

CENTRAL INSTITUTE FOR ECONOMIC MANAGEMENT (CIEM)

and

NORDIC INSTITUTE OF ASIAN STUDIES (NIAS)

**A SOCIAL ACCOUNTING MATRIX FOR VIETNAM
FOR THE YEAR 2000: DOCUMENTATION**

by

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List of Abbreviations

AFTA	ASEAN Free Trade Area
ANZ	Australia and New Zealand
APEC	Asia Pacific Economic Cooperation
ASEAN	Association of Southeast Asian Nations
CEPT	Common Effective Preferential Tariff
CGE	Computable General Equilibrium
CIEM	Central Institute for Economic Management
CIF	Cost-Insurance-Freight
EU	European Union
FDI	Foreign Direct Investment
FOB	Free-On-Board
GDP	Gross Domestic Product
GSO	General Statistics Office
HDI	Human Development Indicators
I/O	Input-Output
IMF	International Monetary Fund
MOF	Ministry of Finance
NAFTA	North American Free Trade Agreement
NIAS	Nordic Institute for Asian Studies
NIPA	National Income and Product Accounts
OECD	Organization for Economic Cooperation and Development
ROW	Rest of the World
SAM	Social Accounting Matrix
SNA	System of National Accounts
SOE	State Owned Enterprise
UN	United Nations
UNDP	United Nations Development Programme
US	United States
VAT	Value Added Tax
VLSS	Vietnam Living Standards Survey
VND	Vietnam Dong

1 Introduction

In 2001, the Central Institute of Economic Management (CIEM) published a 1999 Social Accounting Matrix (Tarp et al., 2001). In Chapter 5 (pages 67-68) of that volume, a series of recommendations was proposed to improve the SAM. In the present document, organised into four sections, we present an up-dated and revised version of the Vietnam SAM. The reference year is 2000, and the table we estimated and present has a level of disaggregation that far exceeds that of the largest prior SAMs. This will support much more detailed research. It also relies exclusively on official sources for the latest domestic economic data and upon the most recently available information on international trade. Domestic data sources include information from the Government Statistical Office (GSO), in particular the 1996, 97x97 sectorxcommodity I/O table (GSO, 1999), a 1997-98 nationally representative household survey (GSO, 2000) and a document summarising official information according to the UN System for National Accounts (SNA) for the 1990-2000 period (GSO, 2001a).¹ National Income and Product Accounts (NIPA) in this document were up-dated by the GSO and provided to CIEM under a consultancy contract. These data, including the detailed set of 20-sector accounts, is as yet unpublished, but available in mimeo form (GSO, 2001b). Data on international trade were obtained from the COMTRADE database (UNSO, 2001), and data on domestic trade barriers came from official sources.

On the production side, the 2000 Vietnam SAM covers 97 activities and 97 counterpart commodities, including eight agricultural sectors, two agricultural service sectors, and 13 food processing sectors, commensurate with the importance of agricultural activities to the Vietnamese economy.² There are also 14 different factors of production and 16 household types. In addition, enterprises are divided into three groups. Finally, in addition to accounts for the recurrent state budget and the savings-investment balance, trade has been disaggregated among 88 trading partners and one for net foreign transfers.

These data were combined using meticulous analytical methods and careful attention to data quality, and the resulting 2000 Vietnam SAM reveals an economic structure that has rapidly evolved since the Asian crisis, particularly in the trade-oriented sectors that will be most critical to Vietnam's growth and modernisation policies. We believe this database sets new timeliness and quality standards for the kind of economic information needed to support improved policy analysis in Vietnam using the most up-to-date and modern analytical techniques and principles available. It is also worth emphasizing that this table makes use of

¹ See UN (1968) for a complete reference on SNA accounting standards.

² See Annex 1 for a complete list of sectors.

the wealth of information in the directly sampled, nationally representative, household survey (GSO, 2000).

Summing-up, this document presents a SAM that is in effect a comprehensive, disaggregated and consistent data system capturing many of the interdependencies that exist within the Vietnamese socio-economic system. As such, the SAM is ideally suited for use as a conceptual framework in exploring the impact of changes in economic policies on the whole interdependent socio-economic system, including the structure of production, and factorial and income distributions.

2 Construction of the 2000 MacroSAM

Before examining more disaggregated accounts, we document in this section how the 2000 MacroSAM for the Vietnamese economy was developed. The macro-table is essentially a double entry representation of the usual macroeconomic accounting identities. It is used to ensure that the more detailed activity, commodity, factor, and other institutional accounts in the disaggregated SAM are consistent with existing macroeconomic information. Table 2.1 depicts a generic MacroSAM in terms of the standard macro accounting identities. Note that in this case intermediate goods are netted out.³

With these macro accounts in mind, consider the tableau with generic MacroSAM accounts for Vietnam, given in Table 2.2. Intermediate goods are included explicitly, and production is decomposed in the activity and commodity accounts. While there is a little more detail in this table, it continues to represent a double entry accounting version of the traditional macro accounts. Relying on the data mentioned in Section 1, a 2000 MacroSAM for Vietnam was developed as shown in Table 2.3 and described in detail below.

2.1 Background, definitions and labels

This Section documents the steps involved in constructing the 2000 MacroSAM for Vietnam, and in what follows, reference is made to the individual cells in Table 2.2. Nine rows and nine columns are involved. Corresponding rows and columns share the same label. For example, row three and column three are both labelled “factors”. In the MacroSAM, entries are in the form of macroeconomic aggregates, and the row/column labels are defined below.

In a social accounting matrix (SAM), rows track receipts, while columns track expenditures. Hence, row and column sums represent, respectively, total receipts and total

³ See Reinert and Roland-Holst (1997) for a more extensive introduction to MacroSAMs and SAM estimation.

payments by a given account/institution. In the tradition of double entry accounting, row sums must equal column sums.

Table 2.1: An Open-Economy MacroSAM with a Government Sector

<u>Receipts</u>	<u>Expenditures</u>					Total
	1	2	3	4	5	
1. Suppliers	-	C	G	I	E	Demand
2. Households	Y	-	-	-	-	Income
3. Government	-	T	-	-	-	Receipts
4. Capital Acct.	-	S _h	S _g	-	S _f	Savings
5. Rest of World	M	-	-	-	-	Imports
Total	Supply	Expenditure	Expenditure	Investment	ROW	

Additional Variables:

$t_{42} = S_h =$ private savings

$t_{32} = T =$ tax payments

$t_{43} = S_g =$ government savings

$t_{15} = E =$ exports

$t_{45} = S_f =$ foreign savings

$t_{51} = M =$ imports

$t_{13} = G =$ government spending

Accounting Identities:

1. $Y + M = C + G + I + E$ (GNP)
2. $C + T + S_h = Y$ (Income)
3. $G + S_g = T$ (Govt. Budget)
4. $I = S_h + S_g + S_f$ (Saving-Investment)
5. $E + S_f = M$ (Trade Balance)

Table 2.2: A MacroSAM for Vietnam - Generic Macro Accounts

Receipts	Expenditures								
	1. <i>Activities</i> (97)	2. <i>Commodities</i> (97)	3. <i>Factors</i> (14)	4. <i>Private</i> <i>Households</i> (16)	5. <i>Enterprises</i> (3)	6. <i>Recurrent</i> <i>State</i> (1)	7. <i>Investment</i> <i>Savings</i> (1)	8. <i>Rest of</i> <i>World</i> (94+1)	9. <i>Total</i>
1. <i>Activities</i> (97)		Marketed Production							Total Sales
2. <i>Commodities</i> (97)	Intermediate Consumption			Private Consumption		State Consumption	Investmen t	Exports	Total Commodity Demand
3. <i>Factors</i> (14)	Value Added								Value Added
4. <i>Private</i> <i>Households</i> (16)			Wages, Salaries and Other Benefits		Distributed Profits	Social Security and Other Current Transfers to Households		Net Foreign Transfers to Households	Private Household Income
5. <i>Enterprises</i> (3)			Gross Profits			Enterprise subsidies		Net Foreign Transfers to Enterprises	Enterprise Income
6. <i>Recurrent State</i> (1)	Value Added Taxes	Trade Taxes	Produc- tion Taxes	Income Taxes	Enterprise Income Taxes			Net Foreign Transfers to State	State Revenue
7. <i>Investment</i> <i>Savings</i> (1)				Household Savings	Retained Earnings	State Savings			Total Savings
8. <i>Rest of World</i> (94+1)		Imports			Enterprise Remittances	Government Remittances			Imports
9. <i>Total</i>	Total Payments	Total Commodity Supply	Total Factor Payment s	Allocation of Private Household Income	Total Enterprise Expenditure	Allocation of State Revenue	Total Investmen t	Total Foreign Exchange	

2.2 Documenting the 2000 Vietnam MacroSAM

This section refers to Table 2.3. Values (in Bill. VND) have been assigned to all of the cells in Table 2.2 for which a transaction between two accounts took place and for which data were available from the GSO or other sources. Detailed notes on data sources, assumptions, and procedures are outlined below. Throughout, the relevant cell in Table 2.2 is referred to as (i, j) where i refers to the row and j to the column.

Cell (1,2) “Activities-Commodities”: Marketed production (Bill. VND 852,755)

This transaction corresponds to the total value of sales (at producer prices) in the activities row. The gross output figure reported in GSO (2001b) is used directly in the MacroSAM.

Cell (2,1) “Commodities-Activities”: Intermediate consumption (Bill. VND 427,323)

Intermediate consumption in producer prices is reported in GSO (2001b) as being bill. VND 408,616, in accordance with the 2000 GSO 20-sector input-output breakdown. As compared with the intermediate consumption figure in GSO (2001b), an upwards adjustment has been made in order to balance the MacroSAM.

Cell (2,4) “Commodities-Households”: Private consumption (Bill. VND 295,993)

Private consumption is taken directly from the balance sheet of gross domestic product as documented in GSO (2001a, p. 134). Information from GSO (2001b) documents that Bill. VND 29,600 of this consumption is financed by the State, a feature that is important to keep in mind when transfers from state to households are considered, see below. It follows that private households have expenditures on private consumption corresponding to Bill. VND 266,393. This total is broken down into consumption of own produced goods (Bill. VND 22,144) which do not pass through the marketing system, and goods purchased in the market place (Bill. VND 273,849). In effect, this means that each household is divided into two sub-groups, one consuming own-produced goods, the other consuming purchased goods.

Cell (2,6) “Commodities-State”: State consumption (Bill. VND 28,265)

As for private consumption, state consumption data is obtained from the balance sheet for gross domestic product documented in GSO (2001a, p. 134)

Table 2.3: Macroeconomic SAM for Vietnam

Receipts (Bill. VND)	Expenditures (Bill. VND)								
	1. <i>Activities</i> (97)	2. <i>Commodities</i> (97)	3. <i>Factors</i> (14)	4. <i>Private</i> <i>Households</i> (16)	5. <i>Enterprises</i> (3)	6. <i>Recurrent</i> <i>State</i> (1)	7. <i>Investment</i> <i>Savings</i> (1)	8. <i>Rest of</i> <i>World</i> (94+1)	9. <i>Total</i>
1. <i>Activities</i> (97)		852,755							852,755
2. <i>Commodities</i> (97)	427,323			295,993		28,265	130,827	241,401	1,123,809
3. <i>Factors</i> (14)	376,376								376,373
4. <i>Private</i> <i>Households</i> (16)			270,487		5,553	42,204		19,842	338,086
5. <i>Enterprises</i> (3)			105,636			6,245		1,088	112,696
6. <i>Recurrent</i> <i>State</i> (1)	49,056	19,307	253	1,840	25,033			2,072	97,561
7. <i>Investment</i> <i>Savings</i> (1)				40,253	77,896	12,678			130,827
8. <i>Rest of World</i> (94+1)		251,747			4,487	8,169			264,403
9. <i>Total</i>	852,755	1,123,809	376,373	338,086	112,696	97,561	130,827	264,403	

Cell (2,7) “Commodities-Investment/Savings”: Investment (Bill. VND 130,827)

Gross capital formation, which is the sum of fixed capital formation (Bill. VND 121,857) and changes in inventories (Bill. VND 8,970), is reported by GSO (2001a, p. 134).

Cell (2,8) “Commodities-ROW”: Exports (Bill. VND 241,401)

Aggregate exports (FOB) are available from the gross domestic product balance sheet from GSO (2001a, p. 134).

Cell (3,1) “Factors-Activities”: Value added (Bill. VND 376,376)

Total value added can be calculated as the sum of compensation of employees (Bill. VND 270,487), consumption of fixed capital (Bill. VND 49,316), operating surplus (Bill. VND 56,320) and production taxes (Bill. VND 253). The data are documented in GSO (2001b). The production tax figure in GSO (2001b) has been divided into value added taxes, trade taxes and other production taxes, based on GSO estimates as described below.

Cell (4,3) “Households-Factors”: Wages, salaries and other benefits (Bill. VND 270,487)

Compensation of employees is reported by GSO (2001b). This figure include mixed income and compensation of employees.

Cell (4,5) “Households-Enterprises”: Distributed profits and social security (Bill. VND 5,553)

This entry is taken directly from preliminary data supplied by GSO (2001b).

Cell (4,6) “Households-State”: Social security (Bill. VND 42,204)

GSO (2001b) documents direct transfers amounting to Bill. VND 12,604. However, as noted above the government also finances private consumption amounting to Bill. VND 29,600. For the SAM to balance it is therefore necessary to include as well a corresponding subsidy to households.

Cell (4,8) “Households-ROW”: Net foreign transfers to households (Bill. VND 19,842)

Total net transfers to households and enterprises (Bill. VND 20,930) is consistent with the balance of payments information available in GSO (2001b). The split of the transfers between households and enterprises was done residually to ensure balance in the MacroSam. It is highlighted that no other information is available to estimate the actual split.

Cell (5,3) “Enterprises-Factors”: Gross profits (Bill. VND 105,636)

Returns to capital are calculated by adding consumption of fixed capital (Bill. VND 49,316) and operating surplus (Bill. VND 56,320). These flows are documented in GSO (2001b).

Cell (5,6) “Enterprises-State”: Enterprise subsidies (Bill. VND 6,245)

The total direct enterprise subsidy is documented in GSO (2001b) as being Bill. VND 990. To this are added fees and user charges (documented by GSO) as discussed below under cell (6,5).

Cell (5,8) “Enterprises-ROW”: Net foreign transfers to enterprises (Bill. VND 1,088)

This entry was derived as described above under cell (4,8).

Cell (6,1) “State-Activities”: Value Added taxes (Bill. VND 49,056)

Data from the GSO (2001b) on value added taxes document they are approximately bill. VND 43,800. Part of Other production taxes (Bill. VND 5,511, GSO (2001b)) has been

added to this account to balance the accounts involved. Furthermore an upward adjustment has been made in order to overall balance the MacroSAM.

Cell (6,2) “State-Commodities”: Trade taxes (Bill. VND 19,307)

Data from the GSO (2001b) on trade taxes are documented as being bill. VND 18,705. An upward adjustment using parts of Other production taxes (Bill. VND 5,511, GSO (2001b)) has been made to ensure balance of the accounts involved.

Cell (6,3) “State-Factors”: Factor taxes (Bill. VND 253)

Information from GSO (2001b) documents production taxes as the sum of value added taxes (Bill. VND 43,800), trade taxes (Bill. VND 18,705), and other production taxes (Bill. VND 5,511). The main part of the production taxes is concentrated in cell (6,1) and cell (6.2), leaving bill. VND 253 for the factor tax account.

Cell (6,4) “State-Households”: Income taxes (Bill. VND 1,840)

Information on personal income taxes comes directly from GSO (2001b).

Cell (6,5) “State-Enterprises”: Enterprise taxes (Bill. VND 25,033)

Government revenue from enterprises originates from both tax and non-tax sources. GSO (2001b) documents government income from direct enterprise income taxes (Bill. VND 19,780). To this is added land use taxes (253 Bill. VND) and fees (Bill. VND 5,000), which are assumed to be paid by enterprises. No other information is available as to how these flows enter government revenue. The total is entered in the SAM as enterprise income taxes.

Cell (6,8) “State-ROW”: Net foreign transfers to state (Bill. VND 2,072)

Foreign aid (or grants) to government is documented by GSO (2001b).

Cell (7,4) “Investment/Savings-Households”: Household savings (Bill. VND 40,253)

Total household savings are documented by GSO (2001b).

Cell (7,5) “Investment/Savings-Enterprises”: Enterprise savings and retained earnings (Bill. VND 77,896)

GSO (2001b) indicates that enterprise savings amount to Bill. VND 23,140. In order to balance the MacroSam an estimated Bill. VND 54,756 has to be added.

Cell (7,6) “Investment/Savings-State”: State savings (Bill. VND 12,678)

Data on state savings in 2000 are reported by GSO (2001b).

Cell (8,2) “ROW-Commodities”: Imports (Bill. VND 251,747)

Aggregate import data are available in a supply balance sheet in GSO (2001a, p. 134).

Cell (8,5) “ROW-Commodities”: Enterprise transfers abroad (Bill. VND 4,487)

By deducting imports from the total arrived at by summing cells (2,8), (4,8), (5,8) and (6,8), it appears that Vietnam had a positive current balance of payments of Bill. VND 12,656 in the year 2000. This could be entered as a negative number in cell (7,8). However, it is desirable to avoid negative flows in the SAM. We therefore entered the total current account surplus as two flows from respectively enterprises and government to ROW in cell (8,5) and (8,6). This is arbitrary, but it can be noted that this actually leads to a balanced SAM. Moreover, the residually calculated current account surplus is actually close to the estimated current account surplus of Bill. VND 9,892 documented by GSO (2001b).

Cell (8,6) “ROW-Commodities”: State transfers abroad (Bill. VND 8,169)

See the explanation under cell (8,5).

Summing up, it can be noted that the accounts of the MacroSAM balance. This is so, with few exceptions, based entirely on data supplied by GSO.

3 The disaggregated 2000 Vietnam SAM

3.1 Background

To allow for more detailed policy experiments and establish the basis for a CGE model, the MacroSAM established in Section 2 must be disaggregated. This Section documents the 2000 disaggregated SAM for Vietnam, which is in effect a matrix with dimensions 324x324. There are 97 production activities with 97 counterpart commodities. In addition, there are: 14 factors, 16 household types, three enterprises, one state account, one investment/savings account and 95 accounts related to foreign trade and capital flows.

Factors include twelve types of labour, one aggregate capital factor and one aggregate land factor. Labour is disaggregated in three dimensions: rural-urban, gender and educational level. Household disaggregation takes account of the rural-urban, male-female and wage/farm/self/non-employed dimensions. Enterprises include state, private (non-state) and foreign-invested companies. Some 88 trading partners are also identified. A summary overview is provided in Table 3.1.

The primary data sources for disaggregating the 2000 SAM are the 1996 I/O table (GSO, 1999), the 1997-98 VLSS household survey (GSO, 2000) and the COMTRADE international trade database (UNSO, 2001). Other necessary information was available in the national accounts for the period 1990-2000, available in GSO (2001a) and GSO (2001b), including the 20 sector disaggregation of national accounts that is yet to be published. In what follows, the disaggregation is documented step-by-step, referring to the individual cells in the MacroSAM in Table 2.2. It should be noted that judgement was necessary at many points in the SAM estimation procedure. The authors accept full responsibility for errors and omissions, but we also note that SAM estimation, like production of all economic statistics, is subject to residual uncertainty and always eligible for revision and improvement.

3.2 Documenting the 2000 disaggregated SAM

Cell (1,2) "Activities-Commodities": Marketed production

Marketed production is disaggregated into a 97x97 diagonal matrix. This implies that there are, in principle, 97 commodities supplied to the market from counterpart production

activities, recalling that in cases where domestic production of a commodity does not exist, the relevant entry in the diagonal is nil. The necessary data include the 20 sector 2000 gross output figures (GSO, 2001b) and the 97 sector 1996 I/O table (GSO, 1999).

To illustrate the up-dating of 1996 figures, consider as an example the sector “agriculture”. As documented by GSO (2001b), gross output of the agriculture sector corresponds to the sum of production in 10 agricultural sub-sectors that correspond, sector by sector, to the I/O classification. In other words, data exist on gross output sector by sector, but the level of aggregation is higher than the 1996 I/O grouping. The 20 sector information from GSO was therefore disaggregated into 97 activities, relying on 1996 gross output shares. In effect, it is assumed that the structure within, for example, agriculture (i.e., among the 10 agricultural sub-sectors) remained unchanged between 1996 and 2000. However, changes in the structural composition between for example agriculture and manufacturing (or among the 20 aggregated sectors) are captured.

Cell (2,1) “Commodities-Activities”: Intermediate consumption

Intermediate consumption is reflected in a 97x97 I/O matrix. Instead of a matrix with zeros outside the diagonal, cell (2,1) reflects that in principle 97 activities can supply inputs to 97 commodity accounts. Zeros are therefore only encountered whenever a sector does not supply inputs to production of a given commodity. Summing-up total intermediate consumption (down the columns) sector by sector (using the 1996 I/O table) gives a 97x1 vector where each element represents total input to productive activities from a given sector. A similar vector in dimension 20x1 exists as reported by GSO (2001b). Thus, the 97x1 total input supply vector for 2000 could be calculated using exactly the same procedure as in deriving cell (1,2). Finally, based on the 1996 I/O table 97x97 input-output coefficients were derived and multiplied with the 2000 total input supply vector to get the individual entries for the 2000 97x97 I/O matrix. Thus, individual I/O coefficients from 1996 are relied on but compositional changes at the 20-sector level are captured.

Cell (2,4) “Commodities-Households”: Private consumption

The splitting of the aggregate household account into 16 household categories is a critically important feature of the SAM. It is at the core of the income distribution and expenditure nexus of the economy. The relevant information for the disaggregation of the household account is available in the Vietnam Living Standards Survey (VLSS) for 1997/98 (GSO, 2000). The VLSS is based on a nationally representative sample of 6,002 households.

An initial estimate of the level and distribution of private consumption among the 97 commodities (i.e., a 97x1 vector) in the 2000 SAM, is calculated by combining information from the 1996 I/O-table (GSO, 1999) about the composition of private consumption in 1996, with aggregate private consumption in 2000, available in the MacroSAM. The VLSS is subsequently relied on to disaggregate the private consumption vector between home-produced and marketed goods, and to split these disaggregated consumption vectors among the 16 SAM households.

?? Insaet diasdgggregation figure

The VLSS has a well-defined section on consumption expenditures, including expenditures on food, non-food, and durables. Thus, the setting up of 1998 consumption vectors of home-produced and marketed goods for the 16 household categories, is straightforward. Food and Non-food 'expenditures' on home-produced and marketed goods are attributed directly to the different household categories, based on a mapping between the 16 SAM households and the 6,002 VLSS survey households. Furthermore, information on the initial value and year of acquisition combined with information on the current (1998) value, allowed the computation of compound rates of depreciation for each durable good. These depreciation rates are subsequently applied to arrive at the year-on-year consumption of durables.

A mapping between the 150 goods categories from the VLSS and the 97 activities/commodities SAM categories is then used to derive the (194x16) private consumption matrix describing consumption of home-produced and marketed goods by the 16 household categories in 1998. Thereafter, the 1998 private consumption matrix is used to derive an initial estimate of the 2000 private consumption matrix. The row-shares of the 1998 private consumption matrix for is applied to the 2000 row control totals, described above, to provide prior values on 2000 private consumption matrix, including both home-produced and marketed goods consumption. consumption vectors of home-produced and marketed goods for the 16 household categories, is straightforward.

Food and Non-food 'expenditures' on home-produced and marketed goods are attributed directly to the different household categories, based on a mapping between the 16 SAM households and the 6,002 VLSS survey households. Furthermore, information on the initial value and year of acquisition combined with information on the current (1998) value, allowed the computation of compound rates of depreciation for each durable good. These depreciation rates are subsequently applied to arrive at the year-on-year consumption of durables. A mapping between the 150 goods categories from the VLSS and the 97 activities/commodities SAM categories is then used to derive the (194x16) private consumption matrix describing consumption of home-produced and marketed goods by the

16 household categories in 1998. Thereafter, the 1998 private consumption matrix is used to derive an initial estimate of the 2000 private consumption matrix. The row-shares of the 1998 private consumption matrix are applied to the 2000 row

Table 3.1: Dimensions of the 2000 MacroSAM

Receipts	Expenditures								
	1. <i>Activities</i> (97)	2. <i>Commodities</i> (97)	3. <i>Factors</i> (14)	4. <i>Private Households</i> (16)	5. <i>Enterprises</i> (3)	6. <i>Recurrent State</i> (1)	7. <i>Investment Savings</i> (1)	8. <i>Rest of World</i> (94+1)	9. <i>Total</i>
1. <i>Activities</i> (97)		97 x 97							97 x 1
2. <i>Commodities</i> (97)	97 x 97			97 x 16		97 x 1	97 x 1	97 x 95	97 x 1
3. <i>Factors</i> (14)	14 x 97								14 x 1
4. <i>Private Households</i> (16)			16 x 14		16 x 3	16 x 1		16 x 95	16 x 1
5. <i>Enterprises</i> (3)			3 x 14					3 x 95	3 x 1
6. <i>Recurrent State</i> (1)	1 x 97	1 x 97	1 x 14	1 x 16	1 x 3			1 x 95	1 x 1
7. <i>Investment Savings</i> (1)				1 x 16	1 x 3	1 x 1			1 x 1
8. <i>Rest of World</i> (94+1)		95 x 97			1 x 3	1 x 1			95 x 1
9.	1 x 97	1 x 97	1 x 14	1 x 16	1 x 3	1 x 1	1 x 1	1 x 95	

<i>Total</i>									
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control totals, described above, to provide prior values on 2000 private consumption matrix, including both home-produced and marketed goods consumption.

Cell (2,6) “Commodities-State”: State consumption

Using share parameters from the 1996 I/O table (GSO, 1999), total government consumption for 2000 (from the MacroSAM) can be disaggregated across the 97 commodities.

Cell (2,7) “Commodities-Investment/Savings”: Investment

Using share parameters from the 1996 I/O table (GSO, 1999), gross capital formation for 2000 (from the MacroSAM) can be disaggregated across the 97 commodities. It is noted that inventory changes are included here.

Cell (2,8) “Commodities-ROW”: Exports

An internationally maintained database, COMTRADE, keeps country-by-country merchandise trade data, with very detailed product categories and complete detail on originating county for imports as well as destination of exports.

Unfortunately, Vietnam does not report to COMTRADE at the present time, so it was necessary to sample Vietnamese trade flows by indirect means. This meant sampling all reporting countries (over 90% of global trade) for their exports to and imports from Vietnam.

Practically speaking, we obtained import and export flows, to and from Vietnam, for 88 partner countries and over 9,000 merchandise customs lines, for a four year period. The first step was to aggregate the customs lines to our own 97 sectors (only 68 of which are commodities). We then estimated the 1999 trade flow as a weighted average

$$T_{ik} = w_s s_{ik} + w_t t_{ik}(99)$$

where $t_{ik}(99)$ denotes imports or exports of commodity j with trading partner k and

$$s_{ik} = \text{trend}_{99}[t_{ik}(96), t_{ik}(97), t_{ik}(98)]$$

represents a one period extrapolation of observations from 1996-1998. The weights are given by

$$w_s = s_{jk}/(s_{jk}+t_{jk}(99))$$

and

$$w_t = t_{jk}(99)/(s_{jk}+t_{jk}(99))$$

This was a very data intensive process, but we believe it represents the best available means of overcoming under-reporting bias. In addition, it was necessary to estimate service trade (not reported in COMTRADE). Using the shares from 1999, the 2000 disaggregation of the import and export accounts could be derived by balancing the detailed trade matrices proportionately to be consistent with the 2000 export and import aggregates in the MacroSAM.

Cell (3,1) “Factors-Activities”: Value added

When disaggregating value added, an important step is the apportionment of value added across the 97 activities (along the rows). Data for 2000 exist on value added by 20 sectors (GSO, 2001b), a higher level of aggregation than the 1996 I/O classification of 97 activities (GSO, 1999). Value added for 2000 is therefore disaggregated from 20 to 97 activities relying on 1996 value added shares (of the respective sub-sector totals). This information is available for labour and capital. Value added by land is not provided by official publications, but had to be derived from the Vietnam Living Standards Survey (VLSS) for 1997/98 (GSO, 2000). Value added is only imputed to land used in agricultural production.

The imputation of 1998 value added by land in agricultural production sectors is straight forward. Data on rents from borrowing and lending of land plots are directly available from the VLSS. Combined with information on the size of individual plots, as well as the type (annual/perennial/water surface) and the quality of the land/water surface, it is possible to come up with a sensible set of average returns to land/water surface per square-meter. This set of average returns is subsequently applied to all plots of land/water surface, used for agricultural production purposes, to come up with 1998 levels of value added (VA) by land. From this, a vector of 2000 levels is, subsequently, derived by applying the overall GDP growth rate between 1998-2000, to the 1998 VLSS levels. Finally, a mapping between the agricultural production activities in the VLSS and the SAM is applied to come up with a 2000 vector of land VA, where the categories match the agricultural production sectors in the SAM. Given the differences in magnitude between value added imputed to labour and capital, based on the 1996 I/O table, it was decided to pull land VA out of labour VA, to come up with an overall distribution of value added among labour, land and capital.

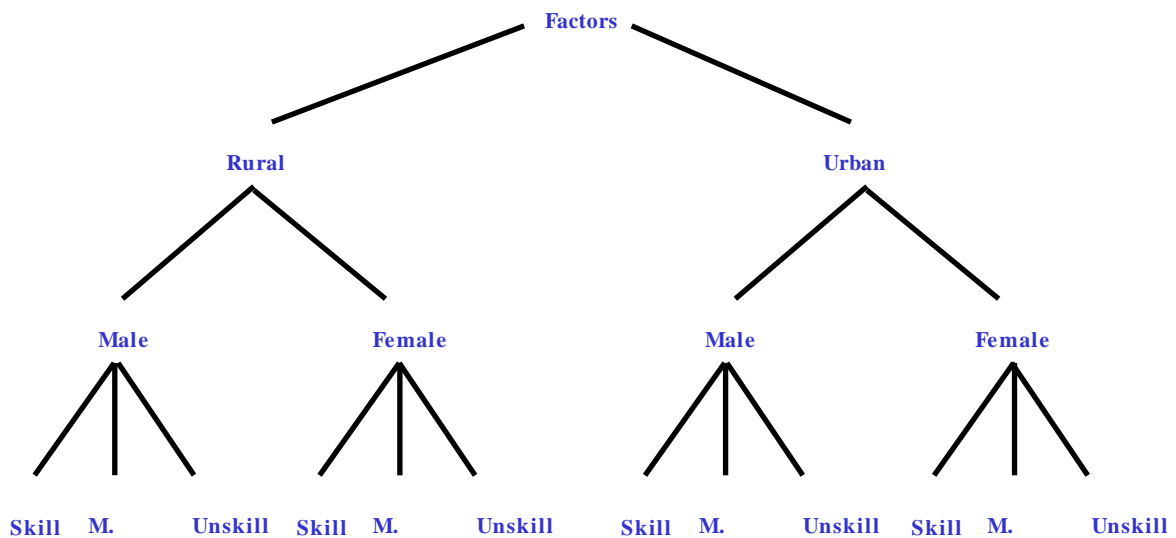
In addition, further disaggregation of labour was pursued to allow more detailed economic analysis. Labour was disaggregated into 12 categories using the following criteria: location (rural/urban), gender (male/female), and skill level (unskilled/medium-skilled/high-skilled). This results in the following types of labour, also illustrated in Figure 3.1:

- LRMU: Rural Male Unskilled
- LRMM: Rural Male Medium-skilled
- LRMH: Rural Male High-skilled
- LUMU: Urban Male Unskilled
- LUMM: Urban Male Medium-skilled
- LUMH: Urban Male High-skilled
- LRFU: Rural Female Unskilled
- LRFM: Rural Female Medium-skilled
- LRFH: Rural Female High-skilled
- LUFU: Urban Female Unskilled
- LUFM: Urban Female Medium-skilled
- LUFH: Urban Female High-skilled

Recall that a 1×97 2000 vector of returns to labour is available from above. This has to be turned into a 12×97 vector. The steps involved are described below. They involve in particular (i) the estimation of wage differentials,⁴ (ii) estimates of the share of workers in each category of labour, and (iii) estimation of how a particular factor is allocated across activities.

⁴ While some nominal wages are available they are, strictly speaking, not required as information on total returns to labour by activity can be combined with labour shares by labour category and the wage differentials to get the desired returns to labour by category and activity.

Figure 3.1: Illustration of the Labour Factor Disaggregation



Using VLSS (GSO (2000), p.188-189), it is estimated that male workers get approximately 21% higher wages than female workers. Highly skilled get approximately 53% and 104% higher wages/compensation than medium skilled and unskilled respectively. Medium skilled get 33% higher wages/compensation than unskilled workers. The differential between unskilled workers and other categories should not be based on the VLSS information on wage earners only. This would miss all those who are self-employed. A rough estimate using other VLSS information is that 70% of the total labour force can be characterised as self-employed. Assuming that they are mainly in agriculture and are unskilled, an estimate of the weighted average of returns to different kinds of unskilled labour can be derived based on compensation of employees and earnings for self-employed (GSO, 2000, p. 188-89 and p. 400).

The gender disaggregation used in the SAM is in accordance with information from VLSS, i.e. 48.43% male and 51.57% female, and the rural-urban allocation is 77.57% rural and 22.43% urban (GSO, 2000, p. 23). Moreover, the VLSS can be used to give an estimate of the share of total population in each of the labour categories adding up to 100%. This is done by combining demography and education data from the VLSS (GSO, 2000, p. 23 and p. 29).

In order to obtain the estimate used for splitting total labour into the different categories, three additional steps were involved. First, relying on VLSS information on the educational background of both rural and urban people, it can be calculated how rural and urban people are distributed among the three educational categories as shares of total population. Using the shares of female and male of total population and multiplying with the

educational shares just obtained, an estimate of the allocation of labour appears. However, this allocation does not take account of the educational level by gender. Therefore, using information on educational background by gender, it is calculated how male and female people are distributed among the three educational categories. Using the shares of urban-rural people of total population and multiplying with the educational shares by gender another allocation of labour across the 12 different categories is obtained. The two allocations are averaged to obtain the estimate used in what follows as to how labour is allocated among the twelve categories.

Bales (2000, Annex 3, p. 43) documents the gender distribution and the rural/urban distribution of labour by 14 different industries of main employment. A concordance can be established between the 14 sector industry classification and the 97 sector I/O classification,⁵ making it possible to link data on the allocation of the population among labour categories and across the 97 activities. This is done by taking the shares of labour in the different activities, multiplying with the distribution of labour by education. Subsequently, this information is used to multiply with the gender and education wage premia, adjusting sub-totals proportionately so they add up to 100%. The last step is to multiply the coefficients just obtained with value added for each of the 97 activities, providing the required 12x97 matrix of how much is paid to each kind of labour by each activity.

Cell (4,3) "Households-Factors": Wages, salaries and other benefits

The factor income distribution matrix for 2000 is not immediately available. Thus, it was derived from survey data and the MacroSAM total. Initial share parameters for the factor income distribution matrix were derived from the Living Standards Survey (VLSS) for 1997/98 (GSO, 2000). The VLSS provides sufficient information to derive a 1998 factor income distribution matrix, distinguishing between the 14 different factors, as described with reference to cell (3,1). The aggregation of value added (VA) by Land according to 'ownership' by household, is similar to the aggregation of Land VA by production activity, as described with reference to cell (3,1). Accordingly, 1998 value added by land was imputed from VLSS data on rents from borrowing and lending of land plots. Using information on the size of individual plots, as well as the type (annual/perennial/water

⁵ The conversion is done as follows: Agriculture = I/O classification 1 - 12, Mining = I/O classification 13 - 17, Foodstuffs and tobacco = I/O classification 18 - 30, Other light industry = 31 - 49 + 59 - 60 + 67 - 71, Electronics = I/O classification 50 - 58, Textiles and garments = I/O classification 61 - 66, Utilities = I/O classification 72 - 76, Construction = I/O classification 77, Sales = I/O classification 78 - 79, Hotel = I/O classification 80, Transport = I/O classification 81 - 86, Other = I/O classification 87 - 90, Government and social services = I/O classification 91 - 95, Personal services = I/O classification 96 - 97.

surface) and quality of land and water surfaces, a sensible set of average returns to land/water surface per square-meter is derived. Applying this set of average returns to all plots of land/water surface yields the 1998 distribution of Land VA across the 6,002 households in the VLSS survey. Applying the household aggregation explained with reference to private consumption in cell (2,4), the 1998 distribution of Land VA across the 16 household categories of the SAM, is finally arrived at.

Value added by capital is imputed to assets of self-employed persons in agriculture and non-agriculture. Returns to the assets of self-employed in agriculture are straightforward to derive. Average returns to each separate type of equipment, covered in the agricultural part of the VLSS survey, are derived from information on value of and returns to leasing out of equipment. Equipment specific rates of return are supplanted by the overall average rate of return to equipment, if equipment specific rates are below five percent. Applying these 'corrected' equipment specific rates of return to all equipment used in agricultural production, yields the 1998 distribution of capital VA in agricultural production across the 6,002 households in the VLSS survey. Since no information is available to compute rates of return to assets of self-employed persons in non-agriculture, the overall average rate of return to agricultural assets are applied to all non-agricultural assets, yielding the 1998 distribution of capital VA in non-agricultural production across the 6,002 households in the VLSS survey. Finally, other capital income in the form of returns from leasing out of assets in the form of buildings, equipment, land, and durable goods, are added to agricultural and non-agricultural Capital VA, to yield the overall 1998 distribution of capital VA across the 6,002 households in the VLSS survey. Applying the household aggregation, as referred to above, the 1998 distribution of Capital VA among the 16 households categories of the SAM, is finally arrived at.

After deriving the distribution of value added by Land and Capital, it is possible to derive total labour value added for each of the 6,002 households in the VLSS survey, residually. Information on income and expenditures from self-employment in agriculture and non-agriculture is relied on to derive the gross operating surplus for each self-employment activity. Accordingly, value added by Labour in self-employment activities, is derived as the difference between the gross-operating and value added by Land and Capital. Total labour VA for each of the 6,002 households in the VLSS survey is subsequently derived by adding income earned by wage-earners to the Labour VA generated in self-employment activities. In order to break down total Labour VA among the 12 labour categories in the SAM, the skill-levels of each single individual within each household are relied on. Labour VA among wage earners is easily broken down among the 12 labour categories, based on the skill-level of each individual wage earner. Labour VA among self-employed in non-agriculture is

broken down based on the skill-level of the household member which is best informed about the enterprises of the household. Finally, Labour VA among self-employed in agriculture is broken down, based on the skill-levels of household members participating in agricultural activities, and their relative use of time in these activities. Adding up the different components of value added by Labour from self-employment and wage-activities, completes the 1998 factor income distribution matrix among the 6,002 households. Finally, the 1998 distribution of Labour VA among the 16 households categories of the SAM, is arrived at by applying the household aggregation, as referred to above. Altogether, the derivation of value added by Labour, Capital and Land completes the 1998 factor income distribution matrix.

Based on the 1998 factor income distribution matrix, a set of factor income distribution shares among households is derived. Based on these factor income shares, a pre-balanced 2000 factor income distribution matrix is derived as the solution to a minimum cross entropy problem. Both row and column control totals for the problem are derived from the MacroSAM total of distributed factor income. The distribution of row control totals is based on the distribution of 1998 private consumption expenditures among households, while the distribution of column control totals is derived from the value added matrix in cell (3,1), and information on factor taxes. Subsequently, the minimum cross entropy problem is solved subject to fixed row and column control totals, to arrive at a pre-balanced 2000 factor income distribution matrix. Since all capital income is allocated to the enterprise accounts in the SAM, the factor income distribution matrix, in narrow terms, only consists of 13 factors, including land and 12 labour categories. The distribution of capital income among the 16 households is, nevertheless, included in the pre-balancing procedure. Accordingly, the pre-balancing procedure yields prior values for the 2000 factor income distribution matrix as well as prior values for the distribution of capital income. The latter set is subsequently used as prior values for the 2000 distribution of profits from domestic enterprises, discussed below.

Cell (4,5) “Households-Enterprises”: Distributed profits and social security

Among the three types of enterprises outlined in relation to cell (5,3) below, households receive distributed profits from those owned by domestic residents and the state. The distribution of aggregate distributed profits between these two sources is available from government statistics, with reference to cell (5,3). Moreover, the two sources of 2000 distributed profits are allocated among the 16 household categories on the basis of the Living Standards Survey (VLSS) for 1997/98 (GSO, 2000). Prior values on the distribution of profits from domestically owned enterprises are based on the distribution of capital

income, derived in connection with the computation of the factor income distribution matrix, with reference to cell (1,3). Furthermore, prior values on the distribution of profits from state owned enterprises are based on the distribution of social subsidies, including subsidies from production facilities, among the 6,002 VLSS survey households. A household mapping is subsequently applied to find the distribution of state enterprise profits among the 16 SAM households in 1998. Finally, the implied 1998 household shares are applied to the total distributed state enterprise profits in 2000, to arrive at prior values on the 2000 distribution of state enterprise profits among the 16 SAM households.

Cell (4,6) "Households-State": Social security

The distribution of direct transfers from the government to the 16 household categories in the SAM is based on the Living Standards Survey (VLSS) for 1997/98 (GSO, 2000). An estimate of the 1998 distribution of social security transfers among the 6,002 VLSS households is derived, based on information on transfers from the social insurance fund and funds targeted for poverty alleviation purposes. A household mapping is subsequently applied to aggregate the 6,002 VLSS survey households into the 16 SAM households. Finally, the implied 1998 household shares are applied to total social transfers in 2000, available from the MacroSAM, to arrive at an estimate of the 2000 distribution of social security transfers among the 16 SAM households.

Cell (4,8) "Households-ROW": Net foreign transfers to households

The distribution of net foreign transfers to households is based on the Living Standards Survey (VLSS) for 1997/98 (GSO, 2000). An estimate of the 1998 distribution of net foreign remittances among the 6,002 VLSS households is derived, based on information on expenses for assistance to people living abroad, and remittance income from people living abroad. A household mapping is subsequently applied to aggregate the 6,002 VLSS survey households into the 16 SAM households. Finally, the implied 1998 household shares are applied to total net foreign transfers in 2000, available from the MacroSAM, to arrive at prior values on the 2000 distribution of net foreign transfers among the 16 SAM households.

Cell (5,3) “Enterprises-Factors”: Gross profits

Gross profits are paid from capital to three types of enterprises, categorized by type of ownership, including domestic and foreign ownership, as well as state ownership. Disaggregated data about this cell are documented by GSO (2001a, p.121) for 1999. Using the respective enterprise shares of total profit in 1999, and multiplying this with the MacroSam entry for 2000 gives the information required in cell (5,3).

Cell (5,6) “Enterprises-State”: Enterprise subsidies

It is assumed that foreign invested companies are subsidised. The split of the total enterprise subsidy between state and non-state enterprises is done in order to secure balance.

Cell (5,8) “Enterprises-ROW”: Net foreign transfers to enterprises

The macro entry here is the private sector component of net foreign investment inflows from the MacroSAM, which we assume are available only to foreign invested enterprises.

Cell (6,3) “State-Factors”: Factor taxes

All factor taxes are assumed to be paid by capital.

Cell (6,4) “State-Households”: Income taxes

The distribution of income taxes paid by households was based on the Living Standards Survey (VLSS) for 1997/98 (GSO, 2000). An estimate of the 1998 distribution of household taxes among the 6,002 VLSS households is derived from information on direct tax contributions as well as contributions towards local security funds. A household mapping is subsequently applied to aggregate the 6,002 VLSS households into the 16 SAM households. Finally, the implied 1998 household shares are applied to total income taxes paid by households in 2000, available from the MacroSAM, to arrive at prior values on the 2000 distribution of income taxes among the 16 SAM households.

Cell (6,5) “State-Enterprises”: Enterprise taxes

GSO (2001, p.121) documents total production tax by ownership for 1999. Using shares of production tax by ownership from 1999 multiplied with the total enterprise tax figure from 2000 provide the necessary disaggregated information.

Cell (6,8) “State-ROW”: Net foreign transfers to state

This entry refers to development assistance from ROW.

Cell (7,4) “Investment/Savings-Households”: Household savings

The disaggregation of savings by households is obtained by using information from the Living Standards Survey (VLSS) for 1997/98 (GSO, 2000). Since no information is available on current savings, aggregate holdings of financial assets by household are used as a proxy for the distribution of current savings. Based on the VLSS, the 1998 level of financial assets is derived for each of the 6,002 VLSS households. A household mapping is subsequently applied to aggregate the 6,002 VLSS households into the 16 SAM households. Finally, the implied 1998 household shares are applied to total household savings by households, available from the MacroSAM, to arrive at prior values on the 2000 distribution of savings among the 16 SAM households.

Cell (7,5) “Investment/Savings-Enterprises”: Retained earnings

Retained earnings for individual enterprise types are assumed to be proportional to gross output (GSO, 2001, p. 90). Using the share of each enterprise of gross output for 1999 multiplied by total retained earnings in 2000 provides the required disaggregated data for cell (7,5).

Cell (7,6) “Investment/Savings-State”: State savings

This cell is not disaggregated so the information here is equal to the MacroSAM entry.

Cell (8,2) “ROW-Commodities”: Imports

See the discussion of cell (2,8) above.

Cell (8,5) “ROW-Enterprises”: Enterprise remittances

Total remittances are assumed to be paid by foreign invested companies.

Cell (8,5) “ROW-State”: Government remittances

This cell is not disaggregated and is therefore equal to the MacroSAM entry.

In sum, the above disaggregation results in a 337x337 matrix (97 activities, 97 commodities, 14 factors, 16 households (and the distinction between home-produced and marketed goods), three enterprises, one state (and the distinction among various kinds of taxes and duties), one investment/savings, 88 trade balances by trading partner, and a foreign transfer account).

To complete the SAM estimation procedure, it was necessary to reconcile the many data sources mentioned above into one consistent economy-wide set of tabular accounts. This was done using a sophisticated matrix balancing algorithm developed by Sherman Robinson and a variety of collaborators (see e.g., Robinson et al., 1998 and Robinson and El-Said (2000)). This technique, referred to as Cross Entropy Estimation, permits the estimation of detailed accounts that are consistent with exogenously specified accounting constraints.

4 Final remarks

Traditional physical input-output (I/O) tables were at the core of central planning in the past. In modern economy-wide studies, Social Accounting Matrices (SAMs) and Computable General Equilibrium Models (CGEs) that take account of supply and demand behaviour and the mediating role of market institutions have become important analytical tools. In this paper we have presented and documented a 2000 Social Accounting Matrix (SAM) for Vietnam, including both a MacroSAM and a disaggregated MicroSAM. The new SAM up-dates and extends the 1999 SAM, which was published last year.

With a view to the future, it is based on the present documentation and related background files and calculations relatively easy to produce relevant and accurate detailed SAMs, once annual macro-economic data from the GSO become available. This is so since the 2000 SAM (a 337x337 matrix), which is available from CIEM on request, is an important milestone in the sense that it captures the following contemporaneous and synthesized information in a very extensive manner:

- (i) NIPA accounts.
- (ii) Detailed sector accounts and I/O information.
- (iii) Employment and earnings data.
- (iv) Multilateral partner trade data.
- (v) Directly sampled and nationally representative household survey data.

It should be noted that the 2000 SAM will be eligible for an important update in the second half of 2002, when a new Vietnam I/O table will be made available by GSO.

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Annex: Complete list of sectors in the 2000 SAM

01PADDY	Paddy
02RAWRUB	Raw rubber
03COFFBN	Coffee beans
04SUGCANE	Sugarcane
05OTHCROP	Other crops
06PIG	Pig
07POULTRY	Poultry
08OTLVSTK	Other livestock and poultry
09IRRISRV	Irrigation service
10TAGSRV	Other agricultural services
11FOREST	Forestry
12FISH	Fishery
13COAL	Coal
14URAN	Uranium and thorium
15METAL	Metallic ore
16STONE	Stone and other non-metallic minerals
17OILGAS	Crude oil, natural gas
18MEAT	Processed, preserved meat and by-products
19COOKOIL	Processed vegetable and animal oils and fat
20DAIRY	Milk, butter and other dairy products
21BAKCONF	Cakes, jams, candy, coca, chocolate products
22FRTVEG	Processed and preserved fruits and vegetables
23ALCBEV	Alcohol, beer and liquors
24NALCBEV	Non-alcoholic water and soft drinks
25SUGAR	Sugar, refined
26COFFEE	Coffee, processed
27TEA	Tea, processed
28TOBACPD	Cigarettes and other tobacco products
29SEAFOOD	Processed seafood and by-products
30OTFOOD	Other food manufactures
31GLASS	Glass and glass products
32CERAMIC	Ceramics and by-products
33PAPER	Paper pulp and paper products and by-products
34WOOD	Processed wood and wood products
35CEMENT	Cement
36BRICKS	Bricks, tiles
37CONCRETE	Concrete, mortar and other cement products
38OBLDMAT	Other building materials
39ORGCHEM	Basic organic chemicals
40NORCHEM	Basic inorganic chemicals
41FERTIL	Fertilizer
42PESTICID	Pesticides and veterinary medicine
43HLTHMED	Health medicine
44PRCRUB	Processed rubber and by-products
45SOAP	Soap, detergents, perfumes and other toilet preparations
46PLASTIC	Plastics
47OTHPLAS	Other plastic products
48PAINT	Paint, ink, varnish and other painting materials
49OTHCHEM	Other chemical products
50HLTINST	Health instrument and apparatus
51OPTPREQ	Precise and optics equipment, meter
52HOMEAPPL	Home appliances and its spare parts
53MOTVEH	Motor vehicles, motor bikes, bicycles and spare parts
54GENMACH	General - purpose machinery
55SPCMACH	Special - purpose machinery
56OTTRANS	Other transport means
57ELECMAC	Electrical machinery
58INFOMAC	Machinery and equipment used for broadcasting, television and information activities

59	NFERMET	Non-ferrous metals and products
60	FERMET	Ferrous metals and products, except machinery and equipment
61	FIBER	Fibers, thread and weaving of cloths
62	CLOTHES	Ready - made clothes, sheets
63	CARPETS	Carpets
64	WEAVING	Weaving and embroidery of textile - based goods
65	LEATHER	Products of leather tanneries
66	LTHPRD	Leather goods
67	ANIMLFD	Animal feeds
68	PRINT	Products of printing activities except products of publishing
69	OTINDPD	Products of other industrial activities
70	PUBLISH	Products of publishing house
71	OTHGDS	Other physical goods
72	GASOLIN	Gasoline
73	LUBRIC	Lubricants
74	ELECTR	Electricity
75	GAS	Gas
76	WATER	Water
77	CONSTRCT	Construction
78	TRADE	Trade
79	REPAIR	Repair of small transport means, motorbikes and personal household appliances
80	HOTREST	Hotels and restaurants
81	LNDTRN	Land transportation services
82	RAILTRN	Railway transport services
83	WATTRN	Water transport services
84	AIRTRN	Air transport services
85	COMSRV	Communication services
86	TOURISM	Tourism
87	FINSERV	Banking, credit, treasury, lotto
88	INSSERV	Insurance and retirement subsidy
89	SCITECH	Science and technology
90	REALEST	Real estate, business and consultancy services
91	STATESV	State management, defense and compulsory social security
92	EDUC	Education and training
93	HLTHCAR	Health care, social relief
94	CULSPRT	Culture and sport
95	ASSOC	Association
96	PERSERV	Personal and Community services
97	HHSERV	Household services