

Construction Budget Analysis in Iran

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Abstract. Government's underlying and construction policies and programs have been applied and are implemented through construction budget as an important and comprehensive document. Construction budget plays an important role in development of underlying issues and economical and social infrastructures. Therefore, studying the effective elements on the quality and manner of construction budget implementation and pathology of execution will have worthy help in the establishment of government's programs and policies. In this research also the author has addressed the pathology of construction budget establishment of Tehran province over the first four years of Development Forth Plan. Purpose - The main goal of this research is to recognize existing problems on the way of establishment of executive organizations construction budget in Tehran province. Design/ methodology/ approach. The study was based on descriptive - traverse method, and questionnaire has been used for data collection.

Keywords: construction budget, capital assets possession credit, budget, budgeting, development forth plan

1. Introduction

Budget is one of the most important tools of executing plans which follows quality and quantity goals, basic policies and diplomacies of program and establishes it's execution conditions. Also budget is the panorama mirror of government's plans and activities and plays an important and crucial role at public economical development [12]. At the clause one of this act, the countries' whole budget has been defined as following: the whole budget of country is the governments' financial plan, which is provided for one year and includes the prediction of incomes and other credit providing resources and the estimation of costs for implementing some operations that results in reaching legal policies and goals and it has been composed of these three sections: 1-government's public budget which includes following parts: A (prediction of receipts and credit providing resources which is received directly and indirectly in financial year of budget's act by the organizations through Head Treasury's accounts. B (prediction of payments which can be done in the related fiscal year from public or private income for current and construction credits, and from private income for executive organizations. 2- The budget of public companies and banks including prediction of incomes and other resources of credit providing. 3- The budget of institutions that are regarded under titles other than the said titles in the budget of whole country. [19]. The importance of budget and executing it as a financial policy has crucial effect on economical basic equilibriums level and finally on the equilibrium of whole economy. Hall (2002) defines planning as following: planning is the intention of acquiring a goal and therefore necessary actions are arranged with especial arrangement one after another. Ebtehaj (1371), which is the founder of planning in Iran, writes in his/ her recollections that until we haven't a plan for our works, the status of country will not be corrected. Clark (1982) believes that investment may be done in a season (month, season, and year and ...) or in many terms. Regarding the necessity of accounting current value of

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investment, in addition to the current receipts and payments, determining the time of fulfilling costs related to investment is necessary, too. In supplying and executing construction budget, Executive Power can easier decide about public budget and has more authorities and from the beginning that public investment has been started in Iran, construction budget in some way has been separated from public budget [18]. Clanton and his colleagues (1990) believe that government policies, regulations and executive methods to high extent can result in effectiveness of construction schemes. Chua and his colleagues (1999) believe that generally the acceptance of technology transmission process in construction projects causes the improvement of financial function, program function and quality function. Devapriya and his colleagues also (2002) believe that function improvement in construction schemes is a key for effective results. Although, schemes of capital assets possession are the most central channel of creating new production and service capacities in the society, but they have the most problems from the credit and technical- executive point of view. These problem at least are dividable in the two constructive and executive sections, and naturally the solutions that are provided to solve these problems, must be considered both in long and short term [25].

The purpose of this research is to recognize existed problems which block the establishment of construction budget in Tehran province and identify preventive elements, examining the issues of budget execution from allocation budget view point, recognizing the barriers of construction budget un-establishment at the stages of outlay and drawing authorities' attention to the ability of administrative organization and establishments in supporting budget execution. Resulted findings from this research can cause the effectiveness of construction budget by government and also studying the effective elements can help supervising the quality and way of executing construction budget and pathology of execution and help the establishment of government's plans and policies.

Based on the investigation done by Assembly Investigations Centre, the most important problems of Capital Assets Possession Schemes are expressed as following: non-clearance of proportion and conformity measurement method of capital assets possession plans with the goals of country development programs, the prolongation of investment execution time, the increase of projects' costs due to its delay and its resulted loss, opening some plans that their capacities are unusable because of the needed time expiration and technical incapability, inadequacy and non-proportion of credit anticipations in budget laws, illusion in relation to approval manner and also the reference who approves them, the lack of resources optimized specification and the decrease of returns in proportion to paid costs, and finally they concluded that amongst the mentioned problems, credit problems have the most portion. In (1989), Diamond has examined the effect of government's cost elements on economical growth. Based on some results of this research, in capital consumptions classification, the fundamental capital expenses (such as transportation) and social and educational sectors have had positive impact on the economical growth rate. Based on the studies done by J Gkritza and his colleagues in (2008) they concluded that in estimating construction budget (transportation) the changes within the travel, the cost of vehicle and safety have long term effects on economical development, which it is ignored most often as one of transportation program-making difficulties, because there is no valuable method for estimating construction projects about transportation. Ttsumi and his colleagues in (2008), in examining economical issues of transportation projects including railroad building showed that by using spatial statistical model (spatial modeling) we can correctly estimate construction projects. Studies done by Lyons (1998) in America has shown that the budget estimation offered by government was so conservative that has not covered all executive costs which usually it was because of imposing additional restrictions like needed numbers and regulations that more possibly resulted in the increase of construction projects' costs and considerably the estimation has been less than projects' estimation and also economical justifications has been one of the main reasons of construction budget increase. studies done by Fedderke (2006) in south Africa with more than one century information has shown that government's underlying costs, directly and indirectly, is effective on the promotion of private sector's investment and economical growth through increasing final efficiency of capital. Devarajans and his colleagues (1996) by using the information of 43 country over 20 years, tried to obtain the relationship between government's current costs and capitals and growth. The results indicate that the increase of current costs share will cause growth and capital costs will have negative effect on the per capita growth. Baskin (1998) believes that, in the recent years a coalition of worker unions and political alliances, in the recent

years a coalition of worker union and political alliances, was giving different state construction projects only to some contractors who were intended and capable to bargain without considering the interest of contractors in work and basic principles of competition, which this issue results in the decrease of bids number and increase of construction costs. Also, the results of estimation according to the new method of econometrics in this sector among provinces have not had significant impact on the economic growth. In other words, the provinces have not followed from unitary pattern in costing allocated construction credits. On the other hand, construction credits performance of provinces in the transportation sector has been impressed by economic growth directly. Waroonkun and his colleges (2008) in some studies which they made in Thailand concluded that many developing and new industrialized countries have lack in technique and management capabilities for doing great and complex construction projects. Weil (2005) believes that a main problem that industries encounter in construction projects is the disability of industries in attracting new individuals due to the workers' low skill level and also no training individuals and also the abolishment of their training and encountering new technologies. Investigating made studies in the country show that some of construction plans problems are ignoring the three dimensions of time, cost and quality that these three are the basic components of success guarantee in doing a project, in other words, success in the project means doing it certain time with anticipated cost and determined quality, which should be performed in consistence with environmental considerations. If quality be defined consistency with needs, construction plans should have such quality that satisfy the determined needs in plan definition, which certainly observe supplying the society considered goals [17].

- There is meaningful relationship between delay in credit allocation and un-establishment of construction budget.
- There is meaningful relationship between bureaucracy and delay in performance of Tehran province offices' construction budget.
- There is meaningful relationship between prediction of programs and delay in performing program.
- There is meaningful relationship between inter organizational constructive issues and un-establishment of construction budget.
- There is meaningful relationship between stages of outlay and un-establishment of construction budget.
- There is meaningful relationship between inappropriate estimation of construction budget and un-establishment of construction budget.

2. Research Methods

The current research from goal viewpoint which is to find executive problems of budget be functional and the used method of research is field-finding with traverse approach. The findings analysis type is Spearman correlation coefficient. The method of data collection is done through two library (referring to documents and government's financial invoices) and questionnaire distribution. Statistical universe of this investigation is all financial, credit and budget staff and comptroller in four head offices (including :The head office of rebuilding and equipping schools in Tehran province as a sub-organization of training and education department covers all construction budget of this department. The housing and urban construction Organization of Tehran province as suburbanization of housing and urban construction covers all construction budget of this department. The Organization of mining and industry in Tehran province as sub-organization of mining and industry department covers all construction budget of this department. The Head office of road and Transportation as sub-organization of this department covers all construction budget of this department), which their number is 53 individual in all mentioned organizations.

The questionnaire has been distributed in full-numbering form between all people. Also for the questionnaire reliability, Kronbakh's Alfa coefficient has been calculated which is 0.96 percent after the correction of questionnaire; and for each one of main structures the Kronbakh's Alfa coefficient has obtained for delay in allocation of credit 0.77%, bureaucracy 0.93%, time of program prediction 0.86%, constructional issues 0.86%, outlay phases 0.92% incorrect estimation of budget 0.80%. In the phase of analyzing data has been used descriptive statistics including frequency, percent of frequency in the form of table and diagram for data processing, and Specimen's correlation coefficient test has been used to compute

intensity or the amount of significance relationship among components, and the obtained data from questionnaire has been processed by SPSS software.

3. Results

The sample was composed of 34 men and 19 women. The maximum age was 54, the minimum 21 and the average age was 36 years old. The job of statistical sample was as following: 12 individual staff manager and 36 individual OTHER option and the rest were without answer. The job background of statistical sample was in maximum 33 years and in minimum 1 year and averagely 14 years. From education point of view mostly (about 33 individual) were bachelor's degree and at least (about 3 individual) were associate of arts.

According to table 1, there is a significant relationship between the prediction of programs time and delay in performing programs. The correlation coefficient of 0.633 with significant level of 0,000 is less than 5 percent. The null hypothesis is rejected and its opposite hypothesis is confirmed.

Table 1: Spearman's Correlation Coefficient between "prediction of programs time" and "delay in performing programs"

Variable	Statistical indexes	Un-establishment of construction budget
prediction of programs time	Spearman's Correlation Coefficient	0.633
	significance level	0,000
	Quantity	53

Table 2- average and Rank

	First hypothesis Delay in credit allocation	Second hypothesis bureaucracy	Third hypothesis Prediction of programs time	Fourth hypothesis Inter organizational constructive issues	Fifth hypothesis Outlay stages	Sixth hypothesis Incorrect estimation of construction budget
Average	16.7609	13.5400	14.9020	10.6923	21.2889	16.0435
Standard deviation	3.59744	4.18554	4.19168	4.01242	5.79821	4.51150
Rank	Second	Fifth	Fourth	Sixth	First	third

Regarding to findings resulted from description and data analysis, un-establishment of construction budget's issues and problems, stages of outlay with average of 21/28 and standard deviation of 5/79 are as the most important element in delay or un-establishment of construction budget and after that delay in credit allocation incorrect estimation of construction budge, the time of programs prediction and bureaucracy with 13/554 average and 4/18 standard deviation and inter organizational constructive issues with 10/69 average and standard deviation of 4/01 has been recognized as the weakest element in delay or un-establishment of construction budget.

4. Discussion and Conclusion

As it has been shown in first hypothesis and its results, there is a significant relation of direct and positive type and at proper level between independent variable of delay in credit allocation and dependent variable of construction budget un-establishment, which the correlation coefficient of these two variables is 50 percent. As it has been shown in the second hypothesis and its results, there is a significant relation of direct and positive type and at proper level between independent variable of bureaucracy and dependent variable of delay in construction budget execution, which the correlation coefficient of these two variables is 63 percent. As it has been shown in third hypothesis and its results, there is a significant relation of direct and positive type and at proper level between independent variable of predicting the time of programs and dependent variable of delay in construction budget execution, which the correlation coefficient of these two variables is 63 percent. As it has been shown in fourth hypothesis and its results, there is a significant relation of direct and positive type and at proper level between independent variable of inter-organizational

structural issues and dependent variable of construction budget un-establishment, which the correlation coefficient of these two variables is 57 percent. As it has been shown in fifth hypothesis and its results, there is a significant relation of direct and positive type and at proper level between independent variable of outlay stages and dependent variable of construction budget un-establishment, which the correlation coefficient of these two variables is 52 percent. As it has been shown in sixth hypothesis and its results, there is a significant relation of direct and positive type and at proper level between independent variable of incorrect estimation of construction budget and dependent variable of construction budget un-establishment, which the correlation coefficient of these two variables is 72 percent.

According to this, it is suggested that government in order to increase the scientific capabilities and skills, individuals in construction sector proportional to need pass effective and continual educational periods and, the authorities are recommended to generate appropriate motivate and evaluation system in construction organization, it is proposed to consider its positive aspects namely everything should be placed in its proper location, there should be coordination between bureaucracy and budget, and it is suggested that credit allocation to be done at the beginning of year and immediately after plan approval until allocation be proportionate with projects` work season and also it is suggested that do not leave long interval between the date of plan approval and the beginning of executive operations and, some plans that lack confirmed justification studies be deleted from plans list and, also budget anticipation and estimation should be done reasonably and exactly and by skilled and experienced expert and it is necessary to pay attention to its geographical and technical environment.

5. References

- [1] M. Baskin. *the case against union- only project labor agreements on government construction projects*, journal of labor research. 1998, volxix, pp115-124.
- [2] R,lee,m,t, Calantone & A.C. gross. *Evaluating international technology transfer in a comparative marketing framework*, journal of Global marketing. 1990, pp23-46.
- [3] D.K.H,Kog,Y.C. Chua & P.K,Loh. *critical success factors for different project objectives*, journal of construction engineering and management. 1999, pp142-150.
- [4] j,c. Clark & R.E.Pritchard. *capital Budgeting : planning and control of capital expenditures* , 3dr ed,Englewood cliffs , nj prentice-hall international editions. 1989, p47.
- [5] K,A.K. Devapriya &S. Ganesan. *transfer through subcontracting in developing countries*, journal of building research and information. 2002, pp171-182.
- [6] s. Devarajans &v. swaroop & H. zou. *The composition of public expenditure and economic growth* ,journal of monetary economics. 1996, vol 37, no2, pp313-344.
- [7] J. Diamond. *government expenditure and economic growth: an empirical investingation*,IMF,working paper. 1989, may 15.
- [8] H. Ebtehaj. *Abol Ebtehaj Diary*, Volume 1, Tehran, Academic Press. 1371, p. 297.
- [9] J. Fedderke & P. PERKINS & J. Luiz . *infrastructure al investment in long – run economic*, groth: south Africa 1875-2001, word develop ment . 2006, vol 34, pp1037-1059.
- [10] K. Gkritza.& K,C.sinha.samuel,Labi,Fred,L& Mannering. *influence of highway construction projects on economic development:an empirical assessment* , journal of Ann Regsci. 2008, pp545-563.
- [11] P.Hall *urbam and regional planning*,4 th ed ,London . 2002, routledge p110.
- [12] F. Kiumarcy. *Budget and the state budget*, Ball Publishing, Printing. 1387.
- [13] M. Lyons. *the estimated cost of project labor agreements on federal construction*, journal of labor research. 1998, vol xix, pp 73-87.
- [14] Management and Planning Organization, (1382 - a), *draft plan of economic, social and cultural Islamic Republic of Iran (1384-1388)*, Management and Planning Organization, second edition, p. 1.
- [15] Payam Abadgaran Journal. *Problems of development projects that impact on the growth and sustainability of private sector firms and contracting*. 1386, No. 238.
- [16] H. Qaneii. *Introduction to Iran Brnzam budget*, Plan and Budget Organization, Administrative and Financial Management.

- [17] A. Shobeyri nezhad. in Iran's budget (budget Vparlman), Tehran, Majlis Research Centerv. 1387.
- [18] Strategic Planning Department supervision, *86 years of economic reports and monitor the performance of the first three-year plan*, supervising the Strategic Planning Department, Vol.
- [19] Supervision report of province construction projects in 1384, first and second volume of Performance Supervision, the assistant of technical affairs – the office of plans supervision and assessment.
- [20] Supervision report of province construction projects in 1385, first and second volume of Performance Supervision, the assistant of technical affairs – the office of plans supervision and assessment.
- [21] Supervision report of province construction projects in 1386, first and second volume of Performance Supervision, the assistant of strategic supervision – the office of budget supervision .
- [22] Supervision report of 1387 from <http://tec.mporg.ir/bmb/main.htm>.
- [23] The Office of Budget Program. *state ownership of capital assets and projects of national priority projects half-finished*. 1385, the Majlis Research Center.
- [24] M. Tstsumi &H. seya. *measuring the impact of large- scal transportation projects on land price using spatial statistical models* , papers in Reginnal science. 2008, vol87,pp358-401.
- [25] T.Waroonkun & R. stewart. *modeling the international technology transfer process in construction projects : evidence from THAILAND* , journal of technology transfer . 2008, pp 667-687.
- [26] D.Weil. *the contemporary industrial relations system in construction : analysis observations and speculations*, journal of labor history. 2005, pp447-471.