



# The Survey of Tomato Demand in Iran

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## ABSTRACT

In present article demand of tomato in Iran has been studied. For this purpose information of years 1967-2009 of Iran economics has been used. Results showed that income increase has positive effect in per capita consumption of tomato and between price index and tomato consumption negative relation is seen. Income elasticity was bigger than one. Also price elasticity for tomato was less than one. Results also reasoning that per capita income has more effect in per capita consumption of tomato in Iran relative to prices.

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## 1. Introduction

With attention to population growth and increase demand for food products, estimation demand functions and study effective factors on demand of food materials has special importance [1]. Topic of customer behavior in addition to economists, is interesting for policymakers, too. This group of policymakers mainly for selection favorable policies in contexts such as rationing, donating subsidy, transfer payments and also following changes of welfare and changes of food security as result of effects of some economic policies on customers, have been sought defining behavior of customer. Estimation demand for different goods which are used by people, in recognition consumption priority and determination policies and guidelines of relating to consumption, prediction future consumption needs and finally planning issue have special importance. It has no doubt that planning in various areas of life such as economic and livelihood of people has special importance. So that research in behavior and model of consumption in society can help effectively exactness of plan more and more. [2]. Now among them one of most important agricultural products, is tomato. So that exact recognition and all aspects of effecting factors on tomato consumption and its products is necessary because technology and demand for this product and its crops in Iran and world is increasing. Also, with attention to 3.7 million ton tomato in Iran and the main part of this product is changed to paste of tomato and similar crops [3], subject of tomato demand in Iran is discussed.

## 2. Materials and procedures

In context of study goods demand there is much studies. Some of studies for review demand functions, has used income variables and per capita consumption. Firstly, function of tomato demand in Iran has been considered a function of price index of food materials and per capita income:

$$Q(\text{tomato}) = f(GDP, CPI) \quad (1)$$

Annual data of tomato consumption: (*CALP*)

Gross production per capita: (*GDP*)

Index of food material price: (*CPI*)

Then from equation (1) ln is taken and following relation is achieved.

$$\ln(Q) = f(\ln(GDP), \ln(CPI)) \quad (2)$$

From coefficients of equation (2) price elasticity and income is obtained. Also statistics and information needed are collected from internet bases of FAO and economic center of information in Iran during time (1967-2009). In order to estimation model and relevant testing software package Eview5 has been used.

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### 3. Results and discussion

In order to determination suitable strategy of estimation, in present research firstly test of variables subsistence has been done. A variable of time series when is subsistence which average, variance, covariance and coherence coefficient during time is constant .In other words is independent of time. In this orientation defining subsistence and non-subsistence variables of time series through different tests is possible. Subsistence of data of this research with use of method nine steps is studied and results provided in table 1 .Based on results in table 1 as a result of test of unit root of country all variables are at subsistence level.

**Table 1:** Results of test subsistence variables

Subsistence degree	Variable name	
$I(0)$	Tomato amount	$Q$
$I(0)$	Per capita income	$GDP$
$I(0)$	Index of food materials price	$CPI$

Resource: research findings

Function of tomato demand in Iran with use of ordinary least squares (OLS) method was estimated. With attention to elasticity income of tomato is more than one and it shows that tomato in Iran is a lux goods among products of Iran and if 100 percent per capita income increases, per capita consumption of tomato in Iran increases 150 percent. But however this point can be explained so that among consumers of Iran trend to use tomato is affected by much per capita income .Price elasticity obtained also describes that following 100 percent price increase of foods per capita consumption of tomato decreases 11 percent . This indicates reaction of low consumers of tomato in Iran against price increase. Income elasticity bigger than price elasticity for tomato is obtained which shows that income is more effective than prices in consumption of tomato in Iran.

**Table 2:** Function of demand tomato in Iran

Variable name		coefficients	Scale error
C	intercept	4.58**	1.7
CPI	Index of foods price	0.11*	0.05
GDP	Gross per capita products	1.51***	0.36
		$R^2 = 0.65$	$F = 32.45$

Resource: Research findings

\*, \*\*, \*\*\* respectively significance in levels 10,5,1 percent

### 4. Suggestions

With attention to results following suggestions are offered:

- 1- Planning for per capita consumption of tomato must be with attention to sufficient recognition from functions of per capita demand and also subject of per capita income and index of consumer price.
- 2- It is recommended that policies and planning made for improvement of per capita consumption of tomato in Iran in addition to per capita income and index of consumer price, cultural, social and political indexes and habit of per capita consumption must be considered.
- 3- It seems that future researches on tomato demand must consider effective factors other than demand such as products of tomato (tomato paste) and factors of habits of consumption have to be taken attention.

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