The Impact of Capital Support on Welfare of Farm Households in East Nusa Tenggara

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Abstract : *Farm households as one economic unit always make production, consumption, labor and investment decisions. Capital support is an important instrument that affects the decision of farmers. The research was conducted in South Central Timor and Kupang Regency of East Nusa Tenggara Province with the sample of 118 farmer households. The research aimed to analyze the impact of the increase of capital support, transaction cost, input price and output price to farmer household production, income, and welfare. The Farmers Household Economy Model is built in the form of a simultaneous equation system and is estimated using the Two Stages Least Squares (2SLS) method. Increased transaction costs and the value of capital support have reduced the income of crop and livestock farming so that the household income of farmers decreased, but the impact of increased consumption and social investment expenditures so that the welfare of the farmers' households increased. While the increase in input prices and outputs of farming has reduced the income of non-agricultural business, but has an impact on increasing the income of crops and livestock business so that the total income increases, but the welfare of the farmers' households decreased.*
Keywords - *Capital Support, Farmer's Household Welfare, Input Price, Output Price, Transaction Cost*

I.   Introduction

Fundamental problems faced by farmers generally are lack of access to capital sources (capital and credit support), markets and technology and the weak and limited institution of farmers and livestock. To overcome these problems, the government implemented a Medium Term Program focusing on rural agricultural development. Government programs aimed at supporting productive activities are intended to increase productivity and agricultural production so that it is expected to increase the income and welfare of farmers. The program has medium and long term impacts. While the program aiming to increase consumption expenditure was a short-term impact program which directly utilized farmer households to increase expenditure so as to improve the welfare of poor households living in urban and rural areas.

Capital support program is one type of program that aims to be productive. It is hoped that through this program the number of poor people in East Nusa Tenggara, most of whom are farmers will decline. Based on data from BPS (2016), the number of poor people in East Nusa Tenggara in March 2016 was 1.15 million people. The role of capital and credit aid in increasing the income and welfare of farmers has been proven in various countries, especially in developing countries. Capital support can improve the lives of poor farmers through improved production and increased consumption (Nuryartono et al., 2005). Yasmeen et al. (2011) explains that the more funds rolled out to communities, especially rural farmers, will increase production, improve living standards, especially increased food and health consumption. Supriatna (2003) explains that household characteristics of farm households will affect consumption while the amount of input expenditures obtained from capital and credit aid will affect production decisions. The result of Jegede et al. (2011) indicates that microfinance institutions have a significant effect in alleviating poverty through increasing income and economic status. Furthermore, Innocent and Onyedikachi (2013) conclude that credit has a significant impact on agricultural production in Nigeria. Zanzes et al. (2015) explains that the income of GAPOKTAN members after PUAP is higher than that before the program. The result of Khan's (2014) study informs that microfinance plays an important role in increasing income, consumption and household savings. Panda and Atibudhi (2010) say that the income of the target group of households participating in the microfinance program is on average 26.4 percent higher than the income of the non-participating household groups.

In an effort to obtain capital support, farmers must incur considerable transaction costs. Capital support transaction costs include transportation, administration and interest rates. The higher the transaction costs, the amount of capital support received by farmers will be reduced. As a result, the allocation of capital support for

farm production will decrease. This will result in lower farming income so that the income and welfare of the farm household will decrease. The following transaction costs to be borne by the farm household are the transaction costs of buying inputs and selling the output of crop and livestock farming. The higher the farming transaction cost, the less farm income. Cahyono (2013) explains that the increased transaction costs will lead to increased farming costs.

In addition to transaction costs, other factors that can change farm income, income and farm household welfare are changes in input prices and output prices of farms. Increased input prices will lead to declining input demand so that the production and income of farming as well as the welfare of farm households decreased. On the other hand, an increase in the price of farm output will increase the income of farming so that the income and welfare of the farm household will increase.

The study aims to analyze the impact of increased capital support, transaction costs, input prices and output prices on farm household production, income, and welfare.

II. Methodology

1. Data

The research used survey and data collection method with interview technique. The types of data collected are cross section and time series data from primary and secondary data sources. The survey was conducted in South Central Timor (TTS) and Kupang Regency of East Nusa Tenggara Province, on the basis of the considerations of the two districts: (1) as centers for food crops and livestock production (2) the largest number of farm households and livestock households, (4) highest number of target villages in the program of *Anggur Merah*, PUAP and PKH implemented by the Central Government and East Nusa Tenggara Regional Government.

Determination of sample location is grouped based on altitude of place above sea level. Based on the height of the place, then the location is categorized into two agro-ecosystem patterns, that is, plateau and lowland. Kupang Regency is represented by the villages of Baumata, Ponain, Naibonat and Lili. South Central Timor is represented by Nulle, Kualin, Oebelo and Benlutu. The determination of the sample villages was conducted purposively with the criteria of the village being the recipient of the capital support of the local government and central government programs in the last 2 years.

The household sample of farmers is the household of corn farmers who received capital support through the program of *Anggur Merah*, PUAP and PKH in the last 2 years. The sample of farm households from 8 villages was determined by 118 farmer households representing the pattern of highland and lowland agro-ecosystem in Kupang and South Central Timor.

2. Data analysis

The farm household's economic model is built in the form of a simultaneous equation system. The number of 49 equations consists of 29 behavioral equations and 20 identity equations. The number of variables 80 consisting of 49 endogenous variables and 31 exogenous variables. The model identification results showed that the model was over identified and estimated using 2SLS (Two Stage Least Squares) method. The simulation scenario was the increase of the value of capital support, transaction cost, input price, output price, and the combination.

III. Result and Discussion

1. Sources and Patterns of Utilization of Households Capital Support

Anggur Merah and PUAP are intended to increase farmers' production and income while PKH is devoted to improving the quality of children's education. However, the reality showed that capital support from *Anggur Merah* and PUAP was not fully allocated for the production of livestock and crops but was also allocated for consumption and non-agricultural business. The same applies to the allocation of PKH. The allocation is not entirely for the financing of children's education but it is also allocated for the production of livestock business, food consumption, non-food and non-agricultural business.

The capital support received by farmers is allocated for livestock business, non-food consumption, food consumption, non-agricultural business and investment. Allocation for livestock business occupies the first position. This happens because the ownership of livestock in South Central Timor and Kupang Regency has economic, social and cultural values.

Allocation for non-food consumption, especially the cost of children's education ranks second. The next allocation after two priority allocations of farmers is the allocation for food consumption and non-agricultural business. The last option allocation of farmers if there are remaining funds from the allocation of capital support is allocation for investment expenditure (Table 1).

Table 1: The pattern of farmer household capital support utilization in East Nusa Tenggara in 2016

Explanation	Agro ecosystem				East Nusa Tenggara
	Regency of East Central South		Kupang Regency		
	high land	low land	high land	low land	
a. The amount of capital support (Rp)	2731860.47	3913703.70	3218518.52	6380952.38	3763050.85
b. Alocation(%)					
1. Crop Farming	0.00	0.00	0.00	0.00	0,00
2. Livestock Business	50.50	89.43	88.66	67.88	71.23
3. Non Agricultural Business	0.00	0.00	4.63	13.81	3.52
4. Food consumption	8.53	0.00	3.01	3.29	4.38
5. Non-food consumption	40.98	10.57	0.74	8.10	18.96
6. Investment	0.00	0.00	2.96	6.93	1.91
c. Capital support return (%)	100.00	100.00	97.76	64.29	91.84

Source: Primary data processed, 2017

2. Cost of Capital Support and Farming Transactions

Survey results showed that the cost of capital support transactions varies among regions. This is due to differences in sources of capital support, transportation costs, interest on capital support, and administrative costs. PKH is the only source of interest-free capital support, with no administrative fees, no refunds and gradually disbursed based on the amount of aid received. Transaction costs borne by beneficiaries are transportation costs. The higher the capital support received, the higher the transportation cost. While the cost of capital support transactions sourced from the *Anggur Merah* and PUAP including administrative costs, interest cut early and transportation costs. The capital support sourced from the *Anggur Merah* and PUAP is disbursed once every year.

Crop transactions costs include transportation costs, retribution fees and packaging. While the livestock business transaction costs include transportation costs, retribution fees, and livestock sales certificate. The amount of transaction costs of crop farming and livestock business varies by village. Differences in plant crop transactions costs are caused by differences in transportation costs. Differences in livestock business transaction costs in each village are caused by differences in the cost of making a certificate of livestock sales. While the cost of retribution is determined through the Provincial Government's regulation so that it applies uniformly to each village in Kupang and South Central Timor District (Table 2).

Table 2: Capital support transaction cost and farmer household farming in East Nusa Tenggara in 2016 (Rp)

Transaction Cost	Agro ecosystem				East Nusa Tenggara
	Regency of East Central South		Kupang Regency		
	high land	low lend	high land	low land	
Capital Support Transaction Cost	25697.67	16074.07	15370.37	22282.24	20524.81
	(2.60)	(1.67)	(2.41)	(0.26)	(0.24)
Farming crop transaction cost	48692.31	63869.57	27280	27285.71	42805.56
	(4.92)	(6.63)	(4.28)	(0.32)	(0.51)
Livestock business transaction cost	915046.5	882963	594111.1	926952.4	836389.8
	(92.48)	(91.70)	(93.30)	(10.89)	(9.91)
Total of transaction cost	989436.5	962906.6	636761.5	8515409	8438609

Source: Primary data processed, 2017

Note:
(.) : The number within the brackets is the percentage value of transaction cost of each activation type towards the total of farmer household transaction cost

3. Model Validation Results

The validation of farmer household economic model yields a value of U-Theil that is smaller than 0.5 by 38 variables (77.55%) and greater than 0.5 by 11 variables (22.45%). These results indicate that the predicted value of the endogenous variable is quite close to the actual value. Therefore, the model is good enough to be used for simulation.

4. Impact of Increased Cost of Transaction and Support of Farmers' Household Capital

Transaction costs are one of the reducing factors to capital support for crop farming and livestock business. The transaction costs in this study include the Cost of Capital Support Transactions (BTBM), Transaction Costs of Plants (BTT), and Transaction Costs of Livestock (BTNAK). Increased transaction costs results in lowered Capital Support Received (BMT) so that the allocation for livestock business, non-agricultural business, food consumption, non-food consumption and investment decreased. On the production side, the

increase in transaction costs has an impact on increasing demand for seeds and corn production, but it has reduced the demand for inputs and production of pig and free-range chicken poultry.

Table 3: The impact of capital support increased and farmer household transaction cost in East Nusa Tenggara in 2017

Label	Variable	Basic value	S1 %Δ	S2 %Δ	S1&S2 %Δ
ALBMUNAK	Capital support allocation for livestock	2811565	-0.8093	8.0902	8.0899
ALBMUNON	Capital support allocation for non agricultural business	273042	-6.7539	67.5559	67.5577
ALBMUKP	Capital support allocation for food consumption	104253	-0.7885	7.8856	7.8866
ALBMUKNP	Capital support allocation for non food consumption	455283	-0.1136	1.1413	1.1419
ALBMUINV	Capital support allocation for investment	140184	-5.0862	50.8617	50.8610
QJ	Corn production	372.6054	0.0008	-0.0068	-0.0066
BBTJ	The number of corn seed demands	7.12959	0.0010	-0.0069	-0.0066
QB	The number of pig production	366.6	-0.8729	3.4370	2.8914
PKNB	The amount of pig feed	563.18	-0.1527	1.4613	1.4542
BKLB	The piglets weight	61.0432	-1.4036	4.1690	3.1823
QAB	The number of free-range chicken production	14.1349	-0.0729	0.5886	0.5745
PKNAB	The amount of free-range chicken feed	20.3327	-0.0797	0.6379	0.6217
BKLAB	The free-range chicks weight	2.1966	-0.0956	0.7466	0.7284
TPKJ	Family labor-male in corn farming	131.903	0.0174	-0.1145	-0.1084
TWKJ	Family labor-female in corn farming	113.066	0.0354	-0.2715	-0.2627
TTKJ	Total corn farming labor	288.392	0.0222	-0.1585	-0.1526
TTKUT	Total crop farming labor	401.104	0.0160	-0.1139	-0.1097
TPKB	Family labor-male in pig farming	421.3	-0.1662	2.3973	2.4685
TWKB	Family labor-female in pig farming	173.9	-0.6325	1.2076	0.6901
TAKB	Family labor-child in pig farming	28.9859	-0.1138	1.6480	1.6994
TTKB	Total of pig farming labor	624.2	-0.3044	2.0346	1.9385
TPKAB	Family labor-male in free-range chicken	73.8387	-0.0986	-0.0187	-0.1192
TWKAB	Family labor-female in free-range chicken	156.4	-0.2558	2.4297	2.3657
TAKAB	Family labor-child in free-range chicken	167.5	0.1791	-1.0149	-0.8955
TTKAB	Total labor in free-range chicken	397.777	-0.0568	0.5159	0.5103
TPKNON	Family labor-male in non agricultural business	1173	0.0171	-0.5882	-0.6223
TWKNON	Family labor-female in non agricultural business	940.2	-0.0106	-0.0425	-0.0532
REBM	The amount of capital support return	3310817	-0.4221	0.2834	-0.1103
NPJ	The value of corn farming production	1780597	0.0010	-0.0067	-0.0065
TCJ	Total of corn farming cost	276914.925	0.0001	-0.0008	-0.0004
PUTJ	The income of corn farming	1503682	0.0011	-0.0078	-0.0074
PUT	The income of crop farming	5689421	-1.7574	-0.0021	-1.7596
NPB	The value of pig farming business	6975234	-0.8400	3.3113	2.8024
TCB	Total cost of pig farming	3079212	-0.5690	2.2866	1.9462
PUB	The income of pig farming business	3896022	-1.0541	4.1212	3.4792
NPAB	The value of free-range chicken business production	393746	-0.0752	0.6060	0.5912
TCAB	Total cost of free-range chicken business	142853	-0.0840	0.6699	0.6531
PUAB	The income of free-range chicken farming	250893	-0.0705	0.5692	0.5560
PUNAK	The income of livestock business	5703825	-4.2295	2.8401	-1.1055
PNON	The income of non agricultural business	20709617	-0.0875	0.5601	0.5286
PRT	The income of farmer households	42458402	-0.8134	0.6323	-0.1179
PRTD	The disposable income of farmer households	42353035	-0.8155	0.6339	-0.1182
KP	The expenditure of food consumption	30787791	-0.0110	0.0135	0.0038
KNP	The expense for non food consumption	9274170	-0.0471	0.0530	0.0111
TPK	Total consumption expenditure	40061961	-0.0194	0.0226	0.0055
PIT	The expense of livestock business investment	3541646	-5.4842	3.9301	-1.1610
PIS	The expense of social investment	5100080	-0.1062	0.6799	0.6417
PINV	Total investment expenditure	6287792	-0.0862	0.5515	0.5205
TPRT	Total household expenditure	46349753	-0.0285	0.0944	0.0753

Note: Simulation 1 (S1): BTBM+Rp50000; BTT+Rp100000; BTNAK+Rp200000
Simulation 2 (S2): BMT+Rp500000

Increased transaction costs have reduced the allocation of male and female labor to livestock businesses, but increased the allocation of male and female labor to plant crops, especially corn farming. The increase in transaction costs has the effect of increasing the allocation of female labor for non-agricultural business. Increased transaction costs also have an impact on increasing the production value and income of crop farming, but they have an impact of decreasing the value of production and income of livestock and non-farm business so that the household income of farmers decreased. The subsequent increase in transaction costs has the

effect of reducing food consumption expenditure, non-food consumption, livestock business investment and social investment, so that the welfare of farmers' households decreased.

Increasing the value of capital support has an impact on increasing the allocation of capital support for livestock business, non-agricultural business, food consumption, non-food consumption and investment. The greatest change due to the increase in the value of capital support occurred in the allocation for non-agricultural business, while the smallest change occurred in the allocation for non-food consumption. Allocation of capital support for food consumption expenditure is still the focus of attention of farm households in East Nusa Tenggara. This indicates that most of the farm households in the area are still poor. One of the characteristics of poor households is the high expenditure for food consumption. If the value of capital support increases, then the allocation of capital support for household food consumption of farmers will increase.

Increasing the value of capital support has an impact on increasing the production of pig and free-range chicken poultry, but it will have a decrease in corn production. An increase in livestock production takes place as a result of an increase in input demand. On the other hand, an increase in the value of capital support has reduced the demand for corn inputs, resulting in declining production. Survey results showed that the East Nusa Tenggara people's food consumption patterns have changed. In the beginning, corn is the staple food of the area, but in line with the regional economic development, rice occupies the position of staple food, while corn as an additional food after rice. Therefore, if there is an increase in the value of capital support, demand for input and corn production will decrease, but demand for input and production of livestock business will increase.

In terms of labor allocation, the increase in the value of capital support has an impact on increasing the allocation of family labor for pig and poultry farming, but it has reduced the allocation of family labor for corn and non-agricultural businesses. The decline in the allocation of labor to corn farming is a logical outcome of the decrease in input demand as a result of the decline in the allocation of capital support for the crop farming. The allocation of labor to non-agricultural business decrease due to a shift in the allocation of household labor of farmers in response to the increase in the value of capital support.

Increasing the value of capital support has a decrease in the value of production and income of crop farming but has an impact on increasing the production value and income of livestock business and non-agricultural business income so that the household income of farmers has increased. The increase in capital support also has an impact on increasing food consumption expenditure, non-food consumption, social investment and livestock business investment so that household expenditures increase. The combination of increased transaction costs and the value of capital support have an impact on increasing the allocation of capital support for livestock business, non-agricultural business, food consumption, non-food consumption and investment. The increase in transaction costs and the value of capital support has a decrease in the income of crop and livestock farming so that the household income of farmers decreased, but the impact of increasing consumption and social investment expenditure so that the welfare of farmers' households increased (Table 3).

5. Impact of Increasing Price of Input and Output
The input price of the farming includes the wage of corn labor (WTJ), the price of corn seeds (HBBJT), the price of corn fertilizer (HPPKJ), the price of corn pesticide (HPSJ), the price of pig feed (HPKNB), the price of piglet (HBKLB), the feed price of the free-range chicken (HPKNAB) and Price of free-range chicks (HBKLAB) Increasing input prices for farming has increased the allocation for livestock business, but has an impact of lowered allocations for non-agricultural businesses, food consumption, non-food consumption, and investment.

The increase in input prices has the effect of decreasing the demand for input so that the production of crops and livestock business is decreasing. Decreasing the demand for inputs will result in the allocation of labor for crops and non-agricultural business are reduced, but the total allocation of family labor for pig and poultry business has increased. The increase in input prices has an impact on increasing livestock business income butt reduces the income of crop farming and non-agricultural business so that the income and welfare of farm households decreased.

The price of farming output includes the Price of Corn Sales (HPJ), the Sales Price of Pig (HPB), and the Sales Price of free-range Chicken (HPAB). Increasing the output price of farming has decreased the allocation of capital support for livestock and investment but has an impact on increasing the allocation for food consumption, non-food consumption, and non-agricultural business. The increase in output prices has the effect of increasing the production of crop and livestock business. The increase in output prices also has an impact on increasing the allocation of family labor for crop and livestock farming but reduces the allocation of family labor to non-agricultural business. Increased output prices also have an impact on increasing the production value and income of crops and livestock business, but they have reduced the income of non-agricultural business. The increase in output prices has the effect of increasing the income and welfare of farm households.

Table 4: The impact of the input and output price increase of farmer household farming in East Nusa Tenggara in 2017

Label	Variable	Basic Value	S3 %Δ	S4 %Δ	S3&S4 %Δ
ALBMUNAK	Capital support allocation for livestock	2811565	13.3356	-0.0111	13.3245
ALBMUNON	Capital support allocation for non agricultural business	273042	-70.3316	0.0696	-70.2614
ALBMUKP	Capital support allocation for food consumption	104253	-22.3944	0.0211	-22.3726
ALBMUKNP	Capital support allocation for non food consumption	455283	-19.4595	0.0233	-19.4363
ALBMUINV	Capital support allocation for investment	140184	-51.2946	-0.0064	-51.3016
QJ	Corn production	372.6054	-2.9795	3.7571	0.7782
BBTJ	The number of corn seed demands	7.12959	-3.7270	4.6766	0.9498
QB	The number of pig production	366.6	-3.1642	51.2002	46.9995
PKNB	The amount of pig feed	563.18	-64.7306	0.1438	-64.5975
BKLB	The piglets weight	61.0432	6.7664	97.8926	102.8072
QAB	The number of free-range chicken production	14.1349	-12.5802	1.1850	-11.4150
PKNAB	The amount of free-range chicken feed	20.3327	-5.0677	1.3259	-3.7639
BKLAB	The free-range chicks weight	2.1966	1.2019	1.5524	2.7315
TPKJ	Family labor-male in corn farming	131.903	-0.1547	1.8013	1.6542
TWKJ	Family labor-female in corn farming	113.066	-0.4210	4.9281	4.5186
TTKJ	Total corn farming labor	288.392	-0.2358	2.7560	2.5285
TTKUT	Total crop farming labor	401.104	-0.1695	1.9815	1.8180
TPKB	Family labor-male in pig farming	421.3	3.3943	-6.7648	-3.2518
TWKB	Family labor-female in pig farming	173.9	5.6354	44.2208	49.0512
TAKB	Family labor-child in pig farming	28.9859	5.2905	-9.2783	-3.7918
TTKB	Total of pig farming labor	624.2	4.1012	7.3374	11.2945
TPKAB	Family labor-male in free-range chicken	73.8387	-0.3830	10.1101	9.5786
TWKAB	Family labor-female in free-range chicken	156.4	3.9003	-0.4476	3.3248
TAKAB	Family labor-child in free-range chicken	167.5	-1.4925	-2.5672	-3.9403
TTKAB	Total labor in free-range chicken	397.777	0.8309	0.6023	1.4254
TPKNON	Family labor-male in non agricultural business	1173	-0.0171	-0.1279	-0.1535
TWKNON	Family labor-female in non agricultural business	940.2	-0.3616	-2.3931	-2.7654
REBM	The amount of capital support return	3310817	0.5294	11.5463	11.2717
NPJ	The value of corn farming production	1780597	-3.0143	14.6574	11.3318
TCJ	Total of corn farming cost	276914.925	25.6793	0.5760	26.3159
PUTJ	The income of corn farming	1503682	-8.2984	17.2506	8.5724
PUT	The income of crop farming	5689421	-2.1932	4.5592	2.2656
NPB	The value of pig farming business	6975234	-3.1146	109.2750	103.5081
TCB	Total cost of pig farming	3079212	-18.8955	33.7805	23.7327
PUB	The income of pig farming business	3896022	9.3579	168.9420	166.5585
NPAB	The value of free-range chicken business production	393746	-12.9441	4.8610	-8.5560
TCAB	Total cost of free-range chicken business	142853	7.7422	1.4007	9.2704
PUAB	The income of free-range chicken farming	250893	-24.7225	6.8312	-18.7060
PUNAK	The income of livestock business	5703825	5.3045	115.6970	112.9456
PNON	The income of non agricultural business	20709617	-1.1749	-1.2222	-2.4065
PRT	The income of farmer households	42458402	-0.1956	14.6571	13.4239
PRTD	The disposable income of farmer households	42353035	-0.1961	14.6936	13.4573
KP	The expenditure of food consumption	30787791	-0.0176	0.1896	0.1586
KNP	The expense for non food consumption	9274170	-0.3129	0.8175	0.4468
TPK	Total consumption expenditure	40061961	-0.0859	0.3349	0.2253
PIT	The expense of livestock business investment	3541646	6.5770	149.2910	145.4731
PIS	The expense of social investment	5100080	-1.4262	-1.4836	-2.9214
PINV	Total investment expenditure	6287792	-1.1568	-1.2034	-2.3696
TPRT	Total household expenditure	46349753	-0.2312	0.1262	-0.1267

Note: Simulation 3 (S3): WTJ+1500; HBBTJ+500; HPPKJ+1000; HPSJ+3500; HPKNB+1000; HBKLB+5000; HPKNAB+500; HBKLAB+2500

Simulation 4 (S4): HPJ HPJ+500; HPB+7500; HPAB+1000

The combination of rising input prices and output prices has reduced the allocation of capital support for food consumption, non-food consumption, non-agricultural business and investment, but has an impact on increasing the allocation for livestock business. The combination of increased input and output prices has an impact on increasing the production of pig farming and poultry business, but it has reduced the production of poultry farms. Increased input and output prices also have an impact on increasing the allocation of labor for crop and livestock business, but reducing the allocation of labor for non-agricultural business.

Increasing input prices and outputs of farming has the effect of reducing non-farm business income but will increase the income of crop and livestock farming so that the household income of farmers has increased.

Increasing input prices and outputs of farming has an impact on the welfare of farm households. This is because the increase in output prices is not high enough to minimize the impact of rising input prices (Table 4).

IV. Conclusion

The combination of increased transaction costs and the capital support value has an impact on increasing the allocation for livestock business, non-agricultural business, food consumption, non-food consumption and investment. The increase in transaction costs and the value of capital support has a decrease in the income of crop and livestock farming so that the household income of farmers decreased, but it increases the consumption and social investment expenditure so that the welfare of farmers' households increased. While the combination of rising input prices and output prices has reduced the allocation of capital support for food consumption, non-food consumption, non-agricultural business and investment but has an impact on increasing the allocation of capital support for livestock business. The increase of input price and the output price of the farming has the effect of decreasing the non-farm income, but it has an impact to increase the income of crop and livestock business so that the household income of farmers is increasing. Increased input prices and output prices have an impact on reducing the welfare of farm households.

V. Recommendation

In order to reduce the impact of increased transaction costs and input prices for farming, it is necessary to increase the capital support and the price of farm output. Increased capital support and price of farming output which will encourage increased allocation of capital support, input demand, labor allocation, production and income of crop farming and livestock business so that income and welfare of farm households in East Nusa Tenggara will increase.

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