

# EFFECTS OF PUBLIC EXPENDITURE ON PRODUCTION, INCOMES AND EMPLOYMENT IN FINLAND

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This study examines the effects of public expenditure on production activity and private consumption activity. An input-output model with consumption functions connected is used for evaluating the repercussions of public expenditure. Taking both production and consumption repercussions into account, it is concluded that in the year 1965 public expenditure generated 26 percent of domestic incomes and 18 percent of imports. Viewed in terms of the shares of different types of income generated, 72 percent of public expenditure goes to domestic income, and the remaining 28 percent to imports. Forty-five percent of public expenditure returns directly as income to general government. The study also examines the effects of public expenditure by industry and over time (1959 to 1965).

## INTRODUCTION

The purpose of this article is to study repercussions of public expenditure on output, incomes and employment, i.e. to examine how public expenditure has effects through production activities on different sectors of the economy. Repercussions are calculated by taking into consideration first only production activities and then both production activities and private consumption expenditure. Repercussions are evaluated by an input-output model with which consumption functions are connected. Because classification of public expenditure by purposes is not suitable for calculations made by an input-output model, the goods and services included in public expenditure had to be reclassified according to producing industries. The effects of public expenditure on outputs and employment are then calculated by industries. Effects on incomes are calculated for the following income receiving sectors: (1) households, (2) general government, (3) enterprises and (4) the rest of the world (imports). The results of the calculations are used to analyse the importance of public expenditure in the Finnish economy, variations in repercussions among industries, and the effects of changes in production methods and in the distribution of public expenditure in spreading the effects over the economy.

## 1. METHODS AND SOLUTIONS

### 1.1. *Production Model*

The following open static input-output model was used to calculate repercussions of production activities:

$$(1) \quad x = Ax + y$$

$x = \{x_i\}$  = a column vector of total outputs,

$A = [a_{ij}]$  = a  $(n \times n)$  matrix of input-output coefficients,

$y = \{y_i\}$  = a column vector of final demand.

The reduced form of the model is

$$(2) \quad x = (I - A)^{-1}y$$

The inverse matrix  $(I - A)^{-1}$  indicates the total needs for output in different industries in order that one unit of public expenditure can be produced in the industry examined.<sup>1</sup> Thus they are expressly the repercussions caused by production of public expenditure on outputs of different industries that are revealed by the inverse matrix.

Needs of primary inputs including all the items of value added, imports and employment are easily calculated using the inverse matrix by multiplying it by a matrix of primary input coefficients:

$$(3) \quad D = F(I - A)^{-1}$$

where

$F = [f_{kj}]$  = a  $(m \times n)$  matrix of coefficients of primary inputs; an element  $f_{kj}$  indicates the primary input  $k$  used in industry  $j$  per unit of output.

The elements of the  $(m \times n)$  matrix  $D$  reveal primary inputs needed directly and indirectly to produce one unit of public expenditure when repercussions of production activities are taken into account. Each vector of final demand is multiplied by the matrix  $D$  to evaluate different primary inputs needed to produce a given category of final demand, i.e., private consumption expenditure, public expenditure, investment and exports:

$$(4) \quad Z = DY$$

where  $Y$  is a matrix of columns of categories of final demand consisting of commodities produced by different industries for these categories. The elements of the matrix  $Z$  reveal each primary input totally needed in production of a given category of final demand. The sum of primary inputs included in each category of final demand is then equal to the sum of the final products of the category and each final product consists of only primary inputs.

### 1.2. Production-consumption Model

For the examination of the repercussions of production and private consumption expenditure, commodities used for private consumption must be separated into a group of their own. The input-output model is now as follows:

$$(5) \quad x = Ax + c + y^x$$

where

$c = \{c_i\}$  = a column vector of private consumption expenditure,  
 $y^x = \{y_i^x\}$  = a column vector of final demand consisting of exports, public expenditure and investment.

<sup>1</sup>“Production of public expenditure” means here, of course, the production of goods and services for which public expenditure is used.

Let us suppose that each item  $c_i$  of private consumption expenditure is determined as a function of households' disposable incomes according to income elasticity  $e_i$  as follows:

$$(6) \quad c_i = a_0 \left( \sum_{j=1}^n z_{kj} \right)^{e_i}$$

where

$a_0$  = a constant.

$z_{kj}$  = households' disposable income created in production of industry  $j$ .

When income elasticities are estimated the consumption function may be linearized using Taylor series.<sup>2</sup> Using the two first terms of these series, a satisfactory approximation for consumption is usually obtained. The equation is then as follows:

$$(7) \quad c_i = a_0 \left( \sum_{j=1}^n {}_0z_{kj} \right)^{e_i} + \left( {}_0c_i / \sum_{j=1}^n {}_0z_{kj} \right) \sum_{j=1}^n \Delta z_{kj}$$

${}_0c_i$  = commodities produced by an industry  $i$  for private consumption expenditure in the period 0,

${}_0z_{kj}$  = households' disposable income created in industry  $j$  in the period 0,

$\Delta z_{kj}$  = change of households' disposable income created by an industry  $j$  between the period 0 and the period examined.

The consumption item  $c_i$  is now determined according to its size in period 0 and to the proportion of disposable income used in period 0 for this consumption item from the change in disposable income multiplied by the income elasticity. The change in disposable income is still unknown. It may however be supposed to be a function of increases in outputs. The function of disposable incomes is thus:

$$(8) \quad z_{kj} = f_{kj} \cdot x_j \quad (j = 1, \dots, n)$$

where  $f_{kj}$  reveals how much disposable income is created in producing one unit of output in industry  $j$ . The equation is supposed to be valid both as an average function in the beginning of the period and as a marginal function related to the increases in disposable income.

Placing the equation of disposable income (8) in the consumption equation (7) and this in turn into the input-output equation (5) gives a model with private consumption expenditure as an endogenous variable. For examination of the effects of increases in final demand on increases in outputs by taking simultaneously into consideration repercussions of production and consumption, the following model is thus used:

$$(9) \quad \Delta x = A \Delta x + \hat{e}g'F_k' \Delta x + \Delta y^x$$

<sup>2</sup>This method is used in the medium term forecasting model of Finland, MEPLAMO.

Kauko Mannerman, "On the Construction of an Aggregative Model for the Purposes of Economic Programming in Finland," *Yearbook of the Finnish Society for Economic Research* 1963.

where

- $\hat{e} = [e_i]$  = a  $(n \times n)$  diagonal matrix of income elasticities,
- $g' = (g_i)$  = a row vector of consumption shares, an element  $g_i$  revealing the part of households' disposable income used for buying consumption commodities produced by an industry  $i$  in the beginning of the period,
- $F_k = (f_{jk})$  = a row vector of coefficients of households' disposable income.

The reduced form of the equation (9) is as follows:

$$(10) \quad \Delta x = (I - A - \hat{e}g'F_k')^{-1} \Delta y^x$$

The inverse matrix  $(I - A - \hat{e}g'F_k')^{-1}$  in the reduced form of the model now reveals interdependencies between changes in public expenditure and increases in outputs when both repercussions (production and consumption) are taken into account. Each column of the inverse matrix indicates the output in different industries needed to produce one unit of public expenditure in the industry examined.

Primary inputs included directly and indirectly in each item of public expenditure may now be calculated as follows:

$$(11) \quad D^x = F^x (I - A - \hat{e}g'F_k')^{-1}$$

Primary inputs no longer include the part of households' disposable income used for buying consumption commodities. This is included in the inverse matrix for the part of domestic products of private consumption expenditure. For the part of income used for purchase of imported consumption goods it is included in imported inputs used by the industry concerned. Thus the rest of household's disposable income is their savings.

Information about primary inputs included directly and indirectly in final demand may further be used in evaluating total needs of primary inputs in different final demand categories. They can be evaluated by the following equation:

$$(12) \quad Z^x = D^x \cdot Y^x$$

The elements of the matrix  $Z^x$  now reveal the different primary inputs needed all in all for each final demand category of the matrix  $Y^x$ .

### 1.3. Operational Solutions

The base for calculations was the input-output table for the year 1965<sup>3</sup> aggregated from 66 industries to 43 industries. In this 43 industry table the industrial branches (mining, manufacturing, electricity, etc.) correspond to two digit ISIC (1958) classifications. The 1965 table was adjusted to make it better conform to present relations. Imports of passenger cars were dealt with as competitive imports and not as noncompetitive imports as in the original table.

<sup>3</sup>Kaarlo Siltari, Ilpo Seppä, and Risto J. Kunnas: Panos-tuotostutkimus Suomen talouselämästä vuodelta 1965, Tilastotiedotus N: o Kt 1969: 3, Tilastollinen päätoimisto, Helsinki.

In the input-output table factor incomes by industries were classified as follows: wages and salaries, other compensation of employees, income from unincorporated enterprises, interest and rents, direct taxes and profits of corporations, provisions for domestic fixed capital consumption, indirect taxes and subsidies due to inputs used in production. Income of households, enterprises and general government were evaluated on the basis of this information to include the following items:

- Households' income consists of wages and salaries, other compensation of employees, incomes from unincorporated enterprises, interest and rents, excluding direct taxes paid.
- Enterprises' income consists of profits of corporations, surplus of government enterprises excluding state monopolies, and provisions for domestic fixed capital consumption.
- General government income consists of direct taxes paid to central and local authorities from incomes of households, direct taxes on corporations and government enterprises and indirect taxes less subsidies paid for inputs used in production.

In the calculation of these items the basic material of the national accounts and data from statistics of income and property were used. Other items such as competitive and noncompetitive imports and employment were available in the material gathered for the input-output study.

Input-output coefficients ( $A$ ) were calculated directly from the input-output table. The coefficients of households' income ( $F_k$ ) could be calculated after the incomes of households had been estimated by industry. Shares of private consumption expenditure ( $g'$ ) were calculated with data on private consumption expenditure in the input-output table. Income elasticities were first estimated by purposes of consumption using time series for the years 1959–1968. Income elasticities by industry ( $e$ ) were then estimated using elasticities of purpose groups and information on commodities belonging to each purpose group classified by their producing industries; the distribution of products between domestic and imported commodities as well as information on indirect taxes and subsidies on these commodities were also needed. Income elasticities of purpose groups of private consumption expenditure were thus transformed into elasticities of industries producing commodities used for consumption. Income elasticities were calculated also in this connexion both for imported consumption goods and for indirect taxes and subsidies. The original elasticities estimated were however adjusted so that the income elasticity of the whole private consumption expenditure was 1.

Saving was evaluated as a residual by subtracting the income used for private consumption expenditure from households' income. The saving proportion was therefore perhaps too low; this should be taken into consideration in the interpretation of the results. The saving proportion of households' income was about 7 percent. The disposable income of households calculated as explained before should be considered only an approximation because for instance transfers to households were not examined in detail.

## 2. THE ROLE AND EFFECTS OF PUBLIC EXPENDITURE<sup>4</sup>

### 2.1. Importance of Public Expenditure

The importance of public expenditure in Finnish production may be described by examining the part which it and other categories of final demand play in the generation of domestic product. This can be seen in Tables 1 and 2, which were compiled according to equations (4) and (12). Public expenditure generates 13 percent of gross domestic product and 5 percent of imports when repercussions of production are taken into consideration. Public expenditure has the greatest relative role in generation of households' income and the smallest part in generation of enterprises' income. Public expenditure has the smallest importance among the final demand categories examined in the generation of the Finnish domestic product. Its importance is however nearly as great as that of exports.

TABLE 1

DISTRIBUTION OF INCOME OF GENERAL GOVERNMENT, HOUSEHOLDS AND ENTERPRISES, COMPETITIVE AND NON-COMPETITIVE IMPORTS BY CATEGORIES OF FINAL DEMAND (PRODUCTION REPERCUSSIONS)

Type of Income	Private			Investment	Total
	Exports	Consumption Expenditure	Public Expenditure		
Income of general government	7	59	11	23	100
Income of households	19	46	15	20	100
Income of enterprises	24	52	7	17	100
Domestic income	17	50	13	20	100
Competitive imports	15	44	4	37	100
Non-competitive imports	15	56	5	24	100
Income of the rest of the world	15	46	5	34	100
Total	16	49	12	23	100

When in addition to repercussions of production the effects of private consumption expenditure are also taken into account public expenditure generates 26 percent of domestic incomes and 18 percent of imports. The importance of public expenditure in the generation of different types of income varies clearly less than in the case of production repercussions. Public expenditure has now the smallest role among the final demand categories examined.

Tables 3 and 4 describe shares of different types of income in each category of final demand. Among the final demand categories public expenditure has the

<sup>4</sup> The results are presented in two Finnish publications concerning the years 1959 and 1965:

Osmo Forssell, Tuotantotoiminnan ja kulutuksen kerrannaisvaikutukset tulojen muodostukseen, työllisyyteen ja tuontiin Suomessa, *Liiketaloustieteellinen tutkimuslaitos*, Monisteita 17, Helsinki 1966,

Osmo Forssell and Ilpo Seppä, Kotimaisten tuotteiden valmistuksen vaikutukset julkisen talouden tuloihin ja työllisyyteen, *Suomen Työn Liitto*, 1971.

TABLE 2

DISTRIBUTION OF INCOME OF GENERAL GOVERNMENT, SAVING OF HOUSEHOLDS, INCOME OF ENTERPRISES, COMPETITIVE AND NON-COMPETITIVE IMPORTS BY CATEGORIES OF FINAL DEMAND (PRODUCTION AND CONSUMPTION REPERCUSSIONS)

Type of Income	Exports	Public Expenditure	Investment	Total
Income of general government	28	28	44	100
Saving of households	34	29	37	100
Income of enterprises	43	21	36	100
Domestic income	33	26	41	100
Competitive imports	30	18	52	100
Non-competitive imports	34	20	46	100
Income of the rest of the world	31	18	51	100
Total	32	23	45	100

highest rate for domestic product, 93 percent, and only 7 percent for imports when repercussions of production are taken into consideration. The most significant part of public expenditure is incomes flowing to households. When the repercussions of this income are calculated in addition to production repercussions the share of domestic income in public expenditure is 72 percent and the share of imports 28 percent. The greatest part of public expenditure thus consists of income which returns back to general government. This reveals that public expenditure has a remarkable power to generate public income in Finland.

TABLE 3

SHARES OF INCOME OF GENERAL GOVERNMENT, HOUSEHOLDS AND ENTERPRISES, AND COMPETITIVE AND NON-COMPETITIVE IMPORTS INCLUDED DIRECTLY AND INDIRECTLY IN CATEGORIES OF FINAL DEMAND (PRODUCTION REPERCUSSIONS)

Type of Income	Exports	Private Consumption Expenditure	Public Expenditure	Investment	Total
Income of general government	8	22	16	18	18
Income of households	59	49	70	46	53
Income of enterprises	17	12	7	9	11
Domestic income	84	83	93	73	82
Competitive imports	13	13	5	23	14
Non-competitive imports	3	4	2	4	4
Income of the rest of the world	16	17	7	27	18
Total	100	100	100	100	100

TABLE 4

SHARES OF INCOME OF GENERAL GOVERNMENT, SAVING OF HOUSEHOLDS, INCOME OF ENTERPRISES, AND COMPETITIVE AND NON-COMPETITIVE IMPORTS INCLUDED DIRECTLY AND INDIRECTLY IN CATEGORIES OF FINAL DEMAND (PRODUCTION AND CONSUMPTION REPERCUSSIONS)

Type of Income	Exports	Public		Total
		Expenditure	Investment	
Income of general government	32	45	37	37
Saving of households	8	9	6	7
Income of enterprises	26	18	16	20
Domestic income	66	72	59	64
Competitive imports	28	23	35	30
Non-competitive imports	6	5	6	6
Income of the rest of the world	34	28	41	36
Total	100	100	100	100

## 2.2 Composition of Public Expenditure

Repercussions of public expenditure on production and through production on incomes and employment depend on the structure of production and technology used. Repercussions differ by industries. The effects of public expenditure on the economy depend thus essentially on its distribution to industries. This distribution is presented in Table 5, where public expenditure can be seen to be concentrated in a rather few industries in Finland.

It can be seen in Table 6 how the effects of public expenditure on incomes and employment vary remarkably by industries from the point of view of distribution of public expenditure. Repercussions of production were taken into consideration in calculating these figures according to equation (3). The shares of domestic incomes and especially shares of households' income are greater in public expenditure than in the whole economy. This is due to the great extent of social and government services in public expenditure and to a great labour intensity of these services. This is also a reason for the small share of incomes of enterprises and imports.

The share of incomes returning to general government is about the same in public expenditure as in the economy on average. It becomes, however, much greater than in the whole economy, when in addition to production repercussions the effects of private consumption expenditure are also taken into consideration. They have been calculated in Table 7 according to equation (11). The increase in the share of income of general government is due to the great share of households' income in public expenditure and to the fact that private consumption expenditure also includes direct and indirect taxes. Inclusion of the repercussions generated by private consumption expenditure makes the shares of income of enterprises and imports as great as in the economy on average. Effects on employment remain clearly greater than in the whole economy. The effects of public expenditure on income of general government and labour input are then the most remarkable characteristics of its composition.



**TABLE 5**  
DISTRIBUTION OF PUBLIC EXPENDITURE BY INDUSTRIES, 1965

Industry	100,000 Fmk	%
Communal services	16,043	45
Government services	8,518	24
Other construction	2,811	8
Food manufacturing industries	1,130	3
Forestry	916	3
House construction	784	2
Communication	563	2
Publishing and allied industries	491	1
Commerce	474	1
Electricity, gas and steam production and distribution	448	1
Road transport	402	1
Water supply	314	1
Other industries	2,814	8
<b>Total</b>	<b>35,708</b>	<b>100</b>

**TABLE 6**  
DIRECT AND INDIRECT SHARES OF INCOMES AND EFFECTS ON EMPLOYMENT IN INDUSTRIES PRODUCING  
COMMODITIES FOR PUBLIC EXPENDITURE (PRODUCTION REPERCUSSIONS)

Industry	Income of General Govern- ment	Income of House- holds	Income of Enter- prises	Com- petitive Imports	Non com- petitive Imports	Employ- ment <sup>1</sup>
Communal services	17	80	3	0	0	950
Government services	16	80	4	0	0	670
Other construction	17	58	12	9	4	690
Food manufacturing industries	10	57	16	10	7	1,090
Forestry	9	78	12	1	0	600
House construction	18	62	9	9	2	710
Communication	14	66	17	2	1	1,080
Publishing and allied industries	18	59	18	4	1	600
Commerce	17	66	16	1	0	950
Electricity, gas and steam production and distribution	11	48	29	6	6	340
Road transport	22	56	14	7	1	700
Water supply	6	59	31	3	1	250
Other industries	13	53	14	13	7	650
<b>Total</b>	<b>16</b>	<b>73</b>	<b>7</b>	<b>3</b>	<b>1</b>	<b>810</b>
Median of the whole economy	14	56	14	7	2	570

<sup>1</sup>Manyears per 10 millions marks of final product.

TABLE 7

DIRECT AND INDIRECT SHARES OF INCOMES AND EFFECTS ON EMPLOYMENT IN INDUSTRIES PRODUCING COMMODITIES FOR PUBLIC EXPENDITURE (PRODUCTION AND CONSUMPTION REPERCUSSIONS)

Industry	Income of General Government	Saving of Households	Income of Enterprises	Competitive Imports	Non-competitive Imports	Employment <sup>1</sup>
Communal services	50	11	16	20	4	1,490
Government services	49	11	17	20	4	1,200
Other construction	41	8	21	24	6	1,080
Food manufacturing industries	34	8	25	24	10	1,470
Forestry	41	10	24	20	4	1,130
House construction	44	8	19	24	5	1,120
Communication	41	9	28	19	4	1,520
Publishing and allied industries	42	8	28	19	4	990
Commerce	44	9	26	17	4	1,380
Electricity, gas and steam production and distribution	31	7	37	18	8	660
Road transport	45	8	23	21	4	1,070
Water supply	30	8	40	18	4	650
Other industries	36	7	22	26	9	970
Total	46	10	18	21	5	1,300
Median of the whole economy	35	7	22	22	5	950

<sup>1</sup>Manyears per 10 millions marks of final product.

### 2.3. Variations of Effects in Time

Variation in the effects of public expenditure in time are due to the extent and composition of public expenditure and to changes in repercussions. Variations are examined here between the years 1959 (designated year 0) and 1965 (considered as the year of examination) because the same kind of studies are available for these years. The variation is measured as deviations from the average increase in the volume of public expenditure. The following concepts are used:

—the average change in the volume of public expenditure from 1959 to 1965:  $r = \sum y_i / \sum_0 y_i$

—the deviation of the increase in public expenditure produced in an industry  $j$  from the average change:  $\Delta y_j = y_j - r_0 y_j$

—the deviation of the increase in income  $k$  from the average change:  $\Delta z_k = z_k - r_0 z_k$

The deviation of each group of income from the average change of public expenditure can now be explained using direct and indirect shares of income and effects on employment (Tables 6 and 7). The equation is as follows:

$$(13) \quad \Delta z_k = \sum d_{kj} y_j - r \sum_0 d_{kj} y_j = \sum d_{kj} (\Delta y_j + r_0 y_j) - r \sum_0 d_{kj} y_j \\ = \sum d_{kj} \Delta y_j + \sum (d_{kj} - r_0 d_{kj}) r_0 y_j$$

The last term in the equation reveals the effects of changes in input-output coefficients and income coefficients (employment coefficients) on the deviation of the increase of this type of income from the average change, i.e. the effects of changes in repercussions. The first term reveals in turn the effects of deviations of increases of industries from the average change in public expenditure, i.e., the effects of changes in the distribution of public expenditure.

Increases in public expenditure by industries between the years 1959 and 1965 are presented in Table 8. Their effects on incomes and employment in Table 9 have been calculated according to equation (13). The results indicate that among incomes generated by public expenditure income of general government and non-competitive imports increased less than incomes on average. In both cases this was principally due to decreases in direct and indirect repercussions of production. Distribution of public expenditure between industries had no remarkable effects in these cases or they eliminated each other though their total effect had the same direction as the changes of repercussions.

Income of households and enterprises as well as competitive imports increased more than incomes on average. This can be explained by repercussions which as a rule increased from the year 1959 to 1965. Changes in the distribution of public expenditure by industries did have an effect in these cases. They had remarkable effects in increasing the income of households more than incomes increased on average. They decreased the growth of income of enterprises to some extent and the growth of competitive imports rather much.

The effect of public expenditure on employment has very clearly changed. This was mainly caused by decreases of repercussions due to the increase in labour productivity. Changes in distribution of public expenditure between industries

TABLE 8  
CHANGES OF PUBLIC EXPENDITURE BY INDUSTRIES FROM THE YEAR 1959 TO 1965  
(100,000 FMK AT 1965 PRICES)

Industry	Year 1959	Year 1965	Average Change from the Year 1959 to 1965	Deviation from the Average Change
Communal services	8,405	16,043	12,271	3,772
Government services	7,381	8,518	10,776	-2,258
Other construction	2,295	2,808	3,351	-543
Food manufacturing industries	640	1,137	934	203
Forestry	871	917	1,272	-355
House construction	686	782	1,002	-220
Communication	433	563	632	-69
Publishing and allied industries	300	492	438	54
Commerce	467	474	682	-208
Electricity, gas, steam and water services	511	762	746	16
Road transport	396	400	578	-178
Other industries	1,920	2,653	2,801	-150
Total	24,305	35,549	35,485	64

TABLE 9  
CHANGES OF EFFECTS OF PUBLIC EXPENDITURE ON INCOMES AND EMPLOYMENT BY INDUSTRIES FROM THE YEAR 1959 TO 1965  
(100,000 FMK AT 1965 PRICES)

Industry	Income of General Government		Income of Households		Income of Enterprises		Competitive Imports		Non-competitive Imports		Employment <sup>1</sup>	
	$\Delta y$	$d_{kj} - {}_0d_{kj}$	$\Delta y$	$d_{kj} - {}_0d_{kj}$	$\Delta y$	$d_{kj} - {}_0d_{kj}$	$\Delta y$	$d_{kj} - {}_0d_{kj}$	$\Delta y$	$d_{kj} - {}_0d_{kj}$	$\Delta y$	$d_{kj} - {}_0d_{kj}$
Communal services	604	-491	3018	368	151	123	0	0	000	—	2527	-1227
Government services	-384	-216	-1806	-108	-68	323	0	—	0	—	-2145	-1077
Other construction	-92	-67	-304	-134	-65	67	-49	101	-22	34	-374	-670
Food manufacturing industries	20	-75	116	37	32	37	20	9	14	-9	221	-149
Forestry	-32	-38	-277	-13	-43	51	-4	13	-4	-13	-213	-419
House construction	-40	-70	-136	70	-20	10	-20	10	-4	-20	-156	-90
Communication	-10	-13	-46	-13	-12	19	-1	13	-1	0	-74	-240
Publishing and allied industries	10	0	32	13	10	-13	2	4	1	-4	32	-179
Commerce	-35	-14	-137	14	-33	-7	-2	7	0	0	-197	-47
Electricity, gas, steam and water services	2	-37	8	67	5	-22	1	30	1	-15	5	-114
Road transport	-39	-23	-100	40	-25	12	-12	-6	-2	-23	-124	-40
Other industries	-20	-84	-80	84	-21	0	-20	28	-11	-28	-97	-103
Total	-16	-1128	288	425	-89	600	-85	209	-24	-78	-596	-5294

<sup>1</sup>Manyears

had the same kind of effects. They were however much weaker than those due to changes of repercussions.

General government in Finland has the targets of balanced economic growth, secure employment, just distribution of incomes, stable value of money, equilibrium of balance of payments, and providing of certain basic conditions for living (education, health and other social services). These targets are pursued by creating favourable conditions for production, by affecting through taxation and transfers a redistribution of incomes received from participation in production, by supervising the development of prices and financing, adjusting the exchange rate of the Finnish mark and producing public consumption. Each of these instruments is used for the objective which it principally affects, but it has indirect effects on other targets of general government.

The main purpose of public expenditure is to satisfy the basic needs of consumers, but at the same time it affects production indirectly, creates incomes and employment and has effects on balance of payment. These effects may partly be controlled by distribution of public expenditure and by choosing between domestic and imported commodities. The range of these indirect effects should be taken into consideration in each decision-making situation in order to choose as good an alternative as possible from the point of view of the economic policy.