

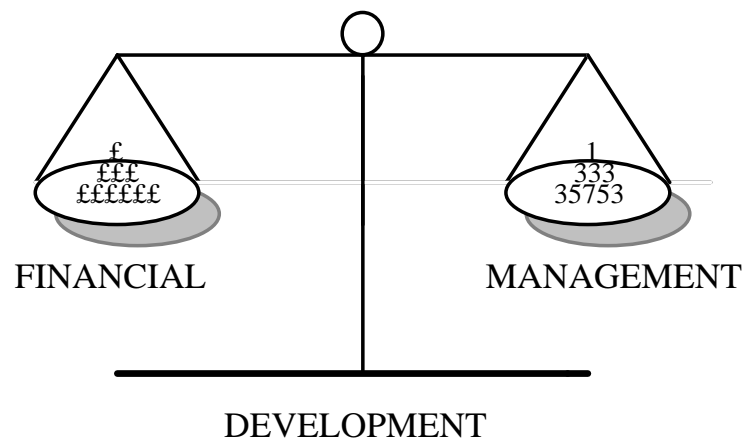
FINANCIAL MANAGEMENT DEVELOPMENT

Management Reporting

Budgetary Control

NO 213

BUDGETARY CONTROL AND VARIANCE ANALYSIS



ONE OF A SERIES OF GUIDES FOR
FINANCIAL MANAGEMENT DEVELOPMENT

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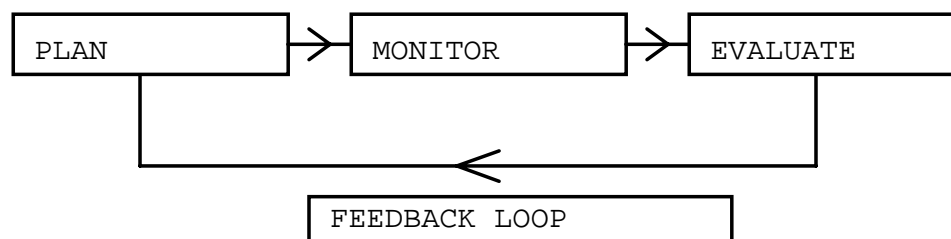
This is one of a series of documents produced by David A Palmer as a guide for managers on specific financial topics to assist informed discussion. Readers should take appropriate advice before acting upon any of the issues raised.

BUDGETARY CONTROL AND VARIANCE ANALYSIS

WHY COMPARE ACTUAL AND BUDGET?

One of the objectives of budgeting is to provide a base against which actual performance can be measured. This is only worth doing if action will be taken as a result.

In too many organisations the production of results compared to budget is seen as the end of the process. If no action is taken on the basis of management accounts then there is little point in producing them and even less point in wasting management time discussing them.



By identifying progress from a preceding position we are better informed regarding the effects of our actions and have a clearer understanding of the effect of any future action we take. Knowing how much is being spent each month enables a manager to consider whether action needs to be taken to spend more or less in the future.

THIS PROCESS IS ONLY WORTHWHILE IF THE BUDGET IS REALISTIC.

ANALYSING VARIANCES AGAINST AN UNREALISTIC BUDGET IS POINTLESS.

However, in a well run organisation the comparison between actual and budget is used as the basis for deciding the appropriate action. This paper sets out how the analysis is used to maximum effect. The process is really part of the normal control process.

WHAT CAUSES BUDGET VARIANCES?

There are four key reasons and it is important that good managers recognise the differences, because the action required is may be completely different in each case. The four reasons are:

1. Faulty Arithmetic in the Budget Figures
2. Errors in the Arithmetic of the Actual Results
3. Reality is Wrong
4. Differences between Budget Assumptions and Actual Outcome

Each of these will be examined in turn.

Faulty Arithmetic in the Budget Figures

It is perfectly possible to have an error in the budget. This includes errors of commission or duplication as well as pure arithmetic. One action is to make a note to ensure it does not happen again when the next budget is being done. Other action depends on the error. Assume the budget stated no overdraft would necessary and it now appears one is required because the sales forecast was used to predict cash inflows rather than the debtor payments. There are two options: Go to the bank and ask for an overdraft, or take some other action to improve cashflow to stay within the budget cash figure. The original budget numbers will need to be changed to reflect the new circumstances and future reporting should be against the revised budget (often called a reforecast or latest estimate.) Action is required but it may not be within the area where the error was made.

AVOID: "There's a hole in the roof but we can't fix it because we haven't got a budget for repairs!!!"

Errors in the Arithmetic of the Actual Results

It is perfectly possible for the actual results to be reported wrongly. This includes the use of the wrong category, omission of costs, double counting of income etc. One well known way of staying within budget is to throw away any invoices received from suppliers, or charge them to someone else's account code. This sort of deliberate action makes a nonsense of budgetary control and must be avoided. The corrective action once this is discovered is to prevent it happening again. Improvements in management education and/or control procedures are recommended.

One extra consideration is that in order to correct the error the cumulative results will need to be corrected. This means either putting through a correction in the next period, which will then also be wrong, or adjusting the past results to correct the error. Failing to note that the correction can cause misleading results can lead to wrong decisions being made.

AVOID: "The Accounts figures are always different from ours so we ignore them and keep our own records."

Reality is Wrong

Sometimes the Actual results are useless as an indicator. A strike or natural disaster will have an impact on results. This does not mean that the budget process in future should include an allowance for this happening again. (However in large organisations it is normal to allow for the impact of a disaster centrally as a contingency even if it is not budgeted at operating unit level.) If necessary, insurance should be taken out. If business is disrupted for two weeks, then it is pointless to compare the remaining two weeks of the month against a full month's budget. Produce a realistic budget for only two weeks and compare against that to establish true performance under normal circumstances.

AVOID: "The variances are distorted because of.....so its not my fault."

Differences between Budget Assumptions and Actual Outcome

This is the key issue and the one which involves the use of variance analysis techniques. Remember that all budgets contain errors in the assumptions. No one knows the future outcome for certain. The important thing is not to apportion blame by looking backwards, but to look forwards and take action to improve the future in the light of experience. The action to be taken depends on the circumstances. However, punishing deviation from budget is the best way of destroying the budget process. Managers will spend up to budget, conceal data, make the actual fit the budget in order to avoid blame. This is particularly true in large multi-national organisations. The emphasis must be on what can we do about it, rather than why the results are different.

AVOID: "We are under budget, who can we blame?"

HOW ARE VARIANCES CALCULATED

There are two important rules:

1. The level of variance analysis should be decided by the needs of the decision maker, not the convenience of the reporter.
2. The budget must always be flexed for volume changes to produce realistic variances.

EXAMPLE

	BUDGET	ACTUAL
SALES VOLUME	100 =====	90 =====
SALES VALUE	1,000	990
VARIABLE COSTS	500	495
FIXED COSTS	<u>200</u>	<u>210</u>
PROFIT	300 =====	285 =====

The Finance Director wishes to blame someone for the fact that profit is down by 15.

"It is obvious who is to blame. Sales are below target and fixed costs have not been controlled."

So many management meetings are run like this that it seems a shame to point out that they are a waste of time.

PROPER VARIANCE ANALYSIS

This requires some thought and some simple calculations. It has 4 stages:

1. Flexing the budget
2. Analysing the variances
3. Identifying the causes
4. Taking appropriate action

Since only the last of these is a value adding activity, the first three are only worth doing if step 4 is taken in time to help future results. This may mean the first three steps have to be done fast even if that reduces their accuracy.

FLEXING THE BUDGET

In the example it is futile to compare the actual variable costs with the budget. To do so suggests that the manager is doing better than budget, but actual volume is below budget so costs should be lower. It is vital to produce a revised budget to use for comparison. This does not mean that the original budget is useless. It merely means that in order to analyse the 15 difference it is important to start by removing the impact of volume changes on the various headings which are affected by it.

	ORIGINAL BUDGET	REVISED BUDGET	ACTUAL
SALES VOLUME	100 =====	90 =====	90 =====
SALES VALUE	1,000	900	990
VARIABLE COSTS	500	450	495
FIXED COSTS	<u>200</u>	<u>200</u>	<u>210</u>
PROFIT	300 =====	250 =====	285 =====

This recalculates the budget using actual volume but budget prices and shows that the expected profit for 90 units is 250. Thus the impact on profit is a reduction of 50 and this can be identified as SALES VOLUME VARIANCE £(50). A common convention is to put unfavourable variances in brackets.

Now the other variances can be calculated.

ANALYSING THE VARIANCES

	ORIGINAL BUDGET	REVISED BUDGET	ACTUAL	VARIANCES
SALES VOLUME	100 =====	90 =====	90 =====	
SALES VALUE	1,000	900	990	90
VARIABLE COSTS	500	450	495	(45)
FIXED COSTS	<u>200</u>	<u>200</u>	<u>210</u>	<u>(10)</u>
PROFIT	300 =====	250 =====	285 =====	35 =====

We now have a valid set of budget data to compare against actual. The variance on Sales can only be due to Price. This is the SALES PRICE VARIANCE of £90.

The Variable costs require further investigation:

Assume that the original budget was to use 2.50 metres of material for each sales unit and that each metre was expected to cost £2.00. This gave a Budget figure of
 $100 \times 2.50 \times £2.00 = £500$

The Actual result included a price of £2.75 per metre but only 2.00 metres were used per sales unit. This gave an actual figure of
 $90 \times 2.00 \times £2.75 = £495$.

Which needs to be compared against the Flexed Budget figure of

$$90 \times 2.50 \times £2.00 = £450$$

To identify the cause of the variance of £(45), we need to separate the price impact from the usage impact.

Price

We expected to pay £2.00 per metre; we did pay £2.75 per metre.

Each of the 180 metres we bought cost £0.75 extra..... $180 \times (2.00 - 2.75) = £(135)$

This is the MATERIALS PRICE VARIANCE £(135)

Usage

We expected to use 225 metres in total to make 90 units; we did use 180.

At the Budget price of £2.00 we saved $£2.00 \times (180 - 225) = £90$

This is the MATERIALS USAGE VARIANCE £90

On fixed costs we expected to spend £200 but we did spend £210. The FIXED COST VARIANCE is £(10)

SUMMARISING THE VARIANCES

Sales Volume	(50)
Sales Price	90
Materials Price	(135)
Materials Usage	90
Fixed Costs	(10)

	(15)
	=====

IDENTIFYING THE CAUSES

This is where politics and blame apportionment must be avoided. Consider these possible comments on the above figures.

"The price of the raw material went up so we asked the factory to be careful about waste and told the salesforce to put prices up."

"Because sales volume was down we bought less and we lost our volume discount."

I put prices up because although we sell less the net effect is an increase in profit."

"The purchasing department found this new expensive material with less wastage. We paid the extra but the saving on wastage did not cover the extra cost."

No accounting function is likely to know the cause of the variances. The above assumes that the figures are right and the budget was realistic. The finance department has a role to quantify the impact, but it is operational managers who should know why and only they should provide input into the management report on the figures.

Without knowing the true cause, effective management decisions on the appropriate action are impossible.

TAKING APPROPRIATE ACTION

A good reporting system should only report on exceptions. "Nothing to report" is an acceptable comment when figures are on or near budget. If they are not then the reviewer will need to know:

1. What is the cause and will it happen again
2. What is the financial effect
3. What is being done or to be done
4. Are there implications for other managers

AVOID "The profit is down by £15 because it was a poor month."

SALES MIX

A Sales Mix Variance can arise in organisations selling more than one product. In practice it is caused by the use of average prices for families of products or customers. At the individual product line level the only variances which can arise are price and volume. An example will illustrate the cause of the variance.

A company budgets to sell 100 units - being 50 units of Product A at £10 per unit and 50 units of Product B at £11. The company actually sold 120 units - being 80 units of Product A at £9 and 40 units of Product B at £12.

Conventional Variance Analysis shows:

	<u>Actual</u>	<u>Budget</u>	<u>Variance</u>
Units	120	100	20
Average Price per unit	£10.00	£10.50	£(0.50)
	£	£	£
Sales A	720	500	220
Sales B	<u>480</u>	<u>550</u>	<u>(70)</u>
TOTAL	<u>1,200</u> =====	<u>1,050</u> =====	<u>150</u> =====

The £150 favourable variance could be analysed as

Sales Volume	100 - 120 = 20	x	£10.50	=	210
Sales Price	£10.00 - £10.50 = £(0.50)	x	120	=	(60)

or if separate analysis by product were required

Sales Volume

For A	80 - 50 = 30	x	£10.50	=	315
For B	40 - 50 = (10)	x	£10.50	=	(105)

Sales Price

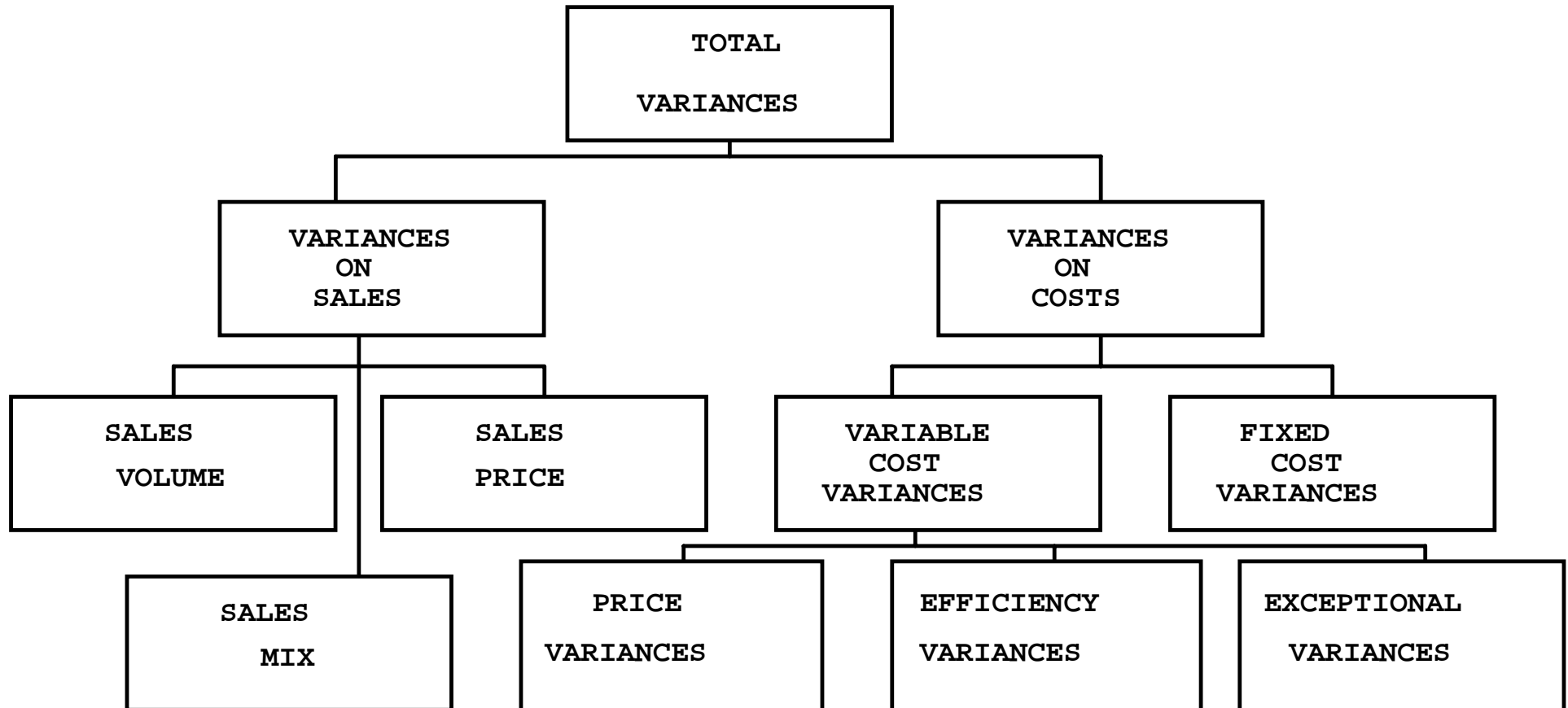
For A	£ 9.00 - £10.00 = £(1.00)	x	80	=	(80)
For B	£12.00 - £11.00 = £ 1.00	x	40	=	40

Sales Mix

For A	80 - 50 = 30	x	£10.00 - £10.50 = (0.50)	=	(15)
For B	40 - 50 = (10)	x	£11.00 - £10.50 = 0.50	=	(5)

The same analysis can be done for costs within products or at margin level. There are also approaches that derive the averages based on the percentage the product formed of the total. In all cases the approach adopted should be designed to help the manager to help make decisions. Thus from the example above the variable costs and margins would need to be calculated to identify if the results of the manager of A's tactics of lower price to gain more volume was "better" than those of the manager of B's.

A HIERARCHY OF VARIANCES



DAVID A. PALMER BA (Financial Control) FCA ATII MCIPD

David is an experienced financial professional who has devoted his skills to management training in practical understanding and utilisation of financial information. A Graduate, Chartered Accountant, and Associate of the Institute of Taxation, he is also a Member of the Chartered Institute of Personnel and Development.

He has worked as a Financial Controller and Company Secretary in the Finance Industry and as a Director of Finance and Administration in the Computer Services industry. Since 1990 he has conducted management development programmes for over thirty major organisations including Blue Circle, BP, CSC Computer Sciences, Conoco, Ernst & Young, Lloyds Bowmaker, The Post Office, Rothmans and Zeneca. International training experience includes work in Denmark, Kenya and the Czech Republic for Unilever, in Dubai for Al Atheer, in Holland and the U.S. for Avecia and Zeneca and in Bahrain and Saudi Arabia for Cable & Wireless.

He specialises in programmes in financial management for both tactical and strategic decision making. A key output from the training is demonstrable use of the knowledge and skills acquired to enhance corporate profitability. In addition he has run courses in acquisition evaluation (The Economist, Blue Circle and Hays Chemicals) and in post-acquisition management (Unilever). He has also developed material for delivery by in house personnel (Royal Mail, Lloyds Bowmaker and Conoco) and computer based training packages (The Post Office, Unilever and BP).

He is a prolific writer of case studies, role plays and course material, he has also published articles on the financial justification of training, financial evaluation of IT investment proposals, the use of Activity Based Costing and Customer Profitability statements, commercial considerations for consultants and the need for taxation awareness training for general managers.

He is married with one grown up daughter and his outside interests include being The Treasurer of the Hospice of St. Francis (Berkhamsted), and a member of the Catholic Alpha Training Team (Promoting the Alpha course on Basic Christianity). He was a Governor of Luton University for nine years and a school Governor for four years.

This series of papers is designed to help managers by providing a basic understanding of key financial concepts to assist them in their work. It is provided at no cost since this knowledge is a Gift from God and thus to be shared (Matthew 10:8).