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## Pakistan's Progress Towards Economic Freedom

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# Pakistan's progress towards economic freedom

ROBERT E. LOONEY

## Introduction

Pakistan has been gradually liberalizing its economy. Like many less developed countries in the 1980s Pakistan had a large government sector, measured both in terms of its direct involvement in the productive structure (government enterprises), also through its interference (price controls) in the market system.

As an aftermath of the continuing resource scarcities that began to plague the country in the late 1980s, the government entered into agreements with the World Bank in the early 1980s and the IMF in the later part of the decade. The major emphasis of these agreements rested on the correction of prices and deregulation of trade. However, latter agreements became all-inclusive as they involved structural and fiscal reform for deficit reduction, extensive trade liberalization and policy measures for reducing price distortions, deregulating production and investment for promoting efficiency of the system.<sup>1</sup>

Clearly this approach is consistent with the growing literature stressing the association between economic freedom and economic performance. For example in Gwartney, Lawson and Block show a strong direct connection between economic freedom and economic well being.<sup>2</sup> From the standpoint of basic economic theory, this result is entirely understandable: restrictions on economic freedom cause inefficiency, and result in sub-optimal levels of utility, personal income and the like.

A short reasonably accurate definition of economic freedom is that it exists when persons and their rightfully-owned property (that is 'things' acquired without the use of force, fraud, or theft) are protected from assault by others. An individual's private ownership right includes the right to trade or give rightfully acquired property to another. It is asserted that protection from invasion by others and freedom of exchange are the cornerstones of economic freedom.<sup>3</sup> Economic freedom can thus be distinguished from political freedom which focuses on political and civil liberties.

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**Table 1. Components of the index of economic freedom**

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- I. Money and Inflation** (Protection of money as a store of value and medium of exchange)
1. Average annual growth rate of the money supply during the last 5 years minus the potential growth rate of real GDP
  2. Standard Deviation of the annual inflation rate during the last 5 years
  3. Freedom of citizens to own a foreign currency bank account domestically
  4. Freedom of citizens to maintain a bank account abroad
- II. Government Operations and Regulations**
1. Government general consumption expenditures as a percentage of GDP
  2. The role and presence of government-operated enterprises
  3. Price controls—the extent that businesses are free to set their own prices
  4. Freedom of private businesses and cooperatives to compete in markets
  5. Equality of citizens under the law and access of citizens to a nondiscriminatory judiciary
  6. Freedom from government regulations and policies that cause negative real interest rates
- III. Taxing and Discriminatory Taxation** (Freedom to keep what you earn)
1. Transfers and subsidies as a percentage of GDP
  2. Top marginal tax rate (and income threshold at which it applies)
  3. The use of conscripts to obtain military personnel
- IV. Restraints on International Exchange** (Freedom of exchange with foreigners) Taxes on International Trade as a percentage of exports plus imports
1. Difference between the official exchange rate and the black market rate
  2. Actual size of trade sector compared to the expected size
  3. Restrictions on the freedom of citizens to engage in capital transactions with foreigners
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Source: J.R. Gwartney, R. Lawson and W. Block, *Economic Freedom of the World: 1975–1995* (Washington, DC: Cato Institute, 1996), p 16.

The purpose of this paper is to examine Pakistan's progress towards the attainment of economic freedom: what gains have been made to date and in what areas? How has progress in the country compared to that attained in other parts of the world? What are the implications for the country's future growth?

### Conceptual issues

Economic freedom is at the same time a straightforward and subtle concept.<sup>4</sup> Clearly the essence of economic freedom can not be captured merely by looking at the size of public spending relative to GDP, or the extent of state ownership of industry, or at the level of trade barriers. It is a combination of these and many other factors which leaves room for debate about the different elements of the mix (and their subsequent weighting in any index).

As noted above, stripped to its essentials, economic freedom is concerned with property rights and choice. Individuals are economically free if property that they have legally acquired is protected from invasions or intrusions by others, and if they are free to use, exchange or give away their property so long as their actions do not violate other people's similar rights.

It follows that to measure freedom one must find appropriate measures of the

ways in which it is restricted by governments. Gwartney *et al.* choose 17 such measures in four broad areas (Table 1):<sup>5</sup>

1. *Money and inflation.* Does government protect money as a store of value and allow it to be used as a medium of exchange? This measure includes the volatility of inflation; monetary growth relative to the potential growth capacity of an economy; and citizens' rights to hold foreign currency accounts at home and bank accounts abroad.
2. *Government operations and regulations.* Who decides what is produced and consumed? The measures of this include public spending as a share of GDP; the size of the state-controlled sector; price controls; freedom to enter markets; and controls on borrowing and lending rates.
3. *'Takings' and discriminatory taxation.* Are the country's citizens free to earn, and to keep their earnings? Measures of this include subsidies and transfer payments.
4. *International exchange.* Are citizens free to exchange goods and money with foreigners? Measures of this includes taxes on international trade; any differences between an official exchange rate and a black-market one; the actual size of a country's trade relative to the size that might be expected; and restrictions on capital flows.

In the Gwartney study 102 countries were rated on each of these measures on a scale of 0–10, in which zero means that a country is completely unfree and ten means it is completely free.<sup>6</sup> Such scores were given for 1974, 1980, 1985, 1990 and 1993–1995 (depending on the latest figures available).

Having obtained such ratings, however a major problem remains in the construct of some sort of aggregate summary index. Do all of the measures matter equally? Any method is inherently arbitrary. The authors used three methods: (1) with each component having an equal impact (1e); (2) with weights determined by a survey (1s1) of 'knowledgeable people', defined as economists familiar with the problem; and (3) with weights derived from a survey (1s2) of experts on specific countries.

While Gwartney *et al.*<sup>7</sup> feel (2) above is the best measure, one can easily make the case that a more objective measure might provide additional, if not necessarily superior insights. The factor analysis developed below is one such measure. Using the three summary measures, together with the four broad components of economic freedom, one can trace Pakistan's progress in recent years (Table 2).

### Patterns of economic freedom

Pakistan's summary economic freedom rating (1s1) improved from a very low 2.3 in 1975 to 5.4 in 1993–1995. Most of the improvement came in the 1990s. In terms of the rankings Pakistan moved from 93rd in 1975 to 50th in the mid-1990s. The improvement in the country's economic freedom rating can be attributed to a few components in the index. First, top marginal tax rates have

**Table 2. Pakistan: economic freedom ratings, components and summary indexes**

Components of economic freedom	1975	1980	1985	1990	1993-1995
<b>Money and inflation</b>	<b>1.9</b>	<b>3.6</b>	<b>4.8</b>	<b>6.1</b>	<b>5.8</b>
1. Annual money growth (last 5 years)	4	2	7	5	5
2. Inflation variability (last 5 years)	2	9	8	8	7
3. Ownership of foreign currency	0	0	0	10	10
4. Maint. of bank account abroad	0	0	0	0	0
<b>Government operations</b>	<b>4.9</b>	<b>5.2</b>	<b>5.2</b>	<b>4.8</b>	<b>4.6</b>
1. Govern. consumption (%GDP)	8	8	7	5	7
2. Government enterprises	2	2	2	4	4
3. Price controls	—	—	—	—	4
4. Entry into business	—	—	—	—	5
5. Legal system	—	—	—	—	0
6. Avoidance of neg. interest rates	—	6	8	6	8
<b>Takings</b>	<b>0.8</b>	<b>3.8</b>	<b>3.0</b>	<b>4.5</b>	<b>6.1</b>
Transfers and subsidies (% GDP)	—	—	—	—	—
Marginal tax rates (top rate)	1	2	1	3	5
Conscription	0	10	10	10	10
<b>International Sector</b>	<b>2.3</b>	<b>2.0</b>	<b>3.0</b>	<b>2.3</b>	<b>6.1</b>
Taxes on international trade (Avg.)	0	0	0	0	—
Black market exchange rates (Prem.)	4	3	6	4	10
Size of trade sector (% GDP)	4	4	5	4	6
Capital transactions with foreigners	2	2	2	2	2
<b>Summary Ratings</b>					
le	2.4	3.6	4.2	4.5	5.3
ls1	2.3	3.5	3.9	4.2	5.4
ls2	1.9	3.2	4	4.3	5.0

Source: J.R. Gwartney, R. Lawson and W. Block, *Economic Freedom of the World: 1975-1995* (Washington, DC: Cato Institute, 1996), p 186.

been reduced from 61% in 1975 (and 60% in 1985) to the current 38%. A significant liberalization of the exchange rate system has reduced the black market exchange rate premium from a high of 27% in 1980 to zero (and a rating of 10) in 1993-1994. Some of the increase in the summary rating for 1993-1995 may reflect the fact that the taxes on international trade (lva) datum was not available for Pakistan in that year. In all the previous periods, this component received a zero rating. Its absence in the most recent period may have artificially inflated the summary rating slightly.

Summing up, it is clear there has been a slight move toward economic liberalization in Pakistan over the last two decades. This improvement has allowed Pakistan to report modest, if unremarkable annual growth of per capita GDO of approximately 2.5%. For Pakistan to make the move into the modern market economy like Malaysia, Thailand, and Singapore, it must improve its regulatory environment that restricts citizens from holding bank accounts abroad, restricts prices and market entry, fails to treat citizens equally before the law, and interferes with the capital transactions with foreigners.

Table 3. The economic growth of the 15 countries for which the index of economic freedom (Is1) increased the most during 1975–1990

Country	Change in Is1 1975–1990	Per Capita GDP, 1980 (\$)	Growth in Per Capita GDP		
			1980–1990	1980–1994	1985–1994
Chile	+ 2.9	3,892	1.5	2.8	4.8
Jamaica	+ 2.0	2,362	1.0	0.8	2.1
Iceland	+ 2.0	11,566	1.0	0.9	0.6
Malaysia	+ 2.9	3,799	3.3	4.1	5.0
Pakistan	+ 1.9	1,879	3.0	2.7	2.3
Turkey	+ 1.8	2,874	2.9	2.8	3.2
Egypt	+ 1.8	1,645	2.4	1.6	0.1
Portugal	+ 1.7	4,982	2.6	2.1	3.3
Japan	+ 1.7	10,072	3.5	2.9	2.8
Singapore	+ 1.7	7,053	5.2	5.3	5.9
Mauritius	+ 1.7	3,988	5.0	4.8	5.4
New Zealand	+ 1.7	10,362	1.0	1.2	0.8
United Kingdom	+ 1.6	10,167	2.9	1.9	1.8
Thailand	+ 1.4	2,178	5.9	6.1	7.6
Indonesia	+ 1.4	1,281	3.7	4.0	3.4
United States	+ 1.4	15,295	1.7	1.6	1.6
Costa Rica	+ 1.4	3,717	- 0.4	0.4	2.1
<i>Average growth rate of per capita GDP</i>			<b>2.7</b>	<b>2.7</b>	<b>3.1</b>

Source: J.R. Gwartney, R. Lawson and W. Block, *Economic Freedom of the World: 1975–1995* (Washington, DC: Cato Institute, 1996), p 98.

As noted above, theory suggests that a sustained increase in economic freedom will enhance growth, while a decline will retard it. Thus one would expect countries with an expanding amount of economic freedom to have higher growth rates than those with a contracting amount of freedom. However as Gwartney and associates stress,<sup>8</sup> the immediate impact of a change in economic freedom is likely to be small—particularly in the case of an expansion in freedom. The reason is simple: there will be a lag between the time when institutional arrangements and policies become more consistent with economic freedom and when they began to exert their primary impact on economic growth.

As indicated in Table 3, the nations with the largest increase in economic freedom (Is1) during the 1975–1990 period registered an average growth in per capita GDP of 2.7% during 1980–1990. Their growth rate during the most recent 10 years (1985–1994) was even higher, 3.1%. All 17 of these countries achieved a positive growth rate during 1980–1994 and 1985–1994. The growth of the non-industrial countries that moved toward liberalization was particularly impressive. The per capita real GDP of eight (Chile, Malaysia, Portugal, Turkey, Singapore, Mauritius, Thailand and Indonesia) of the 12 non-industrial nations with the largest increases in economic freedom grew at 3% or more during the

last decade. The average growth of per capita GDP for the 12 non-industrial nations—the eight listed above plus Jamaica, Pakistan, Egypt, and Costa Rica—was 3.8%.<sup>9</sup>

In contrast the economic record of the countries that restricted economic freedom during the period 1975–1990 is in sharp contrast to that of those liberalizing their economies. These countries experienced<sup>10</sup> a decline in average real per capita GDP decline at an annual rate of 0.7% during 1980–1990 (and by 0.6% during 1985–1994) in the 16 countries for which the index of economic freedom fell the most. The economic decline was widespread. Twelve of the 16 countries experienced reductions in real per capita GDP during the 1980–1990 period. None were able to achieve a growth rate of more than 1.1%, a rate less than one half the average growth rate for those that moved toward economic freedom.

As Gwartney and associates contend, maintenance of an increase in economic freedom is vitally important.<sup>11</sup> Countries that shift back and forth between liberal and restrictive policies will lose credibility, which will weaken the positive effects of their more liberal policies. Therefore if we want to isolate the real impact of economic freedom, we need to consider the performance of economies that both increase and maintain a higher freedom rating. Interestingly, in addition to Pakistan there were only eight countries that achieved at least a one unit increase in economic freedom (as measured by the *ls1* index) during 1975–1985 and maintained the increase into the 1990s. These economies were clearly more free throughout 1985–1995 than they were in 1975.

These countries expanded (top portion of Table 4) at an annual rate of 3.1% during the 1980s and at a 3.5% rate during the 1985–1994 period, up from 2.2% during 1975–1985. During the last decade the slowest growth rate among the nine was the 1.8% rate of the United Kingdom. Seven of the nine were classified as less developed by the World Bank at the beginning of the period. These seven Mauritius, Chile, Portugal, Jamaica, Singapore, Pakistan and Turkey—grew at an average annual rate of 3.9% during the 1985–1994 period.

Again in contrast (lower portion of Table 4) those countries where the *ls1* economic freedom rating declined by one unit or more during 1975–1985 experienced poor economic performance. On average, the real GDP of these countries fell at an annual rate of 1% or more. During 1980–1990, eight of nine regressors experienced reductions in per capita real GDP. None was able to achieve a growth rate of more than 0.65% during either 1980–1990 or 1985–1994. Clearly, the growth rates of the countries with a one unit or more reduction in economic freedom were persistently and substantially less than those with a one unit increase.<sup>12</sup>

### Analysis

The indices provided by Gwartney provide valuable insights.<sup>13</sup> There are, however, other logical ways to construct indices of economic freedom that may allow deeper insights as to the underlying patterns between government policy

Table 4. The growth of per capita GDP for countries with at least one unit change in the ls1 summary index of economic freedom between 1975 and 1985

Countries with at least a 1 unit increase between 1975 and 1985 and maintenance of the increase during 1985-1995	Change in ls1 rating		Change in per capita GDP		
	1975-85	1985-95	1975-85	1980-90	1985-94
Mauritius	+ 2.1	+ 0.3	+ 2.8	+ 5.0	+ 5.4
Pakistan	+ 1.6	+ 1.5	+ 3.3	+ 3.0	+ 2.3
Japan	+ 1.3	+ 0.4	+ 3.4	+ 3.5	+ 2.8
Chile	+ 1.3	+ 1.7	+ 2.4	+ 1.9	+ 4.8
Jamaica	+ 1.2	+ 1.9	- 3.0	+ 1.0	+ 2.1
Singapore	+ 1.2	+ 0.2	+ 5.2	+ 5.2	+ 5.9
Portugal	+ 1.1	+ 2.0	+ 1.8	+ 2.6	+ 3.3
United Kingdom	+ 1.0	+ 1.0	+ 1.5	+ 2.5	+ 1.8
Turkey	+ 1.0	+ 0.4	+ 2.3	+ 2.9	+ 3.2
<b>Countries with a 1 unit decline between 1985 and 1995</b>					
Nicaragua	- 4.6	+ 1.5	- 4.8	- 3.7	- 3.8
Iran	- 2.5	- 0.6	- 2.7	- 1.1	- 1.7
Venezuela	- 1.7	- 0.7	- 2.2	- 1.8	+ 0.2
Somalia	- 1.5	—	+ 0.2	- 1.2	- 2.3
Honduras	- 1.4	- 0.5	+ 0.8	- 0.9	- 0.1
Tanzania	- 1.4	+ 1.8	- 1.7	+ 0.6	+ 0.5
Bolivia	- 1.3	+ 2.2	- 2.1	- 2.4	+ 0.1
Algeria	- 1.1	- 0.3	+ 2.6	- 0.1	- 2.3
Syria	- 1.0	+ 0.1	- 1.3	- 1.2	+ 0.6
<i>Average growth rate of per capita GDP</i>			- 1.3	- 1.3	- 1.0

Source: J.R. Gwartney, R. Lawson and W. Block, *Economic Freedom of the World: 1975-1995* (Washington, DC: Cato Institute, 1996), p. 101.

and economic performance. One method, factor analysis, has the chief advantage of being independent of the choice of experts. This method also automatically generates objective indices that, in turn, can be used as inputs in further statistical analysis. More specifically the basic assumption of factor analysis is that a limited number of underlying dimensions (factors) can be used to explain complex phenomena. The resulting data reduction produces a limited number of independent (uncorrelated) composite measures. In the current example, measures such as government consumption, inflation, negative interest rates and the like will produce a composite index or factor of government.

#### *Factor analysis*

Formally, as an initial step in exploratory data analysis factor analysis has three objectives<sup>14</sup>: to study the correlations of a large number of variables by clustering the variables into factors such that variables within each factor are highly



correlated; to interpret each factor according to the variables belonging to it; and to summarize many variables by a few factors.

The usual factor analysis model expresses each variable as a function of the factors common to several variables and a factor unique to the variable:

$$z_j = a_{j1}F_1 + a_{j2}F_2 + \dots + a_{jm}F_m + U_j$$

where  $z_j$  is the  $j$ th standardized variable,  $m$  is the number of factors common to all the variables,  $U_j$  is the factor unique to variable  $z_j$  and  $a_{ji}$  is the factor loading.

The number of factors,  $m$ , should be small and the contribution of the unique factors should also be small. The individual factor loadings,  $a_{ji}$ , for each variable should be either very large or very small so each variable is associated with a minimal number of factors.

To the extent that this factor analysis model is appropriate for the problem at hand, the objectives stated above can be achieved. Variables with high loadings on a factor tend to be highly correlated with each other, and variables that do not have the same loading patterns tend to be less highly correlated. Each factor is interpreted according to the magnitudes of the loadings associated with it.

Perhaps more importantly for the problem at hand, the original variables can be replaced by the factors with little loss of information. Each case (firm) receives a score for each factor; these factor scores can be computed as:

$$F_i = b_{i1}z_1 + b_{i2}z_2 + \dots + b_{ip}z_p$$

where  $b_{ij}$  are the factor score coefficients. Factor scores are in turn used in the discriminant analysis that follows. In general these factor scores have less error and are therefore more reliable measures, than the original variables. The scores express the degree to which each case possesses the quality or property that the factor describes. The factor scores have a mean of zero and standard deviation of one.

Operationally, the computations of factors and factor scores for each industry were performed using a principle components procedure. In addition to the data presented by Gwartney *et al.*, socio-economic indices and external debt figures from the World Bank<sup>15</sup> and defense expenditures from The United States Arms Control and Disarmament Agency<sup>16</sup> were added to the analysis.

The first factor exercise included a basic set of variables depicting the various aspects of economic freedom. To avoid year-to-year variations and missing values for specific years, the series were averaged over the 1974–1994 period. In addition, several general economic variables, GDP, population and area were added from the World Bank data set. For the total sample of countries (Table 5) four major trends appear to be present. The first reflects basic economic freedom. This measure of economic freedom is comprised of: (1) freedom to maintain bank balances abroad, (2) freedom to own foreign currency, (3) marginal tax rates and (4) freedom to compete in the market place.

The next most important dimension can be characterized as reliance on market solutions and consists of: (1) freedom from negative interest rates, (2) extent

Table 5. Economic freedom factor analysis, total sample

	Factor 1: basic freedoms	Factor 2: market solutions	Factor 3: economic size	Factor 4: public sector
<b>Factor Scores</b>				
BANK	0.89610*	0.11204	0.06823	-0.09835
CUR	0.85060*	0.06915	0.11493	0.15639
MTR	0.69506*	-0.24122	-0.19131	-0.28758
MARKET	0.67068*	0.22742	0.24919	0.29122
NIR	0.01881	0.83195*	-0.04449	0.03896
PRICE	0.36213	0.62019*	0.08436	0.22275
BMEX	0.09641	-0.61424*	0.00706	-0.07219
CTF	0.56692	0.59757*	-0.02742	0.26627
RGENT	0.51552	0.55773*	-0.10127	-0.13781
AT	0.00649	0.31392	-0.76622*	0.11954
AMET	0.05449	0.30364	-0.65909*	-0.10109
AREA93	0.16292	0.16919	0.61477*	-0.08844
GDP93	0.18198	0.41871	0.58638*	0.08755
POP93	-0.21254	0.19279	0.54583*	-0.46455
GC	-0.18252	0.07651	-0.02584	0.82057*
TAXT	-0.35955	-0.37126	0.13197	-0.66947*

(Average Values 1974-1994)

MTR	Marginal tax rate
BANK	Freedom to maintain bank balances abroad
CUR	Freedom of residents to own foreign currencies
MARKET	Freedom to compete in the marketplace
CTF	Freedom to engage in capital transactions with foreigners
NIR	Freedom from negative interest rates
RGENT	Size of government enterprises as share of economy
PRICE	Extent countries imposed price controls on various goods
BMEX	Black market exchange rate premium
AT	Actual trade (exports plus imports divided by GDP)
TAXT	Taxes on trade as a percentage of exports plus imports
AMET	Actual minus expected trade
GC	Government consumption as a % of GDP
AREA	Geographical area 1993
GDP	\$ US dollars, 1993
POP	Millions, 1993

\*Factor loadings &gt; 0.50.

countries impose price controls (3) black market exchange premium, (4) freedom to engage in capital transactions with foreigners and (5) the size of government enterprises as a share of the economy. The negative sign on the black market exchange rate stems from the fact that the actual values of the overvaluation were used (in contrast to the zero to ten scale for the other measures). Higher values for the exchange rate therefore reflect a loss of economic freedom.

Table 6. Economic freedom factor analysis, developing countries

	Factor 1: basic freedoms	Factor 2: market solutions	Factor 3: trade patterns	Factor 4: economic size
BANK	0.89103*	0.09190	-0.11904	-0.05437
CUR	0.88716*	-0.04344	-0.01136	-0.06731
MTR	0.81327*	0.01362	0.17195	0.03063
MARKET	0.73390*	0.12918	-0.02248	0.18006
CTF	0.55730*	0.39095	0.41524	-0.03758
NIR	-0.13633	0.82724*	0.04688	-0.15610
RGENT	0.42499	0.63917*	0.13395	-0.16542
PRICE	0.30286	0.62226*	0.03258	-0.06315
BMEX	0.13722	-0.50193*	-0.30763	-0.24339
AT	-0.02210	0.30035	0.74738*	-0.19875
TAXT	-0.32429	0.06622	-0.72208*	0.07625
AMET	-0.03481	0.22104	0.60757*	-0.08925
GC	-0.27171	-0.38512	0.52702*	-0.20730
AREA93	0.03302	-0.18902	-0.11072	0.88469*
GDP93	0.16405	-0.09143	-0.08171	0.87943*
POP93	-0.21814	0.15559	-0.35321	0.62029*
<b>Country Scores</b>				
<i>South Asia</i>				
Pakistan	-0.68237	0.63286	-1.29994	0.03759
India	-1.59076	1.44320	-2.07671	3.34935
Sri Lanka	-0.95055	1.01865	-0.99323	-0.56178
Bangladesh	-0.78013	0.31672	-1.94414	-0.53139
<i>Middle East</i>				
Egypt	-0.24041	-0.54112	-0.33064	-0.29160
Israel	0.13462	-2.38636	1.65368	-0.13031
Jordan	-0.41073	-0.51516	1.65630	-0.39980
Turkey	0.12700	-0.26181	-0.37166	0.54591

Note: See Table 5 for listing of variables.

\*Factor loadings > 0.50.

The third dimension consists largely of economic size variables. Clearly the larger countries are in terms of population, area and GDP, the less dependent they are on international trade. Finally the last dimension consists of government consumption and taxes on the exports.

Omitting the developed countries from the analysis produced a similar pattern with several important differences (Table 6). First the dimensions are clearer with freedom to engage in capital transactions with foreigners shifting to the basic freedom dimension (away from market solutions). Second, economic size becomes a separate dimension with trade and government consumption forming a separate independent factor. For Pakistan both factor analyses (Tables 6-10) show that the country rates relatively low on basic economic freedoms and trade, but has made progress towards market solutions.

Table 7. Factor analysis with economic freedom and aid dimensions

	Factor 1: basic freedoms	Factor 2: economic size	Factor 3: market solutions	Factor 4: trade patterns	Factor 5: fiscal
CUR	0.87647*	-0.00079	0.13341	-0.04507	-0.05454
BANK	0.85651*	-0.04821	0.07354	-0.00929	0.25003
MTR	0.82334*	0.03368	-0.01720	0.17179	0.06954
MARKET	0.72157*	0.14521	0.28240	-0.13137	0.03381
CTF	0.57778*	-0.11096	0.30898	0.42277	0.06037
RGENT	0.46585*	-0.38124	0.45463	0.14824	0.20936
GDP93	0.12678	0.87258*	0.11329	-0.09508	0.11531
AREA93	0.02016	0.86764*	-0.11908	-0.10601	0.13460
POP93	-0.30158	0.56179*	0.14807	-0.18337	0.29337
BMEX	-0.12745	-0.13643	-0.82770*	-0.04342	0.09849
ODAY93	-0.27010	-0.31376	-0.70508*	0.02449	-0.05025
NIR	-0.16261	-0.36754	0.66638*	0.15350	0.34643
PRICE	0.27839	-0.19737	0.51920*	0.16211	0.27620
AMET	-0.03113	-0.08199	-0.02110	0.84844*	0.11765
AT	-0.01800	-0.20221	0.24089	0.82143*	-0.15489
TAXT	-0.45147	0.06025	0.01978	-0.55485*	0.29990
GC	-0.16327	-0.12035	-0.07145	0.12403	-0.89076*
ODAP93	-0.08388	-0.25915	-0.10276	-0.02230	-0.81229*
<b>Country Scores</b>					
<i>South Asia</i>					
Pakistan	-0.84004	-0.00192	0.66920	-0.97086	0.68485
India	-2.02850	2.76101	1.35955	-1.06380	1.38600
Sri Lanka	-1.07563	-0.74751	0.56062	-0.47693	0.80970
Bangladesh	-0.80281	-0.81789	-0.69189	-1.53348	1.29370
<i>Middle East</i>					
Egypt	-0.24195	-0.01908	-0.71201	-0.05188	0.10370
Israel	0.51918	0.52978	0.35062	-0.60651	-5.11235
Jordan	-0.26816	-0.08369	0.38369	0.95235	-1.60627
Turkey	0.12142	0.65993	0.33745	-0.63490	-0.04028

Note: See Table 5 for listing of main variables. ODAP93 = official development assistance per capita, 1993; ODAY93 = Official development assistance share of GDP, 1993.

\*Factor loadings > 0.45.

To assess the stability of the underlying factor analysis as well as identifying several important linkages between economic freedom and various economic dimensions, additional variables were added to the basic factor analysis for developing countries (Table 6). First, since development assistance has been fairly important to the Pakistani economy, several measures of economic assistance, official development assistance as a percentage of GDP in 1993 (ODAY93) and per capital official development assistance in 1993 (ODAP93) were added to the analysis. The resulting patterns (Table 7) suggest that as a

**Table 8. Factor analysis with military and aid dimensions**

	<b>Factor 1: basic freedoms</b>	<b>Factor 2: defense expenditure</b>	<b>Factor 3: market solutions</b>	<b>Factor 4: economic size</b>	<b>Factor 5: trade patterns</b>
CUR	0.88026*	0.12233	0.13933	0.00627	-0.04593
BANK	0.84600*	-0.22736	0.12961	-0.02114	-0.01112
MTR	0.81787*	-0.12053	-0.01584	0.01560	0.18548
MARKET	0.72998*	0.02959	0.26580	0.16687	-0.13146
CTF	0.57063*	-0.02885	0.34428	0.08535	0.41213
MEY8093	-0.06140	0.95573*	-0.07563	-0.00176	0.12065
GC	-0.13957	0.75123*	-0.23652	-0.24770	0.14818
MEG8093	0.04354	0.72778*	0.12275	0.10229	0.00035
ODAP93	-0.06456	0.67629*	-0.22545	-0.37286	-0.01075
NIR	-0.17540	-0.26853	0.75007*	-0.26373	0.12894
BMEX	-0.14521	-0.06119	-0.71097*	-0.15416	-0.05808
ODAY93	-0.28671	-0.03887	-0.64069*	-0.36494	0.02803
PRICE	0.27016	-0.20996	0.57883*	-0.12215	0.14710
RGENT	0.45604	-0.09487	0.55457*	-0.29984	0.12266
GDP93	0.14728	-0.04769	0.01498	0.87736*	-0.08213
AREA93	0.03468	-0.16054	-0.22437	0.84050*	-0.08362
POP93	-0.29338	-0.06016	0.17936	0.64296*	-0.21539
AMET	-0.04879	0.01945	0.08590	-0.03814	0.82283*
AT	-0.02516	0.17781	0.26087	-0.19693	0.81172*
TAXT	-0.45129	-0.07504	0.11712	0.15350	-0.59564*
<b>Country Scores</b>					
<i>South Asia</i>					
Pakistan	-0.81495	0.75330	1.13092	0.46493	-1.15018
India	-1.97630	0.08627	1.58548	3.27581	-1.30281
Sri Lanka	-1.10604	-0.61033	0.75799	-0.55282	-0.50460
Bangladesh	-0.85336	-0.74212	-0.16227	-0.53674	-1.66047
<i>Middle East</i>					
Egypt	-0.25012	0.87005	-0.38308	0.17686	-0.13168
Israel	0.71461	4.68728	-0.70991	-0.11514	-0.50793
Jordan	-0.19078	3.15303	0.54192	0.12571	0.84111
Turkey	0.16587	0.41576	0.27357	0.74322	-0.63036

*Note:* See Table 5 for listing of main variables. MEY8093 = average share of defense expenditures in GNP 1980-93; MEG8093 = average share of defense expenditures in the central government budget, 1980-93.

\*Factor loadings > 0.50.

share of GDP, development assistance tends to flow to countries that have lagged in their progress towards market reforms. On a per-capita basis, this assistance is highly correlated with government consumption. While no causation is implied by this analysis one must conclude that countries lagging in reform simply 'need' more foreign assistance (rather than assistance being a reward for inaction). On the other hand, it is apparent that much of this assistance allows

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Table 9. Factor analysis with military, aid and capital flow dimensions

	Factor 1: basic freedoms	Factor 2: economic size	Factor 3: defense expenditures	Factor 4: market solutions	Factor 5: trade patterns
CUR	0.87605*	0.10608	0.00336	0.11892	-0.02708
BANK	0.86932*	0.07166	-0.14320	0.10550	0.02306
MTR	0.85998*	0.01176	0.00295	-0.14364	0.02431
MARKET	0.70761*	0.24657	0.00419	0.19009	-0.18512
CTF	0.64310*	-0.06058	-0.03751	0.27010	0.21155
GDP93	0.06460	0.91075*	-0.00502	-0.06078	-0.05804
PPEF93	0.09728	0.81220*	-0.01470	0.14569	0.15829
AREA93	-0.01546	0.74688*	-0.04302	-0.31491	-0.12894
ODAP93	-0.17646	-0.65616*	0.17515	-0.16337	0.23393
POP93	-0.30859	0.54044*	0.05112	0.12137	-0.34417
PFDI93	0.02360	0.06026	-0.92282*	0.02578	-0.07985
POG93	0.04298	-0.08762	0.90748*	-0.00288	0.09966
MEY8093	-0.14699	-0.10201	0.87502*	-0.11678	0.17622
MEG8093	0.01421	0.08070	0.74953*	0.02539	-0.12128
GC	-0.21188	-0.44719	0.46105*	-0.21056	0.40917
NIR	-0.09316	-0.21956	-0.09102	0.78967*	0.02363
BMEX	-0.18789	-0.18446	-0.05171	-0.66720*	-0.07511
PRICE	0.31574	-0.06407	-0.18378	0.55727*	-0.07409
RGENT	0.53912	-0.20949	0.07585	0.54859*	0.02783
ODAY93	-0.31302	-0.38924	-0.02312	-0.54596*	0.07445
GDPG8093	-0.28197	0.36361	-0.02206	0.53721*	0.28168
AMET	-0.05366	0.00616	0.10210	0.12138	0.74837*
AT	-0.07791	-0.44028	0.30064	0.17548	0.71948*
TAXT	-0.46003	0.09053	0.11577	0.13740	-0.64810*
<i>South Asia</i>					
Pakistan	-0.82880	0.38409	0.81435	0.99967	-1.39683
India	-1.89173	2.29386	0.55254	1.07938	-2.21769
Sri Lanka	-0.99361	-0.41946	-0.44387	0.97774	-0.53958
Bangladesh	-0.90744	-0.26333	-0.19028	0.04351	-1.93957

Note: See Table 5 for listing of main variables. PFDI93 = net foreign investment as a share of net resource flows, 1993; POG93 = government grants as a share of net resource flows, 1993; PPEF93 = portfolio equity flows as a share of net resource flows, 1993; and GDPG8093 = growth in real GDP, 1980-1993.

\*Factor loadings > 0.45.

countries to maintain a higher level of government consumption than would otherwise be possible.

Adding in average defense expenditures as a share of GDP over the 1980 to 1993 period (MEY8093), as well as the average defense expenditure share of the central government budget (MEG8093), sharpened (Table 8) the role of aid as helping to finance increased levels of government consumption (of which defense is often a large component).

**Table 10. Discriminant analysis, developed and developing countries**

	<b>Factor 1: basic freedoms</b>	<b>Factor 2: market solutions</b>	<b>Factor 3: economic size</b>	<b>Factor 4: public sector</b>
<b>Country Scores</b>				
Bangladesh	- 0.94106	- 0.44376	0.74389	- 1.29102
India	- 2.14448	1.25601	2.78387	- 3.42604
Pakistan	- 0.88967	- 0.02568	0.48250	- 1.20698
Sri Lanka	- 1.12802	0.36740	- 0.06404	- 0.74093
<b>Group Means</b>				
Developed Countries	- 0.13087	- 0.31236	- 0.16146	- 0.30748
Underdeveloped Countries	0.36506	0.87133	0.45038	0.85770
<b>Stepwise introduction of discriminating variables</b>				
Step	Variable	Wilks' Lambda	Significance	
1	Factor 2	0.72399	0.0000	
2	Factor 4	0.45656	0.0000	
3	Factor 3	0.38282	0.0000	
4	Factor 1	0.33437	0.0000	
<b>Standardized canonical discriminant function coefficients</b>				
Factor 1	0.45512			
Factor 2	0.94754			
Factor 3	0.55397			
Factor 4	0.93822			
<b>Classification results</b>				
Group	Actual	Predicted		
		Developing	Developed	
Developing	53	49 92.5%	4 7.5%	
Developed	19	0 0.0%	19 100.0%	
Percentage of 'grouped' cases correctly classified: 94.44%				

Based on analysis in Table 5.

Finally, several measures of foreign capital flows as a proportion of net resource flows were added to the factor model. These included: (1) official grants (POG93), (2) foreign direct investment (PFDI93), and (3) portfolio equity capital (PPEF93). Along with the addition of the growth in GDP (GDPG8093), this inclusion produced several additional insights (Table 9):

1. Portfolio equity capital flows (PPEF93) appear more influenced by the overall economic size of a country rather than any particular progress at economic reform.

Table 11. Country placement and discriminant scores

Country	Classified	Discriminant score	Probability of placement	
			Developing	Developed
United States	2.00	5.77823	0.00000	1.00000
Canada	2.00	2.91608	0.00106	0.99894
Australia	2.00	2.49503	0.00398	0.99602
Japan	2.00	2.76249	0.00171	0.99829
New Zealand	2.00	1.95639	0.02140	0.97860
Austria	2.00	1.19494	0.19476	0.80524
Belgium	2.00	1.48231	0.08896	0.91104
Denmark	2.00	3.20413	0.00043	0.99957
Finland	2.00	2.19033	0.01034	0.98966
France	2.00	1.93397	0.02293	0.97707
Germany	2.00	3.22002	0.00040	0.99960
Ireland	2.00	1.36439	0.12409	0.87591
Italy	2.00	1.52467	0.07870	0.92130
Netherlands	2.00	1.89896	0.02554	0.97446
Norway	2.00	1.79162	0.03548	0.96452
Spain	2.00	1.28897	0.15237	0.84763
Sweden	2.00	3.42077	0.00021	0.99979
Switzerland	2.00	0.88736	0.38973	0.61027
England	2.00	2.83650	0.00136	0.99864
Argentina	1.00	-1.09484	0.99701	0.00299
Bolivia	1.00	-0.38934	0.97292	0.02708
Brazil	1.00	-0.75508	0.99130	0.00870
Chile	2.00*	1.06377	0.26790	0.73210
Columbia	1.00	-0.51493	0.98162	0.01838
Costa Rica	1.00	0.46345	0.70881	0.29119
Ecuador	1.00	-1.62821	0.99944	0.00056
El Salvador	1.00	-0.23051	0.95606	0.04394
Guatemala	1.00	-0.51531	0.98164	0.01836
Honduras	1.00	-0.79647	0.99236	0.00764
Jamaica	1.00	-0.02979	0.92031	0.07969
Mexico	1.00	-0.71879	0.99026	0.00974
Nicaragua	1.00	-1.48194	0.99912	0.00088
Panama	2.00*	1.25104	0.16848	0.83152
Paraguay	1.00	-2.26867	0.99993	0.00007
Peru	1.00	-1.10661	0.99712	0.00288
Trinidad	1.00	0.10196	0.88398	0.11602
Uruguay	1.00	-0.00992	0.91558	0.08442
Venezuela	1.00	-1.42929	0.99896	0.00104
Egypt	1.00	-1.56955	0.99933	0.00067
Greece	2.00*	0.81567	0.44468	0.55532
Hungary	1.00	-1.20530	0.99789	0.00211
Israel	2.00*	1.27737	0.15716	0.84284
Jordan	1.00	-0.45776	0.97806	0.02194
Poland	1.00	-3.33347	1.00000	0.00000
Portugal	1.00	0.52301	0.66855	0.33145
Turkey	1.00	-0.43863	0.97673	0.02327
Bangladesh	1.00	-1.90668	0.99977	0.00023



Table 11.—*continued*

Country	Classified	Discriminant score	Probability of placement	
			Developing	Developed
India	1.00	- 1.74260	0.99961	0.00039
Indonesia	1.00	- 1.16898	0.99763	0.00237
Malaysia	1.00	- 0.33029	0.96755	0.03245
Pakistan	1.00	- 1.47850	0.99911	0.00089
Philippines	1.00	- 1.64985	0.99948	0.00052
Singapore	1.00	- 0.19933	0.95174	0.04826
South Korea	1.00	- 0.25107	0.95871	0.04129
Sri Lanka	1.00	- 0.95939	0.99542	0.00458
Thailand	1.00	- 0.72162	0.99034	0.00966
Botswana	1.00	- 0.22010	0.95466	0.04534
Cameroon	1.00	- 1.70275	0.99956	0.00044
Congo	1.00	- 1.21601	0.99796	0.00204
Ivory Coast	1.00	- 1.67086	0.99951	0.00049
Gabon	1.00	- 0.73134	0.99063	0.00937
Ghana	1.00	- 2.52589	0.99997	0.00003
Kenya	1.00	- 0.81903	0.99288	0.00712
Malawi	1.00	- 0.72336	0.99039	0.00961
Morocco	1.00	- 1.17349	0.99766	0.00234
Nigeria	1.00	- 2.25414	0.99992	0.00008
Senegal	1.00	- 1.08138	0.99688	0.00312
South Africa	1.00	0.20373	0.84676	0.15324
Tanzania	1.00	- 2.06351	0.99986	0.00014
Tunisia	1.00	- 1.35801	0.99869	0.00131
Zambia	1.00	- 1.40290	0.99887	0.00113
Zimbabwe	1.00	- 0.52166	0.98200	0.01800

\*Misclassified by model

2. While foreign direct investment (FDI93) tends to shy away from countries with high levels of government consumption and defense expenditures, official grants are associated with relatively high expenditures in these areas.
3. Again while official development assistance as a share of GDP tends to be lower in countries that have made progress towards market solutions, the overall rate of growth of GDP tends to be higher in these environments.
4. Finally, for Pakistan the pattern remains of relatively low attainment of economic freedom, above average economic size, relatively high defense expenditures, good progress towards market solutions and relatively low integration into the world economy.

The last result is in conformity with the growing body of literature stressing the links between economic market liberalization and accelerated economic growth.<sup>17</sup>

**Table 12. Factors affecting growth and investment****Total sample***Gross domestic product*

$$\text{GDPG8093} = 1.81 + 0.30 \text{ GDIG8093} + 0.07 \text{ MEY8093} + 0.20 \Delta\text{IS2}$$

(6.42) (8.21) (1.08) (1.49)

Adjusted R Square = 0.551; *df* = 76; *F* = 33.33*Investment*

$$\text{GDIG8093} = -0.09 + 1.55 \Delta\text{IS2} + 0.05 \text{ GDPG7080}$$

(-0.05) (3.75)

Adjusted R Square = 0.157; *df* = 75; *F* = 8.16**Countries with discriminant scores > 0***Gross domestic product*

$$\text{GDPG8093} = 1.56 + 0.35 \text{ GDIG8093} + 0.02 \text{ MEY} - 0.01 \Delta\text{IS2}$$

(3.98) (6.57) (0.32) (-0.04)

Adjusted R Square = 0.666; *df* = 23; *F* = 18.31*Investment*

$$\text{GDIG8093} = 2.65 + 0.98 \Delta\text{IS2} - 0.62 \text{ GDGPG7080}$$

(1.13) (1.52) (-1.19)

Adjusted R Square = 0.103; *df* = 24; *F* = 2.49**Countries with discriminant scores < 0***Gross domestic product*

$$\text{GDPG8093} = 1.99 + 0.27 \text{ GDIG8093} + 0.12 \text{ MEY8093} + 0.63 \Delta\text{IS2}$$

(4.36) (5.34) (1.03) (3.11)

Adjusted R Square = 0.62658; *df* = 37; *F* = 23.32*Investment*

$$\text{GDIG8093} = 1.50 + 1.99 \Delta\text{IS2} - 0.24 \text{ GDPG7080}$$

(0.92) (3.29) (-0.86)

Adjusted R Square = 0.181; *df* = 38; *F* = 5.43

*Note:* Two-stage least squares estimates. GDPG8093 = growth in GDP, 1980–1993; GDPG7080 = growth in GDP, 1970–1980; GDIG8093 = growth in investment, 1980–1993; ΔIS2 = change in economic freedom 1974–1994 (IS2 measure); MEY8093 = average share of defense expenditures in GNP, 1980–1993.

*Discriminant analysis*

Progress of the advanced countries is often a standard help up for developing countries. In the area of economic freedom, there are some notable contrasts. These are most easily seen through a discriminant analysis. Here we are interested in determining the extent to which developing and developed countries can be profiled as separate groups, based on their attainment of economic freedom. Specifically, which of the main factors identified in Table 5 are significant in a statistical sense in distinguishing developed from underdeveloped economies?

For this purpose a discriminant analysis was undertaken in an attempt to see if by simply knowing the extent of economic freedom one could predict whether a sample country was developed or underdeveloped. First an examination of the means of each of countries on the main factor dimensions shows some important differences (Table 10), with the developed countries consistently scoring higher on each of the four main dimensions: basic dimensions, market solutions, economic size and public sector.

The discriminant analysis indicated that each dimension was statistically significant in distinguishing whether a country was developed, with the most important dimension being factor 2, market solutions followed by factor 4, public sector, factor 3 economic size and finally factor 4, basic economic freedoms. The standardized coefficients of these variables show that factors 2 and 4 are about equal in strength, with both about twice as important as factors 1 and 3.

Overall the model produces good results with the 68 of the 72 countries for which data was available being correctly classified. Pakistan, with a highly negative discriminant score of  $-1.4785$  (Table 12) was classified as a developing country with a probability of 99.91% of being in that category. In other words, given Pakistan's reforms to date, the country has a very long way to go before it reaches the levels of economic freedom often associated with the developed world.

### *Regression analysis*

One of the main advantages of discriminant analysis is the generation of a discriminant function for later use. In the case at hand, the discriminant function score allows groupings to be made on the basis of what in essence is an overall economic freedom index. For example, countries such as the US have a very high score (5.77, Table 11), whereas countries such as Pakistan come in considerably lower ( $-1.47$ , Table 11).

If we group the countries on the basis of their discriminant function score, say into a group with a high average degree of economic freedom (discriminant function scores greater than one), and those with low degrees of economic freedom (discriminant function scores less than one) several additional patterns of interest emerge. As noted earlier the literature continually stresses the positive link between increased economic freedom and economic growth. The factor analysis described above found this pattern (Table 9), but it was somewhat weak—a standardized regression coefficient of growth on market solutions of only 0.537, and actually a negative standardized regression coefficient of  $-0.28$  on basic economic freedoms.

The empirical literature has had less to say on the linkages between economic freedom and investment, although again, the link is implicitly assumed to be positive. To test the link between economic freedom and growth and that between economic freedom and investment, a simple model was developed.

The growth equation posits a simple link between investment and the expansion in GDP. In addition and following an extensive literature,<sup>18</sup> government expenditure in the form of the defense burden (the share of defense expenditures in GNP) is assumed to be a drag on the economy reducing growth, while changes in economic freedom (the *ls1* measure) are assumed to stimulate higher rates of economic expansion. The estimated equation is a variant of the form originally proposed by Benoit.<sup>19</sup> As a basis of comparison the Gwartney study found<sup>20</sup> growth to be a function of the level of economic freedom, the change in economic freedom and the share of investment in GDP. In that study however, the level of economic freedom was barely significant at the 95% level, suggesting that using a somewhat different sample of countries might result in this variable being insignificant.

In the second equation, the growth of investment was also assumed to respond to growth in the previous period (1970–1980) and the change in economic freedom (again the change in *ls1*). The results are similar to those reported in Gwartney<sup>21</sup> with several notable exceptions (Table 12):

1. When the total sample of countries was included in the analysis, the change in economic freedom has a positive sign, but is insignificant at the 95% level. The change in economic freedom is positive and statistically significant in the investment function.
2. The same analysis on individual groupings of countries, those with high and low degrees of economic freedom based on their discriminant function score, suggests that countries already enjoying relative high levels of economic freedom do not have much scope for expanding growth or investment through additional reforms. For these countries, changes in economic freedom were statistically insignificant on affecting either the growth in GDP or in investment.
3. On the other hand, positive changes in economic freedom in those countries possessing relatively low levels of economic freedom produce strong and positive stimulus to further growth and expansion in investment.

From these results we conclude that improvements in economic freedom, while no doubt desirable in and of themselves, experience diminishing returns when evaluated in terms of their ability to quantitatively improve economic performance. Countries with very low initial levels of economic freedom can expect fairly dramatic improvements in economic performance from liberalization. Those countries already well along the path of liberalization should not count on major improvements in economic performance to stem solely from further liberalization efforts.

## Conclusions

In recent years a large literature has emerged concerning the benefits of increased political<sup>22</sup> and economic freedom. Results on the benefits of increased political freedom are mixed, with some studies linking it to subsequently

improved economic performance<sup>23</sup> and others suggesting that it may impede governments from undertaking difficult economic reforms.<sup>24</sup> On the other hand the benefits of increased economic freedom are seldom questioned,<sup>25</sup> although the methods used to attain it are sometimes debated.<sup>26</sup>

As Chaudhry has rightly noted<sup>27</sup> despite the high pay-off to economic liberalization the fact remains that the process in Pakistan has proceeded unevenly across the various sectors. Clearly shaky governments<sup>28</sup> and powerful interests have caused the reform process to proceed at an uncertain pace.<sup>29</sup> Except for the removal of input subsidies, practically nothing but mere lip-service has happened in agriculture, although the government's recent tax efforts in that sector may signal a change.<sup>30</sup>

The findings in this paper confirm the opportunities that exist for and the benefits that should stem for increased economic freedom in Pakistan. Given the government's current financial crisis, this may be the only viable option available to the authorities for restoring continued economic expansion.

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