Impacts Of Agricultural Policies On Income And Income Distribution in Turkey: A Social Accounting Matrix Analysis

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ABSTRACT

This study aims to determine the impacts of previous and current agricultural support policies of Turkey on incomes, particularly of rural and urban households, and on distribution of this income among households that were separated according to income by quintile. To achieve this goal, a Social Accounting Matrix (SAM) was constructed for the year 2006, disaggregated in a way to emphasize on household incomes and agriculture sector, and multiplier analysis was made for aggregated and disaggregated SAMs.

According to the results derived from analysis of multipliers, it is concluded that, direct payments to households (i.e. Direct Income Support, and deficiency payments) and support structure designated in Agriculture Law, which was prepared based on World Trade Organization Agriculture Agreement negotiations and Turkey's European Union membership process, lead more positive results than support structure implemented before 2000, in the means of income and distributive effects.

Keywords: Agricultural Supports, Social Accounting Matrix, Income Distribution

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INTRODUCTION

Due to direct impacts of seasonal changes on agricultural production and inelastic demand on agricultural products, incomes of producers are generally irregular. Thus, it is unavoidable for governments to support agriculture sector in whole world. Government interventions in Turkish agricultural sector date back to 1932, when a minimum price for wheat was established (Dogruel, et. al.). Price support and input subsidies remained as main policy instruments until 2000, causing market distortion.

Over the last decade, gradual and significant long-term structural changes related to agricultural support policies have been implemented in Turkey. Economic crises, increased burden on budget, and developments in international area have been the main grounds for these changes. In coming years, especially due to World Trade Organization (WTO) and European Union (EU) negotiations, changes will continue in support structure and the sector itself.

This study aims to investigate the economy-wide and household-specific income increase and income distribution effects of agricultural support policies that were and being implemented in Turkey, for which not so many empirical or econometric studies were conducted to show the effects or efficacies during the reform process. For this purpose, the relevant multipliers are derived using a Social Accounting Matrix (SAM) framework that is known to be capable of describing certain structural features of an economy by capturing the interactions between various micro and macro accounts.

Main focus of the study will be to disclose the income effects of agricultural support policies on rural and urban households in different income groups as well as overall effects. Distributive effects of alternative supports will also be examined. The main target of agricultural supports are supposed to be households with less income and facing the highest risk of seasonal income irregularity, and it's important to see the effects of the supports on these households, compared to higher income and non-agricultural groups.

Agriculture Sector and Support Policies in Turkey

Since most of Turkish households have traditionally occupied with agriculture for centuries and the sector has significant shares in both employment (27.3% in 2007) and GDP (9% in

2006) (Turkstat), compared to developed countries and EU, agriculture sector still has a considerable importance for the developing Turkish economy.

After 2000, because of high burden on budget and inefficiency of existing policies, "Agricultural Restructure and Reform Program" was implemented, consisting "Agricultural Reform Implementation Project (ARIP)", which was applied with the coordination of the World Bank and primarily aimed to lessen the burden on budget, gradually remove price supports and input subsidies, and reduce government intervention on agriculture sector. Under the ARIP, an annual *Direct Income Support* (DIS) payment to cushion the losses associated with the removal of administered prices and input subsidies is granted on a per-hectare basis, within an upper limit of 50 ha, to all farmers registered with the National Farmer Registration System (NFR) at a flat rate. At the end of 2005, DIS was applied to over 17 million hectares of land, and 2.75 million farmers have been registered under the NFR system (OECD, 2007). Following the extension and broadening, a new component, the "Participatory Rural Development Program", was included in the ARIP, consisting of three sub-components: land consolidation, institutional reinforcement of farmers' organizations; and a village-based participatory investment program.

Based on production costs, world and domestic prices, *deficiency payments* are implemented for olive oil, oilseeds, cotton, canola, tea, and, as of 2005, for cereals. Compensatory payments are also granted to potato and livestock producers to compensate for income losses and partially to tea growers for the costs incurred in implementing the strict pruning requirements to control supply.

Livestock sector support policies (fodder crops, artificial insemination, milk premiums, risk-free livestock regions, bee-keeping, and fisheries) include numerous health and quality measures to meet the EU's sanitary standards. In 2006, more than 80% of the total government expenditure on input subsidies was used for improving livestock breeds. Also, enterprises that operate or invest in animal husbandry (including aquaculture and poultry), certificated seed production, greenhouse production, and cooling warehouse sectors and agro-industry, are supported for the cost of *electricity energy* consumption, at rates ranging from 20-50% (MARA, 2006).

Although *credit subsidies* were abolished in 2002, a new credit scheme at an interest subsidization rate of 25-60 % (equivalent to TRY 146 million in 2006) was provided to

producers in 2005 for organic farming, certified seed production and use, agricultural research and development, fishery products, investments on mechanization, animal husbandry, irrigation, greenhouse farming, gardening nurseries, aromatic and medicinal crops, and good farming practices.

Table 1 - Agricultural Support Payments 2000-2008 (In Thousand TRY)

Type of Support	2000	2001	2002	2003	2004	2005	2006
Deficiency Payment s	211.060	364.685	227.657	307.495	350.087	940.359	1.349.996
Cotton and Other Products	*195.337*	*338.604*	*186.150*	*268.300*	*309.962*	*628.050*	*929.914*
Cereals	*0*	*0*	*0*	*0*	*0*	*199.309*	*278.283*
Tea	*15.723*	*26.081*	*41.507*	*39.195*	*40.125*	*113.000*	*141.799*
Livestock and Animal Husbandry	11.000	44.000	83.200	106.650	247.550	345.000	678.982
Direct Income Support	1.667	83.640	1.876.574	2.329.646	2.480.279	2.380.422	2.690.098
DIS	*1.667*	*83.640*	*1.876.574*	*2.018.688*	*2.119.699*	*1.700.422*	*2.690.098*
Diesel and Fertilizer support	*0*	*0*	*0*	*310.959*	*360.580*	*680.000*	*0*
Compensatory Payments	0	0	0	0	4.500	12.485	13.030
Input Supports	120.000	100.000	1.000	0	0	0	8.041
Support Purchases (Tobacco)	0	0	83.600	0	0	0	0
Credit Subsidies	0	150.090	0	0	1.768	36.113	146.000
ARIP Transfers	0	48.022	28.835	46.730	27.934	29.449	5.062
Other	46.100	87.248	136.586	125.848	88.823	112.961	144.168
TOTAL	**389.827**	**877.685**	**2.437.452**	**2.916.369**	**3.200.941**	**3.856.789**	**5.037.367**

Source: Treasury

A National Rural Development Strategy paper, in line with the EU's Rural Development Program, has been prepared, and in this context Turkey will adapt the EU's agricultural policy aquis over the period 2005-15, a significant part of which concerns sanitary and phytosanitary measures, animal welfare, hygiene standards and food safety (OECD, 2007).

METHODOLOGY AND MODEL

One of the most commonly used Computable General Equilibrium (CGE) framework, Social Accounting Matrix (SAM) is a square matrix which shows the flows of expenditures and receipts among selected accounts of an economy in such a way to combine and reconcile input-output and national income accounts for a given period (Tin), usually a year, and providing a conceptual basis for examining both growth and distributional issues within a single analytical framework in an economy (Sen, 1996). While an input-output matrix captures only interdependencies between sectors in a disaggregated production account, a

SAM accounts for the interrelationships among production activities, production factors, income, consumption and capital formation. Each row of the SAM shows the receipts for a specific sector while the corresponding column lists the sector expenditure. Although there is no single, definitive SAM and the level of aggregation varies depending upon the focus of the analysis, main accounts that can be found in the rows of the matrix are; a) production activities, b) factors of production, c) institutions' current accounts (i.e. households, firms, and government), d) a capital formation account, and e) the rest of the world account. Being a double entry accountancy system, the sums of corresponding rows and columns totals must balance. The economic meaning of this balancing condition is that; a) costs must be equal to revenues in each production sector; b) expenditure must be equal to income for each institutional actor; c) total saving must be equal to total investments plus financial capital accumulation (Round). Table 2 shows the general framework, and inter-account linkages, while Table 3 shows the 2006 SAM for Turkey, constructed for and used in this study

A SAM does not, by itself, constitute an economic model. For that, the economic relationships that drive the circular flow of income must be specified (Brooks and Tanyeri, 1999). Multiplier analysis of an economy using the SAM is the extension of the Input-Output (I-O) model devised by Leontief. The model includes disaggregated inter-industry transactions as well as payments to factors of production, expenditures of households, taxes and transfers to and expenditures by government, and transactions with the rest of the world (Bussolo, et. al., 1995). Forming a SAM-based multiplier model requires designating accounts either as exogenous or endogenous depending on the policy issues to be addressed (Tin, 1997). Although generally Government, Capital and Rest of the World (ROW) accounts are assumed as exogenous, Capital accounts can also be taken as endogenous, as in this study, so as to cover the role of the saving and investment balance, and to emphasis on the transfer effects of exogenous Government and ROW accounts.

The underlying assumption of the Leontief model is that output from a given sector requires fixed and constant proportions of inputs from other sectors. Similarly, total income of a given account consists of expenditures of other accounts. In a SAM, T_{ij} value, in any given cell, describes the relation between expenditure of *j* account and income of *i* account. If we define A_{ij} as the matrix derived by dividing T_{ij} values of each endogenous account to column totals of this account, then we get;

TABLE 2 – General Framework of SAM

	Production Activities	**Factors of Production**	**Households**	**Corporate Enterprises**	**Capital Accounts**	**Government**	**ROW**	**TOTAL**
Production Activities	Intermediate Demand		Household Consumption		Fixed Capital Formation	Government Consumption	Exports	Total Demand
Factors of Production	Value Added Payments to Factors					Factor Payments		Factor Income
Households		Labor Income		Distributed Profits	Income from Savings	Transfers to Household s	Transfers to Households	Household Revenue
Corporate Enterprises		Operating Surplus				Transfers to Corporations		Corporate Revenue
Capital Accounts			Private Savings	Enterprise Savings		Interest Payments over Borrowing	Net Capital Transfers	Capital Receipts
Government	Indirect Taxes		Direct Taxes	Direct Taxes	Internal Borrowing			Government Revenue
ROW	Import				Current Balance	Interest Payments over Borrowing		Foreign Exchange Revenue
TOTAL	Total Supply of Products	Factor Payments	Household Expenditure	Corporate Expenditure	Investment Expenditure	Government Expenditure	Foreign Exchange Expenditure	

Source: Round (2003)

$$A_{ij} = T_{ij}\, Y_j^{-1} \qquad (1)$$

where Y_j shows the column totals of each endogenous account. Rearranging this equation gives;

$$Y = AY + X \qquad (2)$$

where Y shows the vector of total incomes of endogenous accounts and X is the injections from exogenous accounts (Atıcı, 2004). This means that income of each endogenous account is derived by adding transfers from exogenous accounts to multiplication of expenditure multiplier with corresponding income. With further decomposition of equation (2) for Y, we get;

$$Y = (I - A)^{-1} X \qquad (3) \qquad (I = \text{Identity Matrix})$$

where $(I-A)^{-1}$ is known as Leontief Inverse Matrix and gives SAM multiplier matrix (Pyatt and Round, 1979). Thereby it's possible to analyze the effects of exogenous accounts (i.e. export, household transfers) on endogenous ones.

A_{ij} matrix of average propensity to consume can be decomposed into two matrices in a way that A_1 captures interactions between factors, product markets and institutions, and A_2 captures the financial flows

$$A_{ij} = A_1 + A_2 = \begin{vmatrix} a_{11} & a_{12} & 0 \\ a_{21} & 0 & 0 \\ 0 & 0 & 0 \end{vmatrix} + \begin{vmatrix} 0 & 0 & a_{13} \\ 0 & 0 & 0 \\ 0 & a_{32} & 0 \end{vmatrix} \qquad (4)$$

From here, equation (3) can be rewritten as:

$$Y = (A\text{-}A_1)Y + A_2Y + X \qquad (5)$$

$$Y = (I - A)^{-1}(A - A_1)Y + (I - A)^{-1}X \qquad (6)$$

$$Y = A^*Y + (I - A)^{-1}X \qquad (7)$$

where $A^* = (I - A)^{-1}(A - A_1)$

After rearranging equation (7), we get result as:

$$Y = (I - A^{*2})^{-1}(I + A^*)(I - A_1)^{-1}X \qquad (8)$$

Thus, SAM Multipliers can be grouped as follows:

$$M_1 = (I - A_1)^{-1}$$

$$M_2 = (I + A^*)$$

$$M_3 = (I - A^{*2})^{-1}$$

The first multiplier matrix M_1 reflects the effects of direct transfers between activities, factors and households. Direct transfer effect of an injection to an activity account, for example, is equal to the change in inter-industry demand plus the change coming from household consumption demand caused by the shock given to that activity account (Tin, 1997). M_2 is open-loop multiplier matrix and captures unidirectional effects between

accounts. In M2, it's assumed that an injection from an account does not transmitted back to that account. M_3 is called the closed-loop multiplier matrix and takes into account that an injection from capital accounts to an activity will consequently raise household income and will be back to capital accounts as savings.

In conclusion, equation (8) can be rewritten as:

$$M = M_3\, M_2\, M_1 = I + (M_1 - I) + (M_2 - I)\, M_1 + (M_3 - I)\, M_2\, M_1 = I + S_1 + S_2 + S_3 \qquad (9)$$

where I is initial injection, S_1 is transfer multiplier effect, S_2 is open-loop effect and S_3 is closed-loop effect.

Changes in agricultural support policies are reflected into SAM as exogenous shocks from government accounts. Thus, price supports are treated as government transfers to corresponding sector account, where input subsidies as transfers to factor accounts and direct payments as transfers to households.

Disaggregated SAM used in this study is derived from 1998 Input-Output Table of Turkey. Even supply and use values among sectors in current prices varies between 1998 and 2006, extended household accounts (i.e. income groups, source of income) are based to 2006 Household Budget Survey (HBS) prepared by Turkish Statistics Institution (Turkstat). Also, to avoid any errors in interpretations, total and individual supply rates of agricultural sectors were rearranged according to their contributions to GDP, as were the total share of productive sectors in GDP. Households were disaggregated according to two criteria; i) residential status (urban and rural) and ii) income decile within the group (by quintiles). Due to lack of accurate and update statistical information about incomes and expenditures of agricultural household, it could not be possible to identify households as agricultural and non-agricultural. However, disaggregating as rural and urban households would produce the desired outcomes, since nearly 75 % of rural households in Turkey live on agriculture – or related sectors (Turkstat Labor Survey, 2006). Household incomes were separated into four groups of *Labor, Enterprise Incomes* (i.e. distributed profit), *Agricultural Income* and *Non-Agricultural Income*, based on HBS. As a result, original 1997 I-O table which contained 97 accounts was used to form 45x45 Disaggregated SAM matrix, in such a way to emphasize on agriculture sector and income sources of households, by residential status and by income quintile.

Table 3 – 2006 SAM of Turkey (In Million $)

	Production Activities	Factors of Production	Households	Corporate Enterprises	Capital Accounts	Government	ROW	TOTAL
Production Activities	398.171	0	318.964		28.113	114.670	135.508	**995.426**
Factors of Production	337.559	0	0	0	40.480	0	0	**378.039**
Households	0	205.215	0	15.591	34.630	23.321	1.406	**380.163**
Corporate Enterprises	0	172.824			6.913	0	-	**261.401**
Capital Accounts	80.053	0	26.750	37.766	0	3.869	-	**148.438**
Government	0	0	34.449	26.379	32.751	0	75.668	**169.247**
ROW	179.644	0			5.552	27.387	0	**212.582**
TOTAL	**995.426**	**378.039**	**380.163**	**261.401**	**148.438**	**169.247**	**212.582**	

Main Findings

Table 4 shows aggregated multiplier matrix of Turkey for 2006. Column totals for each account gives total income effect of a one unit increase in that accounts expenditures. For example, $1 injection into *Production Activities* account would produce $5.68 increase in overall incomes: $3.10 accrues to the productive sectors themselves (i.e. intermediate demand), $1.05 will be paid to *Factors*, $1.38 will be transferred to *Households* and *Firms*, and $0.15 will be transmitted to *Capital Accounts*, as saving or investment. It is important to note that total income multiplier is lower for households than factors, since some proportion of increase in income leaks from the system as income taxes paid by households. On the other hand, since most farmers are exempt from income tax (OECD), income multiplier for agricultural households is expected to be higher in practice.

In the case of price supports and public purchases, an injection is made by government into production accounts. Thus, income effect will be as described above. However, considering that the target group of agricultural supports is agricultural households, it is seen that price supports and public purchase systems are insufficient in reaching the goal. On the other hand, a $1 increase in transfers to households leads $6.28 increase in total income, $1.83 of which occur in household income itself. Hence, it can be said that supports in the form of direct

transfers to households have higher income effect for both total economy and households, compared to transfers to production activities.

Table 4 - Aggregated SAM Multipliers (I+S1+S2+S3)

	Production Activities	Factors of Production	Households	Corporate Enterprises	Capital Accounts
1	3,10	2,53	2,82	2,18	2,49
2	1,05	1,86	0,96	0,74	0,84
3	0,90	1,59	1,83	1,31	0,86
4	0,48	0,85	0,44	1,34	0,39
5	0,15	0,27	0,23	0,31	1,13
Total	5,68	7,10	6,28	5,88	5,71

Moreover, one of the general assumptions in SAM modeling is that the products purchased by government, through the medium of agricultural State Owned Enterprises (SOE), will be sold to productive sectors or exported. However, in Turkey, not all products purchased by SOE's could be used or sold, leading to a large amount of stock. Some of these stocks were exported at world prices that were under the initial price of purchasing from producers, or became unusable, and caused duty losses for SOE's. These duty losses were additional costs for support purchases. In this manner, because of unused stocks and duty losses, the effects of transfers to productive sectors via public purchases eventuate under the rate stated above.

Depending on the multiplier analysis on disaggregated SAM, increase in output resulting from one unit increase in expenditures, and increase in total incomes resulting from one unit transfer for each production activity is shown in Table 8, while Table 5 and Table 6 show impacts of transfers to households and agriculture related production activities on household incomes. Accounts 1-4 in Table 8 reflect farm-level agricultural production, and these multipliers are considered to be more meaningful when examining the effects of sector specific support purchases.

The first thing to note from examining the tables is that households benefit from the direct payments more than sector-specific interventions. This is mainly because households receive the initial injection as well as the induced linkage effect. Thus, $1 direct transfer to the poorest rural household leads to a $3.67 increase in total household incomes, while an equivalent payment to field crops (i.e. cereals) sector results only in a $2.73 increase.

Table 5 - Household Income Multipliers by Quintile										
Household Groups*	Urban-1	Urban-2	Urban-3	Urban-4	Urban-5	Rural-1	Rural-2	Rural-3	Rural-4	Rural-5
Urban-1	1,19	0,20	0,20	0,20	0,20	0,21	0,19	0,19	0,20	0,20
Urban-2	0,21	1,21	0,21	0,21	0,21	0,22	0,21	0,21	0,21	0,21
Urban-3	0,24	0,24	1,24	0,24	0,24	0,25	0,24	0,24	0,24	0,24
Urban-4	0,26	0,26	0,26	1,26	0,26	0,27	0,26	0,26	0,26	0,26
Urban-5	0,49	0,50	0,50	0,50	1,50	0,52	0,49	0,49	0,50	0,50
Rural-1	0,22	0,21	0,20	0,20	0,19	1,22	0,20	0,19	0,19	0,19
Rural-2	0,22	0,21	0,20	0,20	0,19	0,22	1,20	0,19	0,19	0,19
Rural-3	0,22	0,21	0,21	0,21	0,20	0,23	0,20	1,20	0,20	0,20
Rural-4	0,23	0,21	0,21	0,21	0,20	0,23	0,21	0,20	1,20	0,20
Rural-5	0,29	0,28	0,27	0,27	0,27	0,30	0,27	0,26	0,26	1,26
Total	**3,57**	**3,53**	**3,5**	**3,5**	**3,46**	**3,67**	**3,47**	**3,43**	**3,45**	**3,45**

* 1- Richest 5-Poorest

Another result from the analysis is that the richest urban households benefit the most income increase, irrespective the type of agricultural support. However, differences between income effects of poorest and richest households are smaller in direct payments, than they are in sector-specific supports. In addition to this, while $1 support purchase of field crops increases the income of rural households in poorest quintile by $0.27, this increase is $1.26 (with initial injection) for direct payments.

Table 6 – Sector-based Household Multipliers, by Quintile																
	Sectors*															
Household Groups	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Urban-1	0,19	0,22	0,21	0,21	0,22	0,23	0,25	0,17	0,22	0,16	0,22	0,21	0,22	0,21	0,22	0,18
Urban-2	0,20	0,23	0,22	0,22	0,23	0,24	0,26	0,17	0,23	0,17	0,23	0,22	0,23	0,23	0,23	0,19
Urban-3	0,23	0,26	0,25	0,25	0,27	0,29	0,31	0,20	0,27	0,19	0,27	0,25	0,27	0,27	0,27	0,23
Urban-4	0,24	0,28	0,27	0,27	0,29	0,31	0,34	0,22	0,29	0,21	0,30	0,27	0,29	0,29	0,29	0,25
Urban-5	0,44	0,51	0,50	0,49	0,58	0,61	0,69	0,42	0,57	0,40	0,58	0,53	0,55	0,59	0,56	0,49
Rural-1	0,27	0,33	0,36	0,31	0,25	0,32	0,35	0,26	0,34	0,23	0,34	0,30	0,34	0,31	0,30	0,27
Rural-2	0,27	0,33	0,35	0,30	0,25	0,23	0,25	0,20	0,25	0,17	0,25	0,23	0,26	0,22	0,23	0,20
Rural-3	0,27	0,33	0,35	0,31	0,26	0,23	0,25	0,20	0,25	0,17	0,25	0,23	0,25	0,22	0,23	0,20
Rural-4	0,28	0,34	0,36	0,31	0,26	0,23	0,26	0,20	0,25	0,17	0,26	0,23	0,26	0,23	0,23	0,20
Rural-5	0,34	0,41	0,44	0,39	0,34	0,23	0,26	0,20	0,26	0,18	0,26	0,24	0,26	0,24	0,24	0,21
TOTAL	**2,73**	**3,25**	**3,29**	**3,05**	**2,95**	**2,92**	**3,20**	**2,24**	**2,92**	**2,04**	**2,98**	**2,70**	**2,93**	**2,83**	**2,80**	**2,42**

* Numbers reflect the corresponding sector in Table 8

Income effects of livestock supports and deficiency payments are similar to DIS, since they are also direct payments which require production and are paid according to units produced or owned. Nevertheless, impacts of livestock supports and deficiency payments are expected to be higher than any other support measure, since households benefit from direct payments as well as the production activity itself.

Table 7 – Income Multipliers of Different Support Measures

Support Measure		Household Income Multiplier	Total Income Multiplier
Support Purchase	Field Crops	2,72	9,38
	Tobacco	2,42	9,20
Direct Income Support		3,50	12,31

Table 7 summarizes the income effects of alternative support policies on household and overall incomes, derived from disaggregated SAM multiplier matrix. Aggregated and Disaggregated SAM multipliers show that, agricultural supports in the form of direct transfers to households produce better results in increasing income, supporting the target groups, and income distribution.

CONCLUSIONS AND DISCUSSIONS

This study aimed to determine the impacts of agricultural support policies in Turkey on income and income distribution by using 2006 Social Accounting Matrix, which was disaggregated in such a way as to detail the agricultural aspects and households, and their linkages with the rest of the economy.

Main findings from multiplier analysis and comparisons can be summarized as follows:

- Total income effect of direct transfers to households is more than transfers to production activities (namely price supports and public purchases). Although income multiplier of production activities in disaggregated SAM is higher for productive activities, households benefit from the initial injection and linkage effect within the economy. Moreover, product-based supports tend to increase the production in long-run, and, as stated in King's Law, increase in the supply of agricultural products cause the total income of the producers to decrease (Ulusoy, 2003). Thus, it's not expected to be high

of the income effects of price supports and public purchases. SAM results, similarly, show that public purchases have the lowest income effect among all support systems measured in the study.

- For each type of support policy, richest quintiles (both urban and rural) gain the biggest income increment. This is not surprising, since the richest quintile of agricultural households are supposed to be the ones who produce the highest volume of output, and own larger arable lands. Also, non-agricultural households produce both the intermediate goods demanded by the agriculture sector, and the final products demanded by agricultural households, and this leads to a leak of income increase to non-agricultural households. However, income effects of direct transfers are closer for richest and poorest rural households, than they are in product-based supports. This has a positive contribution effect on income distribution.
- Partially decoupled payments (i.e. deficiency payments and livestock supports) generate higher income effect than any other support measure, since the producers benefit from both direct payment and agricultural production itself. On the other hand, these measures are placed in "the Amber Box" in The Agriculture Agreement of World Trade Organization. Thus, even Turkey has 10% exception as a developing country, long-term implications of these measures require restructuring.

Turkey's agricultural support policies are becoming more market-oriented, and including coupled and decoupled direct payments to the producers. Although this is required for a more dynamic and competitive agriculture sector, as a result of the findings of this study; this is also expected to be an optimal policy implication in the means of income effects and income distribution among households.

Table 8 – I-O Column and Disaggregated SAM Multiplier Totals			
No	**Aggregated Sectors**	**I-O Column Multiplier Totals**	**Disaggregated SAM Multipliers**
1	Field Crops	1,49	9,38
2	Vegetables & Garden Crops	1,35	11,17
3	Fruits	1,15	11,32
4	Livestock	1,79	10,49
5	Agricultural Services	1,91	10,13
6	Forestry	1,16	11,07
7	Fishery	1,31	12,17
8	Slaughter	1,88	8,52
9	Canning	1,72	11,11
10	Oil & Fats	2,00	7,75
11	Dairy	1,92	11,31
12	Other Food	2,04	10,28
13	Sugar	2,10	13,15
14	Alcoholic Beverage	1,53	10,75
15	Non-Alcoholic Beverage	2,16	10,64
16	Tobacco	1,99	9,21
17	Textile	1,95	9,30
18	Leather	2,00	7,67
19	Wood & Paper	1,82	9,01
20	Mining	1,32	9,03
21	Petroleum & Gas	1,03	1,94
22	Industry	1,55	6,49
23	Energy	1,45	10,70
24	Construction	1,76	10,27
25	Services	1,36	12,05
26	Transportation & Communication	1,47	9,99
27	Education	1,34	6,87
28	Health	1,34	11,64
29	Labor Income		12,25
30	Enterprise Income		12,29
31	Agricultural Income		11,58
32	Non-Agricultural Income		12,31
33	Capital		9,81
34	Urban HH - 1. %20		10,47
35	Urban HH - 2. %20		10,94
36	Urban HH - 3. %20		11,01
37	Urban HH - 4. %20		11,10
38	Urban HH - 5. %20		11,25
39	Rural HH - 1. %20		10,88
40	Rural HH - 2. %20		11,08
41	Rural HH - 3. %20		11,13
42	Rural HH - 4. %20		11,30
43	Rural HH - 5. %20		11,35

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