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A Note on the Estimation of Producer Price Indices for Agricultural Policy Analysis in a Seven Sector Framework for Ecuador

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A NOTE ON THE ESTIMATION OF PRODUCER PRICE INDICES FOR AGRICULTURAL POLICY ANALYSIS IN A SEVEN SECTOR FRAMEWORK FOR ECUADOR

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SUMMARY

The analysis of agricultural policy encompasses a potentially wide range of policy questions. There is a correspondingly extensive range of analytical approaches. At one extreme are partial approaches, focusing on the characteristics of a single market, or even a group of related markets. Typically, information related to prices, production yields, area sown or the volume of imports and exports represent key elements in the analysis.

However, it is becoming increasingly evident that the behavior of the agricultural sector reflects not only the influence of that which has been traditionally viewed as agricultural policy. Rather, a complete understanding of the evolution of the agricultural sector demands a broader approach embodying macroeconomic policies as well as agricultural or sectoral policies.

With this objective, it is necessary to broaden the analysis in order to capture the generation of value-added, its distribution to primary factors through household incomes, and the demand of goods and services, both domestic and foreign. Given that macroeconomic policies have considerable influence in determining the structure of incentives that face the different productive sectors, it is obligatory to develop an analytical scheme that has the capacity to capture these elements.

One of the initial steps in such an effort is simply that of structuring the data in an appropriate form. This represents a key step in the process. This paper presents data drawn from the National Accounts of Ecuador, which has been aggregated into 7 sectors relevant for policy analysis.

A fundamental distinction made in this work is between traded and non-traded goods. The importance of this arises from the fact that the structure of incentives reflects the relative price of traded to non-traded goods. At a fundamental level, it is this relation which determines the profitability of producing exportable and import-competing goods. In the case of the agricultural sector, this distinction is of particular importance, as the proportion

of value-added represented by tradable goods is significantly higher than the corresponding level for the economy as a whole. In other words, the agricultural sector is a highly open sector with respect to international markets. As a consequence, the agricultural sector is particularly sensitive to macroeconomic policies which might distort this relation

The results of this study are a series of price indices for each of seven sectors of the Ecuadorean economy. These form the basis for a series of studies that are being carried out with the Policy Analysis Unit under the Agricultural Sector Reorientation Project. The paper describes the procedures that were used to generate the key price indices for the years 1965 to 1986.

Scobie, Grant M., V. Jardine y D. Greene, "A Note on the Estimation of Producer Price Indices for Agricultural Policy Analysis in a Seven Sector Framework for Ecuador", Sigma One Corporation, Research Triangle Park, Carolina del Norte, EUA, diciembre 1988, 14 pp., (EMT.WP.05).

RESUMEN

El análisis de la política agrícola incluye una amplia gama de aspectos. Asímismo, existe una variedad de enfoques analíticos. En un extremo encontramos los enfoques parciales, que enfatizan las características de un mercado particular, o de un grupo de mercados relacionados. Típicamente, los elementos clave del análisis son los precios, la productividad, el área sembrada y el volumen de importaciones y exportaciones.

Sin embargo, cada día se hace más evidente que el comportamiento del sector agropecuario refleja no sólo la influencia de la política sectorial agropecuaria. Una comprensión balanceada de la evolución del sector requiere un amplio enfoque que incluya la política macroeconómica, así como la sectorial.

Para ese fin, es necesario ampliar el análisis para incorporar la generación de valor agregado, su distribución a los factores primarios a través del ingreso familiar, y la demanda de bienes y servicios nacionales y extranjeros. Es obligatorio desarrollar un esquema analítico que pueda usar estos elementos, ya que las políticas macroeconómicas a que se refieren tienen considerable influencia en la determinación de la estructura de incentivos que confrontan los diferentes sectores productivos.

Un primer paso en esa dirección es la presentación de los datos en una forma apropiada. Este trabajo presenta datos tomados de las Cuentas Nacionales del Ecuador, agregados en siete (7) sectores relevantes para el análisis de politica.

Este trabajo hace una distinción fundamental entre bienes comerciables y no-comerciables. La importancia de esta división surge del hecho de que la estructura de incentivos refleja el precio relativo de bienes comerciables a bienes no-comerciables. En un nivel básico, es este precio relativo el que determina la rentabilidad de producir bienes exportables y substitutivos de importaciones. En el caso del sector agropecuario, esta distinción es de particular importancia ya que la proporción de su valor agregado representado por bienes comerciables es mucho

mayor que igual proporción para la economía en general. Es decir que el sector agropecuario es sumanente abierto en relación a los mercados internacionales. En consecuencia, el sector agropecuario es particularmente sensible a las políticas macroeconómicas que alteran esa relación de precios.

El resultado de este trabajo es una serie de índices de precios para siete sectores de la economía ecuatoriana. Los índices representan la base para una serie de estudios llevados a cabo por la Unidad de Análisis de Política bajo el Proyecto de Reorientación del Sector Agropecuario. Este trabajo describe los procedimientos usados para generar los índices de precios más importantes para los años de 1965 a 1986.

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1. INTRODUCTION

The purpose of the note is to document the construction of a set of producer price indices for a seven sector representation of the Ecuadorean economy. An earlier Working Paper in this series (Scobie and Jardine, 1988b) described the procedures that were followed in the construction of a set of price and quantity data for a nine sector representation of the Ecuadorean economy. As the approach taken to develop the current seven sector disaggregation is fundamentally that used in the earlier study, only a brief description is required here. A full set of data for production, value added and intermediate and final demand for each of the seven sectors for 1965 to 1986 is given in Greene, Scobie and Ortiz (1988).

In the analysis of agricultural policy, there are many questions that can be addressed by focusing on a specific part of the sector (eg., oil seeds or cereals), or on a particular commodity (eg., rice or milk). Generally, such data as domestic and world prices, area, production and yield, marketing and processing costs, domestic consumption and exports or imports are the essential ingredients for economic analyses of past or proposed changes in agricultural policy.

However it is becoming increasingly evident that the performance of the agricultural sector depends on more than just those policies traditionally viewed as agricultural sector policies. Economic policies that alter the terms of trade facing the agricultural sector compared to both other sectors of the domestic economy, and with the rest of the world, have a major intluence on the production, consumption and trade of agricultural goods.

Furthermore, they affect the returns to factors used in the sector, and so influence the level of incomes, and the growth of employment and investment in the sector. Changes in the level of factor incomes are transmitted to households that own the productive factors (the labour, skills and capital), in turn influencing their demand for both farm and non-farm commodities.

To analyse the impact of such polices as tariffs on imported manufactured goods, an increase in the government deficit, a change in the rate of inflation or the level of the nominal exchange rate requires an analytical framework that goes beyond the partial approach of say, the rice market. It must allow for the competition for resources between sectors of the economy, it must incorporate the returns to factors as income to households, and it must recognise that agriculture in Ecuador is a highly traded sector, with a very large part of the output being importable or exportable.

The National Accounts are based on the concept of a circular flow of goods, factors and payments and therefore form the basis for constructing a data set of the type necessary to address the impact of macroeconomic and trade policies on the agricultural sector.

However the National Accounts were not compiled with this task in mind. For this reason it is necessary to restructure them in a manner which is consistent with the aims of agricultural policy analysis.

2. SEVEN SECTOR CLASSIFICATION

The total Gross Domestic Product is divided into two major sectors, the agricultural (a) and non-agricultural sectors (n). These in turn are each subdivided into tradable components comprising exportable (x) and importable (m) sectors, and a non-tradable or home goods sector (h).

The tradable goods comprise those which are both actually traded and potentially tradable. The fundamental distinction between tradable and home goods is the manner in which the domestic prices are determined. Tradable goods include all those whose prices are set in world markets, although the domestic price will reflect the exchange rate and trade policies adopted by Ecuador. In contrast, home goods are those where the domestic prices reflect the internal supply and demand for the good or service; changes in foreign market conditions have little or no im-

pact. Inevitably there is an element of arbitrariness in this distinction. In general, Ecuador is a very open economy, especially in the case of agriculture, and any goods in doubt were included in one of the traded categories.

In the agricultural sector, there are further divisions, reflecting the degree of processing of primary agricultural products between foods and non-foods (eg. coffee and sugar), and important geographical and political differences between the coast and the sierra and between the petroleum and other exportable sectors.

The final 7 sector classification can be described by the following equations in which the symbol Z is used for Value Added (GDP), and the codes for the sectors are:

a = agriculture
n = non-agriculture
x = exportables
m = importables
h = home goods
t = tradables (exportables and importables).

Two of the groups have further subdivisions:

ax = agricultural exportables includes basic (axb) and processed (axp) commodities
am = agricultural importables coming from the coast (amc) and the sierra (ams).

(1) $Z = Za + Zn$
(2) $Za = Zax + Zam$
(3) $Zn = Znx + Znm + Znh$
(4) $Zax = Zaxb + Zaxp$
(5) $Zam = Zamc + Zams$
(6) $Zm = Zam + Znm$
(7) $Zx = Zax + Znx$
(8) $Zat = Zam + Zax$
(9) $Znt = Znm + Znx$
(10) $Zt = Zat + Znt$

so that the complete 7 sector breakdown can be written as:

(11) $Z = Zaxb + Zaxp + Zamc + Zams + Znx + Znm + Znh$

The disaggregation is exhaustive and exclusive; ie, total GDP (Z) is included and no part of GDP appears in more than one category.

The data are analysed on the basis of the 33 sector level of the National Accounts. Details of this classification are given in Banco Central del Ecuador (1987). The complete disaggregation showing the assignment of the categories of the National Accounts to the seven sectors is given below.

3. ALLOCATION OF GDP TO THE SEVEN SECTOR MODEL

01.0.0.0	**Banano, cafe, cacao**			**axb**
02.0.0.0	**Otras productos agricolas**			
	02.1.0.0	Cana de azucar		axb
	02.2.0.0	Cereales		ams
	02.2.1.0	Trigo		ams
	02.2.2.0	Maiz		
			Maiz duro	amc
			Maiz suave	ams
	02.2.3.0	Cebada		ams
	02.2.4.0	Arroz		amc
	02.2.5.0	Otros cereales		ams
	02.3.0.0	Tabaco en rama		[illegible]
	02.4.0.0	Tuberculos		[illegible]
	02.5.0.0	Hortalizas y leguminosas		ams
	02.6.0.0	Frutas		axb
	02.7.0.0	Oleaginosas		amc
	02.8.0.0	Fibras		amc
	02.9.0.0	Otros productos		axb
03.0.0.0	**Produccion animal**			
	03.1.0.0	Ganado		amc
	03.2.0.0	Leche cruda		ams
	03.3.0.0	Aves de corral		amc
	03.4.0.0	Huevos		amc
	03.5.0.0	Otros productos		ams
04.0.0.0	**Productos silvicolas, de la tala y de la corta**			**axb**
05.0.0.0	**Productos de la caza y de la pesca**			**axb**
06.0.0.0	**Petroleo crudo y gas natural**			**nx**
07.0.0.0	**Productos de la refinacion del petroleo**			**nx**
08.0.0.0	**Otros productos mineros**			**nx**
09.0.0.0	**Carnes y pesacdo elaborado**			
	09.1.0.0	Carnes		amc
	09.2.0.0	Productos de pescado		axp
10.0.0.0	**Cereales y panaderia**			**ams**
11.0.0.0	**Azucar**			**axp**
12.0.0.0	**Productos alimenticios diversos**			
	12.1.0.0	Productos lacteos		ams

	12.2.0.0	Elaboracion de cacao y productos de confiteria	axp
	12.3.0.0	Cafe elaborado	axp
	12.4.0.0 to 12.9.0.0		amc
13.0.0.0	**Bebidas**		**nm**
14.0.0.0	**Tabaco elaborado**		**nm**
15.0.0.0	**Textiles, prendas de vestir y productos de cuero**		**nm**
16.0.0.0	**Madera**		
17.0.0.0	**Papel y imprentas**		**nm**
18.0.0.0	**Productos quimicos, plasticos y del caucho**		**nm**
19.0.0.0	**Minerales basicos, metalicos y no metalicos**		**nm**
20.0.0.0	**Maquinaria, equipo y material de transporte**		**nm**
21.0.0.0	**Otros productos manufacturados**		**nm**
22.0.0.0	**Electricidad, gas y agua**		**ah**
23.0.0.0	**Construccion y obras publicas**		**nh**
24.0.0.0	**Comercio**		**nh**
25.0.0.0	**Transporte**		**nh**
26.0.0.0	**Comunicaciones**		**nh**
27.0.0.0	**Servicios financieros**		**nh**
28.0.0.0	**Alquiler de vivienda**		**nh**
29.0.0.0	**Servicios prestados a las empresas**		**nh**
30.0.0.0	**Hoteles, bares y restaurantes**		**nh**
31.0.0.0	**Sevicios a los hogares**		**nh**
32.0.0.0	**Servicios gubermentales**		**nh**
33.0.0.0	**Servicio domestico**		**nh**

4. OUTPUT PRICE INDICES

For the agricultural sector these were constructed by selecting a group of commodities to be representative of each of the 4 sub-sectors as follows:

axb: Sugar cane, coffee, cocoa, bananas and plantain.

axp: Processed coffee, cocoa, shrimp and fish products.

amc: Rice, hard corn, soya, African palm, cotton, beef, chicken.

ams: Wheat, milk, potatoes, barley tomatoes, lentils, peas, soft corn, beans and cassava

The range of goods that were included were restricted to those for which farm gate prices were available. A weighted price index was formed for each of the 4 sub-sectors based on the share of each good in the total value of production of the sub-sector at 1980 prices. In some earlier years, data for all the goods were not available, in which case the index for the sub-sector reflects a reduced number of goods. The price indices (PZ) are given by

(12) $$PZi = \Sigma \{(Vr/\Sigma Vr) * Pr\}$$

where Vr is the value of the r-th good in 1980 prices, and Pr the farm level price of the r-th good in i-th group.

The index of domestic prices for petroleum was taken as the export price in $US received by Ecuador, converted at the nominal exchange rate, and corrected for the taxes paid on petroleum (Scobie and Jardine, 1988a); ie an equivalent exchange rate, which incorporates what can be viewed as export taxes. The same procedure was used for non-petroleum exports, the price index for which converted export prices received by Ecuador for cocoa, coffee, fish products and shrimp to domestic currency using equivalent exchange rates (Keeler, Scobie and Greene, 1987). These rates were calculated from a detailed examination of all the trade policy interventions directed at these commodities.

It should be noted that much of the coffee, cocoa, and shrimp that is exported is recorded in the national accounts in sector (12) as part of Manufacturing. This reflects the fact that food processing is an important non-farm industry using raw materials produced in the agricultural sector but adding other inputs, labour and capital services to produce much of the country's exports. For this reason a processed agricultural export category (axp) was defined to allow for the food processing industry.

Finally the index for the non-agricultural importable goods sector (nm) is taken as the wholesale price index, while the non-agricultural home goods sector (nh) is taken as the implicit GDP deflator for that sector (which comprises sectors (22) to (33) of the National Accounts), as a large share of the value of production is value added in these activities.

The price indices are given in Table 1 for the seven sectors.

5. AGGREGATED PRICE INDICES

For some purposes, it is useful to aggregate these indices, into the various categories described in equations (1) to (11). The results of such an aggregation are given in Table 2. It should be noted that these aggregate indices were formed by weighting the price indices for the seven sectors by the respective shares of each of the sectors in total GDP. The composition of GDP from which the sectoral shares were computed is given, in both constant and current price terms, in Tables 4 and 5, respectively.

Table 3 shows a recomputed set of indices from which the petroleum sector has been excluded. Given that there are only weak linkages in production between petroleum and other sectors, some subsequent analyses may require examining the incentives facing the tradable sector with and without petroleum.

TABLES

TABLE 1 : ECUADOR . 7 SECTOR GDP PRICE INDICES

YEAR	AGRICULTURAL SECTORS				NON-AGRICULTURAL SECTORS		
	Exportable		Importable		Exportable	Importable	Home
	Basic	Processed	Coast	Sierra			
	PZaxb	PZaxp	PZamc	PZams	PZInx	PZInm	PZInn
1965	49.46	18.16	39.23	21.56	10.56	46.54	36.28
1966	50.25	19.34	21.54	21.49	10.56	47.80	38.91
1967	41.44	20.30	23.69	24.30	10.56	48.73	41.34
1968	42.07	21.49	22.78	25.38	10.56	49.43	43.48
1969	46.68	23.26	32.41	31.72	10.56	51.66	46.66
1970	60.88	27.61	59.94	37.54	14.66	54.27	50.93
1971	48.93	38.42	57.29	51.57	18.73	61.38	54.98
1972	53.46	44.76	63.03	59.09	20.34	65.44	62.13
1973	86.78	53.15	74.78	65.63	33.90	72.41	71.06
1974	90.67	87.96	86.59	79.52	113.56	87.64	85.09
1975	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1976	107.48	130.28	101.28	101.17	101.69	117.09	115.77
1977	137.50	180.34	106.78	112.54	109.32	126.21	133.56
1978	99.51	155.98	126.63	137.98	105.93	147.33	150.72
1979	107.46	162.67	138.83	153.56	194.92	163.28	165.94
1980	116.99	148.32	144.07	185.12	298.31	177.21	201.41
1981	97.07	116.70	202.37	208.20	291.53	192.55	237.10
1982	116.43	143.60	249.84	220.99	361.84	225.07	274.63
1983	217.59	361.75	439.56	368.43	506.16	258.45	363.18
1984	334.48	398.74	546.62	464.03	623.98	318.01	481.45
1985	396.54	466.19	742.04	577.68	840.65	401.11	642.03
1986	579.13	970.89	825.40	851.13	635.66	534.30	828.48

TABLE 2 : ECUADOR : 7 SECTOR AGGREGATED GDP PRICE INDICES (1975 = 100)

YEAR	TRADABLE SECTOR									NON-TRADABLE SECTOR
	Exportable			Importable			Total			
	Agric. PZax	Non-Ag. PZnx	Total PZx	Agric. PZam	Non-Ag. PZnm	Total PZm	Agric. PZat	Non-Ag. PZnt	Total PZt	Total PZh
1965	40.95	10.56	43.64	30.07	46.54	42.61	34.82	47.27	42.76	36.28
1966	41.83	10.56	45.52	21.52	47.80	31.54	30.41	48.78	42.11	38.91
1967	35.62	10.56	39.42	24.00	48.73	42.94	29.17	50.00	42.45	41.34
1968	36.75	10.56	42.42	24.16	49.43	43.99	30.31	51.33	43.76	43.48
1969	39.96	10.56	48.45	32.05	51.66	47.13	35.33	53.78	47.28	46.65
1970	51.25	14.66	64.42	48.27	54.27	52.87	49.54	56.79	54.18	50.93
1971	45.84	18.73	54.45	54.30	61.38	59.79	50.53	63.86	59.15	54.98
1972	50.96	20.34	40.56	61.05	65.44	64.44	55.58	60.57	59.29	62.13
1973	76.84	33.90	48.77	70.37	72.41	71.97	73.19	61.40	64.44	71.06
1974	89.88	113.56	103.94	83.36	87.64	86.73	86.16	93.57	91.59	85.09
1975	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1976	115.22	101.69	107.46	101.24	117.09	113.86	106.96	114.12	112.26	115.77
1977	130.88	109.32	119.70	108.75	126.21	122.98	118.55	123.46	122.22	133.56
1978	118.49	105.93	111.63	130.32	147.33	144.45	124.88	140.19	136.55	150.72
1979	127.02	194.92	164.17	143.36	163.28	159.89	135.85	168.77	160.93	165.94
1980	128.14	298.31	216.23	156.95	177.21	173.82	143.92	195.53	183.27	201.41
1981	103.94	291.53	202.86	204.22	192.55	194.64	160.66	208.12	196.49	237.10
1982	125.36	361.84	247.16	240.67	225.07	227.85	190.33	245.77	232.12	274.63
1983	269.05	506.16	414.78	416.68	258.45	286.04	354.84	306.85	317.71	363.18
1984	356.46	623.98	523.78	520.77	318.01	354.41	452.72	380.82	397.28	481.45
1985	418.86	840.65	680.58	691.22	401.11	453.00	572.61	495.85	513.69	642.03
1986	702.83	635.66	661.55	832.79	534.30	588.73	774.84	556.86	608.82	828.48

TABLE 3 : ECUADOR : 7 SECTOR AGGREGATED GDP PRICE INDICES EXCLUDING PETROLEUM (1975 = 100)

YEAR	TRADABLE SECTOR							NON-TRADABLE SECTOR
	Exportable	Importable			Total			
	Total	Agric.	Non-Ag.	Total	Agric.	Non-Ag.	Total	Total
	PZx	PZam	PZnm	PZm	PZat	PZnt	PZt	PZh
1965	40.95	30.07	46.54	42.61	34.82	46.54	42.35	36.28
1966	41.83	21.52	47.80	41.54	30.41	47.80	41.59	38.91
1967	35.62	24.00	48.73	42.94	29.17	48.73	41.79	41.34
1968	36.75	24.16	49.43	43.99	30.31	49.43	42.76	43.48
1969	39.96	32.05	51.66	47.13	35.38	51.66	46.09	46.66
1970	51.25	48.27	54.27	52.87	49.54	54.27	52.63	50.93
1971	45.84	54.30	61.38	59.79	50.58	61.38	57.69	54.98
1972	50.96	61.05	65.44	64.44	56.58	65.44	62.37	62.13
1973	76.84	70.37	72.41	71.97	73.19	72.41	72.66	71.06
1974	89.88	83.36	87.64	86.73	86.16	87.64	87.17	85.09
1975	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1976	115.22	101.24	117.09	113.86	106.96	117.09	114.02	115.77
1977	130.88	108.75	126.21	122.98	118.55	126.21	123.99	133.56
1978	118.49	130.32	147.33	144.45	124.88	147.33	141.18	150.72
1979	127.02	143.36	163.28	159.89	135.85	163.28	155.74	165.94
1980	128.14	156.95	177.21	173.82	143.92	177.21	168.27	201.41
1981	103.94	204.22	192.55	194.64	160.66	192.55	183.68	237.10
1982	125.36	240.67	225.07	227.85	190.33	225.07	215.42	274.63
1983	269.05	416.68	258.45	286.04	354.84	258.45	284.14	363.18
1984	356.46	520.77	318.01	354.41	452.72	318.01	354.64	481.45
1985	418.86	691.22	401.11	453.00	572.61	401.11	448.86	642.03
1986	702.83	832.79	534.30	588.73	774.84	534.30	603.34	828.48

TABLE 4 : ECUADOR : 7 SECTOR GDP AT CONSTANT PRICES (Millions 1975 Sucres)

YEAR	AGRICULTURAL SECTORS				NON-AGRICULTURAL SECTORS			TOTAL
	Exportable		Importable		Exportable	Importable	Home	GDP
	Basic	Processed	Coast	Sierra				
	Zaxb	Zaxp	Zamc	Zams	Znx	Znm	Znh	Z
1965	5408	2021	4615	4965	-604	3784	30517	50706
1966	5546	2079	4935	4849	-805	4024	31317	51945
1967	5962	2266	4997	5267	-1083	4507	33596	55512
1968	6906	2404	4576	5169	-1656	4799	35551	57749
1969	5717	2299	5355	5673	-1795	5200	36646	59096
1970	6209	2532	5604	6100	-2314	6068	38713	62912
1971	6657	2772	5727	6261	-2271	6419	41286	66852
1972	7018	2841	6165	6226	5071	7296	41876	76493
1973	6934	2911	6607	6136	18575	8280	46425	95867
1974	7557	3113	7725	6484	15597	8951	52619	102046
1975	7386	3305	8471	6863	12482	10516	58716	107740
1976	7423	3813	10221	5980	15127	11930	63184	117679
1977	8517	4026	10391	5395	13509	13828	69703	125369
1978	8619	4363	10303	4965	15605	14903	74875	133632
1979	8791	4823	11101	4929	16448	16353	78273	140718
1980	9044	4999	11670	5335	15[illegible]	16958	84547	147622
1981	9321	5012	12765	5903	15992	18805	85645	153443
1982	9816	4804	12871	5995	15527	19199	87053	155265
1983	8021	4452	11737	5566	19893	19297	81918	150885
1984	8619	4483	12733	5800	21879	19015	84697	157226
1985	9986	4708	13158	5890	24027	19041	87447	164258
1986	10929	5044	14144	5702	25475	18720	88981	168995

TABLE 5 : ECUADOR : 7 SECTOR GDP AT CURRENT PRICES (Millions 1975 Sucres)

YEAR	AGRICULTURAL SECTORS				NON-AGRICULTURAL SECTORS			TOTAL
	Exportable		Importable		Exportable	Importable	Home	GDP
	Basic	Processed	Coast	Sierra				
	Zaxb	Zaxp	Zamc	Zams	Znx	Znm	Znh	Z
1965	2250	932	2042	2225	456	1744	11072	20721
1966	2614	1015	2211	2147	461	1964	12186	22596
1967	2782	1102	2345	2455	475	2192	13887	25238
1968	3197	1207	2182	2423	537	2410	15457	27412
1969	2903	1234	2699	2784	631	2792	17100	30144
1970	3567	1316	2771	3455	543	3648	19718	35019
1971	4012	1584	3025	3672	622	4433	22700	40048
1972	4686	1820	3588	3975	1543	5229	26018	46859
1973	5224	2255	4587	4492	6172	6512	32988	62229
1974	7460	3351	6815	5767	16320	8276	44774	92763
1975	7386	3305	8471	6863	12482	10516	58716	107740
1976	9576	4855	11276	6453	14224	13380	73149	132913
1977	13425	6574	13938	6882	15677	16786	93094	166376
1978	13536	7770	15686	7112	13657	20729	112955	191345
1979	14699	9164	18586	7694	27519	26416	129885	233963
1980	15318	10455	21181	8930	35686	31484	170282	293337
1981	15423	10711	26158	11556	44015	37733	203065	348662
1982	18694	12765	31559	14740	52412	46472	239073	415715
1983	26606	19188	45158	24945	86115	60749	297509	560271
1984	40945	33270	71833	39914	126833	92057	407777	812629
1985	54213	43172	97058	52976	189945	112872	561435	1111671
1986	83527	57000	127911	61987	148149	150543	737187	1366304

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