MATCOM

PRICING

a learning element for staff of consumer cooperatives

international labour office, geneva

by John Roland

MATCOM
Material and techniques for cooperatives management training

The MATCOM Project was launched in 1978 by the International Labour Office, with the financial support of Sweden. In its third phase (1984-1986) MATCOM is financed by Denmark, Finland and Norway.

In collaboration with cooperative organizations and training institutes in all regions of the world, MATCOM designs and produces material for the training of managers of cooperatives and assists in the preparation of adapted versions for use in various countries. MATCOM also provides support for improving the methodology of cooperative training and for the training of trainers.

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Contents

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PREREQUISITES

To benefit from this MATCOM Learning Element, you should:

- have studied the MATCOM Elements "Basic Economics of a Consumer Co-operative" and "Planning and Controlling the Business", or have the corresponding knowledge;
- be able to do simple percentage calculations;
- have some retail shop experience.

HOW TO LEARN

- Study the Element carefully.
- Give written answers to all the questions in the Element. This will help you not only to learn, but also to apply the knowledge in your work at a later stage.
- After studying the Element on your own, discuss it with your instructor and your colleagues, then take part in the practical exercises organised by your instructor.

TRAINER'S NOTES

are available for this Element. See the Trainer's Manual.

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INTRODUCTION

Surely, as a manager of a co-operative shop you have often heard arguments over the prices of goods. There are few complaints if prices are low. But people grumble if the prices are too high.

If prices are too low the co-operative will lose money. If prices are too high people will simply go elsewhere. In both cases the co-operative loses. If the problems get out of hand, the co-operative could be forced out of business.

Therefore, a co-operative cannot afford to have a manager who is uncertain about pricing. No, a shop manager must be expert at this work. To do the pricing correctly is one of the most important responsibilities of a shop manager.

By studying this MATCOM Element, you too can learn how to do the pricing in the right way.

"MARK-UP"

Hilda makes her living from selling pineapples at the market.

Hilda always looks after the stall herself. She is very careful when she buys her pineapples.

Today, Hilda received 200 pineapples from her supplier, Farmer Jones. The pineapples were packed in 4 boxes, each containing 50. The four boxes were delivered to her stall in a pick-up truck.

An invoice was enclosed in one of the boxes. The total amount of the invoice was T$80.00.* Hilda paid the truck driver T$8.00 for transporting the four boxes. She got a receipt for the money. The cost price for the 200 pine-apples was T$88.00, invoice cost T$80.00 plus transport cost T$8.00. (In some countries they say landed cost or laid-in cost instead of cost price).**

Hilda takes special care when she calculates the selling price of her pineapples. Her income depends on it. She must make a profit and the only way to do it is to sell the pineapples for more money than she paid for them. She has to add a mark-up to the cost price, in order to arrive at the selling price.

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* *We use an imaginary currency here, because the booklet is used in many countries. We call it "Training dollars and cents" (T$ and c).*

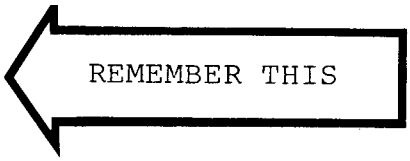
** *There is a glossary of terms we use in this booklet on page 46. Use the glossary when you want to refresh your memory.*

So Hilda added a mark-up of 25% on the cost price. She knew from experience that it would give her a reasonable selling price, not higher than the other sellers'. And she would earn enough to pay for expenses (like the rent for the stall) as well as to provide her with a comfortable living (food for her family, etc.). It would also allow for a small amount of leakage. She knew that one or two of the pineapples usually went bad before they got sold.

Calculating the mark-up and the selling price

The cost price for Hilda's pineapples is T$88.00. Let us now add a mark-up of 25%.

The mark-up percent is always calculated on the cost price.



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How much is 25% of T$88.00?

$$\frac{25 \times T\$88.00}{100} = T\$22.00$$

So the mark-up is T$22.00. We add this mark-up to the cost price in order to arrive at the selling price.

T$88.00 + T$22.00 = T$110.00

Cost Price	+	Mark-up	=	Selling Price

Now we know that the selling price for the whole bunch of pineapples is T$110.00.

To find the selling price for just one pineapple there is one more calculation to make. We have to divide T$110.00 (the total selling price) by 200 (total number of pineapples). This works out to an individual selling price of 55c each.

$$\frac{T\$110.00}{200} = T\$0.55$$

Hilda knew a quicker way of adding the mark-up to the cost price. To add 25% to the cost price, she simply multiplied the cost price by 1.25 and she got the selling price directly:

1.25	x	T$88.00	=	T$110.00
Mark-up multiplier	x	Cost price	=	Selling price

This is such a convenient, quick and accurate method that we should use it, too. We simply put the figure One and a decimal point before the mark-up percentage, and we get a "multiplier".

For a mark-up of 15% we use the multiplier 1.15 to get the selling price. For a mark-up of 20% we use the multiplier 1.20, and for 22% we use the multiplier 1.22. A mark-up of 12 1/2% (12.5%) will give the multiplier 1.125 etc.

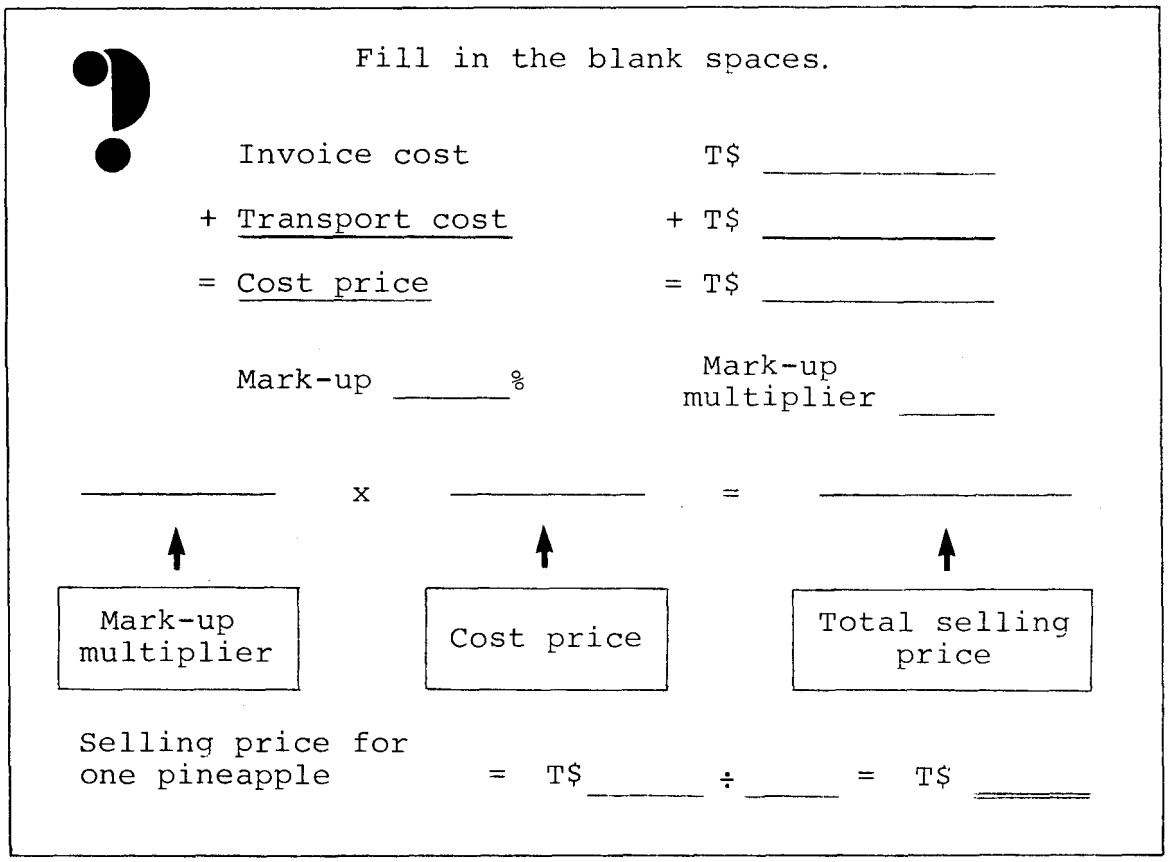
Then we multiply the cost price by the multiplier, and we get the selling price.

Be careful with mark-ups of less than 10%. You must have a zero between the decimal point and the percentage figure. The multiplier for 5% is therefore, 1.05. For 50% it is 1.50.

Here is a little exercise! Complete the table, do the calculations.

Cost price	Mark-up	Mark-up multiplier	Selling price
T$ 8.00	12%	1.12	8.96
T$ 8.00	15%		
T$ 8.00	25%		
T$ 8.00	12½%		
T$ 6.50	4%		
T$ 25.00	8%		
T$ 66.75	22%		
T$125.50	30%		

Three days later Hilda bought 250 pineapples. This time the invoice cost was T$98.00. The fruit was packed in 5 boxes and she was charged T$10.00 for transport. Hilda again used a mark-up of 250.



Hilda's business at the market is a fairly simple one. She buys and sells one item only, pineapples. Farmer Jones is normally her only supplier. The mark-up remains pretty well the same, approximately 250. But still Hilda must be aware of competition from other stall holders. She fully realises she is trading in a highly perishable item. Care must be taken that her stock is being properly rotated. Her business is being well looked after.

Do you recognise similarities between Hilda's business and the business you are responsible for?

If the mark-up at your co-operative shop was always the same percentage figure, your job of doing pricing would be equally easy.

Marking-up in a co-operative shop

In a co-operative shop it is impossible to use the same mark-up on all goods. Some goods have a low mark-up and others have a high one. Later on in this booklet we will discuss why this is so.

First we will just practice the actual mark-up calculations in a co-operative shop. Let us join George, the manager, in his shop. Together we can work towards improving his and our skills in calculating selling prices.

Our first example deals with the pricing of soaps which George has bought from a wholesaler. Here is the invoice.

Palma Ltd.

INVOICE NO. 8567
DATE 11.10.82

Alpha Co-op Society Ltd
Linden Highway.

	Quantity	*Unit price*	*Total*
Delivery Note: 00645 - 9.10.82			
Soap, Moon Standard, Medium	10 x 24	21.00	210.00
Transport cost			10.00
			220.00

As you can see, the invoice cost for the ten cases of soap is T$210.00. The transport cost comes to T$10.00. The total cost price is therefore, T$220.00

It has been decided that soap should have a mark-up of 170 in George's shop.

To calculate the selling price of the soap we ask George to perform a simple multiplication, like this:

1.17	x	T$220.00	=	T$257.40
Mark-up multiplier	x	Cost price	=	Total selling price

To get the selling price for one bar of soap we should divide the total selling price by the number of bars in the 10 cases. Each case contains 24 bars, so George has received 240 bars of soap in all.

T$257.40 ÷ 240 = T$1.0725

You can see from the calculation that each bar of soap should sell for T$1.0725. But we need only two decimals, so we round off to T$1.07. This is the selling price for one bar of soap.

Here is another invoice:

•SUVA BOTTLING COMPANY•

INVOICE NO 4469 DATE 19.10.82

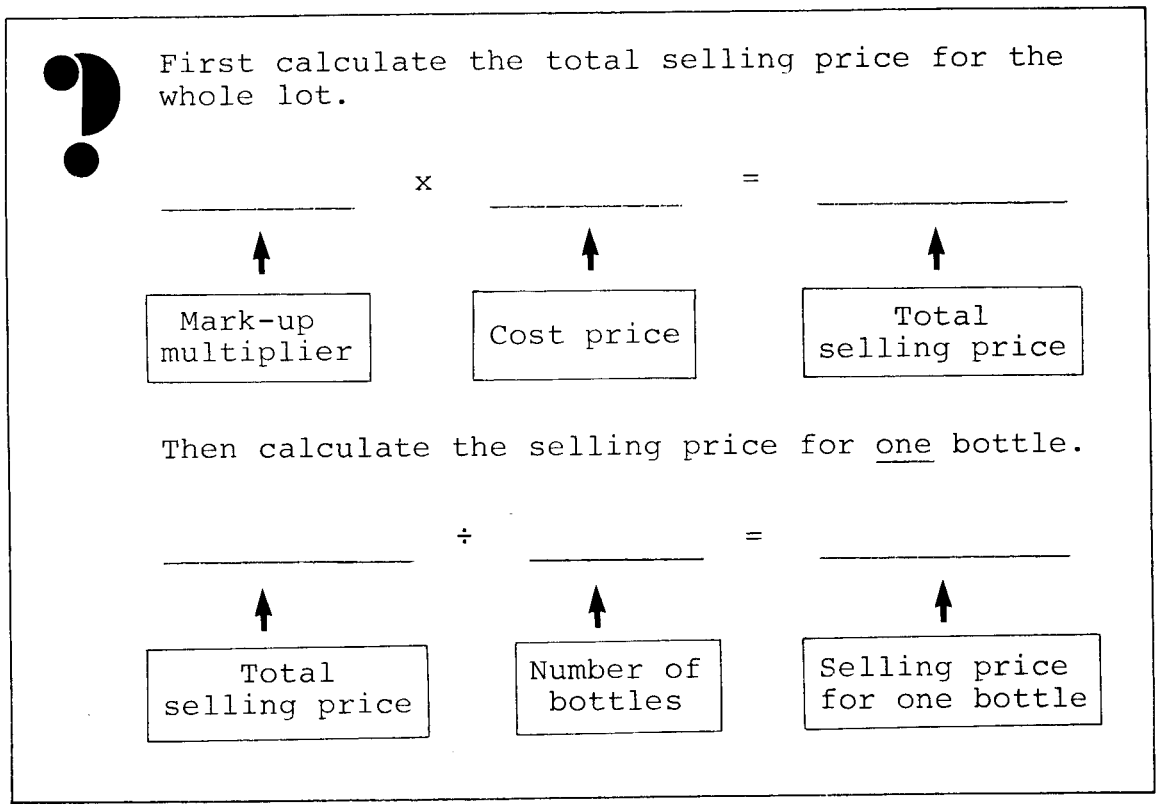
To: Alpha Co-operative Soc. Ltd.
Linden Highway.

Description	@	*Total*
5 cases x 12 bottles orange drinks, large	45.60	228.00
		228.00

What is the freight or transport cost? It is not mentioned on the invoice. It is included in the price, according to the practice of the Bottling Company, which delivers the drinks in their own trucks.

So the total cost price is T$228.00 for the 60 bottles of orange drinks.

George uses a mark-up of 20% on soft drinks. Help him now to calculate the selling price.



Here is another invoice from the Co-operative Wholesale Society, covering a number of different articles:

CWS

INVOICE NO 8691
DATE 9.11.82

Alpha Co-op. Society Ltd,
Linden Highway.

Description	*Quantity*	*Unit Price*	*Total*
Delivery Note 00783 - 2.11.1982:			
Towels, medium size	6	4.00	24.00
Shorts, boys, size 2	3	8.20	24.60
Torch batteries, 1.5 volt C	10	1.42	14.20
Cooking pots, 2 litre aluminium	2	6.10	12.20
Bowls, stainless steel	5	7.44	37.20
Tablespoons	12	0.60	7.20
Matches, box of 100 packets	1	8.30	8.30
Bicycle tyres 28 inches	2	7.25	14.50
Biscuits, Crown, carton of 50 packets	2	105.00	210.00
Tea, Glory, carton of 24 packets	1	67.20	67.20
TOTAL			419,40

Let us now help George to calculate the selling prices:

First we have the towels, what is the cost price? The invoice says T$24,00, but we must remember the transport cost. Well, the CWS has delivered these goods to the shop and the prices they charge include the transport costs, like in the previous example. So we can look upon the prices as the total cost prices, and we can easily calculate the selling prices.

All the items from the invoice are listed in the table on page 12. Fill in the tables, but study first the example of the towels:

a) The cost price for the towels is T$24.00.

b) George uses a mark-up of 200 on towels. So we multiply T$24.00 by 1.20, the total selling price will be T$28.80.

c) We now have the selling price for 6 towels. To get the price for one towel we divide T$28.80 by 6. That is T$4.80.

Now complete all the calculations. Use the following mark-ups: Shorts 25%, batteries 40%, pots, bowls and tablespoons 30%, matches 12%, tyres 18%, biscuits 12% and tea 10%.

Article	*Quant.*	*Total cost price*	*% Mark-up*	*Multi-plier*	*Total selling price*	*Unit selling price*
towels	6	24.00	20	1.20	28.80	4.80
shorts						
batteries						
cooking pots						
bowls						
tablespoons						
matches						
bicycle tyres						
biscuits						
tea						

Transport costs

"I can see a problem here", says George. "I understand the principle: we must first add the transport cost to the invoice cost, then we calculate the mark-up and the selling price. This invoice from CWS is easy to deal with, because all the prices already include the transport costs. But suppose that we suddenly run out of biscuits and tea, and I have to send someone down to CWS to pick up some new cartons. The transport will certainly cost us a few dollars extra and these

things would then cost us more than they usually do. But you'don't mean that I should increase the prices just because of this, do you?"

"No George, you cannot let the prices go up and down from week to week just because the transport costs vary a bit. We have to look at the transport costs in a practical way and with common sense. The important thing is that you don't forget them, they must be covered by your selling price. Look at this invoice, for instance. How do you decide how much the transport cost is for the cement, for the nails, etc.?

W.O.Paterson
Hardware Supplies

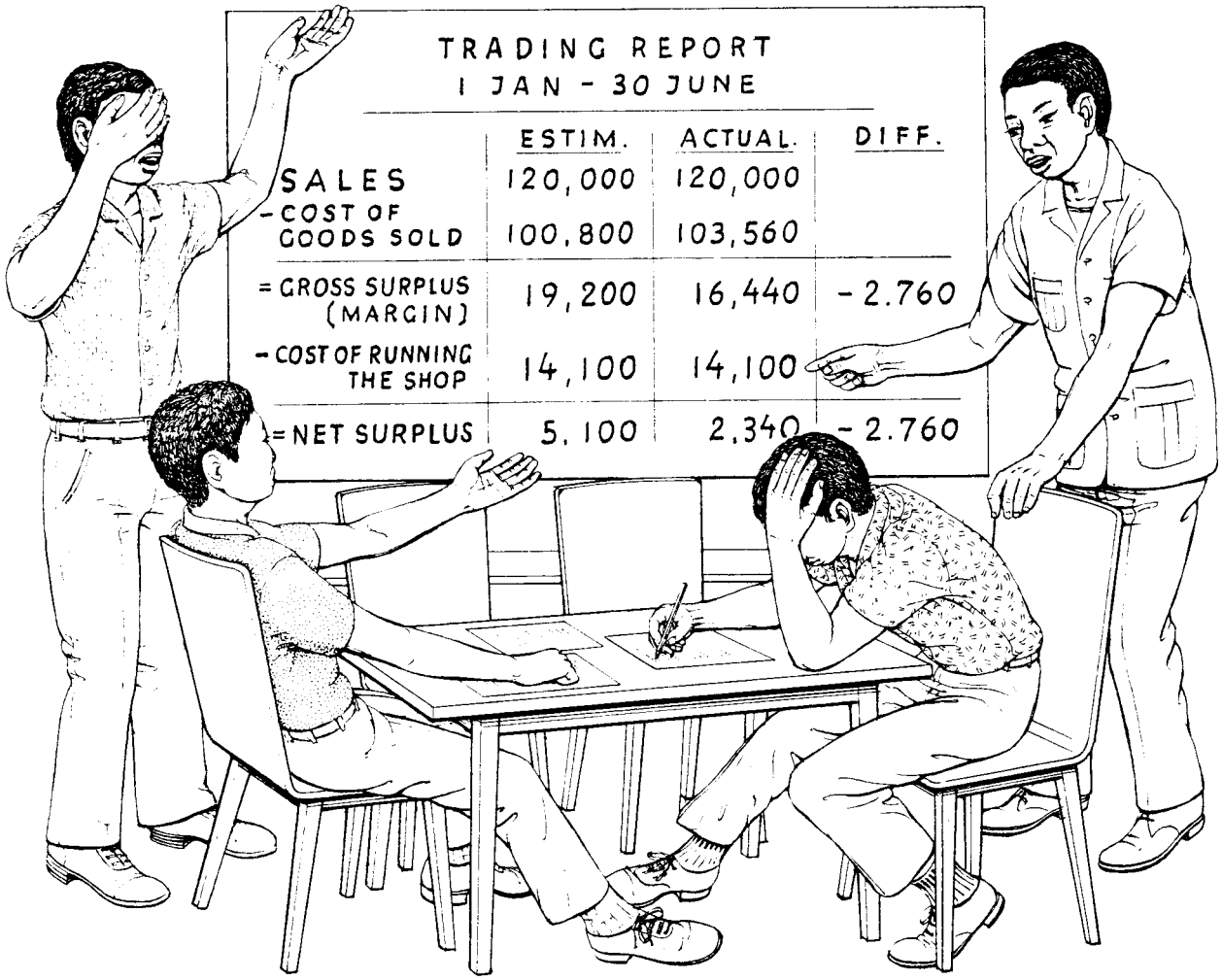
I N V O I C E
10.11.82

To Alpha Co-op Soc. Ltd
Linden Highway.

Item		Price
3 bags cement	@ 45.00	135.00
3 plastic buckets	@ 5.20	15.60
12 pkts nails No. 24	@ 2.40	28.80
1 bicycle "Hermes"		460.00
Paid to Willy's Trucks for transport $ 18:-		639.40

"In cases like this, when you pay transport costs separately, I suggest that you simply calculate the mark-up on the invoice prices, but you have to set your mark-up percentage high enough so that it will cover the transport cost as well. In that way you avoid complicated calculations of transport costs. Your transport cost may vary a little from week to week, but the selling prices should not change unless there is a change in the invoice price."

MARK-UP AND MARGIN



The committee was very upset. Joe, the manager, had a lot of explaining to do. Worst of all, he was not quite sure how to explain what had happened. The sales turnover for the past six months had been very good, T$120,000, exactly as planned. But what had happened to the surplus? The society had planned to make a gross surplus of T$19,200 but now it appeared that they had reached only T$16,440. There was a shortage of T$2,760. If this trend continues for the rest of the year, the co-operative will be short by more than T$5,000 by year end.

When the budget was prepared more than six months ago, Joe had agreed with the committee that a margin of 16% would be realistic for the type of business he was then hired to manage.

16% on the estimated sales of T$120,000 should give them the desired margin of T$19,200.

Joe had wanted to do a good job for the co-operative. He had been extremely careful to prevent unnecessary leakage. He had wanted to achieve the 16% margin.

And now he felt as if he was on trial for being dishonest. Some of the committee members were accusing Joe of having been extremely careless. It was not a pleasant meeting.

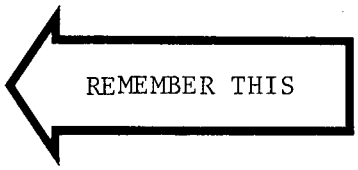
Joe had made a mistake. Since he had been told to use a margin of 16%, he had consistently used an average mark-up of 16%. But 16% mark-up is not the same as 16% margin, that was his great mistake ....

The mark-up is always calculated on the cost price (see again page 5). 16% mark-up on the cost price gave Joe T$16,440.

$$\frac{16 \times T\$103,560}{100} = T\$16,440$$

But the committee wanted 16% margin!

And the margin is always calculated on the sales (selling prices).



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The sales were estimated at T$120,000. So the committee wanted a margin of T$19,200, as you can see from this calculation.

$$\frac{16 \times T\$120,000}{100} = T\$19,200$$

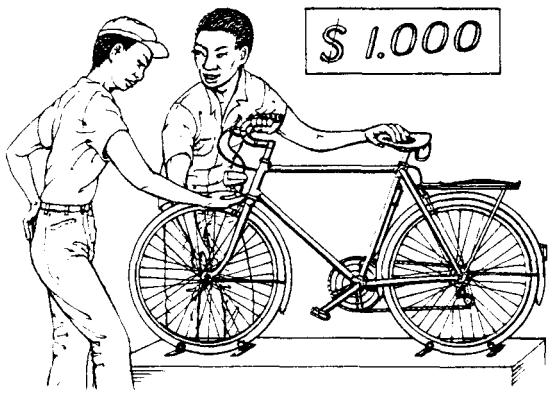
And poor Joe used 16% mark-up, believing that this was the same as 16% margin. In fact, he achieved a margin of only 13.7% because 16,440 of 120,000 is only 13.7%.

$$\frac{T\$16,440 \times 100}{T\$120,000} = 13.7$$

To make the difference between mark-up and margin absolutely clear, let us take still another example:

George, the shop manager, purchased a bicycle from the wholesaler at a price of		T$ 800	COST PRICE
He marked-up the bicycle with 250 of the cost price	+	T$ 200	+ MARK-UP
and he planned to sell the bicycle at a price of		T$1,000	= SELLING PRICE

Now, let us look at the same transaction a bit later, when George had sold the bicycle to a customer.



George actually sold the bicycle at the price of		T$1,000	SELLING PRICE
He had paid the cost price of	-	T$ 800	- COST PRICE
On a sale of T$1,000 he made T$200, his margin was 20% of the selling price	=	T$ 200	= MARGIN

Stated in money terms, the margin is here equal to the mark-up, that is T$200.

But note that the mark-up is 25% of the cost price, whereas the margin is 20% of the selling price.

$$\frac{\text{T\$ 200}}{\text{Cost price}} = \frac{\text{T\$ 200}}{\text{T\$ 800}} = \frac{25}{100} = 25\% \text{ MARK-UP}$$

$$\frac{\text{T\$ 200}}{\text{Selling price}} = \frac{\text{T\$ 200}}{\text{T\$1,000}} = \frac{20}{100} = 20\% \text{ MARGIN}$$

We have now seen that we need to mark-up the goods 25% to achieve a margin of 20%, and we have seen that a mark-up of 16% gives a margin of 13.7%.

In fact, to reach a certain margin percentage, we must use a higher mark-up percentage.

Suppose now that it has been decided that you should aim at a margin of 16% in your shop (that is 16% of the sales - remember that!). You must use a higher mark-up than 160, but how much? (The mark-up is calculated on the cost price - remember that!)-,

If you are clever at arithmetic you can calculate the mark-up percentage when you know the margin percentage (use formula (h) on page 47). But to make it easy we give you a chart on the last paqe, where you can look up the mark-up percentage.

Look at the chart. You can see that 16% margin corresponds to 19% mark-up on the cost price.

What mark-ups are needed to reach the following margins? Use the Handy Margin Chart.

15%	_____	18%	_____	28%	_____
2O%	_____	4%	_____	1O%	_____
12%	_____	3O%	_____	13%	_____

It is now time for an exercise on price calculation, using the mark-up method and multipliers.

In the table on the next page you will find a list of goods and information about the cost price and the trade margin for each article.

Use the Handy Margin Chart on page 48 when you calculate the mark-ups. Complete the exercise before you continue reading.

Calculate the prices. Fill in all blank spaces. Use the Handy Margin Chart on page 48.

Quantity/Article	*Cost price*	*Margin*	*Mark-up*	*Multi-plier*	*Total selling price*	*Unit selling price*
50 tins tuna fish	108.70	13%	15%	1.15	125.01	2.50
24 cans veg. soup	38.40	13%				
60 cans juice	183.00	18%				
10 jars mayonnaise	32.80	18%				
5 glasses mustard	10.00	20%				
100 cans cond. milk	99.10	7%				
10 jars jam	34.00	18%				
24 bars soap	26.30	15%				
6 tubes vaseline	9.60	26%				
12 pkts. plaster	36.00	26%				
10 combs	3.70	26%				
200 clothes pegs	13.40	23%				
2 brooms	8.60	26%				
6 pkts. tobacco	23.04	9%				
5 t-shirts	42.50	28.5%				
10 pairs socks	22.20	28.5%				
2 hammers	11.00	25%				
2 axes	24.80	25%				
195 litres kerosene	111.40	8%				
1 bicycle	425.00	22%				

Check your answers. See page 45.

DIRECT CALCULATION OF THE SELLING PRICE

Let us go back to the example with the bicycle, page 16

T$1,000	-	T$200	=	T$800
Selling price 100%	-	Margin 20%	=	Cost price 80%

The margin is expressed as a percentage of the selling price, as you know. In this case the margin is 200 of the selling price. The cost price, consequently, is the remaining 80%, as the selling price represents the total 1000.

If the margin was 300, the cost price would be 700 of the selling price;

if the margin was 100, the cost price would be 90% of the selling price, etc.

As you can see, there is a certain relation between cost price and selling price, depending on the margin. So, if we know the cost price and the margin percentage, it should be possible to calculate the selling price directly.

Yes, look at the example again. The margin is 20%. Consequently the cost price is 80% of the selling price. This fact can be written like this:

80% of the selling price = T$800

Thus,

1% of the selling price = $\frac{\text{T\$800}}{80}$

and 1000 of the selling price (that is the whole selling price) = $\frac{\text{T\$800} \times 100}{80}$ = T$1,000

We managed to find the selling price without knowing the mark-up!

Let us look at the calculation we did:

$$\frac{T\$800 \times 100}{80} = T\$1,000$$

T$800 stands for the cost price, 80 stands for the cost price in percentage and T$1,000 stands for the selling price.

So the general formula for our calculation can be written like this:

$$\frac{\text{Cost price} \times 100}{100 - \text{Margin \%}} = \text{Selling price}$$

Whenever you know your desired margin %, but not your mark-up %, you can use this formula to calculate the selling price directly, fast and accurately. There is no need for any handy margin charts or the mark-up percentage.

Let us practise. Suppose you buy a bucket and the cost price is T$12.

Your margin on household goods is 20%.

We simply put the figures into the formula, like this:

$$\frac{T\$12 \times 100}{100 - 20} = \text{The selling price}$$

We calculate $\frac{12 \times 100}{100 - 20} = \frac{1200}{80} = T\$15$

We will sell the bucket for T$15, and that will give us a margin of 20%.

Let us now use the "direct method" when we price the goods on this invoice from United Grocery Co.

UNITED GROCERY CO

Invoice No: 39cx
Date: 26.11.82

Alpha Co-op. Society Ltd.
Linden Highway

Description	*Quantity*	*Unit Price*	*Total*
Your order 545/24.11.82:			
Coffee, 20 x 1/2 kg	1	140.00	140.00
Spaghetti, 10 x 1/2 kg	2	14.00	28.00
Dried fruit, 10 x 200 g	1	18.00	18.00
Total			186.00

Transport cost is included. The margin on these groceries is 15% in Alpha Co-operative.

We look at the formula (or do you know it by heart already?) and we begin to calculate the price for coffee.

$$\frac{140 \times 100}{100 - 15} = \frac{14{,}000}{85} = \text{T\$164.71}$$

T$164.71 is the selling price for the whole carton of 20 packets. We divide by 20 to get the price for one 2 kg packet.

$$\frac{\text{T\$164.71}}{20} = \text{T\$8.24}$$

Calculate here, in the same way, the prices for spaghetti and dried fruit.

Use the "direct method" - the formula on page 20- to calculate the selling prices for the following goods.

Quantity/Article	*Cost price*	*Margin*	*Total selling price*	*Unit selling price*
40 tins sardines	84.00	15%	98.82	2.47
24 tins tomato sauce	50.40	15%		
12 jars marmalade	43.20	17%		
50 bags milk powder	64.00	8%		
10 tins baking powder	11.50	12%		
50 kg beans	31.50	8%		
150 kg rice	109.50	6%		
50 kg maize flour	37.50	8%		
60 bottles cola drinks	25.50	20%		
48 tins baby food	78.72	18%		
20 bags sweets	40.00	28%		
20 metres cloth material	84.00	25%		
100 rolls toilet paper	52.50	25%		
5 rolls fishing line	32.25	28%		
10 cans insect spray	45.70	22%		
5 bush knives	47.65	18%		
8 bags cement	159.00	15%		
3 padlocks	28.10	25%		
20 notebooks	12.00	20%		
60 pencils	9.00	20%		

Check your answers. See page 45.

PRICING POLICY

Now you have learnt two different methods of calculating the selling price. You may use the one you like best. Whichever you prefer you will need to know two things, the cost price and the margin. You will find the cost price on the bill or the invoice, but where will you find the margin percentage ......?

Sometimes the margin and the selling price are fixed by the Government. But usually it is left to the retailers themselves to decide the margin and, thus, the selling prices of the goods.

In our first example on pages 4 - 5 we saw that Hilda used a margin which was high enough to cover her expenses and some leakage. She also made some profit - she made her living from the business. The higher the margin, the larger the profit and the more money to spend for Hilda and her family. So Hilda, of course, wanted as high a margin as possible.

Why not 100%, or 2000? Wouldn't that give a nice income to Hilda? No, if she used such a high margin she would earn nothing at all. The customers would not buy her pineapples, they would get them cheaper from other traders.

Hilda chose a margin of 20% (which is the same as 25% mark-up). This was based on her experience. She knew that the selling price would be acceptable by most customers and it would also give her a sufficient income.

We can say that Hilda's "pricing policy" was to make the margin as high as possible, but not so high that it would be impossible for her to sell all the pineapples before the evening.

The pricing policy of a co-operative shop is different. The primary aim of the shop is not to give somebody a profit or an income, but to serve the members. So, as a co-operative shop manager you should aim at low prices rather than a large profit.

Still you will need a margin which is enough to cover your costs for running the shop, and it should also give a reasonable net surplus (profit). From the MATCOM Element "Basic economics of a consumer co-operative" you remember the reasons why also a co-operative needs a net surplus: to allow for the unexpected, to improve the shop and the services, to pay interest on members' shares and so on.

Before the beginning of a new business year, we have to prepare a "budget". We have to estimate the sales and the costs for the coming year. This will help us to see what margin we need. (The budget work is explained in the MATCOM Element "Planning and controlling the Business".) Here is a simple example of a budget:

ESTIMATES FOR BETA CO-OPERATIVE

Sales	T$480,000	100%
Cost of goods sold	408,000	
Gross surplus (margin)	T$ 72,000	15%
Cost of running the shop	52,000	
Net surplus	T$ 20,000	(4.2%)

As you can see, BETA Co-operative has budgeted for a margin of 150 of the sales, that is T$72,000. When they have paid the running costs, which are estimated at T$52,000, there will still be T$20,000 left over as a net surplus, that is 4.20 of the sales. In fact the policy of BETA Co-operative is to have more or less the same prices as in the private

shops, so they earn a considerable net surplus. But at the end of the year, when they definitely know how much surplus they have earned, they use to pay back as much as possible of the net surplus to the members in the form of "patronage refund". Say, for instance, that the members get back 30 of all the money they have spent in the co-operative shop. After all, the members will see that they benefit from their co-operative and the patronage refund is certainly appreciated.

In other co-operatives they have a different pricing policy, so that members benefit from the low prices immediately they buy something. That means that the co-operative must budget for a lower net surplus. DELTA Co-operative has this policy. They sell the same amount of goods as BETA and have the same costs, but their budget is different:

ESTIMATES FOR DELTA CO-OPERATIVE

Sales	T$466,000	100%
Cost of goods sold	408,000	
Gross surplus (margin)	T$ 58,000	12.5%
Cost of running the shop	52,000	
Net surplus	T$ 6,000	(1.3%)

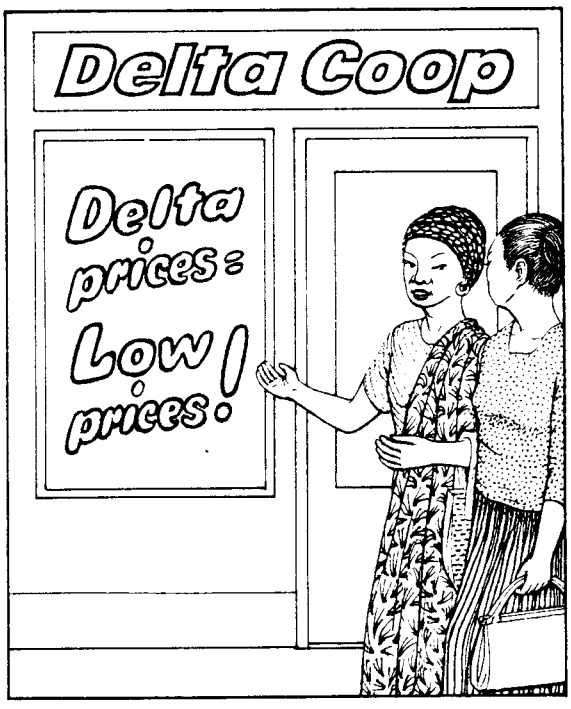
You can see that they keep so low prices in DELTA that the gross surplus is only 12.5% and the net surplus is only 1.30 of the sales. Such a low net surplus does not allow for any patronage refund, but the members and the committee have agreed on this policy, they prefer to have lower selling prices in the shop instead of patronage refund. Of course, the DELTA Co-operative take certain risks when they keep such low margins. They could not do that if they were not completely confident in the shop management. What would happen, for instance, if there was a sudden and unexpected drop in the sales or an increase in the costs?

You have seen that a co-operative society can have one of the following two pricing policies:

a) "Normal market prices" in the shop, which means that the society plans to make a good net surplus and that members should have a patronage refund at the end of the year.

b) Lower prices in the shop than the competitors have, which means that the society plans to make a very small net surplus, and there will not be any patronage refund to members.

The final yearly costs for the members should be the same in both cases. Which policy do you recommend? What about a compromise? Write your comments here.



The average margin

Whatever pricing policy we have in our co-operative, we must manage the business very well so that we achieve the goal we have set up in our budget. Suppose, for instance, that we aim at sales of T$120,000 and a margin of 15%, that is T$72,000, like in BETA Co-operative. How can we make sure that our selling prices will earn us a margin of T$72,000?

Of course, we would earn this margin if we marked up every single item by 17.5% (15% margin = 17.5% mark-up), and if we managed to sell everything without "mark-downs" or leakage.

But in practice we cannot do that. Unfortunately it is impossible to use the same margin on all goods. We must have a lower margin on some goods, and we can have a higher margin on others. We must look upon the figure 15% as the average margin. It is a guideline and shows our pricing policy. But we will have to establish the margin for the various groups of commodities we sell. What should the margin be for dry foods, for tinned foods, for dairy products, for cloth material, for hardware, etc.? All together the margins on the various goods should give the total gross surplus we have planned for.

In the following sections we shall look into some matters to consider when we decide margins.

Government controlled prices

In many countries, the Government decides the maximum selling prices for some essential goods, like sugar, flour, edible oil, kerosene, etc.

The Government Price Controllers have - in fact - the same role as the co-operatives, that is to protect the consumers from exploitation.

It is an offence to charae more than the prices fixed by the Government. It is true that the margins on some of the controlled items are very low. But even if they are only a few percent, and far below your average margin, you have to follow them.

It is a good idea to have the controlled prices posted in your shop, so that everyone can see that you observe the regulations.

? List here the most important price-controlled items in your shop, with prices and trade margins.

Item	*Invoice price*	*Transp. cost*	*Cost price*	*Contr. selling price*	*Margin %*

Prices and the rate of stock turn

"But if I am expected to come up with an average margin of 15 to 16%, how can I possibly consider selling bread on which I make only 40 or less?", said George, the manager of Alpha Co-operative. Bread is one of the controlled items in his shop.

It is true, of course, that a low margin item will bring down the average margin, but it is equally true that a low margin item, such as fresh bread, can be a good contributor to the trade surplus, if we talk in money terms. And this may be done with a very small amount of money invested in stocks. Look at this example:

- The Government Price Controller has fixed the wholesale price of bread at 50 cents and the retail price at 52 cents a loaf. Alpha Co-operative gets 60 loaves from a delivery van 5 times a week. That means that supplies of bread are delivered and sold 260 times a year. The rate of stock turn is 260.

- The margin is very low, only 2 cents a loaf, or 3.8%. But in a year this gives a gross surplus of T$312 (2 cents x 60 x 260). The total cost price for the 60 loaves they buy at a time is T$30 (50 cents x 60). So the surplus of T$312 is made with only T$30 invested. This is a very good return.

To reach the estimated average margin, George, the manager, should put a higher margin on other goods which are not bought so frequently by the members. In fact, selling bread gives George an opportunity to sell many related items with a higher margin, for instance margarine, jam, cheese, bread knives, etc.

The rule of thumb is that the higher the rate of stock turn, the lower the margin and the slower the stock turn the higher the m.arain.

FAST SELLERS

LOW MARGIN

AVERAGE MARGIN _____ %

SLOW SELLERS

HIGH MARGIN

What was the average margin in your shop last year?

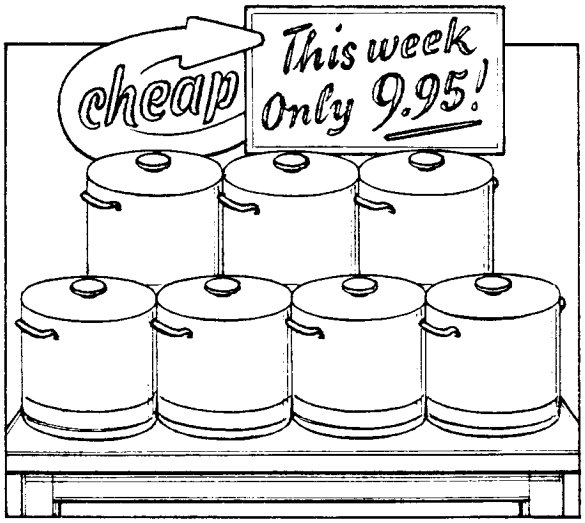
_____%

List six common items in your shop which are fast sellers and should be given a lower margin and six items which are slow sellers with a higher margin.

Fast sellers/low margin	Slow sellers/high margin
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Discount offers

You know that when you offer your customers a discount or a "special price", they normally buy more. The stock turn rate will increase. As a rule, when we decrease the price of an item, the chances are good that the demand for that particular item will increase.



When we offer a discount, we will reduce our margin, of course. But if we sell many more items to the lower price, we may still earn the same surplus, or even more:

In Beta Co-operative they had a margin of 22% on kitchen utensils. They used to sell one cooking pot a week at T$12.00. One week they offered a special discount price of T$9.95 which reduced their margin to 6%. But the sales went up so they earned a better surplus that week: Study these calculations:

a) Regular price, 1 pot sold each week

Total selling price	T$12.00
Total cost price	9.36
Gross surplus	T$ 2.64

$$\text{Margin} = \frac{2.64 \times 100}{12} = 22\%$$

b) Special discount offer, 5 pots sold

Total selling price	5 x T$9.95	T$49.75
Total cost price	5 x T$9.36	T$46.80
Gross surplus		T$ 2.95

$$\text{Margin} = \frac{2.95 \times 100}{49.75} = 6\% \text{ approximately.}$$

You can see that they had a very large increase in the sales because of the low price offer. This is the reason why the surplus was even higher than usual. But what would have happened if they had sold less? In fact, if they had sold less than five pots, they would have earned less surplus than during a normal week with "normal prices".

From this example we learn that we must increase the sales very much if we want to earn an acceptable surplus on a "special offer", and we had better do some calculations, like in the above example, before we make a decision.

Experienced retailers know that the surplus from a "special discount offer" is seldom higher than from the sales to "normal prices".

But they still have "special offers" in their shops regularly. What is the reason?

Your supplier charges you T$30.10 for a case of cooking oil. There are 12 bottles in a case. Transportation costs you 50 cents per case. Your regular trade margin on cooking oil is 15%. You normally sell 3 cases in a week.

a) What is your normal selling price on this oil?

Answer: _____ T$ per bottle.

b) You want to offer your members a "special discount price" of T$2.75 next week. How many bottles do you have to sell to keep your normal surplus on cooking oil?

Answer: _____ bottles.

Expected losses

Hilda looked after her fruit very well. But she could not prevent two or three pineapples out of 100 from going bad. How did that affect the margin?

She sold the pineapples at 55 cents each. If 200 were sold, she would get T$110. She had bought them for T$88. So she would earn T$22. That is a margin of 20%.

Sales 200 at 55c	*T$ 110.00*
Cost of goods	*- 88.00*
Gross surplus	*T$ 22.00*

$$Margin = \frac{22 \times 100}{100} = 20\%$$

One day she sold only 195 pineapples. Five were lost. So she got only T$107.25. She earned T$19.25. That is a margin of only 18%.

Sales 195 at 55c	*T$ 107.25*
Cost of goods	*- 88.00*
Gross surplus	*T$ 19.25*

$$Margin = \frac{19.25 \times 100}{107.25} = 18\%$$

Hilda was prepared for this kind of "leakage". She knew that it was unavoidable. So she made her margin high enough. What she earns on the good pineapples should cover the loss on the bad ones.

You should do the same. Increase the margin on the items for which there is a risk of damage and loss. You may not be able to sell all these goods at full price. So you will need a higher margin on those you sell.

List some items in your shop which require a higher margin because of the risk of losses.

Handling costs

For some of the goods in the shop we need special equipment, like freezers and coolers which are very expensive to buy and run. For some goods we also need plenty of work time, and this is also expensive. (Staff wages are normally the highest costs in a shop.)

An item like fresh meat, for instance, requires both cooling equipment and much time for proper handling. It is expensive to keep fresh meat in stock.

This should be reflected in the selling prices. The meat should, as far as possible, "pay for its own costs" and therefore have a higher margin.

As a general rule, we should have a higher margin on the goods which are expensive to handle.

Which items in your stock range do you consider most costly to handle? What are the trade margins on these items?

Competition

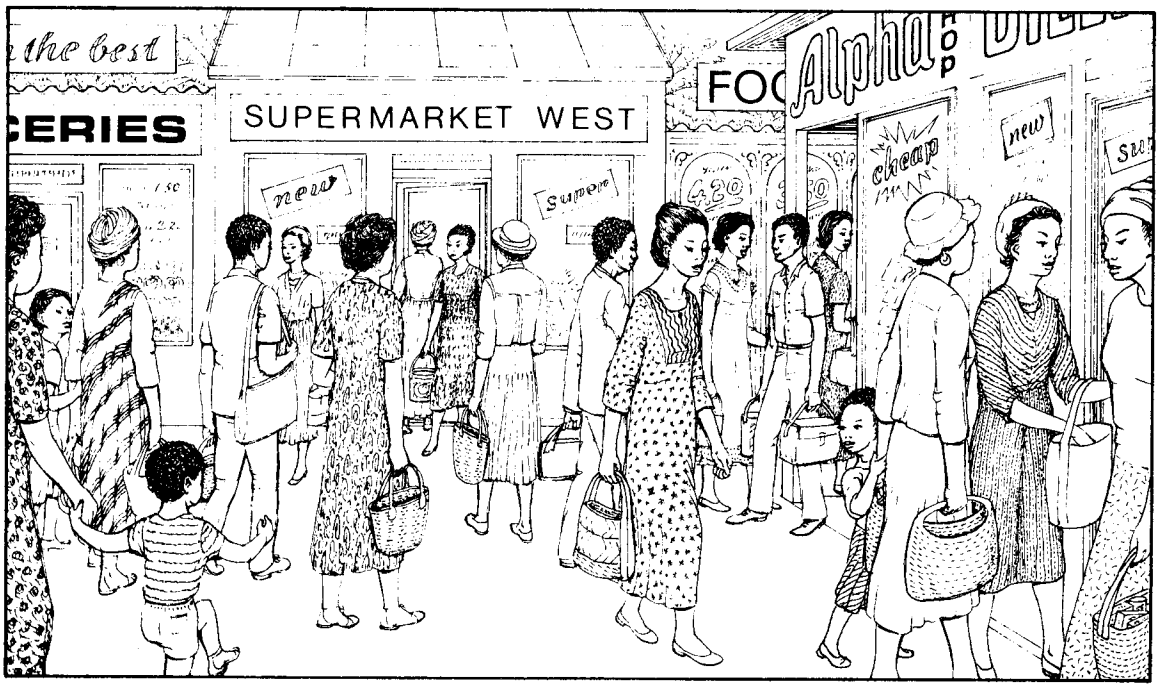
When you are to decide the trade margin for a certain item, you should first of all think about the rate of stock turn and the risk of damage and loss for this type of goods. But, like Hilda, you must also be aware of the local competition.

George in Alpha Co-operative sells milk in half litre packets. He thought a margin of 7% would be right for milk. The cost price is T$1.20 so the selling price would be T$1.29. But all the other shops in the area charge only T$1.25. Many customers buy milk almost daily. They are not likely to come

to the Co-operative if they pay more for the milk there. So George has to sell the milk at T$1.25, too.

This does not mean that a co-operative shop always must have the same or lower prices than private shops on every single item. But you must be aware of the prices of your competitors. The most essential goods should definitely not be available at lower prices in their shops. And the members may not support their co-operative if they find that several items are cheaper in other shops.

? The normal margin on clothes is 20% in Alpha Co-operative. That makes a selling price of T$42.85 on a nice cotton shirt. The same shirt is sold at T$79.90 in a store in the centre of the town. Should George increase the price to the same amount? What should he do.



Manufacturer's recommended price

Sometimes the manufacturers attempt to establish both the wholesale and the retail prices. Goods in this category often include beauty and health care items, confectionary and sweets. The invoice you receive for such goods will be a bit different, as it will state the retail selling prices. A "trade discount" is then deducted from the total, normally the trade discount is calculated as a percentage of the invoice total. If you sell the items at the manufacturer's suggested prices, then the trade discount will be your margin. Here is an example of an invoice with selling prices and a trade discount deducted.

Smith&Co

Alpha Co-operative Soc. Ltd. 3.12.82
Linden Highway.

Description			*Price*
2 cartons 24/82c	Vaseline	@ T$19.68	39.36
3 cartons 12/$1.84	Talcum Powder	@ T$22.08	66.24
1 carton 12/$1.96	Skin Lotion	@ T$23.52	23.52
			129.12
		Less Trade Discount 25%	32.28
		Total	96.84

As you can see, the manufacturer recommends that you sell the lotion for T$1.96 each. If you decide to do so, the trade margin will be 25%. However, you are free to set your own selling price. It is not uncommon to sell such items for slightly less than the recommended price. Competition often dictates such a decision.

If you sold all the items on the invoice at the recommended retail selling prices your margin would be 25%.

$$\frac{\text{T\$32.28}}{\text{T\$129.12}} \times \frac{100}{} = 25$$

You know that because of competition you will have to sell the vaseline for 80 cents each, and the talcum powder for T$1.78 each. The skin lotion will sell for T$1.96 as suggested. What will your percentage margin be on this lot? Do your calculations here.

Summary

We have now discussed what factors you should consider when deciding your margins. Fill in this list, it will help you to remember.

Factor to consider	See pages
_____	26
_____	27
_____	27 - 28
_____	29 - 30
_____	31 - 32
_____	33
_____	34
_____	34 - 35
_____	36 - 37

FOLLOW-UP THE RESULTS

This is a list of the trade margins applied in Alpha Co-operative.

Govt. contr. items	3-8%	Hygiene articles	15-22%
Milk products	7%	Drinks	22%
Groceries	9-18%	Hardware	20-30%
Detergents	15%	Clothes	20%
Vegetables	15-18%	Household utensils	23%

How can George, the manager, know that all these different margins will result in the average margin of 15% which he has planned to achieve?

To know exactly, he would have to prepare very detailed estimates of the sales of the various commodities. This is hardlv possible. Instead he simply makes an estimate and tries to find the balance so that the sales of hich-margin articles will "lift up" the average margin to 15%.

The best way, however, to be sure that the required average margin is achieved, is to prepare budgets and trading reports for every month, and to use the reports as "instruments" for adjustment of the margin when necessary. The monthly trading report will show what margin we have achieved - is it as planned, too high,or too low? Ii we know this, it is easy to adjust so that we come to the right level.

This is a trading report prepared by George for the month of Julv.

	Estimated		Actual	
Sales	T$140,000	100%	150,000	100%
- Cost of goods sold	119,000	85%	128,000	85.3%
= Gross surplus (margin)	21,000	15%	22,000	14.7%
- Cost of running the shop	15,400	11%	15,400	10.3%
= Net surplus	5,600	4%	6,600	4.4%

The margin in percentage was a little less than estimated. But since the sales were higher than estimated, the surplus earned is more than sufficient.

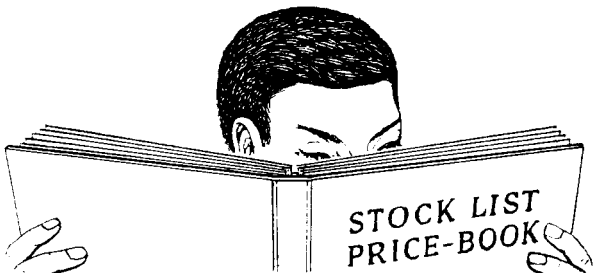
We should not only look at the margin as a percentage, but also check how much money it represents. It must be enough to pay for the costs of running the shop (salaries, rent, etc.) and then also leave a small net surplus. Suppose that George's report had looked like this:

	Estimated		Actual	
Sales	T$140,000	100%	100,000	100%
- Cost of goods sold	119,000	85%	85,000	85%
= Gross surplus (margin)	21,000	15%	15,000	15%
- Cost of running the shop	15,400	11%	15,400	15.4%
= Net surplus	5,600	4%	- 400	

This time the margin is 15%, as planned, but the money earned is not enough to pay for the costs of running the shop. (The costs will remain more or less the same even if the sales fall).

If the margin in money terms (the gross surplus) is hiah, we are in a pleasant situation. Maybe we can reduce the price of some goods. If it is low, we must first of all find out the reason, so we can take the right action. Our selling prices may be too low. But the opposite is also possible - we may have caused a drop in sales because of too high prices. Or maybe the sales estimate was not realistic.

PRICE BOOK AND PRICE MARKING



Now that you have mastered the work of pricing, you should prepare a price book for all goods in your shop. It will cost you some time and effort to set it up, but once it is ready it will be of great help in controlling prices throughout the shop. It will eliminate guessing; it will eliminate unnecessary calculation work; and when in doubt your staff can consult the price book which shows the up-to-date retail selling prices.

You can use a simple loose-leaf ring binder for your price book. This way the pages will be easy to change. Use a pencil when making entries in the book so price changes are easy to record. It may be a good idea to include a column for re-order levels so you do not need to have a separate book for this. (Re-order level is a figure that helps you to decide how big quantity you should order. See the MATCOM Element "Ordering goods").

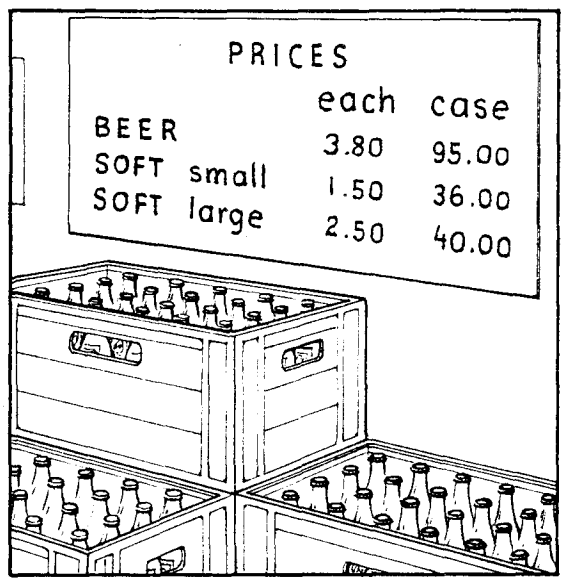
This is a sample page of a price book.

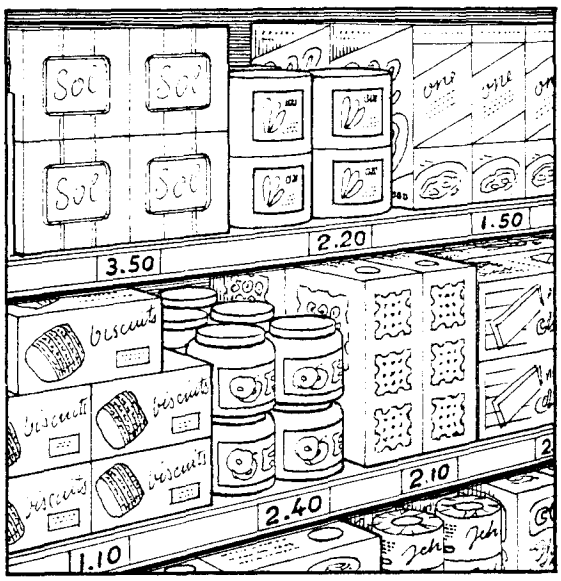
Item	Bulk quantity	Re-order level	% Trade Margin	Cost of 1 bulk package	Total selling price	Unit selling price
Cooking oil 1 lit. tin	12	18	12	20.80	23.64	1.97
Salad oil 1/2 lit. bottle	24	10	12	31.60	35.91	1.50
Olive oil 1/4 lit. tin	48	20	12	36.50	41.48	0.86
Lard 1/4 kg tin	100	60	10	47.34	52.60	0.53

When you receive a new consignment of goods which you want to price mark and take into the shop, you just take a look in your price book - that is the normal procedure.

New price calculations are needed only when prices change. So you have to check the invoices carefully. If there is an increase or a decrease of a cost price you have to calculate the new price and change the figures in your book accordingly.

The price book is for your staff, but it is equally important that your customers be informed about the prices. In the MATCOM booklet titled "Price-marking" you can read why it is important that all goods should be price-marked, as a general rule. The booklet also describes how proper price-markina should be done.





You have now studied the basic techniques of pricing, but practice makes perfect, so you must now start to apply what you have learnt. Perfection and speed in your pricing work will come with practice. You will soon notice the change. There will be no more guessing. The committee members will see that you are able to implement the society's price policy, and members will trust that your prices are correct.

"CHECK-OUT"

To prove to yourself that you have fully understood this Element, you should now answer the following questions. Nark what you think is the right answer to each question. If you have problems with a particular question, go back and read the corresponding chapter again. Your teacher will later check your a Yi 1ZG7PY~_

1. The cost price is

   a the price you charge your customers;
   b the wholesale price minus the transport cost;
   c the invoice cost plus the transport cost.

2. The mark-up is a percentage of

   a the selling price;
   b the cost price;
   c the profit.

3. If the mark-up is 13% I can find the selling price by multiplying the cost price by

   a 13.0
   b 1.13
   c 87

4. If the mark-up is 6.5% I can find the selling price by multiplying the cost price by

   a 1.7
   b 1.65
   c 1.065

5 The margin is a percentage of

   a the cost price;
   b the mark-up;
   c the selling price.

6. If the mark-up is 18%, the margin will be

   a 15.3%
   b 82%
   c 22%

7. If the margin is 18%, the mark-up will be

   a 15.3%
   b 82%
   c 22%

8. If the margin is 18%, the cost price is

   a 15.3% of the selling price;
   b 82% of the selling price
   c 22% of the selling price.

9. When the cost price is T$6.30 and the mark-up is 18%, the selling price will be

   a T$6.48
   b T$7.43
   c T$7.69

10. If the cost price is T$2.70 and the margin required is 18%, the selling price will be

   a T$3.19
   b T$2.88
   c T$3.29

11. If the sales are estimated at T$120,000 and the operating costs at T$14,000, we should aim at an average margin of

   a 5%
   b 10%
   c 15%

12. A Government controlled price is

   a for your guidance only;
   b to protect you against competition;
   c the maximum price you may charge your customers.

13. The rule of thumb is to have

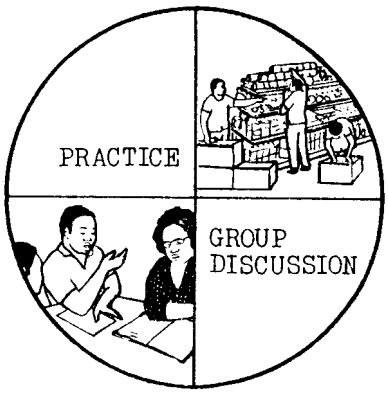
   a low margin on fast sellers;
   b low margin on slow sellers;
   c high margin on fast sellers.

14. A "trade discount" given by a supplier is calculated as a percentage of

   a the cost price;
   b the margin;
   c the recommended selling price.

COMPLEMENTARY EXERCICES

To complete your studies of this topic you should take part in some of the following exercises which will be organised by your teacher.



Practical group assignments in shops:

1. Price survey

Visit one selected co-operative shop. Discuss with the shop manager his price policy, and his special pricing problems. Check the prices of ten articles from each category of goods - low mark-up, average mark-up and high mark-up. Are the selling prices calculated correctly? Are there any special displays with discount offers? How long have they been there? How do they affect the trade margin for that particular item? Write a report on your findings.

2. Prices and competition

compare the prices of 20 selected articles in a few shops in the area. Look for special price offers in the shops and note how much the prices differ from regular selling prices. Discuss with the shop managers what effect the price competition has on their operations.

Group exercises:

3. Speed and accuracy in calculations

Practise quick calculation of selling prices. Arrange competitions between groups or individuals, with or without calculating machines. Errors mean disqualification!

4. Average margin

Based on the budgets of your co-operatives, work out the average margin needed for each member of the group.

5. The price book

Discuss how a proper retail price book should be set up. How will you list the items - by groups or in alphabetical order? What will be the column headings? How often will you make changes in the book? Who should be re sponsible for keeping the book up-dated? Who will have access to the book? Prepare a sample page.

6. Special price offers

Discuss ideas for special price offers. How will they affect the sales turnover, the margin and the surplus? How long should each price offer be in effect?

Correct answers to exercises:

Exercise page 18

Article	Unit selling price
tuna fish	2.50
vegetable soup	1.84
juice	3.72
mayonnaise	4.00
mustard	2.50
condensed milk	1.07
jam	4.15
toilet soap	1.29
vaseline	2.16
plaster	4.05
combs	0.50
clothes pegs	0.09
brooms	5.81
tobacco	4.22
t-shirts	11.90
socks	3.11
hammers	7.34
axes	16.55
kerosene	0.62
bicycle	544.00

Exercise page 22

Article	Unit selling price
sardines	2.47
tomato sauce	2.47
marmalade	4.34
milk powder	1.39
baking powder	1.31
beans	0.68
rice	0.78
maize flour	0.82
cola drinks	0.53
baby food	2.00
sweets	2.78
cloth material	5.60
toilet paper	0.70
fishing line	8.96
insect spray	5.86
bush knives	11.62
cement	23.38
padlocks	12.49
notebooks	0.75
pencils	0.19

GLOSSARY

Invoice cost	The price a retailer is charged for the goods by the supplier.
Transport cost	The cost for having the goods transported to the shop.
Cost price	The invoice cost + the transport cost.
Laid-in cost	Same as cost price.
Landed cost	Same as cost price.
Mark-up	An amount added to the cost price to arrive at the desired selling price. The mark-up can be expressed as a percentage of the cost price.
Mark-up multiplier	A number used to multiply the cost price in order to arrive at the selling price.
Margin	The difference between the actual selling price and the cost price. The margin can be expressed as a percentage of the selling price.
Selling price	The cost price + the mark-up. The selling price is the price the customers pay in a retail shop.
Gross surplus	Same as margin.
Gross profit	Same as margin.
Net surplus	What is left from the gross surplus when all expenses for running the shop have been paid.
Net profit	Same as net surplus.
Turnover	The amount of sales over a period of. time.
Stock turn	A measure on how quickly the goods are sold. A high "stock turn rate" or few "stock days" indicate that the goods are not kept in stock for a long time before they are sold. This is good business.

FORMULAS

a) Invoice cost + Transport cost = Cost price

b) Cost price + Mark-up = Selling price

c) Mark-up multiplier x Cost price = Selling price

d) Actual selling price - Cost price = Margin

e) $\frac{\text{Mark-up \% x Cost price}}{100}$ = Mark-up

f) $\frac{\text{Margin \% x Selling price}}{100}$ = Margin

g) $\frac{\text{Cost price x 100}}{100 - \text{Margin \%}}$ = Selling price

h) $\frac{\text{Margin \% wanted x 100}}{100 - \text{Margin \% wanted}}$ = Mark-up % required

i) $\frac{\text{Sales (12 months)}}{\text{Average stock value (at selling price)}}$ = Rate of stock turn

HANDY MARGIN CHART

MARGIN on SELLING PRICE required	Add to COST PRICE this MARK-UP	or multiply COST PRICE by
1%	1.01%	1.01
2%	2.05%	1.02
3%	3.1%	1.03
4%	4.2%	1.04
5%	5.3%	1.05
6%	6.4%	1.06
7%	7.5%	1.08
8%	8.6%	1.09
9%	10.0%	1.1
10%	11.0%	1.11
11%	12.5%	1.125
12%	13.5%	1.135
13%	15.0%	1.15
14%	16.5%	1.165
15%	17.5%	1.175
16%	19.0%	1.19
17%	20.5%	1.205
18%	22.0%	1.22
19%	23.5%	1.235
20%	25.0%	1.25
21%	26.5%	1.265
22%	28.0%	1.28
23%	30.0%	1.3
24%	31.5%	1.315
25%	33.5%	1.335

MARGIN on SELLING PRICE required	Add to COST PRICE this MARK-UP	or multiply COST PRICE by
26%	35.0%	1.35
27%	37.0%	1.37
28%	39.0%	1.39
29%	41.0%	1.41
30%	43.0%	1.43
31%	45.0%	1.45
32%	47.0%	1.47
33%	49.5%	1.495
34%	51.5%	1.515
35%	54.0%	1.54
36%	56.5%	1.565
37%	59.0%	1.59
38%	61.5%	1.615
39%	64.0%	1.64
40%	66.5%	1.665
41%	69.5%	1.695
42%	72.5%	1.725
43%	75.5%	1.755
44%	78.5%	1.785
45%	81.5%	1.815
46%	85.0%	1.85
47%	88.5%	1.885
48%	92.5%	1.925
49%	96.0%	1.96
50%	100.0%	2