MASSEY UNIVERSITY

FINANCIAL CONTROL BY
CURRENT WORKING CAPITAL FORECASTS

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The lower prices received for many farm products during 1967
and 1968 have increased the need for careful planning, budgetting
and financial control in the farm business. This is particularly
important when investigating and implementing a farm development
programme.

While rural tax legislation has been well planned to permit
capital development to be financed from pre-tax profits, cash
surpluses from farming operations have declined during the last two
years. Therefore, substantial injections of loan capital will be
needed to supplement farm generated resources if the expansion of
farm output desired by the National Development Conference is to be
achieved.

The need for sound financial planning and control has never been
greater than it is at present. As the size of the farm business
increases, these needs are expected to grow. Borrowing involves taking
calculated risks and the chances of financial breakdowns should be
minimised.

The computer programme described on the following pages is an
attempt to supply a reasonable measure of financial control with a
minimal requirement of on-farm clerical work, data collection and
processing cost. Its successful handling involves the co-operation
not only of the Farmer/Accountant/Adviser team, but also of the
financing institutions for both long and short term credit.

1. THE PROBLEM

Budgetary analysis will suggest a plan of operations and will forecast short and long term financial benefits and costs.

It is the role of the cash flow control mechanism to test that the plan is financially feasible in terms of available resources, and to permit of the pre-arranging of credits necessary to implement it.

Ideally the farmer will know substantially in advance: (after budgeting out the proposed farm plan)

(1) (a) The state of his bank account

(b) Outstanding cash due to him

(c) Current level of debt to suppliers of farm requirements

(d) Current level of debt to stock firms, etc.

for each month of the ensuing year.

He will also want to have estimated:

(2) (a) His maximum overdraft requirement

(b) His probable taxable profit

(c) His probable true profit (see page 20, Management Profit).

Forecasting on a monthly basis will permit a review of the management plan and its modification if such course appears to be necessary. Such modification could consist of changing the timing of expenditure from one month to another, contracting the plan to restrain expenses, or increasing the development rate if surplus resources are available.

Bankers are more receptive to applications for finance that are properly thought through and show maximum requirements and overdraft repayment patterns, as this permits better scheduling of their available

funds. They do not in the main expect miracles in the way of an exact fit of forecast financial needs to the actual position provided the good faith of the client is demonstrated.

The maximum benefit of much of the tax legislation is only obtained if a tax pattern for at least a year or two ahead is predicted. New Income Tax legislation, eliminating Social Security charge as a separate levy, makes it more than ever essential that full advantage of personal exemptions be taken in any year, if at all possible, as the total of exemptions will in future be free of all direct taxation.

A prediction of taxable profit, for even one year ahead, will assist the Accountant to plan provisional tax payments, tax year expense transfers, and Stock Nil Value adjustments and equate and adjust demands on the cash resources for tax payment.

The main point of criticism of monthly forecasts is that too many unpredictable factors can upset the plan. Up to a point, this criticism is sound. Grass conditions may dictate that cattle be sold sooner or later than expected. If sold sooner, the account will merely be funded earlier than anticipated. If it is desired to retain them for a period - two options exist: they can still be sold if <u>necessary</u>, or retained if lenders are agreeable.

Strikes, weather and other unforeseen circumstances can vary the timing of farm operations - mainly in deferring expenses.

No farm finance plan will suffer, and most will benefit if expenditures are deferred until the income producing period of the farm year. This deferment may not be in the interests of the ideal farm plan but will rarely upset the overall financial picture in the short term.

The experience of those operating this control shows the high degree to which forecast figures prove acceptably valid. Such costs as manure, shearing, shed expenses, Veterinary supplies, drawings, power, telephones, general expenses, car expenses, tractor expenses, rates, Land Tax, and Income Tax payments can be closely forecast, as can many income items.

In any case, the plan must be flexible, and the effect of a change in income injections, etc. can readily be evaluated in its effect on the cash situation of the period yet to run, and on the final farm profit.

The important thing is that the proposed plan has been budgetted out, all possible precautions have been taken against a breakdown of the management plan through cash shortage, and if a reasonably conservative approach is used in budgetting the costs and returns, the final actual result should be, if anything, somewhat better than the prediction. Unders and overs, occurring in different items, will also to some degree tend to cancel out.

2. THE DATA FORM

Considerable attention was given to designing a data form which would minimise clerical work for both the client and the Computer Bureau.

With this in view, a simplified form of data listing was planned.

As this project is still under development, the following listings must be considered somewhat experimental, and experience will undoubtedly dictate some changes.

Figure A shows the summary sheet, supplying mainly general details of the farm.

Items 1-20, Summary Sheet - Figure A(i)

All outwards or inwards cash items listed here are used solely for tax and profit calculations. Accordingly such items as interest, dividends, and income equalisation withdrawals must also be listed in the main monthly breakdown section, as must life insurance, school fees, donations and other exemptions for items paid out in cash.

A summary of capital development expenditure is made from the monthly breakdown and inserted as Item (10) (Listed as 'Bureau use').

Item 20 is used as a control field for tax.

At present the programme merely calculates Tax as for a farmer proprietor. The many complexities of corporations, partnerships, trusts and combinations of all three that now exist fairly commonly have not yet been tackled.

The programme listed (appendix A) will, at this stage, carry out the following operations:

(a) If item 20 is punched as 0, calculate the probable tax, deduct the 1st provisional payment and print the 2nd provisional liability, plus any terminal tax. If the 1st provisional payment is an over-estimation of the total tax, the over-provision will be printed out (see Table C), but will not be deducted from the terminal tax, if any.

Two provisional tax instalments only are provided for.

(b) If item 20 is punched as 1, the tax is calculated and printed but not incorporated into the cash flow, and the accountant must then insert his own calculation for the second instalment manually according to the partnership, etc. split.

FIGURE A(i)

CASH FLOW/CURRENT WORKING CAPITAL FORECAST

A.	Name of Agent forwarding data:_____	
BM	Balance day - month (e.g. 30/6/196x = '6')	
F. No.	Farm number (allot your own)	
W1	Bureau use only	0
2	Amount of Dividend income (insert also in items 29-32)	
3	Wife (1 or 0)	
4	Children qualifying for child exemption (total number)	
5	Interest receivable (insert also in items 29-32)	
6	Life insurance paid (qualifying) Insert also in 38	
7	School Fees " " 38	
8	Donations " " 38	
9	Other personal exemptions (Total)	
10	Bureau use only	0
11	Terminal Tax payable	
12	Bureau use only	0
13	" "	0
14	Depreciation Estimate (Farm share)	
15	Special Depreciation estimate	
16	Farm produce charge to farmer	
17	September Provisional taxation instalment payable	
18	Deferred Capital development chargeable/or loss carried fwd.	
19	Income equalisation, compulsory or proposed withdrawal Insert in 19-32	
20	Sole Proprietor (1), Partnership (2/2. 2/3 etc.), Company (3), Trust (4).	

(c) If item 20 is punched as 2 or over, the amount punched will

be inserted in the cash flow as 2nd Provisional. This figure

would be one supplied by the client. (c) would apply where

the Accountant wished a precise figure used in the Feb./March

entry, based on factors possibly unknown to the programme.

While Item 20 at present shows a breakdown of

(1) Sole Proprietor

(2) Partnership (2 way, 3 way, etc.)

(3) Company

(4) Trust

in practice this item is entered (by the punch operator)

0 Sole Proprietor

1 any other trading grouping

2 - 99999 any specific defined tax amount.

The former classification is making provision for programme extension.

Items 21-48. Summary Sheet. Figure A(ii)

This section is primarily designed for livestock.

The sole use made of this section is to extract the stock change

at both Standard Value (for Tax) and Fair Market Value (for Management

Profit). Accordingly groupings of dissimilar animals with a common

S.V. and F.M.V. may be made.

Similarly dead stock may be incorporated in this Section.

FIGURE A(ii)

S21 to S48	Stock Class: Divide into standard and fair market classes only. Fair market value is a good seasonal average price - in this case, predicted. Number predicted will be the estimate at next balance date.	

e.g., Class 1; Stock S.V. $40 F.M.V. 90

2; " " 40 " 75

3; " " 30 " 60 etc.

. . . . . .

Number

CLASS -	Predicted	Now	S.V.	F.M.V.
1	(21)	(22)	(23)	(24)
2	(25)	(26)	(27)	(28)
3	etc			
4				
5				
6				
7				(48)

May be used for Produce Stock - insert value 'now' and predicted with S.V.1, F.M.V. 1.

S49	Spare	o
S50	"	o

For example:

Class		Predicted	Now	S.V.	F.M.V.
6	Wool on Hand	11,000 (lb)	7,000 (lb)	.263	.263
7	Wheat	$1600	$700	1	1

The first entry will calculate:-

$$11,000 \times .263 = 2893$$

$$7,000 \times .263 = \underline{1841}$$

Stock change   S1052 added to Cash Profit

The second entry will calculate:-

$$1,600 \times 1 = \$1600$$

$$700 \times 1 = \underline{\$700}$$

$$\$900 \text{ added to Cash Profit}$$

Items 13, 49 and 50 are spares for possible programme extensions.

3. THE MAIN DATA SHEETS

There are four foolscap pages provided for the main data listing, numbered 14 through 85, and subdivided into blocks as under.

The commencement of the series at No. 14 is tied up with the data identification system. Months are coded 1-12 (Jan. - December) and 13 (annual total of regular monthly payments, as permanent wages).

It will be noted that there is some duplication of numbering of data items. List $1-50 covers summary items, while cash flow data is classified under Items 14 - 85

<u>14-18</u>. Inwards capital cash entries. These will not come into Profit and Loss A/c calculations. (Figure B(i)).

<u>19-32</u>. Inwards Revenue Cash - must also include those items on the farm summary sheet that come under this heading. (Interest, Dividends).

Item 19 <u>must</u> be used, the item description being changed if necessary.

<u>33-41</u>. Outward Capital cash (includes Drawings). These do not enter into Profit and Loss A/c. Accordingly all <u>Tax deductible</u> capital expenditure must be listed under Expenses (Items 39-41) - (Page 12).

Item 33 <u>must</u> be used, as this is a trigger number, instructing the computer that the data has changed from inputs to outputs.

<u>42-84</u>. Outward Revenue Cash. (Figure B(ii).

Item 42 <u>must</u> be used as it is a trigger number.

The programme reads the first figure of the data as an item, and then reads pairs of figures.

According to whether the first figure is greater or less than 13, it defines that figure as a month or a new item. If it is a month, the following figure is an amount. If it is an item, the following figure is a month. This technique permits items to be listed in a completely random fashion and without the insertion of innumerable zeros in unused columns.

Typical data could be:

Item	Month	Amount	Month	Amount	Month	Amount
24	7	240	1	960		
25	3	180	9	280	1	40
26	13	2250 (yearly total)				

Agent _____

Farm No. _____

Date _____

CASH FLOW/CURRENT WORKING CAPITAL DATA SHEET

If no entry - leave blank.   M = month.   A = amount for month.   Equal monthly charge, m = 13

A = Annual Total

Inwards Cash Capital

	Item	M	A	M	A	M	A		M	A	M	A	M	A
Income Equalisation withdrawal	14													
Sale of Farm Assets	15													
New Fixed Finance injections	16													
Other Capital cash injections	17													
Space (use if desired)	18													

Inwards Cash Revenue

	Item	M	A	M	A	M	A		M	A	M	A	M	A
Butterfat (wool)	19													
Butterfat (deferred payment)	20													
Calf (lambs) sales	21													
Cash Sundry income	22													
Other Stock Sales _____	23													
" " _____	24													
" " _____	25													
Produce, etc. Sales _____	26													
" " _____	27													
" " _____	28													
Non Farm Income _____	29													
" " _____	30													
" " _____	31													
" " _____	32													

Agent _____

Farm No. _____

Date _____

Outwards Cash, Capital and Drawings

	Item	M	A	M	A	M	A		M	A	M	A	M	A
Fixed Mortgage Repayments	33													
Plant Purchased etc.(Capital)														
_____	34													
_____	35													
_____	36													
Drawings - regular (include Car X's share, etc. _____	37	13												
Drawings periodical (not tax)	38													
Capital Expenditure Tax deductible _____	39													
_____	40													
_____	41													

Outwards Cash Revenue (Expenses)

	Item	M	A	M	A	M	A		M	A	M	A	M	A
Car X's (Farm Share) _____	42	13												
Car X's periodical (Farm Share _____	43													
Tractor X's _____	44													
Other (specify _____	45													
	85													

BANK (at start) [ ]   DEBTORS [ ]   CREDITORS [ ]

Agent _____

Farm No. _____

Date _____

Outwards Cash, Capital and Drawings

	Item	M	A	M	A	M	A		M	A	M	A	M	A
Fixed Mortgage Repayments	33													
Plant Purchased etc.(Capital)														
_____	34													
_____	35													
_____	36													
Drawings - regular (include Car X's share, etc. _____	37	13												
Drawings periodical (not tax)	38													
Capital Expenditure Tax deductible _____	39													
_____	40													
_____	41													

Outwards Cash Revenue (Expenses)

	Item	M	A	M	A	M	A		M	A	M	A	M	A
Car X's (Farm Share) _____	42	13												
Car X's periodical (Farm Share _____	43													
Tractor X's _____	44													
Other (specify _____	45													
	85													

BANK (at start) [ ]   DEBTORS [ ]   CREDITORS [ ]

This will be punched as:

24 7 240 1 960 25 3 180 9 280 1 40 26 13 2250

It will be read as:-

24   7   240   1   960 25 3 180 1 40 26   13   2250
 | | | | | | |
defined   tested   Amt.   tested   Amt. tested   tested
as item   :13: month   :13: month   >13 item   = 13 : month

$$AMT = \frac{AMT}{12} \text{ p/month}$$

Any item can be assigned to any use, within the restrictions of P. & L. A/c blocks and the strictly capital blocks.

Suggestions have already emerged that more generous provision of item numbers may be desirable. This is a simple adjustment, if necessary.

It is a matter for the supplier of the data to set up his own code to correspond with the item listing, and the printout quotes item numbers only. Items Nos. 19, 33, 42 and 85 are trigger numbers, and if not otherwise required must be filled in as: 19 0 0

33 0 0

42 0 0

85 no month or amount.

It is essential to maintain the sequence of item, month, amount. An entry of:

Item	Month	Amount	Month	Amount
18	0			
19	2	66	4	181
20	11	71	2	34

would be punched and read as follows:

18	0	19	2	66	4	181	20	11	71	2	34
Item	M	A	M	A	M	A	Item	M	A	M	A
		X	X	X	X	X					

By failing to insert the 'amount' for Item 18, the sequence has gone out of phase.

After reading "85" the programme calculates tax and incorporates it into the cash flow as a final item. '85' must not be used as a data 'amount', as reading this value will trigger the tax routine.

For the Car and House cash expenses, the Farm portion goes into the Revenue sections, while the owner's share goes into the 'Capital' section.

4. THE PROGRAMME C(1) CASH FLOW TABLE.

The print of this table follows standard Cash Flow forecast presentation.

Items 14 to 18 are listed under the subheading of "Inward Capital Cash", the values allotted to the designated month and an item total for the year, and a subsection total are printed.

Items 19 - 32 are listed under "Inwards Revenue Cash". Items total for the year are printed, also a combined monthly total of inwards cash both Capital and Revenue (Items 14 - 32).

Items 33 - 41 are items of capital expenditure presented under "Outward Capital Cash".

Items 42 - 85 are Revenue expenditure items. Tax is calculated on the Taxable Profit and printed out. The monthly totals that follow are the combined sum of outward cash items, both Capital and Revenue (33 - 85) and include tax.

'The Monthly Net' is the net result of the months cash transactions - receipts less payments month by month.

A commencing working capital figure is calculated by the simple formula of Bank plus Debtors less Creditors on Current A/c., and is printed out next.

The final line consists of the predicted running total of working capital, i.e., the opening working capital adjusted by each monthly cash change to give a predicted cash or credit state at the end of each month.

The printout has been set up for a 144 character line printer to allow the maximum spacing between columns (see Control).

Formats would need to be modified for printers using 120 character platens.

On account of storage capacity restrictions (40K), the programme is set up as a linked series of three sections. Where 60K is available, it could be run as a single unit with the necessary minor alterations. This would increase the output speed over a series of data sets. The sections are coded as "Cash", "Tax" and "Graph".

The listing order for columns is controlled by the data item, 'Balance Month' (Card 1).

The same order is used for the Profile.

The programme provides for balance months from March - July inclusive. Codes 3 (March) to 7 (July) will trigger the listing to start with any of the months April to August as column 1. This has proved adequate. The full range of the year could be covered by programme extension. At present any month after July will print as for July, and the headings must be manually changed.

Only item numbers are printed. The client must insert the descriptive detail, or have a key code tying the listing to an office coding system.

The storage of all the possible listing combinations is beyond the capacity of the Massey computer (IBM 1620, 40K plus disk read).

Key coding is quite practical, as items not used do not appear on the printout.

More item numbers could, and possibly will, be allocated to each section. An alteration to the trigger numbers of 19, 33, 42 and 85 is the only change required.

Subroutines

Two subroutines called for in the programme are not listed in detail.

These provide special facilities for data reading and the printing out of Table 'C'.

1. Reading.

The special subroutine "In" is used to give free format reading in Fortran II, an essential feature of the data simplification principle.

2. Printing.

The whole function of the subroutine "Prsup" is to suppress the carriage advance to allow up to twelve overprints to occur on the same line of the table, each field being printed in an individual format.

The purpose is to obtain clarity of presentation, avoiding the printing of Zero fields.

While this "Prsup" feature extends the printout time, it is considered worth while for clarity. On a series 1143/ - 240 L.P.M. printer, the average printout takes 5 - 6 minutes.

Other languages may have a suitable similar features. These subroutines are available if wanted.

The Tax link programme, written to incorporate all present available information regarding rates to apply from 1 April, 1969, derives a taxable profit from:-

(a) Cash Income less Cash Expenses

(b) Live Stock changes at Standard Values (and Nil Value)

(c) Dead Stock changes

(d) Losses carried forward

(e) Capital Expenditure carried forward (as specified P.1)

(f) Income Equalisation adjustments

(g) Deductible Capital Expenditure

(h) Special Depreciation

(i) Ordinary Depreciation.

The exemptions presently known to apply are adjusted. (No information is yet available as to any reduction of wife allowance according to her income, or of any rate of rebate - as the present 10%, $200 one).

The tax is calculated (see 'data' section).

Management Profit calculation excludes (b), (d), (e), (f), (g), (h), Interest received, and dividends received and calculated the stock change at F.M.V.

The calculations are printed as shown in Table C(ii).
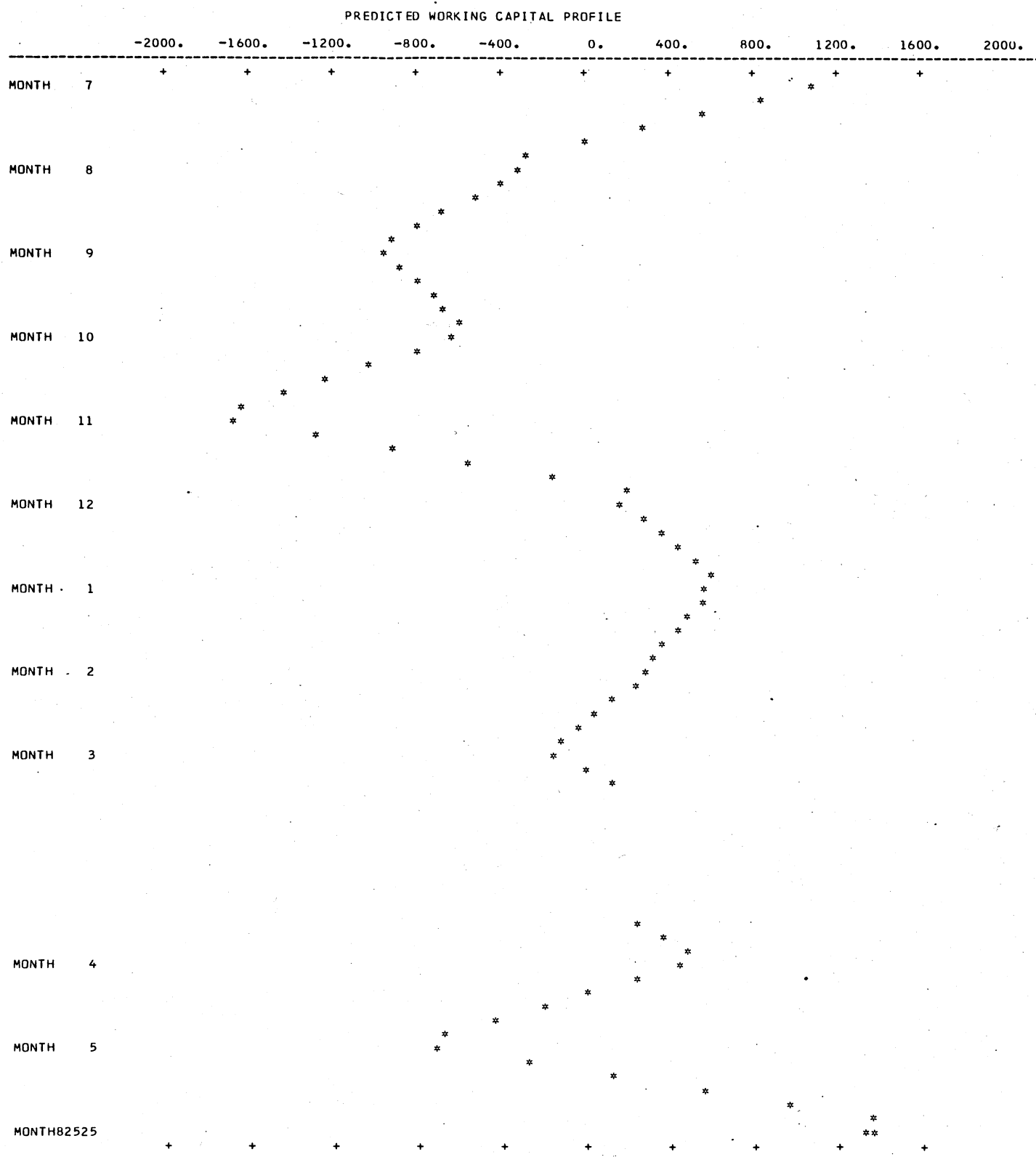
Table C (1)   PREDICTED WORKING CAPITAL STATE   - 18 -

	JULY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APRL	MAY	JUNE	TOTAL
					INWARDS CAPITAL CASH							TOTAL	0.
					INWARDS REVENUE CASH								
19		48.	534.	852.	1056.	1000.	900.	800.	660.	600.	450.	300.	7200.
21				208.					250.				458.
20												2800.	2800.
23				221.						500.	500.		1221.
24					1200.	700.	700.	200.			300.	300.	3400.
26					650.					950.			1600.
	0.	48.	534.	1281.	1056.	2850.	1600.	1500.	1110.	2050.	1250.	3400.	16679.
					OUTWARDS CAPITAL CASH								
37	183.	183.	183.	183.	183.	183.	183.	183.	183.	183.	183.	183.	2200.
38					832.			158.			832.		1822.
												TOTAL	4021.
					OUTWARDS REVENUE CASH (EXPENSES)								
42	25.	25.	25.	25.	25.	25.	25.	25.	25.	25.	25.	25.	300.
44	42.	42.	42.	42.	42.	42.	42.	42.	42.	42.	42.	42.	500.
45	192.	192.	192.	192.	192.	192.	192.	192.	192.	192.	192.	192.	2300.
46			55.			55.					55.		165.
47	50.		50.		50.		60.		50.		50.		310.
48	52.	52.	52.	52.	52.	52.	52.	52.	52.	52.	52.	52.	620.
49	20.								90.		36.		146.
50		625.			625.			625.			625.		2500.
51			390.			300.	90.		390.			390.	1560.
52								327.					327.
53						370.						370.	740.
54	83.	83.	83.	83.	83.	83.	83.	83.	83.	83.	83.	83.	1000.

Table C (ii)

	JULY	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APRL	MAY	JUNE	TOTAL
55										800.			800.
56				150.		100.							250.
57									200.				200.
58	13.	13.	13.	13.	13.	13.	13.	13.	13.	13.	13.	13.	160.
59	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.	10.	120.
60									45.	45.			90.
61			150.	150.							200.		500.
62									180.				180.
85 TAX		225.						419.					644.
	669.	1449.	1189.	954.	2106.	999.	1174.	2129.	1554.	1444.	2397.	1359.	17434.
MONTHLY NETT	-669.	-1401.	-655.	326.	-1050.	1850.	425.	-629.	-444.	605.	-1147.	2040.	-755.

BANK   -33. DEBTORS   3376. CREDITORS   1566. WORKING CAPITAL   1777.

| WORKING CAPITAL | 1107. | -294. | -950. | -624. | -1675. | 174. | 599. | -30. | -475. | 129. | -1018. | 1021. | |

ASSESSABLE   3266. DIVIDENDS (NOT INCLUDED)   0.
SELF 275.
WIFE   0.
KIDS   0.
INT.   0.
INS.   0.
DONS   0.
OTHR   0.

TOTAL EXEMPTIONS   275.
TAXABLE   2991.
TAX   644.55   MARG.RATE   33.00   DIV.RATE   0.00

MANAGEMENT PROFIT   3266.
PROVISIONAL TAX OVERPAID   0.

Figure 'D'

PREDICTED WORKING CAPITAL PROFILE

It is possible that further information could with advantage be printed in this section (Stock ?, deductions for Tax ? etc.). The basis of the profit forecast would then be completely shown on the printout.

The Graph (Cash Profile).

The figure 'D' shows the Cash out Profile printout. The readings are significant only at the plotted points opposite the index of months, and the figure is simply a graphic reproduction of the Current Working Capital summary.

In accordance with usual practice, these significant points are linked interpolated intermediates to produce a curve.

Depicted in this fashion, the credit requirement is readily measured as to both amount and duration, and if the curve of actual performance is periodically plotted on the figure the degree to which the predicted path will be followed can be assessed, and the reason for deviations sought for and explained.

5.   Selecting the Plan - Adjustment of Debtors, Creditors, etc.

The two main questions that will always arise in cash flow forecasting are:

(a) What month to schedule an income or expenditure item, originating in one month and settled in a subsequent one.

(b) How to treat debtors and creditors at both the start and finish of the financial year under the plan selected for (a).

If an election is made to record cash on receipt or payment only, the Cash Flow will not follow the normal pattern of accounting which takes account of monies earned but unpaid and debts incurred but not settled. A reconciliation to the accounts, to adjust this factor, will be necessary if profit is to be extracted and Tax assessed.

The three treatments that follow provide techniques for date listing the debits and credits, and adjusting the debtors and creditors, for the type of financial control information desired.

Treatment I

In some clear cut instances, where the bank account features as the main component of current working capital, and debtors and creditors are consistent and small items, the table can be raised on a month of payment basis, last balance date debtors and creditors appearing as this year's expenses (when paid or received) and next balance day accruals being dropped out.

This will bias the Tax profit calculation by the difference between the net of (Debtors on Revenue A/c less Creditors on Revenue A/c) at opening and closing dates.

If the debtor/creditor factor is insignificant, this error - in an exercise which in any case contains many presumptions - is negligible.

In certain cases - substantial differences in Butterfat bonus payments for example - where office practice is to apply the bonus to its correct year an adjustment may be desired for Tax calculation.

An entry made in P.1 Summary Sheet, Item 12 (Listed as "Spare") will be added to the calculated profit for Tax. This will not appear in the Cash Flow.

This will be only the excess (+) on short fall (-) of the Debtor/Creditor net of the opening - closing balances.

To illustrate:

Opening Debtors	Dairy Co.	1160
on Revenue A/c	Sundry	25
		1185

Opening Creditors		
on Revenue A/c		320

	Net	$865

Already incorporated in Cash Flow

Table as received or paid - and

hence in Tax computation

Closing Debtors	Dairy Co.	360		
Closing Creditors	Sundry	320		
	Net		Net	40
Overcredited to P. & L. A/c				$825

<u>Item 12 adjustment entry</u>

12 P. & L. Over-credit	-$825

Only the <u>Bank item</u> will be entered at the foot of the data schedule, debtors and creditors being shown as 'O'

Kept on this basis, the table and profile will be the predicted current <u>bank</u> state.

<u>Treatment II</u>

When raised on a current working capital basis, opening debtors and creditors on current account will be entered on data sheets. Income and expense items will be coded in the month they will become monies receivable or payable, i.e., June butterfat, receivable July, would be listed for June (6).

The Table and profile will throw up a figure compounded of all current working capital factors and will require interpretation into the component elements of bank, stock firms(s) and debtors.

The nadir of the profile will not then, of course, represent the maximum indebtedness at that point in time but the net indebtedness, as debtors will offset creditors.

With this treatment, the Profit and Loss year correctly aligns with the table, and no special adjustment under Item 12 as above is required.

Treatment III

A composite approach, listing income in the month of expected receipt and expenses in the month they are to be incurred, will give a table showing maximum indebtedness at all time points.

Here the data item 'debtors' (only) will be entered '0' (the amounts will be recorded as "cash received", in due course). Bank and Creditors will be entered with current balances.

An item 12 entry for Treatment I will be needed, but only adjusting the difference of opening and closing debtors.

The total indebtedness shown will be shared by the bank and creditors on current A/c, and arrangements for the necessary accommodation may be made.

Summarised, the three treatments will give as alternatives:

1. Bank state

2. Current Working Capital state

3. Total Current Debt state.

6. CONTROL

The practical working of the programme involves the construction of a rational management plan for the ensuing year. This is already being done in many cases, as a straight budgetary exercise.

Using established precedent or new policy decisions, the costs, outgoings and income items must be allocated to months according to the treatment desired.

The data schedule is then completed and forwarded and a draft print taken. This print may suggest amendments to the plan. If necessary these are made, and clean prints run.

It is considered that adequate control can be maintained during early months of the financial year by regular comparison of the actual situation with the prediction. As much provision as possible has been made in the Table for the entry of actuals.

Towards the latter end of the financial year a new set of data, composed in part of actuals (summed to the review date) and predictions for the remaining months, would be processed, when a fairly accurate trading result and Tax estimation will be possible.

In lieu of the updating run just described one of the extension workers co-operating in the project proposed to update by a series of 12 month projections. This is an interesting concept, but untested.

Instead of:-

1st Printout

July ————————————————————— June predicted

2nd Printout

July ————————— Feb.   Mar. ————— June
        Actuals   Predicted

the pattern would be:-

July ————— June
    Predicted

Mar. ————— Feb.
   Predicted

CONCLUSION

    This is a research project, designed to test its value as a management tool for the farming industry, and is not a commercial application by this Department.

    A relatively small group of accountants and advisors is co-operating in the test work.

    The Agricultural Economics and Farm Management Department, of Massey University, cannot offer facilities for processing this work on a wide scale.

    The programme as such, however, is freely available to anyone wishing to conduct work of this nature through any other installation.

    When more results have been received, the programme will be amended as required and the findings made available.

    The thanks of the Department are due to those accountants and extension workers who have co-operated in the project and are continuing to do so. Thanks are also due to Professor A.R. Frampton, Head of Agricultural Economics & Farm Management Department, for his assistance in editing.

Data Punching for Fortran II D

CARD 1.	Columns 1 - 28	29 - 32	33 - 38
e.g.	Name of Agent	Balance month	Farm Number

Punch as:-

FARM CONSULTANTS (CAMERON)		6	113

CARD 2. **Summary sheet data.** All data must be punched with a figure or Zero. Punch data only not item numbers.

Fields 1 - 20 : Punch with blanks between data items.

As 20 is the tax adjustment field, it is desirable to conclude the card here, to allow adjustment of field 20 if desired, during programme running. After a preliminary run for say, a partnership enterprise when the total taxable income is found, the tax liability may be manually calculated and incorporated by changing field 20 to the actual tax deductions required.

CARD 3. **Summary sheet data.**

Fields 21 - 50 : field, blank, etc. as for Card 2.

CARD 4 to X. Cash Flow data. Live Fields only punched in sequence of items.

Items 14 - 84 : Data cards can be filled with a sequence of item number, month, amount, etc., each entry being separated by a blank column. The final field punched is 85. (No subsequent Zeros).

CARD X + 1

Columns	1 - 4	5 - 9	9 - 15	16 - 22	23 - 29
			BANK	DRS	CRS
Card	0	0	-381	266	1798

GRAPH Data - an asterisk punched in for Column 2.

Data Stacking

Cards 1 to (X + 1) after the Cash Link, object deck.

Graph data after the Graph Link, object deck.

No sense switching is used.

- - - - - - - -

APPENDIX A - PROGRAMME

Written in FORTRAN 2 d for I.B.M. 1620.

```
C        CASH FLOW TABLE AND GRAPH FORT 11
C        SJ LOWEST SK HIGHEST SNJ RANGE SNL STEP SPREAD SJJ SNL/8
C         SKK   NO OF STEPS TO START    SL CELL VALUE
         DIMENSION A(13),B(12),E(13),F(13),W(50),NP(500),D(12),H(7)
         COMMON A,B,E,F,W,ASS,MM,BK,DR,CR,BNK
   201   READ 111,(H(I),I=1,7),MM,CODE
         PRINT 106,  (H(I),I=1,7),CODE
         PRINT 107
         DO 170 I=1,50
         W(I)=0.0
   170   CALL IN (W(I))
         KX=19
         KY=33
         KZ=42
         XTOT=0.
         TOTL=0.
         TTOT=0.
         SCH=0.
         FSCH=0.
         TOT=0.
         CTOT=0.
         PRINT 112
         IF(MM-4)61,62,63
    61   PRINT 52
         GO TO 72
    62   PRINT 53
         GO TO 72
    63   IF(MM-6)64,65,66
    64   PRINT 54
         GO TO 72
    65   PRINT 55
         GO TO 72
    66   PRINT 57
    72   PRINT 112
         PRINT 427
         DO 10 I=1,12
         A(I)=0.
    10   B(I)=0.
         DO 240 I=1,499
         NP(I)=0
         CALL IN (NP(I))
         IF(NP(I)-85)240,241,240
   240   CONTINUE
   241   READ 404,NP(I+1),NP(I+2),BK,DR,CR
         BNK=BK+DR-CR
         K=NP(1)
         DO 250 J=2,499,2
         M=J+1
         N=NP(J)
         X=NP(M)
   551   IF(K-19)3,121,122
   122   IF(K-33)3,553,123
   553   IF(KY-K)554,554,3
   554   KY=34
         GO TO 12
   123   IF(K-42)3,555,124
```

```
  555 IF(KZ-K)556,556,125
  556 KZ=43
      GO TO 125
  124 IF(K-85)3,14,14
  121 IF(KX-K)3,552,3
  552 KX=20
      DO 200 I = 1,12
  200 TOT=TOT+B(I)
      PRINT 56,TOT
      PRINT 428
      GO TO 3
  125 DO 260 I=1,12
  260 XTOT=XTOT+B(I)
      PRINT 56,XTOT
      PRINT 429
    3 IF(N-13)4,5,6
    4 N=N-MM
      IF(N)7,7,8
    7 N=N+12
    8 A(N)=X
      B(N)=B(N)+A(N)
      GO TO 250
    5 IF(X)288,288,289
  289 DO 20 I =1,12
      A(I)=0.
      A(I)=A(I)+X/12.
      B(I)=B(I)+A(I)
   20 A(I)=A(I)+.5
      PRINT 104,K,A(1),A(2),A(3),A(4),A(5),A(6),A(7),A(8),A(9),A(10),A(1
     11),A(12),X
      DO 30 LX=1,12
   30 A(LX)=0.
      PRINT 108
      GO TO 288
    6 DO 230 I=1,12
      IF(A(I))230,230,231
  230 CONTINUE
      GO TO 232
  231 PRINT 108
      TOTL=0.
      CALL PRSUP (1)
      PRINT 101,K
  711 DO 616 I=1,12
      IF(A(I))617,616,617
  617 GO TO(601,602,603,604,605,606,607,608,609,610,611,612),I
  601 PRINT 621,A(I)
      GO TO 618
  602 PRINT 622,A(I)
      GO TO 618
  603 PRINT 623,A(I)
      GO TO 618
  604 PRINT 624,A(I)
      GO TO 618
  605 PRINT 625,A(I)
      GO TO 618
  606 PRINT 626,A(I)
```

```
        GO TO 618
607 PRINT 627,A(I)
        GO TO 618
608 PRINT 628,A(I)
        GO TO 618
609 PRINT 629,A(I)
        GO TO 618
610 PRINT 630,A(I)
        GO TO 618
611 PRINT 631,A(I)
        GO TO 618
612 PRINT 632,A(I)
618 TOTL=TOTL+A(I)
616 A(I)=0.
        PRINT 58,TOTL
        CALL PRSUP (0)
        PRINT 108
        GO TO 722
288 K=NP(J+2)
        J=J+1
        GO TO 250
722 IF(K-85)232,14,14
232 K = N
        N=X
        X=NP(J+2)
        J=J+1
        GO TO 551
 12 TOT1=0.
        DO 760 I = 1,12
760 TOT1=TOT1+B(I)
        PRINT 112
        PRINT 103,B(1),B(2),B(3),B(4),B(5),B(6),B(7),B(8),B(9),B(10),B(11)
    1,B(12),TOT1
        DO 60 I=1,12
        D(I)=B(I)
 60 B(I)=0.
        PRINT 108
        PRINT 112
        PRINT 426
        GO TO 3
250 CONTINUE
 14 PRINT 101,K
        DO 50 I=1,12
        E(I)=D(I)-B(I)
        TTOT=TTOT+E(I)
 50 A(I)=0.
        DO 310 I=21,45,4
        SCH=SCH+(W(I)-W(I+1))*W(I+2)
310 FSCH=FSCH+W(I)-W(I+1)*W(I+3)
        ASS=TTOT-TOT+XTOT-W(14)-W(15)+SCH+W(16)-W(18)-W(2)-W(10)+W(12)
        CALL LINK(TAX)
 52 FORMAT(1H0,25X,3HAPL,6X,3HMAY,5X,4HJUNE,5X,4HJULY,6X,3HAUG,5X,4HSE
    1PT,6X,3HOCT,6X,3HNOV,6X,3HDEC,6X,3HJAN,6X,3HFEB,6X,3HMAR,6X,5HTOTA
    2L)
 53 FORMAT(1H0,25X,3HMAY,5X,4HJUNE,5X,4HJULY,6X,3HAUG,6X,3HSEP,6X,3HOC
    1T,6X,3HNOV,6X,3HDEC,6X,3HJAN,6X,34FEB,6X,3HMAR,5X,4HAPRL,6X,5HTOTA
```

```
    2L)
 54 FORMAT(1H0,24X,4HJUNE,5X,4HJULY,6X,3HAUG,6X,3HSEP,6X,3HOCT,6X,3HNO
   1V,6X,3HDEC,6X,3HJAN,6X,3HFEB,6X,3HMAR,6X,3HAPL,6X,3HMAY,6X,5HTOTAL
   2)
 55 FORMAT(1H0,24X,4HJULY,6X,3HAUG,6X,3HSEP,6X,3HOCT,6X,3HNOV,6X,3HDEC
   1,6X,3HJAN,6X,3HFEB,6X,3HMAR,5X,4HAPRL,6X,3HMAY,5X,4HJUNE,6X,5HTOTA
   2L)
 56 FORMAT(1H ,120X,10H  TOTAL   ,F8.0)
 57 FORMAT(1H0,25X,3HAUG,6X,3HSEP,6X,3HOCT,6X,3HNOV,6X,3HDEC,6X,3HJAN,
   16X,3HFEB,6X,3HMAR,5X,4HAPRL,6X,3HMAY,5X,4HJUNE,5X,4HJULY,6X,5HTOTA
   2L)
 58 FORMAT(1H ,130X,F8.0)
101 FORMAT(1H ,18X,I4)
103 FORMAT(1H ,20X,9F9.0,F11.0,3F9.0)
104 FORMAT(1H ,18X,I4,F6.0,9F9.0,F11.0,2F9.0)
106 FORMAT(1H0,7A4,6HFARM   ,F6.0)
107 FORMAT(1H0,60X,33HPREDICTED WORKING CAPITAL STATE   )
108 FORMAT (1H )
111 FORMAT(7A4,I4,F6.0)
112 FORMAT(1H ,140H-------------------------------------------------------
   1----------------------------------------------------------
   2-----------------------)
113 FORMAT(1H0,8F9.0)
404 FORMAT(2I4,3F7.0)
426 FORMAT(1H ,60X,21HOUTWARDS CAPITAL CASH)
427 FORMAT(1H ,60X,20HINWARDS CAPITAL CASH)
428 FORMAT(1H ,60X,20HINWARDS REVENUE CASH)
429 FORMAT(1H ,60X,32HOUTWARDS REVENUE CASH (EXPENSES))
621 FORMAT(1H ,22X,F6.0)
622 FORMAT(1H ,31X,F6.0)
623 FORMAT(1H ,40X,F6.0)
624 FORMAT(1H ,49X,F6.0)
625 FORMAT(1H ,58X,F6.0)
626 FORMAT(1H ,67X,F6.0)
627 FORMAT(1H ,76X,F6.0)
628 FORMAT(1H ,85X,F6.0)
629 FORMAT(1H ,94X,F6.0)
630 FORMAT(1H ,103X,F6.0)
631 FORMAT(1H ,114X,F6.0)
632 FORMAT(1H ,123X,F6.0)
708 FORMAT(1H0)
    END
```

```
C        INCOME TAX 1969
C        AFIT FORTRAN
C        ASSESSABLE,DIVS (NOT INC)WIFE,KIDS,INTEREST,LIFE INS,SCH FEES
C        OTHER EXEMPTIONS,SUPERANNUATION      1 OR 0
         DIMENSION A(13),B(12),E(13),F(13),W(50)
         COMMON A,B,E,F,W,ASS,MM,BK,DR,CR,BNK
         W(1)=ASS
         R=0.
         BB=275.
         XKID=0.
         RR=0.
         XLIF=552.5
         IF(W(5)-60.)151,151,152
  152    W(5)=60.
  151    IF(W(6)-XLIF)153,153,154
  154    W(6)=XLIF
          GO TO 159
  153    W(6)=W(6)*.85
  159    IF(W(8)-50.)155,155,156
  156    W(8)=50.
  155    W(8)=W(7)+W(8)
         IF(W(8)-100.)157,157,158
  158    W(8)=100.
  157    IF(W(4)-4.)162,162,163
  163    XKID=W(4)-4.
  162    W(4)=W(4)*135.+XKID*5.
         W(3)=W(3)*240.
         EXEM = W(3)+W(4)+W(5)+W(6)+W(8)+W(9)+BB
         LBJ=1
         TLI = W(1)+W(2)-EXEM
         TJI=TLI
         IF(TJI)466,466,445
  466    TJI=0.
  445    LR = 0
         LK=0.
         IF(TLI)164,164,165
  164    TAX=0.
         GO TO 234
  165    R=7.85
         TAX=TLI*R
         BAL =TLI-650.
         RR=RR+R
         IF(BAL)202,202,203
  203    R=13.15
         TAX=TAX+BAL*R
         BAL = BAL -1050.
         RR=RR+R
         IF(BAL)202,202,204
  204    R=3.50
         TAX=TAX+BAL*R
         BAL =BAL-300.
         RR=RR+R
         IF(BAL)202,202,205
  205    R=3.00
  301    LR=LR+1
         TAX=TAX+BAL*R
```

```
      BAL =BAL-500.
      RR=RR+R
      IF(BAL)202,202,302
302   GO TO (206,207,208,208,208,209,211,207,211,212,213),LR
206   R=5.50
      GO TO 301
207   R=1.00
      GO TO 301
208   R=3.00
      GO TO 301
209   R=2.00
      GO TO 301
211   R=4.00
      GO TO 301
212   R=6.00
      GO TO 301
213   R=5.00
303   LK=LK+1
      TAX=TAX+BAL*R
      BAL =BAL-2000.
      RR=RR+R
      IF(BAL)202,202,304
304   GO TO (214,214,216,202),LK
214   R=1.0
      GO TO 303
216   R=1.5
      GO TO 303
202   IF(W(2))217,217,218
217   DIVT=0.
      GO TO 234
218   GO TO (443,444),LBJ
443   RUR=RR
      RR=0.
      TLI=TLI-W(2)
      LBJ=2
      GO TO 445
444   IF(RR-10.)234,234,446
446   IF(RUR-42.5)447,447,448
448   DIVT =32.5
      GO TO 449
447   DIVT =RUR-10.
449   TAX=TAX+W(2)*DIVT
234   TAX=TAX/100.
      KP =8-MM
      KJ=14-MM
      A(KP)=W(17)
      TAXRF=0.
      A(KJ)=TAX-W(17)
      IF(A(KJ))291,291,392
291   TAXRF=A(KJ)-2.*A(KJ)
      A(KJ)=W(11)
      A(KJ)=A(KJ)+W(20)
      GO TO 292
392   IF(W(20)-1.)393,394,395
393   A(KJ)=A(KJ)+W(11)
      GO TO 292
```

```
394 A(KJ)=0.
    GO TO 292
395 A(KJ)=W(20)
292 TOTL=0.
    PRINT 108
    CALL PRSUP (1)
    PRINT 57
    DO 616 I=1,12
    IF(A(I))617,616,617
617 GO TO(601,602,603,604,605,606,607,608,609,610,611,612),I
601 PRINT 621,A(I)
    GO TO 616
602 PRINT 622,A(I)
    GO TO 616
603 PRINT 623,A(I)
    GO TO 616
604 PRINT 624,A(I)
    GO TO 616
605 PRINT 625,A(I)
    GO TO 616
606 PRINT 626,A(I)
    GO TO 616
607 PRINT 627,A(I)
    GO TO 616
608 PRINT 628,A(I)
    GO TO 616
609 PRINT 629,A(I)
    GO TO 616
610 PRINT 630,A(I)
    GO TO 616
611 PRINT 631,A(I)
    GO TO 616
612 PRINT 632,A(I)
616 TOTL=TOTL+A(I)
    PRINT 56,TOTL
    CALL PRSUP (0)
    PRINT 108
723 ZTOT=0.
    DO 300 I=1,12
    E(I)=E(I)-A(I)
    B(I)=B(I)+A(I)
300 ZTOT=ZTOT+B(I)
    PRINT 112
    PRINT 104,B(1),B(2),B(3),B(4),B(5),B(6),B(7),B(8),B(9),B(10),B(11)
   1,B(12),ZTOT
    PRINT 112
    PRINT 108
    CALL PRSUP(1)
    YTOT =0.
    DO 30 I = 1,12
 30 YTOT=YTOT+E(I)
    PRINT 270,E(1),E(2),E(3),E(4),E(5),E(6),E(7),E(8),E(9),E(10),E(11)
   1,E(12),YTOT
    CALL PRSUP(0)
    PRINT 431,BK,DR,CR,BNK
    PRINT 108
```

```
      PRINT 112
      F(1)=E(1)+BNK
      E(13)=0.
      F(13)=0.
      DO 90 I=1,12
  90  F(I+1)=F(I)+E(I+1)
      PRINT 407,F(1),F(2),F(3),F(4),F(5),F(6),F(7),F(8),F(9),F(10),F(11)
     1,F(12)
      PRINT  112
      PRINT 222,W(1),W(2)
      PRINT 223,BB,W(3),W(4),W(5)
      PRINT 224,W(6),W(8),W(9)
      PRINT226,EXEM,TJI
      PRINT225,TAX,RR,DIVT
      ASSM =ASS-W(5)+W(15)+W(18)-SCH+FSCH+W(10)
      PRINT 127,ASSM
      PRINT 293,TAXRF
      PRINT 635
      CALL LINK(GRAPH)
  56  FORMAT(1H ,130X,F8.0)
  57  FORMAT(1H ,19X,3HTAX)
 104  FORMAT(1H0,20X,13F9.0)
 108  FORMAT (1H )
 112  FORMAT(1H ,140H----------------------------------------------------
     1------------------------------------------------------------------
     2----------------------)
 127  FORMAT(1H0,20HMANAGEMENT PROFIT    ,F8.0)
 222  FORMAT(1H ,10HASSESSABLE,F8.0,25H DIVIDENDS (NOT INCLUDED),F8.0)
 223  FORMAT(1H ,4HSELF,F5.0,/1H ,4HWIFE,F5.0,/1H ,4HKIDS,F5.0,/1H ,4HIN
     1T.,F5.0)
 224  FORMAT(1H ,4HINS.,F5.0,/1H ,4HDONS,F5.0,/1H ,4HOTHR,F5.0)
 225  FORMAT(1H ,5HTAX  ,F8.2,12H   MARG.RATE,F8.2,11H   DIV.RATE,F8.2)
 226  FORMAT(1H0,16HTOTAL EXEMPTIONS,F7.0,/1H ,7HTAXABLE,F7.0)
 270  FORMAT(1H0,20H      MONTHLY NETT   ,13F9.0)
 293  FORMAT(1H ,24HPROVISIONAL TAX OVERPAID,F10.0)
 407  FORMAT(1H0,20H  WORKING CAPITAL    ,13F9.0)
 431  FORMAT(1H ,6HBANK  ,F7.0,9H  DEBTORS,F7.0,11H  CREDITORS,F7.0,17H
     1 WORKING CAPITAL,F7.0)
 621  FORMAT(1H ,22X,F6.0)
 622  FORMAT(1H ,31X,F6.0)
 623  FORMAT(1H ,40X,F6.0)
 624  FORMAT(1H ,49X,F6.0)
 625  FORMAT(1H ,58X,F6.0)
 626  FORMAT(1H ,67X,F6.0)
 627  FORMAT(1H ,76X,F6.0)
 628  FORMAT(1H ,85X,F6.0)
 629  FORMAT(1H ,94X,F6.0)
 630  FORMAT(1H ,103X,F6.0)
 631  FORMAT(1H ,114X,F6.0)
 632  FORMAT(1H ,123X,F6.0,4X)
 635  FORMAT(1H1)
      END
```

```
C        HERE IS GRAPH SECTION
         DIMENSION A(13),B(12),E(13),F(13),W(50),C(134),G(12)
         COMMON A,B,E,F,W,ASS,MM,BK,DR,CR,BNK
         LO=MM+1
         READ 801,BLANK,STAR
         PRINT 107
         SJ=F(1)
         SK=F(1)
         DO 100 I=2,12
         IF(F(I)-SJ)15,15,16
    15   SJ=F(I)
         GO TO 100
    16   IF(F(I)-SK)100,100,17
    17   SK=F(I)
   100   CONTINUE
         SNJ=SK-SJ
         SNL=1000.
    21   IF(SNJ-SNL)18,18,19
    19   SNL=SNL+1000.
         GO TO 21
    18   SJJ=SNL/10.
         IF(SJ)22,22,23
    22   KK=SJ/SJJ-1.
         KJ=KK
         GO TO 25
    23   KK=SJ/SJJ
         KJ=KK
    25   JJ=SJJ
         DO 120 I=1,11
         G(I)=JJ*KK
   120   KK=KK+1
         PRINT 113,G(1),G(2),G(3),G(4),G(5),G(6),G(7),G(8),G(9),G(10),G(11)
         PRINT 112
         PRINT 413
         SL=(SNL+SJJ)/110.
         DO 130 I=1,12
         SKK=KJ
         IF(SJ)26,26,27
    26   SKK=SKK-SKK*2.
         G(I)=SKK*10.+F(I)/SL-1.
         G(I+1)=SKK*10.+F(I+1)/SL-1.
         GO TO 31
    27   G(I)=F(I)/SL-SKK*10.-1.
         G(I+1)=F(I+1)/SL-SKK*10.-1.
    31   GL=(G(I+1)-G(I))/5.
         L=G(I)+10.
         DO 800 IK=1,134
   800   C(IK)=BLANK
         C(L)=STAR
     0   PRINT 802,LO,(C(II),II=1,134)
         GGL=G(I)
         IF(I-12)804,805,804
   804   DO 150 K=1,5
         GGL=GGL+GL
         ML=GGL+11.
         DO 160 IJ=1,134
```

```
160 C(IJ)=BLANK
    C(ML)=STAR
150 PRINT 803,(C(IX),IX=1,134)
    LO=LO+1
    IF(LO-12)130,130,1
  1 LO=LO-12
130 CONTINUE
805 PRINT 413
    PRINT 112
    PAUSE
    PRINT 114
    IF(SENSE SWITCH 1)636,637
636 CALL EXIT
637 CALL LINK(CASH)
107 FORMAT(1H0,40X,33HPREDICTED WORKING CAPITAL PROFILE)
112 FORMAT(1H ,140H------------------------------------------------------------
   1------------------------------------------------------------
   2---------------------)
113 FORMAT(1H0,11X,11F10.0)
114 FORMAT(1H1)
413 FORMAT(1H ,18X,1H+,9X,1H+,9X,1H+,9X,1H+,9X,1H+,9X,1H+,9X,1H+,9X,1H
   1+,9X,1H+,9X,1H+)
801 FORMAT(2A1)
802 FORMAT(1H ,5HMONTH,I5,90A1,44A1)
803 FORMAT(1H ,10X,90A1,44A1)
    END
```