Investigation of the Impacts of Iranian Economic Adjustment Policies Agricultural Sectors in Iran: The Application of CGE Model

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Abstract: In this study, we invested the impact of decrease in government expenditure on agriculture and non-agriculture sectors by using Compatible General Equilibrium (CGE). The applied CGE model is based on the Iranian Social Accounting Matrix (SAM) of 1980. The results obtained from CGE Model revealed that 20% decrease in government expenditure, under floating exchange rate regime, would lead to 27.4% in private investment and less than 1% decrease in GDP. It was also found that 20% decrease in government expenditure results in less than 1% decrease in tax revenues, revenues obtained from production factors and import under both fixed and floating foreign exchanges rate regimes. Under a floating foreign exchanges rate, decrease in government expenditure would cause less than 1% decrease in consumption of agriculture (non-agriculture) sector increase (decrease) as well as all prices increase as government expenditure tends to decrease.

Key words: General Equilibrium Model · Foreign Exchange Policy · Agriculture Sector · Iran

INTRODUCTION

Important subjects such as Macroeconomic are choosing appropriate policies and tools in order to remove lack of equilibrium and create economic stability. Policies related to economic stability refer to a set of polices that are used to achieve economic goals to include balance of commercial payments and decrease domestic inflation. Economic stability policies can be divided into two groups based on primitive impact on real supply and demand. The first group is called policies of the supply side and the second group is called policies of demand side. The main objective of policies of demand side is to impact on the total demand or rate of nominal domestic growth. These policies include financial and monetary ones. Policies of supply side have a tendency to increase goods volume and real services that are presented by domestic producers paying attention to total nominal demand. The financial and monetary policies are the most important polices that are applied in the background of demand management. Performing financial and monetary polices is one of the most important tools of politicization in order to achieve macro- economic objectives like just distribution of income, increase economic growth rate and employment and stability of prices [1].

The government executes the financial policies through changing expenditures and then does necessary changes. However, today, there are different viewpoints about range and Extent of government interference in economy, as it was before; governments are mentioned as the most important economic agents in many of the economies in the world. On the other hand, after fructifying the debates of Orague and signing the general agreement of tariff and commerce of GOT in 1994 and to establish the World Trade Organization (WTO), the process of supporting some economic sectors especially the agriculture sector, has changed. Hence, accordingly, a full-scaled effort is started in order to free the trade of goods. The whole performed efforts have finally resulted in agreements among members of World Trade Organization (WTO). To perform related agreements and undertakings will have important impact on macro-economic variables and among them variables in the agriculture sector. Especially, emergence of undesirable probable results on vulnerable groups in some developing countries, after starting economic freedom has put such countries in the state of caution. Some believe that government's free enterprise system should have a more effective role in some backgrounds.

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Freeing the trade is defined as a process in which a change happens in the trade system of a country wherein the government interference is minimized [2]. There are different opinions about effects, benefits and losses resulted by free enterprise opinions. Some believe that the process of globalization has a potential which is able to speed up the industrialization in developing and transferring countries and then to create remarkable advantages for such countries. In this situation, the rate of a country's success in exploiting the benefits of free enterprise and globalization will be on the pledge of economic structure, rules and regulations which have control over the situation and ability of that country to present international markets and also having active cooperation in business. Many of the developing countries have paid attention to this matter from the last decades. Iran, also because of its global communications and structural matters has followed some of these polices but contrary to many developing countries, has exerted such policies separately. Because of choosing freeing policies, different parts of the economy, especially the agriculture sector, will be affected. These effects can exist a market of production factors and a market of agricultural products, too. On the other way, paying attention to acceleration of globalization of the economy and World Trade Organization (WTO) and necessary preconditions in order to join it, has increased importance and influences of these polices on agricultural economics of member and non-member countries. Reviewing these policies for Iran, which is an exporter and importer country in some of agricultural production, is very essential. Paying attention to this point that the effect of an economic policy can be different on different sectors thus should be reviewed separately. In this study, at first, in the shape of patterns, the effect of free enterprise on variables like domestic supply, imports, exports and domestic demand of some chosen products (rice, corn, wheat, cotton, pistachio and raisin) are reviewed and then using the CGE model, more expanded effects of freeing include decrease government's expenditures, decrease in the tariff of imports and increase in the price of export agricultural products on agriculture and non-agriculture sectors, will be reviewed [3].

Objective: To review the effect related to decrease of government's expenses on different variables like Gross Domestic Production (GDP), Private Sector Consumption, Private Sector Investment, Exports, Imports, Tax, Families' Consumption, Families' Income, Government Income, Production, Capital Products Consumption, Agricultural Export, Products' Supply and agricultural and Non-Agricultural Products' Price.

Hypothesis:

- With decrease of government's expenses, the amount of Gross Domestic Production (GDP) will decrease.
- Deduction of government's expenses causes decrease of agricultural products' consumption.
- With decrease of government's expenses, the price of agricultural and non-agricultural products will decrease.
- The effects of case review policies in condition of floating foreign exchange rates comparing with managed foreign exchanges rate are characteristic.

A Review on Studies: Some Researchers have discussed the role and size of government in economic growth with emphasis on agricultural sector. Results showed that the optimal size of government in economic growth is 33.8%, which is more than the recent size [4]. A comprehensive review evaluated the effects of freeing trade of agricultural products under the far agreement of Orague in Iran [4]. In this study, at first, was discussed the necessity that the agreement is created with regard to decrease of different trade obstacles and existing differences in market, being reviewed and then the amount of such obstacles in the country were calculated for the period 1986-1988. An analytical model in this period was General Equilibrium Model in which the economy of Iran is divided into 20 goods or industries. Share of each agriculture, industry, services and mine sectors were 10, 6, 7 and 2 percents, respectively. Results obtained by simulations were also an indication that this, as, in the case that Iran is not admitted as a member of WTO and also cannot prevent transferring the global price increase, which is expectable after performing WTO regulations by member countries, to producers of agricultural products, the agricultural sector will be profited. But the rate of real gross domestic production (GDP) and employment will decrease and inflation will increase, instead. In addition, if Iran is admitted as a member of WTO, although, a part of the negative effects that are mentioned above decrease but the desired benefits will not be obtained completely.

In his complete review, Zolnoor [5] reviewed the effects of freeing trade, removing quantity restricts and as a whole, he reviewed the results related to WTO. In his study, he applied a compatible general equilibrium model. The results showed that freeing trade, removing quantity restrictions result in 30.05% increase of gross domestic

production [5]. Such change cause decrease in the domestic currency and price of foreign exchange rate will increase 33.5%. In addition, it became clear that removing quantity restricts and change in an inflexible exchange system together with distribution of income in favor of government. During his study, Zolnoor [5] has presented more complete aspects related to effects of removing quantity restrictions over structure of production and different parts of economy.

Theoretical Basis and Research Method: Mentioned CGE Model in this research is based on Social Accounting Matrix, as, not only constitutes the base of these models, but will also supply much data related to each model of CGE.

Structure of Pattern: At the beginning of this chapter, structure of pattern together with theoretical bases of case review equations. Model of this pattern is solved with utilization of calibration over data obtained by Social Accounting Matrix. In this review, following pattern of Lofgren [6] it has been tried in the case of relation between variables, to apply a stipulation that with the help of information of social accounting matrix, we can obtain the amount of parameters. In this model, it is assumed that producers maximize their profit dependant on technology of Cub – Daglos. On the other hand, consumers also depending on specifying the budget will maximize their utility.

From the viewpoint of prices, the monotonous model is of zero degree. In order to gain assurance of existence of a unique solution, an equation that is normalizing price, as in this study, is a consumer price index, which is added to equations. Hence, after performing this adjustment, the number of averages is equal to endogenous variables. Paying attention to this point that consumer price index has been defined as price normalizing equation we can interpret all stimulations of price change as a change, against consumer price index [6].

Households are assumed to be in two groups of rural and urban. Production factors are also assumed in two groups of labor and capital. Selected sectors (activities and products related) are also assumed in two groups of agricultural and non-agricultural sectors. Separation between these sectors (activities) and goods facilitate the process of calibration of the model. However, this separation, on condition that there is a one-to-one relation between activities and goods, is not necessary. It means that, on condition that each activity itself produces a product, or in another way that each product is produced

by an activity and the separation mentioned above is not necessary. In addition, it is assumed that the price of work force is different between two sectors but the value of capital is similar between two sectors, instead. it is assumed that from two producing agents, the capital is passing in perfect employment but the work force is not complete in employment [6].

Importable goods and domestic products are assumed as incomplete substitution. Also, in the case of producers of exportable goods and goods that are sold in domestic market are assumed as goods with ability of incomplete alteration. It means that, price of each unit of exportable goods is assumed more than a price of similar unit of goods, which is produced inside. In this part, parameters and equations of pattern are explained hereunder.

Equations of Prices
Price of Import:

$$Pmc = (1 + tmc). EXR. PWMCC \in CM$$

[Price of import (domestic money)]= [agent of modification of prices include tariff]: [foreign exchanges rate (in terms of domestic money]: [price of import].

Price of Export:

$$Pmc = (1 + tmc). EXR. PWMCC \in CM$$

[Price of export (domestic money)]= [agent of modification of prices include tariff]: [foreign exchanges rate (in terms of domestic money]: [price of export].

In this study, the price of import and export has been assumed as exogenous. It means that in Iran in comparison with global markets is assumed as a small country. This assumption is called as (assumption of small country).

Absorption:

$$Pqc.QQc= [PDc \in QDc+ (PMc.QMc)(1+tqc)] \; c \in C$$

Absorption Rate: ([price of domestic sale × amount of domestic sale] + [import price × amount of import]): [regulator factor of sale tax].

Amount of absorption for each product–domestic expenditures consumed on a product in level of price of domestic demand as sum of domestic expenditures consumed for domestic and importable goods (includes regulator agent of sale tax).This affair is caused by linear

congruous assumption of compound supply function (Armington). PQc is paid by domestic applicants (families, government, producers and investors). Therefore, in all related equations, the mentioned price substitutes in the place of Pc.

Value of Domestic Production:

Pxc.QXc = PDc. QDc + (PEc.QEc) c ∈ C

(Price of Domestic Producer × Domestic Production] = [Price of Domestic Sale × Rate] + [Export Price × Amount of Export].

For each product, the value of domestic production to producer price is as sum of the value of sold domestic product in inside and export value is based on domestic money. This equation shows that function of CET (change with constant traction) are as linear congenial. It needs to note here that in this model, the amount of domestic production is stated as QXc.

Price of Production:

Paa = ΣPXc. Θac a ∈ A

Price of Added Value:

[Price of Added Value] = [Production Price] = [Cost of Saved for each Unit of Production).

Equations of Production and Goods: Products which are presented in inside consist importable goods and domestic goods as some of them used during a process of alteration when we produce other goods and finally part of it will export and the rest will sell inside.

Production Function:

Qaa = ada.ΠQF.afa a ∈ A

[Level of activity] = [savings of agent)

Demand of Production Factor:

$$WF_f.WFDIST_{fa} = \frac{a_{fa}PA_a.QA_a}{QF_a}$$

$$f \in F, a \in A$$

[Final Expenditure of Production Agent (*f*) in activity of *a*] = [Final income of *f* in activity of *a* obtained by production agent].

Demand for Mediate Goods:

QINTca = icaca. (QAa c ∈ C, a ∈ A)

[Demand for Mediate Goods] = f [Level of Activity]

Production Function:

Qxc = Σθac. QAa, a ∈ A, c ∈ C

[Domestic Product]= [Level of Activity]

Compound Supply Function (Armington):

$$QQ_c = aq_s\left(\delta_c^q.QM_c^{-p_c^q}\right)+\left(1+\delta_c^q\right)\left(QM_c^{-p_c^q}\right)^{\frac{-1}{-p_c^q}}$$

[Compound Supply] = f [inner consumption of domestic product, import rate].

Domestic demanders use compound goods. Incomplete substitution between importable goods and domestic goods that are used inside are shown applying General Function of CES (with constant elasticity of substitute). In this function, product, which is supplied in domestic market, is a combination of domestic goods and importable goods. In this function, domestic goods and importable goods can be used as input. From the viewpoint of economy, it means that preferences of consumers can be stated among import and domestic goods as a General Function of CES. This function often is called as function of Armington. Specified actions $(-1 < p_c^q < \infty)$ supply assumption of convexity of function above toward elevation. This feature equals to descending technical substitution rate.

Ratio of Demand Domestic Product to Import:

$$\frac{QM_c}{QD_c}=\left(\frac{PD_c}{PM_c}.\frac{\delta_c^q}{1-\delta_c^q}\right)^{\frac{1}{1+\delta_c^q}},c \in M$$

[Ratio of demanding of importable goods inside of goods produced inside] = [Ratio of price of importable goods toward goods produced inside].

Supply Compound Goods:

$$Qq_c = Qd_c, c \in CNM$$

[Compound Supply] = f [domestic consumption of domestic product).

For products that are not supplied by imports, function of Armington can be substitution of relationship mentioned above. This relation supplies equal between compound product and domestic product, which is consumed inside the country.

CES, Function of Altering Product:

$$QX_c = at_c \cdot \left(\delta_c^q \cdot QE_c^{q_c^t} + (1 - \delta_c^t) QE_c^{q_c^t} \right)^{\frac{1}{q_c^t}}, c \in CM$$

[Domestic product] = f [domestic consumption of domestic product, export rate).

Along with incomplete substitution between importable goods and domestic products, which are sold in domestic market, there is an ability to perform incomplete change between domestic goods, which are sent out of country and domestic products, which are sold in domestic markets. The equation mentioned above shows such relationship. The function of CET, which is applied for exportable goods, is as same as function of CES and the only difference between them is about existence of negative substitution tractions. The curve of equal amount related to the equation mentioned above, with considering to the Specified actions ($-1 \prec p^q_c \prec \infty$) on p^t is concave toward origin of coordinates. If we want to state difference between function of Armington and function of CET using economic expressions, we should say that there are agents of production in function of CET, whereas, in function of Armington, these agents are products [1-2].

Ratio of Demand Domestic Product to Export:

$$\frac{QE_c}{QD_c} = \left(\frac{PE_c}{PD_c} \cdot \frac{\delta_c^t}{1 - \delta_c^t} \right)^{\frac{1}{1+\delta_c^t}}, c \in CM$$

[Ratio of exportable goods to domestic goods] = f [Ratio of price of exportable goods toward domestic goods].

Equation above shows an optimized combination between domestic goods and export. This equation together with equations of 4, 14 and 15 shows first-state condition of minimization of expenditure under existing condition related to both prices of export and domestic on condition that the function of CET and constant rate of goods produced inside the country. A difference, which is existed between equation of import demand and export supply, is that the rate of import demanded goods has a reverse relation with the price of imports whereas there is a direct relationship between the rate of export and export price [2].

Change Product in Non-exportable Goods:

$$Qx_c = Qd_c, C \in CNC$$

[Domestic consumption of domestic goods] = f [domestic product].

In the case of goods that are not exportable, in the place of function of CET, there is a condition, which is exercised equal between sold domestic product in inside of country and domestic production.

Equations of Inputs
Income Obtained by Production Factors:

$$YF_{hf} = shry_{hf} \sum_{a \in A} WF_f \cdot WFDIST_{fa} \cdot QF_{fa}, h \in H, f \in F$$

[h]= [income obtained by supplying production factors by households] = [share of household's income]. [Income obtained by production factors].

Household Income:

$$YF_h = \sum_{f \in F} YF_{hf} + tr_{h,gov} + EXR.tr_{h,row}, h \in H$$

[Income of households] = Income obtained by production factors + [Income obtained by transferring assistance of government and world of outside of country].

Consumer Demand of Households:

$$QH_{ch} = \frac{\beta_{ch} \cdot (1 - mps_h)(1 - ty_h)YH_h}{PQ_c}, c \in C, h \in H$$

[Income of households, compound price] = f [Demand of households for product c].

Demand for Investment:

$$QINV_c = qinv. IADJ, c \in C$$

[Investment of base year × regulator factor] = c [Demand for investment on product c].

Government's Incomes:

$$YG = \sum_{h \in H} ty_h . YH_h + EXR.tr_{gov,row} +$$
$$\sum_{c \in C} tq_c (PD_c . QD_c + (PM_c . QM_c) +$$
$$\sum_{c \in CM} tm_c TXRpwm_c . QM_c \sum_{c \in CE} te_c .$$
$$EXRpwe_c . QE_c$$

[Income of government] = [direct taxes] + [transfer from other parts of the world] + [tax on sale] [tariff of import] + [export tax].

Government's Expenditure:

$$EG = \sum_{h \in H} tr_{h,gov} + \sum_{c \in C} PQ_c . qg_c$$

[Government's Expenditure] = [transferring assistance to households] + [government's consumption].

Markets of Production Factors

$$\sum_{a \in A} QF_{fa} = QFS_f , f \in F$$

[Demand for production factor of *f*] = [supply production factor of *f*]

In market, production factors are assumed, as, their price is unique in any activity of two sectors and amount of capital in each part is constant and the capital is not transferred between sectors.

Market of Compound Goods:

$$QQ_c = \sum_{a \in A} QINT_{ca} + \sum_{h \in H} QH_{ch} + qg_c + QINV_c , c \in C$$

[Compound supply]=[households, compound demand include sum of mediatory demand, government and investment]

Equilibrium in Current Account of Other Parts of the World (In Terms of Foreign Exchange):

$$\sum_{c \in C} pwe_e + QE_e + \sum_{i \in I} tr_{i,row} + FSAV = \sum_{c \in CM} pwm_c . QM_c$$

[Export income] = [transitive incomes from other parts of the world to households and government] = [foreign saving] = [import expenditure]

Equation of current account (that is stated in terms of foreign exchange) supplies equal between incomes and foreign expenditures of country. If we count number of equations and variables of pattern accurately, we will see that number of variables is one more than number of equations. These conditions exist because there are two variables for equilibrium in current account include Exchange Rate (EXR) and Foreign Saving (FSAV).

Saving Equilibrium and Investment:

$$\sum_{h \in H} mps_h . (1 - ty_h) . YH_h + (YG - EG)$$
$$+ EXR.FSAV =$$
$$\sum_{c \in C} PQ_c . PINV_c + WALRAS$$

[Saving of Households] + [saving of government]+ [foreign saving] = [saving expenditure] + [dummy variable of WALRAS].

Foreign saving is used in terms of domestic money in pattern and till the foreign rate or foreign saving is constant, their existence won't influence saving account and investment, because amount of saving defines amount of investment.

Equation of Price Normalizes:

$$\sum_{c \in C} PQ_c . cwts_c = cpi$$

[CPI]= [price ×weights].

DISCUSSION AND CONCLUSIONS

Results gained by simulation of changing the variable of decreasing government expenditures (20%,30% and 50%) on two macro variables of economy is evaluated by dividing the economy into two agricultural and non-agricultural sectors and its results is also evaluated with two assumptions of float and non-float exchanges.

Domestic Gross Production (GDP): Impact of decrease government expenditure on domestic gross production **(GDP)** is summarized in Table 1.

According to the results of Table 1, in general, we can say that method of effectiveness of policy of decreasing government expenditures depends on policy of foreign exchange, as, if in order to balance the market, the float exchange rate is performed, thus, when government expenditures decreases, domestic gross

Table 1: Impact of decreasing government expenditures on GDP (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Domestic gross production (GDP)	-0.05	0.005	-0.09	0.007	-0.014	0.012

Source: Results of Research

Table 2: Impact of decreasing government expenditures on consumption of private sector (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Consumption of private sector	0.02	0.01	0.024	0.016	0.041	0.026

Source: Results of Research

Table 3: Impact of decreasing government expenditures on investment of private sector (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Investment of private sector	27.4	7.64	41.48	11.46	69.1	19.11

Source: Results of Research

production rate will decrease. However, on the other way if in order to create equilibrium between supply and demand of exchange, it seeks help from managed exchange rate and uses foreign investment; domestic gross production rate will decrease a little. A point that can be deduced after analyzing Table 1 is that despite remarkable decrease of 50% in government expenditures, the amount of change in domestic gross production rate is not very eye-catching and we see that it is because the portion of government current expenditure in government budget is high [3].

Consumption of Private Sector: With decreasing government expenditures, consumption of private sector, as it is shown in Table 2 intends to increase. Therefore, it can be said here that in economy, there is a potential that with deduction of consumption of government sector, consumption of private sector will replace it. Of course, rate of increase consumption of private sector, as it is shown in Table 2 is not very considerable but there is an important point here that via decreasing the role of government, the private sector does not sustain a loss. Another point here is that in the case of having float exchange rate, the rate of increase in private sector is more than sate of having non-float exchange rate (managed state).

Investment of Private Sector: According to results of Table 3, we can consider that decrease the role of government sector and basis of investment is synonymous to increase the role of private sector. Because via having a 30% decrease of government expenditures under the policy of float exchange rate we can increase the investment of private sector more than 41%. Even, if policy of non-float exchange rate is applied we can see an increase of 11% in investment of private sector here. By decreasing government expenditures up to 50% and then applying the policy of float exchange rate, investment of private sector will increase more 69%. This number, when policy of non-float exchange rate is applied is a little more than 19%. Based on table mentioned above, we can say here that investment of private sector is extremely under the impact of exchange policy. Moreover, if the objective is to activate the private sector and improve the stimulant of this sector, we should revise the role of government, because the private sector enjoys high tendency of investment in economic activities [4-5].

Export: With decreasing government expenditures as 20%, 30% and 50% and if we apply the policy of float exchange rate, the rate of export will decrease as 0.21%, 0.32% and 0.53% respectively. But in the case if we apply

the policy of non- float exchange rate, the rate of export will increase as 0.22%, 0.13% and 0.21% respectively. These results can be an indication of remarkable cooperation of government in export, as with more movement toward privatization (decrease the role of government) and entrust conditions of economic activities to forces in market as exercising of applying the policy of float exchange rate, the rate of export will decrease. Of course, numbers that are written in table mentioned above cab mentioned less important in respect of absolute value. On the other hand, it is possible that through deduction of role of government, some changes will happen in export. But, what clear here is that alteration sate is of currents of exportable investment, because, its possible that in some fields, there's no export advantage, as with entrance of private sector and decrease the role of government, we can hope to the process of investments.

Imports: In the case of import, if we apply both, that is, the policy of float and non-float exchange rate here, with decreasing government expenditures the rate of import will decrease as it is an indication of high cooperation of government sector in imports in present conditions. If government expenditures decreases 30% based on results of Table 6, we can see that the rate of import will decrease 33%. However, if government expenditures decrease 50% the rate of import will decrease 55%.

As it is observed in this table, digits related to each of float and non-float polices don't have any differences with each other. And of course, in the case of decrease in import, we can know it here because of inside exchange strait, because if based on the analysis of Table 4 the rate of exports decrease and then the exchange rate limit, the expenditure of import will increase and thus, it leads to decrease the import and replace domestic products with same foreign products. Of course, decrease the role of government itself can also be synonymous with decrease of demands for importing goods, because, under assumption of no policy of float, foreign exchanges despite of import-export will decrease and this can bespeak decrease of import and then decrease the role of government [3-6].

Tax: As it was said before about tax incomes of government, taxes form a little portion of government incomes. Thus, it is expected that through decreasing government expenditures a little bit of change related to taxes will result. Based on numbers of Table 5, we can see that with a 30% decrease in government expenditures under both float and non-float foreign exchanges policies,

amount of taxes will decrease 33%. If government expenditures are decreased 50% via applying policy of float foreign exchanges the rate of tax would decrease 57% but when applying non-policy of float foreign exchanges the rate of tax would decrease 55%. Decrease related to received tax can also lead to capitalization or will increase private consumption, as it is indicated before after following lessening government expenditures, capitalization and private consumption will increase.

Consumption of Households: Consumption of rural and urban families related to agricultural and non-agricultural products has been evaluated separately. Based on what is seen in Table 7, if policy of float foreign exchanges is applied in order to have influence on decreasing government then expenditures will be different compared to a condition when policy of non-float foreign exchanges is considered. Therefore, in the case that if we apply policy of float foreign exchanges, decreasing government expenditures will result in deduction of agricultural products by both rural and urban families, but instead, if we apply policy of non-float foreign exchanges, decreasing government expenditures will result in increase of agricultural products by both rural and urban families. Consumption of non-agricultural products apart from type of foreign exchanges policy will increase with decrease of government expenditures. So, as with decrease of government expenditures under applying the policy of float foreign exchanges as 30% and 50%, amount of agricultural goods consumption will decrease 0.5% and 0.8% respectively, but whereas other numbers mentioned in table are located in ranges from 0.013% to 0.12%.

About decrease of agricultural goods consumption, following the role of country, we can say that paying attention to this point that they are part of cooperative goods of food stuffs (like bread), so decrease of agricultural goods consumption will decrease consumption of such goods. Another important point that we should mention here is that because of applying policy of non-float foreign exchanges, the rate of change in consumption of rural families is high and this can be because of change in consumption pattern in rural families in comparison with urban families. One of the reasons here can be change in income [6].

Household Income: It is assumed that income of households is obtained by two sources of work force and benefit of capital. After decreasing the role of government, as it is observed in Table 8 in the case that, when we apply policy of float foreign exchanges,

Table 4: Impact of decreasing government expenditures on exports (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Export	0.21	-0.22	-0.32	0.13	-0.53	0.21

Source: Results of Research

Table 5: Impact of decreasing government expenditures on import (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Import	-0.22	-0.22	-0.34	-0.33	-0.57	-0.55

Source: Results of Research

Table 6: Impact of decreasing government expenditures on Tax (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Indirect taxes	-0.22	-0.22	-0.33	-0.33	-0.57	-0.55

Source: Results of Research

Table 7: Impact of decreasing government expenditures on households' consumption (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Consumption of agricultural goods by urban families	-0.32	0.01	-0.48	0.014	-0.8	0.21
Consumption of agricultural goods by rural families	-0.32	0.02	0.47	0.027	-0.78	0.044
Consumption of agricultural goods by urban families	0.005	0.008	0.065	0.013	0.11	0.021
Consumption of non-agricultural goods by rural families	0.05	0.02	0.074	0.025	0.12	0.044

Source: Results of Research

Table 8: Impact of decreasing government expenditures on acquired incomes of inputs (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Acquired income of urban households by labor	0.03	0.03	0.04	0.04	0.07	0.07
Acquired income of urban households by capital	0.01	-	0.01	-	0.02	-
Acquired income of rural households by labor	0.03	0.03	0.04	0.04	0.07	0.07
Acquired income of urban households by capital	0.01	-	0.01	-	0.02	-

Source: Results of Research

Table 9: Impact of decreasing government expenditures on general incomes of families (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Acquired income of urban households	0.014	0.008	0.02	0.01	0.04	0.02
Acquired income of rural households	0.02	0.017	0.03	0.025	0.05	0.04

Source: Results of Research

Table 10: Impact of decreasing government expenditures on general incomes of government (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Acquired income of government	-0.13	-0.13	-0.20	-0.16	-0.34	-0.32

Source: Results of Research

Table 11: Impact of decreasing government expenditures on production of different sectors of economy (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Agriculture production	0.5	1.2	0.72	1.8	1.2	2.99
Non-agricultural production	-0.2	-0.24	-0.29	-0.36	-0.49	-0.6

Source: Results of Research

income obtained through production agents (capital and work force) between both groups of urban and rural households, will increase a little. On the other hand, it is not influenced by foreign exchange. The earned and acquired income, in the case when we apply policy of float foreign exchanges increases 0.01% and if we decrease the government's expenditures up to 30% when we decrease the government's expenditures up to 50%, it will increase by 0.02 [6-8].

Households' General Income: In Table 9, changes in general income of families are shown. Of the numbers mentioned in this table, apart from absolute number related to the rate of increase in incomes of families, we can present a general conclusion here. First, rate of increase in incomes of urban and rural families when we apply policy of float foreign exchanges is more than when we use policy of non-float foreign exchanges. Second, rate of increase in incomes of rural families is more than the urban one. Therefore, considering this point that generally, the level of welfare between rural families is less than urban one, movement in direction to decrease the government's expenditures, from the viewpoint of decrease, the welfare distance between urban and rural families can be considerable.

Income of Government: Whereas, decreasing government expenditures up to 30% or 50% is mentioned as a considerable value, but the government is not suitable for attention, as, decreasing government expenditures about 30% as, on the one hand, when we apply a policy of float foreign exchanges it decreases 20% and on the other hand when we apply a policy of non-float foreign exchanges it will decrease 16%. And when we decrease government expenditures to about 50%, government's income will be 34% and 32%, respectively.

Production: Decreasing government expenditures has an opposite impact on agricultural and non-agricultural sectors, as, when decrease government expenditures, production of agricultural sector increases and apart from exchange policy, production rate of non-agricultural sectors will decrease. As it is shown in Table 11, in the case when government expenditures decreases 30% and if we apply a policy of float foreign exchanges, the agricultural production increases 0.72% and whereas we apply policy of non-float foreign exchanges it will increase 1.8%. In addition, when the government expenditures decrease by about 50%, the rate of agricultural production will be 1.2% and 2.99%, respectively. On the other hand, in the case when government expenditures decrease by 30% and if we apply policy of float foreign exchanges, the non-agricultural production decreases 0.29% and when the government expenditures decrease about 50%, the non-agricultural production will decrease 0.49%. When we apply policy of non-float foreign exchange, the values mentioned above will decrease 0.36% and 0.6 respectively. The results mentioned above show that non-agricultural industry depends on government and it indicates that government has an importance in production of non-agricultural goods [9-10].

Consumption of Capital Goods: With respect to the numbers in the table related to changes of private investment, we can assume that these numbers and Table 12 are alike and it means that as much as the private investment increases, the rates of consumption of each of agricultural and non-agricultural products will increase as do mediatory and capital goods. This value is extremely important in following the policies of exchange. Increasing consumption of agricultural products such as raw materials that are generally used in industry can help investment in this sector.

Table 12: Impact of decreasing government expenditures on consumption of capital goods (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Capital Consumption of agricultural goods	27.6	7.6	41.48	11.46	69.1	19.11
Capital Consumption of non-agricultural goods	27.6	7.6	41.48	11.46	69.1	19.11

Source: Results of Research

Table 13: Impact of decreasing government expenditures on export (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Export of agricultural goods	-0.02	1.2	-0.03	1.80	-0.05	2.99

Source: Results of Research

Table 14: Impact of decreasing government expenditures on supplying products (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Supply agricultural goods	1.06	1.2	1.6	1.8	2.67	2.99
Supply non-agricultural goods	-0.14	-0.22	-0.22	-0.33	-0.37	-0.55

Source: Results of Research

Table 15: Impact of decreasing government expenditures on prices (%)

Variable	20% decrease		30% decrease		50% decrease	
	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate	Float foreign exchanges rate	Non-float foreign exchanges rate
Prices of agricultural goods	0.11	-	0.11	-	0.11	-
Prices of non-agricultural goods	-	-	-	-	0.11	-

Source: Results of Research

Agricultural Exports: Paying attention to the importance of the agricultural sector, changing the export rate of this sector has followed changing the government expenditure, separately. Conclusions obtained from this review are shown in Table 13. If we apply a policy of float foreign exchanges, the agricultural rate will decrease a little. However, when we use a policy of non-float foreign exchanges, with decreasing the government expenditure by up to 30%, this sector will increase 1.8% and while decreasing the government expenditure up to 50%, this sector will increase 3%. Of course, it is possible that through decreasing the role of the government and changing the exchange system, changes will happen in export and products that are supported by export will lose their advantage. Moreover, by changing its role and facilitating exportation, government can strengthen export in the agricultural sector [11].

Supply Goods: In Table 14, also, the impact of decreasing government expenditures on supplying agricultural and non-agricultural goods has been reviewed. As it can be seen, by decreasing, the role of government, under the impact of both systems of exchange, supplying agricultural goods will increase and instead, supplying non-agricultural goods will decrease. From the viewpoint of changes, the changes in supply and changes related to production that has been analyzed before are the same. In the case that the exchange system is a float one, the rate of change in production and supplying agricultural products are similar and is in same direction, but about non-agricultural goods, change in the case of supply, under the impact of both systems of exchange, is unnoticeably less than change in production. In the case of agricultural products, the results are an indication of this point that by seeking help from valuable motives, supplying agricultural goods can be changed more than

changes in price itself. In general, based on results of this table, we can say that in the case of non-agricultural goods, the government, which is mentioned as an economic agent, is very important and when its role decreases, the rate of supply will decrease. Of course, changes, which are happening on non-agricultural products, are mentioned less importantly especially, when we move toward a policy of float foreign exchanges, we can lessen the negative impacts created by decreasing role of government on supplying non-agricultural products [12-13].

Prices: In spite of noticeable decreasing government expenditures, the prices do not change a lot, as in the case of agricultural goods, only when applying policy of float foreign exchanges, the prices will increase by 0.11%. However, in the case of non-agricultural goods when we apply a policy of float foreign exchanges and when a decrease of government expenditures up to 50% occurs, the prices will only increase by 0.11%. Thus, in general, the impact of decreasing government expenditures on prices is low and, furthermore, the impact of decreasing the government's role on decreasing prices of agricultural products was somewhat desirable and, instead, in the case of non-agricultural goods, it has little negative impact on prices, as through increasing and high tendency of private sector for investment, we can hope that this negative impact will be eliminated [13].

Conclusions and Suggestions: Based on results obtained by Compatible General Equilibrium (CGE), we can present the following suggestions:

- To make necessary ground available for investment of private sector.
- Via movement toward float foreign exchanges system, we can lessen the negative impacts caused by decreasing the government's role over non-agricultural products.
- Considering dependence of non-agricultural industry to government, by transferring such industries to the private sector, we can create the grounds for increasing the efficiency in production of non-agricultural products.
- Paying attention to the positive impacts of decreasing the government's expenditures and in order to compensate the negative impact, creating a social safety net to include objective subsides of food, insurance of unemployment and retirement and health services are suggested here.

- Paying attention to the positive impacts of investment on export, investment in reforming the marketing system in order to advance the exports is suggested.
- Paying attention to the positive impacts of decreasing the government's expenditures, downsizing the government and assigning producing, services and business affairs to qualified private sectors are suggested.

REFERENCES

1. Majdzadeh Tabatabaee, SH., 1997. Review the impacts of Policies of Economy Stabilization on Real Great Variables of Economy, Case Study of Economy of Iran.
2. Nawazish, A., 1998. Globalization, its impact on Economies of OIC Countries and the role of private sector. J. Econ. Coop. Islam. Countries, 19: 10-20.
3. Mohammdzadeh Molla Yousefi, R., 2005. Size of government and its role on Economic Growth of elected countries with emphasize on Agricultural Sector. Thesis of Master Degree, University of Shiraz, Shiraz, Iran.
4. Salami, H., 2000. Policy of releasing the trade of agricultural products in Iran, An analysis within the framework of general equilibrium. Proceeding of 3rd conference of Agricultural Economy of Iran. Ferdoosi University of Mashhad, Mashhad, Iran.
5. Zolnoor, S.H., 2002. Review and Reform the Trade Policies. Published of institute of High Research in Programming and Advancement, Tehran, Iran.
6. Lofgren, H., 1999. Exercises in general equilibrium modeling Using GAMS. International Food Policy Research Institute. Washington, USA.
7. Ghorbani, M., 2008. The Efficiency of Saffron's Marketing Channel in Iran. World Appl. Sci. J., 4(4): 523-527.
8. Gazi, M.A., E.H. Kazi, M.T. Billal Khalifa, S. Binti Siraj and M. Faizal Bin A. Ghani, 2009. The role of agriculture education and training on agriculture economics and national development of Bangladesh. Afr. J. Agric. Res., 4(12): 1334-1350.
9. Evans, H.E., 1990. Rural-urban linkages and structural transformation. Infrastructure and Urban.

10. Fagerlind, I. and J. Saha, 1989. Education & National Development. Pergamon Press, Oxford, New York.

11. Thomson, A.R., 1981. Education and Development in Africa. Macmillan, Hong Kong.

12. UNDP, 2002. Human Development Report. New York: UNDP.

13. World Bank, 2002. Bangladesh 2020, A Long Run Perspective Study (available on 2nd March 2002 http://Inweb18.worldbank.org/lo+web+ sites/bangladesh+web.nsf/Bangladesh? Open Navigator.