17.33%

Consistent withthe analysis used to answer questions 1 and 2, Pfizer reports stronger profitability ratios wh Takeda's reports better solvency and activity ratios.

Both stronger and better are relative terms. Leverage is 1.5 for Takeda and 2.20 for Pfizer. the lower ratio fo Takeda reflects less debt and hence higher solvency. However, from the point of view of profitability, the l leverage translates into lower ROE and in that sense, Pfizer's leverage is preferred. the effects of leverage ca seen when we compare Takeda and Pfizer's ROA and ROE. Takeda's (pretax) ROA at 20.5% is virtually ide (pretax) ROE of 21.0%. Pfizer, on the other hand, has an ROE of 50.2%, considerably above its ROA of 24.1%

There is one other striking difference; Pfizer's tax burden is far lower than Takeda's.

Net Financial Assets Analysis

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Net Debt	=	Debt - Financial Assets = 32910 - 516146.5	=	(483,237)
Total capital, Net	=	Equity + Net Debt = 868377 - -483236.5	=	385,141
Net Interest Expense	=	Interest Expense - Interest and Dividend Income = 1059 - 86(	=	(7,544)

Financial Leverage, Net		
Net Debt ÷ Equity = -483236.5 ÷ 868377	(0.5565)	FLev,Net
Op Liability Leverage, Net		
Operating liabilities ÷ Total capital, Net = 410263.5 ÷ 385140.5	1.0652	OLLev,Net
Assets Turnover, Net		
Net Sales ÷ Operating Assets = 844643 ÷ 795404	1.0619	ATO, Net

Profit Margin before Interest & Taxes	OI	÷ Sales		
	173,230	÷ 844,643	20.51%	PM
NOPAT	OI	x (1-tax)		
	173,230	x 50.76%	= 87,926	
NOPAT	Net Income	+ Net Inter. Exp. x (1-tax)		
	91,755	+ (7,544) x 50.76%	= 87,926	
ROOA	NOPAT	÷ Average Operating Assets		
	87,926	÷ 795,404		11.05%
ROTC Net	NOPAT	÷ Total capital, Net		
	87,926	÷ 385,141		22.83%

Net Interest rate	(7,544) ÷ (483,237)	=	1.56%
After Tax Net Interest Rate	1.56% x 50.76%	=	0.79%

ROOA	+ [	ROOA	] x	OLLev,Net	=	ROTC Net
11.05%	+ [	11.05%	] x	1.065	=	22.83%

ROTC Net	+ [	ROTC Net	-	Int Rate	] x	FLev,Net	=	ROE
22.83%	+ [	22.83%	-	0.79%	] x	(0.556)	=	10.57%

PM	x	ATO, Net			x	(1-tax)	=	ROOA
20.51%	x	1.0619	=	30.30%	x	50.76%	=	11.05%

		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Net Income		3,199	3,718	7,752	9,181	1,639	11,332	8,094	11,024	8,213	8,026	8,621
Equity	8,810	8,887										
Average Equity		8,849	12,482	17,185	19,122	42,664	66,828	66,953	68,493	68,184	61,283	73,785
ROE		36.15%	29.79%	45.11%	48.01%	3.84%	16.96%	12.09%	16.10%	12.05%	13.10%	11.68%
				Boost			Drop					Drop
Pretax Income		4,443	5,767	10,313	11,790	3,260	13,997	11,518	13,016	9,236	9,671	10,818
Interest Expense		236	432	322	279	290	359	488	517	440	562	1,267
EBIT		4,679	6,199	10,635	12,069	3,550	14,356	12,006	13,533	9,676	10,233	12,085
(1-Tax Rate)		72.00%	64.47%	75.17%	77.87%	50.28%	80.96%	70.27%	84.70%	88.92%	82.99%	79.69%
EBIT(1-t)		3,369	3,997	7,994	9,398	1,785	11,623	8,437	11,462	8,604	8,492	9,631
Average Assets		19,438	27,042	36,332	42,755	81,566	120,230	120,625	116,201	115,053	113,208	162,049
ROA		17.33%	14.78%	22.00%	21.98%	2.19%	9.67%	6.99%	9.86%	7.48%	7.50%	5.94%
Debt	3,256	5,526	5,412	8,874	11,809	14,573	18,545	17,936	7,980	13,139	17,283	48,662
Average debt		4,391	5,469	7,143	10,342	13,191	16,559	18,241	12,958	10,560	15,211	32,973
Total Capital		13,240	17,951	24,328	29,463	55,855	83,387	85,193	81,451	78,744	76,494	106,758
ROTC		25.45%	22.26%	32.86%	31.90%	3.20%	13.94%	9.90%	14.07%	10.93%	11.10%	9.02%
Sales (Net)		16,204	29,574	32,084	32,373	45,188	52,516	51,298	48,201	48,209	48,341	49,934
EPS		$ 0.85	$ 0.60	$ 1.25	$ 1.49	$ 0.22	$ 1.51	$ 1.10	$ 1.52	$ 1.19	$ 1.19	$ 1.23
Intangibles		0	0	1,722	2,121	58,656	57,007	51,560	45,226	41,880	39,185	110,391

Pfe acquired Novartis in 2003. It was financed mostly with equity.
Intangibles went up and ROE dropped to arount 13%.