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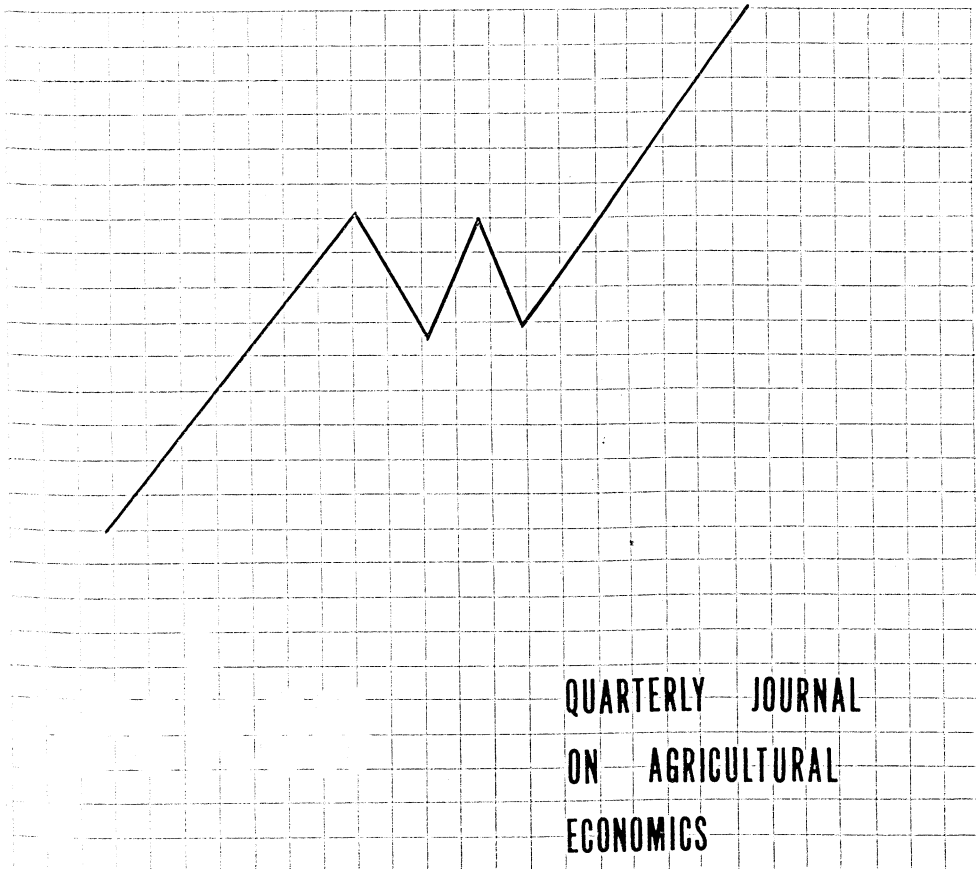
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Deserving articles in the field of agricultural economics, for publication in this journal, will be welcomed.

These articles should have a maximum length of 10 folio pages (including tables, graphs, etc.), typed in double spacing. All contributions should be submitted in triplicate to the editors, c.o Department of Agricultural Economics and Marketing, Pretoria, and should be received by the editors at least one month prior to publication date.

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# Contribution of the Agricultural Sector to the Domestic Income of the Republic

(by L.W.A. Nel, Division of Economics and Markets)

## Introduction

Since the inception of the National Accounts Section of the Bureau of Census and Statistics in 1946 (with the specific purpose of continuing the work of Prof. Frankel on the calculation of the Republic's national income), the Division of Economics and Markets has been responsible for the calculation of the contribution of the agricultural sector to the domestic income of the country. A similar function has, however, been fulfilled by the Division since 1936.

As a result of the nature of the economic activities in the agricultural sector, the market-price method is being used, as against the income-type method which is being used for the calculation of the other sectors' contributions. The latter involves the aggregation of the main kinds of factor income, namely wages and salaries, rent, interest and profit. The market-price method entails the following: Calculation of the farm value (also termed gross value) of agricultural production on the basis of the volume of production and the net producers' price; that is, the average price realised by the producer after deduction of marketing costs. The net change in livestock inventory is taken into account in the farm value of agricultural production. From the farm value is deducted the value of seed and feed, originating from the agricultural sector, and the value of production goods and services purchased by the agricultural sector. The residual is the contribution of the agricultural sector to the gross domestic product.

Subsequently, depreciation charges are deducted from the gross domestic product in order to arrive at the net contribution of the agricultural sector to the net domestic income. Depreciation of capital assets is calculated per annum at 10 per cent on machinery, equipment and vehicles, and 2 per cent on fixed improvements.

The contribution of the agricultural sector is subdivided according to factor income by the National Accounts Section of the Bureau of Census and Statistics, namely "wages and salaries" and "other income". The latter includes rent, interest and profits.

As a result of the necessity to be informed also of the short-term economic situation in agriculture, the Division has been calculating since 1960 the "receivable income" of the agricultural sector on a quarterly basis. Lack of complete statistical data has made it impossible to use the ideal method, namely "income received". The

latter represents the value of products which have already been sold and the actual costs of products in stock on farms. The difference between "receivable income" and "income received" is therefore only in respect of the difference in valuation of products in stock on farms. These calculations, which are also made available to the S.A. Reserve Bank, will be published in due course in this journal.

### Farm value (gross value) of agricultural production

Table 1 shows the farm value of agricultural products during the past five seasons. The largest increases during this period occurred in respect of maize, sugar-cane, groundnuts, slaughter stock, freshmilk and dairy products; while the largest decrease occurred in respect of wool. This decrease could be ascribed mainly to the decrease in the price of wool.

Table 1. Farm value (gross value) of agricultural production  
(R1,000)

Field crops and horticultural products	1956/57	1957/58	1958/59*	1959/60*	1960/61*
Maize	122,990	103,421	120,015	128,136	153,319
Wheat	47,472	39,534	36,230	43,368	45,897
Oats	3,524	3,336	4,541	4,119	4,235
Barley	728	734	947	989	1,019
Rye	172	270	188	220	215
Kaffircorn	8,146	6,868	8,964	8,242	11,155
Hay	11,200	10,422	13,878	14,266	14,266
Dried beans	4,335	4,571	6,364	6,253	8,017
Dried peas	694	480	521	537	
Sugar-cane	28,780	32,232	39,148	36,188	35,465
Chicory	648	292	1,103	700	800
Tobacco	12,833	18,371	15,833	16,802	15,022
Cotton	3,760	3,112	3,010	1,850	2,946
Groundnuts	13,838	10,324	13,844	15,536	19,200
Sunflowerseed	3,616	3,182	4,590	4,283	5,124
Wattle bark	8,522	7,332	7,888	7,888	7,800
Potatoes	9,562	12,840	15,301	8,798	9,870
Sweet potatoes	528	660	720	616	590
Citrus	27,381	22,494	20,177	17,893	23,300
Deciduous fruit	28,251	32,005	29,646	30,325	31,813
Tropical fruit	7,716	6,426	7,660	7,592	8,372
Viticultural products	11,128	11,810	14,578	15,304	14,979
Dried fruit	1,630	2,452	2,344	2,400	2,400
Vegetables	18,903	22,316	21,007	20,648	22,277
Other	6,774	6,399	6,993	7,073	7,885
<b>TOTAL</b>	<b>383,131</b>	<b>361,883</b>	<b>395,490</b>	<b>400,026</b>	<b>445,966</b>
<b>Livestock products:</b>					
Wool	133,738	95,910	74,280	91,728	81,618
Mohair	4,410	3,590	4,622	7,092	6,080
Karakul pelts	2,678	2,816	2,444	3,038	2,681
Ostrich feathers	225	207	208	278	330
Slaughter stock: Cattle	73,980	76,804	76,726	81,194	83,633
Sheep	39,617	41,082	39,033	46,541	44,560
Pigs	16,176	15,315	11,709	14,709	13,355
Fresh milk	49,364	50,732	53,272	55,120	54,641
Dairy products	35,091	35,713	35,884	40,282	44,224
Poultry products	29,436	28,202	29,222	31,672	32,174
Other	4,386	4,461	4,425	4,851	4,907
<b>TOTAL</b>	<b>389,104</b>	<b>354,832</b>	<b>331,825</b>	<b>376,505</b>	<b>368,203</b>
<b>GRAND TOTAL</b>	<b>772,235</b>	<b>716,715</b>	<b>727,315</b>	<b>776,531</b>	<b>814,169</b>

\* Provisional

As has been pointed out above, farm value is based on the volume of production and the average realised producers' prices.

Tables 2 and 3 show respectively the indices of the volume of agricultural production and producers' prices during the post-war period. From table 2 it appears that the physical production of field crops, horticultural products and animal products increased by 76, 111 and 41 per cent respectively during this period, while total agricultural production increased by 63 per cent.

From table 3 it appears that producers' prices of slaughter stock, fresh milk, dairy products and poultry products together reflect the largest increase, while pastoral products (consisting mainly of wool) reflect a considerable decrease since the peak in wool prices in 1950/51. In general, prices increased rapidly until about 1952/53, whereafter they remained fairly constant.

Table 2. Indices of the volume of agricultural production. (1947/48 - 1949/50 = 100)

Production season	Field crops	Horticultural products	Livestock products	Total
1947/48	110	95	96	102
1948/49	89	98	100	95
1949/50	101	108	104	103
1950/51	115	110	108	111
1951/52	97	109	110	105
1952/53	120	127	117	119
1953/54	130	138	119	125
1954/55	131	147	122	128
1955/56	142	179	126	139
1956/57	154	189	131	147
1957/58	141	190	129	141
1958/59*	155	196	131	148
1959/60*	153	219	138	154
1960/61*	176	211	141	163

\*

Preliminary.

Revisions have been effected to the abovementioned indices since it was published in the first issue of this journal.

Table 3. Indices of producers' prices of agricultural, horticultural and livestock products  
(1947/48 - 1949/50 = 100)

Marketing season	Field crops	Horticultural products	Pastoral products	Livestock products excluding pastoral	Total Agricultural products	Total excluding pastoral products
1947/48	97.3	96.5	78.5	97.7	93.4	97.2
1948/49	100.8	98.7	95.8	99.4	99.0	99.9
1949/50	101.9	104.8	125.7	102.9	107.6	102.9
1950/51	108.0	111.3	263.7	115.8	142.9	111.4
1951/52	119.0	132.3	139.8	132.0	129.4	126.7
1952/53	132.6	140.9	172.4	139.7	144.3	136.9
1953/54	127.7	128.2	170.0	144.3	141.1	133.5
1954/55	124.0	136.7	144.5	146.7	136.7	134.7
1955/56	125.6	134.1	128.9	150.4	134.6	136.0
1956/57	123.0	134.8	168.9	154.9	143.3	136.6
1957/58	125.1	139.3	128.1	160.1	137.8	140.3
1958/59	121.8	148.0	103.4	154.2	131.5	138.9
1959/60*	121.1	134.9	123.1	159.8	134.5	137.5
1960/61*	127.3	139.0	109.9	157.5	134.0	140.3

\* Preliminary

#### Contribution of the agricultural sector to the domestic income of the Republic

Table 4 shows the contribution of the agricultural sector to the Republic's gross and net domestic income. The value of forestry and fisheries is not included herewith.

During the past three seasons, viz. 1958/59, 1959/60 and 1960/61, the relative contribution to the net domestic income amounted respectively to 10.4, 10.5 and 10.4 per cent, as against an average of 14 per cent annually during 1947/48 to 1949/50. It therefore appears that the relative contribution of the agricultural sector to the net domestic income has decreased during the post-war years.

Table 4. Contribution of agriculture<sup>1)</sup> to the Republic's domestic income. (R1,000)

Year	Farm value of agricultural production	Net change of livestock inventories	Seed and animal feed originating from agricultural sector	Production goods and services bought	Contribution gross domestic income bought	Depreciation	Contribution to net domestic income
	2)			3)	4)	5)	
1936/37	130,428	+ 5,996	8,234	23,780	104,410	9,000	95,410
1937/38	125,350	- 2,846	9,698	23,338	89,468	9,800	79,668
1938/39	136,046	+ 4,006	8,516	25,636	105,900	10,400	95,500
1939/40	145,808	+ 1,098	12,246	27,494	107,166	11,800	95,366
1940/41	157,008	- 744	12,784	29,438	114,042	13,800	100,242
1941/42	182,880	- 976	17,094	31,560	133,250	15,600	117,650
1942/43	234,380	+ 744	21,388	37,040	176,696	16,600	160,096
1943/44	239,986	+ 3,762	23,236	41,548	178,964	17,200	161,764
1944/45	246,100	- 3,284	23,924	44,202	174,690	17,200	157,490
1945/46	262,510	- 8,558	26,860	51,362	175,730	17,200	158,530
1946/47	307,094	- 9,728	26,890	55,074	215,402	18,800	196,602
1947/48	376,191	+ 17,222	29,758	69,484	294,170	21,800	272,371
1948/49	374,934	- 8,710	34,822	62,588	268,814	26,400	242,414
1949/50	434,343	- 18,990	38,044	81,962	295,347	33,200	262,147
1950/51	604,968	+ 22,648	38,612	88,402	500,600	40,600	460,002
1951/52	536,033	+ 11,662	50,038	94,842	402,815	48,200	354,615
1952/53	655,669	- 522	54,290	104,498	496,359	52,800	443,559
1953/54	686,814	+ 7,132	42,596	115,944	535,406	54,000	481,406
1954/55	681,336	+ 2,296	47,530	127,502	508,600	56,400	452,200
1955/56	697,154	+ 5,558	50,846	134,866	516,980	59,600	457,380
1956/57	722,235	+ 16,788	46,108	147,050	595,865	62,400	533,465
1957/58	716,715	- 2,728	53,014	151,870	509,103	64,700	444,403
1958/59 <sup>6)</sup>	727,315	- 8,868	53,697	166,286	499,164	66,800	432,364
1959/60 <sup>6)</sup>	776,531	-	59,631	180,000	536,900	69,700	467,200
1960/61 <sup>6)</sup>	814,169	-	64,756	190,000	559,413	71,700	487,713

1) Excluding forestry and fisheries.

2) Calculated at farm prices (i.e. market prices less marketing costs) and includes production of Europeans and non-Europeans.

3) Since 1949/50 estimates have been based on census figures; for previous years figures were estimated with the aid of an index compiled from local production and imports of the main farming requisites.

4) Contribution to gross domestic production: Farm value of agricultural production plus/minus value of net change in livestock inventories minus value of animal feed and seed originating from the agricultural sector minus value of production goods and services bought.

5) Calculations based on annual revaluation of capital assets, at 10% p.a. on machinery, implements and vehicles, and 2% p.a. on fixed improvements. These estimates are made according to calendar years and converted a July-June year on a fifty-fifty basis. Depreciation on dwellings is included.

6) Preliminary.

### Factor income of the agricultural sector

According to the latest calculations of the National Accounts Section of the Bureau of Census and Statistics, the factor income of the agricultural sector is as follows:

Table 5.      Factor contribution of the agricultural sector to the net domestic income of the Republic.      (R Million)

Year	Salaries and wages	Other income	Total income
1953/54	126.4	355.0	481.4
1954/55	131.3	320.9	452.2
1955/56	126.2	331.2	457.4
1956/57	132.0	401.5	533.5
1957/58	135.2	309.2	444.4
1958/59	146.1	286.2	432.4
1959/60*	143.4	323.8	467.2
1960/61*	148.0	339.7	487.7

\*

Preliminary

Source: Bureau of Census and Statistics.

"Salaries and wages" includes cash wages and salaries as well as remuneration in kind, while "other" income consists of the income from capital (consisting of net profits, net rent of all fixed property and interest) ..

From table 5 it appears that the income of farmers as entrepreneurs, as set out above, fluctuates relatively a good deal from year to year. This is ascribed to various factors, particularly climatic factors and prices of certain products. The remuneration of labour shows a constant increasing tendency, relatively as well as absolutely.

(In a later issue of this journal an article will be published on the compilation of price indices by the Division of Economics and Markets).