

# **The Evaluation of Efficiencies of Governments of Pakistan**

By

**Farooq Rasheed & Eatzaz Ahmad**

*Abstract*

*Using the index developed Dr. Mahbub ul Haq, we attempt to evaluate performance based rankings of various political regimes in Pakistan using socio economic indicators. Our results show that Zia's Era is the highest ranked era followed by Nawaz and Musharraf eras.*

\* Dr. Eatzaz Ahmad is Professor & Chairman Dept of Economics, Quaid-I-Azam University, Islamabad. Farooq Rasheed is an Assistant Professor at Karachi Institute of Economics & Technology, Karachi.

## **1. Introduction**

Economists often use output measures to evaluate and rank governments' performances Sutherland et al, (2005). The Anglo-Commonwealth & Scandinavian countries rest on the surveillance of work in the various ministries. This only provided the basis why it is highly important to inspect the performance of governments. Thus it is logical that any regime must perform superlatively.

We are attempting to compare the degree of performances & governance of various governmental regimes in Pakistan. The government's trustworthiness depends on delivering apparent improvements towards public services. If a government's reliability is to be defined by the consequences of its policies then we need to define and include those efforts that are to be used as litmus tests.

Most economists agree that the government's efficacy depends on the magnitude of the welfare that has been achieved. Debate on welfare is dated back to Adam Smith at-least.

Now the question is what should be the welfare function. We understand that issues related to poverty, land utilization, agriculture & industrial production, health services, education, growth rate of national income, income per capita employment etc. are highly significant factors which can explain welfare of a nation in relative terms. This means by developing an index based on governance and performance, we can rank various regimes.

Thus the intent of our study to examine the performances of Pakistan's governments and ranked them according to the governance and performance that has been achieved. The rest of the paper is organised as follows. Section II covers literature review, section III discuss data and methodology, section IV provides the results and section V conclude the results.

## **II. Literature Review**

The evaluation of governments refers to the measures that capture the volume, quality and value of government. Atkinson et al, (2005) provides insights into the evolution of output measurement in four sectors: health; education; public order & safety and social protection. Our analysis also based upon the factors surrounds these four aspects.

Matheson et al, (2006) have noted that the achievements of govt. are seen as an essential to the path towards modernization, thus leading to vital steps by governments. There fore

as suggested by Pollitt and Bouckaert, (2004) political oratory about the measurement of performance becomes obvious.

Ammons, (2003) and Dubnik, (1998) agreed that accountability through "naming and shaming" via public reporting of output information is most common in relation to the Anglo Saxon countries, where this form of accountability is strong. This is almost a step which reflects the objective of "National Accountability Bureau" (NAB) in Pakistan. However there is a lot of criticism that political influence creates stumbling block.

Social indicators that have been selected in our work are based upon the work suggested by Rothstein and Stolle (2004). They argue that governments' effectiveness have a positive influence on the level of social trust. For social trust we have included data related to crimes, electrical energy, number of hospitals, health budget whose figures psychologically boosts social trust, rural health centers, road network and few educational measure vital for the social trust development. There is a need to monitor the progress of governments through the education system, support the planning of providing schools and training of teachers. For agencies such as United Nations, these measures are an important component of their comparative analysis of the socioeconomic conditions in different countries.

Index number is used to reduce and summarize an overwhelming abundance of information, hence intrude itself on almost every empirical investigation.

Guerra and Tiezzi (2000) build a macroeconomic index that includes some non-market variables, to be compared to the traditional GDP. Economists have used optimization to derive an index that can be used to rank economic performance. There are also a number of other studies which reflect indices of welfare. This type of welfare indices, however, has received wide attention on emphasizing trends of “welfare” as compared to GDP growth rates. Cobb and Daly (1989) provides such welfare index model which includes variables related to the growth of economic welfare, environmental variables, the cost of pollution from air, water and noise.

Developing a methodology to calculate an Index for Economic growth, Ivonin, and Trostyanskiy, (2004) defined the calculation of the index in five steps. Step1: A sample of quantitative (objective) indicators of a stage is selected on the basis of the context of reform priorities and their forming factors, as well as the possibility of obtaining official information. Step2: Interim statistical indexes for a particular priority of reforms are additionally evaluated by experts using a certain scale, depending on the given optimal values for them. Then, they are integrated into separate block indexes as an arithmetically average value. Step3: As for the qualitative criteria of economic reforms, here, as mentioned above, a system of indexes, similar to the statistical system of indexes, is needed, including both block and system indexes. Each of them is developed from the list of qualitative indexes, based on the priorities of the stage being evaluated. Any index is calculated on the basis of a survey of a sample of respondents, who feel economic changes more strongly and can clearly express their own ideas on ongoing changes. Step4: Qualitative indexes are integrated into separate block indexes in terms of their

average arithmetic values. Step5: A compound index of economic reforms is calculated on a certain stage of reforms in terms of the average arithmetic sum of the block of quantitative and qualitative indexes.

Ebert (1984) explained the relationship between welfare measures and economic index numbers both by formulae and definitions. Author developed characterizations of economic measures and index numbers by a self-evident approach. However author is discouraging the self-evident approach because of varied nature of economic indexing.

The Human Development Index (HDI) is a comparative measure of poverty, literacy, education, life expectancy, childbirth, and other factors for countries worldwide. It is a standard means of measuring well-being of a country. It is also used to measure the impact of economic policies on quality of life. The index was developed in 1990 by Dr. Mahbub ul Haq, and has been used since 1993 by the United Nations Development Program in its annual Human Development Report.

### **III. Data & Methodology**

Using the formula measurement of HDI that is helpful to rank countries on performance basis, our analysis is based on the index of growth rates of the 14 socio-economic factors that we have chosen. The list of selected factors is provided in table 3.1.

**Table 3.1: Variables chosen for the analysis**

<b>Variables</b>	<b>Symbol</b>	<b>Variables</b>	<b>Symbol</b>
All crimes reported	ACR	Land Utilization	LU
Education Budget	EB	Net Exports	NX
Electricity Generation	EG	Rural Health Centers	RHC
Foreign visitors	FV	Roads Length	RL
Gross National Product (cfc)	GNP	Student – teacher Ratio (Pri)	STRP
Hospitals, No. of	H	Student – teacher ratio (Sec)	STRS
Health Budget	HB	Universities	U

During sixty years, Pakistan’s democratic process has been overruled by dictatorships. Military has invalidated the democratically elected governments. Therefore it has becomes vital to study the performance of both types of regimes. Thus we will estimate averages of growth rates of all the factors on regime basis and 5-year time interval basis.

Finally we will develop an index of performance based on equal weights for the growth rate of all chosen variables. Since the increasing growth rate of crimes is a damaging aspect on the governance and performance, therefore the impact of ACR should be negative on the index. Thus growth rates of ACR has been multiplied with a (-1). This means a negative growth rate value of ACR in actual is creating a positive impact on index.

On similar basis increasing values of student teacher ratio is not believe to be a better state of affairs. Since both STRP and STRS are negatively impacting the performance index, therefore the actual growth rates have been multiplied by (-1).

As mentioned earlier, the performance index will be determined by following formula based on human development index.

**Performance Index =  $(\dot{E} - \text{Minimum of } \dot{E}) / (\text{Maximum of } \dot{E} - \text{Minimum of } \dot{E})$ ,**  
where “ $\dot{E}$ ” is the average growth rate of the regime in question and “ $\dot{E}$ ” is the growth rate of each of the fourteen variables for each regime.

We will perform the ranking of Pakistani governments by two approaches using “Mean Growth Rates” and “Performance Index” approaches.

Policy Lag: We will also evaluate “Mean Growth Rates” and “Performance Index” by taking one-year time lag for defining the era of a regime. This time lag concept is adopted in our study because it is generally acceptable that monetary policy measures has speedy outcome while fiscal measures affects the economy sluggishly. In our case, the all the selected variables are non-monetary socio-economic variables. Thus our calculations will focus on to...

- (a) Rank the performance of each regime on the basis of “Mean Value of Growth Rates” of all indicators both on “Level” and “One-year time lag basis”.

(b) Rank the performance of each regime on the basis of Performance Index both on “Level” and “One-year time lag basis”

(c) Weighted ranks calculated by weighted averages of all the four ranks measured by methods mentioned in clause (a) and (b) above. Weights have been assumed as follows by random but logical perception as used by Ivonin, and Trostyanskiy, (2004) mentioned earlier in literature review.

Rank	Weights	Ranks	Weights	Ranks	Weights	Ranks	Weights
1	0%	2 and 3	15%	4, 5 and 6	35%	7 and 8	50%

Therefore our equation for weighted mean of ranks (WMR) is...

$$\text{WMR} = 0.15 * (\text{Sum of obtained ranks from 2 to 3}) + 0.35 * (\text{Sum of obtained ranks from 4 to 6}) + 0.5 * (\text{Sum of obtained ranks from 7 to 8}).$$

Due to non-availability of past records we have taken the yearly data of above mentioned variables from 1976 to 2005 from various issues of “Pakistan Statistical Year Book, Federal Bureau of Statistics”.

#### IV. Results

Table 4.1 is providing the values of cross correlation. It is a tool for understanding the relationship between two series.

**Table 4.1 Correlations**

	Zia era	Benazir era 1	Nawaz era 1	Benazir era 2	Nawaz era 2	Nawaz combined	Benazir combined	Musharraf era
Zia era	1.00	0.43	0.70	0.26	0.65	0.92	0.36	0.80
Benazir era 1		1.00	-0.14	0.44	0.79	0.28	0.71	-0.05
Nawaz era 1			1.00	0.10	0.04	0.87	0.03	0.70
Benazir era 2				1.00	0.53	0.35	0.94	-0.12
Nawaz era 2					1.00	0.52	0.70	0.21
Nawaz combined						1.00	0.37	0.70
Benazir combined							1.00	-0.11
Musharraf era								1.00

*Table 4.1 continued*

Correlations	1976-1980	1981-1985	1986-1990	1991-1995	1996-2000	2001-2005
Zia era	0.94	0.97	0.70	0.58	-0.01	0.88
Benazir era 1	0.34	0.49	0.88	-0.11	0.72	0.02
Nawaz era 1	0.68	0.67	0.21	0.82	-0.63	0.81
Benazir era 2	0.13	0.28	0.46	0.57	0.20	0.02
Nawaz era 2	0.50	0.70	0.80	0.15	0.62	0.28
Nawaz combined	0.83	0.92	0.57	0.77	-0.23	0.83
Benazir combined	0.22	0.40	0.69	0.41	0.42	0.02
Musharraf era	0.82	0.72	0.27	0.50	-0.28	0.95
1976 – 1980	1.00	0.86	0.56	0.52	-0.12	0.90
1981 – 1985		1.00	0.70	0.53	0.09	0.80
1986 – 1990			1.00	0.23	0.48	0.34
1991 – 1995				1.00	-0.56	0.64
1996 – 2000					1.00	-0.37
2001 – 2005						1.00

Results of correlation show a high correlation between Zia and Musharraf eras. Nawaz - Musharraf and Zia - Nawaz epochs are also highly correlated. Finally a high correlation was found in Benazir era 1 and Nawaz era 2.

Table 4.2 provides the overall ranking on the basis of mean value and performance index on level basis which means starting year of a regime's era related to outcome of parallel year.

**Table 4.2**

**Rankings on Overall Basis (Level)**

<b>Ranking on Mean Value Basis</b>			<b>Ranking on Index Basis</b>		
<b>Era</b>	<b>Mean Value</b>	<b>Rank</b>	<b>Era</b>	<b>Index</b>	<b>Rank</b>
<b>1981 – 1985</b>	6.36	1	<b>1996 – 2000</b>	0.749	1
<b>Musharraf Era</b>	6.23	2	<b>Nawaz Era 2</b>	0.585	2
<b>1976 – 1980</b>	6.10	3	<b>1986 – 1990</b>	0.559	3
<b>1991 – 1995</b>	5.99	4	<b>Benazir Era 1</b>	0.555	4
<b>2001 – 2005</b>	5.93	5	<b>1979 – 2005</b>	0.443	5
<b>Zia Era</b>	5.85	6	<b>Zia Era</b>	0.438	6
<b>Nawaz Era 1</b>	5.57	7	<b>Nawaz combined</b>	0.431	7
<b>1979 – 2005</b>	4.82	8	<b>1981 – 1985</b>	0.405	8
<b>1986 – 1990</b>	3.30	9	<b>Musharraf Era</b>	0.367	9
<b>Nawaz Combined</b>	3.26	10	<b>2001 – 2005</b>	0.339	10
<b>Benazir Era 2</b>	2.92	11	<b>Benazir combined</b>	0.307	11
<b>Benazir combined</b>	2.38	12	<b>1976 – 1980</b>	0.302	12
<b>Benazir Era 1</b>	1.57	13	<b>1991 – 1995</b>	0.290	13
<b>1996 – 2000</b>	1.22	14	<b>Benazir Era 2</b>	0.284	14
<b>Nawaz Era 2</b>	0.95	15	<b>Nawaz Era 1</b>	0.269	15

Both approaches to rank regimes are non-identical. Top three rankings under mean value approach are grabbed by eras of military rules. However total Zia era is placed at sixth place. Last six ranks are obtained by civilian government. But under performance index approach results differ apart. Top three ranks are captured by civilian governments.

Under performance index approach, Zia era is placed at sixth position, while Musharraf era is placed at relatively very low position. In index approach, civilian governments are worst as well because they stand at last three positions.

Table 4.3 provides the ranking on the basis of mean value and performance index for the regimes only.

**Table 4.3**

**Rankings on Regime Basis (Level)**

<b>Ranking on Mean Value Basis</b>			<b>Ranking on Index Basis</b>		
<b>Era</b>	<b>Mean Value</b>	<b>Rank</b>	<b>Era</b>	<b>Index</b>	<b>Rank</b>
<b>Musharraf Era</b>	6.23	1	<b>Nawaz Era 2</b>	0.585	1
<b>Zia Era</b>	5.85	2	<b>Benazir Era 1</b>	0.555	2
<b>Nawaz Era 1</b>	5.57	3	<b>Zia Era</b>	0.438	3
<b>Nawaz Combined</b>	3.26	4	<b>Nawaz combined</b>	0.431	4
<b>Benazir Era 2</b>	2.92	5	<b>Musharraf Era</b>	0.367	5
<b>Benazir combined</b>	2.38	6	<b>Benazir combined</b>	0.307	6
<b>Benazir Era 1</b>	1.57	7	<b>Benazir Era 2</b>	0.284	7
<b>Nawaz Era 2</b>	0.95	8	<b>Nawaz Era 1</b>	0.269	8

Table 4.3 provides the ranking for regimes only. We found high similarity in the results with that of the results in table 4.2. Under mean growth rate approach Zia and Musharraf eras have led civilian governments while under index methodology top two ranks are captured by civilian governments, while Zia era is at third and Musharraf era is at fifth.

Table 4.4 provides the ranking on the basis of mean value and performance index for the time period of 5-years.

**Table 4.4**

**Rankings on Time Period Basis (Level)**

<b>Ranking on Mean Value Basis</b>		
<b>Era</b>	<b>Mean Value</b>	<b>Rank</b>
<b>1981 – 1985</b>	6.36	1
<b>1976 – 1980</b>	6.10	2
<b>1991 – 1995</b>	5.99	3
<b>2001 – 2005</b>	5.93	4
<b>1986 – 1990</b>	3.30	5
<b>1996 – 2000</b>	1.22	6

<b>Ranking on Index Basis</b>		
<b>Era</b>	<b>Index</b>	<b>Rank</b>
<b>1996 – 2000</b>	0.749	1
<b>1986 – 1990</b>	0.559	2
<b>1981 – 1985</b>	0.405	3
<b>2001 – 2005</b>	0.339	4
<b>1976 – 1980</b>	0.302	5
<b>1991 – 1995</b>	0.290	6

Using the information on 5-year basis rather than a regime basis, a little change has been found in the results. Under mean value approach our rankings show that in terms of 5-years time interval, the best time period for Pakistan was 1981-1985. This era was ruled by General Zia.

This result is consistent with the result from obtained table 4.2 and 43. However instead top two places, like in previous two cases, Musharraf era is now at fourth rank. The civilian era of (1991-1995) captured the third place. Zia’s partial era of 1976-1980 stood at second rank.

Table 4.5 provides the ranking on the basis of mean value and performance index for the time period of 5-years.

**Table 4.5**

**Rankings on Regime Basis**

**One Year Lagged Performance**

<b>Ranking on Mean Value Basis</b>		
<b>Era</b>	<b>Mean Value</b>	<b>Rank</b>
<b>Benazir Era 1</b>	<b>6.842</b>	<b>1</b>
<b>Zia Era</b>	<b>6.061</b>	<b>2</b>
<b>Musharraf Era</b>	<b>5.928</b>	<b>3</b>
<b>Benazir Combined</b>	<b>5.142</b>	<b>4</b>
<b>Nawaz Era 1</b>	<b>4.291</b>	<b>5</b>
<b>Nawaz Era 2</b>	<b>4.194</b>	<b>6</b>
<b>Benazir Era 2</b>	<b>-0.408</b>	<b>7</b>
<b>Nawaz Combined</b>	<b>-1.523</b>	<b>8</b>

<b>Ranking on Index Basis</b>		
<b>Era</b>	<b>Index</b>	<b>Rank</b>
<b>Benazir Era 2</b>	<b>0.548</b>	<b>1</b>
<b>Nawaz Combined</b>	<b>0.529</b>	<b>2</b>
<b>Zia Era</b>	<b>0.421</b>	<b>3</b>
<b>Nawaz Era 1</b>	<b>0.404</b>	<b>4</b>
<b>Nawaz Era 2</b>	<b>0.376</b>	<b>5</b>
<b>Benazir Combined</b>	<b>0.371</b>	<b>6</b>
<b>Musharraf Era</b>	<b>0.338</b>	<b>7</b>
<b>Benazir Era 1</b>	<b>0.327</b>	<b>8</b>

Under mean value approach, Benazir’s first era grabbed the top spot, followed by Zia and Musharraf eras, but surprisingly Benazir’s combined eras are just above Nawaz’s combined era.

Under performance index approach, Benazir’s second era and Nawaz’s combined era has top the ranking list, followed by Zia’s era. Benazir’s combined era is at sixth rank.

## V. Conclusions

Table 5.1 provides the summary of the rankings we have obtained by different approaches.

**Table 5.1**

**Regimes' Ranking under all approaches**

<b>Regime</b>	<b>Ranking on Mean Value Basis (Level)</b>	<b>Ranking on Index Basis (Level)</b>	<b>Ranking on Mean Value Basis (With Lag 1)</b>	<b>Ranking on Index Basis (With Lag 1)</b>	<b>Weighted Average</b>	<b>Coefficient of Variation</b>
<b>Musharraf Era</b>	1	5	3	7	5.70	0.65
<b>Zia Era</b>	2	3	2	3	1.50	0.23
<b>Nawaz Era 1</b>	3	8	5	4	3.60	0.43
<b>Nawaz Combined</b>	4	4	8	2	7.10	0.56
<b>Benazir Era 2</b>	5	7	7	1	8.75	0.57
<b>Benazir combined</b>	6	6	4	6	7.70	0.18
<b>Benazir Era 1</b>	7	2	1	8	9.60	0.78
<b>Nawaz Era 2</b>	8	1	6	5	7.85	0.59

Purely on the empirical basis our results shows that Zia's era is found to be the most consistent in term of coefficient of variation. Weighted average of ranks also shows that Zia era is the best as far as good governance is concerned. This is followed by Nawaz era 1 and Musharraf era.

Table 5.2 provides the list of three strongest performances and three weakest performances of each regime.

**Table 4.6**

**Best and Weakest Performances**

<b>Epochs</b>	<b>3 Best Performances</b>	<b>3 Worst Performances</b>
Zia Era	Education Budget, Health Budget, Net Exports.	Land Utilization, Hospitals, Student Teacher Ratio (sec).
Benazir era 1	Educational Budget, Health Budget, Electricity Generation.	Net Exports, Foreign Visitors, Land Utilization.
Nawaz era 1	Net Exports, Health Budget, Educational Budget.	Land Utilization, Foreign Visitors, Student Teacher Ratio (sec).
Benazir era 2	Health Budget, Student Teacher Ratio (sec), Educational Budget.	Universities, Land Utilization, Foreign Visitors.
Nawaz era 2	Road Length, Educational Budget, Student Teacher Ratio (sec).	Land Utilization, Hospitals, Universities.
Nawaz combined	Net Exports, Health Budget, Educational Budget.	Land Utilization, hospitals, Foreign Visitors.
Benazir combined	Road Length Student Teacher Ratio (sec), Net Exports.	Net Exports, Foreign Visitors, Universities.
Musharraf Era	Net Exports, Educational Budget, Health Budget.	Student Teacher Ratio (sec), Student Teacher Ratio (pri), Land Utilization.
1976 – 1980	Educational Budget, Electricity Generation, Net Exports.	Land Utilization, Student Teacher Ratio (sec), Road length.
1981 – 1985	Health Budget, Educational Budget, Net Exports.	Land Utilization, Student Teacher Ratio (pri), Student Teacher Ratio (sec).
1986 – 1990	Educational Budget, Health Budget, Electricity Generation.	Universities, Net Exports, Foreign Visitors.
1991 – 1995	Net Exports, Road length, Health Budget.	Land Utilization, Foreign Visitors, Rural Health Centers.
1996 – 2000	Foreign Visitors, Educational Budget, Health Budget.	Net Exports, Student Teacher Ratio (pri), Land Utilization.
2001 – 2005	Net Exports, Educational Budget, Health Budget.	Student Teacher Ratio (pri), Land Utilization, Rural Health Centers

It is interesting to note that, under top three performances, almost all the regimes and time period have mainly focused on the allocation of health and education budgets. However this is not that evident in reality specially in rural sector of Pakistan. A relatively high growth that has achieved in these two areas is due to an extremely low

educational and health budgetary allocation in past. Thus even a small increase looks substantial and hence not affecting socio-economic conditions in actual. A net export is another factor which is frequent and has been focused by almost all the regimes. Only Benazir era 1 and Zia era shows that “Electricity Generation” has given top priority.

As far as most ignored areas among our selected variables are land utilization, students-teacher ratio both at secondary and primary levels and road lengths. We see general lacking by almost all regimes towards developing road networks, agriculture land utilization, student teacher ratio at all levels, foreign tourism in Pakistan, and easy access judiciary. Human rights reports are not encouraging in this regards.

Ever increasing level of corruption is another problem for Pakistan. Corruption is always regarded as a top most factor to eradicate as fast as possible.

Variables like participation of women in political mainstream, graduation requirement must for elected members of parliament, availability of clean drinking water, environmental issues, etc are always considered vital to evaluate and rank the governance of a political regime.

This paper has many limitations and hence there exist an opportunity for improving performance index and ranking methodology. It is always good to set superior ranking standards for future regimes to work not rule Pakistan.

## REFERENCES

Ammons, D.N. (2003), "Performance and Managerial Thinking". *Public Performance and Management Review*. 25 (4). 344-7.

Atkinson, Tony, Joe Grice, Aileen Simkins, Liz de Freitas, James Hemingway, Ben King, Phillip Lee, Michael Lyon, Nicola Mai, Sukwinder Mehmi, Alwyn Pritchard, Janet Snelling, Amanda Tuke, Lorraine Watson and Georgina Fletcher-Cooke. 2005. *Measurement of Government Output and Productivity for the National Accounts*. ([http://www.statistics.gov.uk/about/data/methodology/specific/PublicSector/Atkinson/downloads/Atkinson\\_Report\\_Full.pdf](http://www.statistics.gov.uk/about/data/methodology/specific/PublicSector/Atkinson/downloads/Atkinson_Report_Full.pdf))

Cobb, John and Herman Daly (1989), "For the common good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future". Beacon Press, Boston.

Dubnik, M.J. (1998), "Clarifying Accountability: An Ethical Theory Framework". In C. Sampford, N. Preston and C.-A. Bois (eds.) *Public Sector Ethics: Finding and Implementing Values*. London: Routledge.

Ebert, Udo. (1984), "Exact welfare measures and economic index numbers", *Journal of Economics*, Volume 44, Number 1, 1984, Pages27-38.

Guenno, G. and S. Tiezzi, (2003), "The Index of Sustainable Economic Welfare (ISEW) for Italy", FEEM Working Paper No. ENV-5.98.

Ivonin V. and D. Trostyanskiy, (2004 ) "Development of a Methodology to Calculate the Economic Reforms Progress Index," conducted by the Center of Investment and Financial Analysts with the financial support of the USAID's Economic Policy Reform Project in Uzbekistan. ([www.bearingpoint.uz/php/download.php?../files/3/a45.pdf](http://www.bearingpoint.uz/php/download.php?../files/3/a45.pdf))

Mateson, V. R. Baade & R. Baumann, (2006). "Selling the Big Game: Estimating the Economic Impact of Mega-Events through Taxable Sales," Working Papers 610, International Association of Sports Economists.

Pollitt, Christopher and Geert Bouckaert. 2004. Public Management Reform: A Comparative Analysis. Oxford, UK: Oxford University Press.

Rothstein, Bo, and Dietlind Stolle (2004) "How Political Institutions Create and Destroy Social Capital: An Institutional Theory of Generalized Trust." Paper prepared for the 98<sup>th</sup> Meeting of the American Political Science Association, Boston.

Sutherland, Douglas, Robert Price and Isabelle Joumard, (2005), "Fiscal Rules for Sub-Central Governments: Design and Impact." (Economics Department Working Paper No. 465). Paris: OECD.

Various issues of "Pakistan Statistical Year Book, Federal Bureau of Statistics".

## Appendix 01: Growth Rates of Variables

Years	GR LU	GR EG	GR U	GR STRP	GR STRS	GR EB	GR HB	GR ACR	GR FV	GR H	GR RHC	GR NX	GR RL	GR GNP
1976	0.05	20.91	0.00	0.00	0.00	28.98	22.13	4.44	-5.70	0.39	4.82	5.04	2.60	1.61
1977	0.65	6.21	0.00	2.50	3.26	25.10	-22.43	2.94	-0.47	2.54	5.36	16.54	1.91	6.03
1978	-0.60	6.61	0.00	0.51	4.11	84.65	-1.27	1.50	32.21	2.10	0.00	32.56	2.22	7.06
1979	1.25	15.53	0.00	-1.36	-8.31	18.47	0.36	-9.85	9.30	2.61	1.45	20.23	3.02	5.42
1980	0.35	8.29	26.67	-1.35	-1.22	9.89	49.08	7.89	-6.14	9.45	4.30	3.29	4.53	6.89
1981	0.59	11.97	5.26	-1.05	3.55	18.77	-8.05	6.73	-2.96	0.33	1.37	36.79	5.96	8.44
1982	-0.29	11.73	0.00	-3.15	2.65	43.70	56.11	-1.56	8.11	2.17	3.39	2.08	5.02	4.21
1983	-0.15	10.85	0.00	5.99	-6.36	-8.89	-2.36	4.35	16.35	2.12	1.64	16.73	4.88	8.15
1984	1.38	5.24	5.00	2.92	4.98	34.55	20.02	13.52	11.61	1.12	0.65	31.19	5.57	7.03
1985	0.34	11.76	4.76	2.32	2.39	21.21	52.22	3.65	8.13	3.00	7.05	-20.80	7.20	4.73
1986	1.16	11.48	0.00	0.73	-4.12	16.31	18.21	10.59	-1.84	2.76	4.49	-32.18	12.47	4.90
1987	-1.24	14.71	0.00	3.16	-0.51	20.67	8.80	7.77	-1.72	1.79	9.74	20.76	7.99	3.56
1988	1.74	4.67	0.00	-8.23	-11.11	-5.38	4.09	6.06	8.27	4.11	8.88	34.81	3.59	4.07
1989	-0.38	8.62	0.00	-0.54	-1.44	4.85	-0.14	11.92	2.77	1.27	7.43	-8.08	6.47	4.96
1990	0.10	8.40	0.00	0.70	7.29	25.68	21.32	4.84	10.36	5.15	2.46	-22.99	5.53	3.60
1991	0.48	10.86	4.55	-0.51	-2.99	22.17	13.97	-10.41	3.06	2.65	1.31	79.79	6.24	6.56
1992	1.61	5.81	0.00	-0.35	-4.48	4.92	17.47	4.01	19.39	0.26	1.08	41.53	6.77	2.00
1993	0.28	5.24	8.70	9.60	4.11	4.43	18.50	0.22	7.69	2.31	2.55	-35.56	1.86	3.48
1994	0.42	3.57	0.00	0.15	0.99	13.59	0.86	10.53	19.82	2.26	1.24	32.02	44.92	4.71
1995	0.60	2.28	0.00	8.18	27.80	-0.66	11.25	4.77	16.72	1.60	2.05	1372.12	65.45	0.46
1996	1.38	5.87	0.00	8.60	4.72	7.60	7.28	-1.68	-2.56	3.75	1.41	-86.39	5.15	5.46
1997	-0.09	3.74	4.00	5.29	-3.46	12.39	11.76	12.06	1.66	0.82	1.58	-56.38	5.15	1.27
1998	-0.18	5.04	0.00	0.79	20.04	-2.43	-4.52	16.61	14.41	0.81	0.19	21.24	4.92	3.31
1999	0.14	3.95	0.00	3.32	-0.97	12.95	12.74	-3.24	0.79	0.80	3.11	20.30	2.74	4.29
2000	0.82	1.77	0.00	-19.81	-44.51	0.52	2.60	-6.93	28.83	0.34	0.19	-2.99	0.35	5.10
2001	0.63	2.34	11.54	1.06	-2.24	23.28	25.64	-2.73	10.26	3.54	1.88	-17.54	0.66	1.88
2002	-0.18	6.30	0.00	-0.76	-1.24	4.87	-2.59	5.62	-0.32	0.11	1.66	-15.11	0.68	-3.34
2003	-0.45	4.53	3.45	2.88	5.95	27.45	11.69	0.28	0.56	0.00	0.36	178.40	0.07	17.32
2004	0.23	3.45	6.67	-1.71	-5.76	26.71	15.84	9.96	29.37	1.10	0.00	-100.00	1.59	5.23