



182968993F



RGN-HSRC

SENTRUM VIR BIBLIOTEEK- EN
INLIGTINGSDIENSTE

CENTRE FOR LIBRARY AND
INFORMATION SERVICES

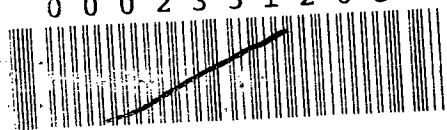
VERVALDATUM/DATE DUE

TERUG

1997 -11- 09

1179*1085

0002351203



001.3072068 HSRC MAN MS 9



235120

The impact of macro-economic
measures on the structure and
manpower requirements of the
South African economy

HSRC Investigation into Manpower Issues:
Manpower Studies No. 9

The impact of macro-economic measures on the structure and manpower requirements of the South African economy

A. Roukens de Lange

The opinions expressed in this publication are those of the author and do not necessarily represent those of either the HSRC or of the Steering Committee of the HSRC Investigation into Manpower Issues.

RGN BIBLIOTEEK	
1989 11. 15.	
HSRC LIBRARY	
STANDKODE	AANWINSNOMMER
001-3072068	
HSRC MAN MS	9 081900

A. Roukens de Lange, Ph.D.
Institute for Futures Research
University of Stellenbosch

HSRC Investigation into Manpower Issues
Executive Director: Dr J.H. Beukes

ISBN 0 7969 0785 4

© Human Sciences Research Council, 1989

Cover design by Lynette Hearne
Printed and published by the HSRC
134 Pretorius Street, Pretoria

PREFACE

This report, concerning the investigation of the impact of macro-economic measures on the structure and manpower requirements of the South African economy, is a natural progression of sustained research programmes conducted at the Institute for Futures Research (IFR) in the fields of both input/output (I/O) modelling and manpower issues. The development of a social accounting matrix (SAM) for South Africa at the behest of the Central Economic Advisory Services (CEAS, 1986) provided a powerful basic structure allowing the IFR research programmes to develop along the lines reported here. Discussions between Dr A Roukens de Lange and Prof P H Spiess of the IFR, and Prof E Beukes and other representatives of the HSRC'S programme of Investigation into Manpower Issues, resulted in a contract being drawn up to conduct the research. A small project committee consisting of Professors J L Sadie and C L McCarthy, both of the Department of Economics at Stellenbosch, was set up to monitor the research. Contact was also established and sustained with Messrs Abedian and Standish of the School of Economics at the University of Cape Town. They have simultaneously been conducting An Investigation into a Public Works Programme for South Africa, also with the financial support of the HSRC'S Manpower Issues programme.

The research was carried out largely by the author but, as is always the case in research of this nature, others have contributed to the programme in various ways. Apart from those already mentioned above, a special acknowledgement should be made to Mr D E N van Seventer, formerly on the staff of the IFR but presently with the Development Bank of Southern Africa. He initiated the computer implementation and operationalisation of the Social Accounting Matrix.

CONTENTS	PAGE
EKSERP ABSTRACT	
1. INTRODUCTION.....	1
2. STRUCTURE AND ADJUSTMENT OF THE SAM.....	8
3. THE SAMSIM CALCULATION PROCEDURES.....	11
4. SIMILATION OF ECONOMIC POLICIES.....	14
4.1 Evaluation of the standard SAM.....	15
4.2 Specifications and solution for run conditions.....	17
4.3 Evaluation of simulation results.....	23
4.4 Comparison of simulation runs.....	27
4.5 Financing public works programmes.....	35
4.6 Investigation of manpower issues.....	38
5. CONCLUSIONS AND FURTHER DEVELOPMENT.....	42
REFEFENCES.....	46
APPENDICES.....	48
A INPUT-OUTPUT TABLE STRUCTURE.....	49
B STRUCTURAL DEAILS OF THE SOCIAL ACCOUNTING MATRIX.....	52
C ANALYSIS OF THE SAM AS MODIFIED FOR THE SAMSIM MODEL....	61
D DETAILED RESULTS FOR THE SIMULATION OF A PUBLIC WORKS PROJECT.....	76
E PROCEDURE FOR CARRYING OUT A SAMSIM RUN.....	91

1. KEY VALUES IN 1978 SAM AND PERCENTAGE SHIFT FROM THESE FOR VARIOUS SIMULATION RUNS..... 26
2. EMPLOYMENT AND CAPITAL EFFECTS OF A PUBLIC WORKS PROGRAMME OF R214,4 MILLION (10 PER CENT OF STANDARD GOVERNMENT SPENDING IN THE CONSTRUCTION SECTOR)..... 28
3. PERCENTAGE SHIFT FROM THE STANDARD 1978 SAM OF ECONOMIC VARIABLES FOR VARIOUS SIMULATION RUNS, SCALED IN THEIR EFFECTS TO A GIVEN SHIFT IN GDP..... 29
4. DISTRIBUTION OF PRIVATE CONSUMPTION EXPENDITURE (PCE), REMUNERATION (REMUN), CURRENT INCOME (CI), EMPLOYMENT (EMP), ECONOMICALLY ACTIVE (EA), AND TOTAL RESULTS CALCULATED FOR THE SAM IN 1978, AND FOR LOW GROWTH (LG) AND HIGH GROWTH (HG) SCENARIOS FOR THE YEAR 2000..... 40
5. VALUES FOR EMPLOYMENT, REMUNERATION AND PRIVATE CONSUMPTION EXPENDITURE..... 41

EKSERP

In hierdie ondersoek is 'n gerekenariseerde model van die ekonomie ontwikkel wat gebruik kan word om die regstreekse en onregstreekse invloede van 'n wye reeks makro-ekonomiese beleide en veranderende ekonomiese of tegnologiese toestande op baie aspekte van die ekonomie te verken of te simuleer. Die model is gegrond op die struktuur van ekonomiese tussenverhoudinge in 'n sosiale rekeningkundige matriks (SRM) van Suid-Afrika en is die SRMSIM-model gedoop. Heelwat moeite is gedoen om 'n stroombelynde rekenaarpakket te ontwikkel wat maklik hanteer kan word. Die model is toegepas om 'n paar spesifieke situasies oor die uitwerking van 'n openbarewerke-projek (OWP), regstreekse teenoor onregstreekse belasting, en blanke teenoor swart verbruikerspatrone te verken. Alternatiewe metodes om 'n OWP te finansier, is ondersoek. Daar is gevind dat tekortfinansiering 'n sterk stimulus vir groei verskaf en indiensneming bevorder, en dat dit nie inflasionêr hoef te wees as die doel met die OWP is om infrastruktuur te ontwikkel en menslike energie en inisiatief te mobiliseer nie. 'n Groot deel van die stimulering van 'n OWP gaan verlore as dit deur verhoogde belasting gefinansier word. Regstreekse belasting, wat hoofsaaklik op die skouers van blanke belastingbetalers rus, bevorder die swart verbruikerspatroon. Dit het 'n gunstige effek op indiensneming, die betalingsbalans en die verbruik van nie-duursame verbruikersgoedere, terwyl dit swaar industrieë en die meeste dienssektore strem.

ABSTRACT

In this investigation a computerized model of the economy has been developed which can be used to explore or simulate the direct and indirect impacts of a wide range of macro-economic policies and changing economic or technological conditions on many aspects of the economy. The model is based on the structure of economic inter-relationships contained in a social accounting matrix (SAM) of South Africa and has been named the SAMSIM model. Considerable care has been taken to develop a streamlined computer package which is easily manipulated. The model has been applied to explore a few specific situations concerning the effects of a public works project (PWP), direct versus indirect taxation, and white versus black consumption patterns. Alternative means of financing a PWP have been investigated. Deficit financing is seen to provide a strong stimulus to growth and employment generation, and need not be inflationary if the thrust of the PWP is to develop infrastructure and mobilize human energy and initiative. Much of the stimulatory effect of a PWP is lost if it is financed through increased taxation. Direct taxation, which falls mainly on the shoulders of white taxpayers, promotes a black consumption pattern. This has a favourable effect on employment, the balance of payments and the consumption of non-durable consumer goods, while retarding heavy industry and most service sectors.

In the original research proposal, accepted by the HSRC as the basis on which this research was funded, the following problem definition was provided:

"The South African economy has developed in a very undesirable manner in recent years. There has been stagnation in its growth; employment has fallen far behind the natural growth of the labour supply while at the same time there is a shortage of skilled manpower; income distribution between the rich and the poor has become increasingly polarised and growth rates of expenditure by government and on fixed investment have far outstripped the growth rate of private consumption expenditure (PCE). South Africa now finds itself in the position of facing an ailing and apparently inappropriately structured economy.

In the light of these developments, macro-economic measures are presently being investigated within government and academic circles for the role they could play in redirecting and revitalising the economy and in particular in creating employment opportunities. Specific examples of such measures are import substitution and export promotion incentives, subsidies for employment, government financed development projects, restructuring of the tax system, and social welfare payments. Adequate quantitative techniques for evaluating their impact on the economy in general and on employment and income distribution in particular are required".

The aims of the research were described as:

"...to evaluate the impact of selected macro-economic measures on patterns of development and trends in the economy and its manpower requirements. The direct response of the economy in these respects will be sought in particular for the following policies:

- increase and/or redistribution of social welfare payments;
- distribution of tax structures between income classes and types of taxation (direct or indirect, company or personal);
- specific, government financed development projects or budgeting allocations for public works such as housing construction.

The effect on employment and income distribution of changes in the following economic variables or ratios influenced by macro-economic incentive or disincentive policies will also be investigated:

- Ratios of sectoral employment to value added
- Ratios of investment to value added
- The capital depreciation rate
- Changes in export and import levels or distribution
- Trends in remuneration levels by sector and population groups."

Not all of the issues raised above have been addressed and some of the other aspects require further refinement. There are also many other issues that can be investigated which are not covered in the

above list. For example, the Committee for Economic Affairs of the President's Council (1987) has recently issued a report on strategies for employment creation in which many issues are raised which could be followed up by a more firmly based quantitative approach such as offered by this investigation. However, at this stage the emphasis of this investigation has been more on the preparation of a robust computer software package for investigating and simulating macro-economic policies and trends, and the exemplification of this in the careful analysis of a few specific cases, than on the exploration of a wider range of issues. It should now be relatively easy and fruitful to explore many issues in depth which would not have been possible if such a wide range of policies had been addressed with ad-hoc research methodologies which could not have been easily adapted and applied to other problems.

The methodology used in this investigation centred around the application of the Social Accounting Matrix (SAM) for South Africa (CEAS, 1986) and in particular that of developing procedures which would allow conditions representing specific socio-economic policies or development patterns to be easily introduced and effectively simulated and evaluated.

The SAM represents the structure of the South African economy in three major respects. In the first place it handles inter-industry financial flows on the same basis as an input/output (I/O) table of the South African economy. This allows the SAM to be used to calculate the relative effects of alternative patterns for different industrial sectors. In the second place the SAM provides data on income and expenditure for the various population groups and for income categories within these groups. This allows the income

distribution and private consumption expenditure effects of economic policies to be investigated. In the third place the SAM deals with financial flows in the economy as set out in the national accounts. This allows the relationships between saving and capital expenditure, tax and government spending, imports and exports, deficits and balance of payments, to be explored.

The SAM can be used in combination with such data as employment, capital stock or even energy consumption coefficients to explore the effects of economic policies and trends in these fields. It is also possible to introduce new data; the only SAM available for South Africa is for 1978 and although the basic structure and interrelationships have not changed significantly since that time, economic conditions and relative magnitudes have shifted considerably. Finally the SAM is a useful basic structure for carrying out a systematic and comprehensive sensitivity analysis of the economy with respect to economic parameter and coefficient values.

Before studying the results of some of the tests carried out for this investigation, some important issues of orientation must be pointed out.

When conditions change, the effect of these changes throughout the economy can be traced, using the interactive structure provided by the SAM. The GDP, total output or employment may be found to increase and this probably indicates a favourable structural shift in the economy, but the extent to which the economy will be stimulated to grow as a result of the changes cannot be calculated. The generation of economic growth is tied up not only with the

economic structure and demand but also with the efficiency of the application of production factors and the spirit of enterprise which exists in a nation or region. These are not captured in a SAM structure as applied in this investigation, which is a static shift analysis.

A SAM model encompasses only directly interactive statistical relationships, whereas in actual fact there are intermediary forces emanating from the human actors who react to changes in economic variables to produce results which may be greater or smaller than the model will reveal. It is of course possible to estimate such adaptations using elasticities and production functions and to introduce their effects exogenously into the data structure of the SAM. It is even possible to incorporate the SAM into a larger macro-economic model which will simulate the response of the economy and feed this back into the SAM data structure, but such a large and questionable project has not been attempted in this investigation. Nevertheless, a SAM based model of the economy should be very valuable as a link providing quantitative information in the process of evaluating economic and fiscal policies.

The above comments are supported by other users of SAMs. Thorbecke (1985: ch.10) has studied a number of models based on the SAM structure and has come to some interesting conclusions from them. He subdivides the models into first- and second-generation models. In first-generation models, of which the investigation carried out here is an example, the behavioural relationships in the economy have an essentially linear relationship to the accounting structure on which the SAM is based. At a slightly more sophisticated level, production functions and constant elasticities of substitution, such as

provided by a Cobb-Douglas function, can be introduced while maintaining an essentially first generation character. However, the author's experience in trying to fit South African capital, employment and production data into a Cobb-Douglas model has proved most unrewarding and a detailed study by van der Walt and Swanepoel (1987) does not provide much clarification of the issue. Second-generation SAM-based models are embedded in a general equilibrium structure in which prices adjust so that markets are cleared. Thorbecke (1985) expresses his misgivings about the usefulness of such second-generation models and suggests that the art of macro-economic modelling has some way to go before its results can be trusted. Much of the problem lies in the fact that deductive economic theories about economic behaviour are often not supported by empirical evidence.

First-generation models do not claim to describe the market's response to changing conditions but provide useful information of structured interrelationships and the direction in which an economy will be pushed when changes are introduced. Pyatt and Round (1986, p. 11) summarises this position as follows "...the first-generation models make no claim on ultimate realism. They can be based explicitly on a SAM, which is openly available for comment and improvement. They then perform some sensible calculations in the spirit that the assumptions made are strong simplifications. Hence they arrive at suggestive conclusions which are a starting point for policy debate".

A useful first-generation model has been developed by Wang (1986) for the Taiwanese Republic of China. This deals with many of the same features as are considered in our model and is currently being

explored by the Central Economic Advisory Services (CEAS) for adaptation to South African conditions using the South African SAM. Another first generation investigation to be noted is that by Paukert, Skolka and Maton (1981). They extended standard I/O tables to consider household income and expenditure patterns, employment and capital requirements. They then applied this expanded linear structure to studying the effect of income distribution on economic structure and growth for a number of national economies.

A SAM does not of itself include information on employment, capital stock or any other consideration such as education or skill requirements. These can, however, easily be appended, particularly if simple relationships such as proportionality to sectoral output are assumed. Such information has indeed been introduced into our model.

Simulation of the economy was carried out in a series of computer programs collectively called the SAMSIM model (SAM SIMulation model or SAM Static Inversion Model). Most of the computer programming was carried out using a LOTUS version 2 spreadsheet software package on a PC computer with a hard disk and 640K memory. To carry out a complete analysis several parallel programs (spreadsheet files) were used. No direct computer program information is provided but the programs and data can be transferred on floppy disks. Specific instructions for carrying out runs have also been documented.

In the section following this introduction, the SAM and SAMSIM programs are dealt with in some detail and the aggregation and adjustments which were introduced to promote the easy application of the matrix are described. In Section 3 the calculation methodology

used to evaluate computer runs representing alternative options or economic variables is described. In Section 4 shifts in economic variables for some specific economic policies are proposed and the consequences for all aspects of the economy are evaluated. Conclusions and proposals for further research are presented in Section 5. Some more detailed considerations are dealt with in appendices.

2 STRUCTURE AND ADJUSTMENT OF THE SAM

Background information and reports on various investigations using a SAM approach are comprehensively covered by Pyatt and Roe (1977) and Pyatt and Round (1985). Details of the structure and data sources used to draw up the South African SAM are described in the original document published by the Central Economic Advisory Services (1986). The structure of the SAM is given in Table B1 of Appendix B of this report and all cell descriptions are given in Table B2. Both of these tables are obtained directly from the CEAS publication. Many of the cells in Table B1 represent not a single entry but a sub-matrix. Thus cell M1.1 represents the entire input/output coefficient structure of intermediate interactions between 22 industries (which is the level of aggregation used in the SAM). Wages and salaries (W&S, cell M3.1) are split into 4 population and 10 occupational groups, while private consumption expenditure (PCE) is broken down between 4 population groups and 7 income levels (cells M1.4 plus M3.4). This level of detail is greater than can easily be interpreted or handled in this investigation. Some aggregation and a number of simplifications and adjustments have therefore been made as described below.

- Income distribution of households within population groups has been eliminated except for two classes of Blacks, i.e. the lower 60 per cent and the upper 40 per cent levels.
- The split of income between occupations has been eliminated except that in the case of Blacks the unskilled employment categories (service, farm and other labourers) have been separated from the more skilled categories (from sales and clerical up to professional workers).
- The residual*, scrap and government sales sectors have been combined with the 'Other' sector.
- Water, which is a very insignificant sector, has been combined with Electricity.
- Two extra (initially blank) sectors have been introduced to accommodate any new or disaggregated sectors requiring a special focus (e.g. an informal sector) in a specific run.
- Current government income has been aggregated into two categories: indirect taxes less subsidies, and direct tax and other income. Current government expenditure is represented by only one category, although a column had to be introduced into the matrix to maintain a square matrix structure by combining direct and indirect government income.

*The residual sector in the original SAM is unnecessary and actually represents the value added by the scrap sector.

- In the capital account three columns of investment by households, corporations and government are maintained and balanced against savings row totals by introducing surplus/deficit in the (plus/minus) transfer row in which intersectoral transfer of intermediate goods (obtained from the I/O sub-matrix) are also represented.

- The import row is balanced against the export column by introducing a balance of payment (B.o.P.) term which, in the case of the South African SAM, is also equal to the sum of the surpluses (deficits) in the capital accounts.

- Appended to the SAM matrix structure are external factor inputs of employment for each population group and also of capital stock employed in each sector of the economy. This can easily be extended to various types of capital stock and employment by skill level or occupational structure, or any other relevant feature for which data are available. In an earlier investigation (Roukens de Lange and van Seventer, 1986), such information was in fact included and some results obtained in that investigation are provided in Section 4.6.

The final matrix structure, obtained after all the above adjustments have been introduced, is provided as a computer print-out in Table C1 of Appendix C. Despite all the adjustments there is virtually no distortion relative to the original published SAM for the 1978 economy, as can be seen by comparing old and new totals in the last three columns of the table.

The published SAM is a square matrix whose row and column totals balance just as in the case of standard input/output tables. The theory and calculation processes for a SAM are therefore also very similar to those of I/O tables. This theory can be read up in numerous text books dealing with input/output tables and models. In Appendix A a very brief outline of the basic mathematical structure and calculation processes of I/O tables is presented.

Probably the most important structural difference between an I/O table and a SAM is that in the former there are no relationships linking the income (or value added) from each sector with the expenditure in various forms of final demand, whereas these links are very specifically represented in the SAM. The economic structure - which in the case of I/O tables is open and undefined with regard to relationships between non-intermediate income and expenditure - is almost entirely closed in the case of the SAM. The only way in which the SAM economic structure is kept open is by allowing for surpluses/deficits and a balance of payments (BoP) term reflecting trading conditions with the rest of the world. The absolute level of the economy can also be adjusted to reflect different growth rates while structural relationships remain fixed.

A completely closed system of n linear equations has the form

$$a_{i1}x_1 + a_{i2}x_2 + \dots + a_{ij}x_j + \dots + a_{in}x_n = 0$$

where $1 \leq (i \text{ and } j) \leq n$. Such a form is indeterminate and the matrix A of a_{ij} coefficients is singular. Even though all relationships within the system are represented, there is no reference which allows the actual level of output to be determined. An easy way

around the problem is to assume one of the variables, say x_n to remain fixed, in which case we get (n-1) equations of the form

$$a_{i1}x_1 + a_{i2}x_2 + \dots + a_{ij}x_j + \dots + a_{i(n-1)}x_{n-1} = a_{in}x_n = C_i$$

This set of equations corresponds to the SAM structure and can be solved for x_j for $j = 1 \dots (n-1)$.

In Appendix C, the A matrix for (n-1) equations and the inverse matrix $B = (I - A)^{-1}$, used in obtaining the solution for the X H vector, are provided in Tables C2 and C3 for the standard SAM. The solution vector X of row (as also of column) totals can be obtained by multiplying the B matrix by the vector on the righthand side of the second equation. Multiplication of coefficients a_{ij} by column totals X_j gives the absolute SAM values.

Value added, V_j , is calculated simply by summing the coefficients for remuneration and gross operating surplus, and multiplying these by column totals, X_j .

Calculation of factor inputs such as employment or capital does not present a particular problem as these can be considered to be given by production functions dependent on total output X_j (or on V_j and do not enter into the matrix inversion process.

In the case where one or other economic scenario or policy is to be simulated, some coefficients of the SAM will be changed from the standard pattern. An obvious choice of variable to fix in such an investigation is that of exports which should not normally be significantly affected when other aspects of the economy are changed. When this is done the SAM structure becomes identical to that of an I/O table but with exports as the only vector in quadrant

2 and with imports as well as the +/- row of transfers, deficits and surpluses as the quadrant 3 vector.*

If the export basket of goods were to change, the economy would be shifted very significantly because the small values in the quadrant 2 vector would result in large multiplier effects. This may not be a reasonable reflection of the true effect of a change in exports because the economy would always adapt to compensate for changes in the demand pattern. It is possible to scale the effect down, for example by the fraction of the total final demand made up by exports, or back to the original GDP so that only structural shifts for the same size of GDP can be studied. Despite this arbitrary aspect of multiplier factors (which is also present, though less conspicuous in I/O tables) the exogenous nature of the export factor does not distort the relative nature of the interrelationships within the economy described by a SAM.

If the export vector is kept unchanged, changes in the economy, as translated into the magnitude of coefficients of the SAM, can be evaluated by comparison with the standard SAM. Again it is possible to scale effects. It may for example be useful to compare alternative patterns of change in final demand structure on the basis of a one per cent shift in the GDP of the economy. This is done by scaling final demand shifts ex post to yield such a one per cent shift.

*It should be noted that final demand categories other than exports will be adjusted in magnitude along with the rest of the economy. Slightly different results will be obtained if the non-household categories are assumed to remain fixed.

It is possible to go into considerable detail on all the various calculation procedures and computer program structures used in the SAMSIM model but this would probably not be very enlightening. Instead, the simulation of various economic policies and the results obtained from the computer calculations will be described in the next section. This should provide much better insight into both the simulation process and the response of the economy.

4 SIMULATION OF ECONOMIC POLICIES

A limited number of simulation runs will be described and compared here. Some other preliminary investigations have been carried out (Roukens de Lange and van Seventer, 1986; van Seventer, 1987). The conditions reported in these papers can easily be re-investigated since the computer programs are now sufficiently developed to be able to carry out such simulations in a straight-forward production process. This process, which is designed to be carried out using a LOTUS spreadsheet software package, is described in Appendix E.

The runs to be described in this report are the following:

- the standard SAM conditions (STD) adjusted as described in the previous section

- the impact of government spending on a public works project (PWP) aimed at the construction sector and the generation of employment opportunities for unskilled workers

- an increase in either direct (DT) or indirect (IT) taxation aimed at reducing the government deficit or at financing a PWP

- a comparison of the relative impact on the economy of White (WHH) versus Black (BHH) expenditure patterns

An analysis of the standard SAM will be provided first. Then the assumptions made for each of the other runs and the way in which they were translated into coefficient and parameter values for the SAM structure will be described. Results calculated for each of the runs will be presented and compared, and finally some detailed analysis and interpretation of the results will be considered.

4.1 EVALUATION OF THE STANDARD SAM

The published SAM relates to the year 1978 and has synthesised many different data sources to come up with a comprehensive tableau of the South African economy at that time. The compilers of the SAM (CEAS, 1986) were very much aware of the shortcomings of their data sources and the large amount of informed but nevertheless fairly subjective judgement and adjustments that had to be applied to integrate all the information into a balanced matrix structure.

In the analysis of the simulation runs carried out in this investigation, no attempt has been made to adjust or update the basic data structure provided by the published SAM (except of course the adjustments introduced to facilitate the handling and interpretation of the SAM described in Section 3). It is a relatively simple matter to introduce new data and re-balance the table. A more up-to-date I/O table is available and recent national accounts values and relationships can be introduced. The aim of this investigation is the exploration of the technique and the comparison of some economic policies. For these purposes the

existing SAM is perfectly adequate. The interrelationships and relative magnitudes will not have changed so dramatically over the past decade that the conclusions arrived at regarding the relative impact of various policies will be invalidated.

In Table C1 of Appendix C a full print-out of the SAM, aggregated and adjusted for the purposes of this investigation, is provided. The SAM was re-balanced after the adjustments were made. The re-balancing was carried out using the basic process of matrix inversion of the Leontief matrix described in Appendix A. Exports were used as the only source of exogenous final demand (FD). In the last three columns of Table C1 the calculated row totals are compared with those of the published SAM. It is seen that differences are totally negligible and can be attributed to rounding errors. The only row where this is not the case is that of imports, but the difference here results from the fact that the BoP term has not been included in the import row in the adjusted structure. The agreement between the published SAM and the adjusted SAM calculated in this investigation - the full calculation procedure used for non-standard runs having been applied - provides confidence that the calculation process used here is basically correct.

The absolute values provided in Table C1 are difficult to assess and compare. If the values are presented in per centage terms, relative magnitudes become easier to evaluate. This has been done and results are presented in Tables C4 to C8. No comment is given here on these distributions but they are of considerable interest for evaluating the structure of the economy.

In Table C4 per centages are provided column-wise. This is similar to the intermediate input coefficients of I/O tables but expressed as per centages rather than fractions. In Table C5 per centage distribution is given row-wise. In terms of I/O concepts this gives the per centage distribution of sectoral outputs in terms of SAM concepts it gives the per centage distribution of sectoral income by sectors and by various aspects of the national accounts. In Table C6 the per centage distribution of household expenditure between the population groups is given. The per centage distributions between final demand categories and between intermediate and final demand are also given. Table C7 gives per centage distribution of wages and salaries (W&S) by population group as well as distribution of value added (VA) between gross operating surplus (GOS) and W&S. The same quantities are also presented as per centages by sector. Finally in Table C8 employment levels are presented respectively as absolute values, as per centages by population group, and as per centages by sector.

4.2 SPECIFICATIONS AND SOLUTIONS FOR RUN CONDITIONS

The first step in the calculation process for any run is to establish the A coefficient matrix corresponding to the run conditions. The exogenous export vector usually remains constant but could also be changed. The adjusted coefficient matrix can now be used to calculate the X vector of row (column) totals as described in Section 3.

The next step will be to calculate the absolute values of the new SAM by multiplying the A matrix coefficient values by the X vector for the column corresponding to the coefficient. The new SAM may

then be compared to the solution for the standard SAM, and differences expressed as per centage changes in column values.

The departures from the standard SAM for each of the major simulation runs will now be described and the manner in which they are introduced into the SAM structure will be explained.

Public works project (PWP)

The assumptions made for this run are as follows.

- Government increases both its capital and current expenditure in construction by 10 per cent, i.e. by R201,4 and 12,0 million respectively.
- The nature of PWP construction is slightly different from that of the normal construction sector in that it has no intermediate outputs to any industries but supplies its total output to government capital and current demand.
- The intermediate demand structure of PWP construction is identical to that of the construction sector.
- The PWP sector has double the Black and half the White employment intensity of the normal construction sector. Per capita W&S levels for the population groups are assumed the same as for the normal construction sector. GOS is adjusted so that the ratio of VA to total output (X) for the PWP sector is the same as for the construction sector.

- Increased government spending is met by an increase in the government deficit.

These assumptions are rather arbitrary and, after consultation, could undoubtedly be refined. The specific adjustments made to the standard SAM are the following.

- Create a new sector in the SAM structure called PWP construction.
- Set row intermediate outputs of this sector to zero; i.e. no sales to intermediate or final demand, except to government consumption and investment.
- Set absolute value of government consumption and government capital spending to 12,0 and 201,4 respectively.
- Compensate increase in government capital and consumption spending by an equivalent negative increase in the cell for the plus/minus row and government capital column (i.e. the government deficit) of 213,4 R million.
- Decrease the value of the government saving element in the government consumption column by 12,0 R million.
- Recalculate the coefficient matrix A incorporating the above adjustments by dividing each element by the column total.
- In the case of the PWP column, set column coefficients equal to those for the normal construction sector except...

- Double Black and halve White employment coefficients; double Black and halve White W&S coefficients; adjust GOS coefficient so that GOS + W&S will sum to the original VA coefficient value.
- Use the adjusted A matrix in the matrix inversion process to calculate the new X vector and hence the new SAM matrix. Compare this with the standard SAM.

Taxation to compensate for government deficit

The effect of increasing tax to compensate for the government deficit of R1 109 million - the value indicated for 1978 in the published SAM - is explored by:

- (i) an increase in direct tax of households;
- (ii) an increase in indirect tax on personal consumption expenditure (PCE) (e.g. by an increase in general sales tax).

(a) Adjustments for increased direct tax (DT)

- Add 1 109 R million to direct tax income transferred to current government expenditure. This is to be added to the only cell entry in the DT_IT column (see Table C1 in Appendix C).
- Distribute 1 109 R million to direct tax paid by households in proportion to the direct tax already paid by each population group. This results in the following additional tax burden:

	W	C	A	B1	B2	SWA	TOTAL
DIRECT TAX							
R million	927,0	50,4	19,9	13,9	79,4	18,4	1109,0
% distribution	83,60	4,54	1,79	1,25	7,16	1,66	100,00

- Since total income by households is not increased, subtract 9 proportionally from all other household consumption expenditure items.
- Add 1109 to capital spending by government in the +/- row to cancel the -1109 item of government deficit in this cell.
- Add 1109 to the savings item of government consumption.
- Calculate new column totals and then recalculate all of the SAM coefficient matrix A.
- Use this coefficient matrix to calculate the inverse matrix and hence the absolute SAM levels for the increased direct tax levels.
- Compare to the standard SAM solution.

(b) Adjustments for increased indirect tax (IT)

- Spread the increased tax over the indirect tax components of the household consumption expenditure (PCE) columns:

	W	C	A	B1	B2	SWA	TOTAL
INDIRECT TAX							
R million	630,8	86,7	39,6	64,3	262,4	25,2	1109,0
% distribution	56,88	7,82	3,57	5,80	23,66	2,27	100,00

- As in the case of direct tax, the total household income is not increased and all other items of PCE must be reduced to keep column totals constant.
- All further steps are as for the direct tax case. It is interesting to note that the additional indirect tax of R1 109 million would raise indirect tax levels for 1978 to R2 185,8 million representing 11,15 per cent of the PCE. This is close to current GST levels.

White and Black household expenditure patterns (WHH and BHH)

The adjustments made for these cases are simply that either all SAM household coefficients in the A matrix for all population groups are set equal to those of the White group or those of the Black group. It must be noted that in the case of household to household transfers, these coefficients must be set to White or Black values along the diagonal of this sub-matrix. It must also be noted that it is not only the PCE pattern but also the savings and tax patterns which are set to those of the White or Black groups. It would also be possible to carry out runs where these aspects are not changed. Solution procedures are as for other runs.

4.3 EVALUATION OF SIMULATION RESULTS

In Appendix D a range of tables for the PWP run, processed in various ways, are presented. Tables for other runs are not provided but are on file with the author. Some more detailed consideration on the various runs are also presented in this appendix. The most relevant results obtained from these tables for the various simulations are given in Table 1 in which the percentage change for some important economic variables and key economic sectors are presented.

4.3.1 Public Works Programme

Results calculated for a public works programme (PWP) can be found in Table 1. An injection by government of R213,4 million (equal to 10 per cent of its expenditure on standard construction or 0,562 per cent of GDP) results in an increase in the GDP of 1,513 per cent, giving a multiplier effect of $1,513/0,562 = 2,69$. Most other economic magnitudes increase by percentages not very different from that of the GDP. Black employment at 2,00 per cent growth is well above the average, as is to be expected from the conditions assumed for the PWP. Growth in gold is negligible because nearly all gold produced is exported and is virtually unaffected by change in the domestic economy. The non-metal minerals sector of the economy is seen to grow by 4,37 per cent, far above the economy average. This is a result of the fact that the PWP is directed at the construction sector which has a large intermediate input of non-metal minerals in the form of bricks, cement, etc.

Perhaps the most interesting results of the PWP simulation study are to be found in its employment effects. The provision of employment

opportunities can, of course, be the main consideration in implementing a PWP programme. Some further analysis of the employment effects is provided in Table 2. We see there, for example, that there will be a 0,681 per cent increase in Black employment directly in the public works construction sector but that this will grow to 2,000 per cent once all the indirect effects of the PWP throughout the economy are allowed for. It can also be seen that while the PWP sector is 4,103 times as labour intensive for Blacks as the economy average, this is brought right down to 1,255 once the indirect effects have been taken into account. Despite this reduced overall effect, it is nevertheless clear that, apart from stimulating economic growth, a PWP has a very favourable effect on employment patterns. Capital intensity can be seen to be low for the PWP sector but is scarcely below the economy average when indirect effects are allowed for.

Accompanying the positive effects of the PWP on the economy, there will be some negative effects such as a decrease in the balance of payments (BoP) on current account which declines from a value of R1 330 million in the standard 1978 SAM to one of R1 149,0 million, or a decline of 13,6 per cent. This decrease is the result of an increase in actual imports related to a larger economy (but with a fixed level of exports). Although this is an undesirable indirect effect, it is quite likely less than would be experienced should the government direct its stimulatory expenditure to other sectors.

The surplus on the capital account of households, corporations and governments decreases by R183,5 million from a value of 1 330,0 to 1 146,5 Rmillion. Most of this is due to an increase of R222,3 million or 19,68 per cent in the government deficit. Much more

remains to be said about this run and it will be taken up again in Section 4.4.1 and in Appendix D.

4.3.2 Direct and Indirect Taxation

Elimination of the government deficit by taxation, whether direct or indirect, can be seen in Table 1 to have a very marked depressing influence of about 7 per cent on employment and on GDP, and even greater for most other economic variables and sectors. The effects on private consumption expenditure are even more pronounced at a level of well over 11 per cent. For most variables there is not a great deal of difference between the two methods of taxation but it is clear that indirect taxation hits Black consumers much harder. This will be investigated further in Section 4.4.2. Much of the depressing effect of increased taxation on the economy is related to the withdrawal of spending power. Economies are therefore normally run with a deficit when economic expansion is desired. The question of financing projects by taxation and the comparison of direct and indirect tax will be considered in Sections 4.4 and 4.5.

4.3.3 White and black expenditure patterns

The shifts which the economy would experience if either all expenditure followed the average White pattern or all the average Black pattern are very marked indeed. The Black pattern would appear to be very much more growth stimulating than the White, but this is also related to the fact that tax is much higher for the White than for the Black pattern. (It was seen in the previous runs that this has a major influence on growth.) It is also clear that, for a Black consumption expenditure pattern, Black employment is strongly

TABLE 1

KEY VALUES IN 1978 SAM AND PERCENTAGE SHIFT FROM THESE FOR VARIOUS SIMULATION RUNS¹.

RUN:	1978 SAM		PERCENT CHANGE FOR RUNS ¹				
	1978 Rmillion	Rel to GDP	Public Works 1:(PWP)	T Direct 2:(DT)	A Indir 3:(IT)	X EXPEND PATTERN 4:(WHH)	Black 5:(BHH)
GDP	37973	1,0000	1,519	-6,91	-7,05	-2,23	5,27
W&S-T	20059	,5282	1,690	-7,43	-7,57	-0,43	1,99
-W	11510	,3031	1,606	-7,51	-7,67	-1,09	1,36
PI -T	26572	,6998	1,605	-7,21	-7,40	-1,94	6,02
DI -T	21788	,5738	1,608	-11,46	-11,51	-6,03	12,65
PCE-T	19611	,5164	1,612	-11,39	-11,52	-8,62	17,72
-W	11717	,3086	1,509	-13,24	-12,48	-1,41	22,93
-B	5777	,1521	1,739	-8,33	-11,59	-12,08	6,67
DIR TAX	5545	,1460	1,391	11,98	-8,44	12,62	-24,04
IND TAX	3433	,0904	1,572	-9,24	22,30	-1,20	-14,01
SAV HH	3474	,0915	1,481	-9,96	-9,53	9,27	-17,38
SAV GOV	1818	,0479	1,323	48,84	49,46	1,52	-2,48
+/-GOV ²	-1108	-,0292	19,740	-100,00	-100,00	1,47	-2,52
BoP	1330	,0350	-13,660	65,76	66,41	12,38	-24,49
EMP-T	7283	,1918	1,895	-7,02	-7,26	-4,20	4,22
-W	1709	,0450	1,601	-7,73	-7,91	-1,65	-0,97
-B	4549	,1198	2,006	-6,57	-6,83	-2,33	6,87
CAP STOCK	72505	1,9094	1,509	-8,13	-8,08	0,15	0,58
VALUE ADDED BY:							
Agricult	2779	,0732	1,128	-6,96	-7,53	-19,08	38,40
Gold	3094	,0815	0,029	-0,13	-0,13	-0,12	0,26
Clothing	243	,0064	1,479	-9,07	-9,90	-28,18	56,90
N-M Min	462	,0122	4,388	-7,12	-7,28	-0,60	2,06
Fab Prod	2530	,0666	1,665	-7,29	-7,30	1,84	-3,11
Constr	1464	,0386	1,900	-7,39	-7,57	0,88	-1,17
Trade	5694	,1499	1,560	-8,67	-8,96	-10,34	22,63
Finance	4032	,1062	1,703	-9,28	-8,97	7,53	-16,84

NOTES:

1. See Section 4.2 for a description of run conditions.
2. In this row a negative value implies a decrease in absolute value, and vice versa.

stimulated both relative to White employment and in an absolute sense. Consumer goods such as clothing can be seen to be strongly influenced by whether expenditure is White or Black.

4.4 COMPARISON OF SIMULATION RUNS

All the runs described above have been based on a fixed exogenous export demand. It is unreasonable to assume that the size of the economy will be proportional to the magnitude of export demand only. However, fixing the export sector does give a basis for comparison of runs in which variations from a standard pattern can be evaluated. This is the basis for the results presented in Table 1.

When comparing runs in Table 1, there is a problem in that the magnitude of the effects, induced by the changes introduced, are not comparable. One way of dealing with this is to scale the changes introduced in the standard SAM so that the effect on the GDP is to increase it by 1 per cent. This has been done for the first three runs of Table 1. For an increase in GDP the effects in the tax runs had to be changed in sign which implies a decrease rather than an increase in tax. Results are presented in Table 3.

Another way of comparing results for the various runs is to scale all results so that the total GDP is the same for all runs. In as much as the GDP provides a measure of the magnitude of the economy, such a basis is useful for comparing structures for different economic situations but the same size of economy. Results calculated for fixed GDP are available from computer print-outs. In the case of the White and the Black expenditure patterns of runs 4 and 5, results are shown on this basis in Table 3. Some more

detailed considerations on valid criteria for comparing runs are provided in Appendix D.

Table 2 EMPLOYMENT AND CAPITAL EFFECTS OF A PUBLIC WORKS PROGRAMME OF R213.4 MILLION (10 PERCENT OF STANDARD GOVERNMENT SPENDING IN THE CONSTRUCTION SECTOR)

	INCREASE IN EMPLOYMENT					CAPITAL STOCK
	W	C	A	B	TOT	
Percent increment:						
Stimulus effect	0,123	0,429	0,240	0,681	0,509	0,50
Total	1,595	1,922	1,740	2,000	1,889	1,503
Multiplier	12,97	4,48	7,25	2,94	3,71	30,36
Employment (capital) intensity relative to total economy:						
Stimulus	0,990	3,565	1,750	5,627	4,193	0,408
Overall	1,054	1,278	1,157	1,329	1,255	0,993

TABLE 3 PERCENTAGE SHIFT FROM THE STANDARD 1978 SAM OF ECONOMIC VARIABLES FOR VARIOUS SIMULATION RUNS, SCALED IN THEIR EFFECTS TO A GIVEN SHIFT IN GDP¹

RUN:	SAM	PUBLIC WORKS	T A X		EXPENDITURE		TAX BAS- -ED PWP ⁵
	Rmill 0:(STD)		DIRECT	INDIRECT	WHITE	BLACK	
GDP ²	37973	1,000	1,000	1,000	0,00	0,00	0,055
W&S-T	20059	1,118	1,075	1,073	1,84	-3,12	0,103
-W	11510	1,057	1,087	1,087	1,16	-2,30	0,037
PI -T	26572	1,056	1,044	1,049	0,29	0,71	0,076
DI -T	21788	1,059	1,658	1,632	-3,89	7,00	-0,502
PCE-T	19611	1,061	1,649	1,633	-6,54	11,82	-0,491
-W	11717	0,993	1,916	1,581	0,84	-1,99	-0,822
-B	5777	1,145	1,206	1,642	-16,74	6,99	0,132
DIR TAX	5545	0,916	-1,736	1,197	15,20	27,85	2,562
IND TAX	3433	1,035	1,338	-3,162	1,23	-3,01	-0,298
SAV HH	3474	0,975	1,442	1,352	11,76	-21,52	-0,382
SAV GOV	1818	0,871	-7,165	-6,931	3,84	-7,36	7,648
+/- GOV ⁴	-1108	12,991	14,474	14,183	3,84	-7,36	0,632
BoP	1330	-8,993	-9,512	-9,412	14,94	-28,27	-0,185
EMP ³ -T	7283	1,248	1,015	1,030	-2,01	9,09	0,296
-W	1709	1,054	1,119	1,121	0,59	5,27	0,002
-B	4549	1,321	0,951	0,968	-0,43	11,50	0,430
CAP STOCK	72505	0,993	1,176	1,146	2,44	-4,46	-0,112
VALUE ADDED BY ⁶ :							
Agricult	2779	0,742	1,007	1,069	-17,23	31,47	-0,205
Gold	3094	0,019	0,019	0,019	2,16	-4,76	0,010
Clothing	243	0,973	1,313	1,405	-26,54	49,04	0,261
N-M Min	462	2,888	1,030	1,031	1,67	-3,05	1,934
Fabr Prod	2530	1,016	1,055	1,035	4,17	-7,96	0,106
Constr	1464	1,250	1,063	1,071	3,18	-6,12	0,253
Trade	5694	1,027	1,256	1,271	-8,29	16,48	-0,154
Finance	4032	1,121	1,343	1,272	9,98	-21,00	-1,125

NOTES:

1. See Section 4.2 for a description of run conditions.
2. In run 6 the government deficit is stabilised by increasing direct tax so that, after borrowing surplus savings from household and corporate sectors, the government deficit remains unchanged.
3. Tax is compared for a 1 per cent shift in GDP; consumption patterns are compared assuming fixed GDP.
4. In this row a negative value implies a decrease in absolute value, and vice versa.
5. Employment is given in terms of thousands of employees. In runs 4 and 5 (respectively for White and Black consumption expenditure patterns) it is assumed that employment in domestic service is unchanged, i.e. the same as for the standard run.
6. Sectors are aggregated from a 92 sector I/O table in the same pattern as the standard SAM (CEAS, 1986) except for changes indicated in Section 2.

4.4.1 Comparison of PWP and DT Runs

Comparing the runs for a PWP and for a decrease in direct taxation, both for a 1 per cent increase in GDP, provides a number of valuable insights. It must be recognised that a situation where GDP is increased as a result of taxation, is associated with a decrease in tax rather than an increase as recorded for the original direct tax run in Table 1.

The impulse for the direct tax run is a decrease of R160,0 million in direct tax. Actually, because of the increase in direct and indirect taxes resulting from the expansion in the economy, the actual decrease in government revenue is only R50,3 million, i.e. more than two-thirds is recovered! The PWP run of Table 3 has as its major impulse the additional government expenditure, scaled down for a one per cent growth in GDP, of R142 million. Total wages and salaries as well as personal income are slightly higher for the PWP than for the DT run but this situation is very different when it comes to private consumption expenditure (PCE) or disposable income (DI). Because of the reduction in direct tax, the increase in these items for the decreased tax run are much greater than for the PWP run, particularly in the case of Whites who are the main beneficiaries of a decrease in direct tax. The difference in PCE for Blacks between the two runs is small because of compensation due to wages paid through the PWP. When we look at the difference between the two runs as regards total final demand, we see there is not much difference because, whereas the increase is in households in the one case, the increase is in investment goods in the other. If the investment expenditure in public works really helps to build the infrastructure, there is much to be said for delaying private consumption in

favour of the more long-term benefits of fixed investment. It is likely that if infra-structure were not to be developed by government, increased private income would have to be directed towards housing and community needs which would also cause PCE to decline. Another aspect favouring the PWP case is that employment is significantly higher, particularly amongst Blacks where it is most needed. The associated decrease in capital requirements also favour the PWP.

It can be seen in Table 3 that, while direct tax is obviously much lower in the second (DT) run, indirect tax is increased quite significantly relative to the PWP run. The reason for this is clearly that indirect tax is directly linked to PCE.

In the dimension of national accounts and financial flows, it can be seen that government savings are much lower when direct taxation is decreased to stimulate consumer spending as an alternative to introducing a PWP. The increase in deficits generated in the two runs are fairly similar at R145 and R160 million respectively. These are very close to the initial impulses of the respective government policies. A major question is, of course, how this deficit is to be financed. This will be considered in Section 4.5 below.

The balance of payments is reduced significantly in both runs when considered relative to the standard SAM value, but if calculated as a per centage of total exports, it is only of the order of one per cent in both cases. The decrease is a result of the fact that, whereas exports remain unchanged, imports increase by about one per cent.

The difference in the effects on the various industrial sectors is of interest. Results for a few representative sectors are provided in Table 3 and comprehensive results for all 22 sectors of the SAM can be found in Table D7 of Appendix D. In the PWP simulation study the construction sector and its supply sectors, such as that of non-metal minerals, grow significantly above the average. In the case of the DT run, the sectors supplying consumer goods benefit significantly. Sectors such as Gold remain largely unaffected.

4.4.2 Comparison of Direct and Indirect Taxation

Comparison of the DT and IT columns of Table 3 indicate that the effects of direct and indirect tax are similar in most respects except, of course, that there is a significant difference in the relative contributions of direct and indirect taxes. It is of interest to look at the absolute levels of tax involved. To get a one per cent increase in the GDP, impulses of R160.3 and R157.2 million are required respectively. Because of the resulting expansion of the economy, respectively 68.6 and 73.2 per cent of these tax increases will be recovered via increased direct plus indirect taxes. This would appear to be a very important finding.

A significant difference between the two methods of taxation can be seen in the PCE by Whites and Blacks. Direct tax is mainly paid by the White population group while the level of indirect tax is not significantly influenced by the level of per capita income and hence by population group. A decrease in direct tax therefore has a much larger positive effect on White PCE than an equivalent decrease in indirect tax.

The sectors influenced relatively more by either White or Black consumption patterns are affected to different extents by the different types of taxation. Thus consumer goods such as clothing, which forms a relatively larger proportion of Black than of White PCE, will be more favourably affected by a decrease of indirect than of direct tax. The opposite is the case of the effect on the finance sector.

Employment levels are insignificantly higher for a reduction in indirect tax than for direct tax and do not deserve further comment.

4.4.3 Comparison of White and Black Expenditure Patterns

The fourth and fifth runs were carried out respectively for White and Black household expenditure patterns (WHH and BHH). In Table 1 the impact on the structure and size of the economy for these two demand patterns can be seen to be very different. The GDP declines by 2,23 per cent for a White and increases by 5,27 per cent for a Black pattern. The effect on total household expenditure is even more strongly affected with changes of -8,62 and 17,72 per cent respectively. The sectoral patterns of expenditure are also very different with industries producing basic consumer goods such as food and clothing being very strongly stimulated by Black expenditure while sectors such as finance are much favoured by a White pattern. The effect on employment levels is in the same direction as that for GDP but the effect is accentuated.

In Table 3 the effects on the size of the economy related to White or Black household expenditure patterns is eliminated by scaling the economies back to the original GDP level. Values in the table are

therefore representative only of the economic structures matching the expenditure patterns. The stimulation of consumer sectors and the retardation of heavy industry and finance is only slightly less pronounced than in Table 1. For Black relative to White consumption expenditure patterns, employment is about 4,7 per cent higher for Whites and 11,9 per cent for Blacks.*

The above observations are indicators of the nature of the shifts which occur when expenditure patterns change, but it is important to realise that for a number of reasons the runs as they stand, provide an unrealistic picture of the impact of shifts in expenditure patterns. Although a complete switch to either an all-White or an all-Black expenditure pattern is obviously unrealistic, it is nevertheless revealing. When the effect of GDP is eliminated, as is done in Table 3, an even clearer picture emerges of the impact of different consumption patterns, though far from realistic as a description of a possible real-life situation. Another example of a distortion introduced in these runs can be seen in the Gold sector which is much smaller in the case of the Black pattern. It should, of course, not be strongly influenced by the nature of consumer spending and the observed effect is the result of scaling GDP to a common level for both patterns. It can also be seen in Tables 1 and 3 that savings and tax are significantly larger for the White pattern and are reflected in a corresponding increase in the surplus in the national capital account. It was seen in the earlier runs that this has a negative influence on the GDP. Furthermore it can be

*It is assumed that employment in domestic service is not affected by the pattern of consumption expenditure.

seen that government spending and saving are, unrealistically, scaled in proportion to the level of taxes calculated for the run conditions. More carefully designed simulation runs and analysis will therefore have to be done before it will be possible to draw more definite conclusions about the impact of expenditure patterns on the economy.

4.5 FINANCING PUBLIC WORKS PROGRAMMES

Abedian and Standish (1987) have considered various methods of financing PWP's. They consider several alternative methods of funding.

- Re-allocation from other expenditure items
- Increasing tax revenue
- Increasing government borrowing/deficit financing
- Self-financing

We shall consider each of these in turn, particularly in the light of the runs described above.

Re-allocation from other expenditure

It is possible to re-allocate government funds between expenditure categories but in practice these are not simple decisions and Abedian and Standish (1984) have pointed out that, where the government has been forced to bring about large reductions in particular expenditure categories, these reductions are short-lived and are subsequently quickly made up. Nevertheless, if employment

generation really is a priority consideration, it is obvious that expenditure on a PWP should be seriously considered.

Increasing tax revenue

If the funding of a PWP is to be obtained from increased taxes, the effect of this can be investigated by combining the results for PWP and DT (or IT) runs so that the deficit after borrowing is unchanged relative to the standard SAM. Results are shown in column 6 of Table 3 and are calculated by subtracting $9,124/9,654 = 0,945$ times the DT from the PWP values. This gives results not very different from those described in Section 4.4.1 where the PWP and DT runs were compared. Numerical values in that case are found by subtracting the DT from the PWP column values in Table 3. Results show small increases in GDP, wages and salaries and personal income (PI), but a significant decline in White PCE as a result of the increased direct taxation. Although total saving is scarcely affected, there is a considerable shift towards government saving which is, of course, channelled towards PWP investment. The GDP is up marginally which is the result of a significant increase in sectors involved in PWP construction, largely offset by a decrease in sectors supplying consumer goods. Overall, the main effect is that of a redistribution of income from White to Black and of investment in infrastructure which could contribute to future growth of the economy and to meeting basic needs of the poorest section of the population.

Deficit financing

If the PWP or the two tax runs of Table 3 are considered independently, it is seen that all three have markedly positive effects on many aspects of the economy, in most cases exceeding the 1 per cent increment in GDP. The other side of the coin is that of a significant decline in overall savings and a corresponding increase in the government deficit. Some of the government deficit is covered by loans made from households or institutions but a certain amount may remain uncovered by such loans (although in 1978 there was a net surplus in national savings).

It is, of course, well known that an increase in the government deficit will stimulate the economy (Franzsen, 1984: ch.8) but at the same time this may give rise to money creation and inflation. What is significant about the results presented here, is that a quantitative indication of the stimulatory effect throughout the economy is provided. The level of deficit at which best to operate, depends on the state of the economic cycle and, particularly when there is a low level of demand, should be increased to stimulate the economy. Guidelines exist on the level of deficit financing which is acceptable and these are discussed in some detail by Franzsen (1984). According to the 1978 SAM, this was set at 2,9 per cent of GDP (as opposed to the value of 5,6 per cent indicated by Franzsen, 1984: Table 8.2).

It is obviously not only the level of the government deficit, but also the nature of government spending which is important in determining whether the stimulus is simply inflationary or whether it will stimulate long-term growth. Abedian and Standish (1987) make

a strong case for a PWP as a suitable measure for deficit financing. In particular they point to the highly successful PWP introduced in the 1930's to uplift the poor-White community and at the same time lift the South African economy out of the doldrums.

It is possible to carry out further simulation runs to test the effects of various forms and levels of deficit financing in conjunction with other more qualitative considerations, but this is best left to a later phase of this investigation.

Self-financing

It is possible to place the burden of financing a PWP with the communities themselves. It certainly is desirable to enlist the active participation and financial commitment of the communities towards whom the PWP is directed. At the same time it must be recognised that the resources available in the poorer section of the community are extremely limited. In terms of the SAMSIM model it would be possible to evaluate the effect of partial self-financing by redistributing the spending pattern of the poorer section of the Black population group and/or assuming a larger amount of transfer of funds to this group from other population groups. No attempts at simulating such a situation have been made so far.

4.6 INVESTIGATION OF MANPOWER ISSUES

The research carried out for this project has been directed more towards obtaining a useful and well-structured tool for investigating economic issues than specifically towards the analysis for manpower issues. In a next phase the emphasis could well fall more

specifically on manpower and income distribution aspects. In fact, in an earlier phase of this work, emphasis was given to these aspects as well as to the projection of results for various future scenarios.

In Tables 4 and 5 some results are presented which were obtained in the earlier investigation (Roukens de Lange and Van Seventer, 1986). Because these results cannot be reproduced exactly on the basis of the current version of the SAMSIM model, not even when the appropriate data are introduced, the detailed considerations and data needed to obtain these results will not be described here. They can be read up in the reference cited above. The tables are self-explanatory and a brief study of the results will indicate the interesting and powerful potential of SAMSIM once it is developed to include trend projections, scenario considerations and a wider data basis.

The fact that the investigation which yielded the results presented in Tables 4 and 5 was not followed up in the research documented in this report, does not imply that the earlier results are invalid. It is more related to the fact that in the earlier form the model could not be used as a tool for economic policy analysis and guidance because financial flows, tax, savings and investment relationships were not adequately modelled. The strength of the earlier version lay in the comprehensive body of economic data and trends which were incorporated. This data base and trend analysis are to be published in due course. The next step will then be to use it to update the SAMSIM model and expand it as a tool for economic and manpower projections. Further data such as skill and occupational structure can then also be introduced.

TABLE 4

DISTRIBUTION OF PRIVATE CONSUMPTION EXPENDITURE (PCE), REMUNERATION (REMUN), CURRENT INCOME (CI), EMPLOYMENT (EMP), ECONOMICALLY ACTIVE (EA) AND TOTAL RESULTS CALCULATED FOR THE SAM IN 1978, AND FOR LOW GROWTH (LG) AND HIGH GROWTH (HG) SCENARIOS FOR THE YEAR 2000

	PERCENTAGE DISTRIBUTION				TOTAL ¹⁾
	WHITES	COLOURED	ASIANS	BLACKS	(ABSOLUTE LEVELS)
<u>SAM (1978)</u>					
CI ²⁾	62,4	7,4	3,1	27,1	19975
REMUN	57,4	8,8	3,3	30,5	14650
PCE ³⁾	57,1	8,1	3,7	31,1	13020
EMP	23,1	10,7	2,8	63,4	7087
POP	16,3	9,3	2,9	71,5	27300
EA	17,8	9,1	2,3	70,8	10260
<u>LG Scenario (2000)⁴⁾</u>					
REMUN	44,6	9,0	4,6	41,8	24760
PCE	45,0	8,0	4,2	42,8	19047
EMP	21,4	12,8	3,5	62,3	8107
POP	12,2	7,8	2,5	77,5	44860
EA	14,3	8,5	2,1	75,1	17920
<u>HG Scenario (2000)⁴⁾</u>					
REMUN	38,2	6,9	3,3	51,6	33123
PCE	37,6	5,9	3,7	52,8	30907
EMP	18,4	9,9	2,6	69,1	10954
POP	12,2	7,8	2,5	77,5	44860
EA	14,3	8,5	2,1	75,1	17920

Source: CI, REMUN, PCE and EMP calculated from results of 'SAMSEM' model which allows scenarios to be extrapolated (Roukens de Lange and Van Seventer, 1986).

Notes: See under Table 5.

TABLE 5

VALUES FOR EMPLOYMENT, REMUNERATION AND PRIVATE CONSUMPTION EXPENDITURE 5)

	POPULATION GROUP				
	WHITES	COLOURED	ASIANS	BLACKS	AVERAGE
<u>SAM (1978)</u>					
EMP/EA	0,934	0,882	0,888	0,633	0,691
REMUN per worker	5140	1700	2440	990	2070
PCE per worker	4540	1390	2430	900	1840
PCE per capita	1695	329	531	190	493
<u>LG Scenario (2000)⁴⁾</u>					
EMP/EA	0,677	0,683	0,741	0,373	0,452
EMP/EA rel to 1978	0,725	0,774	0,834	0,589	0,654
REMUN per worker	6370	2150	4010	2050	3050
PCE per worker	4940	1470	2820	1610	2350
PCE per capita	1563	423	711	229	416
<u>HG Scenario (2000)⁴⁾</u>					
EMP/EA	0,788	0,716	0,741	0,562	0,611
EMP/EA rel to 1978	0,844	0,812	0,839	0,888	0,884
REMUN per worker	6280	2110	3840	2260	3020
PCE per worker	5770	1680	4020	2160	2820
PCE per capita	2125	517	1038	470	689

Source: Calculated from values in Table 4.

Notes:

1. CI, REMUN and PCE totals in 1975 R millions; EMP, POP and EA in thousands of people.
2. CI depends on tax and saving levels which are not specified for the LG & HG scenarios.
3. The total PCE relates only to consumption expenditure on goods produced in the formal economy. It excludes sales tax, payments to domestic servants and imported goods.
4. Details of the scenario descriptions have been given by Roukens de Lange van Van Seventer (1986). The LG and HG scenarios assume respectively a 2 and a 5 percent GDP growth rate between 1990 and 2000.
5. REMUN and PCE values are expressed in 1975 Rands per year per person.

In this investigation a model of the economy has been developed for investigating the impact on the economy of alternative macro-economic policies and changing economic structures. It has been named the SAMSIM model and is based on the use of a social accounting matrix (SAM) in the simulation of such alternatives. The results of a particular economic policy under investigation are presented in terms of its effects on output of 22 industrial sectors, employment in the various population groups, investment requirements and financing, balance of payments, private consumption expenditure, income distribution, tax levels, etc.

The model relies on the structure of economic interrelationships contained in the SAM and provides internally consistent pictures of the economy. It does not allow for market responses to shifting conditions and stress created by economic policies or external patterns of tension and change. However, these can be introduced into the model exogenously by an appropriate choice of scenario conditions translated into exogenous data input.

The SAMSIM model has been applied in a few specific situations. In particular the effects of a public works project (PWP), direct and indirect tax patterns, and the impact of White versus Black consumption patterns on the economy have been explored. Considerable care has been taken to make the model sound and comprehensive. Results for the runs have been analysed and interpreted with care. Only some of the main points arising out of these runs will be looked at here in a qualitative manner. The most important quantitative results are presented in a few tables in the

main text while detailed results, in particular for the PWP run, are presented in appendices.

The PWP is a programme of investment by government in the construction sector (e.g. in housing and infrastructure) organised on a labour intensive basis. Such investment by government is seen in the results of the simulation run to have major benefits in terms of economic growth, increased employment and the stimulation of some sectors of the economy, particularly those supplying the construction sector and providing consumer goods. However, investment in the PWP occurs at the cost of an increased government deficit. This can be financed by borrowing and deficit financing. If costs are recovered by increased taxation, much of the benefit of the PWP will be lost. If recouped by direct rather than indirect tax, the burden falls mainly on the White taxpayer and results in the redistribution of income. Results indicate that if tax is decreased, more than two-thirds of the decrease can be recovered as a result of increased economic activity. The increased deficit is not a serious problem as long as government spending increases productive economic activity.

Runs in which the influence on the economy of White and Black consumption patterns are investigated, show that Black consumption results in a much greater growth potential for the economy, although the tax base is eroded, savings decreased and government deficit increased. These issues will need to be investigated in further runs in which such aspects are properly allowed for so that more valid comparisons can be made.

The SAMSIM model can be used for the investigation of many types of economic issues. Only a few such investigations have so far been undertaken because more attention was given to the development of a sound structure for such further research. The possible further avenues of development are wide and cannot all be listed here, but a few suggestions will be made. The effects of macro-economic measures such as incentives, subsidisation, taxation, social welfare programs, etc. can now be evaluated for their initial as well as indirect effects on issues such as income distribution, employment, foreign trade and relative growth patterns. Effective rates of protection can be determined. The model will be particularly useful in the evaluation of the influence of different final demand patterns resulting from shifts in consumption patterns by households, government or in capital intensity and investment priorities. The impact of new sectors on the economy can be investigated and in particular that of a growing informal sector and a spreading of small business. The impact on employment will be particularly relevant in such instances.

The model could be very valuable in the evaluation of future scenarios. For this there is a need to update the data of the SAM structure which is based on 1978 conditions. The SAMSIM model easily accepts new data, the major constraint being the acquisition and evaluation of such data. A considerable amount of work has been done at the Institute for Futures Research on the evaluation of trends such as employment, wage income and economic growth available from various sources of national statistics. A final 1981 input/output table is now available as well as a preliminary table for 1985. Recent relationships and values for national accounts can also be introduced. If new household, government and investment expenditure

patterns become available, these can also be used. Data can also be extrapolated in various ways to allow future scenarios to be evaluated. A preliminary integrative scenario/extrapolation investigation has indeed already been carried out.

It is obvious that all the possibilities mentioned above provide too much work to be carried out in a hurry. It will be useful to carry out preliminary sensitivity tests in which the data items in the SAMSIM structure which are most significant in terms of their influence on the national economic structure can be identified and hence given priority treatment. Suitable methodology for the evaluation of such sensitivities has already been investigated but needs to be implemented.

One of the major areas of application will be to work in consultation and co-operation with organisations and researchers who are interested in specific macro-economic issues and to use the SAMSIM model as a tool in the evaluation process. Considering all the possibilities mentioned above, the model developed in this investigation would certainly appear to have much scope for further application.

REFERENCES

1. ABEDIAN, I. and STANDISH, B. 1987. An investigation into a public works programme for South Africa. School of Economics, University of Cape Town.
2. CENTRAL ECONOMIC ADVISORY SERVICES. 1986. Social accounting matrices for South Africa. Pretoria: Government Printer Pretoria.
3. DE LANGE, R.A. and van Seventer, D.E.N. 1986. Implications and implementation of income redistribution: An investigation based on a social accounting matrix. SALDRU, Post Carnegie Conference Paper no. 16, University of Cape Town.
4. DE LANGE R.A. 1984. Input-output analysis of trends in employment and investment in the South African economy. Paper presented at a conference on Operations Research in Resources and Requirements in Southern Africa. Pretoria: CSIR.
5. FRANZSEN, D.G. 1984. Die herstel van fiskale dissipline. Hoofstuk 8 in: Franzsen: Owerheidsfinansies in Suid-Afrika. Durban: Butterworth.
6. PAUKERT, F., SKOLKA, J. & MATON, J. 1981. Income distribution, structure of economy and employment. London: Croom Helm.
7. PRESIDENT'S COUNCIL, Republic of South Africa. 1987. Report of the Committee for Economic Affairs on: A strategy for employment creation and labour intensive development. Cape Town: Government Printer.
8. PYATT, G. and ROE, A. 1977. Social accounting for development planning with special reference to Sri-Lanka. Cambridge, U.K.: Cambridge University Press.
9. PYATT, G. and ROUND J.I. (eds). 1985. Social accounting matrices: a basis for planning. Washington, D.C. : The World Bank.
10. ROUKENS DE LANGE , A. and van Seventer, D.E.N. 1986. Implications and implementation of income redistribution: An investigation based on a social accounting matrix. SALDRU, Post Carnegie Conference Paper no. 16, University of Cape Town.
11. ROUKENS DE LANGE, A. 1984. Input-output analysis of trends in employment and investment in the South African economy. Paper presented at a conference on Operations Research in Resources and Requirements in Southern Africa. Pretoria: CSIR.
12. THORBECKE, E. 1985. The social accounting matrix and consistency type planning models. Chapter 10 in : Pyatt, G. and Round J.I. (eds). (see no. 9 above).
13. VAN DER WALT, I.N.A. and Swanepoel, J.J. 1987. Indicative labour and capital programming: An exercise on the frontiers of empirical economics. J. Stud. Econ. Econometrics (S.E.E.), 11/2 : 19-67.
14. VAN SEVENTER. D.E.N. 1987. Income distribution, economic structure and employment in South Africa. Development Southern Africa, 4 (1) : 133-145.

15. WANG, T.F. 1986. A policy model for income distribution and growth using input-output technique. Economic Research (Taiwan), 26: 51-96.

APPENDICES

Only a very brief outline of the mathematical structure of I-O tables will be presented below. More detailed information may be obtained from any one of a wide selection of textbooks dealing with the subject. A simplified I-O table structure of the economy is presented below:

I-O TABLE STRUCTURE

$$\begin{array}{c}
 \dots j \dots j = 1, 2 \dots \\
 \cdot \\
 \cdot \\
 \cdot \\
 i \left[\begin{array}{ccc} \cdot & & \\ \cdot & & \\ \cdot & \dots a_{ij} \dots & \\ \cdot & \cdot & Q1 \\ \cdot & \cdot & \\ \cdot & \cdot & \end{array} \right] \left[\begin{array}{c} \\ \\ f_i \\ Q2 \end{array} \right] \left[\begin{array}{c} \\ \\ x_i \\ \end{array} \right] \\
 \cdot \\
 \cdot \\
 \cdot \\
 \left[\begin{array}{cc} v_j & Q3 \end{array} \right] \left[\begin{array}{c} Q4 \end{array} \right] \\
 \left[\begin{array}{c} x_j \end{array} \right]
 \end{array}$$

- a_{ij} - input-output coefficients indicating the value of input to sector j by sector i (or of output from sector i to sector j) required to produce unit value of total output x_j
- v_j - value added (wages + profits)
- f_i - final demand (private and government expenditure + fixed investments + inventories + exports - imports)
- x_i, x_j - total output (= total input)
- $Q_1 \dots Q_4$ - quadrants 1 to 4

Total output, value added and final demand are related to each other through the I-O coefficients by the relationships:

$$v_j = x_j (1 - \sum_i a_{ij}) \quad (A1)$$

$$f_i = x_i - \sum_j a_{ij} x_j \quad (A2)$$

and in matrix notation where capitals indicate matrices or vectors, and I is the unit matrix

$$X = F (I-A)^{-1} = FR \quad (A3)$$

where R is known as the Leontief inverse matrix, with coefficients r_{ij} .

Imports may also be added in as an extra row in Q3 instead of as a column of negative contributions in Q2.

From Equation A3 we can find the effect ΔX resulting from a change ΔF in final demand. For unit change in final demand for the product of sector j, i.e. for $\Delta F = \Delta f_j = 1$, the change in output by a sector i will be given by r_{ij} and the change in output for the whole economy will be

$$x_j^m = \sum_i r_{ij} \quad (A4)$$

where x_j^m is known as the output multiplier for sector j. It represents the sum of the effects of (i) an initial unit stimulus to the output of sector j plus (ii) the industrial support effects due to the demand placed on all sectors by this stimulus ($= \sum_i r_{ij} - 1$).

Sometimes we are interested not so much in the change in output as in the change in value added or employment resulting from unit change in final demand. By a simple extension of the output multiplier concept contained in Equation A4 we then obtain the following multipliers for value added (income) and employment

$$v_j^m = \sum_i v_i r_{ij} \quad (A5a)$$

$$e_j^m = \sum_i e_i r_{ij} \quad (A5b)$$

where v_i and e_i are the value added and employment per unit output of sector i . These multipliers may again be sub-divided into stimulus and industrial support components.

APPENDIX B
STRUCTURAL DETAILS OF THE SOCIAL ACCOUNTING MATRIX

The Central Economic Advisory Services have published details of the social account matrix (SAM) for South Africa for the year 1978 (CEAS, 1986). This publication can be studied if details of the method of construction and data sources are required. The essence of the SAM structure is contained in Table B1 which is taken directly from the publication. Descriptions of each of the cells are presented in Table B2. Careful study of the details in these tables should go a long way towards providing an understanding of the structure and scope of the SAM.

TABLE B1
(pl of 2)

SOCIAL ACCOUNTING MATRIX EMPHASISING INCOME DISTRIBUTION FOR SOUTH AFRICA, TRANSKEI,

		Expenditures							
		Current Accounts							
		Production Activities 24 Sectors	Factors		Institutions		Government		
			Capital	Labour 4 Races by 10 Occupa- tions	Households (RSA+TBVC) 4 Races by 7 Income	(SWA) Totals Only			
Receipts	Prod'ct Act	24 Sectors	M:1.1 Intermediate Demand 33857			M:1.4 Consp Exp 17807	M:1.5* 414	M:1.6 Consp Exp 1782	
	Current Accounts	Factors							
		Capital		M:2.1 Gross Surplus 17210					M:2.6 Interest Public Debt 785
		Labour	4 Races by 10 Occupations	M:3.1 Remuneration of RSA+TBVC Employees 16038			M:3.4 Expenditure on Domestic Services 562	M:3.5* 12	M:3.6 Remuneration of Govt Employees 3448
	Institutions	Households	(RSA+TBVC-SWA) 4 Races by 7 Income Groups		M:4.2 Dividends and Interest 4888	M:4.3 Sal + Wages Distributed to Househlds 19603	M:4.4 Transfers to Relatives 359		M:4.6 Government Transfers (eg Pensions) 1012
			(SWA/Namibia) Totals only		M:5.2** 103	M:5.3** 457			M:5.6** 14
		Government	a.Property Income b.Transfers c.Direct Taxes d.Indirect Taxes e.Subsidies	M:6.1 d. 1563 e. -393	M:6.2 a. 653 b. 51 c. 2309		M:6.4 b. 71 c. 2034 d. 1594 e. -185	M:6.5* b. 1 c. 39 d. 32 e. -4	M:6.6 e. 582
	Capital Accounts	III (RSA+TBVC)	Savings and Depreciation		M:7.2 Deprec 1297		M:7.4 Savings 2129	M:7.5* 48	
		Prod'ct Sectors	Savings and Depreciation		M:8.2 Sav 2601 Deprec 3482				
		Govt	Savings and Depreciation		M:9.2 Deprec 913				M:9.6 Sav 905
Rest of World	Current Accounts	a.Factor Payments	M:10a.1 Foreign Labour 555	M:10a.2 Foreign Capital 1586		M:10a.4 Foreign Servants 13			
		b. Goods	M:10b.1 Imported Intermed Goods 4991			M:10b.4 Imported Consumption Goods 1226	M: 10b.5* 32	M:10b.6 Imported Consumption Goods 444	
		c. Transfers		M:10c.2 32		M:10c.4 120		M:10c.6 6	
		d. Balance on Cur Account							
Cap Acc									
Residual				GDP Residual -669					
Column Totals			73821	17246	20060	26000	574	8978	

* Cell content defined as in the cell to the immediate left.
**Cell content defined as in the cell immediately above.

Capital Accounts			Rest of World				Residual	Row Totals
Households (RSA+TBVC)	Incorporated Production Sectors	Government	Current Accounts			Capital Accounts		
			a. Factor Payments	b. Goods	c. Transfers			
M:1.7 Investment Expenditure 1282	M:1.8 Investment Expenditure 4226	M:1.9 Investment Expenditure 2515		M:1.10b Exports 12607			M:1.11 Residual in GDP -669	73821
M2.7 Revaluation of Inventory -54	M:2.8 Revaluation of Inventory -990	M:2.9 Revaluation of Inventory 0	M:2.10a Return on Fgn Invst 295					17246
								20060
					M:4.10c Transfers to RSA+TBVC Households 138			26000
								574
M:6.7 d. 25	M6.8 d. 154	M:6.9 d. 21		M:6.10b d. 44	M:6.10c b. 117		a. 653 b. 240 c. 4652 d. 3433 e. 0	3474
								6083
								1818
							a. 2154	
M:10b.7 Imported Investment Goods 387	M:10b.8 Imported Investment Goods 2088	M:10b.9 Imported Investment Goods 391					b. 9559	
							c. 158	
						M:10c.10d Cur Surp 1330	d. 1330	
M:10c.7 Cur Surplus 1834	M:10c.8 Cur Surplus 605	M:10c.9 Cur Deficit -1109						1330
								-669
3474	6083	1818	295	12651	255	1330	-669	171916

TABLE B2 (pl of 6)

RSA + TBVC SAM CONTROL TOTALS: CONTENT, CALCULATIONS AND SOURCES

SAM CELL	ENTRY	FULL DISCRIPTION AND SOURCES
M:1.1	33 857	Total intermediate demand supplies domestically. Derivation: 38 848 Total intermediate demand (1, p. 12). -4 991 Imports of intermediate products (2).
M:2.1	17 210	Gross operating surplus before revaluation of inventories. Derivation: 10 474 Net operating surplus (3, p. S-81). +5 692 Provision for depreciation (3, p. S-81). +1 044 Revaluation of inventories added in (4).
M:3.1	16 038	Remuneration of RSA + TBVC employees by production sectors. Derivation: 20 628 Total remuneration of employees in GDP (3, p. S-81). -3 448 Remuneration of government employees (5). -568 Payments to foreign labour by production sectors of 555 and by households of 13 (4). -574 Payments by households for RSA + TBVC domestic workers (4).
M:6d.1	1 563	Indirect taxes on intermediate products. Derivation: 3 433 Total indirect taxes received by government (3, p. S-102). -1 626 Indirect taxes paid by households on final products. Obtained by: 1 437 Net indirect taxes (1, p. 12). + 189 Subsidies recieved by household consumers (4). -44 Indirect taxes on exports and re-exports (1, p. 13). -200 Indirect taxes on fixed capital formation of 155,4 and net inventory changes of 44,3 (1, p. 12).
M:6e.1	-393	Subsidies received by production sectors on intermediate products. Derivation: 584 Total subsidies (3, p. S-81). -189 Subsidies received by households through private consumption expenditure (4). <u>Note:</u> Subsidies counted as a negative expenditure by recipients.
M:10a.1	555	Remuneration of Foreign Employees by production sectors (4).
M:10b.1	4 991	Payments by production sectors for imported goods and services, Net of foreign factor payments. Derivation: 8 019 Merchandise Imports (3, p. S-67). +4 010 Payments for imported services (3, p. S-67). -2 154 Total factor payments for imported labour and capital (SAM, row total). -316 Re-exports (4). -2 866 Total capital goods imported (2). -444 Import content of government consumption expenditure (2). -1 258 Import content of household consumption expenditure (2).
M:4.2	4 888	Dividends and interest to households excluding SWA/Namibia. Derivation: 4 975 Property incomes to households (3, p. S-101). +16 Current transfers from incorporated business enterprises (3, p. S-101). -103 Unearned household incomes in SWA/Namibia (4 and 6).

Note: Entries in parentheses () are data sources which are listed at the end of the appendix.

TABLE B2 (p2 of 6)

SAM CELL	ENTRY	FULL DESCRIPTION AND SOURCES (Continued)
M:5.2	103	Dividends and interest to households in SWA/Namibia (4 and 6).
M:6a.2	653	Property income to government: Interest, dividends and rents to general government plus profits of public business (3, p. S-102).
M:6b.2	51	Current transfers from incorporated business enterprises to government (3, p. S-102).
M:6c.2	2 309	Direct taxes paid by incorporated business enterprises (3, p. S-100).
M:7.2	1 297	Household sector depreciation, largely residential buildings - part of total depreciation counted in GDP (3, p. S-81), disaggregation obtained from (4).
M:8.2	2 601	Corporate savings (3, p. S-100).
M:8.2	3 482	Corporate depreciation - part of total depreciation counted in GDP (3, p. S-81), disaggregation obtained from (4).
M:9.2	913	Government depreciation (3, p. S-99).
M:10a.2	1 586	Total payments for imported, non-labour production factors (4).
M:10c.2	32	Current transfers from incorporated business enterprises to abroad (3, p. S-100).
M:12.2	-669	Residual from GDP estimate (3, p. S-83).
M:4.3	19 603	Total remuneration of employees excluding SWA/Namibia. Derivation: 20 060 Total remuneration of employees (3, p. S-101). -457 Total remuneration of employees in SWA/Namibia (4 and 6).
M:5.3	457	Total remuneration of employees in SWA/Namibia (4 and 6).
M:1.4	17 807	Private consumption expenditure for final products of domestic production sectors, excluding SWA/Namibia. Derivation: 21 503 Total private consumption expenditure (3, p. S-101). -574 Household expenditure on domestic workers from RSA + TBVC (4). -13 Household expenditure on domestic workers from abroad (4). -1 626 Indirect taxes on private consumption expenditure obtained by: 1 437 Net indirect tax on private consumption (1, p. 12). +189 Subsidies on private consumption (4). 189 Subsidies on private consumption (4). -258 Import content of private consumption expenditure (2). 18 221 Total for RSA + TBVC. -414 Attributed to SWA/Namibia (4 and 6).
M:3.4	562	Payments by households for domestic services. Derivation: 574 Total payments for domestic service, RSA + TBVC (4). -12 Total payments for domestic service, SWA/Namibia (4 and 6).
M:4.4	359	Transfers to relatives. Derivation: 26 000 Total personal income (SAM row total). x0.0138 Calculated from data published by Bureau for Market Research.

Note: Transfers ignored in SWA/Namibia.

TABLE B2 (p3 of 6)

SAM CELL	ENTRY	FULL DESCRIPTION AND SOURCES (Continued)
M:6b.4	71	Transfers by households to government. <u>Derivation:</u> 72 Total for RSA + TBVC (3, p. S-101). -1 Total for SWA/Namibia (4 and 6).
M:6c.4	2 304	Direct taxes paid by households. <u>Derivation:</u> 2 343 Direct taxes from personal income and expenditure account for RSA + TBVC (3, p. S-101). -39 Total for SWA/Namibia (4 and 6).
M:6d.4	1 594	Indirect taxes paid by households on private consumption expenditure. <u>Derivation:</u> 1 437 Net indirect tax on private consumption (1, p. 12). +189 Total subsidies on private consumption (4). 1 626 Total for RSA + TBVC. -32 Total for SWA/Namibia (4 and 6).
M:6e.4	-185	Subsidies accruing to private consumption expenditure (4). <u>Derivation:</u> 189 Total for RSA + TBVC (4). -4 Total for SWA/Namibia (4 and 6). <u>Note:</u> Subsidies counted as a negative expenditure by recipients.
M:7.4	2 129	Personal savings. <u>Derivation:</u> 2 177 Total for RSA + TBVC (3, p. S-101). -48 Total for SWA/Namibia (4 and 6).
M:10a.4	13	Payments by households for domestic services supplied by foreign workers (4).
M:10b.4	1 226	Import content of private consumption expenditures. <u>Derivation:</u> 1 258 Total for RSA + TBVC (2). -32 Total for SWA/Namibia (estimated).
M:10c.4	120	Current transfers from households to rest of the world (3, p. S-101).
4:1.5 to 4:10.5	Various	All entries for SWA/Namibia obtained from a combination of sources 4, 5 and 6.
M:1.6	1 782	Government consumption expenditure on final products of domestic production sectors. <u>Derivation:</u> 5 674 Consumption expenditure by government (3, p. S102). -3 448 Remuneration of employees by government (4). -444 Import content of government consumption (2).
M:2.6	785	Interest on National Debt (3, p. S-102).
M:3.6	3 448	Remuneration of government employees (4).
M:4.6	1 012	Current transfers, largely pensions, from government to households. <u>Derivation:</u> 1 026 Total for RSA + TBVC (3, p. S-101). -14 Total for SWA/Namibia (4 and 6).
M:5.6	14	Current transfers from government to SWA/Namibia households (4 and 6).
M:6e.6	582	Total subsidies paid by government (3, p. S-102).

TABLE B2 (p4 of 6)

SAM CELL	ENTRY	FULL DESCRIPTION AND SOURCES (Continued)
M:9.6	905	Government savings (3, p. S-102).
M:10b.6	444	Import content of government consumption expenditure (2).
M:10c.6	6	Current transfers from government to rest of the world (3, p. S-102).
M:1.7	1 282	Household investment demand met by domestic production sectors, net of indirect taxes but before revaluation of inventories (4, and calculations by CEAS).
M:2.7	-54	Revaluation of inventories held by households (4, and CEAS calculations).
M:6d.7	25	Indirect taxes on household investment expenditure (CEAS estimates).
M:10b.7	387	Import content of household investment expenditure (2).
M:11.7	1 834	Household contribution to nett domestic savings. <u>Derivation:</u> 1 297 Household sector depreciation. +2 129 Personal savings: RSA + TBVC households. +48 Personal savings: SWA/Namibia households. -1 282 Household investment met by domestic production. +54 Reduction of inventories held by households. -25 Indirect taxes on household investment expenditures. <u>-387</u> Input content of household investment expenditures.
M:1.8	4 226	Investment demand by incorporated business enterprises met by domestic production, net of indirect taxes but before revaluation of inventories (4, and calculations by CEAS).
M:2.8	-990	Revaluation of inventories held by incorporated business enterprises (4, and CEAS estimates).
M:6d.8	154	Indirect taxes on investment expenditure by incorporate business enterprises (CEAS estimates).
M:10b.8	2 088	Import content of investment expenditure by incorporate business enterprises (CEAS estimates).
M:11.8	60P	Incorporated business contribution to nett domestic savings. <u>Derivation:</u> +2 601 Corporate savings. +3 482 Corporate depreciation. -4 226 Investment demand met by domestic production. +990 Revaluation of inventories held. -154 Indirect tax content of investment. <u>-2 088</u> Import content of investment.
M:1.9	2 515	Investment demand by government met by domestic production, net of indirect taxes (4, and calculations by CEAS).
M:2.9	0	Revaluation of inventories held by government - government does not hold inventories in the same sense as households and production enterprises.

TABLE B2 (p5 of 6)

SAM CELL	ENTRY	FULL DESCRIPTION AND SOURCES (Continued)
M:6d.9	21	Indirect taxes on government's investment expenditures (CEAS estimates).
M:10b.9	391	Import content of government's investment expenditures (2).
M:11.9	-1 109	Government contribution to net domestic savings. <u>Derivation:</u> +913 Government depreciation. +905 Government savings. -2 515 Government investment met by domestic sectors. -21 Indirect tax content of investment. <u>-391</u> Import content of investment.
M:1.10b	12 607	Exports of final products of RSA + TBVC production sectors. <u>Derivation:</u> 7 449 Merchandise exports (3, p. S-67). +3 864 Net gold output (3, p. S-67). +1 949 Service receipts (3, p. S67). -295 Payment received on foreign investments (4). -44 Indirect taxes on exports and re-exports (1, p. 13). <u>-316</u> Re-exports (4).
M:2.10a	295	Payments received on foreign investments (4).
M:4.10c	138	Transfers from rest of world to households (3, p. S-101).
M:6b.10c	117	Transfers from rest of world to government (3, p. S-102).
M:6d.10b	44	Indirect taxes on exports and re-exports (1, p. 13).
M:10d.11	1 330	Balance on current account (3, p. S-67).
	-1 859	Origin of current account surplus: net foreign factor payments. <u>Derivation:</u> 295 Payments received on foreign investment. -555 Payments to foreign labour by sectors. -1 586 Payments to foreign capital. <u>-13</u> Payments to foreign labour by households.
	3 092	Origin of current account surplus: goods and non-factor services. <u>Derivation:</u> 12 607 Export of goods and non-factor services. +44 Indirect tax on re-exports. -4 991 Imported goods and non factor services by sectors. -1 226 Import content of household expenditure RSA + TBVC. -32 Import content of household expenditure SWA/Namibia. -444 Import content of government expenditure. <u>-2 866</u> Import content of investment.
	97	Origin of current account surplus: current transfers. <u>Derivation:</u> -32 Current transfers from corporate sector to rest of world. -120 Current transfers from households to rest of world. +138 Current transfers from rest of world to households. +117 Current transfers from rest of world to government. -6 Current transfers of government to rest of world.
M:11.12	-669	Residual from GDP estimate (3, p. S-83).

TABLE B2 (p6 of 6)

DATA SOURCES:

1. Department of Statistics. Input-Output Tables, 1978: Estimates According to the RAS Method, Pretoria, 1980.
2. Central Economic Advisory Services (CEAS). Unpublished "Adjusted 1978 Input-Output Table", Pretoria, 6/1984.
3. South African Reserve Bank (SARB). Quarterly Bulletin, No. 151 (March 1984), Pretoria.
4. South African Reserve Bank (SARB). Unpublished data from working documents, Pretoria, 6/1984.
5. Central Statistical Services, National Accounts Section. Unpublished data from working documents, Pretoria, 6/1984.
6. Administration authorities in Windhoek, unpublished data, 6/1984.

APPENDIX C
ANALYSIS OF THE SAM AS MODIFIED FOR THE SAMSIM MODEL

To be able to apply the SAM effectively to the investigation of economic policies it was necessary to adjust the published SAM to a more suitable format. This adjusted form is the basis of the SAMSIM model (SAM SIMulation model or SAM Static Inversion Model). Computer print-outs of the adjusted SAM as well as a range of derivative tables are presented here. A listing of the various tables with brief descriptions of their function is provided below. It must be remembered that all data reflect 1978 conditions.

TABLE C1: The modified and aggregated SAM exactly as used in this investigation (i.e. in the SAMSIM model).

See Section 2 of the main report for an outline of adjustments made to the published SAM to arrive at this table. The table has been extended to include employment and capital stock levels. The import and +/- rows allow the table to be balanced and are equivalent to the Quadrant 3 entries in an input-output table. The bottom row represents column totals (excluding the employment, capital stock and value added row vectors). It is balanced by row totals given in the third last column. The last two columns give respectively the totals for the equivalent rows/columns (or combination of rows/columns in the unadjusted matrix) and the difference between the new and the old totals. The only significant difference is in the import row and here the difference is purely related to the fact that the old total reflects the export column rather than the import row. The difference is the balance of payments.

TABLE C2: SAMSIM matrix in the form $AX = C$.

The matrix A is given by the coefficients which are SAM cell entries divided by column totals, X, given in the bottom row. The vector C of exogenous constants is the last column on the right. It represents sectoral exports which are held constant when aspects of the economy in A and/or X are varied.

TABLE C3: Table of coefficients of the inverse matrix $B=(I-A)^{-1}$.

I is a unit diagonal matrix. In input/output analysis the B matrix is known as the Leontief inverse matrix. The bottom row is the vector of column sums which can also be interpreted as the output multiplier of exports.

TABLE C4: Percentage distribution of expenditure (columns) for economic sectors and accounts.

The table is similar to Table C2 but values are given as percentages rather than fractions.

TABLE C5: Percentage distribution of incomes (rows) for economic sectors and accounts.

TABLE C6: Percentage distribution of household expenditure between population groups; also the percentage distribution between final demand categories and between intermediate and final demand.

TABLE C7: Percentage distribution of wages and salaries (W&S) by population group and their contribution to value added as well as percentage distribution of W&S and gross operating surplus by sector and final demand categories.

TABLE C8: Percentage distribution as well as absolute levels of employment in the economy.

	AGRICUL	GOLD	MINING	FOOD	BEVERAGE	TOBACCO	TEXTILES	CLOTHING	LEATHER	WOOD	PAPER	CHEMICALS	N M MIN	BAS_MET	FAB_MET	MISC_FAB	ELECTR	CONSTRUC	TRADE	TRANSFOR	FINANCE	COM_SERV	EXTRA 1	EXTRA 2
AGRICUL	250.9	43.7	17.6	2018.5	105.9	59.4	79.4	0.2	4.1	45.4	58.5	43.8	3.3	5.6	9.6	1.2	19.6	0.2	1.9	8.5	23.0	37.9	0.0	0.0
GOLD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	20.2	0.0	49.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MINING	6.8	5.3	10.3	8.3	1.1	0.0	2.1	0.1	0.1	0.2	9.5	190.1	54.5	184.8	3.0	60.0	267.3	69.8	0.0	19.6	12.3	0.7	0.0	0.0
FOOD	298.5	0.2	0.4	922.1	71.7	0.0	1.0	0.0	21.9	0.3	5.5	62.9	0.4	0.0	0.1	1.5	0.5	0.0	21.9	15.0	37.4	151.5	0.0	0.0
BEVERAGE	0.0	0.0	0.0	1.3	207.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	43.2	42.2	0.0	0.0
TOBACCO	0.0	0.0	0.2	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	0.0	0.0	0.0	0.0
TEXTILES	15.8	4.7	5.0	22.2	1.0	0.2	417.5	298.5	20.2	16.1	5.6	40.0	1.0	0.7	37.6	6.5	0.4	22.8	12.7	10.2	4.5	1.9	0.0	0.0
CLOTHING	0.0	3.3	4.2	2.0	0.1	0.0	0.3	32.2	0.1	0.8	4.3	5.7	0.1	0.6	2.4	0.9	0.3	3.0	13.9	8.7	4.2	3.0	0.0	0.0
LEATHER	0.0	0.4	1.1	0.0	0.0	0.0	0.0	6.0	38.1	0.1	0.0	0.0	0.0	0.0	4.2	0.3	0.0	0.0	0.4	1.1	0.1	0.0	0.0	0.0
WOOD	10.8	1.2	2.8	2.5	6.3	0.0	0.6	1.2	2.8	125.6	1.8	3.0	2.8	2.2	39.3	3.0	1.8	121.3	31.9	7.9	12.9	5.3	0.0	0.0
PAPER	22.2	0.0	1.3	108.7	50.4	16.8	15.6	12.4	9.1	4.8	288.1	92.1	21.5	3.7	43.2	4.3	16.2	6.2	292.1	45.3	81.2	40.0	0.0	0.0
CHEMICALS	354.9	71.6	189.2	113.0	21.1	3.0	156.7	16.8	37.2	51.7	101.3	1062.0	42.6	88.2	278.8	13.9	21.3	193.7	190.0	283.0	68.3	85.5	0.0	0.0
N M MIN	5.4	2.6	6.5	29.8	32.7	0.0	0.3	0.3	0.1	5.5	0.5	26.0	107.9	11.8	85.6	3.4	1.7	586.4	7.2	10.0	14.4	5.9	0.0	0.0
BAS_METAL	10.3	16.7	14.4	2.2	0.0	0.0	0.5	0.0	0.2	9.7	3.8	28.5	32.9	454.7	1729.7	2.6	17.1	209.1	8.4	21.9	0.2	0.7	0.0	0.0
FAB_METAL	94.0	145.2	334.9	101.5	29.9	1.2	16.9	2.6	5.1	17.5	23.9	82.8	31.0	213.4	1198.8	4.8	46.5	493.1	89.3	231.0	33.1	9.8	0.0	0.0
MISC_FAB	0.0	1.3	1.1	0.1	0.0	0.0	0.5	3.7	1.2	0.0	1.6	0.2	0.1	0.0	0.4	4.4	1.2	0.5	3.5	2.6	4.8	8.4	0.0	0.0
ELECTR	18.6	126.9	114.0	36.1	12.1	0.4	21.3	2.9	1.9	7.6	25.3	63.7	36.6	135.4	64.3	1.6	452.8	5.7	104.8	98.5	123.8	31.5	0.0	0.0
CONSTRUC	10.4	0.2	1.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	538.6	52.1	13.2	24.1	3.1	0.0	0.0
TRADE	283.7	45.6	189.0	120.9	32.2	4.2	48.7	16.2	14.1	33.3	86.0	274.2	44.9	117.5	434.1	18.2	80.1	231.6	824.7	286.7	195.0	53.5	0.0	0.0
TRANSFOR	88.9	17.3	43.6	200.8	23.6	5.5	31.3	9.0	5.5	13.1	48.0	260.6	42.8	108.3	199.0	4.1	105.5	222.0	591.6	427.5	129.9	46.5	0.0	0.0
FINANCE	19.2	4.0	17.0	124.7	34.9	4.0	48.3	34.2	13.0	36.8	74.0	148.5	42.8	102.0	264.6	12.1	31.0	315.0	855.5	187.5	507.7	98.7	0.0	0.0
COM_SERV	3.4	0.0	0.0	4.7	3.8	0.5	0.6	0.6	0.2	0.7	1.5	8.8	0.4	0.2	5.3	0.3	1.1	0.0	29.6	15.7	61.1	14.5	0.0	0.0
EXTRA 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EXTRA 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OTHER	20.6	115.2	271.4	185.0	35.4	3.1	45.0	34.0	15.8	38.0	106.5	242.8	45.6	567.3	324.1	16.8	31.6	61.1	175.2	20.6	141.9	5.2	0.0	0.0
G.O.S.	2165.8	2178.2	1618.3	424.1	152.0	40.1	146.4	39.4	24.1	82.9	206.0	795.2	205.8	380.6	677.4	60.8	603.1	363.8	2900.1	1597.3	2299.2	377.6	0.0	0.0
WH W&S	152.4	325.2	247.8	212.5	61.1	13.9	90.4	52.7	26.6	67.0	250.3	455.8	117.9	418.8	1257.8	70.7	218.6	586.2	1655.2	1346.2	1535.3	328.4	0.0	0.0
CDL W&S	94.0	3.2	23.9	56.3	17.9	3.7	45.8	65.1	29.3	41.7	48.9	57.5	23.0	32.0	157.1	12.6	17.7	175.2	219.4	117.5	57.1	60.4	0.0	0.0
AS W&S	7.1	0.6	3.5	26.4	2.5	0.4	16.5	33.4	16.5	12.0	23.9	22.4	3.2	7.8	43.8	3.0	2.7	25.2	179.6	47.0	37.6	20.5	0.0	0.0
BL1 W&S	5.9	20.7	16.7	14.2	7.1	0.7	6.8	3.0	1.6	5.7	9.8	27.3	9.0	14.1	40.8	3.0	5.9	13.1	317.8	57.8	50.4	119.6	0.0	0.0
BL2 W&S	353.3	566.5	317.4	152.5	40.3	7.2	90.5	49.1	17.1	54.4	60.1	177.7	103.0	188.7	353.1	20.1	69.6	300.0	421.5	351.7	52.7	29.4	0.0	0.0
HH WHITE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HH COLOUR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HH ASIAN	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HH BL60-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HH BL60+	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HH SNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOV DITY	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GOV INTX	51.0	12.7	24.8	16.7	6.3	-0.1	26.0	19.4	5.4	6.8	22.2	107.5	14.2	8.0	42.1	12.2	7.7	45.2	94.1	123.2	487.0	15.8	0.0	0.0
SAV HH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAV CORP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
SAV GOV	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
IMPORT	147.0	292.0	220.5	190.8	29.0	8.3	211.3	123.7	38.1	35.8	184.2	1369.5	98.2	249.0	822.4	142.9	26.8	314.3	316.4	288.8	103.7	49.1	0.0	0.0
PLUS/MIN	10.6	-34.7	-38.9	-11.1	-89.6	-0.3	12.9	-33.9	-9.4	-6.9	-102.5	63.6	-31.2	4.8	-495.3	-2.1	-23.5	-19.5	239.4	-2.1	480.6	0.0	0.0	0.0
EMP WH	82.1	41.9	28.6	23.6	6.4	1.6	9.6	6.6	3.0	8.8	26.7	39.9	13.0	44.0	116.0	6.3	24.2	93.0	324.0	196.0	195.5	116.4	0.0	0.0
EMP CDL	128.4	0.8	7.7	25.1	4.1	0.8	21.1	42.8	14.6	17.1	14.7	14.3	7.5	2.0	48.4	5.4	6.5	89.0	99.0	48.1	13.5	19.9	0.0	0.0
EMP AS	4.9	0.0	0.7	9.7	0.5	0.0	8.3	28.4	8.1	3.0	5.6	5.3	1.3	1.1	9.6	1.5	0.7	10.3	52.5	12.4	8.3	8.8	0.0	0.0
EMP BL	706.0	431.5	202.1	112.8	20.7	2.7	73.5	31.7	8.2	48.9	27.4	74.8	63.3	69.5	298.8	8.6	45.0	354.9	405.0	236.0	51.6	100.4	0.0	0.0
EMP TOT	921.4	474.2	239.4	171.3	31.6	5.1	112.6	109.5	34.0	77.8	74.5	134.4	65.2	116.6	382.9	21.8	76.4	538.2	886.5	492.5	268.9	245.5	0.0	0.0
CAP STOCK	6083.8	2479.0	1899.9	894.2	337.0	29.4	503.5	164.5	74.3	243.5	641.5	1329.8	565.5	2278.7	1773.2	104.7	6784.6	810.8	4432.8	8992.6	15744.1	16126.1	0.0	0.0
VAL ADDED	2778.5	3094.3	2227.6	895.1	280.9	65.9	395.5	242.7	115.2	263.8	599.1	1536.0	451.9	1042.0	2530.1	170.2	917.7	4463.5	5693.6	3517.6	4032.3	936.0	0.0	0.0
TOTAL	4593.5	3949.9	3659.0	5096.8	896.2	174.6	1533.3	822.8	339.8	706.9	1548.6	5712.4	1057.0	3319.5	7773.7	531.9	2034.6	4883.7	9451.2	5648.9	6624.7	1446.8	0.0	0.0

OTHER	G.O.S.	GOVERNMENT											INVESTMENT					NEW TOT	OLD TOT	DIFF			
		WH OCC	COL OCC	AS OCC	BL1 OCC	BL2 OCC	HH WHITE	HH COL	HH ASIAN	HH BL60-	HH BL60+	HH SWA	DI_IT	EXPEND	HH CAP	CCSP CAP	GOV CAP					EXPORT	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	311.8	81.3	37.3	93.0	262.4	18.3	0.0	18.6	10.4	74.0	1.5	756.9	4503.5	4502.7	-0.194	AGRICUL	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	4.0	28.3	0.5	3964.6	3969.9	3969.9	-0.070	BLD	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	0.1	1.9	4.1	0.2	0.0	-13.5	-1.6	-10.8	-0.2	2771.7	2659.0	2656.1	-0.052	MINING	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	952.5	244.5	121.6	269.8	771.6	34.9	0.0	60.1	12.9	90.4	1.8	692.9	2695.9	2697.1	-0.005	FOOD	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	271.7	41.6	14.4	28.1	181.7	12.5	0.0	0.6	2.9	20.6	0.4	24.4	895.2	895.3	-0.045	BEVERAGE	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.5	21.4	6.0	4.3	49.8	3.6	0.0	0.2	1.3	8.9	0.2	0.0	174.6	174.6	-0.012	TEXTACC	
3.3	0.0	0.0	0.0	0.0	0.0	0.0	226.5	34.6	11.9	17.3	90.4	8.9	0.0	18.5	2.3	16.6	0.4	157.7	1533.3	1533.4	-0.078	TEXTILES	
8.6	0.0	0.0	0.0	0.0	0.0	0.0	231.2	59.7	28.6	39.7	220.5	13.5	0.0	37.0	2.9	20.7	0.5	71.5	822.8	822.8	-0.048	CLOTHING	
1.1	0.0	0.0	0.0	0.0	0.0	0.0	98.9	32.4	10.5	18.0	99.0	6.0	0.0	0.5	0.5	4.2	0.1	16.8	339.8	339.8	-0.029	LEATHER	
5.4	0.0	0.0	0.0	0.0	0.0	0.0	107.1	18.3	7.4	15.6	79.1	5.3	0.0	40.6	2.3	14.4	0.5	24.0	706.9	707.0	-0.021	WOOD	
139.6	0.0	0.0	0.0	0.0	0.0	0.0	26.4	4.9	2.7	5.7	22.6	1.4	0.0	33.9	0.6	4.2	0.2	132.0	1548.8	1548.9	-0.096	PAPER	
239.6	0.0	0.0	0.0	0.0	0.0	0.0	634.4	90.5	35.6	61.2	198.9	23.7	0.0	401.4	9.2	59.2	3.9	509.0	5712.4	5712.7	-0.292	CHEMICALS	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6	3.4	1.1	1.1	5.2	0.6	0.0	17.8	1.3	9.0	0.2	57.7	1057.0	1057.2	-0.156	M M MIN	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	2.7	18.3	0.3	727.0	3319.5	3319.7	-0.214	BAS_FET	
25.0	0.0	0.0	0.0	0.0	0.0	0.0	834.2	66.1	27.4	25.9	161.7	25.7	0.0	549.4	354.0	1872.5	387.3	238.2	7773.7	7774.2	-0.505	FAB_FET	
17.4	0.0	0.0	0.0	0.0	0.0	0.0	14.9	7.7	3.4	8.3	32.8	1.6	0.0	34.0	7.3	39.7	7.9	321.2	521.9	531.9	-0.011	MISC_FAB	
29.1	0.0	0.0	0.0	0.0	0.0	0.0	325.4	26.8	14.6	15.6	48.2	10.0	0.0	61.8	-0.5	-3.0	-0.1	20.8	2034.6	2034.7	-0.107	ELECTR	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	120.1	698.4	1396.5	2013.9	2.1	4593.7	4594.8	-1.045	CONSTRUC	
198.2	0.0	0.0	0.0	0.0	0.0	0.0	2392.4	373.5	167.9	316.3	1276.4	105.3	0.0	160.7	85.6	461.7	89.3	569.5	9651.2	9651.7	-0.526	TRADE	
358.8	0.0	0.0	0.0	0.0	0.0	0.0	638.6	111.8	42.0	78.5	422.2	30.1	0.0	242.3	13.2	86.3	5.9	994.9	5649.9	5649.2	-0.281	TRANSPOR	
263.5	0.0	0.0	0.0	0.0	0.0	0.0	2077.5	161.9	84.2	57.1	281.4	61.9	0.0	175.2	72.0	13.5	0.0	402.9	6626.7	6627.1	-0.391	FINANCE	
124.2	0.0	0.0	0.0	0.0	0.0	0.0	883.0	60.5	36.3	40.6	213.1	28.7	0.0	78.4	0.0	0.0	0.0	29.0	1646.8	1646.9	-0.096	COM_SERV	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	EXTRA 1
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.000	EXTRA 2
26.5	0.0	0.0	0.0	0.0	0.0	0.0	54.7	3.7	2.2	2.5	13.0	1.8	0.0	-261.8	0.0	0.0	0.0	2.2	2347.1	2347.3	-0.152	OTHER	
539.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	785.0	-54.0	-990.0	0.0	295.0	17914.0	17915.0	-0.960	G.O.S.	
45.3	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.2	0.0	1965.9	0.0	0.0	0.0	0.0	11510.2	11511.0	-0.723	WH W/S	
13.2	0.0	0.0	0.0	0.0	0.0	0.0	62.8	0.0	0.0	0.0	0.0	1.3	0.0	334.2	0.0	0.0	0.0	0.0	1771.2	1771.3	-0.109	COL W/S	
3.2	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	124.1	0.0	0.0	0.0	0.0	665.4	665.4	-0.052	AS W/S	
6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	319.8	0.0	0.0	0.0	0.0	1078.0	1078.0	0.009	BL1 W/S	
55.3	0.0	0.0	0.0	0.0	0.0	0.0	488.6	0.0	0.0	0.0	0.0	10.4	0.0	703.7	0.0	0.0	0.0	0.0	5034.0	5034.4	-0.327	BL2 W/S	
0.0	3957.6	11246.3	0.0	0.0	0.0	0.0	40.3	0.0	0.0	0.0	0.0	0.0	0.0	857.1	0.0	0.0	0.0	117.3	16218.6	16219.6	-0.972	HH WHITE	
0.0	112.9	0.0	1731.7	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	67.5	0.0	0.0	0.0	2.8	1917.4	1917.5	-0.130	HH COLOUR	
0.0	138.3	0.0	0.0	650.8	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	17.5	0.0	0.0	0.0	4.2	812.2	812.2	-0.055	HH ASIAN	
0.0	115.9	0.0	0.0	0.0	87.0	760.0	0.0	0.0	0.0	3.7	221.8	0.0	0.0	46.6	0.0	0.0	0.0	5.5	1240.6	1240.8	-0.155	HH BL60-	
0.0	563.0	0.0	0.0	0.0	965.4	4160.5	0.0	0.0	0.0	89.2	0.0	0.0	0.0	23.2	0.0	0.0	0.0	8.3	5509.7	5509.9	-0.226	HH BL60+	
0.0	103.0	263.9	39.4	14.6	25.5	113.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	574.0	574.0	-0.014	HH SWA	
0.0	3012.8	0.0	0.0	0.0	0.0	0.0	2018.6	109.7	43.4	30.2	173.0	40.0	0.0	0.0	0.0	0.0	0.0	117.0	5544.7	5545.0	-0.304	GOV DITY	
21.5	0.0	0.0	0.0	0.0	0.0	0.0	853.2	123.2	42.2	58.1	332.3	28.0	5544.7	582.0	25.0	154.0	21.0	44.0	8977.5	8978.0	-0.466	GOV INTX	
0.0	1296.9	0.0	0.0	0.0	0.0	0.0	1589.8	149.4	25.1	10.2	354.4	48.0	0.0	0.0	0.0	0.0	0.0	0.0	3473.8	3473.7	0.111	SAV HH	
0.0	6082.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6082.7	6082.5	0.224	SAV CORP	
0.0	913.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	905.0	0.0	0.0	0.0	0.0	1817.9	1818.9	-0.956	SAV GOV	
222.7	1617.9	0.0	0.0	0.0	0.0	0.0	981.7	89.5	44.9	37.9	204.9	32.0	0.0	450.0	387.0	2088.1	390.8	0.0	11870.4	13201.0	-1330.7	IMPGR	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1834.1	605.0	-1108.4	0.0	1330.7	1330.7	0.000	PLLS/MIN	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.0	0.0	0.0	300.0	0.0	0.0	0.0	0.0	1709.4	1709.4	0.000	EMP HH	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.6	0.0	0.0	0.0	0.0	0.0	0.0	100.9	0.0	0.0	0.0	0.0	816.5	816.5	0.000	EMP COL	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	18.9	0.0	0.0	0.0	0.0	208.6	208.6	0.000	EMP AS	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	761.6	0.0	0.0	0.0	0.0	0.0	0.0	504.0	0.0	0.0	0.0	0.0	4548.9	4548.9	0.000	EMP BL	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	859.4	0.0	0.0	0.0	0.0	0.0	0.0	923.8	0.0	0.0	0.0	0.0	7282.4	7282.4	0.000	EMP TOT	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72595.0	72595.0	0.000	CAP STOCK	
663.5	0.0	0.0	0.0	0.0	0.0	0.0	562.0	0.0	0.0	0.0	0.0	12.0	0.0	4232.8	-54.0	-950.0	0.0	295.0	37972.8	37975.0	-2.171	VAL ADDED	
2347.1	17914.0	11510.2	1771.2	665.4	1078.0	5034.0	16218.6	1917.4	812.2	1240.6	5809.7	574.0	5544.7	8977.5	3473.8	6032.7	1817.9	13201.0	179139.2	178116.1	-9.812	TOTAL	

TABLE C2 (P1 of 2) RUN: STANDARD SAM
 RANGE: ASAM (SAM COEFFICIENT MATRIX) FILE: SAMPREP

	AGRICUL	GOLD	MINING	FOOD	BEVERAGE	TOBACCO	TEXTILES	WEARING	LEATHER	WOOD	PAPER	CHEMICALS	N H MIN	BAS_MET	FAB_MET	MISC_FAB	ELECTR	CONSTRUC	TRADE	TRANSPOR	FINVCE	COM_SERV	EXTRA 1	EXTRA 2
AGRICUL	0.0557	0.0110	0.0048	0.3960	0.1181	0.3403	0.0518	0.0002	0.0121	0.0643	0.0378	0.0077	0.0031	0.0017	0.0012	0.0022	0.0096	0.0000	0.0002	0.0015	0.0035	0.0230	0.0000	0.0000
GOLD	0.0050	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0025	0.0061	0.0000	0.0018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
MINING	0.0015	0.0013	0.0028	0.0916	0.0013	0.0002	0.0014	0.0001	0.0003	0.0003	0.0062	0.0333	0.0515	0.0557	0.0004	0.1129	0.1314	0.0143	0.0000	0.0035	0.0019	0.0094	0.0000	0.0000
FOOD	0.0663	0.0001	0.0001	0.1829	0.0800	0.0000	0.0006	0.0000	0.0645	0.0094	0.0036	0.0110	0.0004	0.0000	0.0000	0.0028	0.0003	0.0000	0.0023	0.0627	0.0056	0.0920	0.0000	0.0000
BEVERAGE	0.0000	0.0000	0.0000	0.0003	0.2315	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0065	0.0256	0.0000	0.0000
TOBACCO	0.0000	0.0000	0.0001	0.0000	0.0000	0.0134	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TEXTILES	0.0035	0.0012	0.0014	0.0914	0.0011	0.0011	0.2723	0.3528	0.0594	0.0228	0.0036	0.0070	0.0009	0.0002	0.0048	0.0122	0.0002	0.0047	0.0013	0.0018	0.0007	0.0011	0.0000	0.0000
CLOTHING	0.0000	0.0008	0.0011	0.0004	0.0002	0.0000	0.0002	0.0392	0.0002	0.0011	0.0028	0.0010	0.0001	0.0002	0.0003	0.0018	0.0002	0.0006	0.0014	0.0015	0.0006	0.0018	0.0000	0.0000
LEATHER	0.0000	0.0001	0.0003	0.0000	0.0000	0.0000	0.0000	0.0073	0.1120	0.0002	0.0000	0.0000	0.0000	0.0000	0.0005	0.0006	0.0000	0.0000	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000
WOOD	0.0024	0.0003	0.0008	0.0005	0.0070	0.0002	0.0004	0.0014	0.0082	0.1778	0.0012	0.0005	0.0027	0.0007	0.0051	0.0056	0.0009	0.0248	0.0033	0.0014	0.0019	0.0032	0.0000	0.0000
PAPER	0.0019	0.0000	0.0004	0.0213	0.0563	0.0965	0.0102	0.0151	0.0266	0.0068	0.1860	0.0161	0.0204	0.0011	0.0056	0.0081	0.0080	0.0013	0.0303	0.0000	0.0123	0.0243	0.0000	0.0000
CHEMICALS	0.0092	0.0189	0.0517	0.0222	0.0235	0.0170	0.1022	0.0205	0.1091	0.0732	0.0654	0.1859	0.0403	0.0266	0.0359	0.0261	0.0105	0.0297	0.0197	0.0501	0.0103	0.0519	0.0000	0.0000
N H MIN	0.0012	0.0007	0.0018	0.0058	0.0365	0.0002	0.0002	0.0003	0.0003	0.0078	0.0003	0.0045	0.1021	0.0036	0.0110	0.0063	0.0008	0.1201	0.0007	0.0018	0.0022	0.0036	0.0000	0.0000
AL	0.0023	0.0042	0.0039	0.0004	0.0000	0.0000	0.0003	0.0000	0.0006	0.0137	0.0024	0.0050	0.0311	0.1370	0.2225	0.0049	0.0084	0.0428	0.0009	0.0039	0.0000	0.0004	0.0000	0.0000
FAB_METAL	0.0209	0.0366	0.0915	0.0199	0.0333	0.0067	0.0110	0.0031	0.0149	0.0247	0.0154	0.0145	0.0293	0.0643	0.1542	0.0091	0.0229	0.1010	0.0093	0.0409	0.0050	0.0059	0.0000	0.0000
MISC_FAB	0.0000	0.0003	0.0003	0.0000	0.0000	0.0001	0.0003	0.0045	0.0036	0.0000	0.0010	0.0000	0.0001	0.0000	0.0001	0.0062	0.0006	0.0001	0.0004	0.0005	0.0007	0.0051	0.0000	0.0000
ELECTR	0.0041	0.0320	0.0312	0.0071	0.0135	0.0024	0.0139	0.0036	0.0056	0.0108	0.0163	0.0112	0.0346	0.0408	0.0093	0.0029	0.2225	0.0012	0.0109	0.0174	0.0187	0.0191	0.0000	0.0000
CONSTRUC	0.0023	0.0001	0.0003	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0048	0.1103	0.0054	0.0023	0.0036	0.0019	0.0000	0.0000
TRADE	0.0630	0.0115	0.0516	0.0237	0.0359	0.0242	0.0307	0.0197	0.0416	0.0471	0.0555	0.0480	0.0425	0.0354	0.0558	0.0343	0.0394	0.0474	0.0855	0.0507	0.0294	0.0325	0.0000	0.0000
TRANSPOR	0.0197	0.0044	0.0119	0.0394	0.0263	0.0315	0.0204	0.0109	0.0160	0.0185	0.0310	0.0456	0.0405	0.0326	0.0256	0.0077	0.0518	0.0455	0.0613	0.0757	0.0196	0.0282	0.0000	0.0000
FINVCE	0.0043	0.0010	0.0046	0.0245	0.0390	0.0228	0.0315	0.0416	0.0383	0.0520	0.0478	0.0260	0.0404	0.0307	0.0340	0.0228	0.0152	0.0645	0.0086	0.0332	0.0766	0.0599	0.0000	0.0000
COM_SERV	0.0008	0.0000	0.0000	0.0009	0.0042	0.0030	0.0004	0.0007	0.0006	0.0009	0.0010	0.0015	0.0004	0.0001	0.0007	0.0005	0.0006	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
EXTRA 1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
EXTRA 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OTHER	0.0046	0.0290	0.0742	0.0363	0.0395	0.0179	0.0293	0.0413	0.0464	0.0528	0.0688	0.0425	0.0432	0.1709	0.0417	0.0315	0.0155	0.0125	0.0181	0.0036	0.0214	0.0032	0.0000	0.0000
G.O.S.	0.4897	0.5487	0.4423	0.0832	0.1696	0.2295	0.0555	0.0479	0.0709	0.1173	0.1330	0.1392	0.1947	0.1146	0.0871	0.1144	0.2964	0.0745	0.3005	0.2928	0.3470	0.2293	0.0000	0.0000
M1 MS	0.0338	0.0019	0.0677	0.0417	0.0682	0.0794	0.0599	0.0641	0.0784	0.0948	0.1616	0.0798	0.1115	0.1262	0.1618	0.1330	0.1074	0.1200	0.1715	0.2293	0.2317	0.1954	0.0000	0.0000
COL MS	0.0209	0.0008	0.0065	0.0110	0.0209	0.0211	0.0299	0.0791	0.0862	0.0590	0.0316	0.0101	0.0218	0.0097	0.0202	0.0237	0.0087	0.0359	0.0227	0.0208	0.0086	0.0367	0.0000	0.0000
AS MS	0.0016	0.0001	0.0010	0.0052	0.0028	0.0021	0.0108	0.0406	0.0484	0.0170	0.0154	0.0039	0.0031	0.0023	0.0056	0.0056	0.0013	0.0052	0.0186	0.0083	0.0057	0.0125	0.0000	0.0000
RL1 MS	0.0013	0.0052	0.0046	0.0028	0.0079	0.0041	0.0044	0.0037	0.0048	0.0081	0.0064	0.0048	0.0085	0.0042	0.0052	0.0056	0.0029	0.0027	0.0329	0.0102	0.0076	0.0076	0.0000	0.0000
RL2 MS	0.0784	0.1427	0.0867	0.0299	0.0449	0.0411	0.0590	0.0596	0.0503	0.0770	0.0388	0.0311	0.0974	0.0568	0.0454	0.0378	0.0342	0.0614	0.0437	0.0623	0.0090	0.0179	0.0000	0.0000
WH WHITE	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
WH COLOUR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
WH ASIAN	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
WH RL60+	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
WH RL60+	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
WH SKA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
GRY DITX	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
GRY INTX	0.0113	0.0032	0.0068	0.0033	0.0071	-0.0005	0.0169	0.0236	0.0158	0.0097	0.0144	0.0188	0.0134	0.0024	0.0054	0.0230	0.0038	0.0093	0.0097	0.0218	0.0735	0.0696	0.0000	0.0000
SAV IN	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SAV CORP	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SAV GOV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
IMPORT	0.0026	0.0025	0.0093	0.0374	0.0323	0.0476	0.1378	0.1503	0.1123	0.0597	0.1189	0.2397	0.0929	0.0747	0.1135	0.2687	0.0132	0.0443	0.0320	0.0511	0.0155	0.0298	0.0000	0.0000
FLYS MIN	0.0024	-0.0057	-0.0106	-0.0022	-0.0100	-0.0019	0.0094	-0.0412	-0.0278															

TABLE C3 (Pl of 2)
 RANGE: INV(B) OR INVBP

RUN: STANDARD SAM
 FILE: SAMSIM

	AGRICUL	GOLD	MINING	FOOD	BEVERAGE	TOBACCO	TEXTILES	CLOTHING	LEATHER	WOOD	PAPER	CHEMICALS	N H MIN	BAS_MET	FAB_MET	MISC_FAB	ELECTR	CONSTRUC	TRADE	TRANSPOR	FINANCE	COM_SERV	EXTRA 1	EXTRA 2
AGRICUL	1.3294	0.2481	0.2281	0.7671	0.5012	0.6175	0.2860	0.2581	0.3007	0.3399	0.2959	0.1958	0.2491	0.2345	0.2422	0.1956	0.2599	0.2479	0.2479	0.2515	0.2395	0.3375	0.0000	0.0000
GOLD	0.0054	1.0055	0.0055	0.0052	0.0061	0.0052	0.0042	0.0047	0.0050	0.0052	0.0051	0.0039	0.0082	0.0121	0.0067	0.0966	0.0057	0.0058	0.0052	0.0053	0.0051	0.0057	0.0000	0.0000
MINING	0.0571	0.0581	1.0629	0.0596	0.0711	0.0552	0.0545	0.0519	0.0574	0.0610	0.0665	0.0835	0.1208	0.1268	0.0751	0.1581	0.2267	0.0848	0.0552	0.0620	0.0562	0.0610	0.0000	0.0000
FOOD	0.3803	0.2973	0.2916	1.5602	0.4879	0.3254	0.2673	0.2904	0.3963	0.3244	0.3142	0.2397	0.3067	0.2902	0.3006	0.2409	0.3086	0.3074	0.3111	0.3151	0.2980	0.4448	0.0000	0.0000
BEVERAGE	0.0642	0.0656	0.0646	0.0653	1.3774	0.0653	0.0569	0.0621	0.0652	0.0696	0.0679	0.0496	0.0680	0.0651	0.0674	0.0528	0.0688	0.0686	0.0692	0.0706	0.0744	0.1055	0.0000	0.0000
TOBACCO	0.0131	0.0133	0.0131	0.0132	0.0154	1.0269	0.0116	0.0130	0.0137	0.0143	0.0138	0.0100	0.0137	0.0130	0.0136	0.0107	0.0140	0.0139	0.0139	0.0148	0.0131	0.0146	0.0000	0.0000
TEXTILES	0.0986	0.0952	0.0957	0.1038	0.1134	0.0975	1.4568	0.6086	0.1879	0.1386	0.1050	0.0833	0.0982	0.0936	0.1038	0.0937	0.0993	0.1064	0.1001	0.1025	0.0942	0.1054	0.0000	0.0000
CLOTHING	0.0555	0.0574	0.0568	0.0564	0.0655	0.0562	0.0496	1.0954	0.0576	0.0616	0.0614	0.0437	0.0586	0.0559	0.0576	0.0471	0.0589	0.0592	0.0601	0.0607	0.0555	0.0630	0.0000	0.0000
LEATHER	0.0240	0.0247	0.0243	0.0241	0.0282	0.0242	0.0214	0.0325	1.1512	0.0265	0.0251	0.0182	0.0253	0.0239	0.0255	0.0203	0.0253	0.0254	0.0258	0.0236	0.0236	0.0266	0.0000	0.0000
WOOD	0.0533	0.0507	0.0513	0.0520	0.0696	0.0512	0.0432	0.0473	0.0594	1.2677	0.0522	0.0385	0.0544	0.0501	0.0570	0.0464	0.0546	0.0853	0.0556	0.0537	0.0523	0.0573	0.0000	0.0000
PAPER	0.1042	0.0931	0.1010	0.1361	0.2122	0.2192	1.0566	0.1188	0.1413	0.1177	1.3347	0.1018	0.1300	0.1122	0.1138	0.0888	0.1144	0.1087	0.1380	0.1099	0.1101	0.1381	0.0000	0.0000
CHEMICALS	0.4406	0.3549	0.4078	0.4292	0.4690	0.4028	0.4714	0.4086	0.5070	0.4776	1.4567	0.4980	0.4103	0.4005	0.4136	0.3150	0.3877	0.4214	0.3758	0.4159	0.3515	0.4346	0.0000	0.0000
N H MIN	0.0771	0.0749	0.0762	0.0809	0.1365	0.0734	0.0596	0.0613	0.0665	0.0814	0.0707	0.0596	1.1847	0.0732	0.0834	0.0628	0.0798	0.2208	0.0743	0.0757	0.0757	0.0803	0.0000	0.0000
BAS_METAL	0.1801	0.1844	0.2000	0.1777	0.2069	0.1717	0.1417	0.1429	0.1578	0.1917	0.1713	0.1368	0.2154	1.3409	0.4687	0.1408	0.2042	0.2580	0.1714	0.1857	0.1674	0.1743	0.0000	0.0000
AL	0.5584	0.5703	0.6316	0.5556	0.6497	0.5368	0.4424	0.4478	0.4931	0.5445	0.5290	0.4094	0.5557	0.5859	1.6978	0.4245	0.6072	0.6426	0.5347	0.5762	0.5249	0.5443	0.0000	0.0000
MISC_FAB	0.0154	0.0160	0.0161	0.0155	0.0180	0.0155	0.0136	0.0191	0.0191	0.0161	0.0170	0.0118	0.0159	0.0161	0.0155	1.0205	0.0170	0.0155	0.0160	0.0160	0.0159	0.0212	0.0000	0.0000
ELECTR	0.1264	0.1590	0.1630	0.1382	0.1724	0.1289	0.1319	0.1273	0.1332	0.1482	0.1549	0.1147	0.1802	0.1900	0.1564	0.1106	1.4234	0.1431	0.1428	0.1529	0.1477	0.1584	0.0000	0.0000
CONSTRUC	0.3889	0.3841	0.3762	0.3653	0.4143	0.3717	0.2931	0.2995	0.3202	0.3490	0.3488	0.2688	0.3538	0.3373	0.3355	0.2786	0.4026	1.4619	0.3742	0.3699	0.3758	0.3728	0.0000	0.0000
TRADE	0.7148	0.6564	0.7051	0.7146	0.8259	0.7009	0.6134	0.6438	0.7027	0.7488	0.7437	0.5578	0.7216	0.7029	0.7417	0.5605	0.7457	0.7397	1.7620	0.7343	0.6714	0.7377	0.0000	0.0000
TRANSPORT	0.3484	0.3252	0.3481	0.3947	0.4354	0.3692	0.3205	0.3300	0.3560	0.3763	0.3863	0.3140	0.3899	0.3947	0.3846	0.2723	0.4157	0.4034	0.4012	1.4179	0.3407	0.3823	0.0000	0.0000
FINANCE	0.4520	0.4414	0.4617	0.4908	0.5946	0.4833	0.4387	0.4828	0.5033	0.5467	0.5421	0.3871	0.5163	0.5122	0.5282	0.3916	0.5056	0.5617	0.5718	0.5180	1.5418	0.5559	0.0000	0.0000
COM_SERV	0.1181	0.1194	0.1221	0.1227	0.1481	0.1243	0.1060	0.1154	0.1224	0.1306	0.1318	0.0967	0.1270	0.1308	0.1310	0.1001	0.1301	0.1278	0.1315	0.1332	0.1347	1.1414	0.0000	0.0000
EXTRA 1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000	0.0000
EXTRA 2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0000
OTHER	0.1386	0.1561	0.2114	0.1825	0.2193	0.1561	0.1567	0.1766	0.1906	0.2076	0.2191	0.1555	0.1937	0.3389	0.2338	0.1466	0.1713	0.1761	0.1508	0.1392	0.1451	0.1465	0.0000	0.0000
G.D.S.	1.4644	1.4593	1.4102	1.3415	1.5036	1.3768	1.0321	1.0224	1.1068	1.2270	1.2199	0.9580	1.2628	1.1998	1.1652	0.9852	1.4675	1.1701	1.3210	1.2970	1.3058	1.3142	0.0000	0.0000
MH WLS	0.8092	0.8279	0.8502	0.8603	1.0321	0.8804	0.7592	0.8050	0.8620	0.9308	1.0037	0.7079	0.9323	0.9421	1.0182	0.7615	0.9763	0.9862	0.9912	1.0572	1.0175	1.0333	0.0000	0.0000
COL WLS	0.1468	0.1212	0.1308	0.1497	0.1794	0.1552	0.1487	0.2105	0.2226	0.2018	0.1660	0.1084	0.1507	0.1348	0.1509	0.1229	0.1434	0.1734	0.1512	0.1500	0.1333	0.1709	0.0000	0.0000
AS WLS	0.0491	0.0453	0.0480	0.0553	0.0612	0.0512	0.0560	0.0916	0.1030	0.0705	0.0679	0.0418	0.0519	0.0499	0.0554	0.0434	0.0517	0.0561	0.0684	0.0577	0.0529	0.0634	0.0000	0.0000
BL1 WLS	0.0773	0.0780	0.0804	0.0806	0.1005	0.0807	0.0719	0.0754	0.0805	0.0890	0.0866	0.0653	0.0872	0.0813	0.0849	0.0670	0.0848	0.0833	0.1128	0.0900	0.0854	0.1539	0.0000	0.0000
BL2 WLS	0.3806	0.4303	0.3844	0.3759	0.4298	0.3669	0.3401	0.3585	0.3543	0.4059	0.3540	0.2702	0.4160	0.3698	0.3700	0.2953	0.3725	0.3980	0.3474	0.3724	0.3048	0.3392	0.0000	0.0000
MH WHITE	1.1821	1.1984	1.2091	1.2033	1.4174	1.2313	1.0268	1.0729	1.1500	1.2478	1.3182	0.9550	1.2571	1.2495	1.3177	1.0158	1.3496	1.2884	1.3297	1.3905	1.3573	1.3708	0.0000	0.0000
MH COLOUR	0.1581	0.1329	0.1420	0.1600	0.1909	0.1657	0.1563	0.2171	0.2296	0.2103	0.1753	0.1160	0.1665	0.1444	0.1600	0.1306	0.1550	0.1821	0.1616	0.1604	0.1444	0.1810	0.0000	0.0000
MH ASIAN	0.0608	0.0570	0.0593	0.0658	0.0731	0.0621	0.0639	0.0988	0.1107	0.0799	0.0773	0.0493	0.0619	0.0594	0.0645	0.0512	0.0634	0.0653	0.0786	0.0680	0.0634	0.0737	0.0000	0.0000
MH BL60-	0.0937	0.1028	0.0943	0.0922	0.1062	0.0909	0.0817	0.0857	0.0863	0.0978	0.0880	0.0673	0.0998	0.0899	0.0902	0.0724	0.0933	0.0949	0.0907	0.0926	0.0799	0.0940	0.0000	0.0000
MH BL60+	0.4383	0.4805	0.4425	0.4334	0.5022	0.4270	0.3852	0.4038	0.4076	0.4626	0.4167	0.3181	0.4706	0.4244	0.4267	0.3417	0.4384	0.4472	0.4382	0.4377	0.3771	0.4685	0.0000	0.0000
MH SWA	0.0428	0.0437	0.0432	0.0434	0.0509	0.0439	0.0381	0.0418	0.0442	0.0467	0.0463	0.0335	0.0456	0.0439	0.0460	0.0357	0.0467	0.0464	0.0468	0.0479	0.0450	0.0488	0.0000	0.0000
GOV DITX	0.4240	0.4251	0.4174	0.4062	0.4652	0.4156	0.3299	0.3402	0.3656	0.3974	0.4012	0.3027	0.4010	0.3866	0.3907	0.3168	0.4456	0.3899	0.4196	0.4226	0.4165	0.4256	0.0000	0.0000
GOV INTX	0.6813	0.6710	0.6693	0.6644	0.7681	0.6683	0.5702	0.6061	0.6327	0.6720	0.6783	0.5165	0.6711	0.6372	0.6516	0.5400	0.7139	0.6618	0.6925	0.7079	0.7463	0.7059	0.0000	0.0000
SAV WLS	0.2672	0.2690	0.2649	0.2604	0.3007	0.2657	0.2169	0.2280	0.2434	0.2629	0.2636	0.1963	0.2624	0.25										

TABLE C3 (P2 of 2)

OTHER	G.O.S.	MH OCC	COL OCC	AS OCC	BL1 OCC	BL2 OCC	HH WHITE	HH COL	HH ASIAN	HH BL60-	HH BL60+	HH SWA	GOVERNMENT		INVESTMENT			
													DT_IT	EXFEND	HH CAP	CORP CAP	GOV CAP	
0.2239	0.2145	0.2910	0.3529	0.3707	0.3904	0.3854	0.2902	0.3535	0.3718	0.4463	0.3759	0.3243	0.2872	0.2872	0.0948	0.1647	0.3462	AGRICUL
0.0955	0.0961	0.0950	0.0653	0.0653	0.0955	0.0956	0.0050	0.0053	0.0953	0.0057	0.0055	0.0052	0.0059	0.0059	0.0035	0.0086	0.0050	GOLD
0.0571	0.0498	0.0579	0.0584	0.0595	0.0592	0.0594	0.0579	0.0584	0.0596	0.0624	0.0589	0.0582	0.0635	0.0635	0.0280	0.0444	0.1145	MINING
0.2770	0.2674	0.3695	0.4526	0.4863	0.4868	0.4961	0.3684	0.4535	0.4879	0.5853	0.4820	0.4146	0.3634	0.3634	0.1158	0.1954	0.4250	FOOD
0.0624	0.0598	0.0869	0.0915	0.0883	0.1058	0.1050	0.0868	0.0915	0.0882	0.0958	0.1070	0.0926	0.0791	0.0791	0.0259	0.0436	0.0957	BEVERAGE
0.0122	0.0122	0.0172	0.0237	0.0202	0.0213	0.0209	0.0171	0.0238	0.0202	0.0167	0.0217	0.0168	0.0160	0.0160	0.0054	0.0094	0.0194	TOBACCO
0.0917	0.0868	0.1191	0.1346	0.1335	0.1365	0.1382	0.1190	0.1348	0.1337	0.1350	0.1391	0.1262	0.1174	0.1174	0.0393	0.0664	0.1480	TEXTILES
0.0554	0.0510	0.0692	0.0858	0.0909	0.0951	0.0947	0.0690	0.0859	0.0911	0.0897	0.0960	0.0781	0.0711	0.0711	0.0221	0.0374	0.0826	CLOTHING
0.0225	0.0218	0.0301	0.0419	0.0379	0.0432	0.0430	0.0300	0.0420	0.0380	0.0406	0.0437	0.0349	0.0295	0.0295	0.0094	0.0155	0.0356	LEATHER
0.0496	0.0498	0.0585	0.0618	0.0618	0.0683	0.0682	0.0584	0.0618	0.0618	0.0676	0.0685	0.0612	0.0666	0.0666	0.0270	0.0419	0.1111	WOOD
0.1702	0.0847	0.1093	0.1164	0.1200	0.1233	0.1237	0.1092	0.1165	0.1202	0.1284	0.1231	0.1141	0.1125	0.1125	0.0412	0.0699	0.1542	PAPER
0.4570	0.3173	0.4037	0.4241	0.4267	0.4243	0.4264	0.4035	0.4244	0.4271	0.4520	0.4221	0.4110	0.4491	0.4491	0.1531	0.2566	0.5850	CHEMICALS
0.0682	0.0819	0.0751	0.0747	0.0753	0.0761	0.0761	0.0751	0.0747	0.0753	0.0767	0.0760	0.0746	0.0971	0.0971	0.0577	0.0789	0.2682	N M MIN
0.1601	0.1842	0.1773	0.1736	0.1743	0.1744	0.1745	0.1774	0.1735	0.1743	0.1756	0.1743	0.1750	0.2114	0.2114	0.1104	0.2093	0.3988	BAS_MET
0.5001	0.5772	0.5627	0.5470	0.5496	0.5485	0.5487	0.5629	0.5468	0.5495	0.5508	0.5482	0.5538	0.6581	0.6581	0.3328	0.6762	1.1140	FAB_MET
0.0220	0.0155	0.0164	0.0192	0.0197	0.0215	0.0216	0.0164	0.0193	0.0197	0.0225	0.0215	0.0180	0.0210	0.0210	0.0078	0.0154	0.0261	MISC FAB
0.1390	0.1122	0.1538	0.1473	0.1552	0.1445	0.1451	0.1539	0.1472	0.1553	0.1523	0.1436	0.1512	0.1527	0.1527	0.0533	0.0681	0.2022	ELECTR
0.3416	0.4473	0.3639	0.3597	0.3559	0.3602	0.3602	0.3641	0.3597	0.3559	0.3607	0.3602	0.3572	0.5076	0.5076	0.3489	0.4356	1.7195	CONSTRUC
0.7032	0.6076	0.7959	0.8504	0.8748	0.9082	0.9116	0.7950	0.8508	0.8757	0.9532	0.9061	0.8353	0.7826	0.7826	0.2918	0.5082	1.0815	TRADE
0.4771	0.2983	0.3773	0.4039	0.4046	0.4313	0.4315	0.3769	0.4041	0.4048	0.4335	0.4321	0.3944	0.4025	0.4025	0.1468	0.2468	0.5610	TRANSFOR
0.5585	0.4224	0.5983	0.5602	0.5889	0.5391	0.5397	0.5987	0.5597	0.5891	0.5462	0.5374	0.5811	0.5578	0.5578	0.2200	0.3211	0.7752	FINANCE
0.1667	0.1112	0.1729	0.1498	0.1652	0.1585	0.1583	0.1730	0.1494	0.1651	0.1562	0.1584	0.1678	0.1530	0.1530	0.0469	0.0752	0.1792	COM_SERV
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	EXTRA 1
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	EXTRA 2
1.1432	0.1192	0.1395	0.1453	0.1493	0.1509	0.1513	0.1394	0.1453	0.1494	0.1568	0.1505	0.1441	0.1228	0.1228	0.0684	0.1211	0.2558	OTHER
1.2457	1.8171	1.0995	1.1425	1.1768	1.1811	1.1857	1.0988	1.1428	1.1780	1.2412	1.1772	1.1263	1.1960	1.1960	0.4196	0.5640	1.6383	G.O.S.
0.8339	0.7296	1.8678	0.8672	0.8844	0.8829	0.8844	0.8679	0.8672	0.8848	0.9022	0.8817	0.8649	1.1187	1.1187	0.3621	0.5956	1.3823	MH WES
0.1301	0.1189	0.1411	0.1414	0.1437	0.1457	0.1460	0.1411	0.1414	0.1437	0.1490	0.1456	0.1410	0.1834	0.1834	0.0592	0.0949	0.2356	COL WES
0.0499	0.0437	0.0535	0.0555	0.0566	0.0576	0.0577	0.0535	0.0556	0.0566	0.0589	0.0575	0.0544	0.0684	0.0684	0.0206	0.0341	0.0787	AS WES
0.0819	0.0713	0.0883	0.0872	0.0895	1.0896	0.0898	0.0883	0.0872	0.0895	0.0916	0.0895	0.0876	0.1231	0.1231	0.0314	0.0518	0.1184	BL1 WES
0.3143	0.2818	0.3471	0.3274	0.3325	0.3367	1.3376	0.3473	0.3271	0.3324	0.3483	0.3356	0.3386	0.4251	0.4251	0.1383	0.2253	0.5439	BL2 WES
1.1533	1.1856	2.1492	1.1737	1.1981	1.1959	1.1984	2.1723	1.1739	1.1988	1.2283	1.1938	1.1673	1.5316	1.5316	0.4713	0.7453	1.8062	MH WHITE
0.1400	0.1332	0.1511	0.1303	0.1537	0.1556	0.1559	0.1511	0.1526	0.1537	0.1591	0.1554	0.1507	0.2005	0.2005	0.0625	0.0994	0.2480	MH COLOUR
0.0598	0.0583	0.0825	0.0647	1.0458	0.0670	0.0671	0.0625	0.0647	1.0678	0.0687	0.0669	0.0635	0.0797	0.0797	0.0239	0.0286	0.0916	MH ASIAN
0.0802	0.0778	0.0866	0.0830	0.0844	0.2009	0.2690	0.0867	0.0829	0.0844	1.6910	0.1238	0.0849	0.1110	0.1110	0.0336	0.0528	0.1311	MH BL60-
0.3798	0.3612	0.4088	0.3925	0.4000	1.3134	1.2442	0.4090	0.3923	0.3999	0.4172	1.4182	0.4017	0.5116	0.5116	0.1586	0.2553	0.6189	MH BL60+
0.0403	0.0399	0.0646	0.0637	0.0642	0.0661	0.0650	0.0417	0.0414	0.0423	0.0436	0.0423	1.0415	0.0534	0.0534	0.0167	0.0267	0.0646	MH SWA
0.3803	0.4793	0.4832	0.4245	0.4302	0.4686	0.4092	0.4843	0.4243	0.4301	0.4164	0.4072	0.4333	1.4292	0.4292	0.1408	0.2061	0.5456	GOV DITY
0.6331	0.7155	0.7959	0.7451	0.7437	0.7260	0.7261	0.7972	0.7452	0.7439	0.7280	0.7255	0.7386	1.7862	1.7862	0.2470	0.3865	0.9346	GOV INTX
0.2432	0.2860	0.3350	0.3178	0.2774	0.3042	0.3011	0.3353	0.3177	0.2763	0.2629	0.3075	0.3220	0.2914	0.2914	1.0925	0.1411	0.3621	SAV HH
0.4230	0.6170	0.3733	0.3879	0.3996	0.4011	0.4026	0.3731	0.3880	0.4000	0.4214	0.3997	0.3824	0.4061	0.4061	0.1425	1.1915	0.5563	SAV CORP
0.1273	0.1647	0.1363	0.1333	0.1349	0.1334	0.1336	0.1364	0.1334	0.1350	0.1366	0.1331	0.1319	0.2410	0.2410	0.0463	0.0677	1.1777	SAV GOV
12.0805	11.3790	13.6944	13.8177	14.0293	14.1327	14.1586	12.6937	12.8199	13.0362	13.4743	13.1128	12.7224	15.0839	14.0839	5.7180	8.5085	19.2468	MULTIFL

TABLE C4 (Pl of 2)
 RANGE: COLPCT (MATRIX A EXPRESSED AS PERCENTAGES)

RUN: STANDARD SAM
 FILE: SAMPREP

	AGRICUL	GOLD	MINING	FOOD	BEVERAGE	TOBACCO	TEXTILES	WEARING	LEATHER	WOOD	PAPER	CHEMICALS	N M MIN	BAS_MET	FAB_MET	MISC_FAB	ELECTR	CONSTRUC	TRADE	TRANSFOR	FINANCE	COM_SERV	EXTRA 1	EXTRA 2
AGRICUL	5.57	1.10	0.48	39.60	11.81	34.03	5.18	0.02	1.21	6.43	3.78	0.77	0.31	0.17	0.12	0.22	0.96	0.00	0.02	0.15	0.35	2.30	0.60	0.00
GOLD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25	0.61	0.00	9.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MINING	0.15	0.13	0.28	0.16	0.13	0.02	0.14	0.01	0.03	0.03	0.62	3.33	5.15	5.57	0.04	11.29	13.14	1.43	0.00	0.35	0.19	0.64	0.00	0.00
FOOD	6.63	0.01	0.01	18.29	8.00	0.00	0.06	0.00	6.45	0.04	0.36	1.10	0.04	0.00	0.00	0.28	0.03	0.00	0.23	0.27	0.56	9.20	0.00	0.00
BEVERAGE	0.00	0.00	0.00	0.03	23.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.65	2.56	0.00	0.00
TOBACCO	0.00	0.00	0.01	0.00	0.00	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00
TEXTILES	0.35	0.12	0.14	0.44	0.11	0.11	27.23	36.28	5.94	2.28	0.36	0.70	0.09	0.02	0.48	1.22	0.02	0.47	0.13	0.18	0.07	0.11	0.00	0.00
CLOTHING	0.00	0.08	0.11	0.04	0.02	0.00	0.02	3.92	0.02	0.11	0.28	0.10	0.01	0.02	0.03	0.18	0.02	0.06	0.14	0.15	0.06	0.18	0.00	0.00
LEATHER	0.00	0.01	0.03	0.00	0.00	0.00	0.00	0.73	11.20	0.02	0.00	0.00	0.00	0.00	0.05	0.06	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00
WOOD	0.24	0.03	0.08	0.05	0.70	0.02	0.04	0.14	0.82	17.78	0.12	0.05	0.27	0.07	0.51	0.56	0.09	2.48	0.33	0.14	0.19	0.32	0.00	0.00
PAPER	0.49	0.00	0.04	2.13	5.63	9.65	1.02	1.51	2.66	0.68	18.60	1.61	2.04	0.11	0.56	0.81	0.80	0.13	3.03	0.80	1.23	2.43	0.00	0.00
CHEMICALS	7.92	1.80	5.17	2.22	2.35	1.70	10.22	2.05	10.94	7.32	6.54	18.59	4.03	2.66	3.59	2.61	1.05	3.97	1.97	5.01	1.03	5.19	0.00	0.00
N M MIN	0.12	0.07	0.18	0.58	3.65	0.02	0.02	0.03	0.03	0.78	0.03	0.45	10.21	0.36	1.10	0.63	0.08	12.01	0.07	0.18	0.22	0.36	0.00	0.00
AL	0.23	0.42	0.39	0.04	0.00	0.00	0.03	0.00	0.06	1.37	0.24	0.50	3.11	13.70	22.25	0.49	0.84	4.28	0.09	0.39	0.00	0.04	0.00	0.00
FAB METAL	2.09	3.66	9.15	1.99	3.33	0.67	1.10	0.31	1.49	2.47	1.54	1.45	2.93	6.43	15.42	0.91	2.29	10.10	0.93	4.09	0.50	0.59	0.00	0.00
MISC_FAB	0.00	0.03	0.03	0.00	0.00	0.01	0.03	0.45	0.36	0.00	0.10	0.00	0.01	0.00	0.01	0.82	0.06	0.01	0.04	0.05	0.07	0.51	0.00	0.00
ELECTR	0.41	3.20	3.12	0.71	1.35	0.24	1.39	0.36	0.56	1.08	1.63	1.12	3.46	4.08	0.83	0.29	22.25	0.12	1.09	1.74	1.87	1.91	0.00	0.00
CONSTRUC	0.23	0.01	0.03	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48	11.03	0.54	0.23	0.36	0.19	0.00	0.00
TRADE	6.30	1.15	5.16	2.37	3.59	2.42	3.17	1.97	4.16	4.71	5.55	4.60	4.25	3.54	5.58	3.43	3.94	4.74	8.55	5.07	2.94	3.25	0.00	0.00
TRANSFOR	1.97	0.44	1.19	3.94	2.63	3.15	2.04	1.09	1.60	1.85	3.10	4.56	4.05	3.26	2.56	0.77	5.18	4.55	6.13	7.57	1.96	2.82	0.00	0.00
FINANCE	0.43	0.10	0.46	2.45	3.90	2.28	3.15	4.16	3.83	5.20	4.78	2.60	4.04	3.07	3.40	2.28	1.52	6.45	8.86	3.32	7.66	5.99	0.00	0.00
COM_SERV	0.08	0.00	0.00	0.09	0.42	0.30	0.04	0.07	0.06	0.09	0.10	0.15	0.04	0.01	0.07	0.05	0.06	0.00	0.31	0.28	0.92	0.88	0.00	0.00
EXTRA 1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXTRA 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
OTHER	0.46	2.90	7.42	3.63	3.95	1.79	2.93	4.13	4.64	5.38	6.88	4.25	4.32	17.09	4.17	3.15	1.55	1.25	1.81	0.36	2.14	0.32	0.00	0.00
G.O.S.	48.09	54.87	44.23	8.32	16.96	22.95	9.55	4.79	7.09	11.73	13.30	13.92	19.47	11.46	8.71	11.44	29.64	7.45	30.05	28.28	34.70	22.93	0.00	0.00
WH N&S	3.38	8.19	6.77	4.17	6.82	7.94	5.89	6.41	7.84	9.48	16.16	7.98	11.15	12.62	16.13	13.30	10.74	12.00	17.15	23.83	23.17	19.94	0.00	0.00
COL N&S	2.09	0.08	0.65	1.10	2.00	2.11	2.99	7.91	8.62	5.90	3.16	1.01	2.18	0.97	2.02	2.37	0.87	3.59	2.27	2.08	0.86	3.67	0.00	0.00
AS N&S	0.16	0.01	0.10	0.52	0.28	0.21	1.08	4.06	4.84	1.70	1.54	0.39	0.31	0.23	0.56	0.56	0.13	0.52	1.86	0.83	0.57	1.25	0.00	0.00
BL1 N&S	0.13	0.52	0.46	0.28	0.79	0.41	0.44	0.37	0.48	0.81	0.64	0.48	0.85	0.42	0.52	0.56	0.29	0.27	3.29	1.02	0.76	7.26	0.00	0.00
BL2 N&S	7.84	14.27	8.67	2.99	4.49	4.11	5.90	5.96	5.03	7.70	3.88	3.11	9.74	5.68	4.54	3.78	3.42	6.14	4.37	6.23	0.80	1.79	0.00	0.00
HH WHITE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH COLOUR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH ASIAN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH BL60-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH BL60+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH SHA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GOV DITX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
GOV INTX	1.13	0.32	0.68	0.33	0.71	-0.05	1.69	2.36	1.58	0.97	1.44	1.88	1.34	0.24	0.54	2.30	0.38	0.93	0.97	2.18	7.35	0.96	0.00	0.00
SAV HH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAV CORP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SAV GOV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
IMPORT	3.26	7.35	6.03	3.74	3.23	4.76	13.78	15.03	11.23	5.07	11.89	23.97	9.29	7.47	11.35	25.87	1.32	6.43	3.30	5.11	1.56	2.98	0.00	0.00
PLUS/MIN	0.24	-0.87	-1.06	-0.22	-10.00	-0.19	0.84	-4.12	-2.78	-0.97	-6.62	1.11	-2.95	0.15	-5.21	-0.39	-1.15	-0.40	2.47	-0.04	7.25	0.00	0.00	0.00
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	0.00	0.00
COL TOT	4503.5	3969.9	3659.0	5096.8	896.2	174.6	1533.3	822.8	339.8	706.9	1548.8	5712.4	1057.0	3319.5	7773.7	531.9	2034.6	4883.7	9651.2	5648.9	6626.7	1646.8	0.0	0.0

TABLE C4 (P2 of 2)

OTHER	G.O.S.	GOVERNMENT										INVESTMENT					TOTAL	EXPORT	EFFORT			
		MH OCC	COL OCC	AS OCC	BL1 OCC	BL2 OCC	MH WHITE	MH COL	MH ASIAN	MH BL60-	MH BL60+	MH SWA	D_I TAX	CONSUMP	MH CAP	CORP CAP				GOV CAP	EXPORT	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.92	4.24	4.59	7.50	4.52	3.18	0.00	0.21	0.30	1.22	0.08	5.73	2.53	AGRICUL	754.7	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.12	0.47	0.03	29.29	2.23	GOLD	284.4	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01	0.16	0.07	0.03	0.00	-0.15	-0.05	-0.16	-0.01	21.00	2.05	MINING	2771.7	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.58	12.75	14.97	21.75	13.28	9.57	0.00	0.67	0.37	1.49	0.10	6.76	2.66	FOOD	692.9	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.68	2.17	1.77	2.26	3.13	2.18	0.00	0.01	0.08	0.34	0.02	0.18	0.50	BEVERAGE	24.4	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.45	1.12	0.74	0.35	0.86	0.62	0.00	0.00	0.04	0.15	0.01	0.00	0.10	TOBACCO	0.0	
0.14	0.00	0.00	0.00	0.00	0.00	0.00	1.40	1.81	1.47	1.39	1.56	1.54	0.00	0.21	0.07	0.27	0.02	1.19	0.86	TEXTILES	157.7	
0.37	0.00	0.00	0.00	0.00	0.00	0.00	1.43	3.11	3.52	3.20	3.80	2.35	0.00	0.39	0.08	0.34	0.03	0.54	0.46	CLOTHING	71.5	
0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.61	1.69	1.29	1.45	1.70	1.05	0.00	0.01	0.01	0.07	0.01	0.13	0.19	LEATHER	16.8	
0.23	0.00	0.00	0.00	0.00	0.00	0.00	0.66	0.96	0.91	1.26	1.36	0.92	0.00	0.45	0.07	0.24	0.03	0.18	0.40	WOOD	24.0	
5.91	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.26	0.34	0.46	0.39	0.25	0.00	0.38	0.02	0.07	0.01	1.00	0.87	PAPER	132.0	
10.21	0.00	0.00	0.00	0.00	0.00	0.00	3.91	4.72	4.38	4.93	3.42	4.14	0.00	4.47	0.26	0.97	0.21	3.86	3.21	CHEMICALS	509.0	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.07	0.14	0.09	0.09	0.11	0.00	0.20	0.04	0.15	0.01	0.44	0.59	N H MIN	57.7	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.08	0.31	0.02	5.51	1.86	BAS_MET	727.0	
1.06	0.00	0.00	0.00	0.00	0.00	0.00	5.14	3.45	3.38	2.09	2.78	4.48	0.00	6.12	10.19	30.78	21.30	1.80	4.36	FAB_MET	238.2	
0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.40	0.42	0.67	0.57	0.27	0.00	0.38	0.21	0.65	0.43	2.43	0.30	MISC_FAB	321.2	
1.24	0.00	0.00	0.00	0.00	0.00	0.00	2.01	1.40	1.79	1.26	0.83	1.75	0.00	0.69	-0.01	-0.05	-0.01	0.16	1.14	ELECTR	20.8	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.34	20.11	22.96	110.78	0.02	2.74	CONSTRUC	2.1	
8.45	0.00	0.00	0.00	0.00	0.00	0.00	14.75	19.48	20.68	25.50	21.97	18.35	0.00	1.79	2.46	7.59	4.91	4.47	5.42	TRADE	589.5	
15.29	0.00	0.00	0.00	0.00	0.00	0.00	3.94	5.83	5.18	6.32	7.27	5.24	0.00	2.70	0.38	1.42	0.32	7.54	3.17	TRANSPOR	994.9	
11.23	0.00	0.00	0.00	0.00	0.00	0.00	12.81	8.44	10.36	4.60	4.84	10.79	0.00	1.95	2.07	0.22	0.00	3.05	3.72	FINANCE	402.9	
5.29	0.00	0.00	0.00	0.00	0.00	0.00	5.44	3.16	4.47	3.27	3.67	5.00	0.00	0.87	0.00	0.00	0.00	0.22	0.92	COM_SERV	29.0	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EXTRA 1	0.0	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EXTRA 2	0.0	
1.13	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.19	0.27	0.20	0.22	0.31	0.00	-2.92	0.00	0.00	0.00	0.02	1.32	OTHER	2.2	
22.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.74	-1.55	-16.28	0.00	2.23	10.06	G.O.S.	295.0	
1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.03	0.00	21.90	0.00	0.00	0.00	0.00	6.46	MH W&S	0.0	
0.56	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.00	0.00	0.24	0.00	3.72	0.00	0.00	0.00	0.00	0.99	COL W&S	0.0	
0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.01	0.00	1.38	0.00	0.00	0.00	0.00	0.37	AS W&S	0.0	
0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.56	0.00	0.00	0.00	0.00	0.61	BL1 W&S	0.0	
2.36	0.00	0.00	0.00	0.00	0.00	0.00	3.01	0.00	0.00	0.00	0.00	1.82	0.00	7.84	0.00	0.00	0.00	0.00	2.83	BL2 W&S	0.0	
0.00	22.09	97.71	0.00	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	9.55	0.00	0.00	0.00	0.89	9.11	MH WHITE	117.3	
0.00	0.63	0.00	97.77	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.02	1.08	MH COLOUR	2.8	
0.00	0.77	0.00	0.00	97.81	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.19	0.00	0.00	0.00	0.03	0.46	MH ASIAN	4.2	
0.00	0.65	0.00	0.00	0.00	8.07	15.10	0.00	0.00	0.00	0.30	3.82	0.00	0.00	0.52	0.00	0.00	0.00	0.04	0.70	MH BL60-	5.5	
0.00	3.14	0.00	0.00	0.00	89.56	82.65	0.00	0.00	0.00	0.00	1.54	0.00	0.00	0.26	0.00	0.00	0.00	0.06	3.26	MH BL60+	8.3	
0.00	0.57	2.29	2.23	2.19	2.37	2.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.32	MH SWA	0.0	
0.00	16.82	0.00	0.00	0.00	0.00	0.00	12.45	5.72	5.34	2.44	2.98	6.97	0.00	0.00	0.00	0.00	0.00	0.89	3.11	GOV DITX	117.0	
0.92	0.00	0.00	0.00	0.00	0.00	0.00	5.26	6.42	5.19	4.68	5.72	4.88	100.00	6.48	0.72	2.53	1.15	0.33	5.04	GOV INTX	44.0	
0.00	7.24	0.00	0.00	0.00	0.00	0.00	9.80	7.79	3.09	0.83	6.10	8.36	0.00	0.00	0.00	0.00	0.00	0.00	1.95	SAV MH	0.0	
0.00	33.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.41	SAV CORP	0.0	
0.00	5.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.08	0.00	0.00	0.00	0.00	1.02	SAV GOV	0.0	
9.49	9.03	0.00	0.00	0.00	0.00	0.00	6.05	4.67	5.53	3.06	3.53	5.58	0.00	5.01	11.14	34.33	21.50	0.00	6.66	IMPORT	0.0	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	52.80	9.95	-60.97	0.00	0.75	PLUS/MIN	0.0	
100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	TOTAL	
2347.1	17914.0	11510.2	1771.2	665.4	1078.0	5034.0	16218.6	1917.4	812.2	1240.6	5809.7	574.0	5544.7	8977.5	3473.8	6082.7	1817.9	13201.0	178128.2	COL TOT	13201.0	

	AGRICUL	GOLD	MINING	FOOD	BEVERAGE	TOBACCO	TEXTILES	CLOTHING	LEATHER	WOOD	PAPER	CHEMICALS	N M MIN	BAS_MET	FAB_MET	MISC_FAB	ELECTR	CONSTRUC	TRADE	TRANSPCR	FINANCE	COM_SERV	EXTRA 1	EXTRA 2	
AGRICUL	5.57	0.97	0.39	44.82	2.75	1.32	1.76	0.00	0.09	1.01	1.30	0.97	0.07	0.12	0.21	0.03	0.44	0.00	0.04	0.19	0.51	0.24	0.00	0.00	
GOLD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.51	0.00	1.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MINING	0.19	0.15	0.28	0.23	0.03	0.00	0.06	0.00	0.00	0.01	0.26	5.20	1.49	3.05	0.08	1.64	7.30	1.91	0.00	0.53	0.34	0.02	0.00	0.00	
FOOD	5.86	0.00	0.01	18.29	1.41	0.00	0.02	0.00	0.43	0.01	0.11	1.23	0.01	0.60	0.00	0.03	0.01	0.00	0.43	0.29	0.72	2.97	0.00	0.00	
BEVERAGE	0.00	0.00	0.01	0.14	23.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	4.82	4.71	0.00	0.00	
TOBACCO	0.00	0.00	0.12	0.00	0.00	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.21	0.00	0.00	0.00	0.00		
TEXTILES	1.03	0.31	0.32	1.45	0.07	0.01	27.23	19.47	1.32	1.05	0.36	2.61	0.06	0.94	2.45	0.42	0.02	1.49	0.83	0.67	0.29	0.12	0.50	0.00	
CLOTHING	0.00	0.40	0.51	0.24	0.02	0.00	0.04	3.92	0.01	0.09	0.53	0.69	0.02	0.07	0.29	0.11	0.04	0.37	1.69	1.05	0.51	0.37	0.00	0.00	
LEATHER	0.00	0.11	0.31	0.00	0.00	0.00	0.01	1.78	11.20	0.03	0.01	0.00	0.00	0.00	1.24	0.09	0.00	0.00	0.11	0.31	0.04	0.01	0.00	0.00	
WOOD	1.53	0.17	0.39	0.35	0.89	0.01	0.09	0.17	0.40	17.78	0.25	0.43	0.40	0.31	5.56	0.42	0.25	17.16	4.52	1.11	1.82	0.74	0.00	0.00	
PAPER	1.43	0.00	0.08	7.02	3.26	1.09	1.01	0.80	0.58	0.31	18.60	5.95	1.39	0.24	2.79	0.28	1.04	0.40	18.86	2.93	5.25	2.59	0.00	0.00	
CHEMICALS	6.25	1.25	3.31	1.98	0.37	0.05	2.74	0.29	0.65	0.91	1.77	18.59	0.75	1.54	4.88	0.24	0.37	3.39	3.33	4.95	1.20	1.50	0.00	0.00	
N M MIN	0.51	0.25	0.62	2.81	3.09	0.00	0.03	0.03	0.01	0.52	0.05	2.46	10.21	1.12	8.10	0.32	0.16	55.48	0.68	0.95	1.38	0.56	0.00	0.00	
BAS_METAL	0.31	0.50	0.43	0.07	0.00	0.00	0.02	0.00	0.01	0.29	0.11	0.86	0.99	13.70	52.11	0.08	0.52	6.30	0.25	0.66	0.01	0.02	0.00	0.00	
FAB_METAL	1.21	1.87	4.31	1.31	0.38	0.02	0.22	0.03	0.07	0.22	0.31	1.07	0.40	2.75	15.42	0.06	0.60	6.34	1.15	2.97	0.43	0.13	0.00	0.00	
MISC_FAB	0.00	0.24	0.20	0.02	0.00	0.00	0.10	0.69	0.23	0.01	0.30	0.03	0.02	0.01	0.08	0.82	0.22	0.10	0.65	0.49	0.91	1.57	0.00	0.00	
ELECTR	0.92	6.24	5.61	1.77	0.59	0.02	1.05	0.14	0.09	0.37	1.24	3.13	1.80	6.65	3.16	0.08	22.25	0.28	5.15	4.84	6.08	1.55	0.00	0.00	
CONSTRUC	0.21	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	11.03	1.07	0.27	0.49	0.06	0.00	0.00	
TRADE	2.94	0.47	1.96	1.25	0.33	0.04	0.50	0.17	0.15	0.35	0.89	2.84	0.47	1.22	4.50	0.19	0.83	2.40	8.55	2.97	2.02	0.55	0.00	0.00	
TRANSPORT	1.57	0.31	0.77	3.55	0.42	0.10	0.55	0.16	0.10	0.23	0.85	4.61	0.76	1.92	3.52	0.07	1.87	3.93	10.47	7.57	2.30	0.82	0.00	0.00	
FINANCE	0.29	0.06	0.26	1.88	0.53	0.06	0.73	0.52	0.20	0.56	1.12	2.24	0.65	1.54	3.99	0.18	0.47	4.75	12.91	2.83	7.66	1.49	0.00	0.00	
COM_SERV	0.21	0.00	0.00	0.29	0.23	0.03	0.04	0.04	0.01	0.04	0.09	0.54	0.02	0.01	0.32	0.02	0.07	0.00	1.80	0.96	3.71	0.88	0.00	0.00	
EXTRA 1	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
EXTRA 2	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
OTHER	0.88	4.91	11.56	7.88	1.51	0.13	1.92	1.45	-0.67	1.62	4.54	10.35	1.94	24.17	13.81	0.71	1.35	2.61	7.46	0.88	6.05	0.22	0.00	0.00	
G.O.S.	12.09	12.16	9.03	2.37	0.85	0.22	0.82	0.22	0.13	0.46	1.15	4.44	1.15	2.12	3.78	0.34	3.37	2.03	16.19	8.92	12.83	2.11	0.00	0.00	
MH W/S	1.32	2.83	2.15	1.85	0.53	0.12	0.79	0.46	0.23	0.58	2.17	3.96	1.02	3.64	10.93	0.61	1.90	5.09	14.38	11.70	13.34	2.85	0.00	0.00	
COL W/S	5.31	0.18	1.35	3.18	1.01	0.21	2.59	3.68	1.65	2.36	2.76	3.25	1.30	1.81	8.87	0.71	1.00	9.89	12.39	6.63	3.22	3.41	0.00	0.00	
AS W/S	1.07	0.08	0.52	3.97	0.37	0.05	2.49	5.02	2.47	1.81	3.60	3.37	0.49	1.17	6.59	0.45	0.40	3.78	27.00	7.06	5.66	3.08	0.00	0.00	
BL1 W/S	0.55	1.92	1.55	1.32	0.66	0.07	0.63	0.28	0.15	0.53	0.91	2.54	0.83	1.31	3.78	0.27	0.55	1.22	29.48	5.37	4.67	11.10	0.00	0.00	
BL2 W/S	7.02	11.25	6.30	3.03	0.80	0.14	1.80	0.97	0.34	1.08	1.19	3.53	2.05	3.75	7.02	0.40	1.38	5.96	8.37	6.99	1.05	0.58	0.00	0.00	
HH WHITE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HH COLOUR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HH ASIAN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HH BL60-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HH BL60+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HH SWA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
GOV DITY	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
GOV INTX	0.57	0.14	0.28	0.19	0.07	0.00	0.29	0.22	0.06	0.08	0.25	1.20	0.16	0.09	0.47	0.14	0.09	0.50	1.05	1.37	5.42	0.18	0.00	0.00	
SAV HH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SAV CORP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SAV GOV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
IMPORT	1.24	2.46	1.86	1.61	0.24	0.07	1.78	1.04	0.32	0.30	1.55	11.54	0.83	2.09	7.43	1.20	0.23	2.65	2.68	2.43	0.87	0.41	0.00	0.00	
PLUS/MIN	0.80	-2.61	-2.92	-0.83	-6.74	-0.02	0.97	-2.55	-0.71	-0.52	-7.70	4.78	-2.34	0.36	-30.46	-0.16	-1.76	-1.47	17.92	-0.16	36.11	0.00	0.00	0.00	
EMP MH	4.80	2.45	1.69	1.38	0.37	0.09	0.56	0.39	0.18	0.52	1.56	2.34	0.76	2.57	6.79	0.37	1.42	5.44	18.95	11.47	11.44	6.81	0.00	0.00	
EMP COL	15.72	0.10	0.94	3.08	0.50	0.10	2.59	5.25	1.79	2.10	1.80	1.75	0.93	0.25	5.93	0.66	0.80	9.80	12.12	5.89	1.65	2.44	0.00	0.00	
EMP AS	2.35	0.01	0.35	4.67	0.24	0.00	4.00	13.63	3.90	1.45	2.70	2.55	0.63	0.53	4.63	0.72	0.35	4.94	28.05	5.95	3.98	4.22	0.00	0.00	
EMP BL	15.52	9.49	4.44	2.48	0.45	0.06	1.62	0.70	0.18	1.07	0.60	1.65	1.39	1.53	4.59	0.19	0.99	7.80	8.90	5.19	1.13	2.21	0.00	0.00	
EMP TOT	12.65	6.51	3.29	2.35	0.43	0.07	1.55	1.50	0.47	1.07	1.02	1.85	1.17	1.60	5.26	0.30	1.05	7.39	12.17	6.76	3.69	3.37	0.00	0.00	
CAP STOCK	8.39	3.64	2.62	1.22	0.46	0.04	0.69	0.23	0.10	0.34	0.88	1.92	0.78	3.14	2.45	0.14	9.36	1.12	6.11	12.40	21.71	22.24	0.00	0.00	
BL W/S	5.88	9.61	5.47	2.73	0.77	0.13	1.59	0.85	0.31	0.98	1.14	3.35	1.83	3.32	6.44	0.38	1.24	5.12	12.09	6.70	1.69	2.44	0.00	0.00	
TOT W/S	3.05	4.57	3.04	2.30	0.64	0.13	1.25	1.01	0.45	0.90	1.96	3.69	1.28	3.30	9.24	0.55	1.57	5.48	13.93	9.57	8.64	2.78	0.00	0.00	
VAL ADDED	7.32	8.15	5.87	2.33	0.74	0.17	1.04	0.64	0.30	0.69	1.58	4.04	1.22	2.74	6.66	0.45	2.42	3.85	14.99	9.26	10.62	2.46	0.0		

TABLE C5 (P2 of 2)										GOVERNMENT			INVESTMENT				EXPST		TOTAL		
OTHER	G.O.S.	MH OCC	COL OCC	AS OCC	BL1 OCC	BL2 OCC	MH WHITE	MH COL.	MH ASIAN	MH BL60-	MH BL60+	MH SHA	D_1 TAX	CONSUMP	MH CAP	CORP CAP	GOV CAP	EXPST	TOTAL		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.92	1.91	0.83	2.07	5.83	0.41	0.00	0.41	0.23	1.64	0.03	16.81	100.00	AGRICUL	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.10	0.71	0.02	97.35	100.00	GOLD	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.00	0.05	0.11	0.00	0.00	-0.37	-0.04	-0.30	-0.01	75.75	100.00	MINING	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.71	4.80	2.39	5.29	15.14	1.08	0.00	1.18	0.25	1.77	0.04	17.52	100.00	FOOD	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.32	4.66	1.61	3.13	20.28	1.39	0.00	0.00	0.72	2.30	0.04	2.72	100.00	BEVERAGE	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	41.51	12.26	3.43	2.47	28.50	2.05	0.00	0.12	0.74	5.10	0.11	0.03	100.00	TOBACCO	
0.21	0.00	0.00	0.00	0.00	0.00	0.00	14.77	2.26	0.78	1.13	5.90	0.58	0.00	1.21	0.15	1.08	0.03	10.28	100.00	TEXTILES	
1.05	0.00	0.00	0.00	0.00	0.00	0.00	28.10	7.25	3.47	4.82	26.80	1.64	0.00	4.26	0.35	2.52	0.06	8.69	100.00	CLOTHING	
0.32	0.00	0.00	0.00	0.00	0.00	0.00	29.09	9.54	3.08	5.29	29.14	1.77	0.00	0.15	0.15	1.26	0.03	4.93	100.00	LEATHER	
0.77	0.00	0.00	0.00	0.00	0.00	0.00	15.16	2.59	1.05	2.21	11.19	0.75	0.00	5.74	0.33	2.04	0.07	3.39	100.00	WOOD	
8.95	0.00	0.00	0.00	0.00	0.00	0.00	1.70	0.32	0.18	0.37	1.46	0.09	0.00	2.19	0.04	0.27	0.01	8.52	100.00	PAPER	
4.19	0.00	0.00	0.00	0.00	0.00	0.00	11.11	1.58	0.62	1.07	3.48	0.42	0.00	7.03	0.16	1.04	0.07	8.91	100.00	CHEMICALS	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.67	0.13	0.10	0.10	0.49	0.06	0.00	1.88	0.12	0.83	0.02	5.46	100.00	N H MIN	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22	0.08	0.56	0.01	21.90	100.00	BAS_FET	
0.32	0.00	0.00	0.00	0.00	0.00	0.00	10.73	0.85	0.35	0.33	2.08	0.33	0.00	7.07	4.55	24.09	4.98	3.06	100.00	FAB_FET	
3.27	0.00	0.00	0.00	0.00	0.00	0.00	2.81	1.45	0.65	1.56	6.17	0.29	0.00	6.40	1.37	7.45	1.48	60.39	100.00	MISC_FAB	
1.43	0.00	0.00	0.00	0.00	0.00	0.00	15.99	1.32	0.72	0.77	2.37	0.49	0.00	3.04	-0.02	-0.15	0.00	1.02	100.00	ELECTR	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.46	14.30	28.60	41.24	0.04	100.00	CONSTRUC	
2.05	0.00	0.00	0.00	0.00	0.00	0.00	24.79	3.87	1.74	3.28	13.23	1.09	0.00	1.67	0.89	4.78	0.92	6.11	100.00	TRADE	
6.35	0.00	0.00	0.00	0.00	0.00	0.00	11.30	1.98	0.74	1.39	7.47	0.53	0.00	4.29	0.23	1.53	0.10	17.61	100.00	TRANSPOR	
3.98	0.00	0.00	0.00	0.00	0.00	0.00	31.35	2.44	1.27	0.86	4.25	0.93	0.00	2.64	1.09	0.20	0.00	6.08	100.00	FINANCE	
7.54	0.00	0.00	0.00	0.00	0.00	0.00	53.62	3.67	2.20	2.46	12.94	1.74	0.00	4.76	0.00	0.00	0.00	1.76	100.00	COM_SERV	
ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
1.13	0.00	0.00	0.00	0.00	0.00	0.00	2.33	0.16	0.09	0.11	0.55	0.08	0.00	-11.15	0.00	0.00	0.00	0.10	100.00	OTHER	
3.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.38	-0.30	-5.53	0.00	1.65	100.00	G.O.S.	
0.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.08	0.00	0.00	0.00	0.00	100.00	MH WLS	
0.74	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	18.87	0.00	0.00	0.00	0.00	100.00	COL WLS	
0.48	0.00	0.00	0.00	0.00	0.00	0.00	3.55	0.00	0.00	0.00	0.00	0.00	0.00	18.65	0.00	0.00	0.00	0.00	100.00	AS WLS	
0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.67	0.00	0.00	0.00	0.00	100.00	BL1 WLS	
1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	13.98	0.00	0.00	0.00	0.00	100.00	BL2 WLS	
0.00	24.40	69.34	0.00	0.00	0.00	0.00	9.71	0.00	0.00	0.00	0.00	0.21	0.00	5.28	0.00	0.00	0.00	0.72	100.00	MH WHITE	
0.00	5.89	0.00	90.32	0.00	0.00	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00	3.52	0.00	0.00	0.00	0.14	100.00	MH COLOUR	
0.00	17.03	0.00	0.00	80.13	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00	2.15	0.00	0.00	0.00	0.51	100.00	MH ASIAN	
0.00	9.34	0.00	0.00	0.00	7.01	61.26	0.00	0.00	0.00	0.30	17.88	0.00	0.00	3.76	0.00	0.00	0.00	0.44	100.00	MH BL60-	
0.00	9.69	0.00	0.00	0.00	16.62	71.61	0.00	0.00	0.00	0.00	1.54	0.00	0.00	0.40	0.00	0.00	0.00	0.14	100.00	MH BL60+	
0.00	17.94	45.98	6.87	2.54	4.45	19.77	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.44	0.00	0.00	0.00	0.00	100.00	MH SHA	
0.00	54.34	0.00	0.00	0.00	0.00	0.00	36.41	1.98	0.78	0.54	3.12	0.72	0.00	0.00	0.00	0.00	0.00	2.11	100.00	GOV DITA	
0.24	0.00	0.00	0.00	0.00	0.00	0.00	9.50	1.37	0.47	0.65	3.70	0.31	61.75	6.48	0.28	1.72	0.23	0.49	100.00	GOV INTX	
0.00	37.33	0.00	0.00	0.00	0.00	0.00	45.77	4.30	0.72	0.29	10.20	1.38	0.00	0.00	0.00	0.00	0.00	0.00	100.00	SAV MH	
0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	SAV CCAP	
0.00	50.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.78	0.00	0.00	0.00	0.00	100.00	SAV GOV	
1.88	13.63	0.00	0.00	0.00	0.00	0.00	8.27	0.75	0.38	0.32	1.73	0.27	0.00	3.79	3.26	17.59	3.29	0.00	100.00	IMPORT	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	137.83	45.47	-83.30	0.00	0.00	100.00	PLUS/MIN	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	17.55	0.00	0.00	0.00	0.00	100.00	EXP MH	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.46	0.00	0.00	0.00	0.00	0.00	0.00	12.36	0.00	0.00	0.00	0.00	100.00	EXP COL	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00	9.06	0.00	0.00	0.00	0.00	100.00	EXP AS	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.74	0.00	0.00	0.00	0.00	0.00	0.00	11.08	0.00	0.00	0.00	0.00	100.00	EXP BL	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.80	0.00	0.00	0.00	0.00	0.00	0.00	12.68	0.00	0.00	0.00	0.00	100.00	EXP TOT	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	CAP STOCK	
1.02	0.00	0.00	0.00	0.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00	0.17	0.00	16.75	0.00	0.00	0.00	0.00	100.00	BL WLS	
0.62	0.00	0.00	0.00	0.00	0.00	0.00	2.89	0.00	0.00	0.00	0.00	0.06	0.00	17.19	0.00	0.00	0.00	0.00	100.00	TOT WLS	
1.75	0.00	0.00	0.00	0.00	0.00	0.00	1.48	0.00	0.00	0.00	0.00	0.03	0.00	11.15	-0.14	-2.61	0.00	0.78	100.00	VAL ADDED	
1.93	0.00	0.00	0.00	0.00	0.00	0.00	13.66	1.94	0.88	1.48	5.95	0.56	0.00	2.39	1.72	5.67	3.38	16.93	100.00	INT INPUT	
1.32	10.06	6.46	0.99	0.37	0.61	2.83	9.11	1.08	0.46	0.70	3.26	0.32	3.11	5.04	1.95	3.41	1.02	7.41	100.00	TOTAL	

TABLE C6

RUN: SAMPCT

RANGE: K-FCT

(% DISTRIBUTION BETWEEN HOUSEHOLDS)

FILE: STANDARD SAM

QZPCT (% DISTRIBUTION BETWEEN FD CATEGORIES)

	HH WHITE	HH COL	HH ASIAN	HH BL60-	HH BL60+	HH SNA	HH TOT	HH TOT	GOV EXP	HH CAP	CORP CAP	GOV CAP	EXPORT	FD TOT	HH TOT	FD TOT	TOTAL	
AGRICUL	38.78	10.12	4.63	11.57	32.63	2.27	100.00	48.28	1.12	0.62	4.44	0.09	45.45	100.00	AGRICUL	63.02	36.98	100.00
GOLD	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.00	0.02	0.10	0.73	0.02	99.14	100.00	GOLD	1.81	98.19	100.00
MINING	7.22	8.27	1.27	26.09	54.86	2.29	100.00	0.27	-0.49	-0.06	-0.39	-0.01	100.68	100.00	MINING	24.76	75.24	100.00
FOOD	39.47	10.12	5.03	11.17	31.94	2.27	100.00	69.54	1.73	0.37	2.60	0.05	25.70	100.00	FOOD	31.84	68.16	100.00
BEVERAGE	49.40	7.56	2.62	5.10	33.04	2.27	100.00	91.81	0.10	0.48	3.44	0.07	4.07	100.00	BEVERAGE	33.17	66.83	100.00
TOBACCO	46.01	13.59	3.81	2.73	31.59	2.27	100.00	93.66	0.12	0.77	5.29	0.12	0.03	100.00	TOBACCO	3.67	96.33	100.00
TEXTILES	59.13	0.89	3.06	4.44	23.20	2.27	100.00	66.58	3.17	0.39	2.84	0.07	26.95	100.00	TEXTILES	61.84	38.16	100.00
CLOTHING	38.59	10.06	4.81	6.69	37.17	2.27	100.00	81.95	4.84	0.40	2.86	0.07	9.68	100.00	CLOTHING	12.03	87.97	100.00
LEATHER	37.34	12.25	3.95	6.79	37.40	2.27	100.00	92.31	0.18	0.17	1.46	0.03	5.84	100.00	LEATHER	15.59	84.41	100.00
WOOD	46.01	7.86	3.17	6.70	33.98	2.27	100.00	71.01	12.90	0.73	4.58	0.16	7.62	100.00	WOOD	55.49	44.51	100.00
PAPER	41.37	7.76	4.29	8.90	35.40	2.27	100.00	27.16	14.46	0.26	1.79	0.09	56.25	100.00	PAPER	84.65	15.35	100.00
CHEMICALS	60.75	0.67	3.41	5.86	19.04	2.27	100.00	51.52	19.80	0.45	2.92	0.19	25.11	100.00	CHEMICALS	64.52	35.48	100.00
N M MIN	65.32	5.10	4.09	3.93	19.30	2.26	100.00	23.90	15.71	1.15	7.97	0.18	51.09	100.00	N M MIN	89.31	10.69	100.00
RAS METAL	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.00	0.98	0.36	2.46	0.04	96.17	100.00	RAS MET	77.23	22.77	100.00
FAB METAL	73.11	5.79	2.41	2.27	14.17	2.26	100.00	25.12	12.09	7.79	41.22	8.53	5.24	100.00	FAB MET	41.56	58.44	100.00
MISC FAB	21.71	11.20	5.01	12.05	47.77	2.27	100.00	14.36	7.11	1.52	8.29	1.65	67.07	100.00	MISC FAB	9.96	90.04	100.00
ELECTR	73.85	6.08	3.31	3.54	10.95	2.27	100.00	84.80	11.89	-0.10	-0.58	-0.02	4.00	100.00	ELECTR	74.46	25.54	100.00
CONSTRUC	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.00	2.84	16.51	33.01	47.60	0.05	100.00	CONSTRUC	13.36	86.64	100.00
TRADE	51.65	8.06	3.63	6.83	27.56	2.27	100.00	76.96	2.67	1.42	7.67	1.48	9.79	100.00	TRADE	37.64	62.36	100.00
TRANSPOR	48.26	8.45	3.18	5.93	31.91	2.27	100.00	49.64	9.09	0.50	3.24	0.22	37.32	100.00	TRANSPOR	52.81	47.19	100.00
FINANCE	76.27	5.94	3.09	2.10	10.33	2.27	100.00	80.41	5.17	2.13	0.40	0.00	11.89	100.00	FINANCE	48.88	51.12	100.00
COM SERV	69.56	4.79	2.87	3.22	16.88	2.27	100.00	92.16	5.72	0.00	0.00	0.00	2.12	100.00	COM SERV	16.84	83.16	100.00
EXTRA 1	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	EXTRA 1	ERR	ERR	ERR
EXTRA 2	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	EXTRA 2	ERR	ERR	ERR
OTHER	70.23	4.76	2.86	3.23	16.65	2.27	100.00	-42.66	144.10	0.00	0.00	0.00	-1.24	100.00	OTHER	107.74	-7.74	100.00
G.O.S.	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.00	2185.23	-150.33	-2756.13	0.00	821.24	100.00	G.O.S.	99.80	0.20	100.00
HH W/S	97.91	0.00	0.00	0.00	0.00	2.09	100.00	0.41	99.59	0.00	0.00	0.00	0.00	100.00	HH W/S	82.85	17.15	100.00
COL W/S	97.90	0.00	0.00	0.00	0.00	2.10	100.00	16.11	83.89	0.00	0.00	0.00	0.00	100.00	COL W/S	77.50	22.50	100.00
AS W/S	58.35	0.00	0.00	0.00	0.00	1.65	100.00	1.92	98.08	0.00	0.00	0.00	0.00	100.00	AS W/S	80.59	19.41	100.00
BL1 W/S	100.00	0.00	0.00	0.00	0.00	0.00	100.00	0.03	99.97	0.00	0.00	0.00	0.00	100.00	BL1 W/S	70.32	29.68	100.00
BL2 W/S	97.91	0.00	0.00	0.00	0.00	2.09	100.00	41.49	58.51	0.00	0.00	0.00	0.00	100.00	BL2 W/S	76.11	23.89	100.00
HH WHITE	100.00	0.00	0.00	0.00	0.00	0.00	100.00	3.97	84.47	0.00	0.00	0.00	11.56	100.00	HH WHITE	93.74	6.26	100.00
HH COLOUR	0.00	100.00	0.00	0.00	0.00	0.00	100.00	3.39	92.80	0.00	0.00	0.00	3.81	100.00	HH COLOUR	96.21	3.79	100.00
HH ASIAN	0.00	0.00	100.00	0.00	0.00	0.00	100.00	6.11	75.89	0.00	0.00	0.00	18.00	100.00	HH ASIAN	97.16	2.84	100.00
HH BL60-	0.00	0.00	0.00	1.65	98.35	0.00	100.00	81.22	16.80	0.00	0.00	0.00	1.99	100.00	HH BL60-	77.61	22.39	100.00
HH BL60+	0.00	0.00	0.00	0.00	100.00	0.00	100.00	73.93	19.21	0.00	0.00	0.00	6.86	100.00	HH BL60+	97.92	2.08	100.00
HH SNA	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.00	100.00	0.00	0.00	0.00	0.00	100.00	HH SNA	97.56	2.44	100.00
GOV DITI	67.59	4.54	1.80	1.25	7.16	1.66	100.00	95.38	0.00	0.00	0.00	0.00	4.62	100.00	GOV DITI	54.34	45.66	100.00
GOV INTX	59.29	8.57	2.94	4.04	23.12	1.95	100.00	63.50	25.72	1.10	6.81	0.93	1.94	100.00	GOV INTX	34.08	65.92	100.00
SAV HH	73.03	6.86	1.15	0.47	16.28	2.20	100.00	100.00	0.00	0.00	0.00	0.00	0.00	100.00	SAV HH	37.33	62.67	100.00
SAV COSP	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	SAV COSP	100.00	0.00	100.00
SAV GOV	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.00	100.00	0.00	0.00	0.00	0.00	100.00	SAV GOV	53.22	46.78	100.00
IMP CRT	70.53	6.43	3.23	2.73	14.73	2.30	100.00	29.55	9.56	8.22	44.36	8.30	0.00	100.00	IMP CRT	50.35	49.65	100.00
PLUS/MIN	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.00	0.00	137.83	45.47	-63.30	0.00	100.00	PLUS/MIN	0.00	100.00	100.00
TOT W/S	97.91	0.00	0.00	0.00	0.00	2.09	100.00	44.20	14.93	5.78	10.12	3.02	21.96	100.00	TOT W/S	75.69	24.31	100.00
TGT W/S	97.91	0.00	0.00	0.00	0.00	2.09	100.00	14.27	85.73	0.00	0.00	0.00	0.00	100.00	TGT W/S	75.95	24.05	100.00

RANGE: Q3PCT

TABLE C7

RUN: STANDARD SAM.
FILE: SAMPCT

I	MH W&S	COL W&S	AS W&S	BL1 W&S	BL2 W&S	TOT	G.O.S.	TOT W&S	VAL ADD	I	G.O.S.	MH W&S	COL W&S	AS W&S	BL1 W&S	BL2 W&S	BL W&S	TOT W&S
AGRICUL I	24.68	15.34	1.16	0.97	57.65	100.00	77.95	22.05	100.00	AGRICUL I	12.07	1.32	5.26	1.06	0.55	6.97	5.84	3.04
GOLD I	35.50	0.34	0.06	2.26	61.84	100.00	70.39	29.61	100.00	GOLD I	12.00	2.78	0.18	0.08	1.89	11.05	9.44	4.49
MINING I	40.67	3.93	0.57	2.75	52.09	100.00	72.65	27.35	100.00	MINING I	8.96	2.13	1.33	0.52	1.54	6.22	5.40	3.00
FOOD I	46.01	12.19	5.72	3.08	33.00	100.00	47.86	52.14	100.00	FOOD I	2.37	1.84	3.16	3.96	1.32	3.01	2.71	2.29
BEVERAGE I	47.42	13.90	1.93	5.50	31.25	100.00	54.12	45.88	100.00	BEVERAGE I	0.85	0.53	1.01	0.37	0.66	0.80	0.77	0.64
TOBACCO I	53.72	14.30	1.40	2.79	27.79	100.00	60.84	39.16	100.00	TOBACCO I	0.22	0.12	0.21	0.05	0.07	0.14	0.13	0.13
TEXTILES I	36.15	18.33	6.61	2.71	36.20	100.00	36.93	63.07	100.00	TEXTILES I	0.82	0.78	2.57	2.48	0.63	1.79	1.59	1.24
CLOTHING I	25.93	32.02	16.43	1.49	24.14	100.00	16.24	83.76	100.00	CLOTHING I	0.22	0.46	3.66	5.01	0.28	0.97	0.85	1.01
LEATHER I	29.23	32.15	18.06	1.80	18.76	100.00	20.90	79.10	100.00	LEATHER I	0.13	0.23	1.65	2.47	0.15	0.34	0.31	0.45
WOOD I	37.03	23.07	6.66	3.15	30.09	100.00	31.43	68.57	100.00	WOOD I	0.47	0.59	2.37	1.83	0.53	1.09	0.99	0.91
PAPER I	63.67	12.44	6.09	2.50	15.30	100.00	34.39	65.61	100.00	PAPER I	1.15	2.17	2.75	3.59	0.91	1.19	1.14	1.95
CHEMICALS I	61.53	7.76	3.03	3.69	23.99	100.00	51.77	48.23	100.00	CHEMICALS I	4.45	3.96	3.23	3.36	2.53	3.52	3.34	3.69
N M MIN I	46.02	8.99	1.27	3.50	40.22	100.00	44.56	55.44	100.00	N M MIN I	1.18	1.05	1.33	0.50	0.86	2.10	1.88	1.31
BAS_METAL I	63.32	4.85	1.18	2.13	28.52	100.00	36.52	63.48	100.00	BAS_METAL I	2.13	3.64	1.80	1.17	1.31	3.74	3.31	3.29
FAB_METAL I	67.89	8.46	2.37	2.20	19.06	100.00	26.77	73.23	100.00	FAB_METAL I	3.79	10.93	8.84	6.58	3.79	7.00	6.44	9.23
MISC_FAB I	64.68	11.51	2.72	2.71	18.39	100.00	35.75	64.25	100.00	MISC_FAB I	0.34	0.61	0.70	0.44	0.27	0.39	0.37	0.54
ELECTR I	69.50	5.64	0.85	1.88	22.13	100.00	65.72	34.28	100.00	ELECTR I	3.37	1.90	1.00	0.40	0.55	1.38	1.23	1.56
CONSTRUC I	53.31	15.93	2.29	1.19	27.28	100.00	24.86	75.14	100.00	CONSTRUC I	2.04	5.11	9.88	3.79	1.22	5.96	5.13	5.49
TRADE I	59.25	7.85	6.43	11.37	15.09	100.00	50.94	49.06	100.00	TRADE I	16.23	14.37	12.34	26.96	29.47	8.35	12.07	13.91
TRANSPORT I	70.11	6.12	2.45	3.01	18.32	100.00	45.41	54.59	100.00	TRANSPORT I	8.93	11.68	6.60	7.05	5.36	6.96	6.68	9.55
FINANCE I	88.59	3.29	2.17	2.91	3.04	100.00	57.02	42.98	100.00	FINANCE I	12.88	13.35	3.22	5.66	4.68	1.05	1.69	8.64
COM_SERV I	58.81	10.82	3.67	21.42	5.27	100.00	40.35	59.65	100.00	COM_SERV I	2.11	2.85	3.40	3.08	11.09	0.58	2.43	2.78
EXTRA 1 I	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	EXTRA 1 I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EXTRA 2 I	26.18	15.65	2.25	2.36	53.57	100.00	23.50	76.50	100.00	EXTRA 2 I	0.08	0.11	0.43	0.16	0.11	0.52	0.45	0.24
OTHER I	36.61	10.62	2.58	5.54	44.65	100.00	81.33	18.67	100.00	OTHER I	3.02	0.39	0.74	0.48	0.64	1.10	1.01	0.62
HH WHITE I	1.42	11.18	0.43	0.02	86.95	100.00	0.00	100.00	100.00	HH WHITE I	0.00	0.07	3.53	0.36	0.01	9.67	7.97	2.80
HH COLOUR I	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	HH COLOUR I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH ASIAN I	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	HH ASIAN I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH BL60- I	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	HH BL60- I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH BL60+ I	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	HH BL60+ I	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HH SWA I	1.42	11.25	0.33	0.00	87.00	100.00	0.00	100.00	100.00	HH SWA I	0.00	0.00	0.08	0.01	0.00	0.21	0.17	0.06
GOV CONS I	57.02	9.69	3.60	9.28	20.41	100.00	18.54	81.46	100.00	GOV CONS I	4.38	17.03	18.75	18.58	29.60	13.91	16.67	17.13
TOTAL I							100.00	100.00	100.00	TOTAL I	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
INV HH I							-0.30			INV HH I	-0.30							
INV CORP I							-5.53			INV CORP I	-5.53							
INV GOV I							0.00			INV GOV I	0.00							
EXPORT I							1.63			EXPORT I	1.63							

APPENDIX D
DETAILED RESULTS FOR THE SIMULATION OF A PUBLIC WORKS PROJECT.

D.1 TABLES GENERATED

The assumptions made for the computer run simulating a public works project (PWP) are detailed in Section 4.2. The major results and conclusions that can be drawn from this run are presented in Section 4.3.1 and Tables 1 to 3 of the main report. In this appendix a comprehensive set of computer-generated tables relating to this run, as well as some more detailed commentary on the runs are provided. A list of the tables with brief commentaries is given below.

TABLES D1 AND D2:

These tables are very similar to Tables C1 and C2 in the previous appendix. They show the modified SAM and its associated coefficient structure but with adjustments introduced for the conditions of the PWP simulation run. These adjustments are highlighted (shaded) in the tables. All adjustments except the PWP sector coefficient structure are initially introduced into Table 1 and their effects on Table 2 are subsequently calculated. Table 2 contains all the information relating to the run and is introduced into the next stage of the calculation process where a new SAM is produced incorporating the PWP characteristics.

TABLE D3:

This table is similar to tables C1 and D1 but now recalculated to show not only the stimulus but also the economy-wide indirect effects of the PWP. The last few columns on the right provide a comparison with the standard (modified) SAM as given in Table C1. The last column represents the percentage change in the sectoral output if the economy were to be scaled back to the original GDP. This demonstrates relative structural shifts in the economy. The bottom four rows on the second page of the print-out provide some more detailed analysis of changes in aspects of the economy such as total private consumption expenditure (PCE), disposable income (DI), balance of payments, etc.

TABLE D4

The A matrix for the PWP run is given in Table D2. This is different from Table C2 for the standard (modified) SAM only in a few specific instances. However, when indirect effects are considered an entirely new inverse (Leontief) matrix emerges. This is presented in this Table (D4). In general the differences between this table and Table C3 are quite small.

TABLE D5:

A more detailed analysis of differences between the PWP run and the standard SAM is provided in this table. In most cases the changes in expenditure (columns) by a sector or other variable of the economy are the same for all its inputs (rows) including external inputs such as employment and investment. The change for each such variable is summarised in the last column of the table. These values are not the same as those given in the second last column of Table D3 because they have been scaled down by a factor of 2,519 - see the last section of this appendix to give an increase in the GDP of 1 percent. In some cases, however, there is variability in the inputs and this is indicated in the table by highlighting (shading). In particular this is true for the columns HH TOT, FD TOT and INT TOT (Household, final demand and intermediate demand totals). The reason for this is that these are composite quantities. The other departures relate to changes introduced by the PWP conditions. The EXTRA 2 row and column have been used to introduce the PWP sector characteristics and cannot be compared to standard conditions. The few values given in the cases of government current and capital expenditure, and in final demand actually represent percentage contribution made by the PWP sector to the total. The differences in capital expenditure result from the step increase in the allocation of government investment in the PWP. It should be noted that the change in exports is zero throughout. This is a condition set in the run which also specifies a 1 percent increase in the GDP. This can only be done at the expense of an increase in the deficit (actually a decrease in the surplus in the case of 1978) of the economy and of the balance of payments.

TABLE D6:

In Tables C4 to C8 the standard SAM is presented as percentage distributions in various ways. The same can be done for the PWP run but here only the percentage distributions of incomes (rows) is given. This may be compared directly with Table C5.

D.2 BALANCE OF PAYMENTS AND OF NET DOMESTIC SAVINGS

In the 1978 SAM, the current balance of payments (BoP) and net current surplus (i.e. the difference between the savings and investment of households, corporations and government or the net domestic savings combined) are equal. There is no inherent need for these to be equal but, if the surplus in net savings is used to pay off long-term foreign loans, such a balance will be established. If extra foreign capital repayments are not made the BoP surplus is used to augment the foreign reserves. In the PWP run considered here, the national net current surplus will be decreased by R183,7 million as a result of the government's PWP project of R213,4 million. Current BoP is reduced by R181.8 million and the net current, surplus are therefore out of balance

Although the above scaling process is a very useful one for comparing economic structures associated with specific economic policies, certain distortions are introduced which must be borne in mind. In the first place no recognition is given to the fact that different economic policies can affect not only the structure of the economy but also its absolute magnitude. Another problem is that exports are also scaled. Thus, for example, the gold sector will be divided by the scaling factor f .

In the case of the PWP run, GDP(SAM) is the GDP associated with the normal 1978 SAM, and GDP(SIM) is the GDP calculated for the simulated policy, in this case that of the public works project. The percentage impact on various aspects of the economy are indicated in the last column of Table D3. Details of this scaling effect could be found for the entire economy simply by dividing all elements of Table D3 by the factor f and comparing the resultant table with the original SAM as given in Table C1.

$$f = \text{GDP(SIM)/GDP(SAM)} = 1.0152$$

In the second scaling procedure it is not the change that is scaled but the absolute magnitude of the economy. All aspects of the economy including the exogenous export vector, are therefore scaled down by the factor

In the second last column of Table D3 the percentage change resulting from the proposed PWP is indicated. It can be seen that the value added (equal to the GDP when contributions are summed over the entire economy) is increased by 1.519 percent. Hence to scale the PWP to a 1 percent effect on GDP the initial government investment would be scaled down to $213.4/1.519 = \text{R}140.5$ million. The impact on the various aspects of the economy could be seen by dividing the percentage differences of the second last column of Table D3 by the same factor. Such scaled down effects are set out more comprehensively in Table D5.

The magnitude of the changes made to the economy for a particular simulation run are in the first place rather arbitrary. The SAM structure is inherently a linear one and runs can be scaled to a common basis of comparison by applying a simple scaling factor. Two different scaling criteria have been applied. In the first one it is assumed that the magnitude of the economic policy being simulated is scaled proportionally in all respects to give a change in the GDP of the economy of 1 percent. In the second scaling criterion the GDP is brought back to that of the original GDP. Both these criteria will be explored further below.

D.3 SCALING AND SCALING FACTORS

The magnitude of the changes made to the economy for a particular simulation run are in the first place rather arbitrary. The SAM structure is inherently a linear one and runs can be scaled to a common basis of comparison by applying a simple scaling factor. Two different scaling criteria have been applied. In the first one it is assumed that the magnitude of the economic policy being simulated is scaled proportionally in all respects to give a change in the GDP of the economy of 1 percent. In the second scaling criterion the GDP is brought back to that of the original GDP. Both these criteria will be explored further below.

by an amount of 183.7 - 181.8 = R1.9 million. Assumptions could be made regarding further taxes or foreign capital repayments to re-establish the balance, but it is probably better to leave it, as the balance in the 1978 SAM would in any case appear to be an artificial one.

which implies that gold exports are affected by a change in the economy, whereas this should not have a significant effect on the gold industry. Finally it is important to recognise that, unlike the first case where only the change is scaled and scaled results are independent of the magnitude of the assumed policy measure, this is not the case here where the effects on the structure of the economy are proportional to the magnitude of the applied economic policy.

TABLE D1 (P2 of 2)

OTHER	G.O.S.	WH OCC	COL OCC	AS OCC	BL1 OCC	BL2 OCC	HH WHITE	HH COL	HH ASIAN	HH BL60-	HH BL60+	HH SWA	GOVERNMENT			INVESTMENT			EXPORT	ROW TOT	SAM TOT	DIFF	
													D_I TAX	CONSUMP	HH CAP	CORP CAP	GOV CAP						
0.0	0.0	0.0	0.0	0.0	0.0	0.0	311.8	81.3	37.3	93.0	262.4	18.3	0.0	18.6	10.4	74.0	1.5	756.9	4503.5	4503.5	0.0	AGRICUL	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	4.0	28.3	0.6	3864.6	3969.9	3969.9	0.0	GOLD	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.6	0.1	1.9	4.1	0.2	0.0	-13.5	-1.6	-10.8	-0.2	2771.7	3659.0	3659.0	0.0	MINING	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	953.5	244.5	121.6	269.8	771.6	54.9	0.0	60.1	12.9	90.4	1.8	892.9	5096.8	5096.8	0.0	FOOD	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	271.7	41.6	14.4	28.1	181.7	12.5	0.0	0.6	2.9	20.6	0.4	24.4	896.2	896.2	0.0	BEVERAGE	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.5	21.4	6.0	4.3	49.8	3.6	0.0	0.2	1.3	8.9	0.2	0.0	174.6	174.6	0.0	TOBACCO	
3.3	0.0	0.0	0.0	0.0	0.0	0.0	226.5	34.6	11.9	17.3	90.4	8.9	0.0	18.5	2.3	16.6	0.4	157.7	1533.3	1533.3	0.0	TEXTILES	
8.6	0.0	0.0	0.0	0.0	0.0	0.0	231.2	59.7	28.6	39.7	220.5	13.5	0.0	35.0	2.9	20.7	0.5	71.5	822.8	822.8	0.0	CLOTHING	
1.1	0.0	0.0	0.0	0.0	0.0	0.0	98.9	32.4	10.5	18.0	99.0	6.0	0.0	0.5	0.5	4.2	0.1	16.8	339.8	339.8	0.0	LEATHER	
5.4	0.0	0.0	0.0	0.0	0.0	0.0	107.1	18.3	7.4	15.6	79.1	5.3	0.0	40.6	2.3	14.4	0.5	24.0	706.9	706.9	0.0	WOOD	
138.6	0.0	0.0	0.0	0.0	0.0	0.0	26.4	4.9	2.7	5.7	22.6	1.4	0.0	33.9	0.6	4.2	0.2	132.0	1548.8	1548.8	0.0	PAPER	
239.6	0.0	0.0	0.0	0.0	0.0	0.0	634.4	90.5	35.6	61.2	198.9	23.7	0.0	401.4	9.2	59.2	3.9	509.0	5712.4	5712.4	0.0	CHEMICALS	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6	1.4	1.1	1.1	5.2	0.6	0.0	17.8	1.3	9.0	0.2	57.7	1057.0	1057.0	0.0	N M MIN	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.4	2.7	18.6	0.3	727.0	3319.5	3319.5	0.0	BAS MET	
25.0	0.0	0.0	0.0	0.0	0.0	0.0	834.2	66.1	27.4	25.9	161.7	25.7	0.0	549.4	354.0	1872.5	387.3	238.2	7773.7	7773.7	0.0	FAB MET	
17.4	0.0	0.0	0.0	0.0	0.0	0.0	14.9	7.7	3.4	8.3	32.8	1.6	0.0	34.0	7.3	39.7	7.9	321.2	531.9	531.9	0.0	MISC FAB	
29.1	0.0	0.0	0.0	0.0	0.0	0.0	325.4	26.8	14.6	15.6	48.2	10.0	0.0	61.8	-0.5	-3.0	-0.1	20.8	2034.6	2034.6	0.0	ELECTR	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	120.1	698.4	1396.5	2013.9	2.1	4883.7	4883.7	0.0	CONSTRUC	
198.2	0.0	0.0	0.0	0.0	0.0	0.0	2392.4	373.5	167.9	316.3	1276.4	105.3	0.0	160.7	85.6	461.7	89.3	589.5	9651.2	9651.2	0.0	TRADE	
358.8	0.0	0.0	0.0	0.0	0.0	0.0	638.6	111.8	42.0	78.5	422.2	30.1	0.0	242.3	13.2	86.3	5.9	994.9	5648.9	5648.9	0.0	TRANSPOR	
263.5	0.0	0.0	0.0	0.0	0.0	0.0	2077.5	161.9	84.2	57.1	281.4	61.9	0.0	175.2	72.0	13.5	0.0	402.9	6626.7	6626.7	0.0	FINANCE	
124.2	0.0	0.0	0.0	0.0	0.0	0.0	883.0	60.5	36.3	40.6	213.1	28.7	0.0	78.4	0.0	0.0	0.0	29.0	1646.8	1646.8	0.0	COM_SERV	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	EXTRA 1	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0	201.4	0.0	213.4	0.0	-213.4	EXTRA 2	
26.5	0.0	0.0	0.0	0.0	0.0	0.0	54.7	3.7	2.2	2.5	13.0	1.8	0.0	-261.8	0.0	0.0	0.0	2.2	2347.1	2347.1	0.0	OTHER	
539.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	785.0	-54.0	-990.0	0.0	295.0	17914.0	17914.0	0.0	G.O.S.	
45.3	0.0	0.0	0.0	0.0	0.0	0.0	8.0	0.0	0.0	0.0	0.0	0.2	0.0	1965.9	0.0	0.0	0.0	0.0	11510.2	11510.2	0.0	WH W&S	
13.2	0.0	0.0	0.0	0.0	0.0	0.0	62.8	0.0	0.0	0.0	0.0	1.3	0.0	334.2	0.0	0.0	0.0	0.0	1771.2	1771.2	0.0	COL W&S	
3.2	0.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0	124.1	0.0	0.0	0.0	0.0	665.4	665.4	0.0	AS W&S	
6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	319.8	0.0	0.0	0.0	0.0	1078.0	1078.0	0.0	BL1 W&S	
55.3	0.0	0.0	0.0	0.0	0.0	0.0	488.6	0.0	0.0	0.0	0.0	10.4	0.0	703.7	0.0	0.0	0.0	0.0	5034.0	5034.0	0.0	BL2 W&S	
0.0	3957.6	11246.3	0.0	0.0	0.0	0.0	40.3	0.0	0.0	0.0	0.0	0.0	0.0	857.1	0.0	0.0	0.0	117.3	16218.6	16218.6	0.0	HH WHITE	
0.0	112.9	0.0	1731.7	0.0	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0	67.5	0.0	0.0	0.0	2.8	1917.4	1917.4	0.0	HH COLOUR	
0.0	138.3	0.0	0.0	650.8	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.0	0.0	17.5	0.0	0.0	0.0	4.2	812.2	812.2	0.0	HH ASIAN	
0.0	115.9	0.0	0.0	0.0	87.0	760.0	0.0	0.0	0.0	3.7	221.8	0.0	0.0	46.6	0.0	0.0	0.0	5.5	1240.6	1240.6	0.0	HH BL60-	
0.0	563.0	0.0	0.0	0.0	965.4	4160.5	0.0	0.0	0.0	0.0	89.2	0.0	0.0	23.2	0.0	0.0	0.0	8.3	5809.7	5809.7	0.0	HH BL60+	
0.0	103.0	263.9	39.4	14.6	25.5	113.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	0.0	0.0	0.0	0.0	574.0	574.0	0.0	HH SWA	
0.0	3012.8	0.0	0.0	0.0	0.0	0.0	2018.6	109.7	43.4	30.2	173.0	40.0	0.0	0.0	0.0	0.0	0.0	117.0	5544.7	5544.7	0.0	GOV DITX	
21.5	0.0	0.0	0.0	0.0	0.0	0.0	853.2	123.2	42.2	58.1	332.3	28.0	5544.7	582.0	25.0	154.0	21.0	44.0	8977.5	8977.5	0.0	GOV INTX	
0.0	1296.9	0.0	0.0	0.0	0.0	0.0	1589.8	149.4	25.1	10.2	354.4	48.0	0.0	0.0	0.0	0.0	0.0	0.0	3473.8	3473.8	0.0	SAV HH	
0.0	6082.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6082.7	6082.7	0.0	SAV CORP	
0.0	913.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	893.0	0.0	0.0	0.0	0.0	1806.0	1817.9	12.0	SAV GOV	
222.7	1617.9	0.0	0.0	0.0	0.0	0.0	981.7	89.5	44.9	37.9	204.9	32.0	0.0	450.0	387.0	2088.1	390.8	0.0	11870.4	11870.4	0.0	IMPORT	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1834.1	605.0	-1309.8	0.0	1129.3	1330.7	201.4	PLUS/MIN	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	300.0	0.0	0.0	0.0	0.0	1709.4	1709.4	0.0	EMP WH	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	93.6	0.0	0.0	0.0	0.0	0.0	0.0	100.9	0.0	0.0	0.0	0.0	816.5	816.5	0.0	EMP COL	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	18.9	0.0	0.0	0.0	0.0	208.6	208.6	0.0	EMP AS	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	761.6	0.0	0.0	0.0	0.0	0.0	0.0	504.0	0.0	0.0	0.0	0.0	4548.9	4548.9	0.0	EMP BL	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	859.4	0.0	0.0	0.0	0.0	0.0	0.0	923.8	0.0	0.0	0.0	0.0	7283.4	7283.4	0.0	EMP TOT	
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72505.0	72505.0	0.0	CAP STOCK	
663.5	0.0	0.0	0.0	0.0	0.0	0.0	562.0	0.0	0.0	0.0	0.0	12.0	0.0	4232.8	-54.0	-990.0	0.0	295.0	37972.8	37972.8	0.0	VAL ADDED	
2347.1	17914.0	11510.2	1771.2	665.4	1078.0	5034.0	16218.6	1917.4	812.2	1240.6	5809.7	574.0	5544.7	8977.6	3473.8	6082.7	1817.9	13201.0	178128.3	178128.2	-0.1	COL TOT	

TABLE D4 (p2 of 2)

OTHER	G.O.S.	WH OCC	COL OCC	AS OCC	BL1 OCC	BL2 OCC	HH WHITE	HH COL	HH ASIAN	HH BL60-	HH BL60+	HH SWA	GOVERNMENT		INVESTMENT			
													DT IT	EXPEND	HH CAP	CORP CAP	GOV CAP	
0.2274	0.2190	0.2947	0.3565	0.3744	0.3840	0.3890	0.2939	0.3571	0.3754	0.4501	0.3796	0.3279	0.2937	0.2937	0.0961	0.1665	0.3791	AGRICUL
0.0056	0.0062	0.0051	0.0054	0.0054	0.0056	0.0056	0.0051	0.0054	0.0054	0.0058	0.0056	0.0052	0.0060	0.0060	0.0035	0.0087	0.0097	GOLD
0.0583	0.0513	0.0591	0.0596	0.0608	0.0604	0.0606	0.0591	0.0596	0.0608	0.0636	0.0601	0.0594	0.0656	0.0656	0.0284	0.0450	0.1256	MINING
0.2814	0.2730	0.3741	0.4571	0.4908	0.4933	0.5006	0.3730	0.4580	0.4924	0.5899	0.4865	0.4190	0.3715	0.3715	0.1173	0.1967	0.4699	FOOD
0.0633	0.0610	0.0880	0.0925	0.0893	0.1068	0.1060	0.0878	0.0925	0.0892	0.0968	0.1080	0.0936	0.0808	0.0808	0.0263	0.0441	0.1048	BEVERAGE
0.0124	0.0125	0.0174	0.0239	0.0204	0.0215	0.0211	0.0173	0.0240	0.0204	0.0169	0.0219	0.0190	0.0164	0.0164	0.0054	0.0095	0.0213	TOBACCO
0.0931	0.0897	0.1207	0.1361	0.1350	0.1400	0.1397	0.1206	0.1363	0.1352	0.1366	0.1406	0.1277	0.1201	0.1201	0.0398	0.0672	0.1620	TEXTILES
0.0563	0.0521	0.0701	0.0866	0.0917	0.0960	0.0956	0.0699	0.0869	0.0920	0.0906	0.0969	0.0790	0.0727	0.0727	0.0224	0.0378	0.0905	CLOTHING
0.0229	0.0222	0.0305	0.0423	0.0383	0.0436	0.0434	0.0304	0.0424	0.0384	0.0410	0.0441	0.0352	0.0302	0.0302	0.0095	0.0157	0.0390	LEATHER
0.0508	0.0513	0.0598	0.0630	0.0631	0.0655	0.0694	0.0597	0.0630	0.0631	0.0668	0.0698	0.0625	0.0488	0.0688	0.0274	0.0426	0.1223	WOOD
0.1717	0.0866	0.1109	0.1180	0.1216	0.1249	0.1253	0.1108	0.1180	0.1218	0.1300	0.1247	0.1157	0.1153	0.1153	0.0418	0.0707	0.1645	PAPER
0.4628	0.3248	0.4098	0.4302	0.4329	0.4303	0.4325	0.4097	0.4305	0.4332	0.4582	0.4262	0.4169	0.4599	0.4599	0.1552	0.2597	0.6411	CHEMICALS
0.0713	0.0859	0.0784	0.0779	0.0795	0.0793	0.0793	0.0784	0.0779	0.0735	0.0800	0.0793	0.0778	0.1029	0.1029	0.0588	0.0905	0.2972	N M MIN
0.1636	0.1888	0.1811	0.1772	0.1780	0.1791	0.1782	0.1811	0.1772	0.1780	0.1794	0.1780	0.1788	0.2179	0.2179	0.1117	0.2112	0.4324	BAS MET
0.5037	0.5884	0.5719	0.5559	0.5587	0.5575	0.5577	0.5721	0.5558	0.5596	0.5600	0.5571	0.5627	0.6740	0.6740	0.3359	0.6109	1.1973	FAB MET
0.0222	0.0157	0.0166	0.0195	0.0199	0.0217	0.0218	0.0166	0.0195	0.0200	0.0227	0.0218	0.0182	0.0214	0.0214	0.0078	0.0155	0.0281	MISC FAB
0.1410	0.1148	0.1559	0.1493	0.1572	0.1465	0.1472	0.1560	0.1493	0.1573	0.1544	0.1457	0.1532	0.1563	0.1563	0.0540	0.0891	0.2203	ELECTR
0.3471	0.4545	0.3695	0.3652	0.3616	0.3658	0.3658	0.3697	0.3653	0.3615	0.3665	0.3658	0.3627	0.5168	0.5168	0.3508	0.4314	1.7782	CONSTRUC
0.7134	0.6209	0.8067	0.8610	0.8956	0.9189	0.9223	0.8058	0.8614	0.8965	0.9442	0.9167	0.8458	0.8015	0.8015	0.2755	0.5135	1.1716	TRADE
0.4827	0.3056	0.3832	0.4097	0.4104	0.4372	0.4373	0.3828	0.4099	0.4107	0.4395	0.4379	0.4002	0.4129	0.4129	0.1414	0.2498	0.6140	TRANSPOR
0.5662	0.4323	0.6064	0.5682	0.5970	0.5471	0.5477	0.6068	0.5677	0.5972	0.5944	0.5454	0.5990	0.5720	0.5720	0.2227	0.3352	0.8430	FINANCE
0.1685	0.1134	0.1747	0.1516	0.1670	0.1603	0.1601	0.1749	0.1512	0.1669	0.1581	0.1602	0.1696	0.1562	0.1562	0.0475	0.0761	0.1957	COM SERV
0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	EXTRA 1
0.0151	0.0194	0.0163	0.0159	0.0160	0.0158	0.0159	0.0163	0.0159	0.0161	0.0162	0.0158	0.0157	0.0292	0.0292	0.0055	0.0081	0.1335	EXTRA 2
1.1456	0.1223	0.1421	0.1478	0.1519	0.1534	0.1538	0.1420	0.1479	0.1520	0.1594	0.1530	0.1466	0.1273	0.1273	0.0693	0.1224	0.2788	OTHER
1.2618	1.8379	1.1165	1.1592	1.1938	1.1979	1.2025	1.1159	1.1596	1.1949	1.2584	1.1939	1.1429	1.2260	1.2260	0.4254	0.5725	1.7909	G.U.S.
0.8466	0.7460	1.8813	0.8803	0.8977	0.8961	0.8976	0.8814	0.8804	0.8982	0.9157	0.8948	0.8779	1.1421	1.1421	0.3667	0.6023	1.5029	WH W&S
0.1325	0.1220	0.1436	1.1439	0.1462	0.1482	0.1485	0.1436	0.1439	0.1462	0.1515	0.1481	0.1435	0.1878	0.1878	0.0601	0.0962	0.2582	COL W&S
0.0507	0.0447	0.0544	0.0563	1.0574	0.0584	0.0585	0.0543	0.0564	0.0575	0.0597	0.0583	0.0552	0.0698	0.0698	0.0209	0.0345	0.0860	AS W&S
0.0829	0.0726	0.0894	0.0683	0.0906	1.0907	0.0908	0.0894	0.0883	0.0906	0.0926	0.0906	0.0886	0.1250	0.1250	0.0317	0.0524	0.1281	BL1 W&S
0.3207	0.2901	0.3539	0.3340	0.3392	0.3434	1.3443	0.3541	0.3338	0.3391	0.3552	0.3423	0.3452	0.4370	0.4370	0.1406	0.2287	0.6036	BL2 W&S
1.1701	1.2074	2.1671	1.1912	1.2158	1.2135	1.2159	2.1902	1.1914	1.2165	1.2463	1.2113	1.1846	1.5628	1.5628	0.4774	0.7542	1.9664	HH WHITE
0.1425	0.1365	0.1537	1.1329	0.1563	0.1582	0.1585	0.1537	1.1552	0.1564	0.1618	0.1580	0.1533	0.2052	0.2052	0.0634	0.1007	0.2718	HH COLOUR
0.0607	0.0594	0.0635	0.0656	1.0467	0.0679	0.0680	0.0634	0.0657	1.0688	0.0697	0.0678	0.0644	0.0814	0.0814	0.0243	0.0390	0.1002	HH ASIAN
0.0816	0.0797	0.0882	0.0845	0.0860	0.2025	0.2705	0.0882	0.0844	0.0860	1.0926	0.1253	0.0864	0.1137	0.1137	0.0341	0.0545	0.1449	HH BL60-
0.3866	0.3701	0.4161	0.3997	0.4072	1.3205	1.2513	0.4163	0.3994	0.4071	0.4245	1.4253	0.4087	0.5243	0.5243	0.1611	0.2589	0.6831	HH BL60+
0.0409	0.0408	0.0653	0.0644	0.0649	0.0667	0.0657	0.0424	0.0421	0.0429	0.0443	0.0430	1.0422	0.0546	0.0546	0.0170	0.0270	0.0706	HH SWA
0.3856	0.4862	0.4868	0.4300	0.4357	0.4141	0.4147	0.4900	0.4298	0.4357	0.4221	0.4127	0.4388	1.4390	0.4390	0.1427	0.2089	0.5956	GOV DITX
0.6421	0.7272	0.8055	0.7545	0.7532	0.7354	0.7355	0.8068	0.7546	0.7533	0.7376	0.7348	0.7478	1.8029	1.8029	0.2902	0.3913	1.0201	HHV INTX
0.2467	0.2905	0.3388	0.3214	0.2811	0.3079	0.3047	0.3391	0.3213	0.2801	0.2666	0.3111	0.3256	0.2979	0.2979	1.0941	0.1479	0.3454	SAV HH
0.4284	0.6241	0.3791	0.3936	0.4054	0.4067	0.4083	0.3789	0.3937	0.4057	0.4273	0.4054	0.3831	0.4163	0.4163	0.1944	1.1944	0.6031	SAV CORP
0.1282	0.1660	0.1370	0.1341	0.1358	0.1342	0.1344	0.1371	0.1342	0.1358	0.1375	0.1339	0.1326	0.2418	0.2418	0.0466	0.0641	1.1927	SAV GOV
12.2597	11.6119	13.8949	14.0045	14.2185	14.3198	14.3460	12.8944	13.0067	13.2254	13.6661	13.2995	12.9071	15.4170	14.4170	5.7330	3.6033	20.9553	MULTIPL

TABLE D5

RUN: PUBLIC WORKS PROJECT
 FILE: SAMDIF
 RANGE: Q2P (%DIFFERENCE IN Q2)

0.014H : 56DP

	HH WHITE	HH COL	HH ASIAN	HH BL60-	HH BL60+	HH SWA	HH TOT	GOV EXP	HH CAP	CORP CAP	GOV CAP	EXPURT	FD TOT	INT TOT	TOTAL	
AGRICUL	1.002	1.267	1.070	1.136	1.133	1.069	1.092	0.968	0.978	0.968	0.465	0.000	0.593	0.341	0.745	AGRICUL
BLD	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.968	0.978	0.968	0.465	0.000	0.000	0.657	0.019	BLD
MINING	1.002	1.267	1.070	1.136	1.133	1.069	1.133	0.968	0.978	0.968	0.465	0.000	-0.006	1.268	0.310	MINING
FLUID	1.002	1.267	1.070	1.136	1.133	1.069	1.091	0.968	0.978	0.968	0.465	0.000	0.102	0.153	0.110	FLUID
BEVERAGE	1.002	1.267	1.070	1.136	1.133	1.069	1.075	0.968	0.978	0.968	0.465	0.000	1.024	1.034	1.024	BEVERAGE
TUBALCO	1.002	1.267	1.070	1.136	1.133	1.069	1.047	0.968	0.978	0.968	0.465	0.000	1.073	0.976	1.070	TUBALCO
TEXTILES	1.002	1.267	1.070	1.136	1.133	1.069	1.066	0.968	0.978	0.968	0.465	0.000	0.769	1.029	0.930	TEXTILES
CLOTHING	1.002	1.267	1.070	1.136	1.133	1.069	1.091	0.968	0.978	0.968	0.465	0.000	0.970	1.025	0.977	CLOTHING
LEATHER	1.002	1.267	1.070	1.136	1.133	1.069	1.097	0.968	0.978	0.968	0.465	0.000	1.029	0.997	1.024	LEATHER
WOOD	1.002	1.267	1.070	1.136	1.133	1.069	1.080	0.968	0.978	0.968	0.465	0.000	0.972	2.150	1.626	WOOD
PAPER	1.002	1.267	1.070	1.136	1.133	1.069	1.085	0.968	0.978	0.968	0.465	0.000	0.453	1.023	0.937	PAPER
CHEMICALS	1.002	1.267	1.070	1.136	1.133	1.069	1.062	0.968	0.978	0.968	0.465	0.000	0.769	1.100	0.983	CHEMICALS
N M MIN	1.002	1.267	1.070	1.136	1.133	1.069	1.050	0.968	0.978	0.968	0.465	0.000	0.494	3.102	2.323	N M MIN
BAS METAL	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.968	0.978	0.968	0.465	0.000	0.034	1.315	1.024	BAS MET
FAB METAL	1.002	1.267	1.070	1.136	1.133	1.069	1.042	0.968	0.978	0.968	0.465	0.000	0.852	1.383	1.073	FAB MET
MISC FAB	1.002	1.267	1.070	1.136	1.133	1.069	1.115	0.968	0.978	0.968	0.465	0.000	0.323	0.955	0.386	MISC FAB
ELECTR	1.002	1.267	1.070	1.136	1.133	1.069	1.041	0.968	0.978	0.968	0.465	0.000	0.992	0.906	0.928	ELECTR
CONSTRUC	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.968	0.978	0.968	0.465	0.000	0.697	3.521	1.074	CONSTRUC
TRADE	1.002	1.267	1.070	1.136	1.133	1.069	1.073	0.968	0.978	0.968	0.465	0.000	0.939	1.158	1.021	TRADE
TRANSPOR	1.002	1.267	1.070	1.136	1.133	1.069	1.078	0.968	0.978	0.968	0.465	0.000	0.657	1.223	0.956	TRANSPOR
FINANCE	1.002	1.267	1.070	1.136	1.133	1.069	1.038	0.968	0.978	0.968	ERR	0.000	0.409	1.338	1.118	FINANCE
COM SERV	1.002	1.267	1.070	1.136	1.133	1.069	1.045	0.968	ERR	ERR	ERR	0.000	1.011	1.024	1.019	COM SERV
EXTRA1	0.000	0.000	0.000	0.000	0.000	0.000	ERR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	EXTRA 1
EXTRA 2	0.000	0.000	0.000	0.000	0.000	0.000	ERR	0.134	0.000	0.000	11.079	0.000	0.245	0.000	0.106	EXTRA 2
OTHER	1.002	1.267	1.070	1.136	1.133	1.069	1.044	0.968	ERR	0.968	0.465	0.000	0.947	0.994	0.993	OTHER
G.U.S.	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.968	0.978	0.968	ERR	0.000	4.232	0.178	0.168	G.U.S.
HH W&S	1.002	ERR	ERR	ERR	ERR	1.069	1.004	0.968	ERR	ERR	ERR	ERR	0.768	1.032	1.063	HH W&S
COL W&S	1.002	ERR	ERR	ERR	ERR	1.069	1.004	0.968	ERR	ERR	ERR	ERR	0.974	1.403	1.306	COL W&S
AS W&S	1.002	ERR	ERR	ERR	ERR	1.069	1.003	0.968	ERR	ERR	ERR	ERR	0.968	1.158	1.122	AS W&S
BL1 W&S	1.002	ERR	ERR	ERR	ERR	ERR	1.002	0.968	ERR	ERR	ERR	ERR	0.968	0.192	0.915	BL1 W&S
BL2 W&S	1.002	ERR	ERR	ERR	ERR	1.069	1.004	0.968	ERR	ERR	ERR	ERR	0.933	1.294	1.222	BL2 W&S
HH WHITE	1.002	ERR	ERR	ERR	ERR	ERR	1.002	0.968	ERR	ERR	ERR	ERR	0.157	ERR	1.002	HH WHITE
HH COLOUR	ERR	1.267	ERR	ERR	ERR	ERR	1.267	0.968	ERR	ERR	ERR	ERR	0.941	ERR	1.267	HH COLOUR
HH ASIAN	ERR	ERR	1.070	ERR	ERR	ERR	1.070	0.968	ERR	ERR	ERR	ERR	0.190	ERR	1.070	HH ASIAN
HH BL60-	ERR	ERR	ERR	1.136	1.133	ERR	1.133	0.968	ERR	ERR	ERR	ERR	1.033	ERR	1.136	HH BL60-
HH BL60+	ERR	ERR	ERR	ERR	1.133	ERR	1.133	0.968	ERR	ERR	ERR	ERR	1.023	ERR	1.133	HH BL60+
HH SWA	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.968	ERR	ERR	ERR	ERR	0.968	ERR	1.069	HH SWA
GOV DITX	1.002	1.267	1.070	1.136	1.133	1.069	1.028	ERR	ERR	ERR	ERR	ERR	0.940	ERR	0.919	GOV DITX
GOV INTX	1.002	1.267	1.070	1.136	1.133	1.069	1.064	0.968	0.978	0.968	0.465	0.000	0.942	1.143	0.968	GOV INTX
SAV HH	1.002	1.267	1.070	1.136	1.133	1.069	1.044	ERR	ERR	ERR	ERR	ERR	1.044	ERR	0.978	SAV HH
SAV CORP	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.968	SAV CORP
SAV GOV	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.060	ERR	ERR	ERR	ERR	0.060	ERR	0.466	SAV GOV
IMPORT	1.002	1.267	1.070	1.136	1.133	1.069	1.046	0.968	0.978	0.968	0.465	ERR	0.405	1.106	0.994	IMPORT
PLUS/MIN	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	0.978	0.968	12.859	ERR	8.469	ERR	-8.485	PLUS/MIN
TOTAL=PI	1.002	1.267	1.070	1.136	1.133	1.069	1.060	0.968	0.978	0.968	0.466	0.000	0.860	1.125	9.100	TOTAL
PCE	1.002	1.267	1.070	1.136	1.133	1.069	1.064									PCE
DISP INC	1.002	1.267	1.070	1.136	1.133	1.069	1.062									DISP INC

	AGRICUL	GOLD	MINING	FOOD	BEVERAGE	TOBACCO	TEXTILES	CLOTHING	LEATHER	WOOD	PAPER	CHEMICALS	N M MIN	BAS MET	FAB MET	MISC FAB	ELECTR	CONSTRUC	TRADE	TRANSPOR	FINANCE	COM SERV	EXTRA 1	EXTRA 2	
AGRICUL	5.57	0.96	0.39	44.87	2.36	1.33	1.77	0.00	0.09	1.02	1.30	0.98	0.07	0.12	0.21	0.03	0.44	0.00	0.04	0.19	0.51	0.05	0.00	0.00	
GOLD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.52	0.00	1.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
MINING	0.19	0.14	0.28	0.23	0.03	0.00	0.06	0.00	0.00	0.01	0.26	5.25	1.54	5.10	0.00	1.64	7.37	1.93	0.00	0.54	0.34	0.02	0.00	0.00	
FOOD	5.85	0.00	0.01	18.29	1.41	0.00	0.02	0.00	0.43	0.01	0.11	1.24	0.01	0.00	0.00	0.03	0.01	0.00	0.43	0.30	0.74	2.98	0.00	0.00	
BEVERAGE	0.00	0.00	0.01	0.14	23.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	4.13	4.71	0.00	0.00	
TOBACCO	0.00	0.00	0.12	0.00	0.00	1.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	0.00	0.00	
TEXTILES	1.03	0.30	0.37	1.45	0.07	0.01	27.23	19.48	1.32	1.06	0.36	2.61	0.07	0.04	2.45	0.42	0.02	1.49	0.83	0.67	0.29	0.12	0.00	0.06	
CLOTHING	0.00	0.40	0.50	0.24	0.02	0.00	0.04	3.92	0.01	0.10	0.53	0.69	0.02	0.07	0.29	0.11	0.04	0.37	1.69	1.05	0.52	0.57	0.00	0.00	
LEATHER	0.00	0.11	0.31	0.00	0.00	0.00	0.01	1.78	11.20	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.31	0.04	0.01	0.00	0.00	
WOOD	1.51	0.16	0.38	0.35	0.98	0.01	0.09	0.16	0.39	17.78	0.25	0.42	0.41	0.51	5.51	0.41	0.25	17.02	4.41	1.10	1.91	0.74	0.00	0.74	
PAPER	1.43	0.00	0.08	7.01	3.26	1.09	1.01	0.09	0.59	0.31	18.60	5.95	1.43	0.24	2.00	0.20	1.04	0.40	18.18	2.93	5.26	2.59	0.00	0.02	
CHEMICALS	6.23	1.24	3.28	1.97	0.37	0.05	2.74	0.29	0.65	0.91	1.77	18.59	0.77	1.55	4.89	0.24	0.37	3.40	3.33	4.95	1.20	1.90	0.00	0.15	
N M MIN	0.50	0.24	0.60	2.73	3.02	0.00	0.03	0.02	0.01	0.51	0.05	2.39	10.21	1.09	7.90	0.31	0.16	54.10	0.66	0.92	1.33	0.54	0.00	2.34	
BAS METAL	0.31	0.49	0.43	0.07	0.00	0.00	0.02	0.00	0.01	0.29	0.11	0.86	1.02	13.70	52.15	0.08	0.52	6.30	0.25	0.66	0.01	0.02	0.00	0.27	
FAB METAL	1.20	1.84	4.26	1.30	0.38	0.02	0.27	0.03	0.07	0.23	0.31	1.06	0.41	2.74	15.42	0.06	0.60	6.34	1.15	2.97	0.43	0.13	0.00	0.27	
MISC FAB	0.00	0.24	0.20	0.02	0.00	0.00	0.10	0.70	0.23	0.01	0.31	0.03	0.03	0.01	0.08	0.32	0.22	0.10	0.66	0.49	0.92	1.59	0.00	0.00	
ELECTR	0.91	6.16	5.55	1.77	0.59	0.02	1.05	0.14	0.09	0.38	1.24	3.13	1.85	6.66	3.17	0.08	22.25	0.28	5.16	4.85	6.10	1.55	0.00	0.01	
CONSTRUC	0.21	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	11.03	1.07	0.27	0.49	0.06	0.00	0.49	
TRADE	2.93	0.47	1.94	1.25	0.33	0.04	0.50	0.17	0.15	0.35	0.89	2.84	0.48	1.22	4.50	0.19	0.83	2.40	8.55	2.97	2.02	0.55	0.00	0.10	
TRANSPORT	1.57	0.30	0.76	3.55	0.42	0.10	0.55	0.16	0.10	0.23	0.85	4.62	0.78	1.92	3.53	0.07	1.87	3.94	10.48	7.57	2.30	0.82	0.00	0.17	
FINANCE	0.29	0.06	0.25	1.87	0.53	0.06	0.73	0.52	0.20	0.56	1.11	2.24	0.66	1.54	3.99	0.18	0.47	4.75	12.89	2.82	7.66	1.49	0.00	0.21	
COM SERV	0.21	0.00	0.00	0.28	0.23	0.03	0.04	0.04	0.01	0.04	0.09	0.54	0.02	0.01	0.32	0.02	0.07	0.00	1.90	0.95	3.72	0.98	0.00	0.00	
EXTRA 1	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR	ERR
EXTRA 2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
OTHER	0.87	4.84	11.45	7.86	1.51	0.13	1.91	1.45	0.67	1.63	4.53	10.34	2.00	24.18	13.82	0.71	1.35	2.61	7.47	0.88	6.06	0.22	0.00	0.11	
G.O.S.	12.07	12.01	8.96	2.37	0.85	0.22	0.82	0.22	0.13	0.47	1.15	4.45	1.18	2.13	3.79	0.34	3.37	2.04	16.23	8.93	12.88	2.11	0.00	0.08	
WH W&S	1.32	2.78	2.13	1.84	0.53	0.12	0.78	0.46	0.23	0.59	2.17	3.96	1.05	3.64	10.93	0.61	1.90	5.09	14.37	11.68	13.35	2.85	0.00	0.11	
COL W&S	5.26	0.18	1.33	3.16	1.01	0.21	2.57	3.66	1.65	2.37	2.75	3.23	1.33	1.80	8.84	0.70	1.00	9.86	12.34	6.80	3.22	3.40	0.00	0.45	
AS W&S	1.06	0.08	0.52	3.96	0.37	0.05	2.48	5.01	2.47	1.82	3.59	3.36	0.50	1.17	6.50	0.44	0.40	3.78	26.96	7.04	5.66	3.08	0.00	0.16	
BL1 W&S	0.55	1.89	1.54	1.32	0.66	0.07	0.63	0.28	0.15	0.53	0.91	2.54	0.86	1.31	3.79	0.27	0.55	1.22	29.52	5.37	4.69	11.11	0.00	-0.11	
BL2 W&S	6.97	11.06	6.27	3.01	0.80	0.14	1.79	0.97	0.34	1.09	1.19	3.52	2.09	3.74	7.00	0.39	1.38	5.95	8.35	6.96	1.05	0.58	0.00	0.52	
HH WHITE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HH COLOUR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HH ASIAN	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HH BL60-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HH BL60+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
HH SMA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
GV DITX	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
GV INTX	0.57	0.14	0.27	0.19	0.07	0.00	0.29	0.27	0.06	0.08	0.25	1.20	0.16	0.09	0.47	0.14	0.09	0.50	1.05	1.37	5.44	0.11	0.00	0.02	
SAV HH	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SAV CURP	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
SAV GOV	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
IMPORT	1.23	2.42	1.84	1.60	0.24	0.07	1.78	1.04	0.32	0.30	1.55	11.54	0.15	2.09	7.44	1.19	0.23	2.65	2.68	2.43	0.17	0.41	0.00	0.11	
PLUS/MIN	0.93	-3.01	-3.38	-0.97	-7.88	-0.03	1.14	-2.98	-0.83	-0.61	-9.00	5.59	-2.81	0.43	-35.67	-0.18	-2.06	-1.72	20.97	-0.18	42.32	0.00	0.00	-0.07	
EMP WH	4.78	2.41	1.67	1.38	0.37	0.09	0.56	0.38	0.18	0.52	1.56	2.33	0.78	2.57	6.79	0.36	1.41	5.44	18.94	11.45	11.45	6.10	0.00	0.12	
EMP COL	15.60	0.09	0.93	3.06	0.50	0.10	2.57	5.22	1.78	2.11	1.79	1.75	0.95	0.24	5.92	0.65	0.79	9.77	12.08	5.86	1.65	2.43	0.00	0.42	
EMP AS	2.34	0.01	0.34	4.65	0.24	0.00	3.99	13.60	3.90	1.46	2.69	2.55	0.64	0.53	4.62	0.71	0.35	4.93	28.00	5.93	3.98	4.21	0.00	0.21	
EMP BL	15.39	9.31	4.38	2.46	0.45	0.06	1.61	0.69	0.18	1.08	0.60	1.64	1.42	1.52	4.57	0.19	0.98	7.77	8.86	5.16	1.13	2.20	0.00	0.67	
EMP TOT	12.56	6.39	3.24	2.34	0.43	0.07	1.54	1.50	0.47	1.07	1.02	1.84	1.20	1.60	5.24	0.30	1.04	7.37	12.13	6.73	3.68	3.36	0.00	0.50	
CAP STOCK	8.36	3.59	2.59	1.22	0.46	0.04	0.69	0.23	0.10	0.34	0.88	1.92	0.80	3.14	2.45	0.14	9.35	1.12	6.12	12.40	21.75	22.25	0.00	0.05	
BL W&S	5.84	9.45	5.40	2.71	0.77	0.13	1.59	0.85	0.31	0.99	1.14	3.35	1.88	3.31	6.44	0.37	1.23	5.12	12.07	6.68	1.69	2.43	0.00	0.41	
TOT W&S	3.04	4.49	3.00	2.29	0.64	0.13	1.24	1.01	0.45	0.91	1.95	3.69	1.31	3.29	9.23	0.54	1.56	5.48	13.91	9.55	8.64	2.78	0.00	0.23	
VAL ADDED	7.29	8.03	5.81	2.33	0.74	0.17	1.04	0.64	0.30	0.70	1.58	4.04	1.25	2.74	6.67	0.44									

APPENDIX E
PROCEDURE FOR CARRYING OUT A SAMSIM RUN

The SAMSIM model has been programmed to run entirely on an IBM compatible PC with 640k random access memory (RAM) and using a LOTUS version 2 software package. Although it is possible to do model calculations using only diskettes a hard disk drive really is indispensable because some of the files used do not fit on a single diskette and the manipulation of large files is very much slower. The 640k RAM is also only barely adequate and requires calculation processes to be split in some cases. Extended memory is therefore an advantage. Version 2 of LOTUS is essential because standard LOTUS cannot invert matrices.

The SAMSIM model is distributed over various LOTUS spreadsheet program files. These files are named SAMPREP, SAMSIM, SAMDIF and SAMPCT and are stored in the hard disk directory SAMSIM. All these program files can be stored and copied onto 360k floppy disks. A brief description of each of these files and the calculations handled by each follows below.

1. SAMPREP

This file contains the standard 1978 SAM matrix in a range called SAM and a matching A matrix plus export vector plus total output vector, X, in range AQ. To carry out a simulation run for non-standard conditions, values in the SAM range can be changed. When the SAMPREP program is run, the X vector and A matrix values are recalculated. It is also possible to change values in the A matrix directly in which case care must be taken to ensure that column totals add up to unity. The export vector in the AQ range can also be changed directly but will not result in the SAM range being adjusted.

A macro routine has been written which will carry out all the spreadsheet calculations and will produce a new file called ATEMP containing the range AP which is required by program SAMSIM in the next stage of the SAMSIM calculation. The macro routine is activated by multi-punching the ALT and A keys (<ALT><A>). If only the spreadsheet calculations are to be carried out this can be done by pressing <ALT>. This allows the adjustments made to SAMPREP to be checked first. In range AQ both calculated and standard SAM row totals are shown and below the calculated column totals the row totals have been transposed. This allows checks on the adjustments to be made more easily. When satisfied that run conditions have been correctly introduced, <ALT><C> will now generate the ATEMP file. It should be noted that SAMPREP also generates a range APCT which provides the A matrix as percentages over columns rather than as coefficient values.

2. SAMSIM

In the next phase of the calculations the file SAMSIM is retrieved. Punching <ALT><A> will activate a macro routine which will introduce the file ATEMP and calculate the range NEWSAM. This contains the SAM matrix corresponding to the changes introduced in the SAMPREP file as well as a wide range of peripheral calculations. The inverse matrix $B = (I-A)^{-1}$ is also calculated and may be found in the range INVEP. To generate this matrix, the matrix $B = (I-A)^{-1}$ is first generated. In the calculation process the file ATEMP is updated by introducing new values for total output X. This will allow a recalculation of NEWSAM to be carried out using an updated ATEMP or a similar file without having to go through the matrix inversion calculations. It is brought into operation by introducing the file in the range AP and punching <ALT><D>. If an updated ATEMP file is saved under another name, this feature allows the range NEWSAM to be regenerated quickly without having to go through the process again from the SAMPREP stage. The calculation process can also be taken up at various intermediate stages using <ALT> or <ALT><C>.

3. SAMDIF

Running the SAMSIM file generates a file called TEMP which contains the results of the matrix of NEWSAM excluding borders and calculated peripheral values. This file is used in this and the next calculation steps. The file SAMDIF allows detailed calculations of differences between the new SAM and the standard SAM to be calculated. Depressing <ALT><A> will introduce the file TEMP which is then compared with the standard SAM which is a permanent range in SAMDIF. Calculations are carried out automatically by keying in <ALT><A>. If a previously generated file, structurally identical to TEMP, is to be processed this can be introduced in the range TEMP after which <ALT> is typed. Results can be obtained by printing the range DIFSAM which gives a comprehensive analysis over the entire SAM structure, and in ranges Q2P, Q3P and EMPP which provide respectively a difference analysis for values in quadrant 2, quadrant 3 and employment.

4. SAMPCT

It is of interest to see percentage distribution patterns in the range NEWSAM. The first step after retrieving file SAMPCT is to introduce the file TEMP at position C7. This is done automatically by typing <ALT><A> which also does all the necessary spreadsheet calculations. If the file TEMP or a similarly structured file is introduced at position C7 using LOTUS 'menu' instructions, calculations will be performed by typing <ALT>. The percentage distributions calculated and their corresponding ranges are over SAM rows (SAMPCT), over households and over final demand categories (HQPCT), over value added categories and wages and salaries (Q3PCT) and over employment (EMPPCT). File SAMPCT does not calculate percentage

distribution over columns, as this is done in SAMPREP and presented in range APCT of this file.

Computer print-outs for all the major ranges for the various files constituting the SAMSIM model are on record with the author for the standard SAM and FWP runs. The most significant of these can also be found in Appendices C and D.

Doc no 235119
Copy no 235120



R 22,00