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**Government expenditure on households and vice versa.**

**A SAM approach to Portugal.**

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**Abstract**

Through the use of aggregate Social Accounting Matrices for Portugal, the flows of funds from three government subsectors to households will be studied, as well as the flows from the latter to the former.

From the SAM modelling, both a static and a comparative static analysis will be made, in order to specify the effects of changes in the flows of funds between households and government subsectors.

***Key Words:*** Social Accounting Matrix; Economic Planning; Macroeconomic Modelling.

***JEL Classification:*** D57; H31; E60

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## **1. INTRODUCTION**

Using the Social Accounting Matrix as a working instrument, this paper has two main purposes: on the one hand, to identify the flows of funds between households and three government subsectors in Portugal in 1999 and, on the other hand, to study the effects of changes in such flows.

Compiled from the Portuguese System of National Accounts, which is in perfect harmony with the System of National and Regional Accounts in the European Community introduced in 1995 (ESA95), the SAMs constructed for the Portuguese economy for 1998 and 1999 can be seen as its matrix representation, showing the entire circular flow of income.

As will be seen in section 2, square matrices will be used, in which each transaction is recorded only once in a cell of its own. It is conventionally agreed that the entries made in rows represent income or receipts, whilst the entries made in columns represent outlays or expenditure. These figures will include both production and institutional accounts, which are subdivided into yet other accounts, defined in accordance with the purposes of the study. Therefore, the constructed SAMs consist of a set of interrelated subsystems that not only provide an analytical picture of the Portuguese economy in 1998 and 1999, but also, as will be seen in section 3, serve as an instrument for assessing the effects of changes in the flows of funds between households and government. Section 4 ends the paper with a summary and some concluding remarks.

## **2. THE PORTUGUESE SAM STRUCTURE AND THE FLOWS OF FUNDS BETWEEN HOUSEHOLDS AND GOVERNMENT**

Studies made by Pyatt, Round and Roe (Pyatt, 1988, 1991; Pyatt and Roe, 1977; Pyatt and Round, 1985), among others, as well as the author's own previous experience (Santos, 1999, 2001, 2003a, 2003b, 2004a, 2004b), coupled with the aim of studying the (non-financial) flows<sup>1</sup> of funds between the Portuguese government and households and their changes, led to the development of the present work using the basic Portuguese SAM for 1999, which is presented in Table 1.

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<sup>1</sup> In one of my previous works (Santos, 1999), financial flows were also included. When SAMs began to be constructed with data from the European System of National and Regional Accounts in the European Community of 1995 (ESA 95), this proved to be impossible due to a lack of available information.

**Table 1.** Basic Portuguese SAM for 1999 (in millions of euros)

| Outlays<br>(expenditures) |                 | Institutions                              |   | Production                                      |   |  | Rest of the World<br>(RW)             | Errors and<br>Omissions                           | TOTAL                                 |   |
|---------------------------|-----------------|---|---|---|---|--|---------------------------------------|---|---------------------------------------|---|
|                           |                 | Current A.                                | Capital A.                              | Factors   | Activities                                | Products                                   |                                       |   |                                       |   |
|                           |                 | 1, ... 6                                  | 7, ... 12                               | 13, 14  | 15, ... 17                                | 18, ... 20                                 |                                       |   |                                       |   |
| Institutions              | Current Account | 1, ... 6                                  | Current Transfers<br>(62 222)           | 0   | National Product<br>(92 152)              | Other net taxes on<br>production<br>(-832) | Net taxes on<br>products<br>(15 025)  | Current Transfers<br>from the RW<br>(4 827)       | 0                                     | Aggregate<br>Income<br>(173 394)            |
|                           | Capital Account | 7, ... 12                                 | Domestic Saving<br>(21 143)             | Capital Transfers<br>(6 416)                    | 0   | 0  | 0                                     | Capital Transfers<br>from the RW<br>(3 009)       | Net lending/<br>borrowing<br>(6 570)  | Investment Funds<br>(37 138)                |
| Production                | Factors         | 13, 14                                    | 0                                       | 0   | 0   | Added Value<br>(93 707)                    | 0                                     | Compensation of<br>Factors from the RW<br>(4 122) | 0                                     | Aggregate Factor<br>Income<br>(97 829)      |
|                           | Activities      | 15, ... 17                                | 0                                       | 0   | 0   | 0  | Production<br>(203 614)               | 0   | 0                                     | Production Value<br>(203 614)               |
|                           | Products        | 18, ... 20                                | Final<br>Consumption<br>(86 864)        | Gross Capital<br>Formation<br>(30 585)          | 0   | Intermediate<br>Consumption<br>(110 801)   | 0                                     | Exports<br>(32 089)                               | 0                                     | 0   |
| Rest of the<br>World      | 21              | Current Transfers<br>to the RW<br>(3 165) | Capital Transfers<br>to the RW<br>(137) | Compensation of<br>Factors to the RW<br>(5 678) | Other net taxes on<br>production<br>(-63) | Imports<br>(41 700)                        | 0                                     | 0   | 0                                     | Value of transfers<br>to the RW<br>(50 617) |
| Errors and<br>Omissions   | 22              | 0   | 0                                       | 0   | 0   | Trade Margins<br>(0)                       | Net lending /<br>borrowing<br>(6 570) | 0   | 0                                     | Net lending/<br>borrowing<br>(6 570)        |
| TOTAL                     |                 |   | Aggregate Income<br>(173 394)           | Aggregate<br>Investment<br>(37 138)             | Aggregate Factor<br>Income<br>(97 829)    | Total Costs<br>(203 614)                   | Aggregate Supply<br>(260 340)         | Value of transfers<br>from the RW<br>(50 617)     | Net lending /<br>borrowing<br>(6 570) | X   |

Source: Appendix A (SAM for 1999)

As is shown by the numbers of the accounts, further disaggregation was undertaken of the framework described above, always in keeping with the National Accounts Nomenclature. So, in the constructed matrices, appendix A (see the description of their cell contents in appendix B), the current and capital accounts of institutions were divided into households, enterprises (non-financial corporations), central and local government and social security funds (which constitute the general government), and other institutions (financial corporations and non-profit institutions serving households). On the other hand, the factors of production accounts were disaggregated into labour and capital and the activities and products accounts into primary, secondary and tertiary groups<sup>2</sup>.

From the analysis of the flows of funds between households and the three government subsectors, shown by the Portuguese SAMs, we may emphasise the following aspects for 1999 (those for 1998 are very similar).

About one half (31,936 million euros) of the current transfers within the Portuguese economy (62,222 million euros) were received by households, 81% of which were made by the government. Central government contributed with 49.6% of these transfers, social security funds with 46.5% and local government with 3.9%. Social benefits, including social transfers in kind, represented about 94% of these transfers, the remaining 6% being miscellaneous current transfers. Current transfers to households amounted to 67.6% of total current transfers from government to national institutions in 1999. On the other hand, 12,685 million euros represented the total current outlays of households (20% of the current transfers within the Portuguese economy), 83% of which were to government. The transfers made to central and local government (respectively, 59.4% and 2.7%) were: current taxes on income, wealth, etc. (62% of the total transferred to central and local government); employees' social contributions; social contributions by self-employed and non-employed persons; and miscellaneous current transfers. The last three items amounted to 38% of the current transfers from households to government, this being the sum that was received by the social security funds.

Capital transfers were much less important: 6,416 million euros was the total of capital transfers occurring within Portuguese institutions and the share of this received by households was only 572 million euros, 45.3% of which came from government – essentially investment grants from central (91%) and local (9%) government. Capital transfers to households amounted to 4.6% of total capital transfers from government to Portuguese institutions. The total capital outlays of households

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<sup>2</sup> The primary group includes agriculture, forestry and fishing (activities/products 01 to 05 of the National Accounts System). The secondary group includes industry, which in turn includes energy and construction (activities/products 10 to 45 of the National Accounts System). The tertiary group includes the rest of the economy (activities/products 50 to 95 of the National Accounts System).

amounted to 103 million euros (1.6% of the capital transfers taking place within the Portuguese economy), which were capital taxes and other capital transfers to central (92.7%) and local (7.3%) government.

As employees, households also received compensations for their labour to the amount of 41,242 million euros, about 37.8% of which was paid by government: 32.3% by central government, 4.8% by local government and 0.7% by social security funds.

The effects of changes in these flows (transfers) will now be studied through the SAM modelling.

### **3. EFFECTS OF CHANGES IN FLOWS OF FUNDS BETWEEN HOUSEHOLDS AND GOVERNMENT**

In keeping with the methodology based on the use of multipliers (Appendix C.1), the study of the effects of changes in the flows of funds from government to households and vice-versa will be undertaken considering all the accounts as endogenous, except for those whose flows will be the subject of special study, in other words, firstly (see section 3.1), except for the government subsectors accounts (3-5 and 9-11) and, thereafter (see section 3.2), except for the household accounts (1 and 7)<sup>3</sup>.

Using average expenditure propensities and the accounting multipliers, one can see, respectively, the direct and global effects of a unitary change in the current and capital receipts of households (section 3.1) or government (section 3.2), assuming that their expenditure structure does not change. Marginal expenditure propensities and fixed-price multipliers provide the same information, but these are based on the assumption that the expenditure structure changed in exactly the same way as it had done in the previous year (1998).

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<sup>3</sup> This is my first experiment, in which I only consider as exogenous those accounts for which I intend to study the effects of changes on their flows.

A test was carried out of the multipliers used in section 3.1, in accordance with the established methodology. Thus, accounting multipliers were first calculated from the Portuguese SAM for 1998, whilst the changes that actually occurred from 1998 to 1999 were also considered, i.e. the "x" vector of the Portuguese SAM for 1999, and the new vector of receipts of the endogenous accounts ( $y_n$ , estimated for 1999) was calculated. Not forgetting that, with this test, the expenditure structure for the calculation of  $y_n$ , estimated for 1999, is the same as that of 1998. The percentage differences between the latter and the real  $y_n$ , for 1999, were as follows:

- Aggregate income of households, +2.96; enterprises, +0.14; other institutions, +5.46.
- Aggregate investment/investment funds of households, -0.30; enterprises, -0.65; other institutions, -7.55.
- Compensation of labour, +1.66; capital, +4.74.
- Production value/total costs: primary activities, +6.36; secondary activities, +6.08; tertiary activities, +1.62.
- Aggregate demand/supply: primary products, +9.28; secondary products, +4.24; tertiary products, +0.50.
- Values of transfers to and from the rest of the world: +1.85.
- Net borrowing of the Portuguese economy: -25.31.

All criticisms and suggestions in relation to this subject will be most welcome.

The mathematical sign of these values shows their relationship with the initial change, in other words a positive effect means that initial increases (decreases) result in increases (decreases) and a negative effect means that initial increases (decreases) result in decreases (increases).

The following analysis will only consider the flows in which government and households were involved.

### **3.1. Effects of changes in flows of funds from government to households**

In the context described above, and bearing in mind the SAMs and the description of their cell contents (Appendixes A and B), the flows of those funds from central and local government and social security funds to households which can be changed (the cells of rows 1 and 7 of the X matrix that represent injections from the government into the households' accounts) are:

1. Social benefits other than social transfers in kind, social transfers in kind and miscellaneous current transfers (cells: (1,3); (1,4) and (1,5)) – the current receipts of households from government;
2. Investment grants and other capital transfers (cells: (7,9) and (7,10)) – the capital receipts of households from government.

Due to the SAM structure we are working with, described in section 2, the factors of production compensated by government cannot be isolated from those compensated by other institutions and, therefore, cannot be studied, although, as was said before, we know that about 37.8% of the compensation of labour (received by households) was paid by the government.

#### **a) Effects of a unitary change on the current receipts of households from government**

In 1999, the current receipts (transfers) of households from the government (25,813 million euros) were 26% of their aggregate income. As mentioned above, we are speaking about social benefits, including social transfers in kind, and miscellaneous current transfers.

**Table 2.** Direct effects of a unitary change in the current receipts of households from government, in 1999

|   | The households' expenditure structure does not change | The households' expenditure structure changes exactly as it did from 1998 to 1999 |
|---|---|---|
| Current transfers   |   |   |
| - within households, to other institutions and to the rest of the world | 0.045   | 0.028   |
| - to government   | 0.106   | 0.128   |
| Gross savings   | 0.060   | - 0.123   |
| Final consumption   |   |   |
| - primary products  | 0.030   | 0.099   |
| - secondary products  | 0.370   | 0.385   |
| - tertiary products   | 0.390   | 0.574   |

Source: Appendix C.2.a) (column 1 of the  $A_n$ ,  $A_l$ ,  $D_n$  and  $D_l$  matrices)

There is no doubting the importance of final consumption, especially in terms of secondary and tertiary products, but what is also interesting here is the position of the current transfers to government, in other words the current taxes on income, wealth, etc., employees' social security contributions, the social security contributions paid by self-employed and non-employed persons and miscellaneous current transfers (paid by households).

**Table 3.** Overall effects of a unitary change in the current receipts of households from government, in 1999

|   | The households' expenditure structure does not change | The households' expenditure structure changes exactly as it did from 1998 to 1999 |
|---|---|---|
| Aggregate income of:                          |   |   |
| - households                                  | 2.625   | 1.974   |
| - enterprises                                 | 0.388   | 0.386   |
| - other institutions                          | 0.151   | 0.048   |
| Aggregate investment/<br>investment funds of: |   |   |
| - households                                  | 0.180   | 0.111   |
| - enterprises                                 | 0.363   | 0.380   |
| - other institutions                          | 0.033   | 0.077   |
| Compensation of labour                        | 1.162   | 0.986   |



|   | The households' expenditure structure does not change | The households' expenditure structure changes exactly as it did from 1998 to 1999 |
|---|---|---|
| Compensation of capital                     | 1.018   | 0.529   |
| Production value/total costs                |   |   |
| - primary activities                        | 0.156   | 0.047   |
| - secondary activities                      | 1.975   | 0.709   |
| - tertiary activities                       | 2.412   | 2.090   |
| Aggregate demand/supply                     |   |   |
| - primary products                          | 0.223   | 0.007   |
| - secondary products                        | 3.448   | 1.886   |
| - tertiary products                         | 2.152   | 2.124   |
| Transfers to and from the rest of the world | 1.122   | 0.909   |
| Net borrowing of the Portuguese Economy     | 0.153   | 0.518   |

Source: Appendix C.2.a) (column 1 of the  $M_a$  and  $M_{pf}$  matrices)

Apart from the overall effect on the aggregate income of households, where 1 is the initial injection of income (current transfers from government), the greatest overall effects were felt on production values/total costs (secondary and tertiary activities, in particular) and aggregate demand/supply (secondary and tertiary products, in particular), reflecting the great importance of final consumption (secondary and tertiary products, in particular) for the total current outlays of households, as seen in the analysis of the direct effects. One should also take into account the values associated with the compensation of labour and capital.

**b) Effects of a unitary change in the capital receipts of households from government**

In 1999, the capital receipts (transfers) of households from government (259 million euros) were 3.6% of their investment funds. As seen before, we are speaking about investment grants and other capital transfers.

**Table 4.** Direct effects of a unitary change in the capital receipts of households from government, in 1999

|                                     | The households' expenditure structure does not change | The households' expenditure structure changes exactly as it did from 1998 to 1999 |
|-------------------------------------|---|---|
| Gross capital formation             |   |   |
| - primary products                  | 0.030   | 0.049   |
| - secondary products                | 0.921   | 0.659   |
| - tertiary products                 | 0.170   | 0.365   |
| Capital transfers                   |   |   |
| - to government (central and local) | 0.014   | 0.016   |
| - to the rest of the world          | -0.134  | -0.088  |

Source: Appendix C.2.a) (column 7 of the  $A_n$ ,  $A_l$ ,  $D_n$  and  $D_l$  matrices)

The greatest direct impact is felt at the gross capital formation level, especially at the level of secondary and tertiary products. As was the case with current receipts (a)), the government also benefits through the increase in capital taxes and other capital transfers, with there also being a possible increase in its capital transfers to households. The direct effect on capital transfers to the rest of the world is also considerable, meaning that the possible increase in the capital receipts of households from government will result in a decrease in the value of the “acquisitions minus disposals of non-produced non-financial assets and other capital transfers from households to the rest of the world” or an increase in the disposals of non-produced non-financial assets<sup>4</sup>.

**Table 5.** Global effects of a unitary change in the capital receipts of households from government, in 1999

|                      | The households' expenditure structure does not change | The households' expenditure structure changes exactly as it did from 1998 to 1999 |
|----------------------|---|---|
| Aggregate income of: |   |   |
| - households         | 1.577   | 1.020   |
| - enterprises        | 0.381   | 0.387   |
| - other institutions | 0.132   | 0.045   |

<sup>4</sup> Non-produced non-financial assets consist of land, other tangible assets that may be used in the production of goods and services, and intangible assets. Intangible non-produced assets consist of patented entities, leases or other transferable contracts, purchased goodwill and other intangible non-produced assets (ISWG, 1993 – Paragraphs 10.120 and 10.130).

|  | The households' expenditure structure does not change | The households' expenditure structure changes exactly as it did from 1998 to 1999 |
|--|---|---|
| Aggregate investment/<br>investment funds of:  |   |   |
| - households                                   | 1.126   | 1.333   |
| - enterprises                                  | 0.442   | 0.435   |
| - other institutions                           | 0.005   | 0.091   |
| Compensation of labour                         | 1.127   | 1.032   |
| Compensation of capital                        | 1.006   | 0.533   |
| Production value/total costs                   |   |   |
| - primary activities                           | 0.170   | -0.010  |
| - secondary activities                         | 2.372   | 0.944   |
| - tertiary activities                          | 2.086   | 2.035   |
| Aggregate demand/supply                        |   |   |
| - primary products                             | 0.241   | -0.005  |
| - secondary products                           | 4.152   | 2.528   |
| - tertiary products                            | 1.859   | 2.063   |
| Transfers to and from the rest<br>of the world | 1.137   | 1.151   |
| Net borrowing of the<br>Portuguese Economy     | 0.300   | 0.678   |

Source: Appendix C.2.a) (columns 7 of the  $M_a$  and  $M_{pf}$  matrices)

Note: other institutions are financial corporations and non-profit institutions serving households.

The low values of the (overall) effects on the aggregate investment/investment funds of households, where 1 is the initial injection of income, show the relatively minor influence on those funds of capital transfers from government. Much more significant are the (overall) effects on production values/total costs and aggregate demand/supply (secondary and tertiary activities/products, in particular), as well as on the compensation of labour and capital and transactions with the rest of the world, reflecting the important direct effects on gross capital formation, as analysed before, especially at the level of secondary and tertiary products.

### 3.2. Effects of changes in flows of funds from households to government

The flows of funds from households to central and local government and social security funds that can be changed (the cells of rows 3-5 and 9-11 of the X matrix that are injections from households into the government's accounts) are:

1. Current taxes on income, wealth, etc., employees' social contributions, social contributions by self-employed and non-employed persons and miscellaneous current transfers (cells: (3,1); (4,1) and (5,1)) – the current receipts of the government from households;
2. Capital taxes and other capital transfers<sup>5</sup> (cells: (9,7) and (10,7)) – the capital receipts of the government from households.

**a) Effects of a unitary change in the current receipts of the government from households**

In 1999, the current receipts (transfers) of the government from households (10,514 million euros) were 21.5% of the government's aggregate income. As mentioned above, we are speaking here about current taxes on income, wealth, etc., employees' social security contributions, social security contributions paid by self-employed and non-employed persons and miscellaneous current transfers.

**Table 6.** Direct effects of a unitary change in the current receipts of the government from households, in 1999

|   | The government's expenditure structure does not change |          |       | The government's expenditure structure changes exactly as it did from 1998 to 1999 |          |        |
|---|--|----------|-------|--|----------|--------|
|   | Central G.   | Local G. | SSF   | Central G.   | Local G. | SSF    |
| Current transfers   |  |          |       |  |          |        |
| - within government, to other institutions and to the rest of the world | 0.381  | 0.125    | 0.091 | 0.464  | -0.038   | 0.095  |
| - to households   | 0.433  | 0.207    | 0.832 | 0.409  | 0.186    | 0.879  |
| Gross savings   | -0.004   | 0.150    | 0.054 | -0.035   | 0.419    | -0.010 |
| Final consumption   |  |          |       |  |          |        |
| - primary products  | 0.000  | 0.000    | 0.000 | 0.000  | 0.000    | 0.000  |
| - secondary products  | 0.027  | 0.032    | 0.002 | 0.024  | 0.027    | 0.003  |
| - tertiary products   | 0.164  | 0.486    | 0.022 | 0.137  | 0.405    | 0.033  |

Source: Appendix C.2.b) (columns 3-5 of the  $A_n$ ,  $A_l$ ,  $D_n$  and  $D_l$  matrices)

Curiously, the direct effects on the current receipts of the government subsectors from households are felt mainly in the current transfers to households, except in the case of local government, where such effects are felt mainly at the level of final consumption. As seen before, those transfers are social benefits, including social transfers in kind, and miscellaneous current transfers.

<sup>5</sup> There are no capital transactions between households and social security funds. These only exist between households and central and local government.

**Table 7.** Overall effects of a unitary change in the current receipts of the government from households, in 1999

|  | The government's expenditure structure does not change |          |       | The government's expenditure structure changes exactly as it did from 1998 to 1999 |          |        |
|--|--|----------|-------|--|----------|--------|
|  | Central G.   | Local G. | SSF   | Central G.   | Local G. | SSF    |
| Aggregate income of:                           |  |          |       |  |          |        |
| - enterprises                                  | 0.065  | 0.145    | 0.023 | 0.096  | 0.176    | 0.027  |
| - Central Gov.                                 | 1.363  | 0.160    | 0.094 | 1.493  | 0.309    | 0.090  |
| - Local Gov.                                   | 0.068  | 1.120    | 0.009 | 0.119  | 0.979    | 0.013  |
| - Social Security Funds                        | 0.131  | 0.081    | 1.017 | 0.164  | 0.078    | 1.013  |
| - other institutions                           | 0.054  | 0.094    | 0.047 | 0.043  | 0.091    | 0.067  |
| Aggregate investment/<br>investment funds of:  |  |          |       |  |          |        |
| - enterprises                                  | 0.028  | 0.075    | 0.036 | 0.030  | 0.200    | 0.015  |
| - Central Gov.                                 | -0.012   | -0.022   | 0.067 | 0.147  | 0.019    | 0.018  |
| - Local Gov.                                   | 0.011  | 0.182    | 0.019 | -0.154   | 0.444    | -0.019 |
| - Social Security Funds                        | 0.008  | 0.006    | 0.055 | 0.005  | 0.005    | -0.009 |
| - other institutions                           | 0.024  | 0.048    | 0.023 | -0.197   | 0.062    | 0.005  |
| Compensation of labour                         | 0.202  | 0.458    | 0.060 | 0.229  | 0.427    | 0.040  |
| Compensation of capital                        | 0.165  | 0.371    | 0.053 | 0.125  | 0.234    | 0.022  |
| Production value/total costs                   |  |          |       |  |          |        |
| - primary activities                           | 0.011  | 0.026    | 0.006 | 0.017  | 0.044    | 0.003  |
| - secondary activities                         | 0.198  | 0.497    | 0.117 | 0.142  | 0.352    | 0.025  |
| - tertiary activities                          | 0.504  | 1.113    | 0.116 | 0.503  | 0.871    | 0.089  |
| Aggregate demand/supply                        |  |          |       |  |          |        |
| - primary products                             | 0.015  | 0.036    | 0.008 | 0.003  | 0.007    | 0.001  |
| - secondary products                           | 0.342  | 0.862    | 0.204 | 0.377  | 0.940    | 0.065  |
| - tertiary products                            | 0.445  | 0.995    | 0.104 | 0.511  | 0.883    | 0.091  |
| Transfers to and from the<br>rest of the world | 0.155  | 0.300    | 0.070 | 0.114  | 0.393    | 0.023  |
| Net borrowing of the<br>Portuguese Economy     | -0.028   | -0.055   | 0.013 | 0.061  | 0.251    | 0.012  |

Source: Appendix C.2.b) (columns 3-5 of the  $M_a$  and  $M_{pf}$  matrices)

Except for government subsectors, where 1 represents the initial injection of income, none of the overall effects are significant, although one should perhaps emphasise the effects on production value/total costs and aggregate demand/supply (mainly secondary and tertiary activities/products),

certainly reflecting the impact on final consumption of the direct effects on current transfers to households, as seen above (analysis of Table 6).

**b) Effects of a unitary change in the capital receipts of the government from households**

In 1999, the capital receipts (transfers) of the government from households (103 million euros) amounted to 1% of its investment funds (including social security funds or not). As seen before, we are speaking about capital taxes and other capital transfers (paid by households to central and local government).

**Table 8.** Direct effects of a unitary change in the capital receipts of the government from households, in 1999

|   | The government's expenditure structure does not change |          | The government's expenditure structure changes exactly as it did from 1998 to 1999 |          |
|---|--|----------|--|----------|
|   | Central G.   | Local G. | Central G.   | Local G. |
| Gross capital formation   |  |          |  |          |
| - primary products  | 0.000  | 0.000    | 0.000  | 0.000    |
| - secondary products  | 0.315  | 0.831    | 2.254  | 0.800    |
| - tertiary products   | 0.003  | 0.007    | 0.134  | 0.046    |
| Capital transfers   |  |          |  |          |
| - within government; to enterprises, other institutions and the rest of the world | 0.647  | 0.154    | -1.583   | 0.148    |
| - to households   | 0.036  | 0.008    | 0.195  | 0.006    |

Source: Appendix C.2.b) (columns 9 and 10 of the  $A_n$ ,  $A_l$ ,  $D_n$  and  $D_l$  matrices)

The direct effects are felt mainly at the level of the gross capital formation on secondary products, except in the case of central government (if we are considering that the government's expenditure structure does not change), where the main effect is felt at the level of capital transfers. In this case, households benefit very little from the possible increase in their capital outlays to government.

**Table 9.** Global effects of a unitary change in the capital receipts of the government from households, in 1999

|  | The government's expenditure structure does not change |          | The government's expenditure structure changes exactly as it did from 1998 to 1999 |          |
|--|--|----------|--|----------|
|  | Central G.   | Local G. | Central G.   | Local G. |
| Aggregate income of:                           |  |          |  |          |
| - enterprises                                  | 0.171  | 0.177    | -0.271   | 0.164    |
| - Central Gov.                                 | 0.268  | 0.284    | -0.352   | 0.347    |
| - Local Gov.                                   | 0.049  | 0.051    | -0.096   | 0.080    |
| - Social Security Funds                        | 0.102  | 0.106    | -0.081   | 0.077    |
| - other institutions                           | 0.058  | 0.061    | -0.041   | 0.032    |
| Aggregate investment/<br>investment funds of:  |  |          |  |          |
| - enterprises                                  | 0.559  | 0.403    | 1.110  | 0.325    |
| - Central Gov.                                 | 1.464  | 0.236    | -3.110   | 0.043    |
| - Local Gov.                                   | 0.374  | 1.140    | 4.525  | 1.118    |
| - Social Security Funds                        | 0.008  | 0.002    | -0.091   | 0.009    |
| - other institutions                           | 0.046  | 0.028    | 4.888  | 0.045    |
| Compensation of labour                         | 0.480  | 0.498    | -0.657   | 0.405    |
| Compensation of capital                        | 0.453  | 0.470    | -0.362   | 0.224    |
| Production value/total costs                   |  |          |  |          |
| - primary activities                           | 0.067  | 0.070    | -0.054   | 0.081    |
| - secondary activities                         | 1.412  | 1.519    | -0.620   | 0.653    |
| - tertiary activities                          | 0.671  | 0.664    | -1.272   | 0.589    |
| Aggregate demand/supply                        |  |          |  |          |
| - primary products                             | 0.092  | 0.097    | -0.008   | 0.013    |
| - secondary products                           | 2.479  | 2.667    | -1.663   | 1.766    |
| - tertiary products                            | 0.596  | 0.590    | -1.288   | 0.587    |
| Transfers to and from the<br>rest of the world | 0.740  | 0.767    | 1.645  | 0.680    |
| Net borrowing of the<br>Portuguese Economy     | 0.283  | 0.311    | 0.896  | 0.530    |

Source: Appendix C.2.b) (columns 9 and 10 of the  $M_a$  and  $M_{pf}$  matrices)

There are significant differences in the structure and level of the overall effects of a unitary change in the capital receipts of central government from households, depending on whether or not there is a change in its expenditure structure, with significant changes being noted in the latter case from

1998 to 1999. In spite of this, it may be concluded that the most significant overall effects are felt at the level of the production value/total costs of secondary activities and the aggregate demand/supply of secondary products, reflecting the direct effects on gross capital formation at the level of secondary products, which were analysed previously. In the investment/investment funds of central and local government, 1 is the initial injection.

#### **4. SUMMARY AND CONCLUSIONS**

The SAM was the work instrument that made it possible to analyse the flows of funds between households and government in Portugal in 1999, as well as, the impact of changes occurring in such flows.

Portuguese households received about 50% and paid about 20% of current transfers occurring within the economy in 1999. Most of the former were social benefits, including social transfers in kind, from central government and social security funds, which represented more than half of the total current transfers from government. Most of the latter were current taxes on income, wealth, etc., paid to central and local government.

On the other hand, in 1999, Portuguese households received only 9% and paid only 1.6% of capital transfers within the economy. The former were essentially investment grants, received from central government, whereas the latter were capital taxes paid to central government.

About 38% of the compensation of employees received by households was paid by the government, 32.3% of which was paid by central government.

Changes in the current transfers from government to households (26% of the households' aggregate income, in 1999), in other words social benefits, including social transfers in kind, and miscellaneous current transfers, had the greatest direct effects at the level of the households' final consumption, whereas changes in the capital transfers from government to households (3.6% of the households' investment funds, in 1999), in other words investment grants and other capital transfers, had the greatest direct effects at the level of the gross capital formation of the latter. These changes led to significant global effects at the level of the production value/total costs of the economy, aggregate demand/supply and the compensation of labour and capital, as well as at the level of transfers to and from the rest of the world. In both cases, the government also felt positive direct effects at the level of its receipts from households, namely in the form of social contributions and current and capital taxes.



Changes in current transfers from households to government (21.5% of the government's aggregate income, in 1999), in other words current taxes on income, wealth, etc., employees' social contributions, social contributions paid by self-employed and non-employed persons and miscellaneous current transfers, had the most significant effects at the level of current transfers from government to households, whereas changes in capital transfers from households to government (1% of the government's investment funds, in 1999), in other words capital taxes and other capital transfers, had the most significant direct effects at the level of the gross capital formation of local and central government. The overall effects resulting from these changes were felt mainly at the level of the production value/total costs of the economy and aggregate demand/supply, although their values were not significant. Households only felt significant direct effects at the level of their receipts (social benefits, including social transfers in kind, and miscellaneous current transfers) in the case of changes in their current transfers (to government).

Except for the capital transfers from households to central and local government, which are of little importance, almost all the studied effects had the same mathematical sign as the initial change. Generally speaking, the differences between the values when considering that the households' expenditure structure did not change or that it changed exactly as it had done from 1998 to 1999 were not significant, meaning that the difference between the static and the comparative static analysis was not significant.

Therefore, changes in the flows of funds between government and households, most notably in current transfers, will contribute not only towards stimulating the same flows, but also towards stimulating the economy in general, through the direct impact of these changes on final consumption.

This study would have been more interesting if the households were disaggregated at some level, for instance, if the poor households could be identified. The research recently undertaken by the author has been geared towards this particular aspect, although as yet without any concrete results.

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## APPENDIXES

### A. Social Accounting Matrices (SAMs)

Portugal 1998 (in millions of euros)

| Outlays (Expenditures) |                       |              |       | INSTITUTIONS    |             |              |            |          |        |                 |            |             |              |            |          |        |       |       |
|------------------------|-----------------------|--------------|-------|-----------------|-------------|--------------|------------|----------|--------|-----------------|------------|-------------|--------------|------------|----------|--------|-------|-------|
|                        |                       |              |       | Current Account |             |              |            |          |        | Capital Account |            |             |              |            |          |        |       |       |
|                        |                       |              |       | Households      | Enterprises | Gov(Central) | Gov(Local) | Gov(SSF) | Others | Sum             | Households | Enterprises | Gov(Central) | Gov(Local) | Gov(SSF) | Others | Sum   |       |
| Incomes(Receipts)      |                       |              |       | 1               | 2           | 3            | 4          | 5        | 6      |                 | 7          | 8           | 9            | 10         | 11       | 12     |       |       |
| INSTITUTIONS           | Current Account       | Households   | 1     | 482             | 1578        | 11567        | 898        | 11048    | 3958   | 29532           | 0          | 0           | 0            | 0          | 0        | 0      | 0     | 0     |
|                        |                       | Enterprises  | 2     | 0               | 123         | 1            | 5          | 0        | 465    | 594             | 0          | 0           | 0            | 0          | 0        | 0      | 0     | 0     |
|                        |                       | Gov(Central) | 3     | 5840            | 2854        | 5855         | 8          | 672      | 498    | 15727           | 0          | 0           | 0            | 0          | 0        | 0      | 0     | 0     |
|                        |                       | Gov(Local)   | 4     | 234             | 241         | 922          | 460        | 11       | 46     | 1913            | 0          | 0           | 0            | 0          | 0        | 0      | 0     | 0     |
|                        |                       | Gov(SSF)     | 5     | 3661            | 24          | 1901         | 0          | 0        | 0      | 5587            | 0          | 0           | 0            | 0          | 0        | 0      | 0     | 0     |
|                        |                       | Others       | 6     | 1630            | 483         | 568          | 167        | 474      | 115    | 3437            | 0          | 0           | 0            | 0          | 0        | 0      | 0     | 0     |
|                        |                       | Sum          |       | 11847           | 5303        | 20815        | 1536       | 12205    | 5083   | 56789           | 0          | 0           | 0            | 0          | 0        | 0      | 0     | 0     |
|                        | Capital Account       | Households   | 7     | 6667            | 0           | 0            | 0          | 0        | 0      | 6667            | 0          | 0           | 217          | 21         | 0        | 220    | 459   |       |
|                        |                       | Enterprises  | 8     | 0               | 10572       | 0            | 0          | 0        | 0      | 10572           | 0          | 0           | 1171         | 115        | 6        | 0      | 1292  |       |
|                        |                       | Gov(Central) | 9     | 0               | 0           | -2           | 0          | 0        | 0      | -2              | 84         | 30          | 1175         | 12         | 599      | 4      | 1904  |       |
|                        |                       | Gov(Local)   | 10    | 0               | 0           | 0            | 467        | 0        | 0      | 467             | 8          | 27          | 1677         | 170        | 0        | 4      | 1886  |       |
|                        |                       | Gov(SSF)     | 11    | 0               | 0           | 0            | 0          | 784      | 0      | 784             | 0          | 0           | 27           | 0          | 0        | 0      | 27    |       |
|                        |                       | Others       | 12    | 0               | 0           | 0            | 0          | 0        | 2315   | 2315            | 0          | 0           | 287          | 81         | 52       | 220    | 640   |       |
| Sum                    |                       |              | 6667  | 10572           | -2          | 467          | 784        | 2315     | 20804  | 92              | 57         | 4553        | 399          | 657        | 449      | 6208   |       |       |
| PRODUCTION             | Factors of Production | Labour       | 13    | 0               | 0           | 0            | 0          | 0        | 0      | 0               | 0          | 0           | 0            | 0          | 0        | 0      | 0     |       |
|                        |                       | Capital      | 14    | 0               | 0           | 0            | 0          | 0        | 0      | 0               | 0          | 0           | 0            | 0          | 0        | 0      | 0     |       |
|                        |                       | Sum          |       | 0               | 0           | 0            | 0          | 0        | 0      | 0               | 0          | 0           | 0            | 0          | 0        | 0      | 0     |       |
|                        | Activities            | Primary      | 15    | 0               | 0           | 0            | 0          | 0        | 0      | 0               | 0          | 0           | 0            | 0          | 0        | 0      | 0     |       |
|                        |                       | Secondary    | 16    | 0               | 0           | 0            | 0          | 0        | 0      | 0               | 0          | 0           | 0            | 0          | 0        | 0      | 0     |       |
|                        |                       | Tertiary     | 17    | 0               | 0           | 0            | 0          | 0        | 0      | 0               | 0          | 0           | 0            | 0          | 0        | 0      | 0     |       |
|                        |                       | Sum          |       | 0               | 0           | 0            | 0          | 0        | 0      | 0               | 0          | 0           | 0            | 0          | 0        | 0      | 0     |       |
|                        | Products              | Primary      | 18    | 2884            | 0           | 0            | 0          | 0        | 0      | 2884            | 187        | 151         | 0            | 0          | 0        | 0      | 338   |       |
|                        |                       | Secondary    | 19    | 34331           | 0           | 712          | 141        | 19       | 0      | 35202           | 6291       | 12538       | 1871         | 2055       | 49       | 1394   | 24198 |       |
|                        |                       | Tertiary     | 20    | 35229           | 0           | 4430         | 2125       | 277      | 0      | 42062           | 1002       | 2216        | 4            | 4          | 0        | 212    | 3438  |       |
| Sum                    |                       |              | 72444 | 0               | 5142        | 2266         | 297        | 0        | 80149  | 7480            | 14905      | 1875        | 2060         | 49         | 1606     | 27975  |       |       |
| REST OF THE WORLD      |                       |              | 21    | 2150            | 54          | 611          | 0          | 46       | 108    | 2969            | -924       | 966         | 100          | 4          | 0        | -26    | 120   |       |
| Errors and Omissions   |                       |              | 22    | 0               | 0           | 0            | 0          | 0        | 0      | 0               | 0          | 0           | 0            | 0          | 0        | 0      | 0     |       |
| TOTAL                  |                       |              |       |                 | 93108       | 15930        | 26566      | 4270     | 13332  | 7506            | 160711     | 6648        | 15928        | 6529       | 2463     | 706    | 2029  | 34303 |

Source: Portuguese National Accounts

Portugal 1998 (in millions of euros) (continued)

| Incomes(Receipts)    |                       | Outlays (Expenditures) |       | PRODUCTION            |         |       |            |           |          |        |          |           |          | REST OF THE WORLD | Errors and Omissions | TOTAL  |        |       |
|----------------------|-----------------------|------------------------|-------|-----------------------|---------|-------|------------|-----------|----------|--------|----------|-----------|----------|-------------------|----------------------|--------|--------|-------|
|                      |                       |                        |       | Factors of Production |         |       | Activities |           |          |        | Products |           |          |                   |                      |        |        |       |
|                      |                       |                        |       | Labour                | Capital | Sum   | Primary    | Secondary | Tertiary | Sum    | Primary  | Secondary | Tertiary |                   |                      |        | Sum    |       |
|                      |                       |                        |       | 13                    | 14      |       | 15         | 16        | 17       |        | 18       | 19        | 20       |                   |                      |        |        |       |
| INSTITUTIONS         | Current Account       | Households             | 1     | 37965                 | 22157   | 60121 | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 0                    | 3455   | 0      | 93108 |
|                      |                       | Enterprises            | 2     | 1578                  | 13737   | 15315 | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 0                    | 20     | 0      | 15930 |
|                      |                       | Gov(Central)           | 3     | 701                   | -1571   | -870  | -157       | -120      | -338     | -616   | -223     | 8954      | 3409     | 12140             | 185                  | 0      | 26566  |       |
|                      |                       | Gov(Local)             | 4     | 47                    | 888     | 935   | 106        | 81        | 228      | 415    | -18      | 728       | 277      | 987               | 19                   | 0      | 4270   |       |
|                      |                       | Gov(SSF)               | 5     | 6858                  | 100     | 6958  | -103       | -79       | -221     | -403   | -9       | 350       | 133      | 475               | 716                  | 0      | 13332  |       |
|                      |                       | Others                 | 6     | 1186                  | 2806    | 3992  | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 77                   | 0      | 7506   |       |
|                      | Sum                   |                        | 48335 | 38116                 | 86451   | -154  | -118       | -332      | -604     | -250   | 10032    | 3820      | 13602    | 4473              | 0                    | 160711 |        |       |
|                      | Capital Account       | Households             | 7     | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 196                  | -675   | 6648   |       |
|                      |                       | Enterprises            | 8     | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 1152                 | 2911   | 15928  |       |
|                      |                       | Gov(Central)           | 9     | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 897                  | 3729   | 6529   |       |
|                      |                       | Gov(Local)             | 10    | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 514                  | -404   | 2463   |       |
|                      |                       | Gov(SSF)               | 11    | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 20                   | -125   | 706    |       |
| Others               |                       | 12                     | 0     | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 3                 | -928                 | 2029   |        |       |
| Sum                  |                       | 0                      | 0     | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 2782     | 4508              | 34303                |        |        |       |
| PRODUCTION           | Factors of Production | Labour                 | 13    | 0                     | 0       | 0     | 652        | 14895     | 32718    | 48266  | 0        | 0         | 0        | 0                 | 153                  | 0      | 48419  |       |
|                      |                       | Capital                | 14    | 0                     | 0       | 0     | 3093       | 12371     | 24086    | 39551  | 0        | 0         | 0        | 0                 | 3989                 | 0      | 43540  |       |
|                      |                       | Sum                    |       | 0                     | 0       | 0     | 3745       | 27266     | 56805    | 87816  | 0        | 0         | 0        | 0                 | 4143                 | 0      | 91959  |       |
|                      | Activities            | Primary                | 15    | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 6048     | 318       | 23       | 6389              | 0                    | 0      | 6389   |       |
|                      |                       | Secondary              | 16    | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 84628     | 700      | 85328             | 0                    | 0      | 85328  |       |
|                      |                       | Tertiary               | 17    | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 5        | 222       | 100617   | 100844            | 0                    | 0      | 100844 |       |
|                      |                       | Sum                    |       | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 6053     | 85168     | 101340   | 192561            | 0                    | 0      | 192561 |       |
|                      | Products              | Primary                | 18    | 0                     | 0       | 0     | 599        | 4754      | 500      | 5853   | 0        | 0         | 0        | 0                 | 261                  | 0      | 9336   |       |
|                      |                       | Secondary              | 19    | 0                     | 0       | 0     | 1860       | 46203     | 15766    | 63829  | 0        | 0         | 0        | 0                 | 23136                | 0      | 146366 |       |
|                      |                       | Tertiary               | 20    | 0                     | 0       | 0     | 353        | 7233      | 28135    | 35721  | 0        | 0         | 0        | 0                 | 7739                 | 0      | 88960  |       |
|                      |                       | Sum                    |       | 0                     | 0       | 0     | 2812       | 58190     | 44401    | 105403 | 0        | 0         | 0        | 0                 | 31136                | 0      | 244662 |       |
|                      | REST OF THE WORLD     |                        | 21    | 84                    | 5424    | 5508  | -14        | -11       | -30      | -54    | 2142     | 33598     | 2759     | 38499             | 0                    | 0      | 47042  |       |
| Errors and Omissions |                       | 22                     | 0     | 0                     | 0       | 0     | 0          | 0         | 0        | 1391   | 17568    | -18959    | 0        | 4508              | 0                    | 4508   |        |       |
| TOTAL                |                       |                        | 48419 | 43540                 | 91959   | 6389  | 85328      | 100844    | 192561   | 9336   | 146366   | 88960     | 244662   | 47042             | 4508                 | X      |        |       |

Source: Portuguese National Accounts

Portugal 1999 (in millions of euros)

| Outlays (Expenditures) |                       |              | INSTITUTIONS    |             |              |            |          |        |       |                 |             |              |            |          |        |      |       |
|------------------------|-----------------------|--------------|-----------------|-------------|--------------|------------|----------|--------|-------|-----------------|-------------|--------------|------------|----------|--------|------|-------|
|                        |                       |              | Current Account |             |              |            |          |        |       | Capital Account |             |              |            |          |        |      |       |
|                        |                       |              | Households      | Enterprises | Gov(Central) | Gov(Local) | Gov(SSF) | Others | Sum   | Households      | Enterprises | Gov(Central) | Gov(Local) | Gov(SSF) | Others | Sum  |       |
| Incomes(Receipts)      |                       |              | 1               | 2           | 3            | 4          | 5        | 6      | Sum   | 7               | 8           | 9            | 10         | 11       | 12     | Sum  |       |
| INSTITUTIONS           | Current Account       | Households   | 1               | 520         | 1550         | 12803      | 1017     | 11993  | 4053  | 31936           | 0           | 0            | 0          | 0        | 0      | 0    | 0     |
|                        |                       | Enterprises  | 2               | 0           | 134          | 2          | 1        | 0      | 517   | 653             | 0           | 0            | 0          | 0        | 0      | 0    | 0     |
|                        |                       | Gov(Central) | 3               | 6240        | 3458         | 6619       | 8        | 698    | 603   | 17627           | 0           | 0            | 0          | 0        | 0      | 0    | 0     |
|                        |                       | Gov(Local)   | 4               | 283         | 310          | 1133       | 397      | 12     | 57    | 2192            | 0           | 0            | 0          | 0        | 0      | 0    | 0     |
|                        |                       | Gov(SSF)     | 5               | 3991        | 22           | 2180       | 0        | 0      | 0     | 6193            | 0           | 0            | 0          | 0        | 0      | 0    | 0     |
|                        |                       | Others       | 6               | 1650        | 507          | 599        | 209      | 541    | 115   | 3622            | 0           | 0            | 0          | 0        | 0      | 0    | 0     |
|                        |                       | Sum          |                 | 12685       | 5981         | 23336      | 1632     | 13244  | 5345  | 62222           | 0           | 0            | 0          | 0        | 0      | 0    | 0     |
|                        | Capital Account       | Households   | 7               | 5915        | 0            | 0          | 0        | 0      | 0     | 5915            | 0           | 0            | 236        | 23       | 0      | 313  | 572   |
|                        |                       | Enterprises  | 8               | 0           | 11399        | 0          | 0        | 0      | 0     | 11399           | 0           | 0            | 1150       | 133      | 0      | 0    | 1282  |
|                        |                       | Gov(Central) | 9               | 0           | 0            | -106       | 0        | 0      | 0     | -106            | 95          | 31           | 1300       | 12       | 610    | 3    | 2051  |
|                        |                       | Gov(Local)   | 10              | 0           | 0            | 0          | 737      | 0      | 0     | 737             | 8           | 24           | 1553       | 199      | 0      | 4    | 1787  |
|                        |                       | Gov(SSF)     | 11              | 0           | 0            | 0          | 0        | 773    | 0     | 773             | 0           | 36           | 30         | 0        | 0      | 0    | 66    |
|                        |                       | Others       | 12              | 0           | 0            | 0          | 0        | 0      | 2425  | 2425            | 0           | 0            | 195        | 87       | 62     | 313  | 657   |
| Sum                    |                       |              | 5915            | 11399       | -106         | 737        | 773      | 2425   | 21143 | 103             | 91          | 4463         | 454        | 671      | 633    | 6416 |       |
| PRODUCTION             | Factors of Production | Labour       | 13              | 0           | 0            | 0          | 0        | 0      | 0     | 0               | 0           | 0            | 0          | 0        | 0      | 0    |       |
|                        |                       | Capital      | 14              | 0           | 0            | 0          | 0        | 0      | 0     | 0               | 0           | 0            | 0          | 0        | 0      | 0    |       |
|                        |                       | Sum          |                 | 0           | 0            | 0          | 0        | 0      | 0     | 0               | 0           | 0            | 0          | 0        | 0      | 0    |       |
|                        | Activities            | Primary      | 15              | 0           | 0            | 0          | 0        | 0      | 0     | 0               | 0           | 0            | 0          | 0        | 0      | 0    |       |
|                        |                       | Secondary    | 16              | 0           | 0            | 0          | 0        | 0      | 0     | 0               | 0           | 0            | 0          | 0        | 0      | 0    |       |
|                        |                       | Tertiary     | 17              | 0           | 0            | 0          | 0        | 0      | 0     | 0               | 0           | 0            | 0          | 0        | 0      | 0    |       |
|                        |                       | Sum          |                 | 0           | 0            | 0          | 0        | 0      | 0     | 0               | 0           | 0            | 0          | 0        | 0      | 0    |       |
|                        | Products              | Primary      | 18              | 2942        | 0            | 0          | 0        | 0      | 0     | 2942            | 219         | 133          | 0          | 0        | 0      | 0    | 352   |
|                        |                       | Secondary    | 19              | 36680       | 0            | 786        | 158      | 22     | 0     | 37646           | 6725        | 13601        | 2085       | 2297     | 63     | 1453 | 26224 |
|                        |                       | Tertiary     | 20              | 38732       | 0            | 4846       | 2386     | 312    | 0     | 46276           | 1241        | 2564         | 17         | 18       | 1      | 168  | 4009  |
|                        |                       | Sum          |                 | 78353       | 0            | 5631       | 2545     | 335    | 0     | 86864           | 8185        | 16298        | 2102       | 2315     | 64     | 1621 | 30585 |
|                        | REST OF THE WORLD     |              |                 | 21          | 2261         | 62         | 727      | 0      | 55    | 59              | 3165        | -982         | 1031       | 58       | -5     | 4    | 31    |
| Errors and Omissions   |                       |              | 22              | 0           | 0            | 0          | 0        | 0      | 0     | 0               | 0           | 0            | 0          | 0        | 0      | 0    |       |
| TOTAL                  |                       |              |                 | 99214       | 17443        | 29588      | 4914     | 14407  | 7828  | 173394          | 7305        | 17420        | 6623       | 2765     | 739    | 2285 | 37138 |

Source: Portuguese National Accounts

Portugal 1999 (in millions of euros) (continued)

| Outlays (Expenditures) |                       |              |       | PRODUCTION            |         |       |            |           |          |        |          |           |          | REST OF THE WORLD | Errors and Omissions | TOTAL  |        |       |
|------------------------|-----------------------|--------------|-------|-----------------------|---------|-------|------------|-----------|----------|--------|----------|-----------|----------|-------------------|----------------------|--------|--------|-------|
|                        |                       |              |       | Factors of Production |         |       | Activities |           |          |        | Products |           |          |                   |                      |        |        |       |
|                        |                       |              |       | Labour                | Capital | Sum   | Primary    | Secondary | Tertiary | Sum    | Primary  | Secondary | Tertiary |                   |                      |        | Sum    |       |
| Incomes(Receipts)      |                       |              |       | 13                    | 14      |       | 15         | 16        | 17       |        | 18       | 19        | 20       |                   | 21                   | 22     |        |       |
| INSTITUTIONS           | Current Account       | Households   | 1     | 41242                 | 22389   | 63631 | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 0                    | 3647   | 0      | 99214 |
|                        |                       | Enterprises  | 2     | 1550                  | 15229   | 16779 | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 0                    | 11     | 0      | 17443 |
|                        |                       | Gov(Central) | 3     | 739                   | -1655   | -916  | -174       | -171      | -413     | -758   | -229     | 9596      | 3968     | 13334             | 302                  | 0      | 29588  |       |
|                        |                       | Gov(Local)   | 4     | 51                    | 988     | 1039  | 106        | 103       | 251      | 459    | -21      | 863       | 357      | 1199              | 24                   | 0      | 4914   |       |
|                        |                       | Gov(SSF)     | 5     | 7385                  | 109     | 7494  | -122       | -120      | -291     | -533   | -8       | 354       | 146      | 492               | 762                  | 0      | 14407  |       |
|                        |                       | Others       | 6     | 1154                  | 2971    | 4125  | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 81                   | 0      | 7828   |       |
|                        | Sum                   |              | 52120 | 40032                 | 92152   | -191  | -187       | -454      | -832     | -258   | 10813    | 4471      | 15025    | 4827              | 0                    | 173394 |        |       |
|                        | Capital Account       | Households   | 7     | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 266                  | 552    | 7305   |       |
|                        |                       | Enterprises  | 8     | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 1019                 | 3719   | 17420  |       |
|                        |                       | Gov(Central) | 9     | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 1160                 | 3519   | 6623   |       |
|                        |                       | Gov(Local)   | 10    | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 523                  | -283   | 2765   |       |
|                        |                       | Gov(SSF)     | 11    | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 0                 | 36                   | -137   | 739    |       |
| Others                 |                       | 12           | 0     | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 0        | 4                 | -800                 | 2285   |        |       |
| Sum                    |                       | 0            | 0     | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 0         | 3009     | 6570              | 37138                |        |        |       |
| PRODUCTION             | Factors of Production | Labour       | 13    | 0                     | 0       | 0     | 650        | 15691     | 35751    | 52092  | 0        | 0         | 0        | 0                 | 147                  | 0      | 52239  |       |
|                        |                       | Capital      | 14    | 0                     | 0       | 0     | 3142       | 12740     | 25734    | 41615  | 0        | 0         | 0        | 0                 | 3975                 | 0      | 45590  |       |
|                        |                       | Sum          |       | 0                     | 0       | 0     | 3792       | 28431     | 61484    | 93707  | 0        | 0         | 0        | 0                 | 4122                 | 0      | 97829  |       |
|                        | Activities            | Primary      | 15    | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 6196     | 362       | 26       | 6584              | 0                    | 0      | 6584   |       |
|                        |                       | Secondary    | 16    | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 0        | 87369     | 763      | 88133             | 0                    | 0      | 88133  |       |
|                        |                       | Tertiary     | 17    | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 8        | 281       | 108609   | 108898            | 0                    | 0      | 108898 |       |
|                        |                       | Sum          |       | 0                     | 0       | 0     | 0          | 0         | 0        | 0      | 6204     | 88012     | 109398   | 203614            | 0                    | 0      | 203614 |       |
|                        | Products              | Primary      | 18    | 0                     | 0       | 0     | 751        | 4549      | 502      | 5802   | 0        | 0         | 0        | 0                 | 269                  | 0      | 9364   |       |
|                        |                       | Secondary    | 19    | 0                     | 0       | 0     | 1846       | 47615     | 16703    | 66165  | 0        | 0         | 0        | 0                 | 23798                | 0      | 153833 |       |
|                        |                       | Tertiary     | 20    | 0                     | 0       | 0     | 400        | 7739      | 30696    | 38835  | 0        | 0         | 0        | 0                 | 8023                 | 0      | 97143  |       |
|                        |                       | Sum          |       | 0                     | 0       | 0     | 2997       | 59903     | 47901    | 110801 | 0        | 0         | 0        | 0                 | 32089                | 0      | 260340 |       |
|                        | REST OF THE WORLD     |              | 21    | 119                   | 5559    | 5678  | -14        | -14       | -34      | -63    | 1936     | 36829     | 2936     | 41700             | 0                    | 0      | 50617  |       |
| Errors and Omissions   |                       | 22           | 0     | 0                     | 0       | 0     | 0          | 0         | 0        | 1482   | 18179    | -19662    | 0        | 6570              | 0                    | 6570   |        |       |
| TOTAL                  |                       |              |       | 52239                 | 45590   | 97829 | 6584       | 88133     | 108898   | 203614 | 9364     | 153833    | 97143    | 260340            | 50617                | 6570   | X      |       |

Source: Portuguese National Accounts

## B. Description of the SAM cell contents

| Row | Col. | Contents   |
|-----|------|--|
| 1   | 1    | Social benefits other than social transfers in kind and miscellaneous current transfers within households  |
| 1   | 2    | Social benefits other than social transfers in kind and miscellaneous current transfers from non-financial corporations to households  |
| 1   | 3    | Social benefits other than social transfers in kind, social transfers in kind and miscellaneous current transfers from central government to households  |
| 1   | 4    | Social benefits other than social transfers in kind, social transfers in kind and miscellaneous current transfers from local government to households  |
| 1   | 5    | Social benefits other than social transfers in kind and social transfers in kind paid from social security funds to households   |
| 1   | 6    | Social benefits other than social transfers in kind received by households from financial corporations and non-profit institutions serving households; social transfers in kind from non-profit institutions serving households to households; non-life insurance claims from financial corporations to households; adjustment for the change in the net equity of households in pension funds |
| 1   | 13   | Wages and salaries plus imputed social contributions received by households  |
| 1   | 14   | Gross mixed income plus net property income received by households   |
| 1   | 21   | Social benefits other than social transfers in kind, non-life insurance claims and miscellaneous current transfers received by households from the rest of the world   |
| 2   | 2    | Miscellaneous current transfers within non-financial corporations  |
| 2   | 3    | Miscellaneous current transfers from central government to non-financial corporations  |
| 2   | 4    | Miscellaneous current transfers from local government to non-financial corporations  |
| 2   | 6    | Non-life insurance claims and miscellaneous current transfers from financial corporations to non-financial corporations  |
| 2   | 13   | Imputed social contributions received by non-financial corporations  |
| 2   | 14   | Gross operating surplus plus net property income received by non-financial corporations  |
| 2   | 21   | Non-life insurance claims received by non-financial corporations from the rest of the world  |
| 3   | 1    | Current taxes on income, wealth, etc., employees' social contributions, social contributions by self-employed and non-employed persons and miscellaneous current transfers received by central government from households  |
| 3   | 2    | Current taxes on income, wealth, etc., and miscellaneous current transfers received by central government from non-financial corporations  |
| 3   | 3    | Current transfers and miscellaneous current transfers within central government  |
| 3   | 4    | Current transfers and miscellaneous current transfers from local government to central government  |
| 3   | 5    | Current transfers and miscellaneous current transfers from social security funds to central government   |
| 3   | 6    | Current taxes on income, wealth, etc. paid by financial corporations and non-profit institutions serving households to central government; non-life insurance claims paid by financial corporations to central government; miscellaneous current transfers from financial corporations and non-profit institutions serving households to central government                                    |
| 3   | 13   | Imputed social contributions received by central government  |
| 3   | 14   | Gross operating surplus plus net property income received by central government  |

| Row | Col. | Contents  |
|-----|------|---|
| 3   | 15   | Other taxes on production paid by primary sector activities minus other subsidies on production received by the same activities from central government   |
| 3   | 16   | Other taxes on production paid by secondary sector activities minus other subsidies on production received by the same activities from central government   |
| 3   | 17   | Other taxes on production paid by tertiary sector activities minus other subsidies on production received by the same activities from central government  |
| 3   | 18   | Taxes on primary sector products received by the central government minus subsidies on those products from central government   |
| 3   | 19   | Taxes on secondary sector products received by central government minus subsidies on those products from the central government   |
| 3   | 20   | Taxes on tertiary sector products received by central government minus subsidies on those products from central government  |
| 3   | 21   | Current international cooperation and miscellaneous current transfers received by central government from the rest of the world   |
| 4   | 1    | Current taxes on income, wealth, etc., employees' social contributions, social contributions by self-employed and non-employed persons and miscellaneous current transfers received by local government from households   |
| 4   | 2    | Current taxes on income, wealth, etc., and miscellaneous current transfers received by local government from non-financial corporations   |
| 4   | 3    | Current transfers from central government to local government   |
| 4   | 4    | Current transfers within local government   |
| 4   | 5    | Current transfers from social security funds to local government  |
| 4   | 6    | Current taxes on income, wealth, etc. paid by financial corporations and non-profit institutions serving households to local government; non-life insurance claims paid by financial corporations to local government; miscellaneous current transfers from financial corporations and non-profit institutions serving households to local government |
| 4   | 13   | Imputed social contributions received by local government   |
| 4   | 14   | Gross operating surplus plus net property income received by local government   |
| 4   | 15   | Other taxes on production paid by primary sector activities minus other subsidies on production received by the same activities from local government   |
| 4   | 16   | Other taxes on production paid by secondary sector activities minus other subsidies on production received by the same activities from local government   |
| 4   | 17   | Other taxes on production paid by tertiary sector activities minus other subsidies on production received by the same activities from local government  |
| 4   | 18   | Taxes on primary sector products received by local government minus subsidies on those products from local government   |
| 4   | 19   | Taxes on secondary sector products received by local government minus subsidies on those products from local government   |
| 4   | 20   | Taxes on tertiary sector products received by local government minus subsidies on those products from local government  |
| 4   | 21   | Current international cooperation and miscellaneous current transfers received by local government from the rest of the world   |
| 5   | 1    | Employees' social contributions, social contributions by self-employed and non-employed persons and miscellaneous current transfers received by social security funds from households   |
| 5   | 2    | Miscellaneous current transfers from non-financial corporations to social security funds  |
| 5   | 3    | Current transfers from central government to social security funds  |
| 5   | 13   | Imputed social contributions plus employers' actual social contributions received by  |



| Row | Col. | Contents   |
|-----|------|--|
|     |      | social security funds  |
| 5   | 14   | Gross operating surplus plus net property income received by social security funds   |
| 5   | 15   | Other taxes on production paid by primary sector activities minus other subsidies on production received by the same activities from social security funds   |
| 5   | 16   | Other taxes on production paid by secondary sector activities minus other subsidies on production received by the same activities from social security funds   |
| 5   | 17   | Other taxes on production paid by tertiary sector activities minus other subsidies on production received by the same activities from social security funds  |
| 5   | 18   | Taxes on primary sector products received by social security funds   |
| 5   | 19   | Taxes on secondary sector products received by social security funds   |
| 5   | 20   | Taxes on tertiary sector products received by social security funds  |
| 5   | 21   | Current international cooperation received by social security funds from the rest of the world   |
| 6   | 1    | Employees' social contributions, social contributions by self-employed and non-employed persons and net non-life insurance premiums received by financial corporations from households; miscellaneous current transfers from households to non-profit institutions serving households  |
| 6   | 2    | Net non-life insurance premiums received by financial corporations from non-financial corporations; miscellaneous current transfers from non-financial corporations to financial corporations and non-profit institutions serving households   |
| 6   | 3    | Net non-life insurance premiums received by financial corporations from central government; miscellaneous current transfers from central government to non-profit institutions serving households  |
| 6   | 4    | Net non-life insurance premiums received by financial corporations from local government; miscellaneous current transfers from local government to non-profit institutions serving households  |
| 6   | 5    | Miscellaneous current transfers from social security funds to non-profit institutions serving households   |
| 6   | 6    | Net non-life insurance premiums paid by financial corporations and non-profit institutions serving households to financial corporations; non-life insurance claims paid by financial corporations to themselves and to non-profit institutions serving households; miscellaneous current transfers from financial corporations to non-profit institutions serving households and within the latter |
| 6   | 13   | Imputed social contributions received by financial corporations and non-profit institutions serving households   |
| 6   | 14   | Gross operating surplus plus net property income received by financial corporations and non-profit institutions serving households   |
| 6   | 21   | Net non-life insurance premiums and non-life insurance claims received by financial corporations from the rest of the world  |
| 7   | 1    | Gross savings of households  |
| 7   | 9    | Investment grants from central government to households  |
| 7   | 10   | Investment grants and other capital transfers from local government to households  |
| 7   | 12   | Other capital transfers from financial corporations to households  |
| 7   | 21   | Investment grants and other capital transfers from the rest of the world to households   |
| 7   | 22   | Net lending (-) / borrowing (+) of households  |
| 8   | 2    | Gross savings of non-financial corporations  |
| 8   | 9    | Investment grants and other capital transfers from central government to non-financial corporations  |
| 8   | 10   | Investment grants and other capital transfers from local government to non-financial corporations  |

| Row | Col. | Contents   |
|-----|------|--|
| 8   | 11   | Other capital transfers from social security funds to non-financial corporations   |
| 8   | 21   | Investment grants and other capital transfers from the rest of the world to non-financial corporations                   |
| 8   | 22   | Net borrowing of non-financial corporations  |
| 9   | 3    | Gross savings of central government  |
| 9   | 7    | Capital taxes and other capital transfers received by central government from households                                 |
| 9   | 8    | Other capital transfers from non-financial corporations to central government  |
| 9   | 9    | Investment grants within central government  |
| 9   | 10   | Investment grants from local government to central government  |
| 9   | 11   | Investment grants and other capital transfers from social security funds to central government                           |
| 9   | 12   | Other capital transfers from financial corporations and non-profit institutions serving households to central government |
| 9   | 21   | Investment grants and other capital transfers from the rest of the world to central government                           |
| 9   | 22   | Net borrowing of central government  |
| 10  | 4    | Gross savings of local government  |
| 10  | 7    | Capital taxes and other capital transfers received by local government from households                                   |
| 10  | 8    | Other capital transfers from non-financial corporations to local government  |
| 10  | 9    | Investment grants and other capital transfers from central government to local government                                |
| 10  | 10   | Investment grants within local government  |
| 10  | 12   | Other capital transfers from financial corporations and non-profit institutions serving households to local government   |
| 10  | 21   | Investment grants and other capital transfers from the rest of the world to local government                             |
| 10  | 22   | Net lending of local government  |
| 11  | 5    | Gross savings of social security funds   |
| 11  | 8    | Other capital transfers from non-financial corporations to social security funds   |
| 11  | 9    | Investment grants from central government to social security funds   |
| 11  | 21   | Investment grants and other capital transfers from the rest of the world to social security funds                        |
| 11  | 22   | Net lending of social security funds   |
| 12  | 6    | Gross savings of financial corporations and non-profit institutions serving households                                   |
| 12  | 9    | Investment grants from central government to non-profit institutions serving households                                  |
| 12  | 10   | Investment grants and other capital transfers from local government to non-profit institutions serving households        |
| 12  | 11   | Investment grants from social security funds to non-profit institutions serving households                               |
| 12  | 12   | Other capital transfers within financial corporations  |
| 12  | 21   | Investment grants from the rest of the world to non-profit institutions serving households                               |
| 12  | 22   | Net lending of financial corporations and non-profit institutions serving households                                     |
| 13  | 15   | Compensation of employees paid by primary sector activities  |
| 13  | 16   | Compensation of employees paid by secondary sector activities  |
| 13  | 17   | Compensation of employees paid by tertiary sector activities   |

| Row | Col. | Contents  |
|-----|------|---|
| 13  | 21   | Compensation of employees paid by the rest of the world (from non-resident employers)   |
| 14  | 15   | Gross operating surplus of primary sector activities  |
| 14  | 16   | Gross operating surplus of secondary sector activities  |
| 14  | 17   | Gross operating surplus of tertiary sector activities   |
| 14  | 21   | Property income paid by the rest of the world   |
| 15  | 18   | Output of primary sector products through the activities of the same sector   |
| 15  | 19   | Output of secondary sector products through primary sector activities   |
| 15  | 20   | Output of tertiary sector products through primary sector activities  |
| 16  | 19   | Output of secondary sector products through the activities of the same sector   |
| 16  | 20   | Output of tertiary sector products through secondary sector activities  |
| 17  | 18   | Output of primary sector products through tertiary sector activities  |
| 17  | 19   | Output of secondary sector products through tertiary sector activities  |
| 17  | 20   | Output of tertiary sector products through the activities of the same sector  |
| 18  | 1    | Households' actual final consumption of primary sector products   |
| 18  | 7    | Gross Capital Formation on primary sector products by enterprises classified in the household institutional sector            |
| 18  | 8    | Gross Capital Formation on primary sector products by non-financial corporations  |
| 18  | 15   | Intermediate consumption of primary sector products through the activities of the same sector                                 |
| 18  | 16   | Intermediate consumption of primary sector products through secondary sector activities                                       |
| 18  | 17   | Intermediate consumption of primary sector products through tertiary sector activities  |
| 18  | 21   | Exports of primary sector products  |
| 19  | 1    | Households' actual final consumption of secondary sector products   |
| 19  | 3    | Central government actual final consumption of secondary sector products  |
| 19  | 4    | Local government actual final consumption of secondary sector products  |
| 19  | 5    | Social security funds' actual final consumption of secondary sector products  |
| 19  | 7    | Gross Capital Formation on secondary sector products by enterprises classified in the household institutional sector          |
| 19  | 8    | Gross Capital Formation on secondary sector products by non-financial corporations  |
| 19  | 9    | Gross Capital Formation on secondary sector products by central government  |
| 19  | 10   | Gross Capital Formation on secondary sector products by local government  |
| 19  | 11   | Gross Capital Formation on secondary sector products by social security funds   |
| 19  | 12   | Gross Capital Formation on secondary sector products by financial corporations and non-profit institutions serving households |
| 19  | 15   | Intermediate consumption of secondary sector products through primary sector activities                                       |
| 19  | 16   | Intermediate consumption of secondary sector products through the activities of the same sector                               |
| 19  | 17   | Intermediate consumption of secondary sector products through tertiary sector activities                                      |
| 19  | 21   | Exports of secondary sector products  |
| 20  | 1    | Households' actual final consumption of tertiary sector products  |
| 20  | 3    | Central government actual final consumption of tertiary sector products   |
| 20  | 4    | Local government actual final consumption of tertiary sector products   |
| 20  | 5    | Social security funds' actual final consumption of tertiary sector products   |
| 20  | 7    | Gross Capital Formation on tertiary sector products by the enterprises classified in the household institutional sector       |

| Row | Col. | Contents  |
|-----|------|---|
| 20  | 8    | Gross Capital Formation on tertiary sector products by non-financial corporations   |
| 20  | 9    | Gross Capital Formation on tertiary sector products by central government   |
| 20  | 10   | Gross Capital Formation on tertiary sector products by local government   |
| 20  | 11   | Gross Capital Formation on tertiary sector products by social security funds  |
| 20  | 12   | Gross Capital Formation on tertiary sector products by financial corporations and non-profit institutions serving households  |
| 20  | 15   | Intermediate consumption of tertiary sector products by primary sector activities   |
| 20  | 16   | Intermediate consumption of tertiary sector products by secondary sector activities   |
| 20  | 17   | Intermediate consumption of tertiary sector products by the activities of the same sector   |
| 20  | 21   | Exports of tertiary sector products (includes direct purchases in the domestic market by non-residents and the c.i.f./f.o.b. adjustment)  |
| 21  | 1    | Net non-life insurance premiums and miscellaneous current transfers received by the rest of the world from households; direct purchases abroad by residents   |
| 21  | 2    | Net non-life insurance premiums received by the rest of the world from non-financial corporations   |
| 21  | 3    | Net non-life insurance premiums, current international cooperation and miscellaneous current transfers received by the rest of the world from central government  |
| 21  | 5    | Social benefits other than social transfers in kind received by the rest of the world from social security funds  |
| 21  | 6    | Net non-life insurance premiums received by the rest of the world from financial corporations and non-profit institutions serving households; non-life insurance claims received by the rest of the world from financial corporations |
| 21  | 7    | Acquisitions minus disposals of non-produced non-financial assets and other capital transfers from households to the rest of the world  |
| 21  | 8    | Acquisitions minus disposals of non-produced non-financial assets and other capital transfers from non-financial corporations to the rest of the world  |
| 21  | 9    | Acquisitions minus disposals of non-produced non-financial assets, investment grants and other capital transfers from central government to the rest of the world   |
| 21  | 10   | Acquisitions minus disposals of non-produced non-financial assets from local government to the rest of the world  |
| 21  | 11   | Acquisitions minus disposals of non-produced non-financial assets from social security funds to the rest of the world   |
| 21  | 12   | Acquisitions minus disposals of non-produced non-financial assets from financial corporations to the rest of the world  |
| 21  | 13   | Compensation of employees received by the rest of the world (paid to non-resident employees)  |
| 21  | 14   | Property income received by the rest of the world   |
| 21  | 15   | (minus) Other subsidies on production received by primary sector activities from the institutions and other countries of the European Union   |
| 21  | 16   | (minus) Other subsidies on production received by secondary sector activities from the institutions and other countries of the European Union   |
| 21  | 17   | (minus) Other subsidies on production received by tertiary sector activities from the institutions and other countries of the European Union  |
| 21  | 18   | Imports of primary sector products plus the part of taxes on those products received by the institutions of the European Union minus the part of the subsidies for those products from the same institutions                          |
| 21  | 19   | Imports of secondary sector products plus the part of taxes on those products received by the institutions of the European Union minus the part of the subsidies for  |

| Row | Col. | Contents   |
|-----|------|--|
|     |      | those products received from the same institutions   |
| 21  | 20   | Imports of tertiary sector products plus the part of taxes on those products received by the institutions of the European Union minus the part of the subsidies for those products received from the same institutions |
| 22  | 18   | Trade margins of primary sector products   |
| 22  | 19   | Trade margins of secondary sector products   |
| 22  | 20   | Trade margins of tertiary sector products  |
| 22  | 21   | Net lending of the rest of the world /Net borrowing of the Portuguese economy  |

## C. The SAM modelling

### C.1. Methodology

In keeping with the work of G. Pyatt and A. Roe (1977) and G. Pyatt and J. Round (1985), which represents the basis of what has so far been done in this area, the adopted base methodology of the multipliers is described below.

SAM in endogenous and exogenous accounts

|          |            | Expenditures |     |           |     | Total |
|----------|------------|--------------|-----|-----------|-----|-------|
|          |            | Endogenous   |     | Exogenous |     |       |
|          |            |              | Sum |           | Sum |       |
| Receipts | Endogenous | N            | n   | X         | x   | $y_n$ |
|          | Exogenous  | L            | l   | R         | r   | $y_x$ |
|          | Total      | $y'_n$       |     | $y'_x$    |     |       |

where:

N = matrix of transactions between endogenous accounts

n = vector of the row sum of N

X = matrix of the transactions between exogenous and endogenous accounts (injections from first into second)

x = vector of the row sum of X

L = matrix of the transactions between endogenous and exogenous accounts (leakages from first into second)

l = vector of the row sum of L

R = matrix of the transactions between exogenous accounts

$r$  = vector of the row sum of  $R$

$y_n$  = vector (column) of the receipts of the endogenous accounts

$y_n'$  = " (row) of the expenditure " " " "

$\hat{y}_n$  = matrix (diagonal) of the receipts " " " "

( $\hat{y}_n^{-1}$ : inverse)

$y_x$  = vector (column) of the receipts of the exogenous accounts

$y_x'$  = " (row) of the expenditure " " " "

It can be written that:

$$y_n = n + x \tag{1}$$

$$y_x = l + r \tag{2}$$

The amount that the endogenous accounts receive is equal to the amount that they spend. In other words, in aggregate terms, total injections from the exogenous into the endogenous accounts, i.e. the column sum of "x", are equal to total leakages from the endogenous into the exogenous accounts, i.e. considering  $i'$  to be the unitary vector (row), the column sum of "1" is:

$$x * i' = l * i' \tag{3}$$

#### a) Deduction of accounting multipliers

If the former table shows the structure of a SAM for a year  $t$  (1999 in this study) and the entries in the  $N$  matrix are divided by the corresponding total expenditure, a corresponding matrix (squared) can be established of the average expenditure propensities of the endogenous accounts in the endogenous accounts or of the use of resources within those accounts. Calling this matrix  $A_n$ , it can be written that:

$$A_n = N * \hat{y}_n^{-1} \tag{4}$$

$$N = A_n * \hat{y}_n \tag{5}$$

Considering equation (1),  $y_n = A_n * y_n + x$  (6)

Thus,  $y_n = (I - A_n)^{-1} * x = M_a * x$ . (7)

We thus have the equation that gives the total receipts of the endogenous accounts ( $y_n$ ), by multiplying the injections "x" by the matrix of the accounting multipliers:

$$M_a = (I - A_n)^{-1}. \tag{8}$$

On the other hand, if the entries in the  $L$  matrix are divided by the corresponding total expenditure, a corresponding matrix (usually non-squared) can be established of the average expenditure

propensities of the endogenous accounts in the exogenous accounts or of the use of resources from the endogenous accounts within the exogenous accounts. Calling this matrix  $A_1$ , it can be written that:

$$A_1 = L * \hat{y}_n^{-1} \quad (9)$$

$$L = A_1 * \hat{y}_n \quad (10)$$

Considering equation (2),  $y_x = A_1 * y_n + r$  (11)

Thus,  $1 = A_1 * y_n = A_1 * (I - A_n)^{-1} * x = A_1 * M_a * x$ . (12)

So, with the accounting multipliers, the impact of changes in receipts is analysed at the moment that they occur, assuming that the expenditure structure of the economy does not change. This type of methodology allows for a static analysis to be made, assuming that there is excess capacity, prices remain constant and that production technology and resource endowment are given.

#### b) Deduction of fixed-price multipliers

If the former table shows the structure of a SAM which is the difference between the SAMs for a year  $t$  and a year  $t-1$  (1999 and 1998 in this study) and the entries in the N matrix are divided by the corresponding column total, a corresponding matrix (squared) can be established of the marginal expenditure propensities of the endogenous accounts in the endogenous accounts or of the use of resources within those accounts. Calling this matrix  $D_n$ , it can be written that:

$$D_n = N * \hat{y}_n^{-1} \quad (13)$$

$$N = D_n * \hat{y}_n \quad (14)$$

Considering equation (1),  $y_n = D_n * y_n + x$  (15)

Thus,  $y_n = (I - D_n)^{-1} * x = M_{fp} * x$ . (16)

We thus have the equation that gives the total changes in the receipts of the endogenous accounts ( $y_n$ ), by multiplying the changes in injections “x” by the matrix of the fixed-price multipliers:

$$M_{fp} = (I - D_n)^{-1}. \quad (17)$$

On the other hand, if the entries in the L matrix are divided by the corresponding column total, a corresponding matrix (usually non-squared) can be established of the marginal expenditure propensities of the endogenous accounts in the exogenous accounts or of the use of resources from the endogenous accounts within the exogenous accounts. Calling this matrix  $D_1$ , it can be written that:

$$D_1 = L * \hat{y}_n^{-1} \quad (18)$$

$$L = D_1 * \hat{y}_n \quad (19)$$

Considering equation (2),  $y_x = D_1 * y_n + r$  (20)

Thus,  $l = D_1 * y_n = D_1 * (I - D_n)^{-1} * x = D_1 * M_{fp} * x.$  (21)

So, with the fixed-price multipliers, the impact of changes in receipts is analysed at the moment (year  $t$ , 1999 in this study), assuming that the expenditure structure of the economy changed exactly as it did in relation to the previous year ( $t-1$ , 1998 in this study). This type of methodology allows for a comparative static analysis to be made, assuming that there is excess capacity, prices remain constant and that production technology and resource endowment are given.



## C.2. Results

### a) Effects of changes in flows of funds from government to households

Average expenditure propensities of the endogenous accounts in the endogenous accounts ( $A_n$ )

|    | 1     | 2     | 6     | 7      | 8     | 12    | 13    | 14    | 15     | 16    | 17    | 18    | 19    | 20     | 21    | 22     |
|----|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|--------|
| 1  | 0.005 | 0.089 | 0.518 | 0.000  | 0.000 | 0.000 | 0.789 | 0.491 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.072 | 0.000  |
| 2  | 0.000 | 0.008 | 0.066 | 0.000  | 0.000 | 0.000 | 0.030 | 0.334 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000  |
| 6  | 0.017 | 0.029 | 0.015 | 0.000  | 0.000 | 0.000 | 0.022 | 0.065 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.002 | 0.000  |
| 7  | 0.060 | 0.000 | 0.000 | 0.000  | 0.000 | 0.137 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.005 | 0.084  |
| 8  | 0.000 | 0.654 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.020 | 0.566  |
| 12 | 0.000 | 0.000 | 0.310 | 0.000  | 0.000 | 0.137 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | -0.122 |
| 13 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.099  | 0.178 | 0.328 | 0.000 | 0.000 | 0.000  | 0.003 | 0.000  |
| 14 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.477  | 0.145 | 0.236 | 0.000 | 0.000 | 0.000  | 0.079 | 0.000  |
| 15 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.662 | 0.002 | 0.000  | 0.000 | 0.000  |
| 16 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.568 | 0.008  | 0.000 | 0.000  |
| 17 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.001 | 0.002 | 1.118  | 0.000 | 0.000  |
| 18 | 0.030 | 0.000 | 0.000 | 0.030  | 0.008 | 0.000 | 0.000 | 0.000 | 0.114  | 0.052 | 0.005 | 0.000 | 0.000 | 0.000  | 0.005 | 0.000  |
| 19 | 0.370 | 0.000 | 0.000 | 0.921  | 0.781 | 0.636 | 0.000 | 0.000 | 0.280  | 0.540 | 0.153 | 0.000 | 0.000 | 0.000  | 0.470 | 0.000  |
| 20 | 0.390 | 0.000 | 0.000 | 0.170  | 0.147 | 0.073 | 0.000 | 0.000 | 0.061  | 0.088 | 0.282 | 0.000 | 0.000 | 0.000  | 0.159 | 0.000  |
| 21 | 0.023 | 0.004 | 0.008 | -0.134 | 0.059 | 0.014 | 0.002 | 0.122 | -0.002 | 0.000 | 0.000 | 0.207 | 0.239 | 0.030  | 0.000 | 0.000  |
| 22 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.158 | 0.118 | -0.202 | 0.130 | 0.000  |

Average expenditure propensities of the endogenous accounts in the exogenous accounts ( $A_l$ )

|    |       |       |       |       |       |       |       |        |        |        |        |        |       |       |       |        |
|----|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|-------|-------|-------|--------|
| 3  | 0.063 | 0.198 | 0.077 | 0.000 | 0.000 | 0.000 | 0.014 | -0.036 | -0.026 | -0.002 | -0.004 | -0.024 | 0.062 | 0.041 | 0.006 | 0.000  |
| 4  | 0.003 | 0.018 | 0.007 | 0.000 | 0.000 | 0.000 | 0.001 | 0.022  | 0.016  | 0.001  | 0.002  | -0.002 | 0.006 | 0.004 | 0.000 | 0.000  |
| 5  | 0.040 | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.141 | 0.002  | -0.019 | -0.001 | -0.003 | -0.001 | 0.002 | 0.002 | 0.015 | 0.000  |
| 9  | 0.000 | 0.000 | 0.000 | 0.013 | 0.002 | 0.001 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000 | 0.023 | 0.536  |
| 10 | 0.000 | 0.000 | 0.000 | 0.001 | 0.001 | 0.002 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000 | 0.010 | -0.043 |
| 11 | 0.000 | 0.000 | 0.000 | 0.000 | 0.002 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000 | 0.001 | -0.021 |

( $A_n + A_l$ )

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Total | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|

Source: Social Accounting Matrix – Portugal, 1999 (Appendix A)

Marginal expenditure propensities of the endogenous accounts in the endogenous accounts ( $D_n$ )

|    | 1      | 2      | 6      | 7      | 8      | 12     | 13     | 14    | 15     | 16     | 17     | 18     | 19    | 20     | 21     | 22    |
|----|--------|--------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|-------|--------|--------|-------|
| 1  | 0.006  | -0.019 | 0.295  | 0.000  | 0.000  | 0.000  | 0.858  | 0.113 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.054  | 0.000 |
| 2  | 0.000  | 0.007  | 0.160  | 0.000  | 0.000  | 0.000  | -0.007 | 0.728 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | -0.003 | 0.000 |
| 6  | 0.003  | 0.016  | -0.002 | 0.000  | 0.000  | 0.000  | -0.008 | 0.081 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.001  | 0.000 |
| 7  | -0.123 | 0.000  | 0.000  | 0.000  | 0.000  | 0.362  | 0.000  | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.020  | 0.595 |
| 8  | 0.000  | 0.547  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | -0.037 | 0.392 |
| 12 | 0.000  | 0.000  | 0.339  | 0.000  | 0.000  | 0.362  | 0.000  | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.000  | 0.062 |
| 13 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | -0.010 | 0.284  | 0.377  | 0.000  | 0.000 | 0.000  | -0.002 | 0.000 |
| 14 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.251  | 0.131  | 0.205  | 0.000  | 0.000 | 0.000  | -0.004 | 0.000 |
| 15 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.000  | 0.000  | 5.361  | 0.006 | 0.000  | 0.000  | 0.000 |
| 16 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.367 | 0.008  | 0.000  | 0.000 |
| 17 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.000  | 0.000  | 0.093  | 0.008 | 0.977  | 0.000  | 0.000 |
| 18 | 0.009  | 0.000  | 0.000  | 0.049  | -0.012 | 0.000  | 0.000  | 0.000 | 0.779  | -0.073 | 0.000  | 0.000  | 0.000 | 0.000  | 0.002  | 0.000 |
| 19 | 0.385  | 0.000  | 0.000  | 0.659  | 0.712  | 0.233  | 0.000  | 0.000 | -0.070 | 0.504  | 0.116  | 0.000  | 0.000 | 0.000  | 0.185  | 0.000 |
| 20 | 0.574  | 0.000  | 0.000  | 0.365  | 0.234  | -0.174 | 0.000  | 0.000 | 0.241  | 0.180  | 0.318  | 0.000  | 0.000 | 0.000  | 0.079  | 0.000 |
| 21 | 0.018  | 0.005  | -0.151 | -0.088 | 0.043  | 0.222  | 0.009  | 0.066 | -0.003 | -0.001 | -0.001 | -7.431 | 0.433 | 0.022  | 0.000  | 0.000 |
| 22 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.000  | 0.000  | 3.292  | 0.082 | -0.086 | 0.577  | 0.000 |

Marginal expenditure propensities of the endogenous accounts in the exogenous accounts ( $D_1$ )

|    |       |        |       |        |        |        |       |        |        |        |        |        |       |       |       |        |
|----|-------|--------|-------|--------|--------|--------|-------|--------|--------|--------|--------|--------|-------|-------|-------|--------|
| 3  | 0.066 | 0.399  | 0.326 | 0.000  | 0.000  | 0.000  | 0.010 | -0.041 | -0.087 | -0.018 | -0.009 | -0.234 | 0.086 | 0.068 | 0.033 | 0.000  |
| 4  | 0.008 | 0.046  | 0.034 | 0.000  | 0.000  | 0.000  | 0.001 | 0.049  | -0.002 | 0.008  | 0.003  | -0.090 | 0.018 | 0.010 | 0.001 | 0.000  |
| 5  | 0.054 | -0.002 | 0.000 | 0.000  | 0.000  | 0.000  | 0.138 | 0.005  | -0.100 | -0.015 | -0.009 | 0.009  | 0.001 | 0.002 | 0.013 | 0.000  |
| 9  | 0.000 | 0.000  | 0.000 | 0.017  | 0.001  | -0.004 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000 | 0.073 | -0.102 |
| 10 | 0.000 | 0.000  | 0.000 | -0.001 | -0.002 | -0.001 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000 | 0.003 | 0.059  |
| 11 | 0.000 | 0.000  | 0.000 | 0.000  | 0.024  | -0.001 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000 | 0.005 | -0.006 |

( $D_n + D_1$ )

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Total | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|

Source: Social Accounting Matrices – Portugal, 1998 and 1999 (Appendix A)

Accounting Multipliers (M<sub>a</sub>)

|    | 1     | 2     | 6     | 7     | 8     | 12    | 13    | 14    | 15    | 16    | 17    | 18     | 19     | 20     | 21     | 22     |
|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| 1  | 2.625 | 1.341 | 1.969 | 1.577 | 1.583 | 1.552 | 2.159 | 2.056 | 1.937 | 1.763 | 2.043 | 1.739  | 1.482  | 2.175  | 1.561  | 0.840  |
| 2  | 0.388 | 1.307 | 0.412 | 0.381 | 0.381 | 0.374 | 0.355 | 0.699 | 0.554 | 0.428 | 0.484 | 0.476  | 0.358  | 0.515  | 0.373  | 0.202  |
| 6  | 0.151 | 0.134 | 1.145 | 0.132 | 0.132 | 0.129 | 0.149 | 0.209 | 0.178 | 0.147 | 0.169 | 0.156  | 0.124  | 0.179  | 0.129  | 0.070  |
| 7  | 0.180 | 0.106 | 0.192 | 1.126 | 0.128 | 0.285 | 0.150 | 0.153 | 0.148 | 0.136 | 0.145 | 0.146  | 0.126  | 0.140  | 0.133  | 0.132  |
| 8  | 0.363 | 1.001 | 0.404 | 0.442 | 1.450 | 0.454 | 0.326 | 0.598 | 0.535 | 0.458 | 0.413 | 0.582  | 0.474  | 0.318  | 0.487  | 0.803  |
| 12 | 0.033 | 0.017 | 0.383 | 0.005 | 0.004 | 1.159 | 0.035 | 0.046 | 0.027 | 0.014 | 0.042 | -0.005 | -0.009 | 0.075  | -0.003 | -0.139 |
| 13 | 1.162 | 0.875 | 1.023 | 1.127 | 1.120 | 1.100 | 1.969 | 1.056 | 1.213 | 1.265 | 1.516 | 1.111  | 1.041  | 1.616  | 1.031  | 0.595  |
| 14 | 1.018 | 0.784 | 0.906 | 1.006 | 1.006 | 0.988 | 0.849 | 1.942 | 1.503 | 1.128 | 1.269 | 1.285  | 0.947  | 1.350  | 0.991  | 0.534  |
| 15 | 0.156 | 0.119 | 0.139 | 0.170 | 0.153 | 0.152 | 0.130 | 0.142 | 1.229 | 0.181 | 0.146 | 0.854  | 0.149  | 0.152  | 0.136  | 0.082  |
| 16 | 1.975 | 1.774 | 1.917 | 2.372 | 2.328 | 2.371 | 1.659 | 1.931 | 2.114 | 3.168 | 1.951 | 2.007  | 2.431  | 2.019  | 1.995  | 1.228  |
| 17 | 2.412 | 1.660 | 2.025 | 2.086 | 2.092 | 2.007 | 2.003 | 2.115 | 2.167 | 2.068 | 3.504 | 2.027  | 1.797  | 3.770  | 2.000  | 1.115  |
| 18 | 0.223 | 0.169 | 0.197 | 0.241 | 0.216 | 0.214 | 0.186 | 0.202 | 0.332 | 0.260 | 0.208 | 1.278  | 0.209  | 0.216  | 0.193  | 0.117  |
| 19 | 3.448 | 3.102 | 3.351 | 4.152 | 4.074 | 4.150 | 2.896 | 3.373 | 3.696 | 3.792 | 3.405 | 3.509  | 4.258  | 3.508  | 3.487  | 2.149  |
| 20 | 2.152 | 1.480 | 1.806 | 1.859 | 1.864 | 1.789 | 1.787 | 1.886 | 1.932 | 1.844 | 2.234 | 1.806  | 1.600  | 3.366  | 1.783  | 0.993  |
| 21 | 1.122 | 1.000 | 1.067 | 1.137 | 1.307 | 1.255 | 0.944 | 1.211 | 1.254 | 1.208 | 1.137 | 1.373  | 1.274  | 1.207  | 2.099  | 0.683  |
| 22 | 0.153 | 0.224 | 0.200 | 0.300 | 0.308 | 0.325 | 0.133 | 0.206 | 0.261 | 0.273 | 0.131 | 0.430  | 0.378  | -0.076 | 0.354  | 1.160  |

Source: Social Accounting Matrix – Portugal, 1999 (Appendix A)

Fixed-price multipliers ( $M_{fp}$ )

|    | 1     | 2     | 6     | 7      | 8     | 12    | 13    | 14    | 15     | 16    | 17    | 18     | 19    | 20    | 21    | 22    |
|----|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|-------|--------|-------|-------|-------|-------|
| 1  | 1.974 | 0.540 | 0.841 | 1.020  | 1.015 | 0.951 | 1.691 | 0.748 | 0.764  | 1.251 | 1.283 | 0.483  | 0.982 | 1.192 | 0.973 | 1.064 |
| 2  | 0.386 | 1.229 | 0.374 | 0.387  | 0.401 | 0.347 | 0.322 | 0.991 | 0.191  | 0.513 | 0.522 | -0.185 | 0.379 | 0.487 | 0.350 | 0.409 |
| 6  | 0.048 | 0.042 | 1.027 | 0.045  | 0.047 | 0.042 | 0.033 | 0.121 | 0.025  | 0.059 | 0.060 | -0.020 | 0.045 | 0.056 | 0.043 | 0.048 |
| 7  | 0.111 | 0.232 | 0.354 | 1.333  | 0.409 | 1.159 | 0.097 | 0.257 | 0.446  | 0.297 | 0.181 | 0.505  | 0.504 | 0.107 | 0.710 | 1.026 |
| 8  | 0.380 | 0.820 | 0.336 | 0.435  | 1.486 | 0.544 | 0.323 | 0.706 | 0.306  | 0.508 | 0.447 | 0.102  | 0.523 | 0.378 | 0.600 | 0.875 |
| 12 | 0.077 | 0.065 | 0.584 | 0.091  | 0.103 | 1.694 | 0.062 | 0.113 | 0.089  | 0.097 | 0.081 | 0.070  | 0.116 | 0.065 | 0.144 | 0.199 |
| 13 | 0.986 | 0.557 | 0.553 | 1.032  | 1.020 | 0.928 | 1.845 | 0.622 | 0.679  | 1.289 | 1.328 | 0.403  | 0.977 | 1.235 | 0.927 | 1.071 |
| 14 | 0.529 | 0.301 | 0.293 | 0.533  | 0.551 | 0.480 | 0.453 | 1.334 | 0.271  | 0.703 | 0.716 | -0.233 | 0.522 | 0.667 | 0.486 | 0.563 |
| 15 | 0.047 | 0.052 | 0.025 | -0.010 | 0.095 | 0.025 | 0.040 | 0.047 | -0.286 | 0.192 | 0.049 | -1.672 | 0.086 | 0.048 | 0.033 | 0.033 |
| 16 | 0.709 | 0.553 | 0.537 | 0.944  | 1.004 | 1.100 | 0.607 | 0.583 | 0.682  | 1.900 | 0.676 | 0.615  | 1.168 | 0.606 | 0.871 | 1.023 |
| 17 | 2.090 | 1.066 | 1.066 | 2.035  | 1.959 | 1.644 | 1.792 | 1.218 | 1.293  | 2.001 | 3.023 | 0.575  | 1.722 | 2.829 | 1.815 | 2.081 |
| 18 | 0.007 | 0.008 | 0.003 | -0.005 | 0.015 | 0.001 | 0.006 | 0.007 | -0.242 | 0.033 | 0.007 | -0.314 | 0.013 | 0.007 | 0.004 | 0.003 |
| 19 | 1.886 | 1.483 | 1.440 | 2.528  | 2.693 | 2.962 | 1.616 | 1.562 | 1.830  | 2.409 | 1.799 | 1.664  | 3.144 | 1.591 | 2.334 | 2.744 |
| 20 | 2.124 | 1.079 | 1.080 | 2.063  | 1.983 | 1.659 | 1.822 | 1.234 | 1.332  | 2.027 | 2.056 | 0.605  | 1.736 | 2.883 | 1.839 | 2.108 |
| 21 | 0.909 | 0.668 | 0.621 | 1.151  | 1.207 | 1.656 | 0.789 | 0.776 | 2.648  | 0.929 | 0.865 | 3.043  | 1.362 | 0.789 | 2.070 | 1.261 |
| 22 | 0.518 | 0.440 | 0.394 | 0.678  | 0.794 | 1.059 | 0.449 | 0.492 | 0.765  | 0.668 | 0.493 | 0.806  | 0.935 | 0.361 | 1.239 | 1.781 |

Source: Social Accounting Matrices – Portugal, 1998 and 1999 (Appendix A)

**b) Effects of changes in flows of funds from households to government**

Average expenditure propensities of the endogenous accounts in the endogenous accounts ( $A_n$ )

|    | 2     | 3      | 4     | 5     | 6     | 8     | 9     | 10     | 11    | 12    | 13    | 14     | 15     | 16     | 17     | 18     | 19    | 20     | 21    | 22     |
|----|-------|--------|-------|-------|-------|-------|-------|--------|-------|-------|-------|--------|--------|--------|--------|--------|-------|--------|-------|--------|
| 2  | 0.008 | 0.000  | 0.000 | 0.000 | 0.066 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.030 | 0.334  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.000 | 0.000  |
| 3  | 0.198 | 0.224  | 0.002 | 0.048 | 0.077 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.014 | -0.036 | -0.026 | -0.002 | -0.004 | -0.024 | 0.062 | 0.041  | 0.006 | 0.000  |
| 4  | 0.018 | 0.038  | 0.081 | 0.001 | 0.007 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.001 | 0.022  | 0.016  | 0.001  | 0.002  | -0.002 | 0.006 | 0.004  | 0.000 | 0.000  |
| 5  | 0.001 | 0.074  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.141 | 0.002  | -0.019 | -0.001 | -0.003 | -0.001 | 0.002 | 0.002  | 0.015 | 0.000  |
| 6  | 0.029 | 0.020  | 0.043 | 0.038 | 0.015 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.022 | 0.065  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.002 | 0.000  |
| 8  | 0.654 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.174 | 0.048  | 0.000 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.020 | 0.566  |
| 9  | 0.000 | -0.004 | 0.000 | 0.000 | 0.000 | 0.002 | 0.196 | 0.004  | 0.825 | 0.001 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.023 | 0.536  |
| 10 | 0.000 | 0.000  | 0.150 | 0.000 | 0.000 | 0.001 | 0.234 | 0.072  | 0.000 | 0.002 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.010 | -0.043 |
| 11 | 0.000 | 0.000  | 0.000 | 0.054 | 0.000 | 0.002 | 0.005 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.001 | -0.021 |
| 12 | 0.000 | 0.000  | 0.000 | 0.000 | 0.310 | 0.000 | 0.029 | 0.032  | 0.084 | 0.137 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.000 | -0.122 |
| 13 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.099  | 0.178  | 0.328  | 0.000  | 0.000 | 0.000  | 0.003 | 0.000  |
| 14 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.477  | 0.145  | 0.236  | 0.000  | 0.000 | 0.000  | 0.079 | 0.000  |
| 15 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.662  | 0.002 | 0.000  | 0.000 | 0.000  |
| 16 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.568 | 0.008  | 0.000 | 0.000  |
| 17 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.001  | 0.002 | 1.118  | 0.000 | 0.000  |
| 18 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.008 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.114  | 0.052  | 0.005  | 0.000  | 0.000 | 0.000  | 0.005 | 0.000  |
| 19 | 0.000 | 0.027  | 0.032 | 0.002 | 0.000 | 0.781 | 0.315 | 0.831  | 0.085 | 0.636 | 0.000 | 0.000  | 0.280  | 0.540  | 0.153  | 0.000  | 0.000 | 0.000  | 0.470 | 0.000  |
| 20 | 0.000 | 0.164  | 0.486 | 0.022 | 0.000 | 0.147 | 0.003 | 0.007  | 0.001 | 0.073 | 0.000 | 0.000  | 0.061  | 0.088  | 0.282  | 0.000  | 0.000 | 0.000  | 0.159 | 0.000  |
| 21 | 0.004 | 0.025  | 0.000 | 0.004 | 0.008 | 0.059 | 0.009 | -0.002 | 0.006 | 0.014 | 0.002 | 0.122  | -0.002 | 0.000  | 0.000  | 0.207  | 0.239 | 0.030  | 0.000 | 0.000  |
| 22 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.158  | 0.118 | -0.202 | 0.130 | 0.000  |

Average expenditure propensities of the endogenous accounts in the exogenous accounts ( $A_1$ )

|   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 0.089 | 0.433 | 0.207 | 0.832 | 0.518 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.789 | 0.491 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 | 0.000 |
| 7 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.036 | 0.008 | 0.000 | 0.137 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.005 | 0.084 |

( $A_n + A_1$ )

|       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Total | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.000 |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|

Source: Social Accounting Matrix – Portugal, 1999 (Appendix A)

Marginal expenditure propensities of the endogenous accounts in the endogenous accounts ( $D_n$ )

|    | 2     | 3      | 4     | 5     | 6     | 8     | 9     | 10     | 11    | 12    | 13    | 14     | 15     | 16     | 17     | 18     | 19    | 20     | 21    | 22     |
|----|-------|--------|-------|-------|-------|-------|-------|--------|-------|-------|-------|--------|--------|--------|--------|--------|-------|--------|-------|--------|
| 2  | 0.008 | 0.000  | 0.000 | 0.000 | 0.066 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.030 | 0.334  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.000 | 0.000  |
| 3  | 0.198 | 0.224  | 0.002 | 0.048 | 0.077 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.014 | -0.036 | -0.026 | -0.002 | -0.004 | -0.024 | 0.062 | 0.041  | 0.006 | 0.000  |
| 4  | 0.018 | 0.038  | 0.081 | 0.001 | 0.007 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.001 | 0.022  | 0.016  | 0.001  | 0.002  | -0.002 | 0.006 | 0.004  | 0.000 | 0.000  |
| 5  | 0.001 | 0.074  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.141 | 0.002  | -0.019 | -0.001 | -0.003 | -0.001 | 0.002 | 0.002  | 0.015 | 0.000  |
| 6  | 0.029 | 0.020  | 0.043 | 0.038 | 0.015 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.022 | 0.065  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.002 | 0.000  |
| 8  | 0.654 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.174 | 0.048  | 0.000 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.020 | 0.566  |
| 9  | 0.000 | -0.004 | 0.000 | 0.000 | 0.000 | 0.002 | 0.196 | 0.004  | 0.825 | 0.001 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.023 | 0.536  |
| 10 | 0.000 | 0.000  | 0.150 | 0.000 | 0.000 | 0.001 | 0.234 | 0.072  | 0.000 | 0.002 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.010 | -0.043 |
| 11 | 0.000 | 0.000  | 0.000 | 0.054 | 0.000 | 0.002 | 0.005 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.001 | -0.021 |
| 12 | 0.000 | 0.000  | 0.000 | 0.000 | 0.310 | 0.000 | 0.029 | 0.032  | 0.084 | 0.137 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.000 | 0.000  | 0.000 | -0.122 |
| 13 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.099  | 0.178  | 0.328  | 0.000  | 0.000 | 0.000  | 0.003 | 0.000  |
| 14 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.477  | 0.145  | 0.236  | 0.000  | 0.000 | 0.000  | 0.079 | 0.000  |
| 15 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.662  | 0.002 | 0.000  | 0.000 | 0.000  |
| 16 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.000  | 0.568 | 0.008  | 0.000 | 0.000  |
| 17 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.001  | 0.002 | 1.118  | 0.000 | 0.000  |
| 18 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.008 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.114  | 0.052  | 0.005  | 0.000  | 0.000 | 0.000  | 0.005 | 0.000  |
| 19 | 0.000 | 0.027  | 0.032 | 0.002 | 0.000 | 0.781 | 0.315 | 0.831  | 0.085 | 0.636 | 0.000 | 0.000  | 0.280  | 0.540  | 0.153  | 0.000  | 0.000 | 0.000  | 0.470 | 0.000  |
| 20 | 0.000 | 0.164  | 0.486 | 0.022 | 0.000 | 0.147 | 0.003 | 0.007  | 0.001 | 0.073 | 0.000 | 0.000  | 0.061  | 0.088  | 0.282  | 0.000  | 0.000 | 0.000  | 0.159 | 0.000  |
| 21 | 0.004 | 0.025  | 0.000 | 0.004 | 0.008 | 0.059 | 0.009 | -0.002 | 0.006 | 0.014 | 0.002 | 0.122  | -0.002 | 0.000  | 0.000  | 0.207  | 0.239 | 0.030  | 0.000 | 0.000  |
| 22 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000  | 0.000 | 0.000 | 0.000 | 0.000  | 0.000  | 0.000  | 0.000  | 0.158  | 0.118 | -0.202 | 0.130 | 0.000  |

Marginal expenditure propensities of the endogenous accounts in the exogenous accounts ( $D_1$ )

|   |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1 | 0.089 | 0.433 | 0.207 | 0.832 | 0.518 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.789 | 0.491 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.072 | 0.000 |
| 7 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.036 | 0.008 | 0.000 | 0.137 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.005 | 0.084 |

( $A_n + A_1$ )

Total 1.000

Source: Social Accounting Matrices – Portugal, 1998 and 1999 (Appendix A)

Accounting Multipliers (M<sub>a</sub>)

|    | 2     | 3      | 4      | 5     | 6     | 8      | 9     | 10    | 11    | 12    | 13    | 14    | 15    | 16    | 17    | 18     | 19     | 20     | 21     | 22     |
|----|-------|--------|--------|-------|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| 2  | 1.148 | 0.065  | 0.145  | 0.023 | 0.132 | 0.183  | 0.171 | 0.177 | 0.170 | 0.153 | 0.042 | 0.415 | 0.294 | 0.195 | 0.196 | 0.256  | 0.180  | 0.196  | 0.182  | 0.165  |
| 3  | 0.459 | 1.363  | 0.160  | 0.094 | 0.214 | 0.269  | 0.268 | 0.284 | 0.266 | 0.233 | 0.052 | 0.150 | 0.150 | 0.208 | 0.141 | 0.154  | 0.290  | 0.172  | 0.234  | 0.249  |
| 4  | 0.068 | 0.068  | 1.120  | 0.009 | 0.032 | 0.050  | 0.049 | 0.051 | 0.048 | 0.043 | 0.006 | 0.052 | 0.065 | 0.044 | 0.036 | 0.055  | 0.052  | 0.040  | 0.045  | 0.046  |
| 5  | 0.102 | 0.131  | 0.081  | 1.017 | 0.047 | 0.108  | 0.102 | 0.106 | 0.101 | 0.091 | 0.150 | 0.049 | 0.062 | 0.104 | 0.106 | 0.075  | 0.108  | 0.110  | 0.107  | 0.098  |
| 6  | 0.084 | 0.054  | 0.094  | 0.047 | 1.042 | 0.062  | 0.058 | 0.061 | 0.058 | 0.052 | 0.033 | 0.104 | 0.081 | 0.064 | 0.063 | 0.074  | 0.062  | 0.064  | 0.061  | 0.056  |
| 8  | 0.874 | 0.028  | 0.075  | 0.036 | 0.150 | 1.308  | 0.559 | 0.403 | 0.517 | 0.273 | 0.036 | 0.347 | 0.319 | 0.273 | 0.145 | 0.441  | 0.362  | -0.020 | 0.369  | 0.978  |
| 9  | 0.125 | -0.012 | -0.022 | 0.067 | 0.063 | 0.190  | 1.464 | 0.236 | 1.244 | 0.172 | 0.015 | 0.076 | 0.126 | 0.145 | 0.023 | 0.267  | 0.241  | -0.135 | 0.249  | 0.835  |
| 10 | 0.043 | 0.011  | 0.182  | 0.019 | 0.021 | 0.055  | 0.374 | 1.140 | 0.318 | 0.050 | 0.005 | 0.028 | 0.041 | 0.042 | 0.015 | 0.069  | 0.063  | -0.014 | 0.074  | 0.170  |
| 11 | 0.005 | 0.008  | 0.006  | 0.055 | 0.002 | 0.005  | 0.008 | 0.002 | 1.007 | 0.002 | 0.008 | 0.002 | 0.002 | 0.003 | 0.006 | -0.001 | 0.001  | 0.010  | 0.002  | -0.014 |
| 12 | 0.014 | 0.024  | 0.048  | 0.023 | 0.366 | -0.003 | 0.046 | 0.028 | 0.133 | 1.153 | 0.012 | 0.028 | 0.012 | 0.003 | 0.023 | -0.014 | -0.013 | 0.051  | -0.009 | -0.122 |
| 13 | 0.400 | 0.202  | 0.458  | 0.060 | 0.186 | 0.522  | 0.480 | 0.498 | 0.478 | 0.435 | 1.029 | 0.204 | 0.431 | 0.565 | 0.652 | 0.447  | 0.502  | 0.662  | 0.453  | 0.469  |
| 14 | 0.365 | 0.165  | 0.371  | 0.053 | 0.171 | 0.484  | 0.453 | 0.470 | 0.451 | 0.404 | 0.026 | 1.195 | 0.817 | 0.516 | 0.511 | 0.706  | 0.477  | 0.510  | 0.487  | 0.437  |
| 15 | 0.049 | 0.011  | 0.026  | 0.006 | 0.022 | 0.069  | 0.067 | 0.070 | 0.066 | 0.056 | 0.003 | 0.025 | 1.120 | 0.084 | 0.027 | 0.763  | 0.072  | 0.021  | 0.055  | 0.063  |
| 16 | 0.955 | 0.198  | 0.497  | 0.117 | 0.470 | 1.349  | 1.412 | 1.519 | 1.405 | 1.204 | 0.061 | 0.485 | 0.803 | 2.004 | 0.471 | 0.951  | 1.566  | 0.326  | 1.077  | 1.279  |
| 17 | 0.681 | 0.504  | 1.113  | 0.116 | 0.304 | 0.832  | 0.671 | 0.664 | 0.669 | 0.651 | 0.053 | 0.347 | 0.535 | 0.604 | 1.718 | 0.611  | 0.652  | 1.831  | 0.765  | 0.709  |
| 18 | 0.068 | 0.015  | 0.036  | 0.008 | 0.031 | 0.095  | 0.092 | 0.097 | 0.091 | 0.077 | 0.004 | 0.034 | 0.177 | 0.121 | 0.038 | 1.146  | 0.099  | 0.029  | 0.077  | 0.088  |
| 19 | 1.672 | 0.342  | 0.862  | 0.204 | 0.823 | 2.365  | 2.479 | 2.667 | 2.466 | 2.111 | 0.107 | 0.849 | 1.407 | 1.761 | 0.820 | 1.667  | 2.749  | 0.551  | 1.888  | 2.243  |
| 20 | 0.606 | 0.450  | 0.995  | 0.104 | 0.270 | 0.741  | 0.596 | 0.590 | 0.594 | 0.579 | 0.047 | 0.309 | 0.476 | 0.538 | 0.641 | 0.543  | 0.579  | 1.636  | 0.681  | 0.630  |
| 21 | 0.547 | 0.155  | 0.300  | 0.070 | 0.261 | 0.755  | 0.740 | 0.767 | 0.739 | 0.629 | 0.038 | 0.393 | 0.511 | 0.550 | 0.301 | 0.771  | 0.787  | 0.255  | 1.579  | 0.699  |
| 22 | 0.157 | -0.028 | -0.055 | 0.013 | 0.081 | 0.243  | 0.283 | 0.311 | 0.282 | 0.226 | 0.009 | 0.094 | 0.164 | 0.190 | 0.012 | 0.369  | 0.325  | -0.228 | 0.302  | 1.242  |

Source: Social Accounting Matrix – Portugal, 1999 (Appendix A)

Fixed-price multipliers ( $M_{fp}$ )

|    | 2      | 3      | 4     | 5      | 6      | 8     | 9      | 10    | 11     | 12     | 13     | 14    | 15     | 16     | 17    | 18     | 19    | 20     | 21     | 22     |
|----|--------|--------|-------|--------|--------|-------|--------|-------|--------|--------|--------|-------|--------|--------|-------|--------|-------|--------|--------|--------|
| 2  | 1.159  | 0.096  | 0.176 | 0.027  | 0.214  | 0.184 | -0.271 | 0.164 | -0.040 | 0.013  | -0.005 | 0.871 | -0.014 | 0.268  | 0.283 | -0.356 | 0.158 | 0.279  | 0.085  | 0.110  |
| 3  | 0.813  | 1.493  | 0.309 | 0.090  | 0.629  | 0.340 | -0.352 | 0.347 | 0.030  | 0.106  | 0.018  | 0.611 | 0.297  | 0.281  | 0.274 | 0.283  | 0.351 | 0.363  | 0.216  | 0.196  |
| 4  | 0.138  | 0.119  | 0.979 | 0.013  | 0.095  | 0.079 | -0.096 | 0.080 | 0.001  | 0.022  | 0.003  | 0.154 | 0.056  | 0.081  | 0.070 | 0.021  | 0.081 | 0.084  | 0.043  | 0.047  |
| 5  | 0.114  | 0.164  | 0.078 | 1.013  | 0.071  | 0.081 | -0.081 | 0.077 | 0.003  | 0.016  | 0.141  | 0.094 | 0.099  | 0.078  | 0.108 | 0.218  | 0.075 | 0.117  | 0.059  | 0.045  |
| 6  | 0.057  | 0.043  | 0.091 | 0.067  | 1.023  | 0.034 | -0.041 | 0.032 | -0.002 | 0.006  | 0.001  | 0.128 | 0.013  | 0.042  | 0.044 | -0.022 | 0.031 | 0.046  | 0.019  | 0.020  |
| 8  | 0.718  | 0.030  | 0.200 | 0.015  | 0.135  | 1.258 | 1.110  | 0.325 | 0.333  | 0.161  | -0.001 | 0.564 | 0.232  | 0.237  | 0.203 | 0.093  | 0.274 | 0.177  | 0.334  | 0.407  |
| 9  | 0.065  | 0.147  | 0.019 | 0.018  | 0.073  | 0.006 | -3.110 | 0.043 | -1.016 | 0.027  | 0.003  | 0.046 | -0.312 | 0.054  | 0.012 | -0.391 | 0.045 | -0.007 | -0.031 | 0.330  |
| 10 | -0.010 | -0.154 | 0.444 | -0.019 | -0.055 | 0.057 | 4.525  | 1.118 | 1.522  | 0.003  | -0.002 | 0.024 | 0.523  | -0.021 | 0.026 | 0.629  | 0.012 | 0.055  | 0.123  | -0.383 |
| 11 | 0.019  | 0.005  | 0.005 | -0.009 | 0.005  | 0.030 | -0.091 | 0.009 | 0.969  | 0.004  | -0.001 | 0.015 | 0.000  | 0.007  | 0.005 | -0.006 | 0.008 | 0.004  | 0.008  | 0.016  |
| 12 | -0.030 | -0.197 | 0.062 | 0.005  | 0.445  | 0.071 | 4.888  | 0.045 | 2.102  | 1.578  | -0.003 | 0.035 | 0.556  | -0.028 | 0.024 | 0.667  | 0.009 | 0.047  | 0.147  | -0.383 |
| 13 | 0.362  | 0.229  | 0.427 | 0.040  | 0.125  | 0.448 | -0.657 | 0.405 | -0.092 | 0.034  | 1.007  | 0.300 | 0.139  | 0.650  | 0.706 | -0.053 | 0.391 | 0.696  | 0.223  | 0.269  |
| 14 | 0.201  | 0.125  | 0.234 | 0.022  | 0.069  | 0.251 | -0.362 | 0.224 | -0.051 | 0.019  | 0.004  | 1.166 | -0.011 | 0.365  | 0.385 | -0.470 | 0.216 | 0.379  | 0.120  | 0.150  |
| 15 | 0.058  | 0.017  | 0.044 | 0.003  | 0.023  | 0.088 | -0.054 | 0.081 | 0.016  | 0.036  | 0.000  | 0.048 | -0.292 | 0.176  | 0.027 | -1.671 | 0.084 | 0.026  | 0.035  | 0.047  |
| 16 | 0.380  | 0.142  | 0.352 | 0.025  | 0.176  | 0.548 | -0.620 | 0.653 | 0.106  | 0.293  | 0.003  | 0.320 | 0.224  | 1.411  | 0.212 | 0.202  | 0.687 | 0.209  | 0.276  | 0.334  |
| 17 | 0.678  | 0.503  | 0.871 | 0.089  | 0.199  | 0.781 | -1.272 | 0.589 | -0.317 | -0.126 | 0.015  | 0.558 | 0.204  | 0.667  | 1.716 | -0.324 | 0.526 | 1.692  | 0.391  | 0.465  |
| 18 | 0.010  | 0.003  | 0.007 | 0.001  | 0.004  | 0.015 | -0.008 | 0.013 | 0.003  | 0.006  | 0.000  | 0.008 | -0.242 | 0.032  | 0.004 | -0.312 | 0.014 | 0.004  | 0.006  | 0.008  |
| 19 | 1.020  | 0.377  | 0.940 | 0.065  | 0.475  | 1.476 | -1.663 | 1.766 | 0.295  | 0.801  | 0.009  | 0.860 | 0.606  | 1.106  | 0.563 | 0.557  | 1.859 | 0.533  | 0.745  | 0.900  |
| 20 | 0.685  | 0.511  | 0.883 | 0.091  | 0.200  | 0.786 | -1.288 | 0.587 | -0.328 | -0.136 | 0.015  | 0.563 | 0.227  | 0.671  | 0.728 | -0.306 | 0.522 | 1.728  | 0.394  | 0.468  |
| 21 | 0.428  | 0.114  | 0.393 | 0.023  | 0.133  | 0.644 | 1.645  | 0.680 | 1.105  | 0.651  | 0.013  | 0.426 | 2.330  | 0.274  | 0.272 | 2.848  | 0.736 | 0.296  | 1.363  | 0.158  |
| 22 | 0.303  | 0.061  | 0.251 | 0.012  | 0.111  | 0.474 | 0.896  | 0.530 | 0.699  | 0.472  | 0.007  | 0.294 | 0.578  | 0.295  | 0.155 | 0.687  | 0.577 | 0.080  | 0.832  | 1.150  |

Source: Social Accounting Matrices – Portugal, 1998 and 1999 (Appendix A)