



A 2004 NATIONAL SOCIAL ACCOUNTING MATRIX (SAM) FOR HONDURAS

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List of Acronyms

BCH	Banco Central de Honduras
BE	Boletín Estadístico, Banco Central de Honduras
INE	Instituto Nacional de Estadísticas
EPHPM	2008 Encuesta Permanente de Hogares de Propósitos Múltiples
ENIGH	1998/99 Encuesta de Ingresos y Gastos de Honduras
ENCOVI	2004 Encuesta de Condiciones de Vida
IFPRI	International Food Policy Research Institute
SAM	Social Accounting Matrix

1. Introduction

This paper outlines the construction of a 2004 social accounting matrix (SAM) for Honduras¹. A SAM is a consistent data framework that captures the information contained in the national income and product accounts and the input-output table, as well as the monetary flows between institutions. A SAM is an ex-post accounting framework since, within its square matrix, total receipts must equal total payments for each account contained within the SAM. Since the required data is not drawn from a single source, information from various sources must be compiled and made consistent. This process is valuable since it identifies inconsistencies among Honduras's statistical sources and highlights areas where data reliability is weakest. SAMs are economy-wide databases which are typically used in conjunction with analytical techniques to strengthen the evidence underlying policy decisions. The construction of the 2004 SAM was conducted by the International Food Policy Research Institute (IFPRI) but drew heavily on the incomplete SAM developed for the same year by the Banco Central de Honduras (2004).

Section 2 reviews the structure of SAMs. The first step in constructing a SAM is to compile information from various sources into a SAM format or framework. This is known as the 'prior SAM'. The construction of the prior SAM takes place in two stages. A 'macro SAM' is first constructed using aggregate information from national accounts and other macroeconomic databases. This SAM is then disaggregated across sectors, factors and households to derive a more detailed 'micro SAM'. Given the diversity of its data sources, the prior SAM is invariably inconsistent (i.e., there are inequalities between receipts and payments). Section 3 describes the data sources used to construct the prior SAM.

The second step in constructing a SAM is reconciling receipts and payments so that row and column totals are equal (i.e., 'balancing the SAM'). This is also done in two stages. The reliability of the various data sources is first assessed based on the observed inequalities between row and column accounts. The SAM is then balanced using cross-entropy econometrics. The cross-entropy approach is described in Section 4 together with a description of the constraints imposed during the estimation procedure.

¹ This paper follows the template for documenting the construction of social accounting matrices developed by IFPRI.

2. The structure of a social accounting matrix

A SAM is an economy-wide data framework that usually represents the real economy of a single country.² More technically, a SAM is a square matrix in which each account is represented by a row and column. Each cell shows the payment from the account of its column to the account of its row – the incomes of an account appear along its row, its expenditures along its column. The underlying principle of double-entry accounting requires that, for each account in the SAM, total revenue (row total) equals total expenditure (column total). Table 1 shows an aggregate SAM (with verbal explanations in place of numbers).

Activities and Commodities

The SAM distinguishes between ‘activities’ (the entities that carry out production) and ‘commodities’ (representing markets for goods and non-factor services). SAM flows are valued at producers’ prices in the activity accounts and at market prices (including indirect commodity taxes and transactions costs) in the commodity accounts. The commodities are activity outputs, either exported or sold domestically, and imports. In the activity columns, payments are made to commodities (intermediate demand), and factors of production (value-added comprising of operating surplus and compensation of employees). In the commodity columns, payments are made to domestic activities, the rest of the world, and various tax accounts (for domestic and import taxes). This treatment provides the data needed to model imports as perfect or imperfect substitutes vis-à-vis domestic production.

Trade and Marketing Margins

Domestic and international trade flows in the SAM are explicitly associated with transactions (trade and transportation) costs, also referred to as marketing margins. For each commodity, the SAM accounts for the costs associated with domestic, import, and export marketing (i.e., each commodity purchases other trade and transport commodities). For domestic marketing of domestic output, the marketing margin represents the cost of moving the commodity from the producer to the domestic consumer. For imports, it represents the cost of

² For general discussions of SAMs see Pyatt and Round (1985), and Reinert and Roland-Holst (1997); for perspectives on SAM-based modeling see Pyatt (1988), and Robinson and Roland-Holst (1988).

moving the commodity from the border to the domestic market, while for exports it shows the cost of moving the commodity from the producer to the border.

Government Income and Payments

The government is disaggregated into a core government account and different tax collection accounts, one for each tax type. This disaggregation is necessary since otherwise the economic interpretation of some payments is often ambiguous. In the SAM, direct payments between the government and other domestic institutions are reserved for transfers. Finally, payments from the government to factors (for the labor services provided by public sector employees) are captured in the government services activity. Government consumption demand is a purchase of the output from the government services activity, which in turn, pays labor.

Domestic Non-Government Institutions

The domestic non-government institutions consist of households and enterprises. The enterprises earn factor incomes (a reflection of ownership of capital and/or land) and may also receive transfers from other institutions. Their incomes are used for corporate taxes, enterprise savings, and transfers to other institutions. Unlike households, enterprises do not demand commodities. It is possible to disaggregate the enterprise sector in a manner that captures differences across enterprises in terms of tax rates, savings rates, and the shares of retained earnings that are received by different household types.

Home and Final Household Consumption

In the Honduran SAM we do not distinguish between home (own) consumption of activities and marketed consumption of commodities by households. Final household consumption of marketed commodities appears as payments from household accounts to commodity accounts, valued at consumer prices that include marketing margins and commodity taxes.

Table 1. Basic structure of the Honduras SAM

Activities	Commodities	Factors	Households	Enterprises	Government	Investment	Rest of the World	Total
Activities	marketed outputs							activity income
Commodities	intermediate inputs		private consumption		government consumption	investment, change in stocks	exports	total demand
Factors	value-added							factor income
Households		labor income to households		distributed profit and rental income to households	transfers to households		transfers to households from RoW	household income
Enterprises		profit and rental income to enterprises			transfers to enterprises		profits of Honduran FDI.	enterprise income
Government	Taxes on production	sales taxes, import tariffs	direct taxes on individuals	surplus to government, enterprise taxes			transfers to government from RoW	government income
Savings			household savings	enterprise savings	government savings		foreign savings	savings
Rest of the World (RoW)	imports			profits of foreign enterprise in Honduras	government transfers to RoW			foreign exchange outflow
Total	activity expenditures	total supply	household income	enterprise gross income	government expenditures	investment	foreign exchange inflow	

3. Constructing the unbalanced prior social accounting matrix

The initial task in building a SAM involves compiling data from various sources into the SAM framework (cf. Section 2). This information is drawn from national accounts, household surveys, foreign trade statistics, government budgets, balance of payments, and various other publications. This information often uses (i) different disaggregation of sectors, production factors, and socio-economic household groups, (ii) different years and/or base-year prices, and (iii) different data collection and compilation techniques. Consequently, the initial or *prior* SAM inevitably includes imbalances between row and column account totals.

The prior macro SAM is based on national accounts and balance of payments (see Tables A3-A6 in the appendix).³ The disaggregated SAM is built so that the totals from the macro SAM are preserved (i.e., shares are used from other sources not actual numbers). This section explains how each macro SAM entry is derived and disaggregated to arrive at the prior micro SAM. Table 2 shows the 2004 macro SAM for Honduras. Each entry in the SAM is discussed below. The notation for SAM entries is (row, column) and the values are in millions of 2004 Lempiras. The final disaggregated SAM is quite large and is included in the accompanying spreadsheet file.

- i. (Labor, Activities)... 80.91

This is the value added of labor at factor cost. The 2004 SAM described in this document has a 80-sector disaggregation contained in national accounts (see Table A1 in the appendix). It was necessary to disaggregate the value added between labor and capital for the 80 sectors, in doing so we used data from the value added reported by the Banco Central de Honduras (BCH) and the “Encuesta de Ingresos y Gastos” (ENIG 1998/99 and ENCOVI 2004)”. Our factor returns are different than those reported by the Central Bank because they treated all the income of the self-employed as return to capital. We were able to split this income stream into a labor and a capital component. The final SAM has formal sector (skilled/unskilled and urban/rural), informal sector (skilled/unskilled and urban/rural), and capital.

³ Note that the entries in Table 2 may not exactly match national accounts since the values in the macro SAM are ‘post-reconciliation’ results (i.e., estimated using cross-entropy outlined in the next section). In other words, national accounts are used to construct the prior macro SAM. Although these values are preserved during the balancing procedure, they deviate marginally from reported values. The differences between actual and estimated values are shown in the tables in the appendix.

ii (Capital, Activities) ...63.52

This is the value added of capital and land at factor cost, and is derived as discussed in item i above.

iii (Activity tax, Activities)... 2.68

These are the so called other taxes to production in the COU matrix published by BCH (2004), minus the other subsidies that are also reported.

The first three accounts mentioned above add up to the figure given by the BCH for total value added (147.10).

Table 2. 2004 Macro SAM for Honduras (Millions of Lempiras)

	mact	mcom	mtic	mtit	mhab	mcap	ment	mhhhd	mgov	matax	mmtax	miva	mdfax	mitax	msub	mdstk	ms-i	imrow	mtotal
mact		328.32																	328.32
mcom	181.22		31.04	3.62				119.42	24.24							4.17	43.73	94.36	501.80
mtic		31.04																	31.04
mtit		3.62																	3.62
mhab	80.91																		80.91
mcap	63.52					63.52													63.52
ment					80.91		33.64											20.20	140.73
mhhhd					0.13		0.13	3.02	5.98	2.68	2.06	6.13	6.26	6.33	-0.12				26.48
mgov																			2.68
matax	2.68																		2.68
mmtax		2.06																	2.06
miva		6.13																	6.13
mdfax					3.94		3.94	2.32											6.26
mitax		6.33																	6.33
msub		-0.12																	-0.12
mdstk																	4.17		4.17
ms-i							25.81	15.97	-4.86									10.98	47.90
imrow		124.42						1.12											125.54
mtotal	328.32	501.80	31.04	3.62	80.91	63.52	63.52	140.73	26.48	2.68	2.06	6.13	6.26	6.33	-0.12	4.17	47.90	125.54	

iv. (Commodities, Activities)... 181.22

This is the value of intermediate inputs used in the production process. The data reported here comes from the Input-Output matrix for Honduras (2004).

v. (Trade Margins, Commodities)... 31.04

The payment by commodities to commodities is a condensed version of the treatment of trade margins in the final micro SAM. In the micro SAM there are separate margin accounts for the trade costs incurred through the marketing of each commodity. Unlike most other entries in the SAM, this entry was first calculated at a disaggregated level, and then aggregated to arrive at a final macro SAM value.

vi. (Transportation Margins, Commodities)... 3.62

The payment by commodities to commodities is a condensed version of the treatment of transportation margins in the final micro SAM. In the micro SAM there are separate margin accounts for the transportation costs incurred through the marketing of each commodity. Unlike most other entries in the SAM, this entry was first calculated on a disaggregated level, and then aggregated to arrive at a final macro SAM value.

vii. (Activities, Commodities)... 328.32

This is the value of total marketed output. Since all output is assumed to be supplied to markets, this value is equivalent to gross output, where gross output is the sum of intermediate demand and GDP at factor cost. The SAM distinguishes between activities and commodities, which permits the production of a single commodity in different ways, e.g. large and small producers. In Honduras we did not distinguish between different types of producers and therefore in this case the disaggregation of this cell in the Micro SAM results in single entries along the main diagonal of the activity-commodity sub matrix.

viii. (Import taxes, Commodities)... 2.06

The information about tax accounts include specific accounts for direct, indirect and trade taxes as reported in government accounts (see Table A1 in the appendix). The commodity tax entry can therefore be disaggregated to include sales taxes, import tariffs, specific product taxes,

and subsidies. These aggregate values of individual taxes were taken from the government revenue accounts shown in BCH (2004) (see Table A4 in the appendix). Import taxes are disaggregated across sectors using the sector-specific import tariffs.

ix. (Sales taxes, Commodities)... 6.13

Sales taxes are disaggregated across sectors using the sector-specific value added tax.

x. (Production taxes, Commodities)... 6.33

Specific product taxes are calculated using the sector-specific tariffs provided by BCH.

xi. (Subsidies, Commodities)... -0.12

These are subsidies to production and were taken from national accounts by BCH (2004).

xii. (Rest of World, Commodities)... 124.42

The value of total imports of goods and services was initially taken from national accounts as shown in BCH (2004) (Table A3 in the appendix).

xiii. (Commodities, Households)... 119.42

The payment from households to commodities is equal to household consumption expenditure. The total level of private consumption is taken from national accounts (2004) (see Table A3 in the appendix). This was distributed across households using information from “Encuesta de Ingresos y Gastos” (ENIG 1998/99 and ENCOVI 2004)”, developed by INE-BCH, with a representative sample of 4,800 –Honduran households, including urban and rural areas in the Honduran territory as a whole. Expenditures on purchased commodities were used to derive the shares of the costs incurred in each commodity by household (urban/rural and skilled/unskilled).

xiv. (Commodities, Government)... 24.24

The total value of government consumption spending is taken from government accounts as shown in BCH (2004) (see Table A5 in the appendix). Government consumption spending includes spending wages and salaries, and goods and services. In the 2004 SAM, government

consumption expenditure (on the demand-side) is composed only of demand for the government services commodity. The government is therefore treated as a sector producing government services as well as the sole demander of these services. Therefore, there is a slight inconsistency in the labor and commodity composition of government consumption expenditure reported in national and government accounts. The 2004 SAM chooses to preserve the technical coefficients from the input-output table rather than the labor and commodity composition shown in government accounts, since the latter refers only to central government expenditures (i.e., may exclude auxiliary functions).

xv. (Commodities, Investment)... 43.73

Gross fixed capital formation is taken from national accounts as shown in BCH (2004) (see Table A3 in the appendix).

xvi. (Commodities, Change in Stock)... 4.17

This is the change in inventories. It is taken from national accounts as shown in BCH (2004) (see Table A3 in the appendix) and is disaggregated across commodities using demand shares from BCH (2004).

xvii. (Commodities, Rest of World)... 94.36

The aggregate value of exports of goods and services taken from national accounts as shown in BCH (2004) (see Table A3 in the appendix). The disaggregation between goods and services was taken from the balance of payments (see Table A6 in the appendix). Goods exports were disaggregated using data from national trade statistics as cited in BCH (2004).

xviii. (Households, Labor)... 80.91

This is the total labor value-added net of production taxes generated during production. Its aggregate value is derived at the sectoral level using the labor-capital shares from the input matrix. By assumption, all labor value-added (i.e., wages and salaries or remuneration) is paid directly to household.

xix. (Enterprises, Capital)... 63.52

By assumption, all capital value-added (i.e., gross operating surplus or profits) is paid directly to enterprises, who then make indirect payments to households and other domestic and foreign institutions.

xx. (Households, Enterprises)... 33.64

This is indirect capital income to households, or alternatively, post-tax profits earned by households according to their capital endowments. Enterprise payments are thus net indirect capital payments. By assumption the value added of capital is paid to enterprises which then distribute profits net of taxes and enterprise saving to households.

xxi. (Government, Households)... 3.02

This is non tax income received by the government as reported by the Ministry of Finance (2004). It includes fees and other charges, fines, sale of goods and services, and fees for registration and identification.

xxii. (Government, Enterprises)... 0.13

Total transfers paid by enterprises to the government are taken from government accounts and are equal to non-tax revenues

xxiii. (Direct tax, Enterprises)... 3.94

These are corporate, excise and other income taxes paid by enterprises to the government and are derived from government revenue accounts.

xxiv. (Savings, Enterprises)... 25.81

There is no estimate of the saving of households and enterprises that is consistent with the macro totals of expenditure and income. The amounts shown in the macro SAM were derived from the entropy econometric estimates required to balance of ex post SAM.

xxv. (Households, Government)... 5.98

Transfers from the government to households are taken from government expenditure accounts as shown by the Ministry of Finance (2004) (see Table A5 in the appendix). This

includes pensions, gratuities, social security, and other benefits and subsidies. Plus internal interest commissions (0.051) and internal interests (0.555) paid by the government to the households.

xxvi. (Households, Rest of World)... 20.20

Household income from the rest of the world is equal to current transfers received and is taken from the balance of payments as shown in BCH (2004) (see Table A6 in the appendix).

xxvii. (Direct tax, Households)... 2.32

The value of direct taxes on households is equivalent to personal income taxes and is taken from government accounts as shown in BCH (2004) (Table A4 in the appendix shows the total of enterprise and household income taxes, 6.26). The parameter utilized to disaggregate the income taxes into the four household categories was taken from EPHPM 2008, developed by the INE, using the non- labor income module.

xxviii. (Savings, Households)... 15.97

See the explanation in xxiv above. The parameter utilized to disaggregate household savings into the four household categories was taken from EPHPM 2008, developed by the INE, using the non- labor income module.

xxix. (Government, Taxes)... 23.33

The tax accounts in the micro SAM are separated into import tariffs, sales taxes, activity taxes, subsidies and income taxes on households and enterprises. Each account sums tax revenue from all sources and then transfers these funds to the government. The entries in the government row correspond to government accounts and sum to all non-tax revenue shown in Table A4 in the appendix.

xxx. (Savings, Government)... -4.86

The sum of the fiscal deficit from government accounts. Shown in BCH (2004) is 5.08 (see Tables A4 and A5 in the appendix. This was reduced slightly in the entropy econometric balancing procedure to produce the final deficit of 4.86.

xxxi. (Rest of World, Government)... 1.12

Government payments to the rest of the world are equivalent to the value of foreign interest payments (0.88) and commissions (0.88) in the government expenditure accounts as shown in Ministry of Finance (2004) (see Table A5 in the appendix).

xxxii. (Savings, Rest of World)... 10.98

This is the current account deficit or the total value of foreign savings net of remittances... It is derived from the balance of payments as shown in BCH (2004) (see Table A6 in the appendix).

4. The balancing procedure for the national SAM

The range of datasets used to construct the prior micro SAM implies that there will inevitably be imbalances (i.e., row and column totals are unequal). Cross-entropy econometrics is used to reconcile SAM accounts (see Robinson *et al.*, 2001). This approach begins with the construction of the prior SAM, which as explained in the previous section, used a variety of data from a number of sources of varying quality. This prior SAM provided the initial ‘best guesses for the estimation procedure. Additional information is then brought to bear, including knowledge about aggregate values from national accounts and technology coefficients. A balanced Honduran SAM was then estimated by minimizing the entropy ‘distance’ measure between the final SAM and the initial unbalanced prior SAM, taking into account of all additional information.

Table 3 summarizes the equations defining the SAM estimation procedure. Starting from an initial estimate of the SAM, additional information is imposed in the form of constraints on the estimation. Equation 1 specifies that row sums and corresponding column sums must be equal, which is the defining characteristic for a consistent set of SAM accounts. Equation 2 specifies that sub-accounts of the SAM must equal control totals, and that these totals are assumed to be measured with error (Equation 3). An example would be the estimate of GDP provided by national accounts, which is the total value of the Factor-Activity matrix in the prior SAM. The matrix G is an aggregator matrix, with entries equal to 0 or 1. The index k is general and can include individual cells, column/row sums, and any combination of cells such as macro aggregates. Equation 4 allows for the imposition of information about column coefficients in the SAM rather than cell values, also allowing for error (Equation 5).

The error specification in Equations 2 and 3 describes the errors as a weighted sum of a specified ‘support set’ (the V parameters). The weights (W) are probabilities to be estimated, starting from a prior on the standard error of measurement of aggregates of flows (Equation 8) or coefficients (Equation 9). The number of elements in the error support set (w) determines how many moments of the error distribution are estimated. The probability weights must be non-negative and sum to one (Equations 8 and 9). The objective function is the cross-entropy distance between the estimated probability weights and their prior for the errors in both coefficients and

aggregates of SAM flows. It can be shown that this minimand is uniquely appropriate, and that using any other minimand introduces unwarranted assumptions (or information) about the errors.

Table 3. Cross Entropy SAM Estimation Equations

Index	Definition
i, j	row (i) and column (j) entries
K	set of constraints
W	set of weights
Symbol	Definition
$T_{i,j}$	SAM in values
$A_{i,j}$ and $\bar{A}_{i,j}$	SAM in column coefficients
$G_{k,i,j}$	aggregator matrix for each constraint k
γ_k and $\bar{\gamma}_k$	aggregate value for constraint k
e_k	error on each constraint k
$e_{i,j}^A$	error on each cell coefficient
W and \bar{W}	weights and prior on error term for each constraint k or cell coefficient i,j
\bar{V}	error support set indexed over w for each constraint k or cell coefficient i,j
Equations	
$\sum_i T_{i,j} = \sum_j T_{i,j}$	(1)
$\sum_i \sum_j G_{k,i,j} \cdot T_{i,j} = \gamma_k$	(2)
$\gamma_k = \bar{\gamma}_k + e_k$	(3)
$A_{i,j} = \frac{T_{i,j}}{\sum_i T_{i,j}} \text{ with } \sum_i A_{i,j} = 1 \forall j$	(4)
$A_{i,j} = \bar{A}_{i,j} + e_{i,j}^A \text{ for some } i, j$	(5)
$e_k = \sum_w W_{k,w} \cdot \bar{V}_{k,w}$	(6)
$e_{i,j}^A = \sum_w W_{i,j,w}^A \cdot \bar{V}_{i,j,w}^A$	(7)
$\sum_w W_{k,w} = 1 \text{ with } 0 \leq W_{k,w} \leq 1$	(8)
$\sum_w W_{i,j,w}^A = 1 \text{ with } 0 \leq W_{i,j,w}^A \leq 1$	(9)
$\min \left[\sum_k \sum_w W_{k,w} \cdot (\ln W_{k,w} - \ln \bar{W}_{k,w}) + \sum_i \sum_j \sum_w W_{i,j,w}^A (\ln W_{i,j,w}^A - \ln \bar{W}_{i,j,w}^A) \right]$	(10)

Various constraints were imposed on the model according to the perceived reliability of the data from Honduras. Certain values that appeared in national accounts were maintained in order to remain consistent with the overall macro structure of the economy. The macro economic aggregates that were maintained in the micro-SAM include: total labor value-added; total capital value-added; household final demand; exports; imports; government consumption; import tariffs; indirect taxes; direct taxes; trade margins; fixed investment; household transfers to government; government transfers to the rest of the world; and household foreign transfers received.

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Appendix: Supplementary Tables

Table A1. Micro SAM Accounts

Category	Account	Description	
Activities/commodities			
Category	Account	Description	
Activities/commodities (continued)	amaiz	cmaiz	Maíz
	afrij	cfrij	Frijol
	acere	ccere	Cereales
	apalm	cpalm	Palma africana
	ataba	ctaba	Tabaco sin elaborar (en rama) y hojas de tabaco
	acana	ccana	Caña de azúcar
	ahort	chort	Hortalizas, tubérculos y Otros Productos Vegetales
	afrut	cfrut	Frutas y Plantas Bebibles
	abana	cbana	Bananos
	acafé	ccafé	Café en Uva
	agana	cgana	Ganado Y Otros Animales/ incluye la Leche
	aavic	cavic	Aves de Corral,Huevos y abonos
	asilv	csilv	Silvicultura
	apesc	cpesc	Pescado y Mariscos
	acama	ccama	Camarón cultivado y larvas de camarón
	aminm	cminm	Minerales metálicos no ferrosos y sus concentrados
	amine	cmine	Productos de la minería
	acarn	ccarn	Carnes y Despojos Comestibles y Otros Productos Animales/ excepto Carne de Ave
	acavic	ccavic	Carne y despojos comestibles de aves (frescas, refrigeradas o congeladas)
	apcar	cpcar	Embutidos y otros productos de la carne
	appes	cppes	Pescado y mariscos congelados
	apveg	cpveg	Legumbres frutas y nueces, cocidas en agua o vapor, congeladas y en conserva, jugos y concentrados
	aacei	cacei	Aceite, manteca y otras grasas
	alact	clact	Productos lácteos
	aparr	cparr	Arroz oro y descascarillado
	ahari	chari	Harinas y otras harinas
	apana	cpana	Productos de Panadería
	aazuc	cazuc	Azúcar y Melazas
	acanim	ccanim	Elaboración de alimentos concentrados para animales
	achoc	cchoc	Cacao, chocolate y artículos de confitería preparados con azúcar
	apast	cpast	Macarrones, fideos y productos farináceos análogos
	apcaf	cpcaf	Café oro
	apotros	cpotros	Otros Productos Alimenticios
	abeba	cbeba	Alcohol etílico, destilación, rectificación, fermentación y mezcla de bebidas alcohólicas, vinos
	acerv	ccerv	Cerveza de malta

abebn	cbebn	Agua embotellada y Otras Bebidas No Alcohólicas
aptab	cptab	Productos del Tabaco
ahila	chila	Hilados e hilos, tejidos de fibras textiles
atext	ctext	Artículos Textiles, Tejidos de Punto y Ganchillo Exc. Prendas de Vestir
avest	cvest	Prendas de vestir y peletería
acuer	ccuer	Cuero y Artículos de Cuero
acalz	ccalz	Calzado y partes de calzado
amade	cmade	Madera aserrada y tratada
apmad	cpmad	Productos de madera, corcho, paja y materiales trenzables; excepto muebles Papel periódico, otros papeles y cartones,elaborados,ondulados y envases de papel y cartón
apape	cpape	
aimpr	cimpr	Productos de la edición e impresión
afarm	cfarm	Productos farmacéuticos y medicinas
aquim	cquim	Productos Químicos Básicos y Otros Químicos
aneum	cneum	Neumáticos y cámaras de aire
aplas	cplas	Productos de plástico
avidr	cvidr	Vidrios y productos de vidrio
aceme	cceme	Cementos y Otros
aomet	comet	Otros productos metálicos elaborados
ameta	cmeta	Metales comunes
apmet	cpmet	Productos metálicos estructurales y sus partes Maquinaria, Equipo de Transporte y Aparatos de Uso Domestico
amaqu	cmaqu	
amueb	cmueb	Muebles y Otras Partes de Muebles Otros artículos manufacturados (joyas, instrumentos musicales, articulos deportivos, juegos y juguetes)
aoman	coman	
aagua	cagua	Agua potable
aconst	cconst	Construcción
ascom	cscm	Servicios de comercio
asman	csman	Servicios de mantenimiento y reparación
ashot	cshot	Servicios de hotelería y alojamientos analagos
asres	csres	Servicios de suministro de comidas y bebidas
astrc	cstrc	Transporte por carretera
asvia	csvia	Agencias de Viaje y Otros Servicios Complementarios
aspos	cspos	Servicios postales y de mensajeros
ascmn	cscmn	Equipos y aparatos de radio, televisión y comunicaciones; sus partes y piezas
asfin	csfin	Servicios Financieros
asalq	csalq	Servicios de alquiler de vivienda Servicios inmobiliarios no residenciales y agencias de bienes raíces
asinm	csinm	
asarr	csarr	Servicios de Arrendamientos
asinf	csinf	Servicios de informática y servicios conexos
asjur	csjur	Servicios jurídicos

	ascon	cskon	Servicios de contabilidad, auditoria, teneduría de libros, asesoramiento, investigación de mercados, arquitectura, ingeniería, investigación y desarrollo, etc.
	asens	csens	Servicios de enseñanza
	assal	cssal	Servicios de salud
	asasc	csasc	Servicios de asociaciones
	ascin	cscin	Servicios de cine, radio y televisión y otros espectáculos
	asesp	csesp	Servicios de Esparcimiento
	assoc	cssoc	Servicios sociales y personales
	asgov	csgov	Servicios de administración pública
Transportation costs	trt		Transportation costs
Trade costs	trc		Trade costs
Factors	flabf-ursk		urban formal labor skilled
	flabf-urns		urban formal labor unskilled
	flabf-rusk		rural formal labor skilled
	flabf-runs		rural formal labor unskilled
	flabc-ursk		Urban informal labor skilled
	flabc-urns		urban informal labor unskilled
	flabc-rusk		rural informal labor skilled
	flabc-runs		rural informal labor unskilled
	fcap		capital
Enterprises	ent		Enterprises
Households	hur-sk		urban household skilled
	hur-ns		urban household unskilled
	hru-sk		rural household skilled
	hru-ns		rural household unskilled
Government	gov		Government
Taxes	dtax		Direct taxes
	atax		Activity tax
	mtax		Import tariffs
	itax		Production tax
	iva		Value added tax
	subs		Subsidies
Change in Stocks	dstk		Change in stocks
Savings & investment	s-i		Savings and investment
Rest of world	row		Rest of world

Table A2. Gross Domestic Product (GDP) by Industry, 2004

	Millions of Lempiras		Share of GDP (%)	
	Actual	Estimate	Actual	Estimate
GDP at factor cost				
cmaiz	1.717	1.720	0.005	0.005
cfrij	0.857	0.858	0.003	0.003
ccere	0.192	0.192	0.001	0.001
cpalm	2.016	2.073	0.006	0.006
ctaba	0.295	0.295	0.001	0.001
ccana	1.439	1.447	0.004	0.004
chort	2.404	2.418	0.007	0.007
cfrut	2.427	2.455	0.007	0.007
cbana	2.634	2.658	0.008	0.008
ccafe	4.254	4.887	0.013	0.015
cgana	5.428	5.433	0.017	0.017
cavic	2.992	2.991	0.009	0.009
csilv	1.196	1.203	0.004	0.004
cpesc	0.999	0.991	0.003	0.003
ccama	2.049	1.996	0.006	0.006
cminm	1.362	1.156	0.004	0.004
cmine	1.030	1.038	0.003	0.003
ccarn	2.926	2.927	0.009	0.009
ccavic	2.881	2.878	0.009	0.009
cpear	0.796	0.797	0.002	0.002
cppes	4.313	4.427	0.013	0.013
cpveg	1.563	1.574	0.005	0.005
cacei	3.713	3.711	0.011	0.011
clact	3.798	3.806	0.012	0.012
cparr	1.006	1.008	0.003	0.003
chari	1.971	1.973	0.006	0.006
cpana	2.042	2.047	0.006	0.006
cazuc	2.901	2.900	0.009	0.009
ccanim	3.085	3.132	0.009	0.010
cchoc	0.604	0.606	0.002	0.002
cpast	0.191	0.191	0.001	0.001
cpcaf	5.745	5.910	0.018	0.018
cpotros	1.515	1.518	0.005	0.005
cbeba	0.152	0.152	0.000	0.000
ccerv	1.114	1.115	0.003	0.003
cbebn	4.204	4.213	0.013	0.013
cptab	2.112	2.116	0.006	0.006
chila	6.589	6.605	0.020	0.020
ctext	1.047	1.048	0.003	0.003
cvest	46.985	48.459	0.144	0.148
ccuer	0.142	0.142	0.000	0.000
ccalz	0.504	0.504	0.002	0.002
cmade	1.644	1.683	0.005	0.005
cpmad	0.728	0.728	0.002	0.002
cpape	1.323	1.324	0.004	0.004

cimpr	1.643	1.650	0.005	0.005
cfarm	2.742	2.753	0.008	0.008
cquim	0.735	0.736	0.002	0.002
cneum	0.089	0.089	0.000	0.000
cplas	1.773	1.772	0.005	0.005
cvidr	0.008	0.008	0.000	0.000
cceme	3.887	3.914	0.012	0.012
comet	2.289	2.304	0.007	0.007
cmeta	1.492	1.509	0.005	0.005
cpmet	0.731	0.742	0.002	0.002
cmaqu	5.219	5.279	0.016	0.016
cmueb	2.039	2.046	0.006	0.006
coman	0.723	0.724	0.002	0.002
cagua	7.696	7.636	0.024	0.023
cconst	19.794	19.828	0.060	0.060
cscm	30.606	30.930	0.094	0.094
csman	1.943	1.969	0.006	0.006
cshot	1.853	1.885	0.006	0.006
csres	8.509	8.526	0.026	0.026
cstre	10.235	8.701	0.031	0.027
csvia	2.138	2.188	0.007	0.007
cspos	0.329	0.332	0.001	0.001
cscmn	7.992	8.122	0.024	0.025
csfin	14.059	13.640	0.043	0.042
csinm	12.945	12.918	0.040	0.039
csarr	1.788	1.848	0.005	0.006
csinf	0.593	0.604	0.002	0.002
csjur	0.797	0.817	0.002	0.002
cskon	8.359	8.478	0.026	0.026
csens	10.708	10.689	0.033	0.033
cssal	5.495	5.488	0.017	0.017
csasc	0.547	0.267	0.002	0.001
cscin	1.448	1.479	0.004	0.005
csesp	0.721	0.726	0.002	0.002
cssoc	3.271	3.061	0.010	0.009
csgov	13.224	13.356	0.040	0.041

Source: National Accounts (Banco Central de Honduras) and 2004 SAM estimate after cross-entropy

Table A3. Gross Domestic Product (GDP) by Expenditure Category, 2004

	Millions of Lempiras		Share of GDP (%)	
	Actual	Estimate	Actual	Estimate
Total supply	285.93	285.92	177.04	177.04
GDP at market prices	161.50	161.50	100.00	100.00
Imports	124.42	124.42	77.04	77.04
Total demand	285.92	285.92	177.04	177.04
Private final consumption	119.42	119.42	73.94	73.94
Government consumption	24.24	24.24	15.01	15.01
Gross capital formation	47.91	47.91	29.67	29.67
Exports	94.36	94.36	58.43	58.43

Source: Government Accounts (COU-BCH) and 2004 SAM estimate after cross-entropy.

Table A4. Central Government Revenues, 2004

	Millions of Lempiras		Share of total (%)	
	Actual	Estimate	Actual	Estimate
Total revenue	26.26	26.48	1.00	1.00
Income taxes	6.26	6.26	0.24	0.24
Import taxes	2.04	2.04	0.08	0.08
Sales taxes	6.12	6.12	0.23	0.23
Production taxes	6.36	6.36	0.24	0.24
Activity tax (minus subsidy)	2.67	2.68	0.10	0.10
Subsidies	-0.12	-0.12	0.00	0.00
Other revenues	2.93	3.15	0.11	0.12

Source: Government Accounts (BCH), Ministry of Finance and 2004 SAM estimate after cross-entropy.

Table A5. Central Government Expenditures, 2004

	Millions of Lempiras		Share of total (%)	
	Actual	Estimate	Actual	Estimate
Total expenditures	31.34	31.12	1.00	1.00
Non-financial expenditures				
Current expenditures				
Wages and salaries	9.80	9.80	0.37	0.37
Goods and services	14.44	14.44	0.55	0.55
Transfers	5.98	5.98	0.23	0.23
Interest				
Foreign	1.12	1.12	0.04	0.04
Deficit	-5.08	-4.86	-0.19	-0.18

Source: Government Accounts (BCH), Ministry of Finance and 2004 SAM estimate after cross-entropy.

Table A6. Balance of Payments, 2004

	Millions of Lempiras	
	Actual	Estimate
Current account deficit	-30.07	-30.07
Exports of goods and services	94.36	94.36
Imports of goods and services	124.42	124.42
External Financing		
Remittances	20.20	20.20

Source: Banco Central de Honduras and 2004 SAM estimate after cross-entropy.

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