

08-14

14.a. Calculations below use the following definitions:

Average depreciable life (years) = Gross investment/depreciation expense

Average age (years) = Accumulated depreciation/depreciation expense

Average age (%) = Accumulated depreciation/gross investment

	1997	1998	1999
Buildings and land improvements			
(i) Average depreciable life (years)	32.5	40.8	40.8
(ii) Average age (years)	11.1	13.8	14.0
(iii) Average age (%)	34.1%	33.9%	34.3%
Machinery and equipment			
(i) Average depreciable life (years)	15.2	12.0	12.7
(ii) Average age (years)	8.3	6.4	6.8
(iii) Average age (%)	54.7%	53.6%	53.2%

The average depreciable life for buildings and land improvements is just over 40 years for 1998 and 1999, very close to the 40 year stated life. The 1997 ratio is much lower. The high depreciation for that year suggests that there was some special factor accounting for the discrepancy.

The average for machinery and equipment varies over the three-year period but is consistent with the 15-year maximum stated life. The ratio suggests that most assets in this category are depreciated over 15 years despite the stated policy of 5 – 15 years.

c. The average age (years) of buildings and land improvements has been increasing but is still low (and stable) compared with the average depreciable life (average age (%)). For machinery and equipment the average age fell in 1998 and was stable in 1999. These ratios suggest that Roche's physical facilities are modern, although it would be useful to compare the ratios with those of Roche competitors.

d. Questions worth asking include:

Why was 1997 depreciation on buildings and land improvements abnormally high?

Was 1997 depreciation on machinery and equipment abnormally low and, if so, why?

What types of machinery and equipment are depreciated over 15 years versus

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shorter time periods?

What is the breakdown of future capital expenditures between land and land improvements and machinery and equipment?

Will future capital expenditures change the average depreciable life due to changes in the asset mix?