

*Full Length Research Paper*

# **A study of governmental revenue source: Evidence of Zanzan province in Iran**

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**It is clear that every government require revenue sources for execution and application of their policies. Governments have different ways of revenue collection with regards to their countries' conditions. In many countries, most of the governments' revenue sources are meted by taxes, but in some countries such as Iran that have oil sources, the situation is a bit different. In Iran, revenue is provided by three main sources: capital asset transfer (such as, oil sales), taxes, and other revenue sources and financial assets transfer. Weighting of each aforementioned source in the budget was different in different years. This study shows that during the last 40 years, taxes revenue composed of less than 30% of the total government revenue, but it is not in a level that could cover the current government expenditures, and the other 50% was mainly composed of capital assets transfer.**

**Key words:** Revenue, capital asset transfer, tax, budget.

## **INTRODUCTION**

In economic literature, the functions of government are as follows: they meet continuous economical development, complete employment of production factors, fair distribution of wealth and income, and generate security and justice (Namazi and Salehi, 2010). In addition to these functions, government has another important function which is, governments must be responsible not only to the current generation but also to future generations. Because the sources that are achieved from gas and oil sales are national capital, it is not necessarily spent just for today's generation welfare, but should be allocated to generate production infrastructures and productive investment in order to reach sustainable development in the country (Salehi et al., 2010). Both future and today's generation enjoy this God-given source.

Regarding the fact that oil source is finite and would someday be finished, it cannot be a reliable and constant source for meeting and covering cumulative expenditure of government (Valizadeh and Salehi, 2007).

Tax as a most important revenue source in developed countries provides the main part of the current

expenditure for these governments. This rate includes 30% of the gross government product in some of these countries (Salehi and Valizadeh, 2007), but in developing countries and third world countries, the situation is completely different. In Iran, this rate never exceeded 10% of the gross domestic product, and the highest rate recorded so far was 9.4%. Tax can be consider as a device of economical policies in achieving the economical purpose of government, to control inflation, acceleration in economical growth, fair distribution of wealth and income, and to direct investment and create sustainable employment (Moradi et al., 2010).

Another government source is related to revenue resulting from services given by some government units. These services include transfer and sales of assets by government firms and financial assets transfer such as securities sale, borrowing from banks, output storage of exchange fund, and borrowing from monetary and financial international organization. The usage of maximum tax capacity and other revenue sources by government has been proposed as a policy in the laws of the first, second, and third plans of cultural, social, and economical development of Islamic republic of Iran in order to decrease dependency of government budget to oil revenue (Salehi, 2008).

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In this research, we considered the capacity of the province's overall revenue and the arrangement of its revenue and effective factor on optimal collection, after which we then proposed practical methods for increasing them.

### Significance of the study

The importance of financing the income resources of government other than the resource from oil sales is great as was observed from two decades ago until now through the implantation of two notes from the second plan of development and 45 notes from the annual budget law of the government's head quarters (Salehi and Abedini, 2009). Province income was formed from that time to date. Recognition of province capacity in collection of public income, development of the current resources and discovery of new resources formed the basis of the collector systems.

### Research hypotheses

The research hypotheses are as follows:

- 1) There is a direct relationship between the province's gross domestic product and provincial incomes.
- 2) The province income capacity is less than the average income level of the country.

### RESEARCH METHODS

The research methods applied in this study are library/documents, and field work. Field work was associated with conducting a survey from income experts and managers of payee executive systems of province incomes.

#### Statistical population, method of collecting information, and research period

Location domain of this research is related to Zanjan province and its current divisions and whole payee systems of the province incomes during 1999 to 2009. In this study, the required information were collected by three ways: first, data were collected by library way; secondly, the information related to province and country incomes, other information associated with province cost (old and recent), statistics of the gross domestic product of Iran statistical center, management and planning organization data, province treasury and economical reports of the central bank were extracted; and thirdly, the viewpoints of income and budget experts and the managers of income payee systems were used.

#### Formation of income system—province cost

A decision was made that the province appendix budget law should be termed as a "province budget" and should be tendered to the assembly for approval along with the budget act, according to note (2) of the second five years law plan.

In this appendix, floating and developing credits and province incomes of each province was referred to. The 4th paragraph of this note said that general incomes and province incomes are incomes which are collected and inputted into specific province treasury according to law, and are then used for financing of local executive systems and developmental projects. The consequence of this note is that a number of incomes were introduced in the province appendix as province incomes, while other incomes were applied as national incomes. The aim and logic of establishing the income system and its cost is for the developmental credits of every province to produce same incomes. This system from regional equilibrium perspective follows this view: if the development is not endogenous and do not depend on producible resource within each region, it would not be possible to establish sustainable and endogenous developmental process. In fact, executing income-cost system in the third development plan, with an opportunity for starting a regional development and planning system that includes consumption resource and improves regional collaboration and responsibility in development was provided. In reality, starting income-cost system in the third development plan, fundamental steps were determined in order to develop and make a regional equilibrium. Planner institution (the province's planning and development board), decision maker institution (professional group works that are subset of the planning and development board), and financial institution (income headquarter and resources mobilization and specialization committee) were formed in the law in articles 70 to 82 of the third social and economical development plan of the country during executing the third plan. This case continues in chapter 6 of the fourth development plan in the framework of the same articles used in preparing public lands and regional equilibrium. The fundamental components of this system are province income and allocation method, and its abstraction from national income.

#### Explanation of econometric model for province incomes

One of the key purposes and function of the developed countries' government is to reach sustainable economy development in developing and less developed countries (Namazi and Salehi, 2010). This is due to the active application of dynamic financial and monetary policies. In fact, application of financial policies along with monetary policies would be in separable parts of economic development trend in developing countries. In this regard, application of monetary policies through its effect on economic variables, optimal allocation of resources, income and wealth distribution, increased labor power productivity, and meeting the monetary resources of economic development, would help to fulfill this purpose. Fiscal/tax policy is also a very important part of the financial policy which was located in the economical framework of every country, and should be applied in the same tendency of other economical policies. In summary, the aim of tax policy is to activate the economical policies and fair distribution of wealth and incomes, and move the community toward sustainable development.

Regarding the function and importance of tax revenue in meeting government costs and its function on tax revenue which was predicted in future years, their analysis could play an important role in economic policy making. Studies that were carried out on tax revenue collection suggest that tax should be collected from a province and a country on the basis of tax type (direct or indirect), but in this study, we did not follow a specific pattern. While the effect of collecting these taxes from the wealth and income distribution of communities is different, it is emphasized that each of them forms a special picture of income distribution in their community. Direct taxes should be applied on excess income and adsorb the part of excess income that does not damage saving and investment. Indirect taxes should be applied to decrease luxury consumptions, and should not be very illogical and heavy in order

**Table 1.** Used variables.

Tax revenue of province = TF	Gross domestic product of province →GDPP
Tax revenue of country = TTC	Gross domestic product of country →GDP
Direct tax of province ÷ DT_	In direct tax of province = IT
Direct tax of country ÷ DTC	In direct tax of country = ITC
Rate of urban literacy ÷ NB_	Per capita income = PC
Import rate of country = IM	Per capita income of country = PCC
Potential tax of province = PTT	Dependency burden of province = BT
De facto tax of country : PTTC	Dependency burden of country = BTC
Budget fulfillment capital asset acquisition of province : ABT	Current budget fulfillment of province = ABJ
General budget fulfillment of province = AKB	Sum of exports and imports = EM

for it not to cause uncontrolled increase in price of goods and have negative effect on their production.

Since tax revenues of a given time include over 85% of the total province income, and its share is increasing, tax revenue was approximately used as general incomes to explain the research hypothesis.

Analysis of effective variable on tax revenues collection could show potential tax capacity of province and also determine which factors have the most effect on achieving different types of tax revenues in the current executive trend. Basically, without considering the potential economy capacity of the province in tax payment, the tax revenue that can be earned by the current tax system was considered. The main purpose of presenting functions and estimation of them is to identify the main influential factors on collecting each of the province taxes and predicting their collection rate in the future. So, with regard to the main bases of establishing it, taxes are influenced by production of different economical sectors. In economy theories, there are a number of factors that have an effect on tax revenue. In summary, the potential state of tax revenue in every country depends on five factors:

1. Real income per capita level.
2. Inequality rate of income distribution.
3. Industrial structure of economy and significance of various economical activities (such as, significance of new sectors, external collaboration rate in private economical institutions, and commercialization rate of agricultural sector versus degree of its subsistence).
4. Social, policy and institutional state, and relative power of different groups (that is, land lords versus industrialists, labor unions, social organization of sector or village).
5. Official competence, qualification and integration of tax collector branches.

In addition to the aforementioned cases, there are other effective factors in determining tax capacity and bases which were referred to at the beginning of this work and in the background of different research studies, but each of them are located in one of the five previously mentioned cases.

In conclusion, it is true that real ratio of tax revenue to national income in underdeveloped countries is less than that in developing and developed countries and its taxes. In many countries, may be an attempt was allowed to get more tax and approach to optional tax, especially if progression tax collection system was designed with issues like inequality of income distribution, tax collection capacity of agricultural sector and increase share of industrial and

commercial assets which was considered at the same time with development trend. Moreover, saving which was supported by extra tax collection was less than that of extra tax revenue which created limitation in voluntary saving through tax reduction rate, instead of voluntary reduction in consumption.

For identification of the tax operations of developing and underdeveloped countries, there is need to deviate from statistical index (such as tax revenue ratio) to oil national income, and to reach a more dynamic concept such as tax elasticity and tax effort. Tax effort covers bureaucrat and political efforts for increasing effective tax rate or covering the rate of tax system. Tax elasticity refers to income elasticity of tax system: if marginal tax rate is more than its average rate, an automatic increase occurs in tax revenue in proportion to national income.

Considering the fact that tax policy was made at the macro level of a country, estimation of tax effort with effective tax rates variable or covering rate of tax system at the province level was not allowed. Thus, difference between potential tax and collecting tax rate was used to estimate tax effort. Table 1 portrays the various variables of the study.

## HYPOTHESES TESTING

### Testing of the first hypothesis

$H_1$ : There is a direct relationship between gross domestic product of a province and provincial incomes.

Contribution of tax revenue in a given period included more than 85% of the total provincial incomes and it was the second income resource after gas and oil incomes and its share is increasing. Tax revenue was used as an approximate of the general incomes to describe the first hypothesis of this research in order to study the share of the direct and indirect taxes from the total tax revenues of a province and its comparison with a country: descriptive statistics method was used to estimate the share of direct and indirect taxes from total tax revenues of province and country. Table 2 shows the total revenues during the study. Above table shows that in a given period, 92.6% of the total tax revenues of a province are direct taxes and 7.4% are indirect taxes, while for a country, 57.7% of the

**Table 2.** Total collection of the tax revenues of province and country during one period.

Title	Province			Country		
	direct	Indirect	total	direct	Indirect	total
Tax revenues	1884.1	149.6	2033.7	326808.3	239440	566248.3
Ratio	92.6	7.4	100	57.7	42.3	100

total tax revenues are direct taxes and 42.3% are indirect taxes. It means that from 3.83 unit of the province tax revenue, 3.55 unit is related to direct tax revenue and 0.28 unit is related to indirect tax revenues. Justification of the low contribution of indirect tax revenues in province is completely logical, because the main part of indirect tax revenue of the country consist of import taxes (entrance fees), which are considered as national incomes of provinces and not revenue of the general incomes of provinces. Even if entrance fees were provincial, we can not expect the share of indirect tax revenue in provincial incomes to be significant, considering the weakness of the province customs and the fact that this province is not a frontier city.

### Study of tax revenue elasticity of a province

Discussion on elasticity is one of the most important issues which have many applications in economical planning and policy making, and basically it is considered as a basis for applying economical planning and policies. So, this method is used to study the ratio of tax revenue elasticity to GDDP (-1); it means that if the estimated rate of elasticity is equal to one, 1% change in GDPP (-1) leads to change in tax revenue by 1%, and terminologically it would have unit elasticity. If the estimated rate of elasticity is lower than one, with 1% change in GDPP (-1), tax revenue would increase less than 1%, and terminologically it would result to low elasticity. But if the estimated rate of elasticity is more than one, it means that 1% change in GPPP (-1) would lead to increase tax revenue higher than 1%, and terminologically it would result to high elasticity.

Tax elasticity refers to the revenue elasticity of a tax system. As such, if the marginal rate of tax is higher than its average, when the ratio of tax revenue to national income increases, there will be an automatic increase in its average.

### Testing of the second hypothesis

H<sub>2</sub>: Presently, the income capacity of a province is lower than the average level of that of a country.

The descriptive (tax efficiency) and regression (to estimate the function of tax capacity or province potential tax) methods were used to prove the previously stated hypothesis.

### Regression method (tax effort)

As was already referred to, potential tax in a country depends on various conditions such as per capita income level, degree of inequality in income distribution and relative significance of different economical sectors (cash crops subsistence agriculture, mine, foreign trade, political leadership and bureaucrat capabilities of government). Thus, regarding the aforementioned cases and the proposed material used in determining the econometric model, models of province and country tax functions were estimated in paragraphs 2.4 with respect to the completed tests and surplus variables eliminated. However, the potential tax capacity of the province and country is estimated as follows:

Province:

$$TT = -9.9303 + 0.34836 \text{ GDPP}(-1) \text{ AR (1.2) MA (2)}$$

(-0.74) (13.5)

$$R^2 = 0.9899 \quad \bar{R}^2 = 0.9855 \quad \text{D.W} = 2.29 \quad \text{F} = 222.2$$

Country:

$$TTC = 880.2163 + 0.0494 \text{ GDP} (-1) + 0.1489 \text{EI}$$

ARMA (2.2) AR (3)

(0.75) (5.05) (3.97)

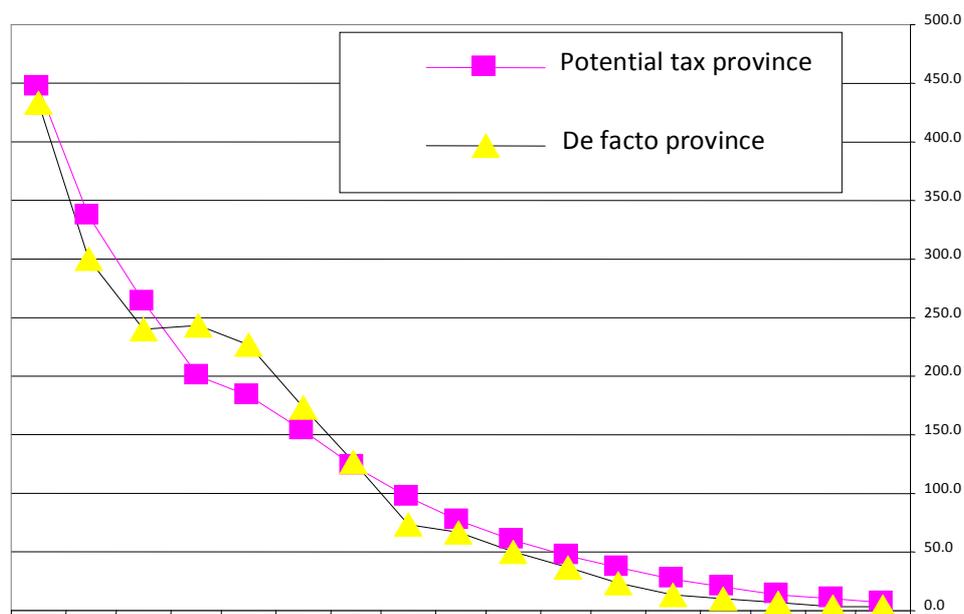
$$R^2 = 0.991 \quad \bar{R}^2 = 0.985 \quad \text{D.W} = 2.21 \quad \text{F} = 160.45$$

Estimation models show that independent variables explain 99.1 and 98.99% of the variation of dependent variables with a consideration of the estimated R<sup>2</sup>. Coefficients of the independent variables were verified as 95% with a comparison of the t-statistic model and Table 3 which have significance level. F and D.W statistics explained the lack of correlation and verified the regression model.

With two estimation equations and replacement of the corresponding number with the independent variable of equations, potential tax of the province and the country is estimated and given in Table 3. Then the potential tax is compared to the collection tax, after which the tax effort of country and province in collection tax revenue is estimated. The ratio of de facto tax revenue to potential tax revenue is used to estimate tax effort. If the aforementioned ratio is higher than one, it means that the

**Table 3.** Comparing tax effort and potential tax of country and province.

Province			Country		
TT	PTT	PTT/TT	TTC	PTTC	PTTC/TTC
4/12	5/8	0/71	1174	1997/36	0/59
4/12	9/5	0/43	1695	2320/18	0/73
7/36	14/1	0/52	2765/2	2968/22	0/93
10/6	19/8	0/53	3775/5	3698/2	1/02
14/99	26/9	0/56	4061/3	5837/77	0/70
23/06	35/6	0/65	5490/8	9658/04	0/57
35/95	45/3	0/79	7313	11386/8	0/64
51/63	59/9	0/86	12560/2	14612/9	0/86
65/01	76/5	0/85	17344/6	18323/6	0/95
74/02	97/03	0/76	24881/6	20663/4	1/20
127/6	122/4	1/04	40265/7	23543/1	1/71
173/77	153/9	1/13	36585/3	28851/5	1/27
226/42	183/9	1/23	41786/1	38495/5	1/06
241/77	199/7	1/21	50586/4	69238/2	0/73
241/1	264/2	0/91	65098/9	87490	0/74
300/23	337/4	0/89	48821	113846	0/74
431/99	447/9	0/96	166443/7	144117	1/15

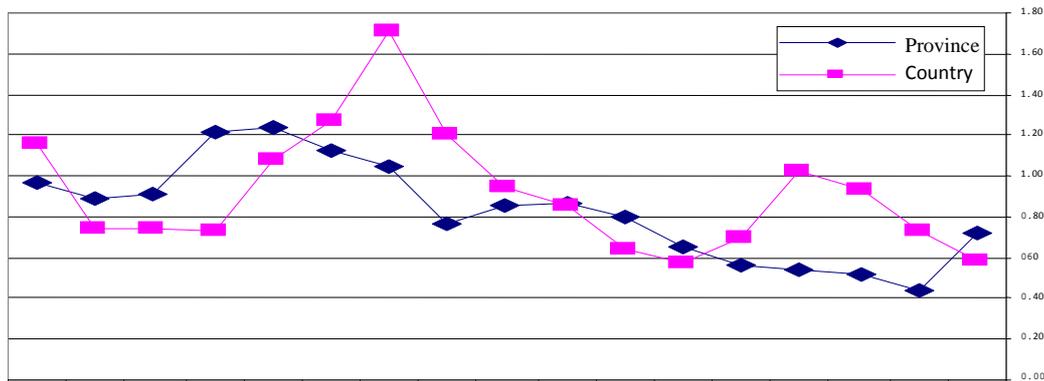


**Figure 1.** Comparing the ratio of de facto tax and potential tax of a province during one period.

province or country have collected tax more than their tax capacity, but if the aforementioned ratio is lower than one, it means that the country and province have collected tax less than their tax capacity, and so there was less tax effort. If the aforementioned ratio is equal to one, it means that the country and province have collected tax revenue equal to their tax capacity which could effectively aid their growth process, but if there is

non-equality in the de facto and potential ratio, it implies that the collection of tax revenue at country and province level. Table 3 portrays the comparing tax effort, and potential tax of country and province. Also, Figure 1 shows the comparing ratio of de facto potential tax of province one billion.

As observed from table and the comparative graph of the de factor and potential tax of the province, in most



**Figure 2.** Comparing the ratio of de facto tax and potential tax of province and country.

years, the number of collected tax was less than that of potential tax. Figure 2 reveals the comparing ratio of de facto potential tax of province and country. The main reason had been the surplus tax revenues collected from the province in the given four years related to the government policy based on delayed taxes collected, and also the law which affects the payment of tax by companies in the provinces. However, tax had been constantly less than potential tax.

In summary, province tax effort as shown in Table 3 was less than country tax effort. So the hypothesis which stated that incomes capacity of province was less than income capacity of country was confirmed.

## Conclusion

In a given period, tax revenue on the average included 84.8% of total provincial incomes. While direct tax revenues on the average included 79.8% of the total provincial incomes and 92.6% of the total tax revenues, indirect tax revenues on the average included 5% of the total provincial income and 7.4% of the total tax revenues. In this study, company tax was the first source that was used to collect tax revenue and provincial income during the given time. In this period, the average tax included 43.8% of the total provincial income, 51.7% of the total tax revenue, and 54.9% of the total direct tax revenue. Income tax was the second source that was

used to collect tax revenue and provincial income during the study period. During this time, the average tax included 32.4% of the total provincial income, 38.2% of the total tax revenue and 40.5% of the total direct tax revenue. Taking into account 'company tax' this time, it included 76.2% of the total provincial income, 89.9% of the total tax revenue and 95.4% of direct tax revenue.

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