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## Step Pricing: Can You Say Win-Win?

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**Summary:**

Step pricing is an alternative to flat pricing. It better shares risk and provides fairer pricing for buyer and seller, when forecasts may be uncertain.



Our recent economic contraction exposed a lot of suppliers to problems caused by overly optimistic forecasts from their customers. Of course, those same customers had negotiated rock bottom contract prices from their supplier based on huge volumes, which then didn't materialize. Several notable Fortune 500 suppliers have taken the unusual step of suing their customers for breach of contract.

What if the pricing had been fairer for both parties, instead of the supplier assuming the bulk of the risk? Consider this explanation of flat vs. step pricing. The customer negotiates a price of \$6.00 each, based on delivery of one million units. That customer will usually neither write a check in advance for six million dollars, nor will they take delivery of all one million units at one time. A typical scenario might have the one million units scheduled for delivery over twelve months. And priced flat, from unit one, at \$6.00 each. The risk for the supplier is that the customer might not take delivery of all one million units that got them that rock bottom pricing. The risk for the customer is usually nil. The big customers have previously walked away from contracts before when the market turned south, and suppliers ate those real losses instead of risking the loss of the big customer.

Step pricing seeks to more fairly share the risk between the supplier and the customer. In the previous example of flat pricing, the total price paid by the customer to the supplier would have been six million dollars. If, indeed the customer had taken delivery of all one million units. What if you could calculate pricing that would still give the customer a \$6.00, if they took all one million units, but would provide a higher average price if they didn't. Which would be fair, and more typical pricing, given the smaller volumes. Using an arithmetic progression with a negative slope can provide the solution we seek.

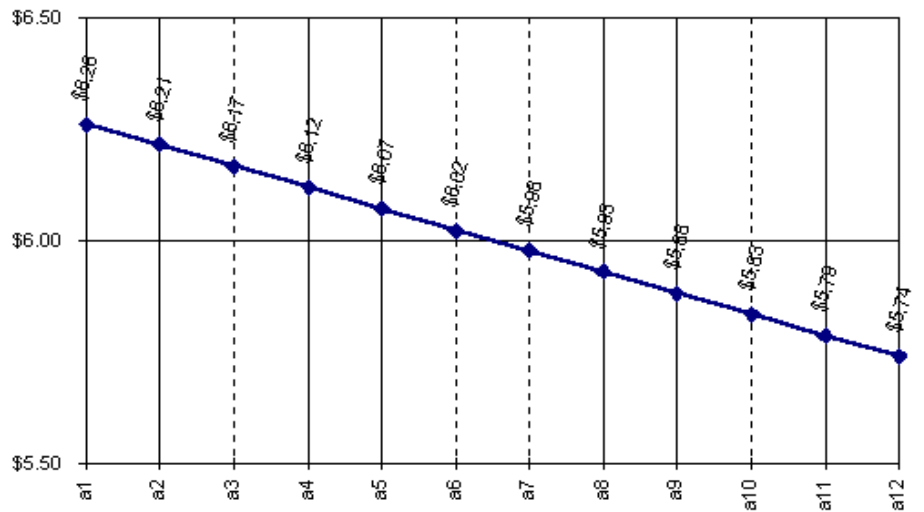
### EXAMPLE 1:

Given:  $S_n = \$6,000,000$   $n = 12$   $y = -1/n$

Find:  $a_1 - a_{12}$

The values for  $a_1 = a_{12}$ , will be total dollars, and need to be divided by units/n, or 1,000,000/12, to get the individual unit price shown in the graph. The graph shows the results of applying an arithmetic progression as just described. Decreasing (n) will increase the initial price, and the magnitude of the spread between the initial and final price. The choice for selecting (n) is a business risk/profit decision, and the amount of administrative tracking grows with more steps.

### Graph 1



Graph 1 shows the results for each month  $a_1$ - $a_{12}$ . A spreadsheet can facilitate some quick *what if's* and can be built using the following information. The equation for an arithmetic progression is,  $S_n = n/2[2a_1 + (n-1)d]$ . Where:  $S_n$  is the sum of  $n$  terms,  $n$  is the number of terms,  $a_1$  is the first term,  $a_n$  is the  $n$ th term,  $d$  is the common difference and  $y$  is the growth rate. Other useful rearrangements of the original equation are:  $a_1 = 2S_n / [n(2+y)]$ ,  $d = a_1y / (n-1)$  and  $a_n = a_1 + (n-1)d$ .

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