

**PUBLIC PROJECT EVALUATION AND  
SELECTION FOR LOCAL ECONOMIC  
DEVELOPMENT**

Dr. Alexander Mosesov

Yarmouth

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## **INTRODUCTION**

Project evaluation in a private sector is based purely on profitability and returns on cost factors (1), but it is not the same in the case of public projects (2). The issue of selecting and implementing public projects is predominated by several factors, including a variety of aspects of the political, social and economic nature.

At the same time genuine economic development (ED) criteria in many cases contradict to goals of the profit-maximizing ventures, for example: extra employment and income generation constitute ED benefit, but an extra cost to businesses.

International, national, regional and local ED agencies work on developing effective methodologies to give objective orientation to investments and funding. In this paper an attempt is made to summarize existing experience and come up with a more or less universal methodology of evaluation and prioritization of public projects.

A double-scoring (weight-scoring) method is designed which incorporates any level of communal (local to national) priorities and the selection of public projects so that objectivity is maintained purely on the rationality of priority ranking. This method would be more meaningful to serve the community on need basis and increase their satisfaction.

## **PRIORITIZATION OF PROJECTS**

Private project evaluation is a well-developed discipline (3). It is founded on comparisons of the cost of the project financing with its revenues or profitability. For that purposes private *project evaluation* or *capital budgeting* engages several methods and techniques, such as payback period, Net Present Value (NPV), Internal Rate of Return (IRR), etc (4).

Project-evaluation toolkit is hardly applicable though in case of public projects. The difference between private and public projects is in their results. Private profit-maximizing ventures bring measurable tangible monetary results (revenues, profits). In contrast, public projects in most of cases are socially oriented towards intangible results, such as health, education, environment.

The public-sector counterpart of the capital budgeting methods and techniques used by private firms is *cost-benefit analysis* (CBA) (5). The essence of both private capital budgeting and CBA could be illustrated with the following simple Efforts-Results Grid (ERG) (also known as "[Affinity Chart](#)" or the Hi/Lo model).

Under condition of limited resources and multiple opportunities to use these resources (projects) there are always choices to be made on their optimal allocation. If we place alternative projects on ERG, clearly priority will be assigned to ventures located in Low Effort – High Results quadrant providing highest economic efficiency. If there are still resources left a decision should be made whether next priority should be given to Low Effort – Medium Results' or rather to Medium Effort – High Results opportunities.

## Efforts-Results Grid

Efforts	H	<i>High Effort, Low Results</i>	<i>High Effort, Medium Results</i>	<i>High Effort, High Results</i>
	M	<i>Medium Effort, Low Results</i>	<i>Medium Effort, Medium Results</i>	<i>Medium Effort, High Results</i>
	L	<i>Low Effort, Low Results</i>	<i>Low Effort, Medium Results</i>	<i>Low Effort, High Results</i>
		L	M	H
		Results		

The problem of prioritization is in measurement of efforts versus results. Private capital budgeting enjoys total compatibility of efforts/results measurements – both are measured in time/money.

Public projects do have measurable monetary cost, but lack monetary results. The choice is quite simple in cases when alternative projects are aimed to the same results, i.e. health care. In this cases the

tool of cost efficiency is used, i.e. the project providing same level of health with least cost (or more health with the same cost) is clearly preferable.

This is impossible though, when several public projects with different targets are considered. Suppose, the choice is between a monument and a clean a harbor? Both cases have monetary cost, but how do we compare the results: a tourist-attracting amenity versus cleaner environment? In such cases CBA is applied to ensure that the public sector allocates scarce resources efficiently to competing public sector projects (6).

The theoretical justification for CBA rests on the *compensation principle* which is used to assign monetary value to a public (social) good or service. Then the priorities are defined by comparing monetized benefits from a public projects with their costs. Public project is justified if gainers can fully compensate losers for their losses and still have some gain left (7). And the higher the gain, the higher the priority of the project.

Monetizing non-market un-priced public goods and services or contingent valuation (sometimes known as the *priority-evaluator technique* or the *stated preference model*) in its turn is based on several methods such as a survey-based willingness-to-pay (WtP) (8). All these methods and techniques are quite complicated (time-consuming) and often controversial (disputable) (9).

In the meantime Managerial Economics offers a variety of decision-making tools and methods helpful in allocating any number and assortment of public projects along the ERG. One common for many disciplines method is based on scoring of the alternatives. Scoring decision-making tools vary from simple CARVER matrix in military special operations (10) to double-scoring (weighted-scoring) Pugh method in product design and development (11).

## **PROPOSED METHODOLOGY**

The proposed method of project evaluation, prioritization and selection is based on double-scoring (or weighted-scoring) scheme of budget allocation (12). In the core of this method is assignment of the two sets of scores to current public and possible alternative choices of projects. Similar approach is used by municipalities in their annual capital budgeting plans. Tables 1 through 3 illustrate the proposed method applied at the regional level of project selection, but it can be applied at any level of authority, from national down to municipalities and rural communities.

Double-scoring method requires assessment of two sets of scores. First set contains the list of the ED priorities ranked according to their current relative importance. This set of scores is used as weights to evaluate compliance of a particular project to the set of regional ED priorities.

Regional ED policy priorities are usually clearly spelled out in regional Strategic Plans, local Integrated Community Sustainability Plans (ICSP's) and/or other administrative documents.

In case if there is no clearly pronounced set of the ED priorities it should not be too difficult to obtain through a public survey. A questionnaire(s) containing request to assign weights of relative importance can easily be distributed among community leaders representing different interest groups and sectors. Summarizing and averaging of their responses, as well, should not be an expensive or a difficult exercise.

**First set of scores** (weights) evaluate local ED priorities. For the sake of simplicity, in the illustrational example only ten of potential regional ED objectives are chosen at the highest level of aggregation, but their list may contain any number of entries, reflecting any level, scale and scope of the ED goals' disaggregation.

Among them:

<b>Public oriented projects</b>	<b>Ranks based on importance</b>
✓ Advise and referral services to businesses	- 10
✓ Business retention and expansion (BRE)	- 9
✓ Export orientation, Import substitution	- 5
✓ Financial viability, cost efficiency	- 7
✓ Income generation	- 6
✓ Jobs creation	- 3
✓ Population retention and expansion (PRE)	- 8
✓ Priority sector development	- 8
✓ Workforce development	- 4
✓ Impact scale: regional, sub-regional, local	- 2

Notice, that the double-scoring method does regard considerations of cost efficiency, but only as one among several other key factors, more or less equally

important to all other aspects of national concerns. For the entry in “Financial viability, Cost Efficiency” evaluators should assign relative weight to availability of funds founded on current economic, fiscal, and monetary situation.

On the quantitative side, both sets of scores in our example are scaled from one to ten, but of course, depending on required level of differentiation, it can be set at any scale from 3:1 to 100:1. Alternatively, scoring might be based on percentages or coefficients of zero through one. In our hypothetical case indicated above weights were arbitrarily assigned with exclusively presentational purposes only.

First set of scores (weights) are presented in Table 1 as the averages of respondents’ evaluations (see the column “Average”).

**Second set of scores** is assigned to each of projects proposed for implementation during next fiscal year. Scoring of projects is based on their level of relevancy to each and every of the above ten national objectives. Same technique of questionnaire surveys among leading professionals, administrators, etc. will produce results presented in the Table 2. Guidelines for scoring for the region of South West Nova are presented in Appendix.

Questionnaire surveys though are not the only possible method of assigning weights. Some scores could be derived immediately from comparable quantitative indicators. For example, net present value of the project life-cycle cost can serve as a good meter for the entry in the “Financial Viability, Cost Efficiency”. Even better indicator would be a cost-benefit ratio in the cases where relative cost-benefit analysis is available.

After simple weighted averaging of project scores eventually all proposals receive ultimate score as shown in the “*Priority of the Project*” column of the Table 2. This task is without difficulty performed by any spreadsheet software using “Sort” function (see Table 3).

In Table 3 projects are re-sorted top to bottom according to their resulting total relative scores: C, B, G, H, F, A, D, E – ranking 77.1 down to 36.3. Selection then should be limited to those projects which fit into next year’s allocated budget. The cost of project is represented by its required annual (next year) investment outlays.

Thus, this methodology allows selecting the combination of projects that maximizes achievement of regional ED objectives within the funds available in the next fiscal year. According to results in the Table 3, regional ED priorities allocate all projects in C, B, G, H, F, A, D, E succession. Under the double-scoring (weighted-scoring) method such a choice will ensure utmost feasible realization of the current ED priorities.

It is noteworthy, that Table 3 demonstrates rather high sensitivity of the method to slight changes in priorities. One point transpose in weights between social/political progress and economic growth, accompanied with two points reverse between urban and rural development produces noticeably different

results, i.e. project G moves down to the bottom, while projects H and F move up the scale changing ranks significantly.

This indicates a possibility of change in priorities with respect to projects that require several years for their development. It is possible that project picked for execution previous year will fall below scoring threshold next year. In this case it should be put on hold until change in priorities bring it back to scope in following year'(s)' evaluations (see real options' project evaluation theory). In accordance with the "real options" theory an option of abandonment or expansion of the project minimizes losses and maximizes gains in capital budgeting processes.

This is an example of how to decide a project is given with the help of key factors and the method of scoring is related with the regional ED priorities specified as in planned economies and their appropriate budgeting for the implementation of services for the benefit of stakeholders.

**Table 1.** ASSIGNING SCORES (WEIGHTS) TO THR REGIONAL ED PRIORITIES

#	Priority\Person	Respondent 1	Respondent 2	Respondent 3	Respondent 4	Respondent 5	Respondent 6	Respondent 7	Average
<b>1</b>	<b>Advise and referral services to businesses</b>	5	6	9	9	10	1	6	<b>7</b>
<b>2</b>	<b>Business retention and expansion (BRE)</b>	5	3	4	3	4	3	7	<b>4</b>
<b>3</b>	<b>Export orientation, Import substitution</b>	9	9	3	8	4	9	1	<b>6</b>
<b>4</b>	<b>Financial viability, cost efficiency</b>	3	3	4	6	0	2	6	<b>3</b>
<b>5</b>	<b>Income generation</b>	9	7	8	3	9	10	9	<b>8</b>
<b>6</b>	<b>Jobs creation</b>	7	3	4	1	4	3	7	<b>4</b>
<b>7</b>	<b>Population retention and expansion (PRE)</b>	10	9	3	8	4	9	1	<b>6</b>
<b>8</b>	<b>Priority sector development</b>	4	1	8	6	0	2	6	<b>4</b>
<b>9</b>	<b>Workforce development</b>	2	7	8	3	9	10	9	<b>7</b>
<b>10</b>	<b>Impact scale: regional, sub-regional, local</b>	10	10	10	10	10	10	10	<b>10</b>

**Table 2:** PROJECT EVALUATION ACCORDING TO REGIONAL ED PRIORITIES.

Projects	Advise and referral services to businesses	Business retention and expansion (BRE)	Export orientation, Import substitution	Financial viability, Cost efficiency	Income generation	Jobs creation	Population retention and expansion (PRE)	Priority sector development	Workforce development	Impact scale: regional, sub-regional, local	Priority of the Project
	7	4	6	3	8	4	6	4	7	10	
<b>A</b>	4	5	10	10	9	10	6	7	3	0	<b>57.4%</b>
<b>B</b>	10	8	7	0	7	7	8	2	6	5	<b>63.3%</b>
<b>C</b>	9	10	7	10	8	9	1	10	5	10	<b>77.1%</b>
<b>D</b>	4	8	9	4	0	0	10	8	4	5	<b>50.5%</b>
<b>E</b>	1	10	7	1	6	10	0	3	3	0	<b>36.3%</b>
<b>F</b>	10	0	2	0	8	6	2	2	10	10	<b>59.8%</b>
<b>G</b>	0	3	8	10	6	1	7	10	6	10	<b>62.6%</b>
<b>H</b>	4	7	10	3	0	3	7	4	10	10	<b>62.0%</b>

**Table 3.** LIST OF PROJECTS REARRANGED ACCORDING TO REGIONAL PRIORITIES' SCORE.

Projects	Advise and referral services to businesses	Business retention and expansion (BRE)	Export orientation, Import substitution	Financial viability, Cost efficiency	Income generation	Jobs creation	Population retention and expansion (PRE)	Priority sector development	Workforce development	Impact scale: regional, sub-regional, local	Priority of the Project
	7	4	6	3	8	4	6	4	7	10	
<b>C</b>	9	10	7	10	8	9	1	10	5	10	<b>77.1%</b>
<b>B</b>	10	8	7	0	7	7	8	2	6	5	<b>63.3%</b>
<b>G</b>	0	3	8	10	6	1	7	10	6	10	<b>62.6%</b>
<b>H</b>	4	7	10	3	0	3	7	4	10	10	<b>62.0%</b>
<b>F</b>	10	0	2	0	8	6	2	2	10	10	<b>59.8%</b>
<b>A</b>	4	5	10	10	9	10	6	7	3	0	<b>57.4%</b>
<b>D</b>	4	8	9	4	0	0	10	8	4	5	<b>50.5%</b>
<b>E</b>	1	10	7	1	6	10	0	3	3	0	<b>36.3%</b>



## ***CONCLUSIONS***

Decision methods on budgeting under capital rationing are well established primarily for a private sector.

Public sector projects are usually evaluated based on quantification of intangible costs and benefits which involves difficulties of monetization of non-marketed indirect benefits and costs.

Particular difficulty is in budget allocation between public projects of complete difference, such as projects addressing environmental, educational, or health problems. While costs in all cases are clearly spelled by investment outlays, benefits of better education vs. cleaner environment are hardly comparable.

Double-scoring (weight-scoring) method is suggested for this case rather common for public authorities. Evaluation and ranking among projects is accomplished through assignment of weights to each project. These weights reflect level of correspondence of each particular project towards accomplishment of regional ED priorities.

This method is applicable at all levels of public administration from a community to a nation as well as internationally.

## ***ABBREVIATIONS***

ED	Economic Development
CBA	Cost Benefit Analysis
ERG	Efforts-Results Grid
WtP	Willingness-to-Pay
IRR	Internal Rate of Return
NPV	Net Present Value

## APPENDIX: GUIDELINES FOR PROJECT EVALUATION SCORING

There are two major approaches depending on whether criteria of scoring are quantifiable or not.

**Quantitative scores are based on corresponding profile indicators:**

**1. “Income generation”:**

Based on median income and size of business. With median income in the area of approximately \$30,000 and size of business of around 10 employees, generation of \$300,000 in annual salaries per business could be accepted as a middle point (a score of 5). Then on such a scale any business paying \$600,000 and more in salaries gets a score of 10, while business paying \$50,000 in salary scores the bottom 1 and so on.

**2. “Jobs creation and Business retention and expansion (BRE)”:**

Based on scale of employment at local businesses. About 99% of local businesses employ from 1 to 100 workers. Hence, the number of new jobs created divided by 10 can serve as a score, for example: 20 jobs give a score of 2, 50 jobs – 5, 100 and more jobs – a score of 10.

**3. “Population retention and expansion (PRE)”:**

Based on rates of depopulation. South West Nova has lost 2,500 residents in between two last censuses (2006-2011), or around 500 a year and 50 people per municipality. Full recovery of 50 residents then could be accepted as a 100% accomplishment, or 10 points. Correspondingly, 10 persons retention earns 2 points, 20 – 4 points, etc.

**4. “Impact scale: regional, sub-regional, local”:**

Based on equal incremental increase of importance: local – 3 points, sub-regional – 6 points, regional – 10 points.

**Qualitative scores are based on one of three options:**

**1. Criteria “yes” – 10 points, or “no” – 0 points. Includes:**

- ✓ “Advise and referral services to businesses”
- ✓ “Export orientation, Import substitution”

**2. Criteria “yes” – 10 points, “somewhat” – 5 points, or “no” – 0 points. Includes:**

- ✓ “Financial viability, cost efficiency”
- ✓ “Priority sector development”
- ✓ “Workforce development”

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