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INTEGRATED ESTIMATES OF PRODUCTIVITY AND TERMS-OF-TRADE CHANGES FROM A SOCIAL ACCOUNTING MATRIX AT CONSTANT PRICES*);

including a case-study for Indonesia

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Summary

It is common knowledge that estimating price and volume measures within an accounting framework improves their reliability as well as their analytic usefulness. For instance, Gross Domestic Product (GDP) volume change is best computed with the help of a supply and use table at constant prices.

This line of argument should be extended to a broader set of accounts and balancing items, particularly National Income. This paper serves to demonstrate that measures of real income change for the total economy can best be derived from **real income changes per subsector**. For this purpose a Social Accounting Matrix (SAM) at constant prices should be compiled.

Estimating a Social Accounting Matrix at constant prices implies that changes in all income components must be decomposed into price and volume changes. This means, *inter alia*, that value added at constant prices must be broken down into constant price estimates for each primary input category. In turn, that breakdown paves the way for the estimation of **productivity changes by industry** as an integral part of the regular national accounts compilation.

Because a constant price SAM contains constant price estimates for each category of primary inputs, this paper takes a careful look at the input categories that generate operating surplus. This results in a novel view at **the concept of capital input in production**.

As the components of real income change per subsector can be estimated from a comparison of constant and current price SAMs, the national total **trading gain or loss from a change in the terms of trade** is as well allocated to these subsectors. The estimation of this macro-measure is thus also embedded into a meso-consistency framework.

These ideas have been applied in the compilation of a constant price SAM for Indonesia. The real changes that have subsequently been computed indeed throw a new light on this country's economic development.

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1. Introduction

Among the most important indicators of macro-economic performance is the volume change of Gross Domestic Product (GDP). Another key figure is the increase in the Consumer Price Index (CPI). These two yardsticks illustrate the importance of a decomposition of value changes into the underlying developments of prices and volumes. The 1993 System of National Accounts (SNA) [United Nations etc., 1993] emphasizes that changes in prices and volumes should not be measured in isolation but within an accounting framework. This increases the reliability of the estimates at the meso- and macro-level and enables "... systematic and detailed analysis of inflation and economic growth and fluctuations." (Chapter XVI, Para. 1; cf. also section XV.E.2).

The SNA advocates the estimation of price and volume changes within the framework of a supply and use table. That table contains a lot of information on commodities and industries, but neglects the link between income and expenditure. As a consequence, measures of real income are only derived for the total economy in the SNA. This paper serves to show that these measures can be derived from an extended accounting framework, namely a Social Accounting Matrix (SAM) at constant prices. A combination of SAMs at current and constant prices enables the joint derivation of:

1. all conventional volume and price changes,
2. multi-factor productivity growth per industry and subsector,
3. the trading gain or loss from a change in the terms-of-trade per subsector,
4. a Consumer Price Index per subsector, and
5. real income growth per subsector and thus also for the total economy.

Herewith, estimates of productivity and terms-of-trade changes become embedded into a national accounting framework. This ensures that these estimates are consistent with the conventional volume change figures, which considerably enhances their relevance and reliability. A similar line of reasoning applies to real income changes per household group.

These figures will now be derived from: a. volume changes in various types of labour and capital inputs supplied by them, b. the productivity and terms-of-trade changes accruing to them, and c. real changes in other income components.

The next section deals with the conceptual issues. Subsequently, the results for the Indonesian case-study are discussed and the final section lists several conclusions.

2. Estimating a Constant Price SAM

2.1 General methodological issues

A direct measurement of price and volume changes is only possible for flows of goods and services. This does not mean, though, that such measurement is limited to the products distinguished in the SNA's supply and use table. It includes, first, most of the flows of primary inputs into the production process and, secondly, transactions in all kinds of assets.

On the other hand, the SNA's chapter on price and volume measures rightly mentions cash transfers (e.g. direct taxes) as an example of a transaction which does not have a separate price and volume component. Nevertheless, the 'real' value of such a transfer is higher if more goods and services can be bought with it, that is, if it reflects more purchasing power over a certain basket of goods and services. This principle can be applied in deflating such transactions. A problem arises, however, when the payer and the receiver of these transactions have a different expenditure pattern that is subject to different price changes. In that case, the change in purchasing power brought about by a change in a cash transfer is not the same for both parties.

This problem of inconsistency can be solved by letting the perception of one of both parties prevail. At first sight, this problem does not occur for a commodity transaction: the volume that is exchanged is the same for the seller and the purchaser. Yet, also in that case the change in 'real' value may differ for both parties. For instance, the rise in consumers' satisfaction from the purchases of a durable that becomes gradually less exclusive is probably not commensurate with the increasing number bought. Obviously, the seller is not bothered by such considerations. On the other hand, for him the 'real' value of changes in his sales also depends on changes in the terms-of-trade of his output vis-a-vis his inputs. In other words, it happens more often that changes in volumes do not exactly reflect the changes in 'real' economic value

to both parties in a transaction.

Another problem with the decomposition of changes in a non-commodity transaction into price and volume changes concerns the selection of the most relevant basket of goods and services as a numeraire. In theory, it must be known how each receipt will be spent or how each outlay would have been spent if it had not been earmarked to a non-commodity transaction. But in practice, the allocation of transactions to accounts is of help. It can be assumed that if a receipt is booked on a certain account it is destined for outlays which are registered on the same account.

On the basis of these simple rules of thumb, we have attempted to design an algorithm for the computation of a SAM in constant prices. The proposed procedure is as follows: start with the decomposition of commodity transactions, proceed with transactions that are akin to a commodity transaction, and finally estimate the decomposition of rather different types of transactions. In fact, a large part of the last-mentioned price and volume changes can be derived residually, with the help of the definition equations that are determined by the SAM's accounting structure.

When compiling a SAM at constant prices, two important new issues arise. First, it is well-known that Gross Domestic Product equals Gross Domestic Income (GDI) in current prices, but typically not in constant prices. The difference between the change in real GDP and in real GDI is the trading gain or loss from a change in the terms of trade. **In a constant price SAM, the terms-of-trade effect is allocated to subsectors**. It appears as a separate column in the Generation of Income Account. At the aggregate level, the computation of this effect is still subject to debate (cf. Section XVI.K.2 of the 1993 SNA), because a single, unambiguous price index cannot be found. In fact, a similar problem would occur if one wanted to deflate GDP by a single number instead of building up the constant price estimate from more detailed data.

The compilation of constant price input-output tables has embedded the estimation of GDP volume growth into a meso-level consistency framework. This has led to a considerable quality improvement of the resulting real GDP estimate. A similar role can be performed by a constant price SAM when it comes to the estimation of real National Income change. For a SAM expands the input-output matrix by incorporating disaggregated income and expenditure flows. The **terms-of-trade effect by subsector is then equal to total generated income at constant prices**, computed with the help of a subsector-specific expenditure deflator (e.g. the CPI), **minus the sum of the components of generated income at constant prices**, each computed with the help of primary input price changes. In fact, this procedure entails a comparison, by subsector, of the change in 'real' income earned and the change in real 'product' contributed. The latter agrees with the average change in the volume of primary inputs supplied. It will be shown below that, because a SAM is a consistency framework, the sum of the terms-of-trade effects by subsector and the terms-of-trade effect for the rest of the world cancel out by definition.

The second new issue is the following. Every SAM shows which categories of primary inputs contribute to value added by industry on the one hand and to primary income by subsector on the other hand. A SAM at constant prices should then reveal to what extent changes in household income depend on the price and volume changes of the kinds of primary inputs they supply. This means that a SAM at constant prices must break down value added at constant prices into constant price estimates for each primary input category. As constant price estimates for intermediate inputs by industry are also incorporated, constant price estimates are thus computed for all categories of inputs.

This paves the way for the estimation of productivity changes by industry within a consistent accounting framework. For productivity change is exactly equal to output volume growth minus the weighted growth of all input volumes. Thus, **a constant price SAM distinguishes a separate category 'productivity effect'** as part of GDP (and of total

primary income) at constant prices. This productivity effect is equal to constant price output minus the sum of all constant price inputs. Comparison with the current price SAMs then yields the volume growth of output and inputs and thereby the productivity change per industry.

From the above it follows that in a SAM at constant prices both wages and salaries and operating surplus/mixed income must be deflated.[1] Especially the deflation of the latter input categories raises all kinds of methodological problems. These are discussed in the next subsection.

2.2. A new operationalization of capital input in production

Before changes in gross operating surplus and mixed income can be deflated, these input categories must first be subdivided into various components with a different economic meaning. For instance, gross mixed income can be broken down into 1. the consumption of fixed capital, 2. a remuneration for own-account labour services, and 3. a remuneration for all kinds of capital services. For a further research into the nature of these capital services, the 1993 SNA classification of assets comes in handy. Annex V, Part I.D of these guidelines distinguishes three major types of assets: a. produced assets (fixed assets, inventories and valuables), b. non-produced, non-financial assets (land, subsoil assets, patents, goodwill, and such), and c. financial assets/liabilities (i.a. currency, securities, loans, shares).

For the purpose of measuring the capital inputs in production, the distinction between 1) financial and 2) non-financial assets is most crucial in my view. This distinction namely implies a dichotomy between:

1) assets/liabilities that are used in the production process but do not deteriorate as a consequence of production as such; and
2) assets that are (for the most part) gradually consumed in the production process: fixed assets, inventories, subsoil assets, etc.

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1. Mixed income stands for the surplus from production in unincorporated enterprises. It includes a remuneration for unpaid labour inputs. Refer to the 1993 SNA [United Nations etc., 1993: para. VII.8].

The central theme in this subsection of my paper is the following: **For financial capital, it is economically more relevant under which conditions it can be used (cf. loans versus equity) than how it is used (e.g. for intermediate inputs or for fixed capital formation).** This theme is elaborated next.

At present, mainstream economic theory and empirical research do not even distinguish financial capital as a separate factor of production.[2] Instead, capital input is defined as the volume of non-financial (fixed) assets in use in production. In practice, productivity analyses and production functions define the capital input volume as the constant price value of the stock of, or services from, (fixed) assets. Thereby these analyses implicitly assume 1) that the available funds are fully used for (fixed) capital formation, and 2) that the price change for the use of these funds depends on the price change of the (fixed) assets utilized in production, and not on the price change for the use of the liabilities (and net worth) of which these funds consist. The first assumption disregards the important role played by working capital, notably in trade and other services production. The second assumption overlooks the fact that in a (semi-)capitalist economy the owners of the liabilities (and net worth) are the ones who must be paid, either a predetermined sum (interest) or a sum that can be computed ex post (dividend, retained earnings). Even in the latter case, though, a remuneration that does not live up to expectations will probably be corrected. On the other hand, outperformers will be rewarded in the capital markets, and these mechanisms have very little to do with the kinds of (fixed) assets in use in the production process.

As stated above, I think that non-financial assets do play a role in the production process, but only in so far as they are gradually consumed during that process. For a further operationalization, a distinction should be made between fixed assets, inventories, and non-

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2. Refer to e.g. Baumol et al. [1989], Englander and Mittelstädt [1988], Hulten [1990], Jorgenson [1990], Maddison [1987], Rymes [1983] and Scott [1993]. Examples of attempts to distinguish financial capital as a separate factor of production can be found in Hasan and Mahmud [1993], Stiglitz [1992] and Yeager [1979].

produced, non-financial assets. In my view, **the input cost of fixed assets** equals the reduction, during the reference year, in the market value of the opening stock of these assets. This reduction is due to discards, and to physical deterioration and economic obsolescence of the remaining stock. Obviously, the decrease of the stock value may deviate from depreciation as conventionally measured in the national accounts. The change in this input cost from one year to another can be decomposed into a price change, to be estimated from the price change of a new capital good of the same type, and a volume change, which is computed residually. When a new model of a certain capital good is introduced, the price change of the existing stock should be obtained from the price change of the existing model (as long as that is still produced). This ensures that an above-average value reduction of existing stock due to the appearance on the market of a new model is recorded as an increase in the input volume of that fixed asset.

The **input cost of inventories of materials and supplies** is equal to the change in inventories as already incorporated in intermediate input costs in the national accounts.

Concerning **the input cost of non-financial, non-produced assets**, first a distinction must be made between the use of hired assets and the use of own assets. Of course, the input cost of hired non-financial assets (land, subsoil assets, etc.) equals the actual rents paid. The price and volume changes of those inputs should be estimated in the same way as the price and volume changes of the rental of fixed assets, which is considered an intermediate input of business services in the national accounts. For the use of owned non-financial assets the same rule applies as for fixed assets: the input cost equals the reduction in their stock value, while the volume of their input equals the reduction in their stock volume or the reduction in their constant price stock value.[3] This applies to land, subsoil assets and other non-produced,

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3. This implies that the input volume of privately owned land equals zero as long as the land is not overexploited. On the other hand, the value of the land appears on the balance sheet and is therefore certainly part of the (financial) input into production (see below; refer also to foot note 7).

non-financial assets such as patents and goodwill.[4] Summarizing, the input of non-financial assets in production does not fundamentally differ from intermediate inputs, albeit that the services from these assets are spread out over more than one year.[5]

On top of the gradual consumption of non-financial assets, their worth represents the use of a bag of congealed money for production. This money cannot be used for other purposes, such as the immediate satisfaction of wants, and that must of course be remunerated. The essence of our argument is that this remuneration should not be assigned to the kinds of assets and working capital that are financed, but to the categories of liabilities and net worth that acquire this income. In comparison with present economic theory and practice, this implies a shift in emphasis from the asset-side of the balance sheet to the liabilities-side. The total value of both sides of the balance sheet is of course the same. What differs is the classification and, even more importantly, the decomposition into volume changes and price changes when it comes to productivity analyses, production functions, etc. Our approach also establishes a much closer link of macro-economic accounting and analysis to business economics.

The estimation of **price and volume changes of the use of liabilities and net worth** proceeds in stages. As usual, the first step is a breakdown into categories; cf. Annex V, Part I.D.2 of the 1993 SNA. For instance, interest payments are costs for the use of loans, securities

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4. For subsoil assets and other natural resources, the input volume equals the physical reduction of the stock. If the actual input value does not appear from the balance sheets, it can best be approximated by taking the sum of a) the resource rents that are paid to the owners, b) any taxes that specifically apply to extractors' profits and c) any after-tax profits of extractors that clearly exceed a normal return on financial capital invested. For instance, the total resource value in the case of a public oil corporation may be found by adding the profits creamed off by the government in the form of royalties, a special profit tax and above-average dividend receipts.
5. In so far as well-developed markets for second-hand capital goods do not exist, these commodities are less fungible than intermediate inputs. Note, however, that the delivery of intermediate inputs may also be fixed in long-term contracts. In my view, the economic difference between fixed capital inputs and intermediate inputs is often exaggerated, which blurs our sight at a more fundamental distinction, namely between inputs that are (gradually) consumed in the production process and inputs that are just used.

other than shares and other credits. Changes in these payments depend on changes in the principal and on changes in the interest rate. Changes in the principal are volume changes in the use of the liability concerned, while changes in the concomitant nominal interest rate determine the price change of these services. Next, the volume change of dividends is equal to the change in the total market value of corporate shares, assigned to the industries in which the enterprise has a stake. The dividend price change thus follows residually. The net operating surplus that remains after subtraction of the input cost of both non-financial assets and all liabilities reflects a remuneration for the use of the enterprise's net worth in production.[6] Its volume change equals the change in net worth, to be read from estimated balance sheets by industry, and its price change is residual by definition.[7]

The above line of reasoning requires that institutional units (enterprises) are subdivided into more homogeneous categories than the present SNA-subsectors. For instance, non-financial corporations should be cross-classified by their principal owner (national private, public or foreign) and by their principal production activity. For those categories it must then be possible to decompose changes in all input costs into price and volume changes.

Summarizing, gross operating surplus basically reflects the costs for the use of two categories of inputs:

1) non-financial assets, whereby the cost equals the reduction, during the reference year, in the market value of the opening stock (plus payments for the rental of non-produced, non-financial assets, plus an estimate of the *ex post* input cost of own-account natural resources that do not appear on the balance sheet), and

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6. Obviously, from this remuneration corporate taxes must still be paid. It equally applies to all inputs that they are valued at "purchasers' prices", that is including e.g. taxes. In addition, it can be assumed that over a range of years net non-life insurance premiums and claims per industry roughly balance out, so that there is no effect on net worth.

7. Note that a holding gain on an asset used in production commonly leads to a higher net worth of the enterprise and thus to a volume increase of the use of net worth in production. This is a correct interpretation because in that case more funds are tied up in the production process and this greater use of inputs implies a productivity loss, ceteris paribus.

2) financial liabilities and net worth, whereby the cost equals the sum of interest, dividends and such, and the residual operating surplus.

At present, information is lacking for a complete empirical disentanglement along these lines, so that alternative assumptions are needed. For instance, in our estimation of a constant price SAM for Indonesia it has been assumed that the volume change of all non-produced capital input equalled the output volume change. The next section presents the constant price SAM for Indonesia and the concomitant price and volume changes.

3. A SAM for Indonesia, 1975 at 1980 Constant Prices

The 1975 Indonesian SAM at 1980 constant prices is available in three formats. The aggregate SAM is given in Table 1, a somewhat disaggregated version is shown in Table 2 and the most detailed version is given in the Annex tables (refer to Table A.0 for the content of these tables). The estimation procedure is described in the Appendix to this paper. In the (somewhat) disaggregated SAMs, the income distribution and use accounts (#4-6) have been consolidated. Most of the tables in the Annex also contain an estimate of the related average *annual 'volume' and 'price' changes*. The former have been computed as one fifth times the logarithm of the quotient between the 1980 SAM and the constant price 1975 SAM figures and the latter as one fifth times the logarithm of the quotient between the constant (1980) price and the current price 1975 SAM figures.[8] Tables 3 and 4 present more aggregate average annual 'volume' changes, while more aggregate 'price' changes can be found in Tables 5 and 6.

3.1 Supply and use of goods and services by industries

It appears from Table 3 that the volume change of GDP at factor cost was an impressive 8% during this period. This high figure resulted from a real demand stimulus induced by swelling export revenues (+32% per year) in the wake of the oil price hike (+26% per year). These extra earnings led to substantially higher **volumes** of fixed capital formation (+9.5% annually) and, to a somewhat less extent, of national final consumption (+7.3%). Table A.1 shows that particularly the construction industry benefited from the investment boom. Among the goods and services with an above-average volume growth of final consumption are: imported processed food (mainly milled rice), chemicals & basic minerals, housing services, transport, and government services. For all these product groups, the price rise was below-average. On the other hand, the relationship between price and volume increase is not always straight-forward. For

8. Refer to Lorenzen [1990] for an account of the superiority of logarithmic growth rates. Detailed 1975 and 1980 SAMs are presented in Keuning [1994a, 1994b].

TABLE 1: An aggregate SOCIAL ACCOUNTING MATRIX for Indonesia, 1975 at constant 1980 prices (billion of Rupiah)

ACCOUNT (Classification)		Goods and Services (Product Groups)	Production (Industries)	Generation of Income (Primary Input Categories)	Allocation of Primary Income (Institutional Sectors)	Secondary Income Distribution (Institutional Sectors)	Use of Income (Institutional Sectors)	Capital, All Sectors and Rest of the World	Fixed Capital Formation (Industries)	Rest of the World, Current	TOTAL
Codes		1	2	3	4	5	6	7, 11	8	10	
Goods and Services (Product Groups)	1	Trade and Transport Margins 0	Intermediate Consumption 18019				Final Consumption Expenditure 21690	Changes in Inventories 445	Gross Fixed Capital Formation 6512	Exports 10528	57193
Production (Industries)	2	Output 51109									51109
Generation of Income (Primary Input Categories)	3		GROSS DOMESTIC PRODUCT 33090							Compensation of Employees from ROW 0	33090
Allocation of Primary Income (Institutional Sectors)	4	Taxes on Production -/-Subsidies 435		NET GENERATED INCOME 26689	Property Income 1545					Property Income from ROW 37	28706
Secondary Distribution of Income (Institutional Sectors)	5				NET NATIONAL INCOME 25760	Current Taxes and Transfers 4890				Current Transfers from ROW 2	30653
Use of Income (Institutional Sectors)	6			Consumption of Fixed Capital 1954		NET DISPOSABLE INCOME 25763					27717
Capital, All Sectors and Rest of the World	7 11						GROSS SAVING 6027			CURRENT EXTERNAL DEFICIT 930	6957
Fixed Capital Formation (Industries)	8							Gross Fixed Capital Formation 6512			6512
Rest of the World, Current	10	Imports 5649		Terms -of-Trade Effect & Empl. Comp. from ROW 4447	Property Income to ROW 1401	Current Taxes and Transfers to ROW 0					11498
TOTAL		57193	51109	33090	28706	30653	27717	6957	6512	11498	

TABLE 2: A somewhat disaggregated (43*43) SOCIAL ACCOUNTING MATRIX for Indonesia, 1975 at constant 1980 prices (billions of Rupiah)

EXPENDITURES / RECEIPTS		Code	GOODS AND SERVICES: DOMESTIC PRODUCTS: Food & Food Products	Other Agric. Prod.	Mining & Constr.	Trade Transport & Hh.serv.	Other Services	IMPORTED PRODUCTS: Food and Food Prod.	Other Agric. Prod.	Mining & Constr.	Trade Transport & Hh.serv.	Other Services	PRODUCTION: Food Agric. cult. &Processing	Other Agric culture	Mining, Manufact. &Constr.	Trade Transport& Housh Serv.	Other Services	GENERATION OF INCOME: Agricultural: Paid	Agricultural: Unpaid	Labour: Manual, Transport. etc.: Paid	Labour: Manual, Transport. etc.: Unpaid	Labour: Clerical, Sales and Services: Paid	Labour: Clerical, Sales and Services: Unpaid	Labour: Professional, Techn. & Manager: Paid	Labour: Professional, Techn. & Manager: Unpaid	Non-Produced Capital	Depreciation	Productivity Effect	Terms-of-Trade Effect	DISTRIBUTION AND USE OF INCOME: HOUSEHOLDS: Agricultural Labourers	Agricultural Farmers	Non-Agricultural: Rural: Low Inact	Non-Agricultural: Rural: High Lev	Non-Agricultural: Urban: Low Inact	Non-Agricultural: Urban: High Lev	CORPORATIONS	GOVERNMENT	CAPITAL: All Sectors & Rest of the World	FIXED CAPITAL FORMATION: Food Agricult. &Processing	Other Agricult.	Mining, Manufact. &Constr.	Trade Transport& Housh Serv.	Other Services	REST OF THE WORLD Current	TOTAL
			1A	1B	1C	1D	1E	1F	1G	1H	1I	1J	2A	2B	2C	2D	2E	3A	3B	3C	3D	3E	3F	3G	3H	3I+J	3K	3'	3''	4-6A	4-6B	4-6C	4-6D	4-6E	4-6F	4-6G	4-6H	7,11	8A	8B	8C	8D	8E	10	
G	Food & Food Products	1A											4717	1	87	666	53													973	5151	1806	713	1526	1057		-0	20	0	0	0	0	0	242	17012
O DO-	Other Agric. Products	1B											859	448	547	31	1													37	190	61	22	30	19		-0	-14	0	0	0	0	0	1149	3180
O MES-	Mining,Manuf.& Constr.	1C											333	95	3226	654	591													115	596	321	198	467	527		0	299	274	84	930	1657	1448	8707	20520
D TIC	Trade,Transp.&Hh.Serv	1D											61	48	174	555	386													126	526	315	115	630	411		-0	-0	0	0	0	0	0	399	3746
S _____	Other Services	1E											91	28	207	410	158													90	434	211	95	433	421		2964	-0	0	0	0	0	0	17	5579
&	Food & Food Products	1F											124	0	2	33	1													37	138	71	29	65	45		-0	3	0	0	0	0	0	0	549
S IM-	Other Agric. Products	1G											137	0	108	1	0													0	2	1	0	1	0		-0	2	0	0	0	0	0	0	253
E POR-	Mining,Manuf.& Constr.	1H											173	51	2237	382	136													27	125	75	44	140	144		-0	135	220	23	1394	405	68	0	5778
R RED	Trade,Transp.&Hh.Serv	1I											10	4	3	85	127													7	39	21	9	37	29		0	-0	0	0	0	0	14	384
V _____	Other Services	1J											0	1	87	11	100													0	3	2	1	3	4		0	-0	0	0	0	0	0	193
. TRADE & TRANSPORT MARGINS		1K	2039	842	1394	-5501	0	133	43	1170	81	0																										-0							-0
	Food Agric. & Process.	2A	14745	0	0	0	0																																					14745
PRO-	Other Agriculture	2B	0	2515	0	0	0																																					2515
DUC-	Mining,Manuf.& Constr.	2C	0	0	19295	0	0																																					19295
TION	Trade,Transp.&Hh.Serv	2D	0	0	0	9024	0																																					9024
	Other Services	2E	0	0	0	0	5529																																					5529
	Agricultural Paid	3A											1096	253	0	0	0																											1350
IN-	Agricultural Unpaid	3B											2162	203	0	0	0																											2365
CO-	Manual Paid	3C											203	7	1029	467	155																											1861
ME Labour	Manual Unpaid	3D											157	5	405	517	4																											1089
	Clerical etc. Paid	3E											59	9	251	716	675																											1711
GE-	Clerical etc. Unpaid	3F											13	1	32	2536	6																											2591
NE-	Professional Paid	3G											21	17	240	82	1445																											1805
RA- _____	Professional Unpaid	3H											24	0	69	62	33																											188
TION	Non-Produced Capital	3I+J											4520	1305	9371	2410	1189																											18795
	Depreciation	3K											278	196	767	340	373																											1954
	Productivity Effect	3'											-98	-156	474	-956	96																											-638
INCOME	Agric.Labourers	4-6A																856	38	56	57	40	107	60	4	312	33	-11	-184	0	0	0	0	0	0	0	2							0	1389
DIS-	Hou- Farmers	4-6B																367	2243	202	271	122	443	108	16	4797	342	-163	-529	0	0	0	0	0	0	0	7							0	8224
TRIBU-	se- Non-agRur.Low	4-6C																91	52	718	336	326	773	103	29	822	85	-28	-575	7	137	39	42	5	9	73	3							0	3047
TION	holds Non-agRur.High	4-6D																18	20	54	139	118	284	500	20	191	22	-6	-197	0	0	0	0	0	0	184	1							0	1377
	Non-agUrb.Low	4-6E																9	7	795	197	519	881	45	58	1486	187	-50	-610	1	11	5	5	101	161	92	1							0	3700
AND	Non-agUrb.High	4-6F																10	4	56	67	586	303	960	60	724	106	-25	-442	0	0	0	0	0	0	984	0							0	3434
	Corporations	4-6G																								10463	1106	-355	-1909	0	0	0	0	0	0	62	0							37	9405
USE	Government	4-6H	227	23	-166	223	50	1	8	71	0	1														0	74	0	0	33	189	61	27	73	87	3286	749							2	4996
CAPITAL, All Sectors+Rest-of-World		7,11																												84	681	59	109	169	541	3396	1156							930	6957
FIXED	Food Agric. & Process.	8A																																			493							493
CAPI-	Other Agriculture	8B																																			117							117
TAL	Mining,Manuf.& Constr.	8C																																			2324							2324
FORMA-	Trade,Transp.&Hh.Serv	8D																																			2062							2062
TION	Other Services	8E																																			1518							1518
REST OF THE WORLD, Current		10						415	203	4537	303	191						0	0	0	0	0	0	0	0				4447	0	0	0	0	0	0	1307	94								11496
TOTAL			17012	3180	20520	3746	5579	549	253	5778	384	193	14745	2515	19295	9024	5529	1350	2365	1861	1089	1711	2591	1805	188	18795	1954	-638	0	1389	8224	3047	1377	3700	3434	9405	4996	6957	493	117	2324	2062	1518	11496	

TABLE 3: Average Annual 'VOLUME' Changes, 1975-'80, based on aggregated SAMs for Indonesia, 1980 and 1975 at constant 1980 prices

ACCOUNT (Classification)	Codes	Goods and Services (Product Groups) 1	Production (Industries) 2	Generation of Income (Primary Input Categories) 3	Allocation of Primary Income (Institutional Sectors) 4	Secondary Income Distribution (Institutional Sectors) 5	Use of Income (Institutional Sectors) 6	Capital, All Sectors and Rest of the World 7, 11	Fixed Capital Formation (Industries) 8	Rest of the World, Current 10	TOTAL
Goods and Services (Product Groups)	1	Trade and Transport Margins -	Intermediate Consumption 10.2%				Final Consumption Expenditure 7.3%	Changes in Inventories 23.2%	Gross Fixed Capital Formation 9.5%	Exports 8.6%	8.9%
Production (Industries)	2	Output 8.7%									8.7%
Generation of Income (Primary Input Categories)	3		GROSS DOMESTIC PRODUCT 7.9%							Compensation of Employees from ROW -	7.9%
Allocation of Primary Income (Institutional Sectors)	4	Taxes on Production -/-Subsidies -7.6%		NET GENERATED INCOME 10.9%	Property Income 11.0%					Property Income from ROW 13.9%	10.8%
Secondary Distribution of Income (Institutional Sectors)	5				NET NATIONAL INCOME 10.5%	Current Taxes and Transfers 14.7%				Current Transfers from ROW 50.8%	11.2%
Use of Income (Institutional Sectors)	6			Consumption of Fixed Capital 8.3%		NET DISPOSABLE INCOME 10.5%					10.3%
Capital, All Sectors and Rest of the World	7 11						GROSS SAVING 18.6%			CURRENT EXTERNAL DEFICIT -	10.7%
Fixed Capital Formation (Industries)	8							Gross Fixed Capital Formation 9.5%			9.5%
Rest of the World, Current	10	Imports 11.2%		Terms -of-Trade Effect & Empl. Comp. from ROW -	Property Income to ROW 15.2%	Current Taxes and Transfers to ROW -					2.3%
TOTAL		8.9%	8.7%	7.9%	10.8%	11.2%	10.3%	10.7%	9.5%	2.3%	

TABLE 4: Average Annual 'VOLUME' Changes, 1975-'80, based on somewhat disaggregated (43*43) SAMs for Indonesia, 1980 and 1975 at constant 1980 prices

EXPENDITURES / RECEIPTS -->		Code	GOODS AND SERVICES: DOMESTIC PRODUCTS: Food & Food Products	Other Agric. Prod.	Mining & Construct.	Trade Transport & Hh.serv.	Other Services	IMPORTED PRODUCTS: Food and Food Prod.	Other Agric. Prod.	Mining & Construct.	Trade Transport & Hh.serv.	Other Services	PRODUCTION: Food Agricult. &Processing	Other Agriculture	Mining, Manufact. &Construct.	Trade Transport& Household Serv.	Other Services	GENERATION OF INCOME: Labour: Agricultural Paid	Agricultural Unpaid	Manuel, Transport, etc. Paid	Manuel, Transport, etc. Unpaid	Clerical, Sales and Services Paid	Clerical, Sales and Services Unpaid	Professional, Technical & Manager. Paid	Professional, Technical & Manager. Unpaid	Non-Produced Capital	Depreciation	Productivity Effect	Terms-of-Trade Effect	DISTRIBUTION AND USE OF INCOME: HOUSEHOLDS: Agricultural Labourers	Agricultural Farmers	Non-Agricultural Rural Low Inact	Non-Agricultural Rural High Lev	Non-Agricultural Urban Low Inact	Non-Agricultural Urban High Lev	CORPORATIONS	GOVERNMENT	CAPITAL: All Sectors & Rest of World	FIXED CAPITAL FORMATION: Food Agricult. &Processing	Other Agriculture	Mining, Manufact. &Construct.	Trade Transport& Household Serv.	Other Services	REST OF THE WORLD Current	TOTAL
			1A	1B	1C	1D	1E	1F	1G	1H	1I	1J	2A	2B	2C	2D	2E	3A	3B	3C	3D	3E	3F	3G	3H	3I+J	3K	3'	3''	4-6A	4-6B	4-6C	4-6D	4-6E	4-6F	4-6G	4-6H	7, 11	8A	8B	8C	8D	8E	10	
G	Food & Food Products	1A											2%	17%	-2%	6%	14%													4%	1%	6%	2%	9%	5%		-	36%	-	-	-	-	-	6%	4%
O DO-	Other Agric. Products	1B											11%	3%	12%	12%	36%													11%	6%	11%	9%	9%	5%		-	-	-	-	-	-	-	14%	12%
O MES-	Mining,Manuf.& Constr.	1C											10%	14%	15%	8%	12%													11%	9%	11%	7%	11%	7%		-	23%	11%	27%	10%	1%	19%	6%	11%
D TIC	Trade,Transp.&Hh.Serv.	1D											-4%	11%	14%	12%	13%													9%	6%	9%	9%	14%	14%		-	-	-	-	-	-	-	0%	10%
S ____	Other Services	1E											7%	15%	13%	10%	13%													10%	8%	12%	11%	17%	12%	11%	-	-	-	-	-	-	-	12%	11%
&	Food & Food Products	1F											7%	-	31%	6%	-12%													10%	10%	12%	7%	14%	11%		-	18%	-	-	-	-	-		10%
S IM-	Other Agric. Products	1G											-12%	-6%	3%	-14%	-													-8%	-9%	-5%	-9%	-7%	-13%		-	21%	-	-	-	-	-		-4%
E POR-	Mining,Manuf.& Constr.	1H											-2%	7%	15%	15%	10%													5%	6%	8%	-1%	3%	-4%		-	2%	-4%	13%	5%	2%	15%		10%
R RED	Trade,Transp.&Hh.Serv.	1I											-46%	-53%	26%	1%	18%													5%	1%	6%	12%	15%	16%		-	-	-	-	-	-	-	27%	12%
V ____	Other Services	1J											-	-	27%	25%	-9%													10%	0%	7%	10%	19%	10%		-	-	-	-	-	-	-		14%
.TRADE &	TRANSPORT MARGINS	1K	7%	14%	13%	-9%	-	-4%	-18%	7%	-8%	-																																	-
	Food Agric. & Process.	2A	3%	-	-	-	-																																					3%
PRO-	Other Agriculture	2B	-	11%	-	-	-																																					11%
DUC-	Mining,Manuf.& Constr.	2C	-	-	11%	-	-																																					11%
TION	Trade,Transp.&Hh.Serv.	2D	-	-	-	10%	-																																					10%
	Other Services	2E	-	-	-	-	11%																																					11%
	Agricultural Paid	3A											-0%	8%	-	-	-																													1%
IN-	Agricultural Unpaid	3B											3%	17%	-	-	-																													9%
CO-	Manual Paid	3C											7%	28%	10%	5%	6%																													8%
ME Labour	Manual Unpaid	3D											2%	23%	7%	6%	9%																													6%
	Clerical etc. Paid	3E											-3%	20%	4%	4%	6%																													5%
GE-	Clerical etc. Unpaid	3F											11%	28%	-6%	5%	4%																													5%
NE-	Professional Paid	3G											10%	-19%	7%	2%	12%																													11%
Re-____	Professional Unpaid	3H											9%	71%	13%	6%	1%																													9%
TION	Net Non-Produced Capital	3I+J											3%	11%	9%	9%	13%																													6%
	Depreciation	3K											5%	-1%	7%	11%	13%																													6%
	Productivity Effect	3'											-	-	-	-	-																													-
INCOME	Agric.Labourers	4-6A																2%	-1%	19%	-14%	7%	-5%	2%	-11%	6%	10%	-	-	-	-	-	-	-	-	-	19%								6%
DIS-	Hou- Farmers	4-6B																2%	5%	2%	-3%	-12%	-1%	4%	10%	2%	4%	-	-	-	-	-	-	-	-	-	18%								4%
TRIBU-	se- Non-agRur.Low	4-6C																2%	6%	8%	9%	-4%	6%	1%	-16%	6%	10%	-	-	-5%	-5%	-5%	-5%	-5%	-5%	11%	23%								9%
TION	Holds Non-agRur.High	4-6D																-1%	4%	-7%	5%	17%	-11%	15%	15%	11%	12%	-	-	-	-	-	-	-	-	8%	20%								12%
	Non-agUrb.Low	4-6E																0%	-3%	10%	11%	2%	12%	30%	-14%	5%	13%	-	-	4%	4%	4%	4%	4%	4%	18%	25%								11%
AND	_____Non-agUrb.High	4-6F																-18%	-8%	12%	17%	10%	-0%	10%	21%	5%	12%	-	-	-	-	-	-	-	-	12%	-								12%
	Corporations	4-6G																								11%	7%	-	-	-	-	-	-	-	-	-26%	-								14%	15%
USE	Government	4-6H	4%	11%	-19%	9%	12%	-	-2%	-	43%	-12%														-	15%	-	-	6%	4%	9%	12%	11%	12%	18%	9%								45%	14%
CAPITAL,All	Sectors+Rest of World	7,11																												6%	14%	37%	42%	11%	25%	15%	22%	-						-	11%
FIXED	Food Agric. & Process.	8A																																			8%							6%
CAPI-	Other Agriculture	8B																																			25%							25%
TAL	Mining,Manuf.& Constr.	8C																																			7%							7%
FORMA-	Trade,Transp.&Hh.Serv.	8D																																			1%							1%
TION	Other Services	8E																																			19%							19%
REST OF THE WORLD, Current		10						13%	-2%	11%	16%	14%																		-	-	-	-	-	-	13%	31%								2%
TOTAL			4%	12%	11%	10%	11%	10%	-4%	10%	12%	14%	3%	11%	11%	10%	11%	1%	5%	8%	6%	5%	5%	11%	9%	8%	8%	-	-	6%	4%	9%	12%	11%	12%	15%	14%	11%	6%	25%	7%	1%	19%	2%	

TABLE 5: Average Annual 'PRICE' Changes,1975-'80, based on aggregated SAMs for Indonesia, 1975 and 1975 at constant 1980 prices

ACCOUNT (Classification)	Codes	Goods and Services (Product Groups)	Production (Industries)	Generation of Income (Primary Input Categories)	Allocation of Primary Income (Institutional Sectors)	Secondary Income Distribution (Institutional Sectors)	Use of Income (Institutional Sectors)	Capital, All Sectors and Rest of the World	Fixed Capital Formation (Industries)	Rest of the World, Current	TOTAL
		1	2	3	4	5	6	7, 11	8	10	
Goods and Services (Product Groups)	1	Trade and Transport Margins -	Intermediate Consumption 15.4%				Final Consumption Expenditure 15.6%	Changes in Inventories 18.1%	Gross Fixed Capital Formation 14.0%	Exports 23.5%	16.6%
Production (Industries)	2	Output 17.2%									17.2%
Generation of Income (Primary Input Categories)	3		GROSS DOMESTIC PRODUCT 18.2%							Compensation of Employees from ROW -	18.2%
Allocation of Primary Income (Institutional Sectors)	4	Taxes on Production -/-Subsidies 3.7%		NET GENERATED INCOME 15.5%	Property Income 15.2%					Property Income from ROW 14.6%	15.2%
Secondary Distribution of Income (Institutional Sectors)	5				NET NATIONAL INCOME 15.5%	Current Taxes and Transfers 16.8%				Current Transfers from ROW 15.3%	15.7%
Use of Income (Institutional Sectors)	6			Consumption of Fixed Capital 13.9%		NET DISPOSABLE INCOME 15.5%					15.4%
Capital, All Sectors and Rest of the World	7 11						GROSS SAVING 14.6%			CURRENT EXTERNAL DEFICIT 12.5%	14.3%
Fixed Capital Formation (Industries)	8							Gross Fixed Capital Formation 14.0%			14.0%
Rest of the World, Current	10	Imports 13.0%		Terms -of-Trade Effect & Empl. Comp. from ROW -	Property Income to ROW 10.6%	Current Taxes and Transfers to ROW -					22.3%
TOTAL		16.6%	17.2%	18.2%	15.2%	15.7%	15.%	14.3%	14.0%	22.3%	

TABLE 6: Average Annual 'PRICE' Changes 1975-'80, based on somewhat disaggregated (43*43) SAMs for Indonesia, 1975 and 1975 at constant 1980 prices

EXPENDITURES / RECEIPTS -->		Code	GOODS AND SERVICES: DOMESTIC PRODUCTS: Food &Food Products 1A	Other Agri. Prod. 1B	Mining Manuf. & Construct. 1C	Trade Transport& Hh.serv. 1D	Other Services 1E	IMPORTED PRODUCTS: Food and Food Prod. 1F	Other Agricult. Prod. 1G	Mining Manuf. & Construct. 1H	Trade Transport& Hh.serv. 1I	Other Services 1J	PRODUCTION: Food Agricult. &Processing 2A	Other Agri-culture 2B	Mining, Manufact. &Construct. 2C	Trade Trans-port& Household Serv. 2D	Other Services 2E	GENERATION OF INCOME: Labour: Agricultural Paid 3A	Agricultural Unpaid 3B	Manuel, Transport, etc. Paid 3C	Manuel, Transport, etc. Unpaid 3D	Clerical, Sales and Services Paid 3E	Clerical, Sales and Services Unpaid 3F	Professional, Techn. Manager. Paid 3G	Professional, Techn. Manager. Unpaid 3H	Non-Produced Capital 3I+J	Depreciation 3K	Productivity Effect 3'	Terms of Trade Effect 3''	DISTRIBUTION AND USE OF INCOME: HOUSEHOLDS: Agricultural Labourers 4-8A	Agricultural Farmers 4-8B	Non-Agricultural Rural Low Inact 4-8C	Non-Agricultural Rural High Lev 4-8D	Non-Agricultural Urban Low Inact 4-8E	Non-Agricultural Urban High Lev 4-8F	CORPORATIONS 4-8G	GOVERNMENT 4-8H	CAPITAL: All Sectors & Rest of the World 7, 11	FIXED CAPITAL FORMATION: Food Agricult. &Processing 8A	Other Agriculture 8B	Mining, Manufact. &Construct. 8C	Trade Transport& Household Serv. 8D	Other Services 8E	REST OF THE WORLD Current 10	TOTAL
G	Food & Food Products	1A											16%	17%	16%	16%	16%																									16%	16%
O DO-	Other Agric. Products	1B											17%	17%	16%	17%	17%																									17%	17%
O MES-	Mining,Manuf.& Constr.	1C											15%	15%	17%	15%	15%																									22%	15%	15%	15%	15%	15%	25%	19%
D TIC	Trade,Transp.&Hh.Serv.	1D											14%	14%	15%	14%	15%																									-	-	-	-	-	-	14%	15%
S _____	Other Services	1E											15%	15%	15%	15%	15%																									16%	-	-	-	-	-	16%	16%
&	Food & Food Products	1F											22%	-	13%	14%	16%																									15%	-	-	-	-	-		17%
S IM-	Other Agric. Products	1G											17%	16%	17%	17%	-																									17%	-	-	-	-	-		17%
E POR-	Mining,Manuf.& Constr.	1H											12%	12%	12%	12%	12%																									12%	13%	13%	13%	13%	13%		13%
R RED	Trade,Transp.&Hh.Serv.	1I											14%	14%	14%	14%	14%																									-	-	-	-	-	-	14%	14%
V _____	Other Services	1J											13%	13%	13%	13%	12%																									-	-	-	-	-	-		13%
.TRADE AND TRANSPORT MARGINS		1K	15%	14%	14%	14%	-	15%	15%	15%	15%	-																																		-
	Food Agric. & Process.	2A	16%	-	-	-	-																																							16%
PRO-	Other Agriculture	2B	-	17%	-	-	-																																							17%
DUC-	Mining,Manuf.& Constr.	2C	-	-	20%	-	-																																							20%
TION	Trade,Transp.&Hh.Serv.	2D	-	-	-	14%	-																																							14%
	Other Services	2E	-	-	-	-	15%																																							15%
	Agricultural Paid	3A											16%	16%	-	-	-																														16%
IN-	Agricultural Unpaid	3B											13%	17%	-	-	-																														13%
CO-	Manuel Paid	3C											19%	15%	17%	20%	16%																														18%
ME Labour	Manuel Unpaid	3D											17%	10%	20%	19%	23%																														19%
	Clerical, etc. Paid	3E											24%	15%	20%	23%	15%																														19%
GE-	Clerical, etc. Unpaid	3F											24%	29%	26%	25%	14%																														25%
NE-	Professional Paid	3G											21%	22%	26%	10%	16%																														17%
RA- _____	Professional Unpaid	3H											24%	39%	28%	19%	15%																														22%
TION	Net Non-Produced Capital	3I+J											16%	21%	24%	10%	15%																														20%
	Depreciation	3K											14%	14%	14%	14%	15%																														14%
	Productivity Effect	3'											-	-	-	-	-																														-
INCOME	Agric.Labourers	4-8A																18%	13%	18%	19%	18%	26%	18%	22%	20%	14%	-	-																		18%
DIS-	Hou- Farmers	4-8B																18%	13%	18%	19%	18%	26%	18%	22%	20%	14%	-	-																		18%
TRIBU-	se- Non-agRur.Low	4-8C																18%	13%	18%	19%	18%	26%	18%	22%	20%	14%	-	-	16%	16%	16%	16%	16%	16%	16%	16%								16%
TION	holds Non-agRur.High	4-8D																18%	13%	18%	19%	18%	26%	18%	22%	20%	14%	-	-	-	-	-	-	-	-	16%	16%								16%
	Non-agUrb.Low	4-8E																21%	15%	17%	17%	20%	23%	17%	21%	20%	14%	-	-	15%	15%	15%	15%	15%	15%	15%	16%								16%
AND	____Non-agUrb.High	4-8F																21%	15%	17%	17%	20%	23%	17%	21%	20%	14%	-	-	-	-	-	-	-	-	15%	15%								15%
	Corporations	4-8G																								20%	14%	-	-	-	-	-	-	-	-	15%	-							15%	15%
USE	Government	4-8H	20%	30%	-	33%	39%	-	9%	-18%	0%	-														-	14%	-	-	35%	25%	47%	35%	21%	10%	16%	15%							15%	15%
CAPITAL, All Sectors+Rest of World		7,11																											16%	16%	16%	16%	16%	15%	14%	14%							12%	14%
FIXED	Food Agric. & Process.	8A																																			14%							14%
CAPI-	Other Agriculture	8B																																			14%							14%
TAL	Mining,Manuf.& Constr.	8C																																			14%							14%
FORMA-	Trade,Transp.&Hh.Serv.	8D																																			14%							14%
TION	Other Services	8E																																			15%							15%
REST OF THE WORLD, Current		10							6%	16%	13%	13%	13%					-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11%	11%								22%
TOTAL			16%	17%	19%	15%	16%	17%	17%	13%	14%	13%	16%	17%	20%	14%	15%	16%	13%	18%	19%	19%	25%	17%	22%	20%	14%	-	-	16%	16%	16%	16%	16%	15%	15%	15%	14%	14%	14%	14%	14%	15%	22%	

example, both the price and the volume of restaurant services rose relatively fast, which points to a high income elasticity of demand. The opposite applies to utilities, which may be due to a combination of supply bottlenecks and regulated prices.

Although a significant part of the demand push leaked away through higher prices and higher imports (+11.2% in volume terms), the supply response was still good for a yearly output volume growth of 8.7%. The breakdown by industry in Table A.2 shows that the output of hotels, chemicals & basic minerals manufacturing, water & air transport & communication, forestry, and real estate & business services increased most, while food crops cultivation (mainly rice), fishery, food processing, oil etc. mining, and textiles manufacturing lagged behind. Output grew faster in industries with a relatively high use of intermediate inputs. Besides, particularly in the oil industry, the use of these inputs increased much more than the output volume. As a result, the rise in intermediate inputs surpassed that of output in volume terms; cf. the one but last line in Table A.4.

From the first line in the bottom block of Table A.2 it appears that the variation in factor cost price rises was moderate (12%-18%), if oil and oil products are excluded. Remarkably, the lowest price rise was in the (energy-intensive) utilities. As electricity generation was firmly in the hands of the government, this low price increase reflects a deliberate policy to keep down the overall inflation rate in the wake of the oil price hike.

It strikes that the average price change of intermediate input use hardly differed by industry; cf. the last line of Table A.4. This is explained by the volume change of taxes on production less subsidies. Contrary to the general trend, this volume change was quite negative (-7.6%), due to a much higher subsidy on refined oil products in 1980; cf. Table A.2, rows I.d and II.d and column 1C&Hf. As a consequence, the 20% increase in the factor cost price of chemicals and basic minerals (see the last block in Table A.2, column 1C&Hf) was converted into a 16%

increase in its market price. As these products account for a large part of both intermediate inputs, in virtually all industries, and final consumption expenditure, **this higher subsidy had a substantial dampening effect on the overall inflation induced by the oil price hike**: the average price rise of total supply at market prices was 16.6% while the price of crude oil, gas, coal and metal ores increased by 26.3% p.a.

Note further that **the average price rise of imports was lower than that of domestic output** (13% vs. 17%). This is despite a devaluation of the rupiah vis-a-vis the dollar by one third during this period. For the most part, this depreciation was effectuated at the end of 1978. A more detailed analysis for a number of industries with sizeable imports revealed the following typical pattern (data from Nieuwstad [1986]): 1. prices indeed rose fastest from 1978 to 1979, but that applied to both imports and domestic products, 2. in that year the import price increased somewhat more than the domestic price of the same product group, but 3. this difference was not sufficient to compensate for the higher price rise of the domestic product group in the other years. Our conclusion is that, for the period '75-'80 as a whole, the improvement in competitiveness brought about by the devaluation was outweighed by the inflation rate differential between Indonesia and the rest of the world. Concomitantly, the average volume growth of imports surpassed that of domestic output.

3.2 Income generation

The analysis in the previous subsection could also have been based on a constant price input-output table or supply and use table. On the contrary, the analysis in this and the following subsections requires the compilation of a fully fledged SAM at constant prices.

As intermediate input volumes grew faster than output volumes, real GDP growth was somewhat lower than the rise in gross output volume. Table A.5 breaks down GDP growth by primary input category and industry,

including non-produced capital input growth and the productivity effect.

Regarding labour, the volume changes refer to changes in the labour input at constant compensation, as described in the 1993 SNA [United Nations etc., 1993: Section XVII.B.5]. This differs from the growth of full-time equivalent (f.t.e.) employment because of compositional changes: in our computations, a shift to higher paid jobs has been recorded as a labour volume increase. This shift was quite substantial. The average annual labour input volume growth was 5.9%, while total f.t.e. employment growth equalled only 4.2% during this period. Reversely, the growth of the average wage rate per f.t.e. was 20.2%, while the average labour input price rise equalled 18.5%.

The labour input volume change differed considerably by industry. Job opportunities rapidly increased in e.g. government & related services (+10%), estate crops cultivation (+11%), and wood products manufacturing & construction (+9%). Employment volumes almost stagnated in food crops cultivation (+1%) and, to a less extent, in trade (+4%). The unit labour cost rise was also among the smallest in food crops cultivation (+14%), but among the largest in trade (+25%). In general, an above-average volume increase coincided with a below-average price increase, or vice versa. Apart from food crops cultivation, the most notable exception to this rule was in mining, where both labour volumes and wage rates rose quite fast. Of course, this is related to the extraordinary terms-of-trade gain in that industry. Keuning [1993] provides a more in-depth analysis of these relationships.

The change in employment and wage rates by labour category can be read from the last two lines of Table A.6 (columns 3Aa-3Hb). The demand for high-skilled labour (professionals, technicians, managers and supervisors) increased most, immediately followed by the demand for manual workers in urban areas. Demand for agricultural workers clearly lagged behind, due to the sluggish employment growth in food crops cultivation. The average (imputed) labour input price rose most for (self-employed) clerical, sales and service workers. The agricultural

stagnation affected not only the employment growth but also the wage rate increase of rural farm workers. The last column of Table A.5 shows however that in 1980 this labour type still accounted for a substantial share of the national wage bill.

High volume growth rates of produced capital input were recorded in hotels (+30%), chemicals & basic minerals manufacturing (+26%), restaurants (+20%), utilities (16%) and wood products manufacturing & construction (+16%), following an investment boom in these industries.[9] The price change of fixed capital consumption hardly varied by industry.

As explained in the Appendix, it has been assumed that the volume change of non-produced capital input by industry equalled the output volume change, cf. Table A.2. The resulting price changes are plausible. This also applies to the drastic price fall of this input in utilities. During the period under consideration, the government prevented the state electricity corporation from passing on its much higher production costs to the customers, in order to depress the inflation rate; see the previous subsection. The very high 'price' rise of non-produced capital input in oil mining clearly illustrates the enormous windfall profits accruing to this industry (cf. the one but last line and column 2Ca in Table A.5). On the other hand, its productivity change was strongly negative, which contrasts with the general trend.[10]

Overall, the productivity effect was slightly negative (-638), which points to a small productivity growth: the domestic output volume growth rate was 8.7%, while the input volume growth rate was 8.5%. In relative terms, this productivity effect had a larger impact on the volume growth of Gross Generated Income. That volume growth namely rises from 7.5% to 7.9% when the productivity effect is taken into account; cf. the two but last and the four but last column in the lower part of Table A.6. The

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9. Regrettably, the negative volume growth rates for produced capital input in other crops cultivation and trade are incorrect due to a compilation error. Both volume and value growth rates of produced capital input are somewhat too low in other crops cultivation and trade, and somewhat too high in food processing and other transport. This relatively small mistake was not corrected because it was detected at a very late stage.

10. Refer to Keuning [1993] for an explanation of this phenomenon.

impact of the productivity effect on real income growth differed by subsector. It varied from nil (by definition) in the government, plus 0.1 percentage point for agricultural labourers and working non-agricultural rural households, to plus 0.7 percentage points in the corporate sector.

In addition to its indirect effect on incomes through the demand stimulus, the oil boom yielded a substantial direct trading gain for Indonesia. This is evidenced in Table 3 by **the average yearly growth rate of real Net Generated Income: a staggering 10.9%, that is, 3 percentage points higher than the GDP volume growth**. A comparison of the last and the two but last column in the lower part of Table A.6 shows that this trading gain was not equally distributed among subgroups. Its impact on real income growth varied from roughly plus 1 percentage point for small and medium farmers to more than plus 3.5 percentage points for corporations and lower level non-agricultural rural households.

This variation is due to sectoral differences in the divergence between a) the average deflator of components of generated income, and b) the average current expenditure deflator. The former price increase ranged from 17.0% for small farmers to 19.8% for lower level non-agricultural rural households. This range was caused by sectoral differences in both the price increase by income component and the relative weight of each component in the total. For instance, a large proportion of the income of small farmers was generated by self-employed rural agricultural workers and their implicit wage rate growth was way below average; compare the third figure in the bottom row of Table A.6 with the figure in the column Subtotal 3A-K of the same row. On the other hand, lower level non-agricultural rural households obtained a large proportion of their income from self-employed rural clerical, sales and services workers, whose imputed wage rate increase was relatively high.

The average current expenditure price rise varied less; cf. the additional column to the right of Table A.7. The pattern for the

household subgroups is very similar to the differences in the subgroup-specific CPIs; cf. the first additional row below Table A.8. The below-average expenditure price increase for corporations is connected to a relatively low price rise of fixed investment (see the bottom row in Table A.1), which mainly determined their saving price increase. Besides, investment accounted for a large part of their total expenditure.

Summarizing, **the terms-of-trade effect was quite important, not only because of its macro-impact (an upward effect on constant price Net Generated Income of more than 15%!), but also because of its influence on the distribution of constant price incomes**. This appears from a comparison of the average 'volume' changes in the last five columns of the lower part of Table A.6. For instance, if the productivity effect and the terms-of-trade effect are not taken into consideration, the real income growth rate is roughly the same for small farmers and for higher level non-agricultural urban households (8.2% versus 8.4%). However, including these effects, the annual growth rates are 9.4% and 12.0%, respectively. This amounts to +47% versus +60% when cumulated over the whole period. In terms of the percentage point increase of the real income growth rate, the trading gain had the largest positive impact in the non-agricultural subgroups, excluding the economically inactive. Evidently, these figures refer to primary incomes. It should be noted that the government has also gathered in part of this gain, through taxation. This is shown in the next subsection.

3.3. Distribution and use of income

Table A.7 shows property income, direct taxes, current transfers and total current income, all at constant prices. A glance at the last five columns in the lower part of this table reveals that the volume increase of total current income was largely determined by the volume increase of generated income, except for the economically inactive subgroups. These subgroups mainly depended on transfers, which increased only moderately

in real terms. This was compensated by a relatively high rise of their entrepreneurial income; cf. column 3I-J in Table A.6. All in all, living standards improved most in the three urban (non-agricultural) subgroups and in the rural higher level (non-agricultural) subgroup, that is in the upper strata of Indonesian society.[11]

Another conclusion from Table A.7 is that the real income increase in the corporate sector (15%) was substantially above that in the household sector (8%). This can be traced to the swelling profits from oil mining. The oil business was controlled by public enterprise and foreign corporations, which provides an explanation for the comparatively low volume increase in 'real' dividends paid out to households (12%) and for the comparatively high volume increase of taxes, dividends, etc. handed over by the corporate sector to the government (18%); see column 4-6G. In this indirect way, the state also appropriated its share of Indonesia's trading gain.

This also explains why total government current receipts could also reach an annual growth rate of 15% in real terms, despite a substantial decline in the indirect tax volume (-8%) and only a moderate rise in real personal income taxes (8%). The latter rise was in line with real improvement in household incomes. Row and column 4-6H in Table A.7 demonstrate that the very high volume growth of corporate taxes provided the means for a significant real increase in a) government transfers to households (21%) - though starting from a very low base-year level, and b) the (oil products) subsidy; cf. the decline in real indirect tax receipts. In turn, the increase in oil products subsidy exerted a considerable downward effect on the overall inflation rate.

Table A.8 shows that the variation in subgroup-specific CPIs for 1980 was small but not insignificant, ranging from 213.8 (on the basis 1975=100) for the urban higher level subgroup to 220.4 for the medium farmers. This amounted to a difference of 0.6% in the relevant annual

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11. There are several other developments, notably demographic shifts among household subgroups, which should be taken into account when analyzing real income distribution changes. Keuning [1994b] contains a more elaborate discussion on these issues.

inflation rates. The gap was mainly caused by the above-average price rise of food crops (16.2%) and its much higher budget share in the medium farmers subgroup than in the urban higher level subgroup (in 1975, 39.5% versus 8.7%). On the other hand, the latter subgroup had a much higher budget share of the category paper & metal products, that is, consumer durables (9.5% versus 2.0%) and the price rise of that category was below average (14.4%). On the whole, the variation in price increases of consumer goods tended to reinforce a bit the tendency towards more inequality in Indonesia.[12]

The consumption pattern shifted towards more luxury items in Indonesia. Volume growth rates above 10% were found for e.g. kerosene, petrol, soap and such (row 1Cf), housing (row 1Eb), (mini)bus transport (row 1Dd; with growth rates way above average in the urban subgroups) and food eaten out (row 1Db). Only in the second and third of these categories, the annual price rise was below the CPI-rate; cf. the last column of Table A.1. The consumption volume grew much less for: food crops (row 1Aa; this is partly due to a decline of own-produced consumption), processed food - including machine-milled rice and cigarettes (row 1Ad), and textiles (1Cd; with even a volume decrease among higher level urban households). In the case of textiles, a low increment in real terms coincided with one of the lowest price increases (13.7%) among the major consumption categories.

The consumption volume growth was roughly the same for domestically produced and imported products, despite a lower average price rise of the latter. Remarkably, in the richer, urban subgroups this growth rate was higher for domestic products while in the agricultural subgroups the consumption of imported products grew much faster. Keuning [1994b] provides more details on these shifts. Overall, the annual volume growth of household consumption (6.6%) was impressive when seen in an international or intertemporal context. Yet, it was significantly below the real improvement in disposable household income (8.5%).

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12. This is in line with findings for other countries [Muellbauer, 1974; Murty, 1985].

The consequence of this discrepancy between income and expenditure growth is a steeply rising saving rate. Table A.9 shows that household (gross) saving expanded at an annual rate of 23% in real terms. This incredibly high figure is owing to a concentration of the income improvement at the end of the reference period and to a low base-year saving level. Four out of ten household subgroups still had (slightly) negative saving in 1980. It should be noted that a low base-year saving also implies a wider confidence interval of the growth rate estimates. For that reason, the percentage point difference between the real growth rates of total outlays and consumption expenditures may provide a better indication of saving performance. In that case, both higher level subgroups come out on top.

The volume increase of government consumption expenditure amounted to 11% per year, which is substantially above the rise in private consumption (7%). Yet, both government interest payments to abroad and public saving achieved even higher growth rates in real terms (31% and 22%, respectively). As stated before, all this and the substantial decline in real indirect tax receipts was made possible by the upsurge in tax revenues from oil corporations. On the other hand, not all additional windfall profits were creamed off by the treasury, as is evidenced by the significant rise in corporate real saving (15%).

Since the real growth rate of net payments of property income and transfers to abroad exceeded that of Net Generated Income, the volume increase of that balancing item was a little higher than that of Net National Income and Net National Disposable Income (10.9% versus 10.5%); see Table 3. Taking into account the population growth (2.3% per year), this still amounted to a real improvement in Indonesian living standards of more than 40% during the second half of the seventies.

3.4 Capital and rest-of-the world accounts

Tables A.10 and A.11 present the constant price accounts for capital,

capital formation and the rest-of-the-world. A comparison of the 1980 SAM with the 1975 SAM at constant 1980 prices showed that the absolute size of the trading gain amounted to 4447 billion Rupiah while the real increase in net worth (due to saving) vis-a-vis the rest of the world equalled 4311 billion Rupiah in this period. This means that the eventual domestic absorption of this gigantic trading gain was relatively small. In other words, the gain was primarily used for the disposal (acquisition) of foreign liabilities (assets). This evidently improved Indonesia's creditworthiness. Concomitantly, the yearly expansion of fixed investment (9.5%) was far outstripped by the real saving increment (18.6%).

Constant price fixed capital formation has been cross-classified by industry of destination and by type of capital good in Table A.11. The investment volume declined in utilities (-6%, perhaps related to the decline in the remuneration rate of non-produced capital in this industry; see section 3.2 above) and in other transport & communication (-4%, due to less investment in public infrastructure). The highest volume growth rates were in: government, social, cultural & recreational services (25%), estate crops cultivation (25%, mainly caused by much higher public investments, starting from a very low level in 1975), real estate & business services (16%), oil refineries and such (14%), and wood & wood products manufacturing & construction (14%).

Capacity expansion in the last-mentioned industry was triggered by an above-average demand growth, that is, investment in buildings, structures, public works, etc.; cf. the figures in the last column of the lower block of Table A.11. However, not in all industries real investment growth was dominated by constructional works. For instance, in transport the real increase in means of conveyance considerably exceeded the real increase in (public) infrastructure. Finally, the average price change of fixed capital formation hardly varied by industry of destination, as the price increase neither diverged much by type of capital good.

4. Conclusions

The previous sections served to demonstrate, first, that a SAM at constant prices provides a more comprehensive view at economic and social development, and, secondly, that the compilation of such a SAM is indeed feasible in any country with reasonably good basic statistics. In particular, our study yielded the following new insights:

1. A comparison of constant price and current price SAMs enables the estimation of multifactor productivity changes as an intrinsic part of the national accounts. Integrating such estimates within an overall accounting framework improves both their relevance and their reliability.

2. In order to compile a constant price SAM, a closer look should be taken at the inputs that generate operating surplus in production. It was shown in subsection 2.2 above that non-labour primary inputs consist of two major categories of services: 1. services provided by financial assets, and 2. services provided by non-financial assets. The core of our argument is the following: for financial capital, it is economically more relevant under which conditions it can be used (cf. loans versus equity) than how it is used (e.g. for intermediate inputs or for fixed capital formation). This implies that various types of liabilities and net worth are separate input categories, with their own prices. It also implies that the input of non-financial assets equals just their (gradual) consumption, that is, the decline in their stock value. This is quite different from current practice, whereby liabilities and net worth are not seen as separate inputs in production. Instead, the non-financial assets financed with these funds are presently seen as the capital inputs in production.
   In my view, it is about time that common practice in business economics is also followed in macro-economics. In other words, for a better understanding of differences in economic performance among industries and countries, the liabilities-side of balance sheets for

industries and nations is more relevant than the assets-side. Section 2.2 above provided some guidelines on the decomposition of changes in the use of liabilities into price and volume changes.

3. A comparison of constant price and current price SAMs enables the derivation of a nation's trading gain as the total of trading gains accruing to the subsectors distinguished. This method is methodologically and numerically preferable, because it applies actual price changes that were relevant at the meso-level. On the contrary, an unambiguous price index cannot be found if the change in the terms-of-trade is directly estimated at the aggregate level. This is analogous to the case of GDP volume change estimation.

4. Concomitantly, a comparison of constant price and current price SAMs enables the estimation of real National Income change as the average of real income changes per subsector. At the same time, a consistent view at shifts in the real income distribution is obtained. This also applies to National Disposable Income and National Saving.

5. A comparison of constant price and current price SAMs enables the derivation of a separate Consumer Price Index (CPI) for each household subgroup within an overall national accounts framework. In turn, the subgroup-specific CPI is used to estimate real income changes in the subgroup concerned. A comparison with the volume change of its supply of production factors then yields an estimate of each subgroup's trading gain or loss from a change in its terms-of-trade.

6. A comparison of constant price and current price SAMs yields an estimate for the real change in the Current External Deficit or Surplus, namely through a meaningful deflation of all other elements in the rest-of-the-world account. Besides, the total trading gain (loss) can be compared with the real absolute increase (decrease) in net worth vis-a-vis the rest of the world in order to trace the absorption of this rise (fall) in real resources.

7. In Indonesia, the terms-of-trade effect between 1975 and 1980 was enormous, not only because of its macro-impact, but also because of its influence on the distribution of real income changes. It led to a a three percentage points higher annual volume growth rate of National Income (from 8% to 11%). Furthermore, it is illustrative to compare the small farmers and the higher level non-agricultural subgroup. Both categories enjoyed roughly the same average real income growth rate (8%), if the productivity effect and the terms-of-trade effect are not taken into consideration. Including these effects, the growth rate in the latter subgroup is bigger by about one fourth (12.0% versus 9.4%, or +60% versus +47% when cumulated over the whole period 1975-1980).

8. The Indonesian case demonstrates quite clearly that the balancing requirements of a comprehensive meso-accounting framework yield interesting insights at the macro-level. For example, despite an enormous trading gain the annual volume increase of final consumption (7.3%) even lagged behind the GDP-volume increase (7.9%); cf. Table 3. This implies that the trading gain was mainly absorbed by much higher real saving (+18.6%). To a certain degree, this stimulated domestic investment (+9.5%), but most of the additional saving 'leaked away' in the form of a real absolute increase in net worth vis-a-vis the rest of the world. All in all, that increase equalled 97% of the trading gain. On the other hand, the improvement of creditworthiness resulting from this capital export obviously had a positive influence on the capacity to maintain the volume of domestic expenditure when the times get worse.

Finally, the indicators that have been used in our case-study to arrive at constant price estimates for certain transaction categories can certainly be improved upon if more information is available; e.g. on commodity price changes by category of demand or on the inputs of categories of liabilities and net worth. Furthermore, a constant price SAM will always be based on common sense conventions to some extent. This is in conformity with several other parts of the national accounts,

such as the derivation of neutral and real holding gains from nominal holding gains. Yet, the constant price SAM provides an accounting framework that is tailored to an integrated estimation and analysis of all kinds of 'real' economic and social changes over time, notably real income changes.

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Appendix: Stages in the compilation of a constant price SAM for Indonesia

The estimation of a SAM at constant prices for Indonesia has proceeded in stages. Most of these stages were fairly straight-forward once the conceptual point of departure had been decided upon. In the explanation below reference will be made to Table 2. The accounts included in this constant price SAM are very similar to those in the current price SAM (cf. Keuning [1994a]). The only difference results from a consolidation of the capital account for all institutional sectors and the rest of the world, so that capital transfers and the complete financial balance account could be dropped. This was done for lack of relevant indicators to measure price and volume changes. As a consequence, foreign saving, that is, the deficit on current account of the balance of payments, now appears in submatrix (7/11, 10).

In order to derive Table 2 from the 1980 SAM, the 1975 SAM and data on commodity price and volume changes, the following 21 steps have been taken:[13]

1. Inflate, for each product group, 1975 *output at producers' prices* with price indices for 1980, as estimated by Nieuwstad [1986], Keuning [1986] and Evers [1990]. Since the 'make-matrix' is diagonal in the Indonesian SAMs, this is a straight-forward operation.

2. Inflate, for each product group, 1975 *imports at landed cost* - that is, imports at costs, insurance and freight (c.i.f.) prices plus all indirect taxes less subsidies on these imports - with price indices for 1980, as estimated by Nieuwstad [1986], Keuning [1986] and Evers [1990].

13. All calculations have been made at the level of the most detailed SAMs; see the Annex tables. Laspeyres price indices and Paasche volume indices have been used because it concerns a SAM in constant prices of a year after (and not before) the reference year and because these formulae are to be preferred in an additively consistent framework such as a constant price SAM [Al et al, 1985].

3. Inflate 1975 *trade and transport margins* with the help of 1980 producers' price indices for trade and transport activities.

4. Divide, for each group of domestic products, the 1980 value of *indirect taxes less subsidies* by the volume index of the concomitant output at producers' prices (computed from step 1). Analogously, 1980 indirect taxes less subsidies on each category of imports are divided by the volume index of the imports concerned, at landed cost (computed from step 2). In this way, the tax volume change equals the concomitant output or import volume change and the 'tax-price' index is computed residually. This is in conformity with the procedure suggested in the 1993 SNA [United Nations etc., 1993: Section XVI.J.3].
   Together with the results of steps 1 and 2 this yields constant price *output at factor cost* and constant price *imports at c.i.f. prices*, both by product group.[14]

5. Compute 1975 *supply of domestic products* at 1980 market prices as the sum of constant price output at producers' prices and constant price trade and transport margins. The same procedure is followed for the *supply of imports*. The cells in columns 1A-1J and in rows 1K and 2A-2E of Table 2 are then computed by means of a simple aggregation of the more detailed results (cf. Table A.2). Price changes are calculated as a residual: the logarithmic value change minus the logarithmic volume change.

6. Inflate *all categories of 1975 demand* (at market prices) with a uniform market price index by product group, as computed in step 5. The cells in rows 1A-1J then result from a simple aggregation of the more detailed results; cf. Table A.1 for an overview, *changes in inventories* and *exports*, Table A.3 for *intermediate consumption*, Table A.8 for *household consumption*, Table A.9 for *government*

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14. In fact, only taxes less subsidies on products should have been deflated at this stage, yielding an estimate of output at constant basic prices. However, in the basic data these taxes had been combined with other taxes less subsidies on production, so that only total taxes less subsidies on production and imports (i.e. indirect taxes less subsidies) could be deflated.

consumption and Table A.11 for *gross fixed capital formation*.

7. Compute constant price *gross value added* (at factor cost) by industry as constant price output (see step 4) minus the sum of constant price intermediate inputs (see step 6), that is, by means of the 'double deflation' method.

8. Multiply, for each labour category and industry, 1975 *employment* in full-time equivalents by the concomitant 1980 average wage rates. For this purpose, the published figures in the 1975 and 1980 SAMs [BPS, 1982 and 1986] have been revised by the author [Keuning, 1988]. The numbers in submatrix (3A-3H, 2) are then calculated as an aggregation of the detailed figures in Table A.5.

9. Multiply 1975 *depreciation* of three types of capital stock by industry by the market price index for these commodities, as computed in step 5. Current price depreciation by type of capital good and by industry has been derived from Perpetual Inventory Method estimates of identically classified fixed capital stocks [Keuning, 1991]. Aggregate the detailed figures in Table A.5 to arrive at row 3K.

10 Concerning *all non-produced capital input*, the familiar input-output assumption of a constant input volume coefficient has been applied here, for lack of balance sheet information by industry. Subsequently, the *'productivity effect'* by industry was computed residually as the constant price value added minus constant price estimates of all value added components (see also steps 7-9 above). Note that a negative 'productivity effect' in the 1975 SAM at constant 1980 prices coincides with a positive productivity change between 1975 and 1980, and vice versa. The detailed results (cf. Table A.5) have been aggregated in rows 3I+J and 3'.

11 Concerning the *allocation of generated incomes to subsectors*, it has been assumed that the change in the remuneration rate by primary input category was the same for all subsectors that supplied those

inputs. For labour incomes this hypothesis of a wage rate change that only depends on the labour type, and thus not on the supplying household subgroup, is plausible as long as the distinguished labour types are sufficiently homogeneous. For the 1975 non-produced capital income at 1980 prices and for the productivity effect the above assumption yields an allocation to subsectors in accordance with the distribution of 1975 non-produced capital incomes. Subsequent aggregation of these results (cf. Table A.6) leads to the figures in submatrix (4_6A-4_6H, 3A-3').

12 *Incomes of border workers* were negligible in Indonesia; cf. vectors (3A-3H, 10) and (10, 3A-3H). In other countries, the average wage rate change by labour category may be used to arrive at constant price estimates. After these steps, the totals of rows and columns 3A-3' can be computed.

13 *Current receipts by each household subgroup* (cf. rows 4_6A-4_6F) consist of total generated income (the sum of columns 3A-3'' in the row concerned), interhousehold transfers (columns 4_6A-4_6F), property income from the corporate sector (column 4_6G), transfers from the government (column 4_6H) and property income plus transfers from abroad (column 10). All these components in the 1975 SAM have been inflated with a weighted average 1980 price index of the subgroup's (cf. columns 4_6A-4_6F) total consumption expenditures (sum of rows 1Aa-1Jc in the column concerned) plus interhousehold transfer outlays (sum of rows 4_6A-4_6F) plus direct taxes (row 4_6H).[15] This implies that the change in purchasing power of the recipient household is assumed to be decisive when determining the 'real' value of property income and transfer payments.
The weighted average price index of total consumption expenditures plus interhousehold transfer outlays plus direct taxes paid has been

15. As intersectoral property income flows have been recorded on a net basis (receipts less payments) and as households are net receivers of these flows, there are no property income or current transfer flows from household subgroups to the corporate sector in this SAM. In addition, remittances of immigrant workers in Indonesia were considered negligible. Consequently, vectors (4_6G, 4_6A-4_6F) and (10, 4_6A-4_6F) contain only zeros.

estimated by household subgroup, with the help of an iterative procedure:

a) The CPI by subgroup follows from step 6 (see the column totals in Table A.8 and the consumption totals in Table A.9);
b) In the first instance, the 1975 interhousehold transfers have been inflated with the CPI of the receiving subgroup; for it was felt that the 'real' value of these transfers depended more on the change in purchasing power of the recipients than on that change of the donors;
c) The average price index of consumption expenditures plus transfer outlays can thus be computed for each subgroup. This price index has been applied to all current income components mentioned above, which also yields a first estimate for the price and volume change of total current (taxable) income;
d) It has been assumed that the 'real' 1975-1980 change of direct tax payments by subgroup equals the volume change of their total taxable income. This assumption is analogous to the one for indirect taxes - cf. step 4 above;
e) This leads to an estimate for a subgroup-specific price index of consumption expenditures plus transfer outlays plus direct taxes. In turn, this price index has been applied to all current income components mentioned above, which also yields a new estimate for the price and volume change of total current (taxable) income;
f) Steps d) and e) have been repeated until they converged.

14 The *terms-of-trade effect in each household subgroup* (vector 4_6A-4_6F, 3'') can now be computed as the difference between total 1975 generated income at 1980 prices and the components of 1975 generated income at 1980 prices, as derived in step 11 (cf. Table A.6). In analogy with the productivity effect, a negative terms-of-trade effect in the 1975 SAM at constant 1980 prices implies a positive 'real' change and thus a terms-of-trade gain in these years.

15 *Gross subgroup saving* in 1975 (row vector 7/11, 4_6A-4_6F) has been inflated with the same price index as the current receipts of the

subgroup concerned (see step 13). As a consequence, this index also applies to total subgroup current income (cf. vector (4_6A-4_6F, Total)) and current outlay (cf. vector (Total, 4_6A-4_6F)). It has thus been assumed a) that households view saving as deferred current expenditures, to be spent in the same way as today's outlays, and b) that they expect an average price change of these expenditures in the future which equals the price change during the reference period.

16 For the *current receipts of the corporate sector* a similar procedure has been followed as for households. Corporate receipts (cf. row 4_6G) of total generated income (sum of columns 3A-3'' in this row), of intercompany property income and transfer flows (column 4_6G) and of property income plus transfers from abroad (column 10) in 1975 have been inflated with a weighted average expenditure price index.[16] In this case-study, corporate taxes as well as corporate property income and transfers to abroad have been excluded from this index (see step 19 below). On the other hand, it has been assumed that in the corporate sector saving performs a less 'passive' role than with households. 1975 Corporate saving has not been inflated with a general price index of current expenditures but with the 1980 price index of capital outlays (see the next step).

17 Because this constant price SAM contains just one, aggregate capital account, *capital outlays* only consist of changes in inventories and fixed capital formation. Capital transfers, acquisitions less disposals of non-produced, non-financial assets and the financial balance have all been consolidated through the aggregation of the capital accounts for national sectors and for the rest of the world. Besides, it has been assumed that the acquisitions less disposals of valuables were negligible. The constant price changes in inventories have already been estimated in step 6 above. The 1975 *fixed capital formation by industry of destination* has been inflated with a weighted average of the price changes of the capital goods bought for

16. As net interest payments of the government to domestic sectors were negligible and as government transfers to companies have all been booked as subsidies on production, cell (4_6G, 4_6H) is equal to zero.

this purpose; cf. submatrix (1, 8). These price changes follow from step 6 (cf. the total of columns 8A-8E, equalling the total of rows 8A-8E). This yields vector (8, 7/11). Finally, total 1975 capital outlays at constant 1980 prices (cell (Total, 7/11)) and the concomitant price index follow as the sum of the vectors (8, 7/11) and (1, 7/11).

18 As stated above, this price index of total capital outlays has been used to inflate 1975 *corporate saving* (cell 7/11, 4_6G). Dividends at constant 1980 prices (vector 4_6A-4_6F, 4_6G) were already estimated in step 13. A comparison of the sum of corporate saving and dividends at constant prices and at current prices yields the current expenditure price index of corporations mentioned in step 16. The *terms-of-trade effect in the corporate sector* (cell 4_6G, 3'') can now be computed as the difference between total 1975 generated income at 1980 prices and the components of 1975 generated income at 1980 prices, as derived in step 11. The quite negative figure in this cell points to a very large terms-of-trade gain in these years.

19 Next, the remaining items on the corporate and government current accounts have been computed. As generated income by the government only consists of the consumption of fixed capital, that is not really income, there is no direct terms-of-trade effect accruing to this sector. Household income taxes have already been estimated in step 13 and indirect taxes in step 4. Government consumption expenditure is known from step 6 and government transfers to households from step 13. *Government saving* has been deflated by the deflator of capital outlays; see step 17. *Constant price intra-government transfers and property income plus transfers received by this sector from abroad* have been estimated with the help of the deflator for total current outlays excluding intra-government transfers and property income plus transfers paid to abroad. At this stage, only three variables in the current account of the corporate and government sectors remain to be estimated: 1. *corporate taxes* and 2/3. *property income plus transfers to the rest-of-the world of both*

corporations and the government. It has been assumed that the deflators for the latter two transactions are identical; in fact, both types of transactions only concern payments of property income. This equality and the accounting identities for the corporate and government current accounts yield three equations that can be solved for the above-mentioned three remaining variables.

20 Almost all elements of the capital and fixed capital formation accounts have already been derived in previous steps. These elements are: saving (steps 15, 18 and 19), changes in inventories (step 6) and fixed capital formation (steps 6 and 17). Consequently, the *current external deficit* (cell 7/11, 10) can be computed as a residual in the capital account.

21 All elements of the rest-of-the-world account have been computed in previous steps (cf. steps 2, 6, 12, 13, 16, 19 and 20), except the *terms-of-trade effect*. This effect is calculated as a residual in this account. Finally, because all accounting identities in the SAM hold, the total trading gain (the sum of column 3'') is indeed equal to zero.

TABLE A.0: An overview of the Appendix tables in which a 1975 SAM at constant 1980 prices and relevant growth rates are presented, blockwise

ACCOUNT (Classification)			Goods and Services (Products)	Production (Industries)	Generation of Income (Primary Input Categories)	Distribution and Use of Income (Institutional Sectors)	Capital, All Sectors and Rest of the World	Fixed Capital Formation (Industries)	Rest of the World, Current	TOTAL
Codes Aggregated SAM			1	2	3	4&5&6	7&11	8	10	
Codes Detailed constant price SA			1-44	45-66	67-86	87-98	99	100-121	122	
Goods and Services (Products)	1	1 .. 46	Trade and Transport Margins A.2	Intermediate Consumption A.3-A.4		Final Consumption Expenditure A.8	Changes in Inventories A.1	Gross Fixed Capital Formation A.11	Exports A.1	A.1
Production (Industries)	2	47 ..68	Output A.2							A.2
Generation of Income (Primary Input Categories)	3	69 .. 87		GROSS DOMESTIC PRODUCT A.5					Compensation of Employees from ROW A.6	A.5
Distribution and Use of Income (Institutional Sectors)	4 5 6	88 .. 99	Taxes on Production - Subsidies A.2		GROSS GENERATED INCOME A.6	Property Income, Current Taxes and Transfers A.7			Property Income and Current Transfers from ROW A.7	A.7
Capital, All Sectors and Rest of the World	7 11	100				GROSS SAVING A.9			CURRENT EXTERNAL DEFICIT A.10	A.10
Fixed Capital Formation (Industries)	8	101 .. 122					Gross Fixed Capital Formation A.10			A.10
Rest of the World Current	10	123	Imports A.2		Terms-of-Trade Effect & Comp. of Empl. to ROW A.6	Property Income & Current Transfers to ROW A.9				A.10
TOTAL			A.2	A.2	A.6	A.9	A.10	A.11	A.10	

TABLE A .1: Total DEMAND for goods and services in Indonesia, 1975 at constant 1980 prices (billions of Rupiah) + Price & Volume changes

	EXPENDITURES			Inter-mediate Consump tion	Final Consump tion	Changes in Inven-	Gross Fixed Capital	Exports	TOTAL	Average annual VOLUME changes, 1975-'80						Average annual uniform
	RECEIPTS	SAM		2A-2E	4-6A-F+H	7, 11	8A-8E	10		Inter-mediate Consump tion	Final Consump tion Expend.	Changes in Inven- tories	Gross Fixed Capital Formation	Exports	TOTAL	PRICE Changes
	Food Crops	1Aa	1	3903	4389	14	0	33	8339	1%	1%	43%	--	2%	1%	16.2%
D	Other Crops	1Ba	2	1055	242	-14	0	684	1968	10%	5%	--	--	13%	11%	17.4%
O	Livestock Products	1Ab	3	440	741	-15	0	15	1181	16%	9%	--	--	-2%	13%	16.6%
M	Forestry Products	1Bb	4	630	117	-0	0	465	1212	9%	15%	--	--	16%	13%	15.8%
E	Fish	1Ac	5	275	815	0	0	76	1166	-2%	7%	--	--	11%	5%	15.1%
S	Oil, Gas, Metal Ores	1Ca	6	902	0	199	0	8134	9236	10%	--	30%	--	7%	8%	26.3%
T	Quarrying Products	1Cb	7	357	46	1	0	0	403	11%	7%	--	--	44%	10%	15.0%
I	Processed Food	1Ad	8	906	5281	22	0	118	6327	5%	5%	4%	--	9%	5%	16.2%
C	WoodProd.&Construct.	1Cc	9	656	63	-0	3720	2	4441	12%	15%	--	12%	97%	13%	14.6%
	Textiles	1Cd	10	529	751	52	0	4	1336	10%	6%	-13%	--	62%	8%	13.7%
C	Paper&Metal Products	1Ce	11	892	752	9	681	41	2376	16%	9%	2%	8%	18%	12%	14.4%
O	Chemic&BasicMinerals	1Cf	12	1333	475	38	0	525	2371	18%	14%	--	--	17%	17%	16.3%
M	Electric.,Gas&Water	1Cg	13	231	126	-0	0	0	357	10%	3%	--	--	--	8%	12.1%
M	Trade & Transp.Serv.	1Da	14	43	0	-0	0	109	152	29%	93%	--	--	-25%	9%	12.9%
O	Restaurant Services	1Db	15	288	951	0	0	50	1288	5%	10%	--	--	-9%	9%	17.5%
D	Lodging	1Dc	16	65	17	-0	0	27	109	24%	33%	--	--	1%	22%	16.4%
I	Land Transport	1Dd	17	243	493	0	0	34	769	-9%	11%	--	--	-47%	6%	13.6%
T	OtherTransport&Comm.	1De	18	184	119	-0	0	180	483	14%	22%	--	--	11%	15%	14.0%
I	Banking & Insurance	1Ea	19	568	42	-0	0	0	610	10%	30%	--	--	--	13%	14.9%
E	RealEstate&Buss.Serv.	1Eb	20	230	949	-0	0	0	1179	14%	13%	--	--	--	13%	15.0%
S	Gov.mt,Soc&Recr.Serv.	1Ec	21	97	3676	0	0	17	3790	9%	11%	--	--	-71%	11%	15.8%
__	Person.&Househ.Serv.	1Df	22	402	543	-0	0	0	945	16%	7%	--	--	--	12%	13.0%
	Food Crops	1Fa	23	95	98	0	0	0	193	6%	-18%	--	--	--	-2%	27.1%
I	Other Crops	1Ga	24	245	5	2	0	0	251	-4%	-8%	20%	--	--	-4%	16.8%
M	Livestock Products	1Fb	25	10	3	3	0	0	15	-18%	7%	-3%	--	--	-8%	15.3%
P	Forestry Products	1Gb	26	2	0	-0	0	0	2	-3%	-14%	--	--	--	-4%	15.1%
O	Fish	1Fc	27	0	0	-0	0	0	0	3%	28%	--	--	--	26%	15.7%
R	Oil, Gas, Metal Ores	1Ha	28	18	0	0	0	0	18	72%	--	117%	--	--	72%	24.4%
T	Quarrying Products	1Hb	29	21	9	0	0	0	31	12%	--	-23%	--	--	5%	9.6%
E	Processed Food	1Fd	30	55	285	0	0	0	340	11%	16%	43%	--	--	15%	12.5%
D	WoodProd.&Construct.	1Hc	31	7	3	1	0	0	11	-17%	-9%	-36%	--	--	-15%	17.3%
	Textiles	1Hd	32	180	44	14	0	0	238	-8%	0%	-28%	--	--	-7%	13.5%
C	Paper&Metal Products	1He	33	1188	313	12	2110	0	3623	13%	-5%	15%	4%	--	7%	12.9%
O	Chemic&BasicMinerals	1Hf	34	1564	185	108	0	0	1856	13%	12%	-2%	--	--	12%	11.9%
M	Electric.,Gas&Water	1Hg	35	0	0	0	0	0	0	--	--	--	--	--	--	--
M	Trade & Transp.Serv.	1Ia	36	36	0	-0	0	0	36	9%	--	--	--	--	14%	14.4%
O	Restaurant Services	1Ib	37	26	16	0	0	0	42	-25%	20%	--	--	--	4%	13.3%
D	Lodging	1Ic	38	21	12	-0	0	0	32	0%	32%	--	--	--	18%	13.2%
I	Land Transport	1Id	39	8	30	0	0	0	38	-35%	-17%	--	--	--	-19%	14.0%
T	OtherTransport&Comm.	1Ie	40	64	50	0	0	0	114	-20%	6%	--	--	--	-5%	13.6%
I	Banking & Insurance	1Ja	41	4	1	0	0	0	4	46%	59%	--	--	--	48%	13.4%
E	RealEstate&Buss.Serv.	1Jb	42	90	0	-0	0	0	90	23%	--	--	--	--	23%	13.2%
S	Gov.mt,Soc&Recr.Serv.	1Jc	43	85	13	-0	0	0	98	-15%	1%	--	--	--	-12%	12.3%
	Person.&Househ.Serv.	1If	44	74	34	0	0	14	122	29%	5%	--	--	27%	24%	13.6%
Total Domestic		1A-1E	1-22	14228	20589	305	4402	10514	50037	9%	7%	28%	12%	9%	9%	17.2%
Total Imported		1F-1J	23-44	3791	1101	140	2110	14	7156	13%	7%	3%	4%	27%	10%	13.1%
TOTAL		row:1	1-44	18019	21690	445	6512	10528	57193	10.2%	7.3%	23.2%	9.5%	8.6%	8.9%	16.6%
				Average annual PRICE change, '75 - '80						15.4%	15.6%	18.1%	14.0%	23.5%	16.6%	

TABLE A .2: Total SUPPLY of goods and services in Indonesia, 1975 at constant 1980 prices (billions of Rupiah) and average annual Price and Volume changes of Total SUPPLY, 1975-'80

EXPENDITURES		GOODS AND SERVICES																					TOTAL
		Food Crops	Other Crops	Live-stock Pro-ducts	Fores-try Pro-ducts	Fish	Oil, Gas, Coal& Metal Ores	Qua-rry-ing Pro-ducts	Pro-cess-ed Food	Wood Prod. &Con-struc-tion	Tex-tiles	Paper Metal Prod& Other Man.Pr	Che-micals &Basic Mine-rals	Elec-tric. Gas& Wa-ter	Trade& Trans-port Ser-vices	Res tau-rant Ser-vices	Lod-ging	Land Trans port	Other Trans Port& Commu nicat.	Ban-king& Insu-rance	Real Estate &Busi-ness Serv.	Govern ment, Soc.& Recr. Serv	Perso-nal & House hold Serv.	
RECEIPTS	Codes	1A&Fa	1B&Ga	1A&Fb	1B&Gb	1A&Fc	1C&Ha	1C&Hb	1A&Fd	1C&Hc	1C&Hd	1C&He	1C&Hf	1C&Hg	1D&Ia	1D&Ib	1D&Ic	1D&Id	1D&Ie	1E&Ja	1E&Jb	1E&Jc	1D&If	Column: 1
-->		1&23	2&24	3&25	4&26	5&27	6&28	7&29	8&30	9&31	10&32	11&33	12&34	13&35	14&36	15&37	16&38	17&39	18&40	19&41	20&42	21&43	22&44	1-44
1975 values at CONSTANT 1980 prices																							
1. DOMESTIC PRODUCTS	SAM ROWS:																						
a. Output, at factor costs	2Aa-2Df	7454	1700	1034	815	848	9222	206	5409	4292	1186	1893	2203	293	4817	1247	101	1265	665	609	1160	3761	929	51109
b. Trade Margin	1Ka	749	185	118	243	287	0	83	604	55	117	395	356	63	-4464	0	0	0	0	0	0	0	0	-1206
c. Transport Margin	1Kb	93	67	23	146	26	10	107	139	16	23	48	119	0	-339	0	0	-513	-185	0	0	0	0	-220
d. Indirect Taxes min. Subsid.	4-6H	42	15	5	7	6	4	7	175	78	10	39	-307	0	138	41	7	17	3	1	19	30	16	355
e. Supply, at market prices	TOTAL	8339	1968	1181	1212	1166	9236	403	6327	4441	1336	2376	2371	357	152	1288	109	769	483	610	1179	3790	945	50037
II. IMPORTED PRODUCTS																								
a. Imports, at c.i.f. prices	10	122	202	3	1	0	17	15	290	8	169	2696	1633	0	36	42	32	38	114	4	90	97	40	5649
b. Trade Margin	1Ka	60	36	8	1	0	0	7	43	2	22	612	334	0	0	0	0	0	0	0	0	0	81	1206
c. Transport Margin	1Kb	2	6	4	0	0	0	9	15	1	5	52	125	0	0	0	0	0	0	0	0	0	0	220
d. Indirect Taxes min. Subsid.	4-6H	9	7	0	0	0	0	0	-9	1	42	262	-235	0	0	0	0	0	0	0	0	1	0	80
e. Supply, at market prices	TOTAL	193	251	15	2	0	18	31	340	11	238	3623	1856	0	36	42	32	38	114	4	90	98	122	7156
III. DOMESTIC AND IMPORTED PRODUCTS																								
e. Total Supply, at market prices		8532	2219	1196	1213	1167	9254	434	6667	4453	1574	5999	4227	357	188	1331	141	807	597	614	1269	3889	1067	57193
Average annual VOLUME changes, 1975-'80																								
I. DOMESTIC PRODUCTS																								
a. Output, at factor costs	2Aa-2Df	1%	10%	12%	14%	3%	8%	11%	5%	13%	7%	13%	16%	12%	8%	9%	22%	10%	14%	13%	13%	11%	12%	8.7%
b. Trade Margin	1Ka	3%	18%	17%	17%	9%	9%	21%	6%	24%	9%	8%	19%	-39%	9%	-	-	-	-	-	-	-	-	4.1%
c. Transport Margin	1Kb	6%	15%	16%	-7%	18%	-49%	-11%	7%	10%	24%	18%	15%	-	-12%	-	-	15%	9%	-	-	-	-	9.5%
d. Indirect Taxes min. Subsid.	4-6H	1%	10%	12%	14%	3%	8%	11%	5%	13%	7%	13%	-16%	12%	8%	9%	22%	10%	14%	13%	13%	11%	12%	-1.8%
e. Supply, at market prices	TOTAL	1%	11%	13%	13%	5%	8%	10%	5%	13%	8%	12%	17%	8%	9%	9%	22%	6%	15%	13%	13%	11%	12%	8.8%
II. IMPORTED PRODUCTS																								
a. Imports, at c.i.f. prices	10	3%	-2%	21%	-2%	25%	73%	11%	16%	-17%	-8%	8%	13%	-	14%	4%	18%	-19%	-5%	48%	23%	-12%	43%	11.2%
b. Trade Margin	1Ka	-25%	-20%	-33%	-6%	26%	-36%	6%	1%	-6%	-5%	2%	13%	-	-	-	-	-	-	-	-	-	-8%	4.1%
c. Transport Margin	1Kb	12%	-11%	-65%	-9%	-	-8%	-18%	20%	-15%	4%	21%	4%	-	-	-	-	-	-	-	-	-	-	9.5%
d. Indirect Taxes min. Subsid.	4-6H	3%	-2%	21%	-2%	25%	73%	11%	-16%	-17%	-8%	8%	-13%	-	-	-	-	-	-	-	23%	-12%	43%	-
e. Supply, at market prices	TOTAL	-2%	-4%	-8%	-4%	26%	72%	5%	15%	-15%	-7%	7%	12%	-	14%	4%	18%	-19%	-5%	48%	23%	-12%	24%	9.8%
III. DOMESTIC AND IMPORTED PRODUCTS																								
e. Total Supply, at market prices		1%	10%	13%	13%	5%	9%	10%	6%	13%	6%	9%	15%	8%	10%	9%	21%	5%	13%	13%	14%	10%	14%	8.9%
Average annual PRICE changes, 1975-'80																								
I. DOMESTIC PRODUCTS																								
a. Output, at factor costs	2Aa-2Df	16%	18%	17%	16%	15%	27%	15%	16%	14%	14%	14%	20%	12%	14%	17%	15%	14%	14%	15%	15%	16%	13%	17.2%
d. Indirect Taxes min. Subsid.	4-6H	57%	38%	18%	20%	17%	-63%	35%	17%	24%	20%	28%	-	-20%	36%	38%	46%	14%	17%	24%	61%	33%	39%	4.9%
e. Supply, at market prices	TOTAL	16%	-	17%	16%	15%	26%	15%	16%	15%	14%	14%	16%	12%	13%	18%	16%	14%	14%	15%	15%	16%	13%	17.2%
II. IMPORTED PRODUCTS																								
a. Imports, at c.i.f. prices	10	12%	18%	19%	15%	13%	25%	8%	7%	19%	12%	12%	15%	-	14%	13%	13%	14%	14%	13%	13%	12%	12%	13.0%
d. Indirect Taxes min. Subsid.	4-6H	-	9%	24%	20%	33%	-35%	-25%	34%	15%	21%	14%	-	-	-	-	-	-	-	-	-	-	0%	-1.2%
e. Supply, at market prices	TOTAL	27%	17%	15%	15%	16%	24%	10%	12%	17%	14%	13%	12%	-	14%	13%	13%	14%	14%	13%	13%	12%	14%	13.1%
III. DOMESTIC AND IMPORTED PRODUCTS																								
b. Trade Margin	1Ka	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	-	-	-	-	-	-	-	15%	14.6%
c. Transport Margin	1Kb	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	14%	-	14%	-	-	14%	14%	-	-	-	-	-
e. Total Supply, at market prices		16%	60%	17%	16%	15%	26%	15%	16%	15%	14%	13%	14%	12%	13%	17%	16%	14%	14%	15%	15%	16%	13%	16.6%

TABLE A 3: INTERMEDIATE CONSUMPTION of Domestic and Imported Commodities in Indonesia, 1975 at constant 1980 prices (billion of Rupiah)

EXPENDITURES / RECEIPTS -->			Codes		Food Crops Cult.	Other Crops Cult.	Live-stock	Fores-try	Fish-ery	Oil Gas, Mining	Qua-rry-ing	Food Pro-cess	WoodP & Con-struc.	Tex-tile	Paper& Metal Prod.	Chem-Basic Miner	Uti-li-ties	Trade &Trans-p.Serv	Res-tau-rant	Ho-tel	Land Trans-port	Other Trans-port	Fi-nan-ce	Real Est.& B.Serv.	Govern ment. etc	Pers. & Hh. Serv.	TOTAL
					2aA	2Ba	2Ab	2Bb	2Ac	2Ca	2Cb	2Ad	2Cc	2Cd	2Ce	2Cf	2Cg	2Da	2Db	2Dc	2Dd	2De	2Ea	2Eb	2Ec	2Df	Column:2
					45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	
		Food Crops	1Aa	1	1365	0	10	0	1	0	0	2347	10	2	3	7	0	7	132	1	0	1	0	0	16	0	3903
		Other Crops	1Ba	2	0	348	3	0	0	0	0	637	4	16	0	22	0	3	21	1	0	0	0	0	0	0	1055
	D	Livestock Products	1Ab	3	7	1	279	0	0	0	0	15	0	19	2	0	0	0	97	2	0	4	0	0	15	0	440
	O	Forestry Products	1Bb	4	1	3	1	97	8	0	1	9	451	1	34	17	0	0	5	0	1	0	0	0	0	0	630
	M	Fish	1Ac	5	0	0	0	0	176	0	0	28	0	0	0	0	0	0	67	0	0	0	0	0	3	0	275
	E	Oil, Gas, Metal Ores	1Ca	6	0	4	0	0	0	21	0	1	0	0	2	872	2	0	0	0	0	0	0	0	0	0	902
	S	Quarrying Products	1Cb	7	0	0	0	0	3	0	0	0	314	0	1	38	0	0	1	0	0	0	0	0	0	0	357
	T	Processed Food	1Ad	8	0	0	11	0	7	0	0	472	0	0	0	43	0	0	326	13	7	8	0	0	18	0	906
	I	WoodProd.&Construct.	1Cc	9	29	18	4	14	11	10	10	14	142	6	46	19	13	33	8	4	7	16	10	115	125	4	656
	C	Textiles	1Cd	10	13	2	1	2	3	1	0	7	6	391	5	6	0	8	5	1	2	4	0	0	44	25	529
		Paper&Metal Products	1Ce	11	18	11	2	10	18	30	3	53	211	17	93	37	6	36	11	3	16	45	13	4	184	71	892
		Chemic&BasicMinerals	1Cf	12	81	24	2	6	11	11	2	25	530	18	100	85	49	60	22	3	70	45	2	2	64	124	1333
	P	Electric.,Gas&Water	1Cg	13	0	1	0	3	0	29	0	38	6	30	28	26	10	12	5	3	3	3	3	1	25	3	231
	R	Trade & Transp.Serv.	1Da	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	37	0	0	1	0	43
	O	Restaurant Services	1Db	15	0	3	1	1	1	3	0	10	50	3	6	5	1	52	3	1	6	16	3	5	112	4	288
	D	Lodging	1Dc	16	0	1	0	1	1	3	0	2	0	1	0	0	1	16	0	0	0	1	8	0	28	0	65
	U	Land Transport	1Dd	17	3	6	0	6	5	2	1	15	24	2	5	4	1	49	7	1	17	1	3	5	78	5	243
Goods	C	OtherTransport&Comm.	1De	18	0	1	0	1	0	8	0	7	12	2	4	3	1	27	3	2	2	23	12	2	73	1	184
	T	Banking & Insurance	1Ea	19	45	11	1	13	6	17	0	31	34	9	32	31	4	220	10	6	10	27	5	13	37	8	568
	S	RealEstate&Buss.Serv.	1Eb	20	0	1	1	3	0	17	1	3	28	2	12	6	1	68	9	1	2	9	10	4	37	11	230
		Gov.mt,Soc&Recr.Serv.	1Ec	21	0	1	0	0	1	4	0	2	4	1	2	1	0	13	3	0	4	9	11	1	41	1	97
and	_	Person.&Househ.Serv.	1Df	22	2	12	1	15	0	8	1	11	4	2	6	5	3	41	4	0	211	7	4	4	48	12	402
		Food Crops	1Fa	23	3	0	1	0	0	0	0	85	0	0	0	0	0	0	5	0	0	0	0	0	0	0	95
		Other Crops	1Ga	24	0	0	0	0	0	0	0	137	1	104	0	2	0	0	1	0	0	0	0	0	0	0	245
	I	Livestock Products	1Fb	25	0	0	9	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	10
Ser-	M	Forestry Products	1Gb	26	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
vices	P	Fish	1Fc	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	O	Oil, Gas, Metal Ores	1Ha	28	0	0	0	0	0	0	0	1	0	0	0	14	3	0	0	0	1	0	0	0	0	0	18
	R	Quarrying Products	1Hb	29	0	0	0	0	0	0	0	1	10	0	0	11	0	0	0	0	0	0	0	0	0	0	21
	T	Processed Food	1Fd	30	0	0	0	0	0	0	0	26	0	0	0	1	0	0	26	1	0	0	0	0	0	0	55
	E	WoodProd.&Construct.	1Hc	31	0	0	0	0	0	0	0	0	5	0	1	0	0	0	0	0	0	0	0	0	0	0	7
	D	Textiles	1Hd	32	3	0	0	0	3	0	0	0	2	140	2	10	0	5	0	1	0	0	0	0	5	6	180
		Paper&Metal Products	1He	33	6	4	1	3	1	25	1	34	364	6	520	14	14	17	4	1	2	28	3	1	64	74	1188
		Chemic&BasicMinerals	1Hf	34	76	36	1	6	8	22	1	38	521	52	252	194	54	45	16	2	69	39	1	1	60	70	1564
	P	Electric.,Gas&Water	1Hg	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	R	Trade & Transp.Serv.	1Ia	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	0	0	0	0	36
	O	Restaurant Services	1Ib	37	0	0	0	0	0	0	0	0	0	0	0	0	0	9	0	0	0	1	0	0	16	0	26
	D	Lodging	1Ic	38	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	0	17	0	21
	U	Land Transport	1Id	39	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	5	0	8
	C	OtherTransport&Comm.	1Ie	40	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	10	3	0	42	0	64
	T	Banking & Insurance	1Ja	41	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	0	4
	S	RealEstate&Buss.Serv.	1Jb	42	0	0	0	1	0	53	0	0	9	0	1	1	0	5	1	0	0	2	3	1	11	0	90
		Gov.mt,Soc&Recr.Serv.	1Jc	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	84	0	85
		Person.&Househ.Serv.	1If	44	0	0	0	4	4	1	1	5	0	0	0	0	1	7	2	2	1	3	24	0	16	2	74
TOTAL DOMESTIC PRODUCTS			1A-1E		1563	449	319	170	254	164	20	3725	1832	521	382	1229	92	643	738	43	364	258	84	157	948	271	14228
TOTAL IMPORTED PRODUCTS			1F-1J		89	41	12	15	16	101	3	327	913	303	776	248	71	101	57	7	73	120	36	5	323	153	3791
TOTAL		SAM ROW: 1			1652	490	332	185	270	265	22	4052	2745	825	1158	1478	164	744	795	50	437	378	119	162	1272	424	18019
SHARE OF DOMESTIC PRODUCTS(%'80-%'75)					94.6%	91.7%	96.3%	92.0%	94.0%	61.9%	87.1%	91.9%	66.7%	63.2%	33.0%	83.2%	56.4%	86.4%	92.8%	85.3%	83.3%	68.2%	70.1%	96.9%	74.6%	63.9%	79.0%

TABLE A .4: Average annual VOLUME changes of INTERMEDIATE CONSUMPTION of Domestic and Imported Commodities in Indonesia, 1975-1980

EXPENDITURES / RECEIPTS -->			Codes		Food Crops Cult. 2aA	Other Crops Cult. 2Ba	Live-stock 2Ab	Fores-try 2Bb	Fish-ery 2Ac	Oil Gas, Mining 2Ca	Qua-rry-ing 2Cb	Food Pro-cess 2Ad	WoodP & Con-struc. 2Cc	Tex-tile 2Cd	Paper& Metal Prod. 2Ce	Chem Basic Miner 2Cf	Uti-li-ties 2Cg	Trade &Trans p.Serv. 2Da	Res-tau-rant 2Db	Ho-tel 2Dc	Land Trans-port 2Dd	Other Trans-port 2De	Fi-nan-ce 2Ea	Real Est& B.Serv. 2Eb	Govern ment, etc. 2Ec	Pers. & Hh. Serv. 2Df	TOTAL Column:2
					45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	
		Food Crops	1Aa	1	-1%	-	10%	-	-15%	-	-	2%	12%	-6%	-16%	-42%	-	-	-6%	44%	-	-	-	-	12%	-	1%
		Other Crops	1Ba	2	-	6%	24%	-	-	-	-	11%	-40%	-6%	-	16%	-	-	14%	5%	-	-	-	-	-	-	10%
	D	Livestock Products	1Ab	3	26%	21%	14%	-	-	-	-	16%	-	11%	-6%	-	-	-	21%	35%	-	-	-	-	13%	-	16%
	O	Forestry Products	1Bb	4	11%	8%	9%	-15%	7%	-	-	3%	14%	-12%	-32%	-10%	-	-	16%	-	-0%	-	-	-	-	-	9%
	M	Fish	1Ac	5	-	-	-	-	-10%	-	-	10%	-	-	-	-	-	-	4%	-	-	-	-	-	14%	-	-2%
	E	Oil, Gas, Metal Ores	1Ca	6	-	-	-	-	-	60%	-	-	-	-	-	3%	10%	-	-	-	-	-	-	-	-	-	10%
	S	Quarrying Products	1Cb	7	-	-	-	-	9%	-	-	-	11%	-	7%	5%	-	-	-	-	-	-	-	-	-	-	11%
	T	Processed Food	1Ad	8	-	-	42%	-	7%	-	-	3%	-	-	-	-20%	-	-	4%	15%	-	-0%	-	-	17%	-	5%
	I	WoodProd.&Construct.	1Cc	9	-9%	-	6%	6%	2%	37%	-5%	7%	23%	5%	-12%	5%	5%	13%	15%	25%	0%	13%	2%	5%	12%	16%	12%
	C	Textiles	1Cd	10	-22%	14%	-	-16%	13%	69%	-	13%	-7%	9%	1%	1%	-	5%	19%	20%	25%	-8%	-	-	9%	16%	10%
		Paper&Metal Products	1Ce	11	-3%	18%	17%	27%	7%	44%	17%	9%	10%	7%	25%	13%	29%	9%	5%	21%	-7%	16%	13%	21%	15%	11%	16%
		Chemic&BasicMinerals	1Cf	12	20%	22%	10%	-4%	-0%	16%	20%	22%	24%	15%	15%	26%	13%	-13%	12%	24%	-24%	-24%	24%	33%	15%	7%	18%
	P	Electric.,Gas&Water	1Cg	13	-	17%	-	-0%	-	-76%	-	-18%	2%	-26%	-19%	10%	39%	25%	42%	25%	6%	19%	33%	26%	15%	51%	10%
	R	Trade & Transp.Serv.	1Da	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47%	17%	-	-	67%	-	29%
	O	Restaurant Services	1Db	15	-	-20%	-13%	12%	-	44%	-	0%	-17%	-18%	-5%	25%	11%	-14%	-3%	-6%	7%	-10%	19%	-10%	13%	6%	5%
	D	Lodging	1Dc	16	-	-	-	-6%	-	44%	-	-6%	-	-	-	-	2%	12%	-	-	-	33%	2%	-	26%	-	24%
	U	Land Transport	1Dd	17	-15%	-7%	-	-18%	-	23%	-11%	-20%	-56%	-12%	-7%	16%	-2%	-12%	-39%	-9%	0%	20%	21%	-8%	-9%	-19%	-9%
Goods	C	OtherTransport&Comm.	1De	18	-	-19%	-	18%	-	28%	-	-9%	-2%	-14%	-12%	27%	8%	21%	11%	23%	29%	24%	13%	28%	4%	60%	14%
	T	Banking & Insurance	1Ea	19	-3%	19%	40%	12%	12%	43%	-	11%	8%	4%	-12%	7%	7%	8%	-33%	-14%	11%	3%	12%	9%	11%	-2%	10%
	S	RealEstate&Buss.Serv.	1Eb	20	-	20%	10%	13%	-	1%	3%	18%	13%	-10%	-21%	18%	8%	6%	30%	36%	51%	23%	12%	25%	12%	27%	14%
		Gov.mt,Soc&Recr.Serv.	1Ec	21	-	14%	-	-	8%	19%	-	10%	-1%	-	-19%	18%	-	-1%	-8%	-	-3%	-15%	-9%	11%	18%	15%	9%
and		Person.&Househ.Serv.	1Df	22	1%	16%	7%	21%	-	49%	41%	12%	3%	-4%	4%	13%	19%	9%	30%	-	12%	17%	26%	24%	25%	-13%	16%
		Food Crops	1Fa	23	-11%	-	-	-	-	-	-	8%	-	-	-	-	-	-	-28%	-	-	-	-	-	-	-	6%
		Other Crops	1Ga	24	-	-	-	-	-	-	-	-12%	-	3%	-	-	-	-	-	-	-	-	-	-	-	-	-4%
	I	Livestock Products	1Fb	25	-	-	-27%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-18%
Ser-	M	Forestry Products	1Gb	26	-	-	-	-	-	-	-	-	-	-	-	5%	-	-	-	-	-	-	-	-	-	-	-3%
vices	P	Fish	1Fc	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	O	Oil, Gas, Metal Ores	1Ha	28	-	-	-	-	-	-	-	-	-	-	-	77%	-	-	-	-	-	-	-	-	-	-	72%
	R	Quarrying Products	1Hb	29	-	-	-	-	-	-	-	-	-15%	-	-	23%	-	-	-	-	-	-	-	-	-	-	12%
	T	Processed Food	1Fd	30	-	-	-	-	-	-	-	5%	-	-	-	35%	-	-	-	8%	21%	-	-	-	-	-	11%
	E	WoodProd.&Construct.	1Hc	31	-	-	-	-	-	-	-	-	-25%	-	-	-	-	-	-	-	-	-	-	-	-	-	-17%
	D	Textiles	1Hd	32	-	-	-	-	-	-	-	-	-15%	-14%	33%	18%	-	-5%	-	-	-	-	-	-	-3%	-38%	-8%
		Paper&Metal Products	1He	33	-10%	-5%	-	-17%	9%	-54%	-5%	-7%	5%	-26%	20%	17%	-	-19%	-5%	-	-	-2%	-	-15%	8%	21%	13%
		Chemic&BasicMinerals	1Hf	34	-8%	4%	0%	24%	11%	34%	61%	8%	6%	25%	4%	26%	2%	4%	1%	22%	22%	33%	7%	11%	13%	-3%	13%
	P	Electric.,Gas&Water	1Hg	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	R	Trade & Transp.Serv.	1Ia	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1%	-	-	-	-	9%
	O	Restaurant Services	1Ib	37	-	-	-	-	-	-	-	-	-	-	-	-	-	-58%	-	-	-	-	-	-	-26%	-	-25%
	D	Lodging	1Ic	38	-	-	-	-	-	-	-	-	-	-	-	-	-	10%	-	-	-	-	-6%	-	-11%	-	0%
	U	Land Transport	1Id	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-35%
	C	OtherTransport&Comm.	1Ie	40	-	-	-	-	-	-	-	-	-	-	-	-	-	5%	-	-	-	-12%	-25%	-	-54%	-	-20%
	T	Banking & Insurance	1Ja	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41%	-	-	30%	-	46%
	S	RealEstate&Buss.Serv.	1Jb	42	-	-	-	-	-	31%	-	-	-17%	-	-	-	-	9%	-	-	-	22%	5%	10%	4%	-	23%
		Gov.mt,Soc&Recr.Serv.	1Jc	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11%	-15%	-	-15%
		Person.&Househ.Serv.	1Jf	44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16%	16%	-	17%	-	-	58%	-	29%
TOTAL DOMESTIC PRODUCTS			1A-1E		0%	8%	16%	2%	-4%	39%	9%	5%	16%	8%	10%	7%	19%	6%	8%	21%	10%	10%	12%	9%	13%	12%	9%
TOTAL IMPORTED PRODUCTS			1F-1J		-9%	3%	7%	9%	-2%	27%	38%	-0%	5%	4%	16%	35%	-4%	-0%	3%	15%	23%	18%	-24%	8%	12%	12%	13%
TOTAL		SAM ROW: 1			0%	7%	16%	3%	-4%	35%	16%	4%	13%	7%	15%	16%	12%	6%	8%	20%	13%	13%	7%	9%	13%	12%	10%
Average annual PRICE changes, 1975 - '80					16%	16%	16%	15%	15%	14%	14%	16%	14%	14%	13%	20%	14%	15%	16%	15%	14%	14%	14%	15%	14%	14%	15%

TABLE A .5: GROSS DOMESTIC PRODUCT in Indonesia, 1975 at constant 1980 prices (billions of Rupiah) and average annual PRICE and VOLUME changes of GDP-components, 1975-'80

PRODUCTION ACTIVITIES				Codes		Food Crops Cult.	Other Crops Cult.	Live-stock	Fores-try	Fish ery	Oil Gas, Mining	Quar-rying	Food Pro-cess	WoodP & Con-struc.	Tex-tile	Paper Metal Prod.	Chem-Basic Miner	Uti-li-ties	Trade &Tran p.Serv	Res-tau-rant	Ho-tel	Land Trans-port	Other Trans-port	Fi-nan-ce	Real Est.& B.Serv	Govern ment, etc.	Pers. & Hh. Serv.	TOTAL
						2aA	2Ba	2Ab	2Bb	2Ac	2Ca	2Cb	2Ad	2Cc	2Cd	2Ce	2Cf	2Cg	2Da	2Db	2Dc	2Dd	2De	2Ea	2Eb	2Ec	2Df	Column:2
PRIMARY INPUT CATEGORIES						45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	
	Agricult.	Paid	Rural	3Ab	69	950	217	27	25	67	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1287
	Agricult.	Paid	Urban	3Ab	70	33	8	4	3	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64
	Agricult.	Unpaid	Rural	3Ba	71	1936	146	68	48	68	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2266
	Agricult.	Unpaid	Urban	3Bb	72	71	8	6	2	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	99
	Manual	Paid	Rural	3Ca	73	1	3	0	4	0	24	13	131	389	53	68	63	0	11	0	0	132	17	0	4	37	60	1012
	Manual	Paid	Urban	3Cb	74	0	0	0	0	0	11	23	70	233	37	60	34	20	39	0	1	159	27	4	2	107	39	868
	Manual	Unpaid	Rural	3Da	75	10	0	0	5	0	0	15	129	214	25	62	27	1	29	0	0	123	12	0	0	3	162	817
La-	Manual	Unpaid	Urban	3Db	76	0	0	0	0	0	0	14	19	28	6	9	2	2	15	0	0	91	3	0	0	1	82	272
bour	Clerical	Paid	Rural	3Ea	77	2	4	2	4	1	13	12	25	39	2	15	25	11	101	16	8	18	6	13	9	210	58	595
	Clerical	Paid	Urban	3Eb	78	1	1	0	1	0	21	3	27	26	9	38	26	9	321	27	23	24	38	64	11	369	74	1115
	Clerical	Unpaid	Rural	3Fa	79	2	0	4	1	1	0	12	3	6	1	5	1	0	1413	58	0	2	1	0	0	1	70	1581
	Clerical	Unpaid	Urban	3Fb	80	0	0	0	0	0	0	2	4	2	1	3	0	0	847	57	0	3	1	0	0	4	86	1010
	Profess.	Paid	Rural	3Ga	81	1	13	2	2	0	12	0	5	25	2	6	22	6	1	0	3	1	4	8	3	644	4	763
	Profess.	Paid	Urban	3Gb	82	0	2	0	0	0	29	1	13	46	5	30	28	28	27	1	7	9	23	49	6	735	4	1042
	Profess.	Unpaid	Rural	3Ha	83	6	0	0	0	0	0	3	4	18	1	4	4	0	1	6	1	1	2	0	0	11	7	67
	Profess.	Unpaid	Urban	3Hb	84	0	0	0	0	0	0	1	14	19	4	13	3	0	5	11	10	7	2	0	2	20	9	120
Subtotals		Paid		3A,C,E,G		988	247	35	40	85	110	53	272	758	108	217	199	75	501	45	41	343	115	137	36	2102	238	6746
		Unpaid		3B,D,F,H		2024	153	79	56	81	0	47	173	287	37	97	37	2	2310	133	12	226	21	0	2	40	415	6233
TOTAL LABOUR				3A-H		3013	400	114	95	166	110	100	444	1045	145	313	236	78	2811	178	53	569	136	138	39	2142	653	12979
Pro-	Depr. Domestic machinery			3Ki		1	12	0	13	11	33	0	8	1	3	3	1	8	12	2	2	52	12	3	4	7	2	191
duced	Depr. Imported machinery			3Kii		17	13	0	14	26	324	2	75	23	29	77	11	16	14	2	0	11	48	3	1	10	12	727
Capi-	Depreciation Construction			3Kiii		86	104	7	40	14	161	2	33	6	8	28	8	24	29	6	4	84	45	20	241	84	4	1037
tal	TOTAL			3K	86	104	129	7	67	50	517	4	116	30	40	108	20	48	55	10	6	147	104	26	247	101	18	1954
LABOUR & PRODUCED CAPITAL				3A-H,K		3117	529	121	162	217	628	104	560	1074	185	421	256	126	2867	188	59	716	240	163	285	2243	672	14933
NON-PRODUCED CAPITAL				3I,J	85	2742	759	477	546	397	7619	85	904	550	177	319	602	19	1823	294	28	181	80	372	720	97	3	18795
PRODUCTIVITY EFFECT				3'	87	-57	-78	105	-78	-36	710	-5	-108	-78	-1	-5	-131	-16	-617	-30	-35	-70	-33	-46	-7	149	-170	-638
NON-PRODUCED CAPITAL & PRODUCTIVITY EFF.						2685	681	581	468	362	8329	80	796	473	176	314	470	4	1206	264	-7	111	47	326	713	246	-167	18157
GROSS VALUE ADDED, at factor cost; Row:3						5802	1210	703	630	578	8957	183	1357	1547	361	735	726	129	4073	452	51	828	287	489	998	2489	505	33090
Average annual 'VOLUME' changes, 1975-'80																												
Paid Labour				3A,C,E,G		-2%	8%	13%	13%	5%	10%	11%	5%	9%	10%	9%	7%	2%	2%	7%	6%	2%	14%	11%	20%	10%	5%	7%
Unpaid Labour				3B,D.F,H		2%	16%	21%	22%	13%	--	6%	4%	9%	13%	-6%	9%	-16%	5%	9%	-29%	8%	-4%	24%	45%	-9%	5%	5%
Total Labour				3A-H		1%	11%	19%	19%	9%	10%	9%	5%	9%	10%	5%	7%	2%	4%	9%	2%	5%	12%	11%	23%	10%	5%	6%
Total PRODUCED CAPITAL				3K		3%	-3%	10%	3%	2%	4%	12%	6%	16%	9%	7%	26%	16%	-1%	20%	30%	11%	14%	8%	14%	14%	5%	8%
NON-PRODUCED CAPITAL				3I,J		1%	10%	12%	14%	3%	8%	11%	5%	13%	7%	13%	16%	12%	8%	9%	22%	10%	14%	13%	13%	11%	12%	8%
GROSS VALUE ADDED, at factor cost; Row:3						1%	11%	10%	16%	6%	6%	10%	6%	12%	9%	9%	18%	11%	8%	10%	24%	8%	15%	14%	14%	9%	11%	8%
Average annual 'PRICE' changes, 1975-'80																												
Paid Labour				3A,C,E,G		19%	19%	15%	13%	17%	24%	31%	20%	18%	10%	17%	22%	22%	22%	22%	28%	20%	18%	12%	12%	16%	19%	18%
Unpaid Labour				3B,D,F,H		13%	19%	11%	12%	16%	--	27%	18%	21%	11%	25%	19%	18%	25%	19%	51%	20%	20%	10%	8%	16%	17%	18%
Total LABOUR				3A-H		14%	19%	13%	12%	16%	24%	29%	19%	19%	10%	19%	21%	22%	25%	20%	31%	20%	18%	12%	12%	16%	18%	18%
Total PRODUCED CAPITAL				3K		14%	14%	15%	14%	14%	14%	14%	13%	13%	13%	13%	14%	14%	14%	14%	14%	14%	14%	14%	15%	14%	13%	14%
NON-PRODUCED CAPITAL				3I,J		19%	21%	14%	22%	17%	27%	7%	18%	11%	15%	13%	23%	-10%	9%	22%	22%	6%	14%	19%	15%	6%	-16%	20%
GROSS VALUE ADDED, at factor cost; Row:3						16%	18%	17%	17%	15%	28%	15%	16%	15%	12%	15%	19%	9%	14%	20%	16%	14%	14%	15%	15%	16%	12%	18%

TABLE A.6: Distribution of GROSS GENERATED INCOME over Institutional Subsectors in Indonesia, 1975 at constant 1980 prices (billions of Rupiah)

			PRIMARY INPUT CATEGORIES																		SUB-TOTAL	PRO-DUC-TIVITY EFFECT	SUB-TOTAL	SECTORAL TERMS -OF- TRADE EFFECT	TOTAL
			Labour																Non-Produced Capital	Depreciation					
			Agricultural				Manual				Clerical, Sales& Services				Professional, Managerial										
			Paid		Unpaid		Paid		Unpaid		Paid		Unpaid		Paid		Unpaid								
			Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban							
RECEIPTS			3Aa	3Ab	3Ba	3Bb	3Ca	3Cb	3Da	3Db	3Ea	3Eb	3Fa	3Fb	3Ga	3Gb	3Ha	3Hb	3I-J	3K	3A-K	3'	>3A-K	3''	Column 3
-->			67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	67-84	85	67-85	86	67-86
	Agric.Labourers	4-6A	821	35	37	1	52	4	56	1	37	4	101	6	59	1	4	0	312	33	1562	-11	1552	-184	1368
	Small Farmers	4-6Ba	248	6	897	42	112	8	143	4	66	4	235	12	37	3	7	0	1066	88	2980	-36	2944	-137	2807
Hou-	Medium Farmers	4-6Bb	66	2	569	20	47	3	72	2	26	1	103	3	23	1	3	0	1152	82	2176	-39	2137	-102	2035
se-	Large Farmers	4-6Bc	42	2	690	25	29	3	49	2	24	2	86	4	41	1	5	0	2579	171	3754	-88	3666	-290	3376
hold	Lower Non-agRural	4-6Ca	89	0	52	0	716	0	338	0	324	0	771	0	90	0	28	0	707	72	3187	-24	3163	-560	2603
Sub-	Econ.Inact.Rural	4-6Cb	3	0	1	0	2	0	1	0	1	0	2	0	12	0	0	0	115	12	149	-4	145	-16	130
sec-	Higher Non-agRural	4-6D	18	0	20	0	54	0	159	0	118	0	284	0	500	0	20	0	191	22	1386	-6	1379	-197	1182
tors	Lower Non-agUrban	4-6Ea	0	9	0	7	0	793	0	196	0	515	0	678	0	41	0	59	1397	172	3867	-47	3820	-596	3224
	Econ.Inact.Urban	4-6Eb	0	0	0	0	0	2	0	1	0	4	0	4	0	4	0	0	89	15	118	-3	115	-14	101
	Higher Non-agUrban	4-6F	0	10	0	4	0	56	0	67	0	586	0	303	0	990	0	60	724	106	2906	-25	2882	-442	2440
Corporations		4-6G																	10463	1106	11569	-355	11214	-1909	9305
Government		4-6H																	0	74	74	0	74	0	74
Rest of the World (net) *)		123	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0		0	4447	4447
Total Agricultural Households			1178	45	2194	88	241	17	320	8	152	11	524	26	160	7	19	1	5109	374	10472	-173	10298	-714	9585
Total Non-agric.Rural Households			109	0	73	0	772	0	497	0	443	0	1057	0	603	0	49	0	1013	106	4722	-34	4687	-773	3915
Total Non-agric.Urban Households			0	18	0	11	0	851	0	264	0	1104	0	984	0	1035	0	119	2210	293	6891	-75	6816	-1052	5764
Total Households			1287	64	2266	99	1012	868	817	272	595	1115	1581	1010	763	1042	67	120	8332	774	22085	-283	21802	-2538	19264
Corporations and Government			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10463	1180	11644	-355	11288	-1909	9379
GROSS GENERATED INCOME, fc; 4-6			1287	64	2266	99	1012	868	817	272	595	1115	1581	1010	763	1042	67	120	18795	1954	33728	-638	33090	-4447	28643
Average annual 'VOLUME' changes, 1975-'80																									
	Agric.Labourers	4-6A	0%	20%	-1%	9%	16%	40%	-16%	29%	1%	34%	-7%	17%	-4%	56%	-12%	-1%	8%	10%	3.6%	-	3.7%	-	6.2%
	Small Farmers	4-6Ba	2%	-8%	10%	7%	3%	9%	-2%	15%	-14%	3%	-0%	16%	7%	15%	12%	29%	11%	14%	8.2%	-	8.5%	-	9.4%
Hou-	Medium Farmers	4-6Bb	4%	-11%	0%	-3%	-2%	-7%	-10%	6%	-16%	1%	-7%	16%	2%	24%	9%	6%	-2%	-2%	-1.7%	-	-1.3%	-	-0.4%
se-	Large Farmers	4-6Bc	3%	-5%	2%	-3%	4%	-1%	-1%	5%	-10%	6%	-3%	10%	-1%	20%	5%	11%	-2%	-1%	-0.9%	-	-0.4%	-	1.2%
hold	Lower Non-agRural	4-6Ca	-2%	-	6%	-	8%	-	9%	-	-4%	-	6%	-	2%	-	-17%	-	4%	9%	5.4%	-	5.5%	-	9.4%
Sub-	Econ.Inact.Rural	4-6Cb	-5%	-	1%	-	-11%	-	9%	-	-11%	-	12%	-	-15%	-	58%	-	16%	16%	13.8%	-	14.3%	-	16.6%
sec-	Higher Non-agRural	4-6D	-1%	-	4%	-	-7%	-	5%	-	17%	-	-11%	-	15%	-	15%	-	11%	12%	9.1%	-	9.2%	-	12.3%
tors	Lower Non-agUrban	4-6Ea	-	0%	-	-3%	-	10%	-	11%	-	2%	-	12%	-	31%	-	-14%	3%	11%	7.3%	-	7.5%	-	10.9%
	Econ.Inact.Urban	4-6Eb	-	-42%	-	-8%	-	-40%	-	-27%	-	6%	-	2%	-	-18%	-	-1%	23%	25%	21.8%	-	22.3%	-	24.9%
	Higher Non-agUrban	4-6F	-	-18%	-	-8%	-	12%	-	17%	-	10%	-	-0%	-	10%	-	21%	5%	12%	8.4%	-	8.6%	-	11.9%
Corporations		4-6G	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11%	7%	10.9%	-	11.6%	-	15.3%
Government		4-6H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15%	14.6%	-	14.6%	-	14.6%
Rest of the World (net) *)		123	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Agricultural Households			1%	16%	5%	3%	6%	19%	-6%	14%	-9%	19%	-3%	15%	0%	33%	7%	16%	2%	4%	2.6%	-	3.0%	-	4.4%
Total Non-agric.Rural Households			-2%	-	5%	-	7%	-	7%	-	4%	-	3%	-	13%	-	3%	-	7%	11%	6.9%	-	7.0%	-	10.6%
Total Non-agric.Urban Households			-	-7%	-	-5%	-	10%	-	12%	-	7%	-	9%	-	11%	-	11%	5%	13%	8.1%	-	8.3%	-	11.7%
Total Households			1%	12%	5%	2%	7%	10%	3%	13%	2%	7%	1%	9%	11%	11%	4%	11%	4%	9%	5.4%	-	5.7%	-	8.1%
Corporations and Government			-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11%	8%	11.0%	-	11.6%	-	15.3%
GROSS GENERATED INCOME, fc; 4-6			1%	12%	5%	2%	7%	10%	3%	13%	2%	7%	1%	9%	11%	11%	4%	11%	8%	8%	7.5%	-	7.9%	-	10.8%
Average annual 'PRICE' changes, 1975-'80																									
GROSS GENERATED INCOME, fc; 4-6			18%	21%	13%	15%	18%	17%	19%	17%	18%	20%	26%	23%	16%	17%	22%	21%	20%	14%	18.6%	-	18.2%	-	15.4%

*) Row vector (10,3) minus transposed column vector (3,10).

TABLE A .7: Distribution of TOTAL INCOME over Institutional Subsectors in Indonesia, 1975 at constant 1980 prices (billions of Rupiah)

EXPENDITURES				INSTITUTIONAL SECTORS												Total Property Income and Transfers Domestic	Total Taxes on Products minus Subsidies	Total Gross Generated Income	Total Property Income & Transfers from ROW	TOTAL INCOME	
				Households										Corporations	Government						
				Agricultural				Non-Agricultural													
				Labourers	Small Farmers	Medium Farmers	Large Farmers	Rural Lower Level	Rural Econ Inact	Rural Higher Level	Urban Lower Level	Urban Econ Inact	Urban Higher Level								
RECEIPTS		SAM		4-6A	4-6Ba	4-6Bb	4-6Bc	4-6Ca	4-6Cb	4-6D	4-6Ea	4-6Eb	4-6F	4-6G	4-6H	4-6	1	3	10	Total	
-->		Codes		87	88	89	90	91	92	93	94	95	96	97	98	87-98	1-44	67-86	122	Total	
	Agric. Labourers	4-6A	88	0	0	0	0	0	0	0	0	0	0	0	2	2		1368	0	1369	
	Small Farmers	4-6Ba	89	0	0	0	0	0	0	0	0	0	0	0	3	3		2807	0	2810	
Hou-	Medium Farmers	4-6Bb	90	0	0	0	0	0	0	0	0	0	0	0	2	2		2035	0	2037	
se-	Large Farmers	4-6Bc	91	0	0	0	0	0	0	0	0	0	0	0	2	2		3376	0	3378	
hold	Lower Non-agRural	4-6Ca	92	0	0	0	0	0	0	0	0	0	0	0	2	2		2603	0	2605	
Sub-	Econ.Inact. Rural	4-6Cb	93	7	15	17	104	38	1	42	5	0	9	73	0	312		130	0	442	
sec-	HigherNon-agRural	4-6D	94	0	0	0	0	0	0	0	0	0	0	194	1	195		1182	0	1377	
tors	Lower Non-agUrban	4-6Ea	95	0	0	0	0	0	0	0	0	0	0	0	1	1		3224	0	3225	
	Econ.Inact. Urban	4-6Eb	96	1	3	3	5	5	0	5	101	0	161	92	0	375		101	0	476	
	HigherNon-agUrban	4-6F	97	0	0	0	0	0	0	0	0	0	0	994	0	994		2440	0	3434	
Corporations		4-6G	98	0	0	0	0	0	0	0	0	0	0	62	0	62		9305	37	9405	
Government		4-6H	99	33	62	59	69	52	9	27	63	10	67	3286	749	4485	435	74	2	4996	
Total Agricultural Households				0	0	0	0	0	0	0	0	0	0	0	8	8	0	9585	0	9593	
Total Non-agric.Rural Households				7	15	17	104	38	1	42	5	0	9	267	3	509	0	3915	0	4424	
Total Non-agric.Urban Households				1	3	3	5	5	0	5	101	0	161	1086	1	1370	0	5764	0	7134	
Total Households				8	18	20	109	43	1	47	106	0	170	1353	13	1887	0	19264	0	21151	Average
Corporations and Government				33	62	59	69	52	9	27	63	10	67	3349	749	4547	435	9379	40	14401	Annual
PROPERTY INCOME, TAX & TRANSF.		4-6		41	80	80	177	95	10	74	169	10	236	4702	762	6435	435	28643	40	35553	PRICE
																					changes
Average Annual 'VOLUME' changes, 1975-'80 *)																					'75-'80
	Agric. Labourers	4-6A	88	-	-	-	-	-	-	-	-	-	-	-	19%	30%	-	6%	-	6.3%	16.0%
	Small Farmers	4-6Ba	89	-	-	-	-	-	-	-	-	-	-	-	24%	34%	-	9%	-	9.5%	16.1%
Hou-	Medium Farmers	4-6Bb	90	-	-	-	-	-	-	-	-	-	-	-	-	26%	-	-0%	-	-0.3%	16.1%
se-	Large Farmers	4-6Bc	91	-	-	-	-	-	-	-	-	-	-	-	16%	30%	-	1%	-	1.3%	15.8%
hold	Lower Non-agRural	4-6Ca	92	-	-	-	-	-	-	-	-	-	-	-	22%	30%	-	9%	-	9.5%	15.9%
Sub-	Econ.Inact. Rural	4-6Cb	93	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-	-5%	10%	24%	0%	-	17%	-	6.4%	15.9%
sec-	HigherNon-agRural	4-6D	94	-	-	-	-	-	-	-	-	-	-	8%	20%	8%	-	12%	-	11.8%	15.8%
tors	Lower Non-agUrban	4-6Ea	95	-	-	-	-	-	-	-	-	-	-	-	24%	68%	-	11%	-	11.0%	15.5%
	Econ.Inact. Urban	4-6Eb	96	4%	4%	4%	4%	4%	-	4%	4%	4%	4%	16%	30%	8%	-	25%	-	12.9%	15.5%
	HigherNon-agUrban	4-6F	97	-	-	-	-	-	-	-	-	-	-	12%	25%	12%	-	12%	-	12.1%	15.1%
Corporations		4-6G	98	-	-	-	-	-	-	-	-	-	-	-26%	-	-26%	-	15%	14%	15.3%	14.6%
Government		4-6H	99	6%	9%	-0%	1%	9%	6%	12%	11%	13%	12%	18%	9%	16%	-8%	15%	45%	15.2%	15.2%
Total Agricultural Households				-	-	-	-	-	-	-	-	-	-	-	19%	31%	-	4%	-	4.5%	16.0%
Total Non-agric.Rural Households				-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-	-5%	9%	22%	4%	-	11%	-	9.9%	15.9%
Total Non-agric.Urban Households				4%	4%	4%	4%	4%	-	4%	4%	4%	4%	13%	25%	11%	-	12%	-	11.7%	15.3%
Total Households				-3%	-3%	-3%	-4%	-3%	-5%	-4%	4%	4%	4%	12%	21%	10%	-	8%	-	8.3%	15.7%
Corporations and Government				6%	9%	-0%	1%	9%	6%	12%	11%	13%	12%	17%	9%	15%	-8%	15%	18%	15.3%	14.8%
PROPERTY INCOME,TAXES & TRANSFERS				5%	7%	-1%	-2%	5%	6%	3%	7%	13%	7%	16%	9%	14%	-8%	11%	19%	11.3%	15.3%
Average Annual 'PRICE' changes, 1975-'80																					
PROPERTY INCOME,TAXES & TRANSFERS				29.6%	29.8%	24.0%	16.3%	27.4%	36.0%	20.9%	16.9%	29.6%	13.9%	16.0%	15.3%	16.4%	3.6%	15.4%	14.6%	15.3%	

*) Volume changes of total income of corporations and government excluding volume change of intra-sectoral transfers.

TABLE A .8: Final CONSUMPTION expenditures of Household subsectors in Indonesia, 1975 at constant 1980 prices (bill.Rp.)+Average Annual Price and Volume Changes, '75-'80

	EXPENDITURES			Agricultural Households				Non-Agricultural Households						TOTAL	Average annual VOLUME changes, 1975-'80									TOTAL	Average annual, uniform PRICE changes
								Rural			Urban				Agricultural Households				Non-Agricultural Households							
																			Rural			Urban				
	RECEIPTS -->	SAM Codes		La-bourers 4-6A	Small Farmers 4-6Ba	Med. Farmers 4-6Bb	Large Farmers 4-6Bc	Lower Level 4-6Ca	Econ Inact 4-6Cb	Higher Level 4-6D	Lower Level 4-6Ea	Econ Inact 4-6Eb	Higher Level 4-6F	Column: 4-6	La-bourers	Small Farmers	Med. Farmers	Large Farmers	Lower Level	Econ Inact	Higher Level	Lower Level	Econ Inact.	Higher Level	Column: 4-6	
	Food Crops	1Aa	1	336	1070	717	901	461	108	220	289	43	243	4389	4%	2%	-8%	-5%	7%	2%	2%	8%	9%	3%	1%	16%
	Other Crops	1Ba	2	22	56	31	41	32	7	15	20	3	16	242	6%	7%	-1%	0%	8%	5%	5%	9%	9%	4%	5%	17%
D	Livestock Products	1Ab	3	38	101	85	130	74	19	57	91	15	131	741	11%	8%	-4%	1%	14%	5%	0%	20%	23%	7%	9%	17%
O	Forestry Products	1Bb	4	15	30	16	16	19	4	7	6	1	3	117	16%	20%	8%	10%	16%	13%	14%	11%	11%	12%	15%	16%
M	Fish	1Ac	5	53	112	79	124	112	24	66	120	17	107	815	7%	9%	-2%	5%	10%	3%	3%	9%	12%	6%	7%	15%
E	Oil, Gas, Metal Ores	1Ca	6	0	0	0	0	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--	--	--	--
S	Quarrying Products	1Cb	7	4	9	5	8	6	1	3	5	1	4	46	7%	12%	4%	4%	10%	8%	5%	5%	6%	0%	7%	15%
T	Processed Food	1Ad	8	547	824	413	595	876	131	370	836	114	576	5281	3%	9%	-1%	0%	5%	6%	2%	7%	10%	6%	5%	16%
I	WoodProd.&Construct.	1Cc	9	5	11	7	9	10	2	5	8	1	6	63	13%	17%	6%	13%	14%	10%	17%	20%	19%	19%	15%	15%
C	Textiles	1Cd	10	35	95	46	88	95	14	47	154	27	150	751	14%	12%	6%	3%	9%	12%	4%	4%	4%	-2%	6%	14%
	Paper&Metal Products	1Ce	11	32	49	34	65	87	20	73	119	30	243	752	3%	10%	-2%	-2%	8%	5%	4%	15%	16%	10%	9%	14%
	ChemicBasicMinerals	1Cf	12	33	61	36	53	62	13	32	87	14	83	475	15%	20%	9%	12%	17%	14%	14%	15%	16%	10%	14%	16%
P	Electric.,Gas&Water	1Cg	13	5	9	5	8	8	2	6	35	7	41	126	-6%	3%	-9%	-11%	2%	4%	-7%	9%	9%	1%	3%	12%
R	Trade & Transp.Serv.	1Da	14	0	0	0	0	0	0	0	0	0	0	0	--	88%	66%	61%	83%	--	69%	111%	94%	99%	93%	13%
O	Restaurant Services	1Db	15	67	105	43	52	125	16	44	284	46	169	951	12%	17%	5%	4%	13%	16%	9%	8%	10%	9%	10%	18%
D	Lodging	1Dc	16	0	1	1	2	2	0	2	3	1	4	17	9%	22%	4%	5%	25%	15%	31%	43%	41%	40%	33%	16%
U	Land Transport	1Dd	17	18	53	32	35	64	7	19	138	19	108	493	2%	-2%	-13%	-6%	4%	12%	13%	17%	23%	16%	11%	14%
C	OtherTransport&Comm.	1De	18	3	9	7	13	16	2	10	26	4	27	119	20%	16%	-0%	3%	16%	15%	20%	29%	30%	27%	22%	14%
T	Banking & Insurance	1Ea	19	1	2	3	5	6	1	5	8	1	10	42	32%	31%	16%	12%	23%	18%	25%	39%	35%	33%	30%	15%
S	RealEstate&Buss.Serv.	1Eb	20	54	113	68	84	93	23	48	183	46	237	949	12%	14%	3%	8%	15%	6%	8%	20%	15%	12%	13%	15%
	Gov.mt,Soc&Recr.Serv.	1Ec	21	35	60	39	60	76	13	42	169	25	174	693	6%	12%	-3%	-4%	9%	8%	11%	11%	18%	11%	9%	16%
	Person.&Househ.Serv.	1Df	22	37	70	42	61	70	12	39	91	17	104	543	5%	7%	-5%	-0%	2%	7%	-0%	14%	16%	12%	7%	13%
	Food Crops	1Fa	23	6	15	13	16	11	2	8	12	2	13	98	-9%	-10%	-26%	-23%	-14%	-16%	-25%	-16%	-16%	-25%	-18%	27%
	Other Crops	1Ga	24	0	1	0	1	1	0	0	1	0	0	5	-7%	-3%	-10%	-16%	-4%	-6%	-8%	-7%	-8%	-13%	-8%	17%
I	Livestock Products	1Fb	25	0	0	0	0	0	0	0	0	0	0	3	5%	5%	-6%	-1%	13%	4%	-2%	22%	21%	8%	7%	15%
M	Forestry Products	1Gb	26	0	0	0	0	0	0	0	0	0	0	0	-20%	-15%	-21%	-24%	-7%	--	-19%	-6%	--	-11%	-14%	15%
P	Fish	1Fc	27	0	0	0	0	0	0	0	0	0	0	0	28%	32%	28%	26%	30%	--	25%	26%	--	21%	28%	16%
O	Oil, Gas, Metal Ores	1Ha	28	0	0	0	0	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--	--	--	--
R	Quarrying Products	1Hb	29	1	2	1	2	1	0	1	1	0	1	9	--	--	--	--	--	--	--	--	--	--	--	--
T	Processed Food	1Fd	30	32	43	20	30	50	7	21	44	6	32	285	12%	21%	11%	12%	15%	17%	12%	17%	21%	16%	16%	12%
E	WoodProd.&Construct.	1Hc	31	0	1	0	1	1	0	0	0	0	0	3	-11%	-7%	-17%	-12%	-10%	-12%	-6%	-4%	-7%	-7%	-9%	17%
D	Textiles	1Hd	32	3	6	3	6	6	1	3	8	1	8	44	2%	5%	-1%	-6%	4%	6%	-0%	1%	1%	-4%	0%	14%
	Paper&Metal Products	1He	33	10	15	10	23	30	7	28	70	19	100	313	-2%	9%	-2%	-8%	-4%	-7%	-8%	-4%	-4%	-9%	-5%	13%
	ChemicBasicMinerals	1Hf	34	13	22	13	22	24	5	13	34	6	34	185	11%	19%	8%	5%	16%	9%	9%	15%	14%	6%	12%	12%
P	Electric.,Gas&Water	1Hg	35	0	0	0	0	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--	--	--	--
R	Trade & Transp.Serv.	1Ia	36	0	0	0	0	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--	--	--	--
O	Restaurant Services	1Ib	37	1	2	1	1	2	0	1	5	1	3	16	22%	27%	15%	14%	22%	26%	19%	17%	19%	19%	20%	13%
D	Lodging	1Ic	38	0	1	1	1	2	0	1	2	0	3	12	9%	22%	3%	5%	25%	14%	31%	43%	40%	40%	32%	13%
U	Land Transport	1Id	39	1	3	2	2	4	0	1	8	1	7	30	-26%	-30%	-41%	-35%	-25%	-17%	-15%	-11%	-5%	-12%	-17%	14%
C	OtherTransport&Comm.	1Ie	40	1	4	3	5	7	1	4	12	2	11	50	-3%	-5%	-19%	-15%	-1%	-3%	7%	13%	14%	12%	6%	14%
T	Banking & Insurance	1Ja	41	0	0	0	0	0	0	0	0	0	0	1	25%	55%	25%	32%	54%	34%	57%	67%	66%	67%	59%	13%
S	RealEstate&Buss.Serv.	1Jb	42	0	0	0	0	0	0	0	0	0	0	0	--	--	--	--	--	--	--	--	--	--	--	--
	Gov.mt,Soc&Recr.Serv.	1Jc	43	0	1	1	1	2	0	1	3	0	4	13	9%	10%	-13%	-19%	-0%	-1%	-4%	8%	16%	-2%	1%	12%
	Person.&Househ.Serv.	1If	44	3	4	2	7	4	1	2	5	1	5	34	2%	14%	10%	-7%	4%	-2%	2%	1%	14%	9%	5%	14%
Total Domestic		1A-1E	1-22	1341	2841	1709	2349	2293	421	1111	2674	432	2435	17605	6%	8%	-3%	-0%	8%	6%	5%	11%	14%	9%	7%	15.7%
Total Imported		1F-1J	23-44	72	119	70	118	143	26	84	206	40	222	1101	8%	14%	2%	1%	9%	6%	4%	9%	8%	4%	7%	13.6%
TOTAL		Row:1	1-44	1413	2959	1780	2467	2436	448	1194	2880	473	2657	18706	6%	8%	-3%	-0%	8%	6%	5%	11%	13%	8%	7%	15.6%
														Average annual PRICE change, 1975-'80:	15.7%	15.8%	15.8%	15.7%	15.6%	15.6%	15.5%	15.4%	15.3%	15.2%	15.6%	
														HOUSEHOLD-GROUP SPECIFIC CONSUMER PRICE INDEX(CPI) 1980 (1975=100):	219.8	220.2	220.4	219.6	218.2	218.3	217.3	216.2	214.8	213.8	217.9	

TABLE A .9: TOTAL OUTLAYS of Subsectors in Indonesia, 1975 at constant 1980 prices (billions of Rupiah)

EXPENDITURES			Agricultural Households				Non-Agricultural Households						Cor-	Go-	Households				TOTAL
			La-	Small	Medium	Large	Rural			Urban			po-	vern-	Agri-	Non-	Non-	Total	
			bou-	Far-	Far-	Far-	Lower	Econ	Higher	Lower	Econ	Higher	ra-	ment	cul-	Agric.	Agric.		
RECEIPTS		SAM	rers	mers	mers	mers	Level	Inact	Level	Level	Inact	Level	tions		ture	Rural	Urban		Column:
-->		Codes	4-6A	4-6Ba	4-6Bb	4-6Bc	4-6Ca	4-6Cb	4-6D	4-6Ea	4-6Eb	4-6F	4-6G	4-6H	4-6AB	4-6CD	4-6EF	4-6A-F	4-6
			87	88	89	90	91	92	93	94	95	96	97	98	87-90	91-93	94-96	87-96	87-98
	Food Crops	1A&Fa	341	1085	730	917	473	111	228	301	45	256		0	3074	811	602	4487	4487
	Other Crops	1B&Ga	23	56	32	42	32	7	15	21	3	16		0	153	54	40	247	247
F	Livestock Products	1A&Fb	38	102	85	130	75	19	58	92	15	131		0	354	152	238	744	744
I	Forestry Products	1B&Gb	15	30	16	16	19	4	7	6	1	3		0	77	30	10	117	117
N	Fish	1A&Fc	53	112	79	124	112	24	66	120	17	107		0	369	203	244	815	815
A	Oil, Gas, Metal Ores	1C&Ha	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
L	Quarrying Products	1C&Hb	5	11	6	10	7	1	4	6	1	4		0	32	12	11	55	55
	Processed Food	1A&Fd	578	867	433	625	926	138	391	881	120	608		0	2503	1454	1609	5566	5566
C	WoodProd.&Construct.	1C&Hc	5	12	7	9	10	2	5	8	2	6		0	34	17	16	66	66
O	Textiles	1C&Hd	37	101	49	94	101	15	50	162	28	158		0	281	166	348	795	795
N	Paper&Metal Products	1C&He	42	64	44	88	117	27	101	189	50	343		0	238	245	582	1065	1065
S	Chemic&BasicMinerals	1C&Hf	47	83	48	75	86	19	45	121	20	117		0	253	150	258	660	660
U	Electric.,Gas&Water	1D&Hg	5	9	5	8	8	2	6	35	7	41		0	27	16	83	126	126
M	Trade & Transp.Serv.	1D&Ia	0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
P	Restaurant Services	1D&Ib	68	107	44	53	127	16	45	289	47	172		0	272	188	507	967	967
T	Lodging	1D&Ic	1	2	2	3	4	1	3	5	1	7		0	8	8	13	28	28
I	Land Transport	1D&Id	19	57	34	37	67	8	20	147	20	114		0	147	96	281	523	523
O	OtherTransport&Comm.	1D&Ie	5	13	11	18	23	3	14	38	6	39		0	46	41	83	169	169
N	Banking & Insurance	1E&Ja	1	2	3	5	6	1	5	8	1	10		0	11	12	20	43	43
	RealEstate&Buss.Serv.	1E&Jb	54	113	68	84	93	23	48	183	46	237		0	319	164	466	949	949
	Gov.mt,Soc&Recr.Serv.	1E&Jc	35	61	40	61	77	13	43	172	26	178		2984	197	134	376	706	3690
	Person.&Househ.Serv.	1D&If	40	74	44	67	74	13	41	97	18	109		0	226	128	223	578	578
TOTAL Consumption		1	1-44	1413	2959	1780	2467	2436	448	1194	2880	473	2657		2984	8619	4078	6009	18706	21690
PropertyOutl&Transfers		4-6	88-99	41	80	80	177	95	10	74	169	10	236	4702	762	378	178	415	971	6435
SAVING		7,11	100	-84	-230	177	733	74	-15	109	176	-6	541	3396	1156	596	167	711	1474	6027
Prop. Outl. & Trans. to ROW		10	123	0	0	0	0	0	0	0	0	0	0	1307	94	0	0	0	0	1401
TOTAL OUTLAYS		Total	Total	1369	2810	2037	3378	2605	442	1377	3225	476	3434	9405	4996	9593	4424	7134	21151	35553
Average Annual 'VOLUME' Changes, '75-'80																			
Total Consumption		1	1-44	6%	8%	-3%	-0%	8%	6%	5%	11%	13%	8%		11%	4%	7%	10%	7%	7%
Property Outl. & Transfers		4-6	88-99	5%	7%	-1%	-2%	5%	6%	3%	7%	13%	7%	16%	9%	1%	4%	7%	4%	14%
Saving		7,11	100	6%	38%	16%	6%	33%	-2%	42%	12%	-23%	25%	15%	22%	16%	40%	23%	23%	19%
Prop.Outl. & Trans. to ROW		10	123	-	-	-	-	-	-	-	-	-	-	13%	31%	-	-	-	-	15%
TOTAL OUTLAYS		Total	Total	6%	9%	-0%	1%	9%	6%	12%	11%	13%	12%	15%	14%	4%	10%	12%	8%	11%
Average Annual 'PRICE' Changes, '75-'80																			
Total Consumption		1	1-44	16%	16%	16%	16%	16%	16%	16%	15%	15%	15%		16%	16%	16%	15%	16%	16%
Property Outl. & Transfers		4-6	88-99	30%	30%	24%	16%	27%	36%	21%	17%	30%	14%	16%	15%	21%	25%	15%	19%	16%
Saving		7,11	100	16%	16%	16%	16%	16%	16%	16%	16%	15%	15%	14%	14%	16%	16%	15%	15%	15%
Prop.Outl. & Trans. to ROW		10	123	-	-	-	-	-	-	-	-	-	-	11%	11%	-	-	-	-	11%
TOTAL OUTLAYS		Total	Total	16%	16%	16%	16%	16%	16%	16%	16%	15%	15%	15%	15%	16%	16%	15%	16%	15%

TABLE A .10: Capital, Fixed Capital Formation and Rest-of-the-World accounts for Indonesia, 1975 at constant 1980 prices(bill. Rp.) + average annual Volume changes, 1975-'80

EXPENDITURES				GOODS AND SERVICES	INCOME GENERATION	INCOME DISTRIBUTION AND USE	CAPITAL All Sectors & Rest of the World	FIXED CAPITAL FORMATION	REST OF THE WORLD Current	TOTAL
RECEIPTS -->		Codes		1 1-44	3 67-86	4-6 87-98	7,11 99	8 100-121	10 122	
GOODS AND SERVICES		1	1-46				445	6512	10528	
INCOME GENERATION		3	69-87						0	
INCOME DISTRIBUTION AND USE		4-6	88-99						40	
CAPITAL,All Sectors+Rest of World		7,11	100			6027			930	6957
		Food Crops Cultivation	8Ab 101				222			222
		Other Crops Cultivation	8Ba 102				72			72
		Livestock	8Ab 103				11			11
		Forestry	8Bb 104				45			45
		Fishery	8Ac 105				37			37
		Oil,Gas,Metals Mining	8Ca 106				853			853
FI-	I	Quarrying	8Cb 107				10			10
XED	N	Food Processing	8Ad 108				223			223
	D	WoodProdConstruction	8Cc 109				206			206
CA-	U	Textile Manufacturing	8Cd 110				156			156
PI-	S	Paper&MetalProdManuf.	8Ce 111				283			283
TAL	T	Chem.&MineralsManuf.	8Cf 112				219			219
	R	Utilities	8Cg 113				597			597
FOR-	I	Trade & Transp.Serv.	8Da 114				181			181
MA-	E	Restaurant	8Db 115				124			124
TION	S	Hotel	8Dc 116				51			51
		Land Transport	8Dd 117				788			788
		OtherTransport&Comm.	8De 118				875			875
		Banking & Insurance	8Ea 119				53			53
		RealEstate&Buss.Serv.	8Eb 120				994			994
		Gov.mt,Soc&Recr.Serv.	8Ec 121				470			470
		Person.&Househ.Serv.	8Df 122				42			42
	TOTAL		8 101-122				6512			6512
REST OF THE WORLD, Current		10	123	5651	4447	1400				11498
TOTAL							6957	6512	11498	

GOODS AND SERVICES	INCOME GENERATION	INCOME DISTRIBUTION AND USE	CAPITAL All Sectors & Rest of the World	FIXED CAPITAL FORMATION	REST OF THE WORLD Current	TOTAL
1 1-44	3 67-86	4-6 87-98	7,11 99	8 100-121	10 122	
			23%	10%	9%	
					-	
					19%	
		19%			-	11%
			8%			8%
			25%			25%
			37%			37%
			24%			24%
			19%			19%
			9%			9%
			37%			37%
			-6%			-6%
			14%			14%
			10%			10%
			5%			5%
			14%			14%
			-6%			-6%
			-2%			-2%
			1%			1%
			17%			17%
			4%			4%
			-4%			-4%
			12%			12%
			16%			16%
			25%			25%
			10%			10%
			10%			10%
11%	-	15%				2%
			11%	10%	2%	

TABLE A .11: Origin of GROSS FIXED CAPITAL FORMATION in Indonesia, 1975 at constant 1980 prices (billions of Rupiah) and average annual Price and Volume changes, 1975-'80

EXPENDITURE			Food Crops Cult.	Other Crops Cult.	Live-stock	Fores-try	Fish-ery	Oil, Gas, Mining	Qua-rry-ing	Food Pro-cess	WoodPr & Con-struc.	Tex-tile	Paper& Metal Prod.	Chem. Basic Miner.	Uti-li-ties	Trade &Trnas-p.Serv	Res-tau-rant	Ho-tel	Land Trans-port	Other Trans-port	Fi-nan-ce	Real Est.& B.Serv	Govern ment, etc.	Pers. & Hh. Serv.	TOTAL Column 8
Codes			8Aa	8Ba	8Ab	8Bb	8Ac	8Ca	8Cb	8Ad	8Cc	8Cd	8Ce	8Cf	8Cg	8Da	8Db	8Dc	8Dd	8De	8Ea	8Eb	8Ec	8Df	
			100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	100-121
Dom. WoodProd.&Construct.	1Cc	9	197	51	10	21	7	239	1	31	31	15	19	33	440	115	23	12	523	565	29	956	393	10	3720
Dom. Paper&Metal Products	1Ce	11	2	10	0	11	9	51	2	17	8	12	7	15	57	42	54	28	220	60	11	30	29	5	681
Imp. Paper&Metal Products	1He	33	23	10	1	13	20	563	7	175	167	130	256	171	100	24	48	11	45	251	12	8	48	26	2110
TOTAL	Row:1	1-44	222	72	11	45	37	853	10	223	206	156	283	219	597	181	124	51	788	875	53	994	470	42	6512
Average annual VOLUME changes, 1975-'80																									
Dom. Wood Prod. & Constru	1Cc	9	7%	28%	38%	31%	31%	13%	74%	14%	28%	33%	37%	37%	-9%	-6%	25%	39%	0%	-11%	18%	17%	25%	12%	12%
Dom. Paper & Metal Product	1Ce	11	18%	18%	18%	18%	18%	11%	26%	-8%	15%	10%	2%	8%	4%	4%	-12%	-1%	11%	7%	-1%	1%	24%	13%	8%
Imp. Paper & Metal Product	1He	33	13%	13%	13%	13%	13%	7%	21%	-13%	11%	5%	-3%	3%	-0%	-0%	-17%	-5%	6%	3%	-5%	-4%	20%	8%	4%
TOTAL	Row:1	1-44	8%	25%	37%	24%	19%	9%	37%	-6%	14%	10%	5%	14%	-6%	-2%	1%	17%	4%	-4%	12%	16%	25%	10%	10%
Average annual PRICE changes, 1975-'80																									
TOTAL	Row:1	1-44	14%	14%	15%	14%	14%	13%	13%	13%	13%	13%	13%	13%	14%	14%	14%	14%	14%	14%	14%	15%	14%	14%	14%

Statistics Netherlands
National Accounts Occasional Papers

NA/01 Flexibility in the system of National Accounts, Van Eck, R., C.N. Gorter and H.K. van Tuinen (1983).
This paper sets out some of the main ideas of what gradually developed into the Dutch view on the fourth revision of the SNA. In particular it focuses on the validity and even desirability of the inclusion of a number of carefully chosen alternative definitions in the "Blue Book", and the organization of a flexible system starting from a core that is easier to understand than the 1968 SNA.

NA/02 The unobserved economy and the National Accounts in the Netherlands, a sensitivity analysis, Broesterhuizen, G.A.A.M. (1983).
This paper studies the influence of fraud on macro-economic statistics, especially GDP. The term "fraud" is used as meaning unreporting or underreporting income (e.g. to the tax authorities). The conclusion of the analysis of growth figures is that a bias in the growth of GDP of more than 0.5% is very unlikely.

NA/03 Secondary activities and the National Accounts: Aspects of the Dutch measurement practice and its effects on the unofficial economy, Van Eck, R. (1985).
In the process of estimating national product and other variables in the National Accounts a number of methods is used to obtain initial estimates for each economic activity. These methods are described and for each method various possibilities for distortion are considered.

NA/04 Comparability of input-output tables in time, Al, P.G. and G.A.A.M. Broesterhuizen (1985).
It is argued that the comparability in time of statistics, and input-output tables in particular, can be filled in in various ways. The way in which it is filled depends on the structure and object of the statistics concerned. In this respect it is important to differentiate between coordinated input-output tables, in which groups of units (industries) are divided into rows and columns, and analytical input-output tables, in which the rows and columns refer to homogeneous activities.

NA/05 The use of chain indices for deflating the National Accounts, Al, P.G., B.M. Balk, S. de Boer and G.P. den Bakker (1985).
This paper is devoted to the problem of deflating National Accounts and input-output tables. This problem is approached from the theoretical as well as from the practical side. Although the theoretical argument favors the use of chained Vartia-I indices, the current practice of compilating National Accounts restricts to using chained Paasche and Laspeyres indices. Various possible objections to the use of chained indices are discussed and rejected.

NA/06 Revision of the system of National Accounts: the case for flexibility, Van Bochove, C.A. and H.K. van Tuinen (1985).
It is argued that the structure of the SNA should be made more flexible. This can be achieved by means of a system of a general purpose core supplemented with special modules. This core is a fully fledged, detailed system of National Accounts with a greater institutional content than the present SNA and a more elaborate description of the economy at the meso-level. The modules are more analytic and reflect special purposes and specific theoretical views.

NA/07 Integration of input-output tables and sector accounts; a possible solution, Van den Bos, C. (1985).
The establishment-enterprise problem is tackled by taking the institutional sectors to which the establishments belong into account during the construction of input-output tables. The extra burden on the construction of input-output tables resulting from this approach is examined for the Dutch situation. An adapted sectoring of institutional units is proposed for the construction of input-output tables.

NA/08 A note on Dutch National Accounting data 1900-1984, Van Bochove, C.A. (1985).
This note provides a brief survey of Dutch national accounting data for 1900-1984, concentrating on national income. It indicates where these data can be found and what the major discontinuities are. The note concludes that estimates of the level of national income may contain inaccuracies; that its growth rate is measured accurately for the period since 1948; and that the real income growth rate series for 1900-1984 may contain a systematic bias.

NA/09 The structure of the next SNA: review of the basic options, Van Bochove, C.A. and A.M. Bloem (1985).
There are two basic issues with respect to the structure of the next version of the UN System of National Accounts. The first is its 'size': reviewing this issue, it can be concluded that the next SNA should contain an integrated meso-economic statistical system. It is essential that the next SNA contains an institutional system without the imputations and attributions that pollute the present SNA. This can be achieved by distinguishing, in the central system of the next SNA, a core (the institutional system), a standard module for non-market production and a standard module describing attributed income and consumption of the household sector.

NA/10 Dual sectoring in National Accounts, Al, P.G. (1985).
Following a conceptual explanation of dual sectoring, an outline is given of a statistical system with complete dual sectoring in which the linkages are also defined and worked out. It is shown that the SNA 1968 is incomplete and obscure with respect to the links between the two sub-processes.

NA/11 Backward and forward linkages with an application to the Dutch agro-industrial complex, Harthoorn, R. (1985).
Some industries induce production in other industries. An elegant method is developed for calculating forward and backward linkages avoiding double counting. For 1981 these methods have been applied to determine the influence of Dutch agriculture in the Dutch economy in terms of value added and labour force.

NA/12 Production chains, Harthoorn, R. (1986).
This paper introduces the notion of production chains as a measure of the hierarchy of industries in the production process. Production chains are sequences of transformation of products by successive industries. It is possible to calculate forward transformations as well as backward ones.

NA/13 The simultaneous compilation of current price and deflated input-output tables, De Boer, S. and G.A.A.M. Broesterhuizen (1986).
A few years ago the method of compiling input-output tables underwent in the Netherlands an essential revision. The most significant improvement is that during the entire statistical process, from the processing and analysis of the basic data up to and including the phase of balancing the tables, data in current prices and deflated data are obtained simultaneously and in consistency with each other.

NA/14 A proposal for the synoptic structure of the next SNA, Al, P.G. and C.A. van Bochove (1986).

NA/15 Features of the hidden economy in the Netherlands, Van Eck, R. and B. Kazemier (1986).
This paper presents survey results on the size and structure of the hidden labour market in the Netherlands.

NA/16 Uncovering hidden income distributions: the Dutch approach, Van Bochove, C.A. (1987).

NA/17 Main national accounting series 1900-1986, Van Bochove, C.A. and T.A. Huitker (1987).
The main national accounting series for the Netherlands, 1900-1986, are provided, along with a brief explanation.

NA/18 The Dutch economy, 1921-1939 and 1969-1985. A comparison based on revised macro-economic data for the interwar period, Den Bakker, G.P., T.A. Huitker and C.A. van Bochove (1987).
A set of macro-economic time series for the Netherlands 1921-1939 is presented. The new series differ considerably from the data that had been published before. They are also more comprehensive, more detailed, and conceptually consistent with the modern National Accounts. The macro-economic developments that are shown by the new series are discussed. It turns out that the traditional economic-historical view of the Dutch economy has to be reversed.

NA/19 Constant wealth national income: accounting for war damage with an application to the Netherlands, 1940-1945, Van Bochove, C.A. and W. van Sorge (1987).

NA/20 The micro-meso-macro linkage for business in an SNA-compatible system of economic statistics, Van Bochove, C.A. (1987).

NA/21 Micro-macro link for government, Bloem, A.M. (1987).
This paper describes the way the link between the statistics on government finance and national accounts is provided for in the Dutch government finance statistics.

NA/22 Some extensions of the static open Leontief model, Harthoorn, R.(1987).
The results of input-output analysis are invariant for a transformation of the system of units. Such transformation can be used to derive the Leontief price model, for forecasting input-output tables and for the calculation of cumulative factor costs. Finally the series expansion of the Leontief inverse is used to describe how certain economic processes are spread out over time.

NA/23 Compilation of household sector accounts in the Netherlands National Accounts, Van der Laan, P. (1987).
This paper provides a concise description of the way in which household sector accounts are compiled within the Netherlands National Accounts. Special attention is paid to differences with the recommendations in the United Nations System of National Accounts (SNA).

NA/24 On the adjustment of tables with Lagrange multipliers, Harthoorn, R. and J. van Dalen (1987).
An efficient variant of the Lagrange method is given, which uses no more computer time and central memory then the widely used RAS method. Also some special cases are discussed: the adjustment of row sums and column sums, additional restraints, mutual connections between tables and three dimensional tables.

NA/25 The methodology of the Dutch system of quarterly accounts, Janssen, R.J.A. and S.B. Algera (1988).
In this paper a description is given of the Dutch system of quarterly national accounts. The backbone of the method is the compilation of a quarterly input-output table by integrating short-term economic statistics.

NA/26 Imputations and re-routeings in the National Accounts, Gorter, Cor N. (1988).
Starting out from a definition of 'actual' transactions an inventory of all imputations and re-routeings in the SNA is made. It is discussed which of those should be retained in the core of a flexible system of National Accounts. Conceptual and practical questions of presentation are brought up. Numerical examples are given.

NA/27 Registration of trade in services and market valuation of imports and exports in the National Accounts, Bos, Frits (1988).
The registration of external trade transactions in the main tables of the National Accounts should be based on invoice value; this is not only conceptually very attractive, but also suitable for data collection purposes.

NA/28 The institutional sector classification, Van den Bos, C. (1988).
A background paper on the conceptual side of the grouping of financing units. A limited number of criteria are formulated.

NA/29 The concept of (transactor-)units in the National Accounts and in the basic system of economic statistics, Bloem, Adriaan M. (1989).
Units in legal-administrative reality are often not suitable as statistical units in describing economic processes. Some transformation of legal-administrative units into economic statistical units is needed. This paper examines this transformation and furnishes definitions of economic statistical units. Proper definitions are especially important because of the forthcoming revision of the SNA.

NA/30 Regional income concepts, Bloem, Adriaan M. and Bas De Vet (1989).
In this paper, the conceptual and statistical problems involved in the regionalization of national accounting variables are discussed. Examples are the regionalization of Gross Domestic Product, Gross National Income, Disposable National Income and Total Income of the Population.

NA/31 The use of tendency surveys in extrapolating National Accounts, Oudde-ken, Frank and Gerrit Zijlmans (1989).
This paper discusses the feasibility of the use of tendency survey data in the compilation of very timely Quarterly Accounts. Some preliminary estimates of relations between tendency survey data and regular Quarterly Accounts-indicators are also presented.

NA/32 An economic core system and the socio-economic accounts module for the Netherlands, Gorter, Cor N. and Paul van der Laan (1989).
A discussion of the core and various types of modules in an overall system of economy related statistics. Special attention is paid to the Dutch Socio-economic Accounts. Tables and figures for the Netherlands are added.

NA/33 A systems view on concepts of income in the National Accounts, Bos, Frits (1989).
In this paper, concepts of income are explicitly linked to the purposes of use and to actual circumstances. Main choices in defining income are presented in a general system. The National Accounts is a multi-purpose framework. It should therefore contain several concepts of income, e.g. differing with respect to the production boundary. Furthermore, concepts of national income do not necessarily constitute an aggregation of income at a micro-level.

NA/34 How to treat borrowing and leasing in the next SNA, Keuning, Steven J. (1990).
The use of services related to borrowing money, leasing capital goods, and renting land should not be considered as intermediate inputs into specific production processes. It is argued that the way of recording the use of financial services in the present SNA should remain largely intact.

NA/35 A summary description of sources and methods used in compiling the final estimates of Dutch National Income 1986, Gorter, Cor N. and others (1990).
Translation of the inventory report submitted to the GNP Management Committee of the European Communities.

NA/36 The registration of processing in supply and use tables and input-output tables, Bloem, Adriaan M., Sake De Boer and Pieter Wind (1993).
The registration of processing is discussed primarily with regard to its effects on input-output-type tables and input-output quotes. Links between National Accounts and basic statistics, user demands and international guidelines are examined. Net recording is in general to be preferred. An exception has to be made when processing amounts to a complete production process, e.g. oil refineries in the Netherlands.

NA/37 A proposal for a SAM which fits into the next System of National Accounts, Keuning, Steven J. (1990).
This paper shows that all flow accounts which may become part of the next System of National Accounts can be embedded easily in a Social Accounting Matrix (SAM). In fact, for many purposes a SAM format may be preferred to the traditional T-accounts for the institutional sectors, since it allows for more flexibility in selecting relevant classifications and valuation principles.

NA/38 Net versus gross National Income, Bos, Frits (1990).
In practice, gross figures of Domestic Product, National Product and National Income are most often preferred to net figures. In this paper, this practice is challenged. Conceptual issues and the reliability of capital consumption estimates are discussed.

NA/39 Concealed interest income of households in the Netherlands; 1977, 1979 and 1981, Kazemier, Brugt (1990).
The major problem in estimating the size of hidden income is that total income, reported plus unreported, is unknown. However, this is not the case with total interest income of households in the Netherlands. This makes it possible to estimate at least the order of magnitude of this part of hidden income. In this paper it will be shown that in 1977, 1979 and 1981 almost 50% of total interest received by households was concealed.

NA/40 Who came off worst: Structural change of Dutch value added and employment during the interwar period, Den Bakker, Gert P. and Jan de Gijt (1990).
In this paper new data for the interwar period are presented. The distribution of value added over industries and a break-down of value added into components is given. Employment by industry is estimated as well. Moreover, structural changes during the interwar years and in the more recent past are juxtaposed.

NA/41 The supply of hidden labour in the Netherlands: a model, Kazemier, Brugt and Rob van Eck (1990).
This paper presents a model of the supply of hidden labour in the Netherlands. Model simulations show that the supply of hidden labour is not very sensitive to cyclical fluctuations. A tax exempt of 1500 guilders for second jobs and a higher probability of detection, however, may substantially decrease the magnitude of the hidden labour market.

NA/42 Benefits from productivity growth and the distribution of income, Keuning, Steven J. (1990).
This paper contains a discussion on the measurement of multifactor productivity and sketches a framework for analyzing the relation between productivity changes and changes in the average factor remuneration rate by industry. Subsequently, the effects on the average wage rate by labour category and the household primary income distribution are studied.

NA/43 Valuation principles in supply and use tables and in the sectoral accounts, Keuning, Steven J. (1991).
In many instances, the valuation of transactions in goods and services in the national accounts poses a problem. The main reason is that the price paid by the purchaser deviates from the price received by the producers. The paper discusses these problems and demonstrates that different valuations should be used in the supply and use tables and in the sectoral accounts.

NA/44 The choice of index number formulae and weights in the National Accounts. A sensitivity analysis based on macro-economic data for the interwar period, Bakker, Gert P. den (1991).
The sensitivity of growth estimates to variations in index number formulae and weighting procedures is discussed. The calculations concern the macro-economic variables for the interwar period in the Netherlands. It appears, that the use of different formulae and weights yields large differences in growth rates. Comparisons of Gross Domestic Product growth rates among countries are presently obscured by the use of different deflation methods. There exists an urgent need for standardization of deflation methods at the international level.

NA/45 Volume measurement of government output in the Netherlands; some alternatives, Kazemier, Brugt (1991).
This paper discusses three alternative methods for the measurement of the production volume of government. All methods yield almost similar results: the average annual increase in the last two decades of government labour productivity is about 0.7 percent per full-time worker equivalent. The implementation of either one of these methods would have led to circa 0.1 percentage points higher estimates of economic growth in the Netherlands.

NA/46 An environmental module and the complete system of national accounts, Boo, Abram J. De, Peter R. Bosch, Cor N. Gorter and Steven J. Keuning (1991).
A linkage between environmental data and the National Accounts is often limited to the production accounts. This paper argues that the consequences of economic actions on ecosystems and vice versa should be considered in terms of the complete System of National Accounts (SNA). One should begin with relating volume flows of environmental matter to the standard economic accounts. For this purpose, a so-called National Accounting Matrix including Environmental Accounts (NAMEA) is proposed. This is illustrated with an example.

NA/47 Deregulation and economic statistics: Europe 1992, Bos, Frits (1992).
The consequences of deregulation for economic statistics are discussed with a view to Europe 1992. In particular, the effects of the introduction of the Intrastat-system for statistics on international trade are investigated. It is argued that if the Statistical Offices of the EC-countries do not respond adequately, Europe 1992 will lead to a deterioration of economic statistics: they will become less reliable, less cost effective and less balanced.

NA/48 The history of national accounting, Bos, Frits (1992).
At present, the national accounts in most countries are compiled on the basis of concepts and classifications recommended in the 1968-United Nations guidelines. In this paper, we trace the historical roots of these guidelines (e.g. the work by King, Petty, Kuznets, Keynes, Leontief, Frisch, Tinbergen and Stone), compare the subsequent guidelines and discuss also alternative accounting systems like extended accounts and SAMs.

NA/49 Quality assessment of macroeconomic figures: The Dutch Quarterly Flash, Reininga, Ted, Gerrit Zijlmans and Ron Janssen (1992).
Since 1989-IV, the Dutch Central Bureau of Statistics has made preliminary estimates of quarterly macroeconomic figures at about 8 weeks after the end of the reference quarter. Since 1991-II, a preliminary or "Flash" estimate of GDP has been published. The decision to do so was based on a study comparing the Flash estimates and the regular Quarterly Accounts figures, which have a 17-week delay. This paper reports on a similar study with figures through 1991-III.

NA/50 Quality improvement of the Dutch Quarterly Flash: A Time Series Analysis of some Service Industries, Reininga, Ted and Gerrit Zijlmans (1992).
The Dutch Quarterly Flash (QF) is, just like the regular Quarterly Accounts (QA), a fully integrated statistic based on a quarterly updated input-output table. Not all short term statistics used to update the QA's IO-table are timely enough to be of use for the QF, so other sources have to be found or forecasts have to be made. In large parts of the service industry the latter is the only possibility. This paper reports on the use of econometric techniques (viz. series decomposition and ARIMA modelling) to improve the quality of the forecasts in five parts of the service industry.

NA/51 A Research and Development Module supplementing the National Accounts, Bos, Frits, Hugo Hollanders and Steven Keuning (1992).
This paper presents a national accounts framework fully tailored to a description of the role of Research and Development (R&D) in the national economy. The framework facilitates to draw macro-economic conclusions from all kinds of data on R&D (also micro-data and qualitative information). Figures presented in this way can serve as a data base for modelling the role of R&D in the national economy.

NA/52 The allocation of time in the Netherlands in the context of the SNA; a module, Kazemier, Brugt and Jeanet Exel (1992).
This paper presents a module on informal production, supplementing the National Accounts. Its purpose is to incorporate informal production into the concepts of the SNA. The relation between formal and informal production is shown in the framework of a Social Accounting Matrix (SAM). To avoid a controversial valuation of informal production, the module constists of two SAMs. One expressed in actual prices with informal labour valued zero, and one which expresses the embedded informal labour input measured in terms of hours worked.

NA/53 National Accounts and the environment: the case for a system's approach, Keuning, Steven J. (1992).
The present set of main economic indicators should be extended with one or a few indicators on the state of the environment. This paper lists various reasons why a so-called Green Domestic Product is not suitable for this purpose. Instead, a system's approach should be followed. A National Accounting Matrix including Environmental Accounts (NAMEA) is presented and the way to derive one or more separate indicators on the environment from this information system is outlined.

NA/54 How to treat multi-regional units and the extra-territorial region in the Regional Accounts?, De Vet, Bas (1992).
This paper discusses the regionalization of production and capital formation by multi-regional kind-of-activity units. It also examines the circumstances in which a unit may be said to have a local kind-of-activity unit in the extra-territorial region and what should be attributed to this "region".

NA/55 A historical Social Accounting Matrix for the Netherlands (1938), Den Bakker, Gert P., Jan de Gijt and Steven J. Keuning (1992).
This paper presents a Social Accounting Matrix (SAM) for the Netherlands in 1938, including related, non-monetary tables on demographic characteristics, employment, etc. The distribution of income and expenditure among household subgroups in the 1938 SAM is compared with concomittant data for 1987.

NA/56 Origin and development of the Dutch National Accounts, Den Bakker, Gert P. (1992).
This paper describes the history of national accounting in the Netherlands. After two early estimates in the beginning of the nineteenth century, modern national accounting started in the 1930s on behalf of the Tinbergen model for the Dutch economy. The development spurred up after World War II to provide data to the government for economic planning purposes. In the 1980s, the development was towards a flexible and institutional approach.

NA/57 Compiling Dutch Gross National Product (GNP); summary report on the final estimates after the revision in 1992, Bos, Frits (1992).
This summary report describes the sources and methods used for compiling the final estimate of Dutch Gross National Product after the revision of the Dutch National Accounts in 1992. Attention is focused on the estimation procedures for 1988. A more extensive report is also available (**NA/57_Ext.**).

NA/57_Ext. Compiling Dutch Gross National Product (GNP); full report on the final estimates after the revision in 1992, Bos, Frits and Cor N. Gorter (1993).
This report describes the compilation of the final estimate of Dutch Gross National Product after the revision of the Dutch National Accounts in 1992. Attention is focused on the estimation procedures for 1988. The description covers i.a. data sources, sampling features of the surveys, grossing up procedures, adjustments for underreporting and the integration process.

NA/58 The 1987 revision of the Netherlands' National Accounts, Van den Bos, C and P.G. Al (1994).
The 1987 revision that was completed in 1992 has improved the Dutch National Accounts in three ways. First, new and other data sources have been used, like Production statistics of service industries, the Budget Survey and Statistics on fixed capital formation. Secondly, the integration process has been improved by the use of detailed make- and use-tables instead of more aggregate input-output tables. Thirdly, several changes in bookkeeping conventions have been introduced, like a net instead of a gross registration of processing to order.

NA/59 A National Accounting Matrix for the Netherlands, Keuning, Steven and Jan de Gijt (1992).
Currently, the national accounts typically use two formats for presentation: matrices for the Input-Output tables and T-accounts for the transactions of institutional sectors. This paper demonstrates that presently available national accounts can easily be transformed into a National Accounting Matrix (NAM). This may improve both the transparency and analytic usefulness of the complete set of accounts.

NA/60 Integrated indicators in a National Accounting Matrix including environmental accounts (NAMEA); an application to the Netherlands, De Haan, Mark, Steven Keuning and Peter Bosch (1993).
In this paper, environmental indicators are integrated into a National Accounting Matrix including Environmental Accounts (NAMEA) and are put on a par with the major aggregates in the national accounts, like National Income. The environmental indicators reflect the goals of the environmental policy of the Dutch government. Concrete figures are presented for 1989. The NAMEA is optimally suited as a data base for modelling the interaction between the national economy and the environment.

NA/61 Standard national accounting concepts, economic theory and data compilation issues; on constancy and change in the United Nations-Manuals on national accounting (1947, 1953, 1968 and 1993), Bos, Frits (1993).
In this paper, the four successive guidelines of the United Nations on national accounting are discussed in view of economic theory (Keynesian analysis, welfare, Hicksian income, input-output analysis, etc.) and data compilation issues (e.g. the link with concepts in administrative data sources). The new guidelines of the EC should complement those of the UN and be simpler and more cost-efficient. It should define a balanced set of operational concepts and tables that is attainable for most EC countries within 5 years.

NA/62 Revision of the 1987 Dutch agricultural accounts, Pauli, Peter and Nico van Stokrom (1994).
During the recent revision of the Dutch national accounts, new agricultural accounts have been compiled for the Netherlands. This paper presents the major methodological and practical improvements and results for 1987, the base year for this revision. In addition, this paper demonstrates that a linkage can be established between the E.C. agricultural accounting system and the agricultural part of the standard national accounts.

NA/63 Implementing the revised SNA in the Dutch National Accounts, Bos, Frits (1993).
This paper discusses the implementation of the new United Nations guidelines on national accounting (SNA) in the Netherlands. The changes in basic concepts and classifications in the SNA will be implemented during the forthcoming revision. The changes in scope will be introduced gradually. Important changes scheduled for the near future are the incorporation of balance sheets, an environmental module and a Social Accounting Matrix.

NA/64 Damage and insurance compensations in the SNA, the business accounts and the Dutch national accounts, Baris, Willem (1993).
This paper describes the recording of damages to inventories and produced fixed assets in general, including damages as a result of legal product liability and of the liability for damage to the environment. In this regard, the 1993 System of National Accounts and the practice of business accounting are compared with the Dutch national accounts.

NA/65 Analyzing economic growth: a description of the basic data available for the Netherlands and an application, Van Leeuwen, George, Hendrie van der Hoeven and Gerrit Zijlmans (1994).
This paper describes the STAN project of the OECD and the Dutch national accounts data supplied to the STAN database, which is designed for a structural analysis of the role of technology in economic performance. Following an OECD analysis for other industrial countries, the importance of international trade for a small open economy such as the Netherlands is investigated. The STAN database is also available on floppy disk at the costs of DFL. 25, an can be ordered by returning the order form below (Please mention: STAN floppy disk).

NA/66 Comparability of the sector General Government in the National Accounts, a case study for the Netherlands and Germany, Streppel, Irene and Dick Van Tongeren (1994).
This paper questions the international comparability of data concerning the sector General Government in the National Accounts. Two differences are distinguished: differences due to lack of compliance with international guidelines and institutional differences. Adjustments to National Accounts data are reflected in a separate module which comparises Germany versus The Netherlands. The module shows that total General Government resources as well as uses are substantially higher in the Netherlands.

NA/67 What would Net Domestic Product have been in an environmentally sustainable economy?, Preliminary views and results, De Boer, Bart, Mark de Haan and Monique Voogt (1994).
Sustainable use of the environment is a pattern of use that can last forever, at least in theory. This pattern is likely to render a lower net domestic product than the present economy. The coherence between reductions in pressure on the environment and changes in net domestic product is investigated with the help of a simple multiplier model. This model is based on a National Accounting Matrix including Environmental Accounts (NAMEA).

NA/68 A Social Accounting Matrix for the Netherlands, concepts and results, Timmerman, Jolanda G. and Peter J.M. van de Ven (1994).
In this paper a Social Accounting Matrix (SAM) for the Netherlands is presented. Two years are covered: 1988 and 1990. The SAM is an integrated data framework based on national accounts extended with information on distribution of income, consumption and wealth among household. Furthermore, labour income and employment are subdivided into several labour categories. The tables of the SAMs of both 1988 and 1990 are available on separate floppy disks at the costs of DFL. 65 each.

NA/69 Analyzing relative factor inputs of Dutch exports: An application of the 1990 Social Accounting Matrix for the Netherlands (forthcoming), Reininga, Ted (1995).
In this paper the validity of neoclassical trade theory for explaining Dutch international trade patterns is studied. The analysis is carried out with the use of a Social Accounting Matrix for The Netherlands. This study corroborates the outcome of other recent analysis in this field: classical trade theory offers a better starting-point to understand Dutch trade patterns than neoclassical trade theory. Moreover, these recent studies point to the increasing relevance of insights derived from modern trade theory. The results presented here seem to support this point of view.

NA/70 SESAME for the evaluation of economic development and social change, Keuning, Steven J. (1994).
This paper elaborates on the concept of a System of Economic and Social Accounting Matrices and Extensions, or SESAME for short. The SESAME-concept serves to meet the criticism that conventional national accounts take a too limited view at social, environmental and economic development. SESAME details the monetary accounts and couples non-monetary information in an integral system approach. SESAME is meant as a synthesis of national accounts and the social indicators approach.

NA/71 New revision policies for the Dutch National Accounts, Den Bakker, Gert P., Jan de Gijt and Robert A.M. van Rooijen (1994).
This paper presents the (new) revision policy for the Dutch National Accounts. In the past, several major revisions of national accounting data have been carried out in the Netherlands. In the course of time, the policy has changed several times. Recently, the aim has become to publish relatively long time-series shortly after the publication of the revised benchmark year data.

NA/72 Labour force data in a National Accounting framework, Den Bakker, Gert P. and Jan de Gijt (1994).
This paper deals with the Dutch interwar labour force data. Starting with census data the estimation of the working and non-working labour force by industry and by occupational type is described and the results are discussed. The data have been estimated within the national accounts framework. It is the first time that labour market figures at a meso-level have been estimated which are linked to other national accounting figures.

NA/73 Integrated estimates of productivity and terms-of-trade changes from a Social Accounting Matrix at constant prices, Keuning, Steven J. 1994).
This paper demonstrates that measures of real income change for the total economy can best be derived from real income changes per subsector. For this purpose a Social Accounting Matrix (SAM) at constant prices has been compiled. By breaking down value added at constant prices into constant price estimates for each primary input category, productivity changes by industry can be estimated as an integral part of the regular national accounts compilation. The national total trading gain or loss from a change in the terms of trade is as well allocated to subsectors, thus embedding the estimation of this macro-measure into a meso-consistency framework. These ideas have been applied in a case-study for Indonesia.

NA/74 Taking the environment into account: The Netherlands NAMEA's for 1989, 1990 and 1991, De Haan, Mark and Steven Keuning (1995).
The National Accounting Matrix including Environmental Accounts (NAMEA) contains figures on environmental burdens in relation to economic developments as reflected in the National accounts. NAMEA's for the Netherlands in 1989, 1990 and 1991 have now been completed. They include a more detailed industrial classification and a series of environment taxes and levies, plus environmental protection expenditures by industry and households. Further, the depletion of two important mineral resources in the Netherlands is now incorporated in the NAMEA's.

NA/75 Economic theory and national accounting, Bos, Frits (1995).
This paper describes the relationship between economic theory and national accounting. This relationship is often misunderstood, by economic theorists and national accountants alike. Attention is drawn to the consistency required in a national accounting system, to national accounts figures as a transformation of primary data and to the fundamentally different valuation principles employed in economic theory and national accounting (forward looking and analytic versus backward looking and descriptive). The gap between economic theory and national accounting can only be bridged by satellite accounts, as in these accounts consistency with the overall system and valuation at current exchange value are not strictly required.

NA/76 An information-system for economic, environmental and social statistics, Keuning, Steven.J and Jolanda G.Timmerman (1995).
The 1993 SNA mentions that a SAM can also be extended to deal with environmental issues. This entails the integration of a SAM and a NAMEA into a SAMEA (Social Accounting Matrix including Environmental Accounts), a further extension into the direction of a so-called SESAME (System of Economic and Social Accounting Matrices and Extensions). This paper shows how environmental data and environmental indicators can be integrated into such a system. A Dutch case-study shows the interrelations between e.g. the employment of various types of workers (by sex/educational level) and the environmental problems caused by the activities in which they are employed. Moreover, this pollution is also allocated to the subsectors that receive value added. This enables a comparison with the consumption-based pollution by subsector. The SAMEA yields a framework for an integrated analysis and modelling of social, economic and environmental issues.

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