

# **The Cost/Price Relationship**

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*Meat & Potatoes vs. Dessert*

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Accurate and relevant cost information – based on a valid model of the company – is a prerequisite for any organization that hopes to consistently make economically sound, fact-based decisions. One of the most common cost-based decisions made by executives is the pricing decision. Unfortunately, it is also one of the most misunderstood uses of cost information.

One thing should be understood at the outset: **Cost does not determine price. The market determines price. Cost determines whether or not a company wants to sell at the market price.** The day-in, day-out process of estimating costs and then adding a profit to quote new work or establish catalog prices often leaves the impression that there is a link between a company's costs and the price a customer will pay, but *there is no direct link between an individual company's actual cost and the market price.*

Cost is often used by buyers as a rationale for demanding price reductions. Buyers have come up with some of the most creative approaches for distorting product and service cost calculations known to man as a tactic for convincing vendors that their costs are actually lower than they think. But these buyers are not trying to correct a vendor's misguided cost calculations; they are trying to justify their (and, therefore, the market's) demand for lower prices. The market doesn't care what the vendor's costs are; they just want the price to be lower. *There is no direct link between an individual company's actual cost and the market price.*

**Although cost has nothing to do with price, it has a great deal to do with pricing decisions.** Over time, the prices a company charges for its products and services must cover all of its costs and provide an adequate return for its owners. Not each individual unit of product or service must cover all of its costs, but the total of all its business must cover them if it is to achieve long-term success. It is the accurate assignment of cost to products, contracts, and customers that enables a company to effectively *manage its portfolio of business* in a way that will maximize its performance.

### An Investor's Dilemma

Consider the case of an investor with \$1,000,000 who must select four of ten possible \$250,000 investments in which to place the \$1,000,000. As shown in Figure 1, all this investor knows about these possible investments is that the total return on the entire group of ten is 15%. Does this investor have a logical, fact-based means of selecting the four best investments? Of course he doesn't. The accurate and relevant information necessary to make a sound decision is just not there.

Investment	Investment Amount	Percentage Return	Dollar Return
A	\$250,000		
B	\$250,000		
C	\$250,000		
D	\$250,000		
E	\$250,000		
F	\$250,000		
G	\$250,000		
H	\$250,000		
I	\$250,000		
J	\$250,000		
Totals	<u>\$2,500,000</u>	<u>15.0%</u>	<u>\$375,000</u>

Figure 1 – Investor Faced with Inadequate Data

Since no logical, fact-based method of evaluating the investment alternatives is available, our investor must use “gut feel,” intuition, or some other basis for a decision. In this case, the investor uses the first letter of each of his four children’s names to select the investment vehicles: Albert, Charles, and the twins – Eugene and Imogene. The resulting portfolio is shown in Figure 2.

Investment	Investment Amount	Percentage Return	Dollar Return
A	\$250,000	-4.0%	(\$10,000)
B	\$0	0.0%	\$0
C	\$250,000	12.0%	\$30,000
D	\$0	0.0%	\$0
E	\$250,000	4.0%	\$10,000
F	\$0	0.0%	\$0
G	\$0	0.0%	\$0
H	\$0	0.0%	\$0
I	\$250,000	6.0%	\$15,000
J	\$0	0.0%	\$0
Totals	<u>\$1,000,000</u>	<u>4.5%</u>	<u>\$45,000</u>

Figure 2 – Portfolio Based on Inadequate Information

What if, on the other hand, our investor had the information in Figure 3 available when making his or her investment decision? Would the investor now have some facts on which to select the four investments for his portfolio?

Investment	Investment Amount	Percentage Return	Dollar Return
A	\$250,000	-4.0%	(\$10,000)
B	\$250,000	30.0%	\$75,000
C	\$250,000	12.0%	\$30,000
D	\$250,000	23.0%	\$57,500
E	\$250,000	4.0%	\$10,000
F	\$250,000	20.0%	\$50,000
G	\$250,000	16.0%	\$40,000
H	\$250,000	24.0%	\$60,000
I	\$250,000	6.0%	\$15,000
J	<u>\$250,000</u>	<u>19.0%</u>	<u>\$47,500</u>
Totals	<u>\$2,500,000</u>	<u>15.0%</u>	<u>\$375,000</u>

Figure 3 – Investor Provided with Adequate Data

Of course he would. As shown in Figure 4, by selecting Investments B, D, F, and H our investor could earn a return of \$242,500 or 24.3%. By knowing the contribution of each investment in his portfolio, this investor is able to maximize his portfolio's performance.

Investment	Investment Amount	Percentage Return	Dollar Return
A	\$0	0.0%	\$0
B	\$250,000	30.0%	\$75,000
C	\$0	0.0%	\$0
D	\$250,000	23.0%	\$57,500
E	\$0	0.0%	\$0
F	\$250,000	20.0%	\$50,000
G	\$0	0.0%	\$0
H	\$250,000	24.0%	\$60,000
I	\$0	0.0%	\$0
J	<u>\$0</u>	<u>0.0%</u>	<u>\$0</u>
Totals	<u>\$1,000,000</u>	<u>24.3%</u>	<u>\$242,500</u>

Figure 4 – Portfolio Based on Adequate Information

### A Decision Maker's Dilemma

Consider now the case of a company with the capacity to handle \$1,000,000 of business. There are currently ten \$250,000 contracts out for bid. Which four contracts does the company want?

If the company has a method of accurately measuring the cost and profit potential of each contract, just as our investor knew the potential return of each investment in Figure 3, its decision makers will have sound, fact-based information with which to pursue the four contracts that would contribute most to the company’s portfolio of business. If, on the other hand, its costing methods do not accurately measure each potential contract’s cost, decision makers will be “flying blind,” just as our investor was in Figure 1, and might pursue the wrong four contracts, resulting in less than optimum performance.

There is a law of economics – known at my firm as *Hicks’ First Law of Pricing* – that applies here. That law goes like this: “*A company will get a lot of business when it does not charge its customers for things it does for them, but it will not get much business when it attempts to charge its customers for things that it doesn’t do for them.*”

For example, one company has overall productivity that is about average for its industry and marketplace. Under normal economic conditions, the market will allow this company, whose costs are at the industry average, to charge a price that will enable it to recapture its cost and earn enough of a profit to ensure its continuing ability to supply the marketplace. If this company accurately calculates its “fully-absorbed”<sup>1</sup> costs and adds a market-supportable profit margin on each of one hundred possible contracts, it should be competitive on those contracts and will earn its expected profit margin on any contract it is awarded.

This situation is shown graphically in Figure 4 in which the horizontal axis represents one hundred contracts bid and the vertical axis the percentage accuracy of its fully-absorbed cost estimates. The market prices shown provide consistent margins above the accurately determined costs. The area between the market price and the 100% accurate contract costs represents the profit on any contract awarded at the market price.

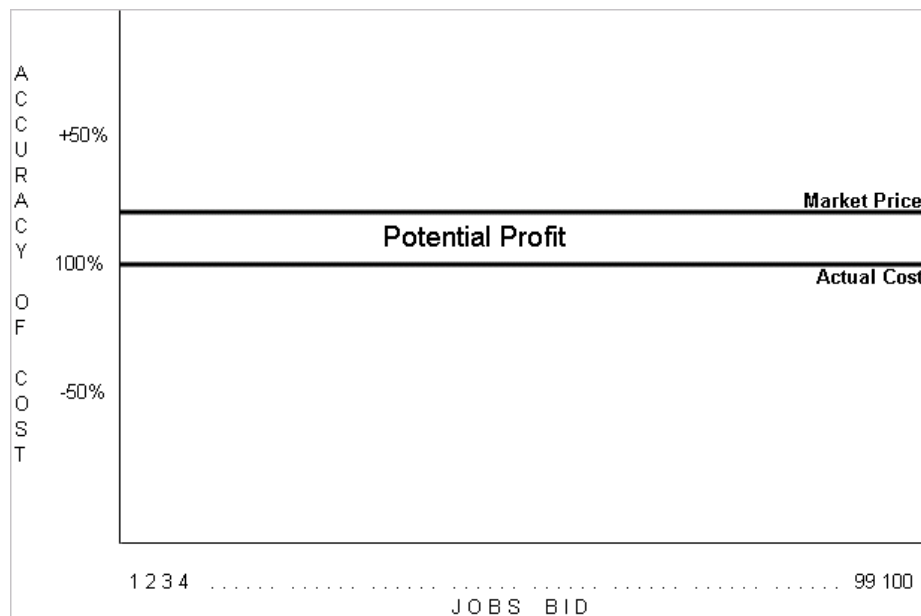


Figure 4 – Market Price/Profit Potential

If this company uses an inappropriate, over-generalized methodology (such as applying overhead costs on the basis of direct labor hours/dollars, machine hours, etc.) to estimate its costs, it will overestimate the fully-absorbed cost on approximately one half of the contracts bid and underestimate the costs on the other half. As a result, it will establish an *acceptable price* (quoted price) at levels that will be under the market for those contracts whose costs were underestimated and over the market for those contracts whose cost were overestimated. This situation can be seen graphically in Figure 5 in which contracts are sequenced from left to right starting with the contract whose cost was most underestimated and ending with the contract whose cost was most overestimated.



Figure 5 – Pricing Based on Over-Generalized Costs

Looking at the “Quoted Price” and “Market Price” lines, it is obvious that the company will be much more likely to be awarded contracts on the left side of the diagram – contracts bid at less than market price – for which it was “*not charging the customer for things it does for them.*” Conversely, it will not be awarded contracts on the right side of the diagram – contracts that could have been profitable at much lower prices – for which it was “*charging the customer for things it does not do for them.*” Unfortunately, actual costs do not care whether they have been over or underestimated; they will be *actual* either way. As Figure 6 clearly shows, if the company is awarded those contracts that were inadvertently priced below market, it has little or no change of financial success. At the same time it will be missing out on the potential profits that could have been earned at the market price on those contracts its inaccurate costing methodologies caused it to overprice.

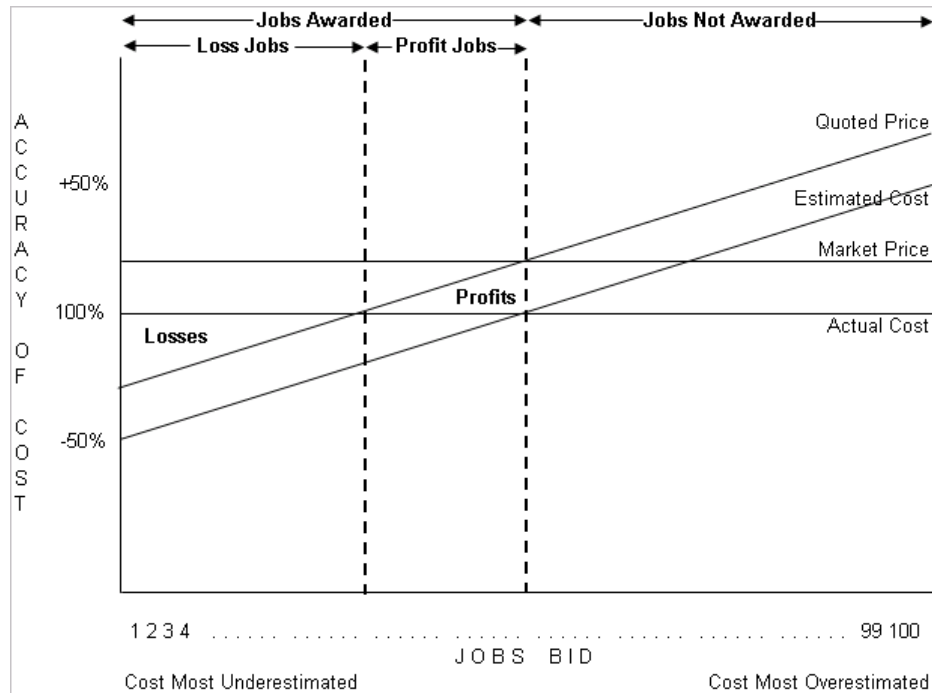


Figure 6 – Profitability Analysis of Contracts Won

### Pricing the “Meat and Potatoes”

The better-informed pricing decisions and more profitable portfolio of contracts that result from using cost information based on a valid economic model of the organization can have a significant “bottom line” impact. In Chapter 14 of my 1999 book *Activity-Based Costing: Making it Work for Small and Mid-Sized Companies*<sup>2</sup>, a detailed example is used to develop decision costing information for a small (less than \$3 million sales) company with ten contracts. According to the company’s traditional cost information (manufacturing overhead as a percentage of direct labor and general and administrative expenses as a percentage to total cost) its \$125,000 profit margin was generated by ten contracts with identical 4.7% profit margins.

A causality-based decision-costing model, however, showed that this \$125,000 profit was actually generated by contacts with margins ranging from +18.6% to –16.8%. Using the model for further decision-costing analysis showed that if a contract with a 9.5% margin (similar to the company’s fourth most profitable contract – one on which it accurately calculated its cost and added a market-supportable margin) had been won instead of its worst contract (the –16.8% margin contract – one on which it had underestimated its costs and *did not charge its customer for things it does for them*), its profit would have been \$182,000, a 45% increase. Its profit percentage to sales would have been 6.6% instead of 4.7% – an increase of almost two percentage points – if it had simply avoided *one* easily avoidable pricing mistake. Think of its impact of its avoiding *all* such pricing mistakes.

The accurate assignment of fully-absorbed cost to products, contracts, and customers enable a company to effectively manage its portfolio of *core business* – the products or services it normally sells when sold under normal market conditions. Core business is the key to the organization’s long-term survival. Over time its sale must cover the bulk of the company’s costs and generate the majority of its profit. It is the “meat and potatoes” that must nourish and fortify the organization. However, in addition to “meat and potatoes,” many companies also have opportunities for a little “dessert” – incremental business that can prove to be very profitable, but that does not follow the same costing rules as core business.

### **Pricing the “Dessert”**

Products and services that can be classified as a company’s “dessert” are its *non-core business*. Not surprisingly (based on my definition of core business), non-core business can be defined as the types of products or services a company does not normally sell or any products or services that are not sold under normal market conditions; simply, anything that is not core business. This type of business is often known as “peripheral” business or “business on the edge.”

Just as a valid cost model is required to effectively manage that portion of a company’s portfolio represented by core business; it is also required to manage the addition of non-core business to that portfolio. However, instead of using the model to establish the fully-absorbed cost of the product or service, non-core business requires the model to determine the “incremental” cost of the product or service – the additional out-of-pocket costs that will result from adding the non-core business to the company’s portfolio.

Organizations with traditional cost systems often attempt to calculate these incremental costs by separating their labor- or machine-based rates into two categories: a fixed rate and a variable rate. They then multiply the incremental labor or machine resources required to support the business by the variable rate to determine the incremental cost of that business. There are two problems with this approach:

- labor dollars, labor hours, or machine hours are seldom accurate measures for what actually drives the other costs of an organization and
- the definitions of “fixed” and “variable” are not constant, they are *situation specific*.

This results in inaccurate and misleading cost information being presented to decision makers as they determine the advisability of adding non-core business to the company’s portfolio. On the other hand, a valid, causality-based cost model of the organization accommodates the semi-fixed and step-variable costs that are critical to all “incremental” cost-based decisions and, because it is based on actual cause-and-effect relationships, effectively measures the impact on variable costs of the business under consideration.



## Beware of Too Much Dessert

There are many legitimate uses of “dessert pricing” that help a company better use its capacity and improve its financial performance. One-time special orders are a good example. Selling seasonal or normal excess capacity in a secondary market is another. But many organizations have gotten themselves into deep trouble by failing to control their appetite for dessert.

In their desire to increase sales, these organizations use incremental cost information as a basis for rationalizing prices that do not cover the fully-absorbed cost of core business. Although this strategy may work in the short-term to fill otherwise unused capacity, its long-term use can be fatal – just as an occasional dessert “binge” at a holiday party won’t cause immediate cardiac arrest, but a diet consisting primarily of desserts will lead to an early grave. Treating core business as “business on the edges” shrinks the amount of a company’s capacity left to cover the fundamental costs required to remain in business over the long-term. A company whose mix of core and peripheral business can be represented by the diagram on the left in Figure 7 has a much greater chance of success than one whose mix is better expressed in the diagram on the right.

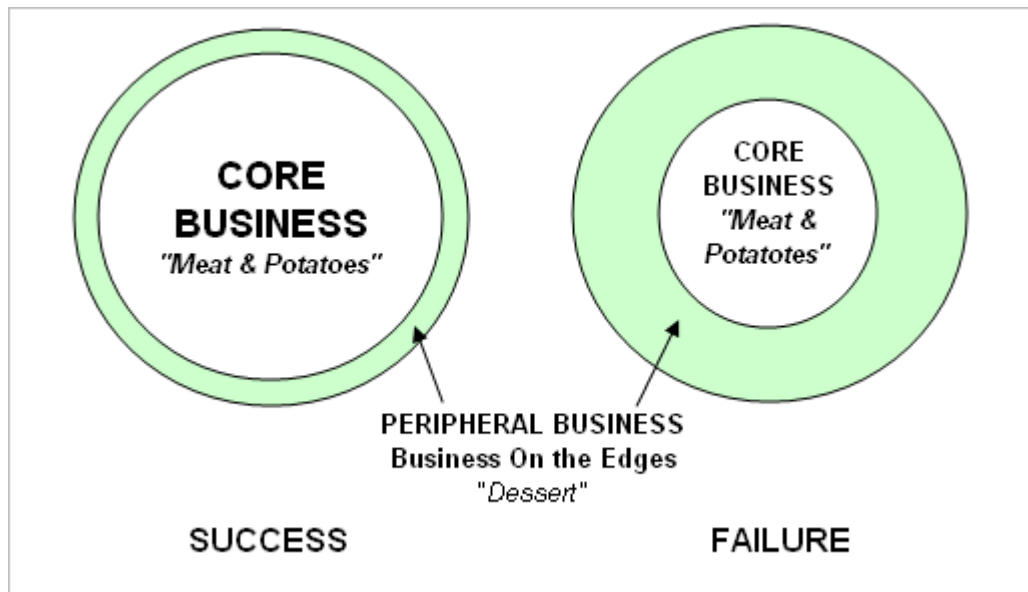


Figure 7 – Blending Core and Peripheral Business

## Conclusion

Accurate knowledge of product and service cost is critical for any organization that hopes to thrive and grow in a competitive business environment. The vast majority of business in a company’s portfolio – its core business – must be sold at prices that cover its fully-absorbed cost. Profits can be further enhanced by the judicious use of incremental costs in determining acceptable prices for “business on the edges.” But expanding the use of incremental cost into the evaluation of core business is a formula for disaster.

Without the ability to accurately measure the cost of its products or services, whether the appropriate costs are fully-absorbed or incremental, a company will not be able to manage its portfolio of business in a way that maximizes its financial performance and adds value for its stakeholders. Traditional costing methods, those based on labor hours, labor dollars, or machine hours, seldom provide the levels of accuracy needed by decision makers. Only a well-designed, causality-based model of the organization can provide the insights necessary.<sup>3</sup>

- 1 “Fully-absorbed” costs are product or service costs where each product or services picks up its “fair share” – based on cause-and-effect relationships – of all of the costs incurred by the organization, both fixed and variable.
- 2 Hicks, Douglas T., *Activity-Based Costing: Making it Work for Small and Mid-Sized Companies*, (New York, John Wiley & Sons, 1999)
- 3 Specific applications of these principles for special order pricing, strategic pricing, product line pricing, and long-term contracts are covered in more detail on pages 110-128 of *Activity-Based Costing: Making it Work for Small and Mid-Sized Companies* (see footnote 2).