Measuring Factors and Their Costs

Measuring the Group ① Factors
which we will simply refer to as "**Labor**"

Example for a Fast-food restaurant

Each hour of Labor:	Costs:	
1 worker hour	Worker/hour	\$9 hr.
	Benefits, Emp.Ins,...	\$3 hr.
	Insurance, Training,...	\$1 hr.
3 Kg. ground beef 84 buns 141 potatoes	Materials	\$7 hr. per worker hour
44 kw hrs of hydro ⋮	Energy	\$2 hr. per worker hour
	"Wage" = w =	\$22 hr. per worker hour

Suppose, in a typical hour, our restaurant uses 8.6 hours of labor. Then we will assume it will also use 25.8 Kg. of ground beef, 722.4 buns etc. Then we will say that 8.6 units of the "variable factor" are being used OR:

$L = 8.6$

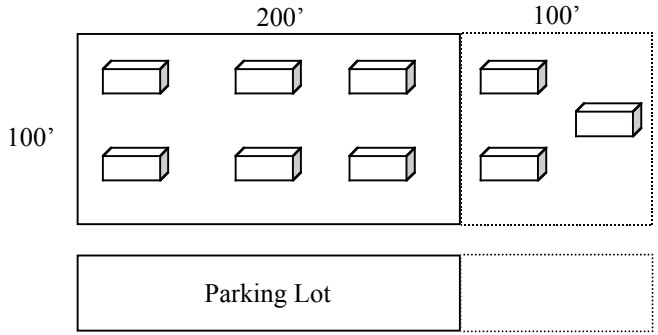
which we will usually just refer to as "Labor."

In this case we can compute "Labor" costs (or "total variable costs" = *TVC*) as:

$(w \times L) = \$22 \times 8.6 = \$189.20$ per hour.

Measuring the Group ② Factors
which we will simply refer to as "**Capital**"

One way to measure capital would be in "Fully outfitted square feet."



1997	1998
20,000 sq.ft.	30,000 sq.ft.
K=20,000	K=30,000

If you were told that *K* costs \$.025 per hour in 1997 then we can compute "Capital" costs (or "total fixed costs" = *TFC*) as: \$.025×20,000 = \$500 per hour.
Usually, however, you will just be given *TFC*.

Economic Profit ①

(Total Profit) = (Total Revenue – Total Cost) = $TR - TC$

TC = (Total Variable Cost + Total Fixed Cost) = $TVC + TFC$

$TVC \rightarrow$ Costs associated with factors which are "used up" (more or less) as they are paid for. Thus, if you stop using any one of these factors, its costs do not continue.
Examples: costs associated with most labor, materials and energy.

$TFC \rightarrow$ Costs associated with factors for which you make a "long term" commitment. Thus, if you do not use these factors, you are still committed to their costs.
Examples: costs associated with most machinery, buildings and land–regardless or whether these are purchased or leased. If capital is purchased and has a market value, you are still "committed" to this amount of money until you find a buyer.

The accountant attempts to compute the above costs using "actual dollar" costs–that is, what is "currently" being spent. The economist, however, focuses more on measuring costs in such a way as to better help us understand price and quantity movements. These are not competing approaches, however–it is just that each has different purposes for measuring costs. The accountant must inform and advise the firm's owners and/or managers with "hard numbers," whereas the economist wants to understand society. Neither is "more right" or "more wrong."

The variable costs are usually straightforward–the accountant and the economist usually come up with the same numbers. The differences are mainly in the fixed costs.

The accountant gets the fixed costs by adding interest payments, depreciation and "overhead."

To see how the economist computes fixed costs, consider the following example:

I'm thinking of starting a new company. I have \$300,000 of my own money in a bank account which I can put into the firm. But I need \$700,000 to buy the capital. My options are:

1) Keep my \$300,000 where it is, continue to earn money on it. Borrow the entire \$700,000 to start up the company.
2) Put my \$300,000 into the capital purchases, borrow the entire \$400,000. I give up what I was earning on my \$300,000 in the account, hoping to earn the same or more through my firm.

Under option 1) the accountant and economist will both record interest on \$700,000, depreciation on my capital and "overhead" in fixed costs. Under option 2), however, the accountant will record depreciation on \$700,000 worth of capital but interest on \$400,000 borrowed. The economists would say that this understates costs from a "decision-making" or "social" point of view. Why? Before I start my business, I will put my money in if I think I can earn at least as much as I was earning on it before. Therefore, if I do put my money into the firm, I will consider getting back out if I do not earn that much!!! Therefore:

> What firm owners could earn elsewhere is like a "cost" which is necessary for them to keep their money tied up in the firm.