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CONTENTS

IMPORT FUNCTION FOR PAKISTAN: A DYNAMIC MODEL

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Abstract:

This article builds a dynamic model for explaining the determinants of imports of Pakistan. The article builds on the static model to incorporate the time dimension to help better explain the import function. The final analysis suggests that aggregate imports in both static and dynamic models, price coefficient is negative and not significant suggesting that demand for aggregate imports is not dependent on import prices indicating immense needs of imports specially by the manufacturing sector in Pakistan. The mean time lag in the adjustment of aggregate imports is less then three years and this appears to be unrealistic. For consumer goods imports, the price coefficient is significant and exceeds unity in model implying elastic demand. The coefficient of adjustment λ is very low [0.02] and means that current year consumer goods imports depend on the current imports price and the current level of income and shows lack of dynamic adjustment.

1. INTRODUCTION

In the international trade literature, import function has been examined in a single as well as simultaneous equation models. Khan (1794), Naqvi et al (1983), Sarmad and Mahmood (1958) and Afzal (2001) have investigated the import functions for Pakistan. Except Khan (1974), other studies on Pakistan's imports have not examined the behaviour of imports in a dynamic form. The examination of this form is desirable in order to see how the lagged year imports influence the current year imports because past behaviour of imports can serve as a guide as well incentive for the current period. Khan (1974) has estimated import functions in a dynamic form for Pakistan for the period 1951-69. Khan's (1974) study needs to be updated because much has changed in the realm of economic structure and policies after 1969 besides tremendous developments in econometric techniques.

Therefore, the objective of this paper is to examine imports demand in a dynamic environment alongside static form of imports demand. The rest of the paper is structured as follows. Section II consists of Methodology and section III deals with tests for autocorrelation. Imports scenario and data sources are given in section IV & V. Empirics are reported in Section VI and Section VII contains the conclusions.

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2. METHODOLOGY

Afzal (2001) has concluded that the assumption of a very large or infinite import supply is acceptable for Pakistan. Following Khan (1974) we estimate imports demand functions in static and dynamic forms for Pakistan for aggregate imports as well as for other categories of imports [capital goods, consumer goods and industrial raw material imports that include both capital and consumer goods imports]. These models are as follows:

2.1 Import Demand Equation—Static Model

The imports of a country are the function of the real domestic income and the real price of imports. Therefore, in long linear from, which is the preferred form, [see Afzal (2001)] the imports demand function is given below. This function also applies to the aforementioned classification of imports.

$$LnM_d = \phi_0 + \phi_1 \, Ln \, PM/ \, WPI + \phi_2 \, LnY \qquad (1)$$

ϕ_1 and ϕ_2 respectively are elasticities of relative price for imports, and real GDP elasticities. The expected signs of the coefficients in equation 1 are: $\phi_1 < 0$, and $\phi_2 > 0$.

where

M_d = Real Value of Imports Demand

PM   = Unit Value of Imports of Pakistan

WPI = Wholesale Price Index [WPI] of Pakistan

Y = Real GDP of Pakistan

PM/ WPI   = Ratio of the price of imports of Pakistan deflated by WPI of Pakistan.

CM   = Consumer Goods Imports

KM   = Capital Goods imports

RCM = Industrial Raw Material Consumer Goods Imports

RKM = Industrial Raw material Capital Goods Imports

2.2 Imports Demand Equations—Dynamic Model

$$LnM_d = \phi_0 + \phi_1 \, Ln \, PM/ \, WPI + \phi_2 \, LnY + \phi_3 \, LnM_{t-1} \qquad (A-1)$$

ϕ_1, ϕ_2 and ϕ_3 are respectively the elasticities of import price, real GDP, and lagged imports elasticities. Except import price, rest of the coefficients is expected to have positive signs. The presence of lagged dependant variable in equation (A-1)

shows a partial adjustment process. This means that the change in imports is related to the difference between the demand for imports in period t and the impost in period t-1.

Therefore,

$$\Delta LnM_d = \lambda [LnM_{dt}-LnM_{dt-1}] \qquad\qquad (A-2)$$

Where λ is such that $0<\lambda\leq 1$ is the coefficient of adjustment and Δ is the difference operator. The above formulation captures the delayed response. This formulation further assumes that import prices are determined abroad but quantities are adjusted domestically.

Substitute equation A-1 in equation (A-2), we get

$$LnM_d = f_0+f_1 Ln\ PM\ /\ WPI + f_2LnY + f_3LnM_{t-1} \qquad (2)$$

Where

$$f_0 = \lambda\phi_0 \qquad f_1 = \lambda\phi_1 \qquad f_2 = \lambda\phi_2 \qquad f_3 = 1\ \lambda$$

On the basis of expected signs of the coefficients in equation (A-1), we presume that $f_1<0$ $f_2>0$, and $f_3>0$

3. TESTING FOR AUTOCORRELATION

Since we are dealing with time series data so the problem of autocorrelation will crop up. Different remedial measures have been suggested in the econometrics literature. However, every method suffers from certain limitations. There is no universal cure of autocorrelation in the econometrics literature. Durbin Watson [DW] statistic is a very popular indicator of autocorrelation and is routinely computed in the econometrics software.

There are three main limitations of the DW test as a test for serial correlation. First, the distribution of the DW statistic under the null hypothesis depends on the data matrix. The usual approach to handling this problem is to place bounds on the critical region, creating a region where the test results are inconclusive. Second, if there are lagged dependant variables on the right-hand side of the regression equation, the DW test is no longer valid lastly, one may only test the null hypothesis of no serial correlation against the alternative hypothesis of first-order serial correlation. Two other tests of serial correlation—the Q-statistic and the Breusch-Godfrey LM test—overcome these limitations, and are preferred in most applications.

The null hypothesis of the LM test is that there is no serial correlation up to lag order p, where p is a pre-specified integer. A negative aspect of the LM test is that the lag length p cannot be specified a priori. The use of Akaike and Schwarz information criteria has been suggested to select the lag length in the literature.

Since the DW is not applicable in autoregressive models because there is built-in-bias against discovering serial correlation. Durbin has suggested an alternative test called h-test. The test is as follows:

$$H = p^* \sqrt{\frac{n}{1 - n\,[\text{var}\,(\alpha^*)]}}$$

Where n is the sample size, var (α^*) is the variance of the lagged coefficient and ρ^* is an estimate of the first-order serial correlation ρ. Durbin has shown that under H_0: $\rho=0$, the h statistic follows standard normal distribution. If $|h|>1.96$, we can reject the null hypothesis that p= 0 that is there is evidence of first – order autocorrelation in the autoregressive model.

In practice we can estimate ρ as $\rho^* \sim 1-d/2$. The test is not applicable if var (α^*) >1. Since the test is large-sample test its application is not strictly justified in small samples. The LM test is not only statistically more powerful in large samples but also in finite or small sample and is preferable to h-test (Gujarati 2003). We report the results of the both statistics. A sample of 50 or 60 observations is considered to be a large sample. For aggregate imports we have 44 [1960-2003] and for disaggregated imports there are 34 observations [1960-2003]. One observation will be lost when we use dynamic model for both categories of imports. Though the sample size is not large in the strict sense of the term, however, it may be considered as moderately large sample and therefore, we can use both the fore-mentioned statistics.

4. IMPORTS SCENARIO AND DATA SOURCES

The composition of imports has not witnessed any perceptible change over the years. Capital goods imports have not retained their share rather it has shown a declining trend mainly because of slow down of investment. Its share fell from 50% in 1969-70 to 26% in 2002-2003 capital goods imports as industrial raw material has shown a declining trend since 1960s. It declined from 11% in early 1970s to 5% in 1996-97 and remained 6% throughout 200s. This implies that import substitution of capital goods has decreased over the years. While the rising share of imports of consumer goods as industrial raw material during the period under review indicates the opposite trend implying that the import substitution of consumer goods has increased over the years. The imports of this category increased from 24% in 1971-72 to 50% in 1980-81 and 55% during 2000-2003. The imports of consumer goods started declining trend since 1980-

81. They fell from as high as 30% in 1972-73 to as low as 13% in 1991-92and 1993-94 but increased to 20% in 1997-98 but again fell to 10% in 2000-03. This falling trend in consumer goods imports may be attributed to imports under personal Baggage Scheme allowed to Pakistani workers abroad notably Middle East, Smuggling and the abundant supply of different consumer goods in almost all metropolitan centers particularly Peshawar under Afghan transit trade [their demand was very low due to war in Afghanistan on 1980s] and the increasing import substitution of consumer goods as evidenced by the rising share of imports of consumer gods imports (Table 1 below)

Table 1
Economic Classification of Imports (%) (1970 – 2003)

Year	Imports Capital goods	Industrial Raw Material imports for		Consumer goods
		Capital goods	Consumer goods	
1969-70	50	11	29	10
1971-72	42	11	24	23
1974-75	29	9	40	23
1978-79	30	6	42	22
1980-81	28	8	50	15
1983-84	32	6	48	14
1985-86	37	5	40	18
1989-90	33	7	41	19
1992-93	42	6	38	14
1996-97	37	5	43	15
1998-99	31	6	47	16
1999-00	26	6	54	14
2000-01	25	6	55	14
2001-02	28	6	55	11
2002-03	29	6	55	10

Source: Government of Pakistan Economic Survey, [1997-98 and 2000-03]

5. DATA SOURCES

Data on GDP, wholesale price index, unit value of imports, aggregate and other categories of imports (CM, Km, RCM and RKM) were collected from Government of Pakistan (GOP) "Economic Surveys" (1997-98 and 2000-03). All the variables are in natural logarithm and are in constant 1990 = 100 prices. The period of the study is from 1960- 2003. For consumer goods imports, Capital goods imports, industrial raw material consumer goods imports and industrial raw material capital goods imports, the data is from 1970-2003, as we could not get data before 1970 from GOP on this classification of imports.

6. EMPIRICS

6.1 Aggregate Import Demand

The estimation results of the aggregate imports demand for static and the dynamic Models using method of ordinary least squares (OLS) are:

6.1.1 Static Model

$$\text{LnM}_d = 0.71 - 0.53 \text{ Ln PM / WPI} + 0.88 \text{ LnY} \qquad (3)$$

$$\quad\quad\quad (0.45) \quad (-1.14) \quad\quad\quad (4.90)^*$$

$R^2 = 0.87 \qquad\qquad \text{D.W.}=1.50 \qquad \text{LM (1)}=5.38$

6.1.2 Dynamic Model

$$\text{LnM}_d= 0.96 - 0.14\text{Ln PM/WPI} + 0.24\text{LnY} + 0.65\text{LnM}_{t-1} \qquad (4)$$

$$\quad\quad (1.75) \quad (-1.09) \quad\quad (2.33)^* \quad (4.64)^*$$

Se $\quad$ 0.55 $\quad\quad$ 0.13 $\quad\quad\quad$ 0.102 $\quad\quad$ 0.1397

$R^2= 0.89 \qquad\qquad \text{D.W}=1.68 \qquad \text{Durbin-h}=2.62 \quad \text{LM (1)}=1.77$

Note: The number in parentheses in all the equations are t-statistics where * stands for 5% and ** for 10% levels of significance respectively, χ^2 =3.84 and $\chi^2 =$ 6.63 5% and10% levels of significance respectively and Z = ±1.96 at 5%.

The estimation results indicate that variables have expected signs. Price coefficient is negative but not significant and domestic income coefficient is positive and significant. The estimation results are in agreement with economic theory and so is the relative price variable. But less significant nature of the price variable is due to the fact that since inflation in Pakistan has been very high during 1970s, and 1990s, high domestic price index. In the aggregate imports demand equation [equation 1], DW is low suggesting the presence of autocorrelation. LM test is significant at 5% but not at 10% Level of significant. However, both DW and LM point to the autocorrelation problem. Therefore, the results are interpreted with caution and this applies to all the subsequent results where this problem is present.

The problem of autocorrelation is less serious in annual data then in monthly, weekly and daily data due to shot time interval in the latter forms of data. Moreover, normally lag 1, lag 4 and lag 12 are used for annul, quarterly, and monthly data [see Gujarati (2003), Patterson (2000)]. Therefore, we prefer lag 1 because we are using annual data. Moreover, our sample size also dictates the use of lag 1.

In the dynamic model, the short run price and domestic income elasticities are smaller than the static model. In aggregate imports demand, the coefficient of adjustment λ is 0.35 implying that 35% of the discrepancy between the desired and actual demand for imports is eliminated in a year. The mean time lag in the adjustment of aggregate imports is equal to λ^{-1} that can be calculated from the parameters of the equation. Since $f_3 = 1 - \lambda$ and therefore, $\lambda^{-1} = (1-f_3)^{-1} = (1-0.65)^{-1}$ = 0.35. Moreover, the mean time lag in the adjustment of imports to changes in independent variables is less than three years. This seems to be unrealistic. Since lagged year imports are significant suggesting that past imports do have noteworthy impact on current year imports. Durbin-h is highly significant at 5% level of significance suggesting there is autocorrelation. On this basis of LM test the null hypothesis of no autocorrelation has been accepted because LM statistic is not significant. However, we have used it for comparison and to get some additional insight about the autocorrelation problems. Though the two tests are not in agreement, there is not evidence of autocorrelation on the basis of DW and Durbin-h tests.

6.2 Consumer Goods Imports [CM] Demand

$$LnCMd = 0.19 - 0.24 \ PM/WPI + 0.64LnY \tag{4}$$
$$(-0.11) \qquad (-0.54) \qquad (3.27)^*$$
$$R^2 = 0.78 \quad DW = 2.07, \qquad LM \ (1) = 1.10$$

6.2.1 Dynamic Model

$$LnCMd = -5.13 - 5.55LnPM/WPI + 0.5.LnY + 0.98LnCM_{-1} \tag{5}$$
$$(-0..86) \qquad (-1.73)^{**} \qquad (0.75) \qquad (1.70)^{**}$$
$$Se \qquad 5.97 \qquad 3.21 \qquad 0.66 \qquad 0.57$$
$$R^2 = 0.35 \quad DW = 1.15$$

Durbin-h cannot be computed as Var. $(a^*) = 10.72 > 1$, LM $(1) = 4.18)$

Like aggregate imports, the relative price coefficient for consumer goods imports [CM] is not significant. DW is satisfactory and the null hypothesis of no autocorrelation [H_0: $\rho = 0$] has not been rejected by the LM test at both 5% and 10% levels of significance.

In the dynamic model, we got results similar to aggregate imports demand that is short run income elasticity is smaller than the static model. The real domestic income has turned out to be insignificant whereas the significance of price coefficient has been significantly increased. Unlike lagged aggregate imports lagged CM imports are also not highly significant. These imports are more influenced by the quality and price than by the previous year imports. The significant LM test shows the presence of autocorrelation and the low DW supports this.

In consumer goods imports demand, the coefficient of adjustment λ is 0.02 that is very low and means that only 2% consumer imports adjusts within a year. This result is not against expectations. Low coefficient of adjustment shows that current consumer goods imports are not influenced much by past imports. Current year consumer goods imports demand depends on the current imports price and the current level of income. Demand for consumer goods do not adjust rapidly as indicated by the very low adjustment coefficient.

6.3 Capital Goods Imports [KM] Demand

$$LnKM_d \quad = \quad -1.91 -1.58LnPM/WPI + 0.89LnY \qquad (6)$$

$$\qquad\qquad (-0.58) \qquad (-2.15)^* \qquad (2.50)^*$$

$$R^2=0.91 \qquad DW=2.05 \qquad LM\,(1)=0.20$$

6.3.1 Dynamic Model

$$LnKM_d \quad = -0.85 - 0.25LnPM/WPI + 0.40LnY + 0.55LnKM_{dt-1} \qquad (7)$$

$$\qquad\qquad (-0.80) \qquad (-0.83) \qquad\quad (1.93)^* \qquad (3.27)^*$$

$$Se \qquad\qquad 1.05 \qquad 0.30 \qquad\qquad 0.20 \qquad\qquad 0.17$$

$$R^2=0.82 \qquad DW=1.52 \qquad Durbin\text{-}h=1.39, \qquad LM=4.51^*$$

The estimation results for capital goods imports [KM] are not similar to CM [consumer goods imports] in the static model. The highly significant price coefficient points out that demand for KM is highly elastic suggesting inflation and rising exchange rate would depress the demand for KM. In aggregate as well as in the aforementioned imports categories, domestic income is the most important determinant of imports demand. DW is not low and the LM test also suggests the absence of autocorrelation.

In the dynamic model for KM the estimation results are dissimilar to consumer goods imports. The coefficient of adjustment λ is 0.45 indicating that 45% KM adjusts in a year unlike 2% CM. Moreover, the mean time lag in the adjustment of capital goods imports to changes in independent variables is almost two years compared to three years for aggregate imports. The significant lagged KM imports unlike CM suggest that current year KM are notably influenced by the

past imports and lagged imports can serve as guides for present KM imports. The LM test is significant and indicates autocorrelation. Durbin-h is not significant suggesting the presence of no-autocorrelation and the two tests results do not support each other.

6.4 INDUSTRIAL RAW MATERIAL IMPORTS-CONSUMER GOODS [RCM] DEMAND

$$LnRCM_d = -2.59 - 0.78LnPM/WPI + 1.02 LnY \qquad (8)$$

$$(-0.70) \qquad (-0.99) \qquad (2.52)^*$$

$R^2 = 0.92 \qquad DW = 1.76, \qquad LM(1) = 0.19$

6.4.1 Dynamic Model

$$LnRCM_d \quad = \quad 0.65 + 0.47 LnPM/WPI + 0.14 LnY + 0.71LnRCMt-1 \quad (9)$$

$$(0.67 \qquad (1.94)^{**} \qquad (0.87) \qquad (5.86)^*$$

Se $\qquad 0.96 \qquad 0.24 \qquad 0.17 \qquad 0.12$

$R^2 = 0.90 \qquad DW = 2.65 \qquad Durbin\text{-}h = -2.62 \qquad LM(1) = 6.43$

Industrial Raw Material Consumer Goods Imports (RCM) have estimation results similar to aggregate imports. Imports price coefficient is not significant but domestic income coefficient is positive and significant. These results are not against expectation. The demand for RCM is inelastic, as these imports are needed to feed the import- substitution industries notably during 1950s, 1960s, and 1970s. The LM test does not reject the null hypothesis of no autocorrelation.

We get inferior results for price coefficient in the Dynamic model. The coefficient of adjustment λ is 0.29 indicating that 29% RCM adjusts in a year and the mean time lag in the adjustment of capital goods imports is more than two years unlike two years for KM. Such mean time lag is unrealistic and shows the limitations of the partial adjustment process. These coefficients are interpreted with caution. The LM test rejects the null hypothesis of no autocorrelation. Durbin-h statistic is highly significant and two tests are in agreement and show strong evidence of autocorrelation.

6.5 Industrial Raw Material Imports-Capital goods [RKM] Demand

$$LnRKM_d = -2.12 - 0.63LnPM/WPI + 0.74LnY \qquad (10)$$

$$(-2.09)^* \qquad (-1.48) \qquad (6.79)^*$$

$R^2 = 0.76 \qquad DW = 2.01 \qquad LM(1) = 0.02$

6.5.1 Dynamic Model

$$LnKM_d = -1.49 - 0.33LnPM/WPI + 0.65LnY + 0.03 LnKMt-1 \qquad (11)$$

(-1.52)   (-0.88)   (3.76)*   (0.16)
Se   0.97   0.37   0.17   0.1977
R^2=0.77   DW= 2.05

Durbin-h cannot be computed as Var (α^*)=1.32>1,   LM (1)=1.02

For Industrial Raw Material Capital Goods Imports [RKM], the estimation results are like RCM. The insignificant LM test shows the absence of autocorrelation, however, in the dynamic model the estimation results are not similar. Lagged year imports are not significant like CM. Current year RKM are not affected significantly by past year imports. Except domestic income no variable has a significant coefficient. The coefficient of adjustment λ is 0.97 almost equal to unity implying that the discrepancy between the desired and actual demand for imports is eliminated in a year. The LM test does not reject the null hypothesis of no autocorrelation, because DW is not low.

7 CONCLUSIONS

For aggregate imports in both static and dynamic models, price coefficient is negative and not significant suggesting that demand for aggregate imports is not dependent on import prices indicating immense needs of imports. Because manufacturing sector in Pakistan has relied heavily on imports. The mean time lag in the adjustment of aggregate imports is less then three years and this appears to be unrealistic. For consumer goods imports, the price coefficient is significant and exceeds unity in model implying elastic demand. The coefficient of adjustment λ is very low [0.02] and means that current year consumer goods imports depend on the current imports price and the current level of income and shows lack of dynamic adjustment.

The highly significant price coefficient points out that demand for Capital Goods Imports [KM] is highly elastic suggesting that high inflation would depress the demand for KM. In aggregate as well as in the aforementioned imports categories, domestic income is the most important determinant of imports. In the dynamic model KM result are different from consumer goods imports. 45% KM adjusts in a year unlike 2% CM. Moreover, the mean time lag in the adjustment of capital goods imports is almost two years compared to three years for aggregate imports. Unlike CM current year KM are notably influenced by the past imports implying dynamic adjustment.

The demand for industrial Raw Material Consumer [RCM] as well as capital goods imports [RCM] is inelastic confirming our result for aggregate imports. 29% RCM adjusts in a year and the mean time lag in the adjustment of capital goods imports is more then two years unlike two years for KM. Such mean time lag is unrealistic and shows the limitations of the partial adjustment process. Lagged

year capital imports [RKM] are not significant like CM. The coefficient of adjustment [97%] is the highest for industrial Raw Material Capital goods imports compared to aggregate and other classification of imports showing the importance of these imports for industries. The estimation result for aggregate and other categories of imports amply demonstrate that study of aggregate imports alone does not throw sufficient light on the true behaviour of imports unless other categories are studied alongside aggregate imports. Another important conclusion is that domestic income is the major determinant of demand for all groups of imports.

Autocorrelation is a common problem that arises in time series data. We have found evidence in half of the equations. The presence of autocorrelation was detected on the basis of LM test and also Durbin-h test in the dynamic model. Choice of the lag length is a serious drawback of the LM test. Both are large sample tests and their application in small sample is not recommended. However, we assumed that our sample of 44 and 34 observations was moderately large and we did apply both the tests keeping in view the limitations of DW statistic. There is agreement as well as disagreement among the three tests regarding the presence of autocorrelation. There is no universal cure of autocorrelation and its presence implies a cautious interpretation. However, we did get valuable insights about the behaviour of imports in the static as well as dynamic model as outlined above.

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THE PROBLEM OF POVERTY IN PAKISTAN – THEORY AND REALITY

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Abstract

This article explores the dimensions of poverty in the context of Pakistan economy. It focuses on economic, political, social, environmental and human dimensions and tries to encompass all possible forms of poverty with causes and effects. Different measures of poverty like head-count approach, biological approach, inequality approach, value judgement approach and the consequent poverty line have also been discussed.

1. INTRODUCTION

Poverty has many dimensions, especially in poor countries. The world has entered into the new millennium and has even covered a distance of five years into the 21st century and still a major portion of the people in the world; especially in the developing countries live a life of poverty and deprivation. With all the technological advancement and production capacity in the world the globe has still not been able to solve the problem of basic human needs of the poor people. In any dimension poverty is the story of the poor and poverty is the story of the community and the people that live in it. It is important to define poverty and then to measure it. Once defined and measured in all its dimensions it is important to eradicate poverty in all its aspects for a nation to live with its head high in the community of nations. For the community of nations to call themselves developed, civilized and sustainable. "Poverty" said George Bernard Shaw, "does not produce unhappiness, it produces degradation".

2. DIMENSIONS OF POVERTY

Poverty has many dimensions – economic, political, social, environmental and more importantly human. Poverty has an Economic dimension.

In economic terms, a country, region or household are poor when the per capita income of a country or the income of a household is very low. When the buying power of the economy or of the household is below a certain minimum standards. When there are in a nation, region or a household, low medical care and health facilities. When the productivity of the nation, a group or an individual in the nation is very low. When there is illiteracy, lack of basic education, and lack of knowledge about the people's physical, intellectual, spiritual, and moral environment. When a majority or a minority of the people in a community are

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hungry, venerable and powerless to make their life better for the present or for the future.

2.1 Poverty has a Political Dimension.

In political terms a country, a region or a group of people are poor, when they do not have a voice in the community, or are dependent on other more powerful groups or individuals in order to express their own rights or choices. Political poverty is expressed in the fact that the democratic process in a country or community is usurped or hindered and institutions that safeguard the basic human rights of liberty, life and freedom of majority or minority in that community cease to exist or do not function.

2.2 Poverty has a Social Dimension.

In social terms poverty in a country, region or household breeds all types of socially unacceptable behaviors like drug addiction, crime, prostitution, violence in a family or in the community and terrorism, all of which degrade human self respect, moral and social values of the society as a whole, when more and more people in the community become intolerant of each other and are rude towards each other in their day to day life.

2.3 Poverty has an Environmental Dimension

In its environmental terms, poverty destroys the living environment not only of those that live in poverty but of all others humans and non human species that depend on the same resources and ecosystem on which those living in poverty depend and survive upon. People living in poverty can not change their behaviors easily, not only because of lack of resources, but also because of lack of knowledge about their own surrounding and survival techniques, lack of education, illiteracy and more importantly if they do change their already marginalized living behaviors they might die, therefore it is easy for them to survive on what ever they have without regard to their physical and spiritual environment, rather than take measures that might protect their environment. Thus by destroying their own living environment the poor in reality are destroying their own resources on which they survive in the long run.

2.4 Poverty has a Human Dimension

Poverty in its human dimension is the most important of all, because poor people live in conditions that are miserable, conditions in which they or some members of their family die of hunger, disease, famine, or of violence. When a child is down with a curable disease and the parents have to take a decision whether to take the child to a doctor and buy expensive medicines for that child which would

take up a major portion of the family's income or to spend that much needed money on the food of the other children in that family. Poverty has a human dimension when the parent of a child sells his or her child into slavery or prostitution because of lack of resources to feed or care for that child and its siblings. Poverty has a human dimensions when government institutions not only fail to protect the poor, these upholders of law, freedom and human rights commonly abuse the poor through the very institutions that have been created in a civic society to protect them. Poverty has a human dimension when the feudal lord or some person with political and economic power abduct the daughter or wife of those that serve under him or takes the poor into bonded labor and the aggrieved are powerless to do anything. Poverty has a human dimension when governments, institutions, groups, individuals in that society or nation have become inhumane towards those that are more unfortunate than them – women, children, religious or political minorities, economically poor, etc.

3. DEFINING POVERTY

In theory there are two forms of poverty – relative and absolute.

3.1 Absolute Poverty

Poverty is common to define as an insufficiency of means relative to needs, or as a condition of MONEYLESSNESS. Poverty in the sense of moneylessness is *not having enough of the basic medium of exchange in order to satisfy elementary human needs and to function economically and socially*. This is also called Income poverty. According the Economic Survey of Pakistan 2000-2001, "Recent estimates suggest that poverty has further increased from 32.6% in 1998-1999 to 33.5% in 1999-2000".[2] In 2003-2004 Official Statistics suggest that Poverty in Pakistan decreased to 23.10 per cent in 2004. (Government of Pakistan takes the calories Approach of 2350 calories or Rs. 850 per month).[3]

Gerald Meier defines poverty "as the inability to attain a minimum standard of living".[4] Elementary human needs exist in any society. And although standards of living vary from place to place and over time, there are still some common measures like nutritious food, shelter, rest, clothing, warm clothing in colder areas, medical care, water, sanitation, primary form of education, etc. In any civilized nation recreation and entertainment in an effluent society. Therefore absolute poverty is the lack of sufficient resources or money to obtain these things. (See Table 1) The way in which various human needs are satisfied is determined socially and will, like each standard of living, differ from society to society. In some cultures each person may grow his own food. In others, food

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[2] Economic Survey of Pakistan, 2000-2001, Government of Pakistan, Islamabad, p xvii
[3] State Bank Of Pakistan Report 2003-2004
[4] Meier, G. M. & Rauch, J. E. Leading Issues in Economic Development. 7th Edition, Oxford University Press, N.Y. 2000, p 18

may be purchased daily in town markets or small neighborhood shops. In still others, food – canned or otherwise, may be purchased in large quantities in shopping centers. Poverty will be defined differently in each of these societies. There is no universal applicable standard of poverty, either in terms of dollars or in terms of goods and services.

Rowntee defines poverty, "as a level of total earnings insufficient to obtain the minimum necessities for the maintenance of 'merely physical efficiency', including food, rent, and other items". This is also called the Rowntee's approach to defining poverty. Conceptually the most direct way to determine who is poor can be improved by excluding all those, whose income is temporarily low, whose lifelong incomes are expected to be fairly high, for whom low incomes do not constitute a problem. Now definition of poverty as MONEYLESSNESS can be improved by taking into account VULNERABILITY.

According to the World Bank Report 2000-2001, "Vulnerability is the risk that a house hold or individual will experience an episode of income or health poverty over time. But Vulnerability also means the probability of being exposed to a number of other risks (violence, crime, natural disasters, being pulled out of school)".[5] For example a person who has a job that pays him precisely the minimum needed to function accordingly to current standards, but who cannot be certain that he or she will have enough to get tomorrow if his or her's income falls or his or her's needs increase is therefore is at a highly vulnerable position. That person may become poor at any moment. This limits his or her's range of choices and affects his or her's behavior in life. Moneylessness is a vital aspect of powerlessness. The concept of poverty as powerlessness underlines the importance of economic vulnerability. The poor are separated from the non-poor not only by their current standard of living, but also by their greater vulnerability to economic catastrophe - A vulnerability that limits their choices and hence the freedom of the poor.

Poverty is also defined as POVERLESSENSS. The poor do not differ from their fellow men or women merely in the size of their paychecks. Many of the poor are dependent psychologically as well as economically. Poor people have higher than average rate of criminality, suicide, narcotic addiction, physical and mental illnesses, alcoholism, prostitution and violence. They are more likely to live in unhealthy surroundings and in physically unsafe structures. Social and family disorganization is endemic to the poor. A pathological feeling of powerlessness compounds these problems. The poor lead lives that are, or seem to be, ordered largely by forces outside their control – by people in position of authority or wealth, by perceived evil forces, by bad luck, or simply as the will of God. In words of Professor Warren Haggstrom, The poor are faced with "a particular difficult variety of situational dependency, a helplessness' to effect many

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[5] World Bank Report 2000-2001, Attacking Poverty, Oxford University Press, Washington DC, p 19

important social factors in their lives, the functioning or purpose of which they do not understand, and which are essentially unpredicted to them".

Poverty as powerlessness is measured in terms of lack of power as well as money. *Powerlessness in other words is the lack of control over one's own destiny*. Powerlessness is a lack of EMPOWERMENT. According to the World Bank Report 2000-2001, "Empowerment means enhancing the capacity of poor people to influence the state institutions that affect their lives, by strengthening their participation in political processes and local decision making. And it means removing the barriers – political, legal, and social – that work against particular groups and building the assets of poor people to enable them to engage effectively in markets".[6]

The opposite of powerlessness is power. But we do not talking about power in the sense of authority over others, but in the sense of personal freedom to make personal choices over one's life and destiny. That is the ability to make choices vitally affecting one's own life. Those with income have many more choices than those with low income. Rich people can choose where they live, what form of entertainment and recreation they will take, what they will dress, and often where they will not work. The poor unfortunately cannot afford to make such choices. There are also people who are poor in terms of income, savings and the ability to meet future needs, who are poor in the pathological sense associated with powerlessness, and there are some people who are poor in pathological sense but who are not poor as in moneylessness. Most of women (and even some men) in rich households who can not, because of social or cultural constraints decide about their own future or go against the will of their men folk or elders are pathologically poor without being poor as moneylessness, because they are not empowered in their own life and destiny. The equation of poverty with powerlessness has some important implications. One is that, many of the most effective solutions of the problems of poverty must come from the poor themselves. Second is that some antipoverty programs that reinforce dependency and powerlessness by taking away from the poor control over their lives may actually increase their sense of psychological dependency, stultifying their personal development, and perpetuate their poverty.

In short moneylessness and economic vulnerability are forms of powerlessness, and *Absolute poverty can be defined as a state of moneylessness and powerlessness.*

3.2 Relative Poverty

Those that favor using a measure of relative poverty agree on at least two major criticisms of absolute approach to poverty. One, an absolute measure of poverty

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[6] World Bank Report 2000-2001, Attacking Poverty. Oxford University Press. Washington DC. p 39

is too static; it does not allow for changing standards about what are considered to be luxuries like TV sets, automobiles when these things become widely dispersed and come to be viewed as 'necessities'. Therefore according to the relative poverty approach, poverty thresholds should be raised as standard of living in the country rises. Second, absolute poverty measure ignores the general distribution of income in a society. Whether or not persons are poor is said to depend on the income levels of those with whom they compare themselves. Therefore one measure of relative poverty is a comparison of the lowest fifth of the population in terms of income with the other four fifth. Such a measure, of course, means that the segment of the population will always be 'poor' unless the total income distribution approaches equality. Victor Fuchs (1956) proposed, "any family be classified as poor if its income was less than half of the medium family income".[7] The best way to find a *relative measure of poverty is to take into account the position of various groups on a scale of income that must compare the income share of those at the bottom to that of those at the top.* With complete income equality, the top 20 per cent of people would get 20 percent of the income available, and the bottom 20 per cent would get 20 per cent also. But in reality this is hardly the case. In Pakistan in 1996-1997 the percent share of income or consumption of the lowest 10 percent of people was 4.1% compared to 27.8% share of income or consumption of the highest 10 per cent of people. The percent share of income or consumption of the lowest 20 percent of people was 9.5% compared to 41.1% share of income or consumption of the highest 20 per cent of people.[8]

What is important in the case of relative poverty measure is its ability on the one hand to compare the relative economic position of a country relative to the economic position of another country. GDP (1999) of Pakistan was approximately US$ 60.0 billion compared to Bangladesh – approximately US$ 46.0 billion; to India – approximately US$ 460.0 billion; to China – approximately US$ 991.0 billion; to Japan – approximately US$ 4,395.0 billion; and to USA – approximately US$ 8,709.0 billion.[9] Relative poverty measure can also measure relative affluence or poverty of one region in relation to another region. But more important is the ability of relative poverty measure to look into the relative poverty of different individuals in the same family. For example the relative position of women in a poor family, the relative position of children in a family, and the relative position of a girl child in a poor family in relation to her male siblings. "Of all those in poverty (in the United States), nearly 40 per cent are children under the age of 18 years of age. Just over 10 million of America's poor – two out of every five persons – are children less than 18 years old".[10]

[7] Joseph, J & Kornblum William, Social Problems, Prentice Hall Inc. New Jersey, 1983, p 248
[8] World Bank Report 2000-2001, Attacking Poverty, Oxford University Press, Washington DC, p 283
[9] World Bank Report 2000-2001, Attacking Poverty, Oxford University Press, Washington DC, pp 296-297
[10] Joseph, J & Kornblum William, Social Problems, Prentice Hall Inc. New Jersey, 1983, p 45

No universally accepted definition of poverty has yet been formulated. Interested groups have utilized the most convenient or appropriate formula, usually either the official fixed income definition or one of the other types of approaches to poverty.

4. CONCEPTS OF POVERTY

In the words of Professor Rein, "People must not be allowed to become so poor that they offend or are harmful to society. It is not so much the misery and plight of the poor but the discomfort and cost to the community, which is crucial to this view of poverty. We have a problem of poverty to the extent that low income creates problems for those who are not poor". In the words of Amratia Sen., "to live in poverty is sad, but to offend or to (be) harmful to society, creating problems for those who are not poor is, it would appear, the real tragedy". The first requirement of the concept of poverty is a criterion as to who should be the focus of our concern. The poor are those people whose consumption standards fall short of norms, or whose income lie below that line. But is the concept to be related to the interest of a) only the poor; or b) only the non-poor; or c) both the poor and the non-poor? The plight of the poor does, in fact, affect he well being of the rich. The real question is whether such effects should enter into the concept of poverty as such, or whether they should figure under the possible effects of poverty? Since in an obvious sense poverty must be characteristic of the poor rather than the non-poor. One can, for instance, argue that, if one considers a case of reduction of real income increase in suffering of all the poor, it must be described as an increase of poverty, no matter whether this change is accompanied by a reduction in the adverse effect on the rich. The conception of poverty based on the above notion does not, of course, imply any denial of the fact that the suffering of the poor themselves may depend on the condition of the non-poor. It merely asserts that the focus of the concept of poverty has to be on the well being of the poor as such, no matter what influences affects their well-being. In this context that in some discussions one is concerned not with the prevalence of poverty in a country in the form of the suffering of the poor, but with the relative opulence of the nation as a whole. In those discussions it will, of course, be entirely legitimate to be concerned with the well-being of all the people in the nation, and the description of a nation, as a poor must obviously relate to such a broad concept.

5. MEASURING POVERTY

5.1 Head Count Approach

Even after the poor have been identified and specified, the concept of poverty is concerned with the condition of the poor, there is the problem of aggregation over the group of the poor, and this involves moving from description of the poor to some overall measure of poverty as such. In some traditions, this is done very

simply by just counting the number of the poor, and then expressing poverty as the ratio of the numbers of the poor to the total number of people in the community in question. This is called HEAD COUNT (H) measurement of poverty. The Head count method has two serious drawbacks. First, H takes no account of the extent of the shortfall of incomes of the poor from the poverty line. Second, It is insensitive to the distribution of income among the poor, because the requirement of a concept of poverty must include, a) method of identifying a group of people as poor (identification), and b) a method of aggregating the characteristics of the set of poor people into an over-all image of poverty (aggregation).

5.2 Biological Approach

Seebohm Rowntee (1901) in the Poverty in NY defined families as being in 'primary poverty' if their total earnings are insufficient to obtain the minimum necessities for the maintaince of merely physical efficiency. Starvation clearly is the most telling aspect of poverty. The criticism of the biological approach is that, first, there are significant variations related to physical features, climatic conditions and work habits of different regions. In fact, even for a specific group in a specific region, nutrition requirements are difficult to define precisely. Second, the translation of minimum nutritional requirements into minimum food requirements depends on the choice of commodities. While it may be easy to solve the programme exercise of a 'diet problem', choosing a minimum cost diet for meeting specific nutrition requirements from food items sold at specific costs, the relevance of such a minimum cost diet is not clear. Typically, it turns out to be very low-cost indeed, but boring as well, and people's food habits are not, in fact, determined by such a cost minimizing exercise. Third, for non-food items such as minimum requirements are not easy to specify, and the problem is usually solved by assuming that a specific proportion of the total income will be spent on food. The minimum food-costs can be used to calculate minimum income requirements. But then the portion on food varies not merely with habits and culture, but also with relative prices and availability of goods and services. Almost every procedure used under the biological approach can be challenged but this approach does leave a basis of minimum thought and work on poverty.

5.3 Inequality Approach

Poverty may look very like inequality between the poorest groups and the rest of the community. Miller (1947) and Roby (1967) state, which casting the issue of poverty in terms of stratification leads to regarding poverty as an issue of inequality. Criticism: In this approach our concern becomes one of narrowing the difference between those at the bottom and the better off in each stratification dimension. Inequality is fundamentally a different issue to poverty. Inequality and poverty are not, of course, unrelated. But neither concept subsumes the other. A transfer of income from a person in the top income group to one in the middle-

income range must reduce inequality, but it may level the perception of poverty quite unaffected. Similarly, a general decline in income that keeps the chosen measure of inequality unchanged may, in fact, lead to sharp increase in starvation, malnutrition and obvious hardship. Inequality and poverty are associated with each other, and to note that a different distribution system may cure poverty even without an expansion of the country's productive capabilities.

5.4 Relative Deprivation

The concept of relative deprivation has been fruitfully used in the analysis of poverty, especially in the sociological literature. Being poor has clearly much to do with being deprived, and it is natural, for a social animal, the concept of deprivation will be relative one. But within the uniformity of the term 'relative deprivation' there seem to exist some distinct and different notion, like feelings of deprivation and condition of deprivation. A second contrast concerns the choice of reference groups for comparison. Again, one has to look at the group with which the people in question actually compare themselves, and this can be one of the most difficult aspects of the study of poverty based on elative deprivation. The approach of relative deprivation – even including all its variants – cannot really be the only basis of the concept of poverty. Relative deprivation supplements rather than analysis of poverty in terms of absolute dispossession.

5.5 Value Judgment Approach

Many authors have recently presented the view of the value judgment approach forcefully. It seems natural to think of poverty as something that is disapproved of, the elimination of which is regarded as morally good. Mollie Orshansky argues, that poverty, like beauty, lies in the eyes of the beholder. It is important to distinguish between different ways in which the role of morals can be accommodated into the exercise of poverty measurement. For the person studding and measuring poverty, the conventions of society are matters of fact as contemporary standards, and not issues of morality or of subjective search as what should be the contemporary standards and to be the person's own value and feeling. Adam Smith (1776) clearly stated, "that by necessities I understood not only the commodities which are indispensably necessary for the support of life, but what ever the custom of the country renders it indecent for credible people, even the lowest order, to be without... The poorest credible person of either sex would be ashamed to appear in public without them". In the similar vein Karl Marx (1867) said, "while historical and moral elements enter the concept of subsistence, nevertheless, in a given country, at a given period, the average quantity of means of subsistence necessary for the laborer is practically known".

5.6 A Policy Definition

The measurement of poverty may be based on certain given standards, but what kinds of these standards themselves make, there seems to exist a certain amount of confusion on the subject too. The US president's Commission on Income Maintaince (1969) gave a policy definition in its report Poverty amid Plenty. "If society believes that people should not be permitted to die of starvation or exposure, than it will define poverty as the lack of minimum food and shelter necessary to maintain life. If the society feels some responsibility for providing to all persons an established measure of well-being beyond mere existence, for example good physical health, than it will add to its list of necessities the resources required preventing or curing sickness". There are at least two difficulties with this policy definition. First, practical policy-making depends on a number of influences, going beyond the prevalence notion of what should be done. Second, even if policy is taken to stand not for actual public policy, but for recommendations widely herald in the society in question, there are problems. There is clearly a difference between the notion of deprivation and the idea of what should be eliminated by policy.

5.7 Poverty Line

All the measures are judged in relation to some norms. For example, we define life expectancy in some countries to be low in relation to those attained by other countries at a given date. The choice of the norm is particularly important in the case of the consumption-based measures of poverty. A consumption based poverty line can be thought of as comprising two elements: the expenditure necessary to buy a minimum standard of nutrition and other basic necessities and a further amount that varies from country to country, reflecting the cost of participating in the everyday life of society.

The first part is relatively straightforward. The cost of minimum adequate calories intakes and other necessities can be calculated by looking at the price of the foods that make up the diet of the poor. The second part is far more subjective: in some countries indoor plumbing is a luxury, but in others, it is a necessity. The perception of poverty has evolved historically and varies tremendously from culture to culture. Criteria for distinguishing poor from the non-poor tend to reflect specific national priorities and normative concepts of welfare and rights. In general, as countries become wealthier, their perception of acceptable minimum level of consumption – poverty line – changes. Rather than settle for a single number, there can be two: US$ 275 and US$ 370 per person a year. (The amounts are in constant 1985 PPP prices). This range was chosen to span the poverty lines estimated in recent studies for a number of countries with low average incomes – Bangladesh, Egypt, India, Indonesia, Kenya, Morocco and Tanzania. The lower limit of the range coincides with poverty line used in India.

As a rule of thumb, 'poverty line' regardless of the family size, the age of its members, or their place of residence is a fixed poverty line of a minimum where total income equals total consumption expenditure or where total income is less than total consumption expenditure. The basic figures given in the statistics of the world's economies in the World development Report 1990 were presented with four aims in view: one, to illustrate the economic diversity –suggested block can be misleading; two, to draw attention to the problem of income measurements; three, to demonstrate that a percentage of standard of living which is different from simply income gives rise to a very different picture; and four, to report on how figures such as these have been used in the analysis of growth and development. In the report the countries were ranked in terms of income per capita as conveniently measured. While it is true there are a group of 17 rich countries with per capita income between US$ 10,000, and US$ 27,500 called the North. It is misleading to see developing countries as a homogeneous group called the South, because in this group there are 12 countries with very low per capita income between US$ 1, 000 and US$ 200; six countries with per capita income between US$ 200 and US$ 300; nine countries - between US$ 400 and US$ 500; 18 countries – between US$ 1,000 and US$ 2,000 and another 9 with per capita income between US$ 2,000 and US$3,000 and so on.

This kind of simple dichotomy does not provide a plausible description of most of the relevant indicators of well-being and economic structures that one could imagine and does not provide helpful basis for modeling the world's economy. It must be recognized that there is enormous variability within each country.

"Poverty line is derived in Pakistan on the basis of income which can provide daily intake of 2250 calories per person (2450 calories per adult equivalent in rural areas and 2150 in urban areas)".[11]

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[11] Pakistan Economic Survey 2000-2001, p 53

Table 1

Expenses of Fixed Income Families in Rupees Per Month

ITEMS OF NECESSITY & DAILY LIFE	RS. 2400	RS. 3000	RS. 4000	RS. 6000	RS. 8000
1. Atta 69 KG @Rs175 per 20 kg	567	567	567	567	567
2. Rice 5/6 kg @ Rs 20 per kg	120	100	100	100	100
3. Pulses 10/8 kg @ average Rs 35 per kg	350	350	280	280	280
4. Ghee / Oil 7.5 kg @ Rs 40 & 64 per kg	300	300	300	480	480
5. Vegetables (onion, potatoes etc)	200	200	200	250	300
6. Spices (salt, chilies, vim. Etc)	100	100	125	200	252
7. Toilet soap @ Rs 9.50 – 17 per piece	38	38	38	68	85
8. Washing soap @ Rs 11 per cake	44	44	44	66	99
9. Milk @Rs 16 per litter	N	160	220	320	320
10. Sugar 4-8 kg @ Rs 26 per kg	N	104	156	208	208
11. Education	N	200	20	300	350
12. Tea @ Rs 50 for 200 grams	N	N	N	300	35
13. Beef / chicken Rs 60 – 70 per kg	N	N	N	300	350
14. Mutton @ Rs 110-120 per kg	N	N	N	220	480
15. Fruit	N	N	N	N	200

16.	Toothpaste	N	N	N	N	40
17.	Shaving / Cosmetics	N	N	N	N	53
18.	House Rent	N	N	800	1250	1500
19.	Electricity	150	175	200	300	500
20.	Fuel / gas	120	120	120	150	175
21.	Water / Sewerage	100	100	100	120	150
22.	Transport	300	300	300	450	600
23.	Health	111	150	250	400	500
24.	Entertainment	N	N	N	N	N
25.	Clothing	N	N	N	N	N
26.	Gifts	N	N	N	N	N
27.	Telephone	N	N	N	N	N

Source: THE NEWS ON SUNDAY LAHORE, 25TH FEBURARY, 2001

5.8 Purchasing Power Parity (PPP)

The Summer and Hanston (1988) recalculation of income per capita approach based on purchasing power parity (PPP) shows that the income figures must be treated with a good deal of circumspection. The adjustment for PPP is only one of the many problems associated with comparing incomes across countries, but making just this one change can have very substantial effects. Changes at the bottom end are particularly dramatic. China, India and Pakistan are all ranked fairly closely under conventional national income measures, where as in the Summers and Henston data the per capita income of Pakistan is more than 50 per cent above that of India and the per capita income of China is more than twice of that of Pakistan. Than there is much more to standard of living than income. The great variety of conditions in developing countries is further illustrated in some of the other dimensions. Further, the variations in other indicators are far from perfectly correlated with income per capita whether measured in the standard or PPP manner. For example infant mortality rates in term of deaths of children under one year of age per thousand live births are respectively 31 and 21 for China and Sri Lanka with conventional income per capita of US$ 330 and US$ 420 respectively. Life expectancy in these countries is 70 and 71 respectively and so forth.

The reason for this high performance on this critical dimension appears to be closely associated with public action concerning food, education health services, water supply, sanitation etc. There is a long history of using cross-section data of this type to describe or test the theories of growth. Chenery and his collaborators (1986) have been particularly concerned with cross-section regressions explaining the rate of growth in the tradition of Solow (1957) and Denision (1967). More recently the wide availability of Summers and Hanston data together with a rekindling interest in growth theory has generated a further spate of cross-country regression, notably from Barro (1989a, b). These have shown a worthy concern to bring in more theories and to take account of possible simultaneity. The problem is simultaneity in this context is, almost insuperable – what are these exogenous variables?

Problems of measurement are rampant; nevertheless the results can be suggestive. Growth is positively related to investment and the division between public and private appears unimportant. So called 'mixed economies' have slightly higher per capita growth rates than 'free market economies', but the difference is not statistically significant. An index price dissertation appears to be negatively associated with growth, as is initial GDP per capita and government consumption share of GDP. Measures of political instability proxies by figures of revolutions, coup, and political assassinations per capita per annum are inversely related to growth although when these proxies are introduced the indicator for political freedom which are otherwise positive becomes insignificant, thus the association between liberty and growth emphasized by Dasgupta (1990) must be treated with some circumspection.

The share of GDP of government spending on education and defense appears to be insignificantly related to the growth rate. In all these cases we are speaking about the signs of coefficients in a structural equations designed to explain a per capita growth rate (1960-1985) where some simultaneity are taken into account.[12]

5.9 Relative Purchasing Power Parity

In country comparisons of levels of income are often misleading when they are made by converting the income of various countries into common currencies (US$) through the use of official exchange rates. These nominal exchange rates do not reflect the relative purchasing power of different currencies, and thus errors are introduced into the comparison. The depression of per capita income is exaggerated by systematically understating those poor countries. PPP, rather than exchange rates are the correct converter for translating GDP from national currencies to dollars. In recognition of comparative national price levels, studies by Irving Kravis and his associates have therefore attempted to adjust

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[12] Barrow, R. J. Economic Growth in a Cross Section Of Countries, National Bureau of Economic research, working paper 3120 September 1989

ternational comparisons for the real purchasing power parities of national
urrencies. Nominally the purchasing power of the currencies of a less developed
ountry (LDC) tends to be greater than is suggested by official exchange rates.

.10 Lorenz Curve and Gini Coefficient

he Gini Coefficient is a single measure of relative poverty and the most
equently measured encountered in studies of income distribution. It is based on
 curve fitted to percentile shares, which was developed by Lorenz. Gini
oefficient flows from the Lorenz curve.
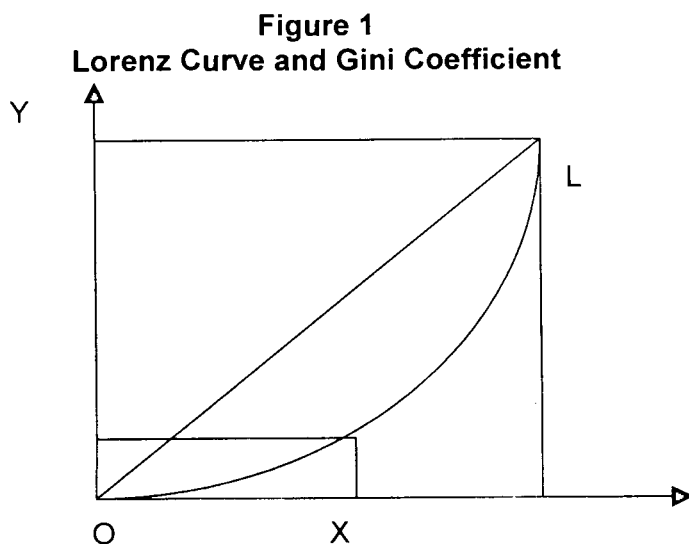
Figure 1
Lorenz Curve and Gini Coefficient

he vertical axis (Y) measures the percentage of income recipients, who are
rrayed in percentile on the horizontal axis. Income recipients are ordered from
oorest to the richest, moving from left to right (on X axis). Thus OX percent of
opulation is the poorest group which receives a percent of income and so on,
iving the Lorenz curve L. Complete equality would occur only if a percent of the
opulation receives a percent of the income. As indicated by the curve of
omplete equality E. The curve of perfect inequality is OGH with a right angle G.
his curve represents the case where one person has 100 per cent of the
ncome. Area A enclosed by the theoretical line of equality E, and the observed
orenz curve L is known as the concentration area or the area of inequality. The
ini coefficient is the ratio of area A to the total area under the line of equality
/A+B. The simplest computation of the Gini coefficient records by taking the
um of the area under all the trapezoids such as WXYZ, and subtracting this
rom the area under E to give the concentrated area. The required ratio than
ollows as a measure of the inequality. Thus 0 represents perfect equality and 1
epresents perfect inequality.

5.11 Inverted U Hypothesis of Inequality

Much attention has been given to how the distribution of income changes in the course of development – in particular, to Simon Kuznet's inverted U Hypothesis. Kuznet advocated his hypothesis that the secular behavior of inequality follows are inverted U-shaped pattern with relative income inequality first increasing and than decreasing in the course of development.

Figure 2

Inverted U Hypothesis
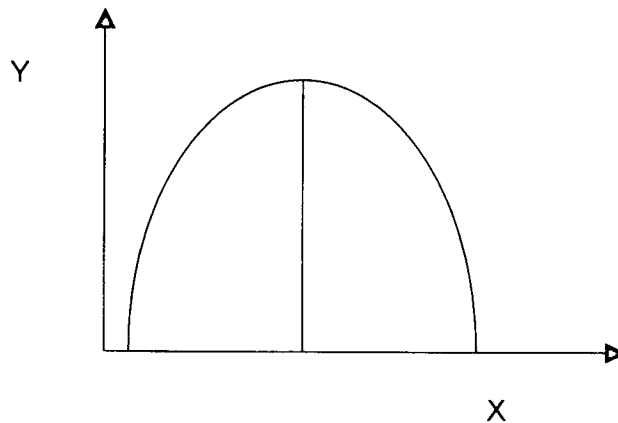
Although Kuznet was careful to indicate the limitations in the empirical evidence, he submitted in his essay "Economic Development and cultural Changes" (January 1963), that there is a long swing in the inequality characterizing the secular income structures, widening in the early phases of economic growth when the transition from the pre-industrial economy is most rapid, becoming stabilized for a while; and then narrowing in the later phases. In Kuznet inverted U curve of income inequality more robust portion lies to the right: income inequality falls with an increase in per capita income at higher levels of development. The variance around the estimated Kuznet curve is greatest, however, from low to middle levels of development.

Kuznet also observed that the size distribution of income in less developed countries was more unequal than in developed countries. Although he stresses the deficiencies and limitations of income distribution data, Ahluwalia in Inequality, Poverty and Development (1983) concludes from his multivariate regression analysis of cross-country data from 60 countries that, one; there is a strong support in the early stages of development, with a reversal of this tendency in the later stages. This position holds whether we restrict the sample to the developing countries or expand it to include developed and socialist countries. Furthermore, it appears that the process is most prolonged for the poorest group. Second, the number of processes occurring along with

development is correlated with income inequalities and can plausibly be interpreted as casual. They are inter-sartorial shifts in the structures of production, expansion in educational attainments and skill levels of the labor force, and reduction in the rates of growth of population. The operation of these processes appears to explain some improvements in income distribution observed in the later stages of development, but not the marked deterioration seen in the earlier stages. Third, the correlation does not support hypothesis that the deterioration in relative inequality reflects a pronged absolute improvement of large section of the population in the course of development. The cross-country pattern shows averages absolute incomes of lower-percentile groups rising as per capita GNP rises, although slower than for upper-income groups. Finally, the cross-section results do not support the view that a faster growth is systematically associated with higher inequality than can be expected given the stage of development achieved.

The inverted U results have been seriously questioned by A. Anand and Kanbur in the Journal of Development Economics (Feb 1993). Their study shows that the results are very sensitive to the measure of inequality and the choice of data set. By making different choices one can get U relationship, inverted U relationship, or no relationship at all.

6. POVERTY IN PAKISTAN – STATISTICAL DATA

According to the World Bank Report 2002, in Pakistan in 1991 survey, population below poverty line in rural areas was 36.9%, in Urban areas – 28.0% and the national poverty line was – 34.0%; where as in 1996 survey, population below poverty line of US$ 1 a day was 31.0%, population below poverty line of US$ 2 a day was 84.7% and poverty gap at US$ 2 a day was 35.0%. In the survey year 1996-1997 Pakistan was 31.2 in the Gini index and the percent share of income or consumption of the lowest 10% of the population was 4.1%, while the percent share of income and consumption of the highest 10% was 27.6%.[13] Average population growth rate of Pakistan in 1990-2000 was 2.5% while density of population was 179 people per square Km. in year 2000. Gross National Income (GNP) of Pakistan in 2000 was US$ 64.6 billion and per capita of the country n the same year was US$ 470. PPP Gross National Income of Pakistan in 2000 was US$ 270.0 billion and PPP per capita income in 2000 was US$ 1,960. Per capita growth rate of GDP of Pakistan in 1999-2000 was 3.4%. Statistical data shows that life expectancy at birth in the country was 63 years in 1999 and under-5 mortality rate per every 1000 births in 1999 was 126. Adult literacy arte in Pakistan for people above 15 years of age was 55% in 1999.[14] World Bank Report 2000 categorized Pakistan as a Low Income Country (LIC)[15] with Gross domestic product in 2000 at US$ 61,673 million and an average annual growth

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[13] World Bank Report 2000 p 235

[14] Ibid. p 233

[15] Ibid. p 241

rate of GDP at 3.7%; value added as percentage of GDP in 2000 for agriculture was 26%, for industry was 23% and for services was 50%.[16]

The Economic Survey of Pakistan 2000-2001 states, "Pakistan's growth performance during the outgoing fiscal year 2000-2001 has suffered from the unprecedented drought situation". "Provisional estimates, therefore suggest that value added in agriculture ahs registered a negative growth of 2.5%. Since agriculture accounts for 25 percent (of GDP) the loss in this sector of such magnitude is bound to affect overall GDP growth detrimentally". "By contrast, the performance of the manufacturing sector in general and large-scale manufacturing in particular has been impressive. These sectors have shown 7.1% and 7.8% growth, respectively". Further the Economic Survey states, "the real GNP grew by 2.4% in 2000-2001 as against 3.5% of last year. With population growth at 2.3%, the real per capita GNP at factor cost has increased marginally by 0.1% as against 1.2% last year".[17]

"According to the caloric-based poverty (headcount ratio), the incidences of poverty declined sharply from 46.5% in 1969-70 to 17.3% in 1987-88". "However poverty has increased significantly in the 1990's – rising from 17.3% in 1987-88 to 22.4% in 1992-93 and further 31.0% in 1996-97. The recent estimates suggest that poverty has further increased from 32.6% in 1998-99 to 33.5% in 1999-2000". "In fact the incidences of Poverty in rural areas has remained higher than urban areas since 1966-67".[18]

Table 2
Poverty in Pakistan – Head Count

Years	Total	Rural	Urban
1963-64	40.24	38.94	44.53
1966-67	44.50	45.62	40.96
1969-70	46.53	49.11	38.76
1979	30.68	32.51	25.94
1984-85	24.57	25.87	21.17
1987-88	17.32	18.32	14.99
1990-91	22.11	23.59	18.64
1991-92	22.40	23.35	15.50
1996-97	31.00	32.00	27.00
1998-99	32.60	34.8	25.90
1999-2000	33.50	NA	NA

Source: Economic Survey of Pakistan 2000-2001, p 54

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[16] Ibid, p 237
[17] Pakistan Economic survey 2002001, pp 1-2
[18] Ibid, p 53

Comparing 1990-91 with 1998-99, the national poverty rate remained almost unchanged between the beginning and the end of the decade .In the intervening years during the 1990s, poverty rates showed high volatility from year to year, and it appears that a steep increase in poverty occurred during the end of the decade. Prior to the 1990s, poverty is found to have declined sharply, particularly between 1984-85 and 1987-88.

The link between growth and consumption poverty in Pakistan can be seen from observing that the later part of the 1980s, characterized by substantial poverty reduction, were also periods of high growth. Since then, as growth in the country slowed in the 1990s, particularly during the later part of the decade, poverty stagnated and some of the earlier gains were even reversed. Disaggregating by region, while urban poverty fell between 1990-91 and 1998-99, rural poverty held at about 36%, widening the rural-urban gap. This is of particular concern because 50% of Pakistanis live in rural areas. In addition, a significant share of the population appear to be at the risk of falling into poverty - vulnerable to a shock like illness or drought - given that in 1998-99, as many as 43% of the total population were concentrated within a small range of 75 to 125% of the poverty line (in consumption terms). The high volatility of poverty rates during the 1990s, especially in rural areas, leads further evidence suggesting vulnerability of a large section of the population.

Inequality trends have also played a part in explaining poverty changes. The period of poverty reduction, namely between 1984-85 and 1987-88, was also marked by the sharpest fall in the index of inequality for the country as a whole. By 1998-99, the Gini was at a level slightly higher than in 1990-91. Inequality in the urban areas increased sharply by 1998-99; irrespective of whether one takes 1990-91 or 1984-85 as the reference period, while rural inequality was reduced slightly.

7. SOCIAL AND ECONOMIC FACTORS CAUSING POVERTY IN PAKISTAN

The following economic and social factors are identified from the household surveys in the 1990s as particularly closely linked to poverty:

7.1 Disadvantageous Consumption Patterns: The poor in Pakistan allocate a larger share of their expenditures towards food, fuel and lighting, especially in urban areas, and consequently spend less on items, such as health care or education, which could boost their long-term earning potential. For instance, the poor spend around 53%, 8% and 3% of their total household budget on food, fuel and education respectively, compared to 47%, 7% and 4% respectively for the non-poor.

7.2 Skewed Pattern of Land Ownership: More than one-half of the rural population in Pakistan is landless. The incidence of rural poverty is the highest

among those who own no land and falls steadily as the ownership of land increases. Over 40% of landless households are poor and together constitute 70% of the rural poor, while less than 3% of households owning 10 acres or more are poor.

7.3 Large Family Size: Only 5% and 14% of Pakistani households with between 1-2 and 3-5 members respectively are poor, whereas this is the case for 46% and 48% of households with between 11-15, and than more than 15 members respectively.

7.4 Poor Educational Attainment: 42% of the population living in households with illiterate heads is poor, compared to 21% of those in households with literate heads- Net primary enrolment rate is 59% for the non-poor, and 37% for the poor, and particularly low among poor female children in rural areas.

7.5 Poor Health and Fertility Indicators: The poor are less likely to access health facilities - the incidence of medical consultation for diarrhoea among children is 79% for the poor, compared to 84% of the non-poor; similar or larger gaps exist in various measures of access to maternal health care. While the rate of contraceptive use is low for the whole country, especially in rural areas, poor women are even less likely to use contraception methods - 15% of married women of age 15 to 49 in the lowest expenditure quintile have ever used contraceptives, compared to 25% of those in the highest quintile.

7.6 Lack of Access to Critical Infrastructure: As many as 24% of the poor rely on potentially unsafe sources for drinking water, compared to 19% of the non-poor; only about 52% of the poor live in households connected to electricity, compared to 76% of non-poor households.

7.7 Vulnerability to Abuses or Power, Weak Rule of Law: Compared to other countries with similar levels of income, Pakistan ranks poorly on indices of graft, government effectiveness and rule of law. On each of these counts, drawing on scale ranging from 2.5 to 2.5, it scores nearly one half a point lower than would be expected. As widely evidenced, the poor are more affected by the costs this imposes.

Such linkages provide some indication of the nature and extent of poverty in Pakistan, not just as a measure of consumption, but also related to human development. Educational attainment and health are among the most valuable benefits of such development and are also important determinants of whether someone living in poverty is likely to improve their circumstances. In aggregate, the educational attainment and health of Pakistan's population is therefore crucial to its ability to grow, and the deficiencies along these dimensions constitute the social gap identified before as he critical constraint to long-term growth and poverty reduction. Evidence from household data offers opportunities to quantity

the trends in education and health in recent years, and permits a systematic investigation of factors that help explain differences in the educational attainment and health. Such analysis would help in explaining the pattern of human development and identifying the critical constraining factors, which would in turn inform a discussion on the kind of policy interventions necessary to address the social gap in Pakistan.[19]

8. EDUCATION IN THE 1990s

Among the salient trends noted for the 1990s is the fact that progress has been slow, especially during the later part of the decade. The primary gross enrolment rate (GER), after improving until the middle of the decade, stagnated. A GER of 69% around 1998-99 was well short of the target of 88% by 1997-98 set by the country's ambitious Social Action Program. Since 1995-96, GERs have stagnated or even fallen (for males) in rural areas. Throughout, enrolment showed significant rural-urban differences, and while the gender gap closed slightly, this was unfortunately in part due to some declines in male enrolments.

Primary net enrolment rates (NERs) - a better measure for educational attainment tell an even darker story. Primary NER for the entire country was 51% in 1998-99, which included a large rural-urban gap (67% to 45%) and a sizeable male-female gap (57% to 44%). Primary NER for girls in rural areas is as low as 36%. The gender gap persists across the rural regions of all the four main provinces, with rural Sindh and Balochistan evincing particularly low female enrolments.

Educational attainment is closely related to poverty, with large gaps in literacy and enrolment rates dividing the poor and the non-poor. Comparing between 1991 and 1998-99 gross primary enrolment ratios for 1998-99 are lower than those in 1991 for all the lower expenditure deciles. A similar story is found to apply to secondary enrolment rates also. In fact for both primary and secondary enrolments, large improvements in enrolment over the period can be seen only for the highest expenditure deciles, indicating rising inequality between the rich and the poor in educational attainment.

The rich-poor gap in educational outcomes is also reflected in detailed enrolment profiles. The proportion of children who have never attended school is much larger among the poor (52%) than the non-poor (31%). Poor children are also likely to fare badly among those who have attended school, with relatively higher dropout rates, and greater proportions attending grades lower than those appropriate for their age. This points to a combination of factors like late entry into school and greater likelihood of grade repetition, hindering educational attainment of poor children.

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[19] Ibid, pp 55-58

In important issue in the context of Pakistan is an observed increase in the share of the private sector in schooling over the years - private share in primary enrolment increased from 14% to 23% and that in secondary enrolment from 8 to 17 %, between 1991 and 1998-99. The increases were spread out over all expenditure deciles, e.g. private share in primary enrolment increased from 5 to 10% for the lowest deciles and from 35 to 60% for the highest deciles. Between 1991 and 1995-96, enrolment in non-government primary schools increased by 70% compared to 4% for government schools.

Education is thought to widely impact the economic status and welfare of household members. The issue of how education matters are especially relevant for Pakistan given that the spread of education has been slow and marked by wide disparities. Evidence from household data suggests that literacy and education have positive impact on labor earnings in Pakistan, albeit with some variations across genders and urban/rural regions. In addition, education yields strong externalities within households. Simple correlations suggest such externalities on the social dimension: infant mortality rate is 34% points lower for infants born of women with some education than for those born of women with no education; enrolment rates are higher, and gender differences in enrolment arc significantly lower for children with literate mothers. Regression analyses reveal that education externalities also impact earnings; education of household members is found to have a significant positive impact on labor earnings, especially for non-literate males employed in the non-agricultural sector.

The presence of intra-household externalities carries a powerful policy implication - namely, the importance of the spread of literacy and education among the population. A household with no education may benefit from even one member gaining access to education beyond the immediate gains to the particular member in terms of improvements to health and education of children, as also in better earning opportunities for other members in the immediate future. There is a gender dimension however - women seem to benefit less from such externalities than men do, suggesting that intra-household distribution of such benefits is less in favor of women. This underscores the need for policy measures to recognize the importance of intra-household behavior and social norms in the distribution of economic and social benefits among household members.

Access to schooling facilities can play a crucial role in school participation, especially since the availability and quality of public schooling have long been thought to be critical constraints to educational attainment in Pakistan. From the PIUS (1998-99), around 79% of the rural population of the country is found to live in villages where there is at least one primary school for girls within I km. distance. For 12% of the rural population, the nearest school is at least 6 km. away. Even the mere availability of a school is seen to be strongly associated with school participation: primary NER for girls is 43% among households living

rural areas with a primary school for girls within 1 km. distance from the village, compared to around 13% for the rest of the rural population. Similar patterns are observed for net secondary enrolment for boys and girls alike, and across almost all provinces.

A multivariate analysis of school participation confirms the importance of economic status, parents' education and access to school facilities in determining the probability of a child attending school. The probability of a child attending school increases significantly as he/she belongs to a higher expenditure group. Having a mother who attended school makes it 23% more likely for the child to attend school than one who docs not; the corresponding figure is 16% for having a father who attended school. For rural subgroups, the probability of a girl child and a boy child attending school is increased by 15% and 22% respectively by the presence of a primary school within 1km. of the village.

The fact that the mere presence of a school within a short distance is associated with higher enrolment rates speaks for the need to expand access to schools, particularly for women. At the same time, the mere presence of a school facility is not enough to ensure better education. Outcomes; for example, in spite of near-universal physical proximity to at least one primary school for boys, primary enrolment rates among boys in rural areas was only around 71% in 1998-99. While this would be the result of a combination of complex demand and supply-side factors, poor quality of existing schools, related to governance problems, is likely to be an important one. The focus of an education strategy should be on institutional reforms to expand availability, as well as improve quality of education facilities.

. HEALTH IN THE 1990s

While various health indicators in Pakistan have shown improvements as compared to the beginning of the decade, most indicators still compare poorly with countries with similar levels of income. Overall, health indicators for Pakistan tend to be much worse in rural areas than in urban areas, and for the poor relative to those better off; they also tend to improve with women's education and where relevant, with access to safe water and sanitation.

Infant mortality (per 1000 live births)-mortality rate among infants of age 1 or less of 83 in 1998-99 compares favorably with 127 in 1991. There exists a large rural-urban gap, and an even larger gap between infants born of women with some education, and those born of women with no education. Infant mortality rates are also significantly lower for households with access to proper sanitation facilities.

Statistics on pre and postnatal care, and the conditions surrounding childbirth provide critical information on the status of female health. Incidence of pre-natal medical consultation among married women (of age 15-49) is found to be low in

general (31%), with very large differences between rural and urban regions, and within regions among various expenditure groups as well as literacy status of women. Similar patterns are observed for oilier indicators, like proportion of deliveries unassisted by trained personnel, and incidence of post-natal consultation.

Finally, although the knowledge of contraceptives has increased sharply from 1991 to 1998-99 (38% to 92%), the increase in actual use of contraception (10% to 20%) has not been proportional to the expansion in knowledge. As expected, there are wide differences in use of contraception, by rural and urban areas, economic status and the woman's education.

Just 69% of the rural population of Pakistan lives in villages that have some health facility or trained health worker. Availability of all kinds of health facilities tends to be higher for those in the higher expenditure deciles, which would accentuate the sharp differences in health outcomes between the poor and the relatively well off. This seems especially likely, given that access to facilities is associated with health status. The whole range of health indicators, from infant and child mortality rates to indicators of female health, are found to be better for villages where there exists a hospital, dispensary or clinic, or for that matter, any health facility or health worker.

The fact that even without controlling for quality, availability of facilities seem to matter for health indicators, suggests that expanding access towards more universal coverage should be imperative for public policy. Moreover, just like in education, quality of health facilities is a critical factor: evidence from other sources indicate serious questions about the quality of service provided by public facilities, especially in rural facilities like the Rural Health Centers and Basic Health Units. Thus expanding the availability of health facilities must also be accompanied by measures to improve quality of service, through institutional reforms that address accountability problems of those responsible for service delivery.

10. THE ROLE OF GOVERNANCE IN SERVICE DELIVERY

Two principal factors can be seen to contribute to the failure of universal, public education in Pakistan- First, elected officials have more incentives to provide targeted benefits to specific individuals or groups, rather than public goods to a wider and more anonymous set of beneficiaries, of which universal public education is an example. These incentives arc partly explained by the unique set of informal rules of political competition that prevail in rural areas in particular, driven by the ease with which political competitors can identify their supporters and target them with benefits. The distance between communities in rural areas makes the value of targeted benefits greater- also, since rural areas arc dominated by voting blocs; patronage is a far more effective strategy than quality

public good provision. Thus educational inputs in Pakistan flow in a manner more consistent with the patronage model: schools are built for the jobs and profit opportunities that construction provides; teacher postings arc based less on merit and more on how best to provide jobs to supporters. There are, in contrast, few incentives to increase access or to promote accountability of service providers for the quality of education.

Second, many Pakistani households, relative to households with similar incomes in other countries, seem to place a low value on education - particularly the education of girls - so that there is little political incentive to enhance the access of girls to education. Evidence indicates that there are significant social and cultural barriers to education for girls, to the extent that education for girls is considered harmful by a significant number of households. From the point of view of elected officials, pushing for expanded access for girls to existing educational facilities is not only of limited political utility, but presents real political hazards. These attitudes also have implications for institutional reforms such as decentralization. Improving the accountability and incentive mechanisms of public service delivery is one of the primary objectives of the comprehensive plan of devolution being implemented in Pakistan. The plan aims to reform an over-centralized government in order to improve decision-making, accountability and service delivery, it envisages creating full-fledged district governments with legislative and financial powers, serving below the federal and provincial levels. This structure will have three tiers, with direct popular elections to the first level (the Union Councils), and indirect elections for key decision makers (by an electoral college comprising of the Union Council members) at the Tehsil and district levels (Tehsil and Zila Councils respectively). The devolution effort can be expected to succeed only to the extent that it solves fundamental governance problems that have bedeviled earlier efforts to improve service delivery. In particular, devolution will succeed if local government officials exhibit a notably greater interest in improving the provision of public goods than in targeting private goods, and if they are better placed to overcome parental resistance to the education of girls.

Preliminary analysis suggests some reason for optimism on the first count, and some reason for pessimism on the second. The optimism stems from the possibility that the institutional changes introduced by devolution arc likely to reduce patronage incentives. The second reason for optimism is that with devolution, there arc potentially more checks operating on officials who try to provide patronage. Devolution may, therefore, provide a positive change to the incentives of government decision makers regarding delivery of public goods-however; a necessary precondition for such optimism is that the elections at the local level be competitive.

It is less likely, however, that devolution can solve the problem of obvious and significant resistance to standard forms of educational provision for girls, among

numerous households and communities. Experiences in other countries suggest that when incentives of local governments are low or even perverse due to significant local opposition to reform, the involvement of higher-level governments becomes necessary. Interventions to overcome lack of local incentives can take different shapes: outright subsidies to households to send their daughters to school would be one example, another would be cross-sectoral incentives to districts, perhaps in the form of provision of goods that are heavily demanded.

Any poverty reduction strategy for Pakistan must focus on the rural economy, given that two-thirds of Pakistan's poor reside in rural areas and their poverty is both deeper and more severe than urban poverty. Moreover, such a strategy should be informed by a detailed micro-level analysis of the important constraints that operate in the rural economy. While the lack of suitable data at present limits the scope of such an analysis, what follows is an attempt at briefly summarizing the important issues, which would help identify a set of challenges critical for a rural strategy to address.

Most rural households depend on agriculture for their livelihoods, either directly or indirectly, and the bulk of non-farm economic activity in the countryside is also closely linked with agriculture. Given that, of particular concern is the apparent inability of whatever increases in agricultural productivity has occurred to alleviate rural indigence in recent years. While agricultural productivity grew about 4.8% over the 90's, outpacing population growth rate of 2.5%, rural poverty of about 36% in 1998-99 was unchanged from that in 1990-91.This suggests a rather weak link between agricultural productivity and rural poverty. This can be partly explained by evidence suggesting that excessive fluctuation in agricultural productivity and/or prices during the 1990's affected the consumption of poorer households disproportionately. As noted before, there was substantial volatility in the growth rate of value added in agriculture from year to year and changes in rural per capita consumption and poverty appear to correspond to these fluctuations. This suggests that income risk arising from production uncertainly may be a cause of substantial vulnerability to poverty in rural areas. Indeed, there were a number of natural disasters over this period, compounded by fluctuations in the price of exports. Vulnerability from exposure to income risk is likely to vary by the asset holdings of households, as well as by access to markets, like credit, which can serve to dampen the effects of income volatility. It needs to be understood; therefore, how access to assets and markets varies across rural households and what is its impact on poverty dynamics. Moreover, when markets are incomplete or absent, the distribution of assets within an economy can have a direct bearing on a household's ability to diversify between income generating activities, and to undertake productivity enhancing investments.

A highly skewed pattern of distribution of assets, notably land, is one of the important reasons behind the vulnerability of a large number of rural households. This is especially true given that formal credit markets are highly imperfect, necessitating the use of land as collateral. More than one-half of the rural population in Pakistan is landless, while 2.5% of landowners control over a third of agricultural land, in holdings that exceed 50 acres. As expected, the proportion of land owned increases steadily with economic status. Also, the incidence of rural poverty is the highest among those who own no land and falls steadily as the ownership of land increases. Moreover, despite population pressure and inheritance practices, the distribution of land has not become more equitable over time.

Inequity in land ownership is also one of the reasons why overall agricultural yields in Pakistan remain below that of other countries with similar resource endowments, the impact on productivity can occur in various ways. First, there is evidence from a number of developing countries, including Pakistan that as farm size increases, productivity falls. One reason for this is high labor supervision costs that encourage large farmers to reduce cropping intensity. Second, while land rental markets increase access to land, the form of tenure on land can have a significant impact on productivity, the incomes of tenants, and investment incentives. Share tenants are likely to be less productive than owner or fixed rent tenants, since any productivity gains must be shared with the landlord; the lower returns to tenants also add to poverty. The prevalence of share tenancy, even in irrigated areas where production risks are low, points to imperfections in other markets, specifically the credit market, and limited opportunities for income diversification by the poor.

Available evidence also strongly indicates that the relative absence of financial instruments to manage risk is a significant determinant of rural poverty. In the 1990s, rural financial markets seem actually to have thinned, with much slower growth in institutional agriculture credit compared to the previous two decades. Agriculture credit as a percentage of agriculture GDP actually declined from 5.2% during 1991-95 to 4.7% during 1996-2000. Other trends - a decline in the number of bank branches, a negative real deposit rate (average of—1.6% between 1995-99), and a fall in the share of commercial lending in total agriculture credit - also confirm a thinning of rural financial markets. During this period the dependence of tenant farmers on non-institutional or informal sources of credit increased, while both owner and owner-cum-tenant farmers enjoyed improving access to institutional credit, chiefly from Agriculture Development Bank of Pakistan (ADBP).

Overall, the evidence indicates that access to institutional credit is severely restricted, and the bulk of cultivator households arc simply access rationed out of the market. In the face of such credit constraints, landless tenants would be driven to opt for share tenancy contracts, thus further worsening the productivity

implications of inequitable land ownership. Moreover, the increasing cash costs of production, due to rising input prices, have increased the credit, needs of farmers, in the absence of a timely source of institutional credit most small farmers rely exclusively on informal lenders who charge high interest rates and often tie loans to the marketing of crops, thus further reducing the net returns to farming. All these factors combine to reduce the incentive and ability to invest to increase yields in agriculture on the one hand, and the ability to mitigate risk on the other.

Another key constraint to agricultural productivity is availability of adequate water for both irrigation and domestic use. Due to a somewhat arid climate and inadequate water resources cultivation in Pakistan is overwhelmingly dependent on irrigation. Since any further increase in agriculture productivity requires increased water availability, an expansion in production depends on improving the efficiency of the existing irrigation system. However, current water use patterns are wasteful, disproportionately punitive on the poor, and impose large costs on the economy. Notably, given the limited scope for major increases in water supply in and outside the Indus basin, improvement of efficiency of currently available water use remains the only viable option for increasing productivity of irrigated agriculture in Pakistan in a sustainable way.

The inequality in land distribution and thinness of agricultural labor markets in Pakistan suggest that the non-farm sector is highly important for the livelihood of the poor, as well as for diversifying their income sources to reduce vulnerability. Identifying growth opportunities in the non-farm sector should thus be a primary concern.

There is also evidence that public policies have had undesired effects. Over the years, ad hoc interventions in agricultural markets, presence of a large and inefficient public sector, high protection, and improper regulations of the agro-processing sectors have bred large inefficiencies in agricultural marketing and processing, costs of which are frequently shouldered by the farmers. While Pakistan's overall macroeconomic policy framework moved significantly in favor of agriculture during the 1990s, as the country moved from a policy of fixed exchange rate to a policy of managed float and liberalized its trade regime significantly, significant policy distortions still remain. The slow pace of liberalization in the domestic output markets and a policy of keeping prices of major crops below their parity levels have caused the terms of trade to move sharply against agriculture, squeezing both farmers' income and incentive to invest in yield improvement. Also, the current cascading tariff structure accords higher protection to the manufacturing sector at the cost of intermediate goods and exports for which agriculture remains the most important supplier. Moreover, government intervention in the shape of support prices does little to protect poor farmers and in fact may end up penalizing them, as evidenced for instance by significant rent seeking in wheat procurement.

istorically Pakistan has relied almost exclusively on achieving rural poverty eduction through increased agricultural productivity and policy interventions, anging from price supports, input subsidies, and preferential access to low cost redit, to public investments in infrastructure. While the effectiveness of most of lese strategies has come under question, it is difficult to provide concrete policy ecommendations without a more complete analysis, based on the requisite data.

here is a need for broad-based and coordinated policy reforms, which should eek to address some critical areas. First, it will be of critical importance to create ssets for the poor, given the negative impacts of highly unequal distribution of nd and other key assets on investment and productivity. Any concomitant terventions need to address the reasons why major previous attempts at land eform have neither succeeded in affecting redistribution, or ensuring security of enure, and did in fact entail adverse consequences for the rural poor. Second, iven the severe restrictions on institutional credit, improving access to credit is nother critical area for public intervention - a difficult challenge in an nvironment where asset inequality is severe. One approach that many countries ave adopted, and that Pakistan is moving towards, is micro credit. While this epresents an enormous opportunity, there is a need to understand carefully the trengths as well and constraints of micro-finance institutions (MFIs). A third riority area for public policy should be improving opportunities in the labor-ntensive non-farm sector. A fourth challenge would be to improve public xpenditure and management of agricultural infrastructure and resources, articularly water resources. In this context, there is a need to rationalize xpenditure administration providing incentives that induce private investment in vater and land management. These can be done in a framework of a community riven development process that encourages decentralized decision-making and tructures of responsibility.

1. RURAL ECONOMY

mproving productivity and reducing poverty and vulnerability in the rural region vill require strong improvements in access to land, credit, infrastructure - articularly water, as well as expansion of opportunities in the non farm sector. A eassessment of land reform efforts in Pakistan is clearly needed, with previous eforms having been largely unsuccessful, and indeed hurting many marginal armers. Notably, tenancy still persists in about 70 percent of cropped area in indh, which is characterized by stronger feudal power. In light of the failure of ormal banking institutions in rural finance, improving access to credit will likely equire both encouragement and evaluation of the variety of NGO and micro redit institutions, modeled on the Agha Khan Rural Support Project (AKRSP), hat have come up in Pakistan in recent years. While their lending model ddresses fundamental market failures in credit markets, there are outstanding uestions about their long-term solvency and impact.

In regards to the extension of water provision and irrigation, the government's water management program has so far focused on creating additional storage capacity through dams, canals and lining of watercourses. However, the long run benefits of this appear likely to run into diminishing returns. There is however a clear need to rationalize the public delivery system, increase public investments in the management of land and water resources, and to create an environment which encourages private on-farm investment and the rational and equitable use of rural resources, involving substantial community organization and participation.

12. URBAN ECONOMY

In urban areas meanwhile, the most urgent need for intervention is to mitigate vulnerability through social protection. While some amount of poverty reduction occurred in urban areas in 1990s, mainly due to growth in consumption, the growth would have had much greater impact on poverty in the absence of the considerable increase in inequality that was also been observed. The primary challenges in urban areas therefore consist of expanding growth opportunities on the one hand, and enable the poor to benefit from the growth process on the other. In that context, expanding opportunities in the informal sector will be important since a vast majority of the urban poor is employed in that sector. Access to credit, and lack of technical know-how are the major bottlenecks in the informal sector that must be addressed to improve productivity. There may be a role in this context for informal, community-driven approaches, based on principles similar to micro finance initiatives in rural areas.

One of the more neglected, yet important correlates of urban poverty is the lack of adequate housing 40 to 60% of the urban population lives in katchi abadis or non-regularized subdivisions of agricultural land. Since they lack a clear title to land, they cannot access formal long-term credit for housing, e.g. from the House Building Finance Corporation (HBFC). Government housing programs have been relatively unsuccessful in tackling this problem, due to a variety of reasons, including lack of trust of government on the part of beneficiary, lack of community participation, and lack of capacity and capability in the implementing agencies. In addition, there are no avenues for credit available to low-income groups and the poor for housing. More successful have been programs like the Orangi Pilot Project (OPP). A key feature of their success is that they have relied on community's involvement to finding solutions to housing problems, accessing the services of the line departments and networking with the technical experts. Notably, since PIHS data does not cover the urban informal sector and slum settlements where most of urban poverty exists, obtaining such data should be a priority for the future.

3. EDUCATION AND HEALTH

The key concern that emerges from the discussion so far is to do with access to education and health facilities. Better outcomes in enrolments (especially in rural areas and for females), infant and child mortality and proxies for, maternal health are all associated with the presence of facilities within a relatively short distance from the community. While the data does not allow one to explore the quality issues with service delivery, evidence from other sources suggest that lack of quality and functionality of existing facilities, for obvious reasons, are further constraints to human development. Thus in order to improve the status of human development in Pakistan, it will be imperative to increase the availability of facilities, along with correcting the institutional failures that have hampered quality of service delivery in the past.

However, while finances are a constraint, the mere availability of funds will not ensure significant improvements, as seen from the experience of the Social Action Program (SAP) in the recent past. SAP was launched in 1992/93, with the aid of donor financing and technical assistance, with the objective of social development in four target areas - elementary education, basic health care, family planning, and rural water supply and sanitation. The program has had some successes: improvements have occurred in health indicators, access to related infrastructure, immunization and availability of Lady Health Workers. However, the gains have been marginal, and especially so in education which has been the major area of focus. The program appears to have succeeded more in terms of enhanced funding and more physical facilities, rather than in ensuring delivery of quality services by creating accountability. Consequently, the impact on enrolments and other measures of school attainment have been highly limited, as evident from the trends described before.

One reason for these disappointing outcomes is the politicization of the distribution of benefits under SAP. Not only was there tampering with the agenda of implementation, but the mechanisms through which SAP was sought to be implemented provided powerful vehicles for patronage, lo the detriment of community participation and often in direct conflict with the planned goals.

Ongoing reforms in Pakistan have sought to address some of the critical constraints in education service delivery, by focusing on the core institutional factors that have limited the success of efforts like SAP. The government's Education Sector Reform strategy emphasizes national assessments and training, specifically aimed to close the "achievement" gaps that arise out of poor standards and lack of qualified teachers. The devolution plan, on the other hand, is in the large part expected to address accountability issues in service delivery, including education and health. The institutional changes introduced by devolution could increase the incentives of local government to improve service delivery, weakening the systems of patronage that have often dominated in the

past. Yet it is clear from both domestic and international experience that devolution is no panacea. More information is needed, and it is clear that the impact on education and health will only become apparent over a longtime horizon.

The increased role of private schools in Pakistan, though yet insufficiently studied, may offer opportunities for public-private partnerships, especially in urban areas where private schools are relatively prevalent. While private schools arc naturally more likely to attract the relatively well off because of cost considerations, in selected areas there may be a role for providing public subsidies - either in the form of vouchers to parents for the education of children at selected private schools, or as direct subsidies to private schools that encourage school enrolment of poor children. One example is the Quetta Urban Fellowship Program, where private schools controlled by the community in poor urban neighborhoods were encouraged to establish new facilities for girls through subsidies paid directly to the schools. The program had a positive impact on female enrolments, increasing girls' enrolment in the target neighborhoods by around 33%. The arguments in favor of such subsidies are that private schools are more efficient and that public-private competition tends to improve quality.

In the area of health, a specific concern relates to reports from various sources that indicate limited progress in preventive health care. According to PIHS (1996-97), only about half of the children in the country were immunized in 1996-97, including only about 40% of children belonging to households in the lowest income quintile. In view of such shortcomings, the government's medium term health strategy is rightly focused towards raising public sector health expenditures, concentrating on prevention and control programs, especially in the area of reproductive health, child health, nutrient deficiencies and communicable and infectious diseases. Programs include adoption of strategies against TB and malaria, measures for preventing the spread of Hepatitis B, HIV, and AIDS through immunization and public health campaigns. It also promotes targeted interventions that focus on disadvantaged sections of society, especially in rural areas, through programs like Lady Health Workers Program and Women Health Project.

14. SOCIAL PROTECTION

Given the Pakistani government's institutional and financial constraints, the social protection strategy for the immediate future has to involve existing programs like public works, targeted assistance, and programs that involve tile use of informal community-based institutions. This requires improving or finding alternatives to existing formal programs.

The principal formal program in Pakistan lakes the form of cash transfers to the poor through the publicly administered Zakat system. Zakat can be thought of as

a wealth tax, deducted at source and paid in to a central fund, from where it is disbursed to provincial Zakat funds, to be then divided between local committees for disbursement to individuals. Studies have concluded that the impact of Zakat funds on poverty and vulnerability has been very limited, mainly because of the relatively small amount of aggregate transfers- Zakat collections as a proportion of GDP amounted to only 0.2 percent by 1992-93, so that even if all the benefits had gone to the lowest quintile of households, the income of this group would have been augmented by only 2 percent. Moreover, there is evidence of mis-targeting. Estimates based on HIES data indicate that in 1996-97, only around 29 percent of the direct benefits went to the bottom expenditure quintile among households. One of the reasons for inefficient targeting is to do with problems in identification of eligible beneficiaries, partly due to patronage at the local level. The system of collection and disbursement of Zakat has been recently reorganized to improve their efficacy, by strengthening the institutional framework for implementation, and monitoring of the program, and by raising the amount of grants to beneficiaries. The revitalized Zakat system will also provide funds to beneficiaries not only to fulfill basic needs but also to rehabilitate them, by assisting in small-scale commerce or other means of suitable livelihood.

Unlike in other countries, public works programs in Pakistan have failed to smooth consumption in periods of high unemployment, in part due to their capture by patronage politics. Examples of such programs are the Rural Works Program (1962-72), and the Peoples Works Programs (1972-83). In this context it is encouraging that the government's recent Khushal Pakistan Program incorporates active community participation in program selection. Funds are allocated under the Program to the districts through provincial governments, the schemes under the program are identified and selected at the district level through active community participation, and the projects are managed and implemented in partnership with the communities.

Micro finance offers considerable promise, yet at present, the micro finance programs that exist in Pakistan are unable to cover a vast majority of the poor. The main impetus to micro finance has so far come from the NGOs, primarily the rural support programs. In view of the heightened demand for micro credit in poor communities, the Government and donors have realized the need for ensuring the supply of sufficient funds on a sustainable and institutionalized basis. To channel the funds, two major on-lending institutions have been set up, distanced from the Governmental bureaucracy through the involvement of the NGOs and the private sector. While the Pakistan Poverty Alleviation Fund (PPAF) has adopted the method of wholesaling credit through selected NGOs, the Khushali Bank initiative has incorporated retailing credit to the individual borrower through a newly created micro credit bank with the cooperation of nationalized commercial banks and local organizations.

For the long-term sustainability; of micro credit, as well as to create conditions conducive to scaling up these programs, links between such institutions and formal markets must be strengthened. In keeping with this objective, The State Bank of Pakistan (SBP) has envisaged licensing of three categories of micro credit institutions at national, provincial and district levels, as public or private limited companies. This will enable them to raise capital, and generally exploit opportunities in the formal sector. Given that these institutions will not be subject to the same degree of surveillance by the SBP as other banking institutions to allow them the needed flexibility in the operations, it would be necessary to develop a regulatory framework suitable for them. Moreover, in order to eliminate inefficiency and reduce the costs of delivery of borrowed funds, there may also be a need to foster competition in the micro finance market. Integrated public policies can support such efforts by providing technical and financial support in the startup phase, and in the long term by creating an enabling legal and regulatory framework for such institutions.

What framework of action is needed to effectively reduce poverty in all its dimensions is up to the national government and economy to decide upon its policies and objectives of the strategies. Poverty is the outcome of economic, political and social process that interacts with and reinforces each other in ways that can worsen or ease the deprivation of the poor. In order to attack poverty requires promoting opportunities, facilitating empowerment, and enhancing security. This action has to be taken at local, national as well as global level. Making progress on all three levels can only generate the dynamics for sustainable poverty reduction. According to the World Bank report 2000 (Attacking Poverty) the scope of action in three areas – opportunity, empowerment and security.

Economic Growth is essential for expanding economic opportunities for the poor. Key in expanding economic opportunities for the poor is to help build up their assets. Human capabilities such as health and education are also powerful tools, which affect the material well being of the poor. Also important are the material prospects of the poor is ownership of (or access to) land, infrastructure, and financial services. Social assets important to the poor would include, social networks like family ties and traditional networks which should not be dismantled due to the modernization process.

Absolute poverty can be alleviated if economic growth occurs on a sustained basis, and, that it reduces income distribution. Poverty cannot be reduced if economic growth cannot occur. Poverty can also be reduced by increasing the productivity of the poor, either by investing more on education, especially at the primary level or by expansion of their access to physical and financial capital. Investment in education creates economic opportunities. Along with education, improvement in health status and nutrition directly address the worst aspects of poverty.

While sound macroeconomic policies and growth-enhancing structural reforms favor the poor, poverty reduction feed back positively into growth. Income distribution also matters. Reducing income inequality will increase the number who benefits the same rate of economic growth. Spanning social, economic and fiscal difficulties, the country's current predicament is not rooted in a discrete set of policies amenable to rapid rectification, but in structural factors linked to issues of governance. It is within this context of a broader failure of policy that one should understand Pakistan's inability to take sufficient advantage of the growth that it has enjoyed in the past, to attract investment, build enough infrastructures or to promote adequate advances in social indicators. Over the past decade, stagnating poverty and a persistent, even widening social gap are direct legacies of these failures.

Expanding economic opportunities for the poor indeed contributes to their empowerment, but efforts are needed to make state and social institutions work in the interest of the poor. Formal democratic process is part of empowerment. It is needed to mobilize the poor in their own organizations to hold state institutions accountable and ensuring the rule of the law in their daily lives for empowerment to work for the poor. Social interaction between individuals and communities also has an important influence on poverty reduction. Confronting gender inequalities is a fundamental part of reducing poverty and enhancing empowerment.

Also enhancing security for the poor means reducing their vulnerability to such risks as ill health, economic shocks, and natural disaster and helping them cope with adverse shocks in their daily lives when such shocks occur. Supporting the range of assets of the poor – human, natural, physical, financial, and social – can help them manage the risks they face And supporting the institutions that help poor people mange risks can enable them to pursue activities that can lift them out of poverty. The issue again is whether public intervention, institutions and law enforcement works for and in the interest of the poor people. The tools like health insurance, old age pensions and assistance, unemployment insurance, other such programme both in the public as well as the private sectors, social funds, micro financing programmes, and cash transfers are safety nets hat should be designed to support immediate consumption needs as well as to protect the accumulation of human, physical, and social assets of the poor.

Most importantly, there has to be both micro level as well as macro level short term policies in order to directly or indirectly influence poverty reduction and building up of above named safety nets as well as long term progarmmes and policies that help reduce and eradiate poverty in the country. When importing experiments from other nations it should be taken into consideration that the already in place social, political, and economic safety nets in the country should not be disturbed, on he contrary new measures and policies should reinforce these safety nets.

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AN ANALYSIS OF CAUSATIVE FACTORS OF EXPORT VOLATILITY IN PAKISTAN

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ABSTRACT

The study analyzes the relative importance of different demand and supply side factors of export performance for Pakistan. Using time series data, a single equation model has been developed and the regression analysis are done both in linear as well as double log form. Findings show that Pakistan's export function is predominantly dependent upon supply side variables like Domestic GDP, Relative Price of Exports, Exchange Rate and Manufacturing Value Added. Since, Pakistan's export function is dominated by supply side factors therefore improvement is needed in demand side factors.

1. INTRODUCTION

International Trade has played a critical role in the ability of countries to grow, develop and be economically powerful throughout the history. International transactions have been becoming increasingly important in recent years as countries seek to obtain the benefits that accompany increased exchange of goods and services. The relative increase in the importance of international trade makes it increasingly imperative that we all understand the basic factors that underlie the successful exchange of goods and services and the economic impact of various policy measures that may be proposed to influence the nature of international trade.

Exporting activity is of extreme importance for nations for it contributes to the economic development. It influences the amount of foreign exchange reserves as well as the level of imports a country can afford, while shaping public perceptions of national competitiveness. Additionally, exports enhance societal prosperity and help national industries to develop, improve productivity and create new jobs. Abroad, exports enlarge consumers' accessibility to a diversity of goods and services, and improve the standard of living and quality of life.

It is a reality that nations cannot live alone effectively. No country in the world can produce all that it needs. Many countries are heavily dependent upon foreign countries for supplies of important commodities. Each country tends to specialize in the production of those commodities it can produce more cheaply than other countries and then exchange its surpluses for the surpluses of other countries. The relative difference in factor endowments, technology and tastes, among the nations has greatly widened the basis of international trade. International trade

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accounts for a substantial amount of the economic activity within the world economy. Being aware of the existence and importance of gains from trade nations often move to liberalize international trade. The developing countries, which effectively adopted the "outward looking" policies, have experienced a more rapid economic growth. So, the basic reasons for international trade are:

- Countries can obtain goods from abroad that they cannot produce at home.

- Goods that can be produced at home can be obtained at lower cost from other countries.

Trade is not only the primary source of realizing the benefits of globalization but it also permits more people to live, to gratify varied tastes and to enjoy a higher standard of living.

There exist competing strategies regarding international trade. An *"Inward-Looking Strategy"* is an attempt to withdraw, at least in the short run, from full participation in the world economy. This strategy emphasizes *"Import Substitution"*, that is, the production of goods at home that would otherwise be imported. This can economize on scarce foreign exchange and ultimately generate new manufactured exports without the export difficulties of primary products. This strategy uses tariffs, import quotas, and subsides to import - substitute industries and such other measures. But this policy reduces competition and thus the incentives to compete. In contract, an *"Outward-Looking Strategy"* emphasizes *"Export Promotion"* that is, participation in international trade by encouraging the allocation of resources without price distortion. This strategy uses policies such as export subsidies encouragement of skill accumulation in the labour force and the use of more advanced technology and rebates to generate more exports. It means that *"Export Promotion Policy"* is the application of production according to the comparative advantage.

1.1 The Behaviour of Pakistan's Exports: Some Salient Features

Despite having the potential, Pakistan's export performance has remained sluggish over the years. The graph below highlights the role played by the export sector in overall foreign trade performance of Pakistan.

Exports have grown from a small base of around $ 200 million in 1947-48 to about $ 8 billion during the second half of 1990s. Historically speaking, exports have always remained heavily loaded in the second half as compared to the first part of the fiscal year. After stagnating at around $ 8 billion, exports crossed $ 9 billion mark in 2000-01 and registered an increase of 7.4 percent. During 2001-02 though exports crossed $9 billion mark again but this time registered a

negative growth rate of -0.73 percent. During 2002-03 exports gained momentum and Pakistan witnessed a very healthy growth of exports.

Figure 1

Pakistan's Foreign Trade
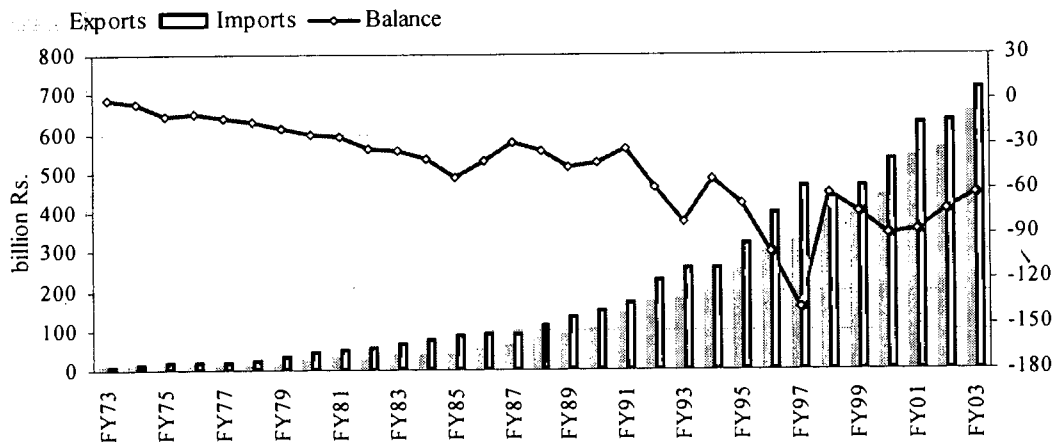
Exports grew at a higher rate of 22.17 percent thus crossing $ 11 billion mark. Major factors responsible for this higher growth rate are: an increase in the unit value of exports, stable and improved macroeconomic environment, better access to the major markets of the US and Europe, a decrease in the refinance rate following the Export Finance Scheme and a stable currency environment.[2] However the continued trade deficit depicts that exports have not played a significant role in improving our trade balance.

1.1.1 Commodity Concentration of Pakistan's Exports

Pakistan exports have remained highly concentrated in few items. This narrow base of products exported from Pakistan is a serious policy concern. High degree of concentration of exports in few items has led to severe instability in export earnings. The narrow base and lack of diversification in our export bundle have made the country vulnerable to external shocks. Five major groups of cotton, leather, rice, synthetic textiles and sports goods constitute a big chunk of total exports. On average, these categories accounted for about 83% of total exports in the 1990s. Even recently, during 2002-03 these five categories accounted for 82.6 percent of total exports. Among these categories, cotton group alone contributes more than 60 percent of the total exports. Table 1 gives a complete picture of commodity concentration of exports for Pakistan during recent years.

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[2] Various Issues of Economic Survey of Pakistan.

Table 1
Commodity Concentration of Exports

Commodity	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03
Cotton	64.1	61.3	58.7	59.1	61.0	58.9	59.4	63.3
Leather	7.2	7.7	6.7	6.9	6.3	7.5	6.8	6.2
Rice	5.8	5.6	6.5	6.9	6.3	5.7	4.9	5.0
Syn. Textiles	5.2	6.1	7.2	5.1	5.3	5.9	4.5	5.1
Sports Goods	2.8	3.7	4.4	3.3	3.3	2.9	3.3	3.0
Sub-Total	**85.1**	**84.4**	**83.5**	**81.3**	**82.2**	**80.9**	**78.9**	**82.6**
Others	14.9	15.6	16.5	18.7	17.8	19.1	21.1	17.4
Total	100	100	100	100	100	100	100	100

Source: Various Issues of Economic Survey of Pakistan

Since about more than 60 percent of our exports are cotton based therefore a poor cotton crop can seriously offset total export earnings and it has been seen several times during 1990s. Moreover, Pakistan's textile exports have remained concentrated in relatively low value added segment of market. This has retarded the realization of Pakistan's true potential in textile exports. Thus, Pakistan needs to diversify both in exports across different product categories and also needs to move to high value added exports so that the risk of instability in the export earnings can be curtailed.

1.1.2 Composition of Pakistan's Exports

Over the years, the economic classification of exports in Pakistan has undergone a number of changes mainly due to diversion in the production patterns. Thus, Pakistan's exports have shown a healthy change in their composition. More export earnings are now expected from manufactured and non-traditional exports. The share of primary products in total exports has declined from 39 percent during fiscal year 1972-73 to 11 percent during fiscal year 2002-03. On the other hand share of manufactured goods has recorded an increase which has increased from 30 percent during 1972-73 to 78 percent during 2002-03.

1.1.3 Geographical Concentration of Pakistan's Exports

Pakistan has a large number of trading partners but its exports have remained highly concentrated in few countries. Major markets for Pakistan's exports are: USA, Germany, Japan, UK, Hong Kong, Dubai and Saudi-Arabia. These seven countries accounts for more than 50 percent of Pakistan's exports. The whole scenario during recent years is summarized in table 2.

Table 2:
Pakistan's Major Export Markets (Percentage Share)

Country	95-96	96-97	97-98	98-99	99-00	00-01	01-02	02-03
USA	15.5	17.7	20.5	21.8	24.8	24.4	24.7	23.5
Germany	6.8	7.5	6.3	6.6	6.0	5.3	4.9	5.2
Japan	6.6	5.7	4.2	3.5	3.1	2.1	1.8	1.3
UK	6.4	7.2	6.9	6.6	6.8	6.3	7.2	7.1
Hong Kong	9.1	9.4	7.1	7.1	6.1	5.5	4.8	4.6
Dubai	4.7	4.6	5.0	5.4	5.7	5.3	7.9	9.0
Saudi Arabia	2.4	2.6	2.5	2.4	2.5	2.9	3.6	4.3
Sub-Total	51.5	54.7	52.5	53.4	55.0	51.8	54.9	55.0
Other Countries	48.5	45.3	47.5	46.6	45.0	48.2	45.1	45.0
Total	100	100	100	100	100	100	100	100

Source: Economic Survey of Pakistan (2003-04)

2. REVIEW OF LITERATURE

A number of studies estimating and analyzing the export performance of developed as well as developing countries exist.

Saikat Sinha Roy (2002) analyzed the changing behavior of India's exports. The study covered time period from 1960-61 to 1999-2000. The Demand - Supply model of exports determination was estimated using error correction method and 2SLS was used to arrive at the estimates of simultaneous equation system. Results drawn showed that overvalued exchange rate and relative prices on the supply side had significantly affected the long run exports growth in India. But overall the demand side factors have played a more important role as compared to supply side factors. The results stressed that importance should be given to the demand side factors rather than relying entirely on the supply side improvements.

Akbar and Zareen (2001) analyzed the export performance of Pakistan. Covering a time period from 1973 – 1999. They devised the indices of external market conditions, competitiveness and diversification by incorporating supply side and demand side variables of export performance. The main focus of their research was to investigate the relative importance of supply and demand side variables of export performance for Pakistan. The results obtained suggested that the export performance was sensitive to both domestic factors, particularly the ability to compete in the world market, as well as external market conditions. A comparison of demand and supply variables indicated that export performance of Pakistan was more sensitive to demand side variables than other factors.

Amelia (2000) examined the impact of trade liberalization on the export performance of a sample of developing countries by using the export demand function approach. The countries were classified into three zones: Africa, East and South Asia and Latin America. Main findings of the study were that exports react negatively to an increase in relative prices and positively to the world income growth. Export duties, which accounts for the effect of the degree of distortion on exports performance, were found to have a detrimental effect on export growth, though the impact was relatively small. While trade liberalization emerged as significant positive determinant of export performance except for some African countries where liberalization measures were reverse.

Naude (2000) tried to develop a combined model in order to determine the impact of supply side and demand side determinants of exports for South Africa. The research covered the period from 1974 to 1998. The export function was specified to be dependent upon these variables: real exchange rate, domestic GDP, World GDP, labour productivity and share of manufacturing output in GDP. Investigations highlighted that none of the determinates was statistically significant.

Irene Henriques and Perry Sadorsky (1996) investigated the Export-led growth hypothesis for Canada by constructing a Vector Auto Regression model. The analysis was preformed over sub samples in addition to full sample, from 1877 to 1945 so as to include two world wars and the great depression and from 1946 to 1991 for post war periods. The test for Granger causality between variables: real Canadian exports, real Canadian terms of trade and real Canadian GDP was under taken. The following principle results were drawn from the research:

- Real Canadian exports, real Canadian terms of trade and Canadian real GDP were co- integrated. Here exists a long run steady state among these variables.

- One-way Granger casual relationship exists in Canada whereby changes in GDP precede changes in exports.

Azhar Mahmood and Naeem Akhtar (1996) used the Constant Market Share analysis of export growth to analyze the performance of Pakistan's exports. The period under consideration was from 1984-85 to 1992-93. The research focused to analyze the world effect, market distribution effect, commodity composition effect and the competitiveness effect for the exports of Pakistan. The results drawn showed that Pakistan had maintained its share in the world market and the market distribution and competitiveness of Pakistan's exports had improved significantly between this period. However, the concentration of exports into traditional commodities, whose world demand remained sluggish, had offset the contribution of effective market distribution and improved competitiveness strength to a large extent.

Landesmann and Snell (1993) identified the structural shift in manufacturing export performance of the major OECD economies. Using a simple Demand equation for the period from 1963- 1989, the research focused on the time variation in income elasticities from an exports demand model. Results showed a trend improvement in the income elasticity for UK exports whereas a trend decline for that of US exports.

Hassan and Khan (1994) analyzed the impact of devaluation on Pakistan's external trade. Model was developed and estimated in double log form using 3SLS. Validity of Marshall Lerner condition was tested and it was proved that devaluation had not necessarily resulted in deterioration of the trade balance; there are some other factors that are responsible for the imbalances in the trade.

3. MODEL SPECIFICATION

In order to examine the impact of different demand and supply side factors regarding the performance of exports and its variability, two competing approaches are found in literature, especially with reference to developing countries. The first approach is based on time series analysis and the second is based on decomposition technique.

In specifying an export function the prevailing practice has been to specify an export demand and export supply functions separately. In this study an integrated or combined model has been developed that contains both demand as well as supply side determinants of Pakistan's exports performance. The model permits to investigate the impact of internal as well as external determinants on the export performance of Pakistan over the years.

Export function for estimating and analyzing the performance of Pakistan's export sector is modeled both in linear and log-linear form. Following are the export functions for Pakistan containing both demand and supply side factors.

$$X = f\,(GDP,\ RPX,\ ER,\ M) \text{-------------------------------(1)}$$

$$X = \alpha_0 + \alpha_1\,GDP + \alpha_2\,RPX + \alpha_3\,ER + \alpha_4\,M + \varepsilon \text{-----------------------(2)}$$

$$\log X = \beta_0 + \beta_1\log GDP + \beta_2\log RPX + \beta_3\log ER + \beta_4\log M + \mu \text{-----(3)}$$

Equations 1, 2 and 3 represent functional, linear and log-linear forms for Pakistan's export function respectively. As far as the variables are concerned.

"X" represents exports in real terms. Deflating exports at current market prices by domestic price index derives this variable.

"GDP" represents domestic production. In constant terms at 1995 US $

"RPX" represents relative price of exports. This is a ratio of Pakistan's export price index to domestic price index.

"ER" represents official exchange rate. Value of rupee per US $

"M" represents manufacturing value added. As % of GDP

In equation 1 α_1, α_2, α_3 and α_4 are the coefficients of domestic production, relative price of exports, exchange rate and manufacturing value-added respectively. Similarly in equation 2 β_1, β_2, β_3 and β_4 are the coefficients (average elasticities) of domestic production, relative price of exports, exchange rate and manufacturing value-added, respectively.

Following economic theory, it is expected that $\alpha_1 > 0$, $\alpha_2 > 0$, $\alpha_3 < 0$ and $\alpha_4 > 0$. Similarly it is also expected that $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 < 0$ and $\beta_4 > 0$.

3.1 Model Consolidation

Initial model contained eleven demand and supply side variables. All initial variables, based upon literature review are: developmental expenditures, domestic GDP, domestic inflation, exchange rate, manufacturing value added, relative price of exports, trade liberalization, weather conditions, export duties, world GDP and technological progress.

Before doing the time series regression analysis the usual practice of testing the stationarity of the data has been followed. The results of Augmented Dicky – Fuller tests reveal that all the variables are stationary.

Stepwise Technique of Variable Selection has been applied for variable selection. While consolidation of the model seven variables namely; developmental expenditures, domestic inflation, trade liberalization, weather conditions, export duties, world GDP and technological progress were found insignificant on the basis of t-ratios. Two of these insignificant variables; export duties and technological progress also had their signs inconsistent with the economic theory. May be, these variables are insignificant due to weak causality, problems of time series or Multicolinearity. However, further ANOVA table showed that variables namely; trade liberalization, weather conditions, export duties, world GDP and technological progress were insignificant.

In the initial model, value of R-Squared statistic was high (99.19 percent) and there was no problem of autocorrelation as the value of D.W. statistic was 2.68. Value of F-ratio was also satisfactory (167.84)[3]

After working on the problems of insignificance, inconsistency of variables with economic theory and the problem of multicolinearity, final model that has been

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[3] see appendix 2.

developed contain the following variables: domestic GDP, relative price of exports, exchange rate and manufacturing value added.[4]

X = -940.465 + 0.016517 GDP + 78.5323 RPX – 30.6007 ER + 56.6489 M

t- ratios (-2.91512)   (6.10396)   (22.5197)   (-7.48892)   (2.61695)

S.E   (322.617)   (0.00270)   (3.4872)   (4.0861)   (21.6469)

R^2 = 0.985968   F- Ratio = 421.60   D.W = 2.14949

t-table (2.462) α = 0.01

Three of these variables; domestic GDP, exchange rate and relative price of exports are statistically significant at 99 percent confidence level as the P-value is less than 0.01. Whereas variable; manufacturing value-added is significant at 95 percent confidence level. Value of R-squared statistic indicates that model as fitted explains 98.59 percent of the variability in exports. Adjusted R-squared statistic which is more suitable for comparing models with different number of independent variables is 98.36 percent. Since P-value in the ANOVA table is less than 0.01, there is a statistically significant relationship between variables at 99 percent level. Value of D.W. statistic (2.14) also shows that there does not exist any problem of autocorrelation. As compared to initial model, value of F-ratio has also improved from 167.84 in the initial model to 421.60 in second model.[5]

Export function for Pakistan has also been estimated in log linear form for the purpose of measuring average elasticities so that the responsiveness of various demand and supply side determinants for Pakistan's exports can be analyzed.

log X = -7.068 + 0.835 log GDP + 1.098 log RPX - 0.884 log ER + 1.827 log M

t- ratios (-5.34)   (4.63)   (22.30)   (-8.32)   (3.74)

S.E   (1.32)   (0.18)   (0.04)   (0.10)   (0.48)

R^2 = 0,992924   F-ratio = 841.92   D.W = 1.90

t-table (2.462) α = 0.01

Results show that all the variables are statistically significant at 99 percent confidence level (individually & overall). Explanatory power of the model has also gone up from 98.59 percent in the second model to 99.29 percent in the third model.[6] Value of F-ratio has also improved (841.92). Value of D.W. statistic (1.90) is closer to 2, which shows that there is not any problem of autocorrelation. Standard error of the estimate shows standard deviation of the residuals to be 0.093.

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[4] see appendix 3.
[5] see appendix 2 and 3
[6] see appendix 5

Overall, the regression results show the dominance of supply side variables, as the responsiveness of supply side variables is greater than that of demand side variables. Though this dominance of the supply side factors is good for the progress of exports but demand side response should also be encouraging so that the positive effect of the supply side variables is not undermined.

3.2 Interpretations and Analysis

Exports Sector plays an important role in the development of every open economy. There are a number of internal as well as external factors that effect Pakistan's exports performance. The model as fitted highlights the fact that the response of supply side factors for Pakistan's exports is encouraging. It means that unimpressive performance of our exports is related to the external factors like world GDP, which are very little under our control. The result is that positive contributions of the supply side factors are off set due to the weaknesses on our demand side factors.

3.2.1 Domestic GDP

In the literature and theory it is stated that causality runs both from exports to GDP and from GDP to exports. In both cases the direction of causation is same, positive. Significant estimated coefficient of domestic GDP both in simple linear form and log-linear form has the expected positive sign which confirms the economic theory.

The estimated coefficient of domestic GDP in simple linear model highlights the fact that a $1 million increase in domestic GDP may lead to a $ 0.0165 million increase in our real exports assuming that other conditions remain the same. The significant estimated coefficient of domestic GDP in log linear form implies that on average a 1 percent increase in domestic GDP may lead to 0.83 percent increase in our exports.

The partial elasticities of exports[7] with respect to GDP show that from 1972-1977; the response of exports to an increase in GDP was encouraging as the growth rate of GDP during this period was 4.9 percent. During these years, partial elasticity was lowest in 1972 (2.11percent) and highest in 1974 (7.55percent). During Zia government from 1977 to 1988 growth of GDP was exceptional. On average during Zia regime GDP growth was 6.6 percent. Main reasons for this relatively higher growth rate were the aid flows due to geo-politics that resulted from Afghan war, IMF lending and higher inflow of workers remittances. Partial elasticities[8] of exports with respect to GDP show that due to the remarkable growth rate of GDP the responsiveness of exports to GDP has remained encouraging up till 1984 and after this throughout Zia regime response of exports

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[7] see appendix 4
[8] see appendix 4

GDP remained unimpressive. Since 1988, growth of GDP has suffered except 92 when GDP grew at a rate of 7.83 percent. Main cause has been of glecting the long-term investment during Zia government.

ring 1990s, GDP growth rate remained slow and so does the response of ports to GDP. The highest growth rates of GDP have been in 1991 and 1995 . 5.45 percent and 5.11 percent respectively. Partial elasticity of exports with spect to GDP during 1990s was highest in1997 (1.64 percent) and lowest in 00 (0.47 percent). This indicates that by the end of 1990s the response of ports to GDP has worsened. Main reasons for this are: prolonged stagnation the investment rate, serious weaknesses in the industrial structure and the ntinued neglect of human resource and infrastructure development.

2.2 Relative Price of Exports

retain or expand the share in world trade a country must be able to compete fectively on the basis of price. Relative prices of exports is an external variable ich determines whether the producer should concentrate to the domestic arket for the supplies of its products or the products should be exposed to the reign market to earn more by selling at a higher price than the domestic arket. If an exporter receives a price higher than the domestic market in the rld market he will be encouraged to sell it in the foreign market. Thus, higher e relative price, higher will be the exports volume.

he significant estimated coefficient of relative price of exports, in simple linear well as in log-linear form confirms the economic theory that there is a positive lationship between relative price of exports and the exports performance of akistan.

he coefficient of relative price of exports in linear form explains that a 1 unit crease in the value of relative export price may lead to an increase in the pply of real exports by $ 78.52 million, other things being equal. The significant stimated coefficient of relative price of exports in log-linear form implies that on verage a 1 percent increase in relative price of exports may lead to a 1.09 ercent increase in our real exports.

he partial elasticity of exports with respect to relative price over the years tells s that on average the responsiveness of exports to relative prices has not emained unimpressive. As it moved around unity[9] It was higher from 1973 to 978 (moved between 1.27 percent and 0.99percnet) and then it fell up till 1983 e. remained less than unity through out. In 1984 there was again a good esponse and from 1984 onward up till 1995 our exports have remained less

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see appendix 4

responsive to changes in the relative prices. Then from 1996 to 2000 response of exports to changes in relative prices is again satisfactory i.e. greater than unity[10].

3.2.3 Exchange Rate

Exchange rate policy is a very important tool to increase the performance of export sector of an economy. Usually, devaluation or depreciation is expected to boost exports. According to the theory for devaluation to be successful it is necessary that exports respond in an increasing trend and reduce deficit in balance of trade. If the price elasticity of the products to be exported is greater than unity only then devaluation shall have a positive impact on export growth. Due to devaluation or depreciation exports of the country become cheaper for the buyers so the demand for the exports go up and the reduction in the value of the currency is compensated by an increase in sales volume of exports. It means that the competitiveness of exports increases. This implies that lower the value of the domestic currency relative to the trading partners higher will be the exports. On the other hand, if the price elasticity of the products to be exported is less than unity then devaluation shall have a negative effect on the growth of exports. It means that there is negative relationship between exchange rate and export growth.

The coefficient of exchange rate of the export function for Pakistan is negative which confirms the economic theory. The significant estimated coefficient of simple linear model explains that a devaluation or depreciation of rupee by one unit may lead to a change of $ 30.60 million in the real exports volume. The significant estimated coefficient in log-linear form explains that on average a 1 percent change in the value of rupee may lead to a change in exports by 0.88 percent.

History reveals that exchange rate management has not contributed significantly to the expansion of our exports. Authorities have not been able to handle exchange rate policy properly as it has remained biased towards promoting imports rather than encouraging exports.

3.2.4 Manufacturing Value Added

The pattern of world trade has changed. Markets of the developed countries are more open for the manufactured goods but are relatively close for primary and semi manufactured products. Following this change in the world trade we can justify that an increase in the production of value added products should increase the growth of exports of a country and thus its share in the world trade. It means, higher the productions of value added higher will be the exports. Pakistan has responded to this change well as the share of manufactured exports in our total

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[10] see appendix 4

exports has considerably increased from 30 percent in 1972-73 to 78 percent in 2003-2004.

The estimated significant coefficient of manufacturing value added with the positive sign confirms the economic theory and explains that an increase of 1 percent in manufacturing value added may lead to an increase of $ 56.64 million in our real exports other things being equal. The estimated significant coefficient of manufacturing value added in log linear form explains that on average a 1 percent increase in manufacturing value added may increase our exports by 1.82 percent.

Partial elasticity of exports with respect to manufactured value added depicts that during from 1973 to 1977 response of our exports to the changes in manufacturing value added has remained satisfactory, as the partial elasticity of exports with respect to manufacturing value added moved between 21.98 percent (1974) and 5.89 percent (1977)[11]. Right from 1980s, world trade pattern has changed and high value added manufactured products are required to increase the share in the world market. During Zia regime and even beyond the responsiveness of our exports to manufacturing value added has remained unsatisfactory as is depicted by the partial elasticities[12] for this time period. Though, the share of manufactured goods in our export bundle has increased but these are low value added manufactured products whose demand in the world market is less. Major problem is that we have improved the technological bases for very few major export industries.

As the partial elasticity indicates the response of our exports in 2000 has decreased even to an extent of 0.34 percent, we need diversification in our export bundle. We also need to introduce non-traditional and high value added products to meet the targets of the future and to increase our share in total world trade. For this we need structural transformation in the industrial sector.

4. CONCLUSIONS

Study has analyzed the relative importance of different demand and supply side determinants of export performance of Pakistan for the period 1972-2000. Using time series data, regression has been run both in simple linear from and log linear form. Findings show that Pakistan's export function is predominantly dependent upon variables: domestic GDP, relative price of exports, exchange rate and manufacturing value added. Other variables developmental expenditures, domestic inflation, trade liberalization, weather conditions, export duties, world GDP and technological progress are insignificant due to weak causality, problems of time series or multicolinearity.

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[11] see appendix 4
[12] see appendix 4

Findings show that domestic GDP, relative price of exports and manufacturing value added has positively affected our export performance. Exchange rate has negatively contributed to our exports performance. Main reason for this negative role of our exchange rate adjustments is that the exchange rate policy has not been handled properly. It has remained biased toward encouraging imports rather than exports. If there was any positive role of exchange rate adjustments that has been off set by the low value added and low quality products.

While comparing the efficiency of the demand side and supply side variables the model reveals that our supply side variables have played their role efficiently. The value of the coefficient of relative price is greater than that of GDP; similarly the elasticity of relative price is also greater than that of GDP, which explains that our exporters may respond quickly to the changes in the relative price of exports to earn more from the foreign markets than the domestic market because the supply of exports is expected to go up by a large extent. It is also confirmed by the elasticities of the latest years from 1996 –2000. This also shows that not only the supply side response of our exports to relative prices is satisfactory but also our importers are willing to buy our products at the prices offered by our exporters in the world markets. The fact is that our exports are from 'South to North' and our exports seems cheaper to our buyers. Whereas the demand side response of our exports has remained poor. Main cause of this poor response is that Pakistan has not been able to meet the requirements of the foreign markets, especially with respect to the quality standards.

5. POLICY RECOMMENDATIONS

On the basis of the findings following policy recommendations are suggested.

- The most important thing to improve our exports' performance is that we need diversification in our export bundle. Share of traditional exports should be decreased and the share of non- traditional exports should be increased. It is needed firstly, due to the fact that trend of the world exports has changed from primary and semi- manufactured goods to manufactured and high value added products. Secondly, markets of the primary and semi-manufactured goods are stagnant or saturated and this has negatively affected the price elasticity of our exports.

- We are exporting to a limited number of markets, which are already saturated. So, we need to explore new rapidly growing markets for our exports.

- For our exports to become competitive in open world market, we need a stable foreign exchange rate policy, which is also competitive with imports and exports from other markets. The bias in the exchange rate policy

towards imports should be reduced and this policy instrument should be properly used to encourage imports as well as exports.

- Though the share of manufacturing value added has increased in our exports bundle but these are mostly low value added products. We need more diversification in our export bundle in the form of raising the share of high value added products.

- GDP growth rate should be matched by the rate of inflation. Slow growth rate puts pressure on prices, increasing the inflationary trend. This results in high cost of production and negatively affects the performance of exports.

- Modern techniques of production should be adopted so that the quality of the exports can be improved, as the products quality is a big constraint imposed by the world market. This has become even more important in the liberal trading environment in which we have just stepped in 2005. There will be no place for the bad quality products. These will be wiped out of the world market. There will be no guarantee in the form of quotas therefore to survive in this environment we need to go for modern technology and should emphasis on the quality of the products specially.

- Our performance in research and marketing has also been a major factor in limiting our exports. So we should pay greater attention to standardization and market research for improving our export performance.

- In addition to quality, reliability and efficiency in delivery schedules are also needed. For this we need to improve our infrastructure.

- The most important thing that is needed to realize gains from all these policy recommendations is to achieve economic and political stability.

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APPENDICES

Appendix 1

Variable Description

X = Real Exports

Dvp. Exp = Developmental Expenditures

GDP = Domestic GDP

I = Domestic Inflation

ER= Exchange Rate

M = Manufacturing Value added

RPX= Relative Price of Exports

L = Trade Liberalization

W = Weather Conditions

ED = Export Duties

WGDP = World GDP

T = Technological Progress

Appendix 2

Initial Model

Dependent variable: X

Parameter	Estimate	Standard Error	T Statistic	P-Value
CONSTANT	-903.352	492.31	-1.83493	0.0864
Dvp Exp	24.0464	19.3103	1.24526	0.2321
GDP	0.0296319	0.0262872	1.12724	0.2774
I	-20.0178	7.27677	-2.75092	0.0149
ER	-32.1402	6.78622	-4.73609	0.0003
M	28.9365	35.3232	0.819191	0.4255
RPX	71.0374	5.0426	14.0874	0.0000
L	17.8886	92.4619	0.19347	0.8492
W	58.7024	38.0519	1.54269	0.1437
ED	23.9493	10.3859	2.30593	0.0358
WGDP	0.0000109344	0.0000192286	0.568651	0.5780
T	-19.3277	37.9409	-0.509416	0.6179

Analysis of Variance

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Model	6.99986E6	11	636351.0	167.84	0.0000
Residual	56871.6	15	3791.44		

| Total (Corr.) | 7.05673E6 | 26 | | | |

R-squared = 99.1941 percent
R-squared (adjusted for d.f.) = 98.6031 percent
Standard Error of Est. = 61.5747
Mean absolute error = 35.3968
Durbin-Watson statistic = 2.68309

Further ANOVA for Variables in the Order Fitted

Source	Sum of Squares	Df	Mean Square	F-Ratio	P-Value
Dvp Exp	4.39582E6	1	4.39582E6	1159.41	0.0000
GDP	117492.0	1	117492.0	30.99	0.0001
I	534036.0	1	534036.0	140.85	0.0000
ER	760683.0	1	760683.0	200.63	0.0000
M	81620.1	1	81620.1	21.53	0.0003
RPX	1.07198E6	1	1.07198E6	282.74	0.0000
L	2085.05	1	2085.05	0.55	0.4698
W	4805.65	1	4805.65	1.27	0.2779
ED	27329.9	1	27329.9	7.21	0.0170
WGDP	3019.83	1	3019.83	0.80	0.3862
T	983.898	1	983.898	0.26	0.6179

| Model | 6.99986E6 | 11 | | | |

Appendix 3

Second Model

```
Multiple Regression Analysis
-----------------------------------------------------------------------
Dependent variable: X
-----------------------------------------------------------------------
                              Standard          T
Parameter         Estimate      Error       Statistic      P-Value
-----------------------------------------------------------------------
CONSTANT          -940.465     322.617      -2.91512        0.0076
GDP               0.016517     0.00270594    6.10396        0.0000
RPX               78.5323      3.48728       22.5197        0.0000
ER                -30.6007     4.08613       -7.48892       0.0000
M                 56.6489      21.6469       2.61695        0.0151
-----------------------------------------------------------------------


                       Analysis of Variance
-----------------------------------------------------------------------
Source         Sum of Squares   Df  Mean Square   F-Ratio     P-Value
-----------------------------------------------------------------------
Model             7.32099E6      4   1.83025E6     421.60      0.0000
Residual          104189.0      24     4341.22
-----------------------------------------------------------------------
Total (Corr.)     7.42518E6     28


R-squared = 98.5968 percent
R-squared (adjusted for d.f.) = 98.3629 percent
Standard Error of Est. = 65.888
Mean absolute error = 47.2157
Durbin-Watson statistic = 2.14949



          Further ANOVA for Variables in the Order Fitted
-----------------------------------------------------------------------
Source         Sum of Squares   Df  Mean Square   F-Ratio     P-Value
-----------------------------------------------------------------------
GDP               4.51166E6      1   4.51166E6    1039.26      0.0000
RPX               2.45571E6      1   2.45571E6     565.67      0.0000
ER                323884.0       1    323884.0      74.61      0.0000
M                 29730.5        1     29730.5       6.85      0.0151
-----------------------------------------------------------------------
Model             7.32099E6      4
```

Partial Elasticities of Simple Linear Export Function for Pakistan

Years	GDP	RPX	ER	M
1972	2.115057324	0.99199064	-2.0112161	6.80615272
1973	4.512394972	1.271345963	-4.609830235	13.6812156
1974	7.552909478	1.172238272	-7.381900139	21.9841607
1975	6.798436711	1.074329172	-6.37599036	20.0097422
1976	3.513435171	1.255185153	-3.133543277	9.72323448
1977	2.437732596	1.151196514	-2.091582048	5.89202305
1978	2.00666733	1.099298486	-1.593475385	4.49708679
1979	1.097642845	0.858860515	-0.840054761	2.4364059
1980	1.330476717	0.726975842	-0.923868958	2.76537626
1981	1.885411429	0.858638291	-1.213121213	3.44372865
1982	1.736759644	0.847264823	-1.25523628	2.98121069
1983	1.015744526	0.922564051	-0.761193544	1.64989559
1984	2.170584401	1.073057838	-1.657898524	3.54213687
1985	0.890179059	0.831389981	-0.716616787	1.33081492
1986	0.567815869	0.770262814	-0.452830003	0.82348318
1987	0.686399128	0.790971078	-0.537426903	0.9563719
1988	1.502997207	0.774925914	-1.131407468	1.96234769
1989	1.324896002	0.837335721	-1.084176234	1.63104347
1990	0.840431962	0.691036489	-0.695747733	1.03797305
1991	1.59432344	0.735907338	-1.372289667	1.87525457
1992	1.342263883	0.768248117	-1.129101976	1.4511854
1993	1.179649189	0.89013365	-1.091067876	1.24697951
1994	1.519332487	0.877912653	-1.470905456	1.56521082
1995	1.603738007	0.901944413	-1.528998106	1.538139
1996	1.068520642	1.043145619	-1.118409994	0.92530682
1997	1.644947185	1.206107135	-1.942222695	1.39533711
1998	1.05214857	1.407346489	-1.330559935	0.86852968
1999	0.77122861	1.254707323	-1.02828122	0.59992824
2000	0.476065945	1.249890336	-0.663849535	0.34681144

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Appendix 5

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Final Model

```
Multiple Regression Analysis
-----------------------------------------------------------------------
Dependent variable: log(X)
-----------------------------------------------------------------------
                              Standard          T
Parameter         Estimate     Error        Statistic      P-Value
-----------------------------------------------------------------------
CONSTANT          -7.06878    1.32253        -5.3449        0.0000
log(GDP)          0.835074    0.180092        4.63693        0.0001
log(RPX)          1.0984      0.0492479      22.3035        0.0000
log(ER)           -0.884422   0.10629        -8.32085       0.0000
log(M)            1.82726     0.488445        3.74097        0.0010
-----------------------------------------------------------------------
```

```
                        Analysis of Variance
-----------------------------------------------------------------------
Source          Sum of Squares   Df   Mean Square   F-Ratio    P-Value
-----------------------------------------------------------------------
Model              29.5511       4      7.38777      841.92     0.0000
Residual           0.210598      24    0.00877492
-----------------------------------------------------------------------
Total (Corr.)      29.7617       28
```

R-squared = 99.2924 percent
R-squared (adjusted for d.f.) = 99.1744 percent
Standard Error of Est. = 0.0936746
Mean absolute error = 0.0616965
Durbin-Watson statistic = 1.90021

```
             Further ANOVA for Variables in the Order Fitted
-----------------------------------------------------------------------
Source          Sum of Squares   Df   Mean Square   F-Ratio    P-Value
-----------------------------------------------------------------------
log(GDP)           23.2667       1      23.2667      2651.50    0.0000
log(RPX)           5.36081       1      5.36081      610.92     0.0000
log(ER)            0.800716      1      0.800716     91.25      0.0000
log(M)             0.122804      1      0.122804     13.99      0.0010
-----------------------------------------------------------------------
Model              29.5511       4
```

SOCIO ECONOMIC DETERMINANTS OF CHILD LABOR: THE CASE STUDY OF SOCCER BALL INDUSTRY IN SIALKOT, PUNJAB

FAISAL MEHMOOD MIRZA[1]

Abstract

Child Labor is not only important from economic dimensions but also from human development perspectives. This article builds a model of determinants of the child labor from data obtained from Soccer Ball industry located in Sialkot, Punjab. It describes he historical trends in child labor and moves on to explore he determinants. Stepwise regression analysis has been utilised for this article and the main determinants are education of head of the family, number of school going children in the family and number of family member as such.

1. INTRODUCTION

Child labor[2] is a serious problem throughout the world, especially in developing countries. Africa and Asia together account for over 90 percent of total child employment in the world. Child labor is especially prevalent in rural areas where the capacity to enforce minimum age requirements for schooling and work is lacking. Children labor has a variety of reasons, the most important being poverty and the induced pressure to escape from this plight. Though children are not well paid, they still serve as major contributors to family income in developing countries. Schooling problems also contribute to child labor, whether it is the inaccessibility of schools or the lack of quality education, which spurs parents to enter their children in more profitable pursuits. Traditional factors such as rigid cultural and social roles in most of the underdeveloped countries further limit educational attainment and increase child labor.

Working children are the objects of extreme exploitation in terms of toiling for long hours for minimal pay. Their work conditions are especially severe, often not providing the stimulation for proper physical and mental development. Many of

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[1] The Author is Lecturer, Department of Economics, GC University Lahore.
[2] Defining child labor is not very simple because it is very difficult to differentiate between child work and child labor. However in the context of international standards, a working definition of child labor will be a person generally below the age of 15 years or in special circumstances 14 years set by the minimum age convention, 1973 (No.1938) but it also provides some kind of exclusion and exception in coverage and scope.

	General	Exception
Basic minimum age	15	14
Hazardous Work	18	16
Light Work	13-15	12-14

Source: Hyder (1998)

these children endure lives of pure deprivation. Child labor is thought to be harmful to children's welfare in many ways. It interferes with human capital accumulation and affects the future health of the child. The number of hours spent by child on work is not only important in itself as a measure of child welfare but is also essential for evaluating the cost of work in terms of health and human capital accumulation. According to ILO (1995), Over 120 million children between the age of 5-14 worked full time and most of them live in underdeveloped economies.

Child labor has existed in the world since the beginning of the humanity. In fact, only in last two centuries, it has come to be seen as something that should be actively discouraged. Children always performed the tasks that contributed to the well being of the family enterprise, doing what they were physically able to do. In early 1800s, child labor was criticized in the countries where the industrial revolution first took place, most notably in England. Laws were passed setting minimum age for employment in factories and often laws were made the employment of children illegal. One interesting law regulating child labor was enacted in 1837 in Massachusetts, which prohibited the firms from employing children under the age of 15, who had not attended the school for at least three months during the previous year[3]. The employment of children has now largely disappeared in countries where the industrial revolution originated. Now from the twentieth century, most of the factories and workshops in the underdeveloped countries have become the commonplace of child labor, where the industrial spread has just started. Here a very important question arises, "is child labor is a phenomenon which repeats itself with the start of industrial spread in underdeveloped countries?" There is one more very important debatable question among the economists. "Does child labor really hampers the process of human capital formation because a child also acquires skills at the work and gets specialization through learning by doing."

Underdeveloped countries have another point of view about the incidence of child labor. They argue that the pressure to enforce child labor laws would rob them of their comparative advantage: low labor costs. Many see this issue as just those, rich nations attempting to wipe away developing countries comparative advantage by arguing for human rights.[4]

Basu and Tazannatos (2003) very comprehensively examined the supply side determinants of child labor. According to them, the supply of child labor could be explained in terms of lack of income of the household, number of family members, education of the child and the head of the family etc. They tested three hypotheses in their study,

i)   Acquiring education is a luxury good

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[3] For further details see, Van Dan Berg (1995) pp. 397
[4] For Further details see, Faraz (1993)

) Adults and child labor are substitute in the labor market and

i) A household decides to achieve a minimum standard of consumption, which tries to achieve calling it the subsistence consumption of that family.

Their study failed to find a positive relationship between poverty and the incidence of child labor. They also found that it is also arguable that a household target at the minimum acceptable level may not coincide with the nation's or region's official poverty line. So using poverty headcount ratios based on official poverty line may not explain the incidence of child labor.

Humphrie (2003) relates the problem of child labor to the history and explains the supply of child labor in the context of household economy, analyzing the decisions to send a child to work as a part of family strategy. A family strategy involves a family acting as a single unit in the interest of all members. Humphrie calls for a greater role of the government to alleviate this problem where according to him the compulsory attendance at schools for every child above the age of five is the best way to eradicate this problem.

Bhalotra and Heady (2003) analyzes the determinants of child farm labor in Pakistan and Ghana in terms of "Wealth paradox". According to them, on average, children in land rich households are more likely to work and less likely to attend the school than children in land-poor households and land is the most important store of wealth in these countries. Policies that improve the functioning of labor and land markets in rural areas will reduce child labor especially that of girls. According to them, the expansion and establishment of rural financial markets will have a positive spillover impact on the labor practices and will reduce child labor at farms.

Rosati and Rosi (2003) examine the number of hours of child work in Pakistan and Nicaragua using simultaneous equation model and maximum likelihood estimator. According to them, the policies aiming to reduce child labor by introducing incentive schemes (like income transfers) that only marginally modify the opportunity set of the household are likely to produce more significant effects on household that are at the margin between sending their children to work or to school household that have a low propensity of child labor.

Chaudhry and Khan (2002) examined the major socio-economic determinants of child labor in Pakistan. Household income, Number of family members, Education level of the head of the family and the child, occupation of the head of the family and the number of primary schools in the locality were found to be major determinants of supply of child labor in Pakistan.

Khan (1982) by taking the sample of 100 children from the urban areas of Pakistan, regressed Hours worked by child on age, schooling, family size,

experience and family income and found that the poverty, illiteracy of parents and lack of educational facilities are the major determinants of supply child labor.

Hyder (1998) gave a good overview of the magnitude and pattern of child labor participation in Pakistan through the data made available by Child Labor Survey conducted by ILO-IPEC. He also explained the legislative actions of the Government of Pakistan and the extent of their implementation in the country. According to him, the child labor can not be eliminated by an isolated approach. Its reduction and elimination requires a set of direct and indirect inter related measures. The progressive elimination of child labor requires a general improvement of the living standards, a reinforcement of educational infrastructure and a greater consciousness of the need to change.

2. INCIDENCE OF CHILD LABOR: THE NATIONAL TRENDS

Child labor is a socio-economic phenomenon, which exists because children are most vulnerable to the socio-economic conditions prevailing in the society. Among those conditions, poverty is the most important one, which pushes the children into labor market. Poor families need money, critical for their survival, which their children can earn. But poverty and economic deprivation is not the only factor inducing child labor. There are other elements like social behavior, cultural values, traditional works patterns and, exploitative motives which bring the children to work places. Pakistan is a developing country with countless socio-economic problems. Like many countries the world over, and particularly in South Asia, Pakistan is also confronted with the problem of child labor. According to the child labor survey conducted by UNICEF in 1990, among 40 million children aged between 5-14 years, 3.3 million, i.e.8.3 percent were economically active in the labor market. Out of total, 2.4 million (73%) were boys and 0.9 million (27%) were girls. The number of male child labor was found to be 2.1 million in the age group of 10-14 years which was about seven times greater than the level in the age group of 5-9 (0.3million). Similarly the volume of female child labor in the age group of 10-14 years was found to be three times (2.0 Million) higher than the age group of 5-9 years. The survey also reported that the male child labor outnumbered the female child labor in both rural and the urban areas. In rural areas, child labor was found to be eight times higher than the urban areas.

In the recent years, a positive trend has been witnessed in the age specific activity rate in Pakistan. According to Chaudhry (1999), in 1996, 8.3 percent of child population was comprised of working children. The prevalence of working children in rural areas was 10.3 percent and boys (14.2%) had higher tendency to work than girls (6.1%). Similarly, in urban areas, the participation rate was 3.3% and boys (5.6%) had higher participation rate than girls (0.8%). Children in rural and urban areas of N.W.F.P have higher tendency to work than the other

provinces of the country. The trends of labor force participation rate in Pakistan can be shown with the help of following Table.

Table 1
Labor Force Participation Rates of Children (Age 5-14, by Age, Sex and Area) %

All Areas	All Occupation Groups			Rural			Urban		
	Total	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls
Pakistan	8.27	11.78	4.54	10.26	14.16	6.05	3.24	5.60	.82
5-9	2.65	2.98	2.30	3.39	3.64	3.11	.64	1.08	.20
10-14	14.86	22.17	7.15	18.71	27.47	9.56	5.95	10.9	1.50
Punjab	8.59	12.04	4.86	10.68	14.50	6.49	3.58	5.98	1.10
5-9	1.78	2.31	1.20	2.17	2.69	1.57	.74	1.22	.28
10-14	16.60	23.66	9.10	21.41	30.0	12.39	6.42	10.48	1.98
Sindh	3.46	6.18	.59	4.16	7.37	.75	2.49	4.50	.40
5-9	0.66	1.20	.10	.81	1.48	.10	.43	.78	.09
10-14	6.64	11.71	1.18	8.08	14.28	1.49	4.71	8.34	0.74
N.W.F.P	5.76	21.54	9.86	17.18	23.04	11.12	4.81	9.30	0.67
5-9	9.01	8.55	9.48	10.02	9.36	10.71	0.96	1.76	0.20
10-14	23.51	36.65	10.29	25.44	39.02	11.58	9.00	17.69	1.17
Balochistan	0.66	1.23	0.03	0.63	1.19	0.02	0.84	1.51	0.13
5-9	0.16	0.31	-	0.18	0.33	-	0.10	0.18	-
10-14	1.34	2.56	0.08	1.26	2.41	0.04	1.82	3.41	0.29

Source: Human Resource Development and Management in Pakistan. pp 119

10.26 percent children in the rural Pakistan work in the labor market as compared to 3.24% children in the urban areas. This high rate of child participation in the labor market is considered to be due to lack of educational infrastructure, low family incomes and the socio-cultural attitudes towards education. The data shows that on average children in Punjab have the highest

participation rates in the economic activity as compared to the other provinces and the national average as a whole. The participation rate of children in Balochistan is the least among the provinces, which can be attributed to its low population density.

3. HISTORY OF CHILD LABOR IN SIALKOT

Child labor is spread all over Pakistan but has the greatest impact in the northwest of Punjab province. The main industrial city in the northwest Punjab is Sialkot. It has a population of approximately 28.83 million and is an important center for the production of goods for export to international markets, particularly sporting goods. There are 1652 villages in the district and of these 662 villages have population above 1000. Besides these there are seven town committees in the district. The rural area is divided into 90 union councils and the population density is highest in the Sialkot tehsil with 1272 persons per square district.

Total Sports goods exports from Sialkot account for 25% of the total exports from the district and the share of soccer ball exports in all the exports is 18.2%. The Major importers of the Soccer balls from Sialkot are USA, Germany, Chile, UK, France, Spain, Dubai, Italy and Belgium. The number of total balls exported and revenue earned from export to these countries is as follows.

Table 2
Exports of Soccer Balls from Sialkot to Selected Countries 1997-98

Country	Number of Soccer Balls Exported (Millions)	Value of Soccer balls (Rs. Millions)
USA	4.59	727
Germany	5.00	721
Chile	1.44	202
UK	2.25	322
France	2.90	357
Spain	2.26	291
Dubai	1.44	202
Italy	1.12	187
Belgium	1.00	168
Total Exports to the World	35.37	5057

Source: Bunyad- ILO-IPEC, 1999

The total earnings to Pakistan's economy from the export of Soccer balls can be shown with the help of following data.

Table 3
Football Exports and Earnings (1990-98)

Year	Exports (Rs. Million)
1991-92	1342
1992-93	1461
1993-94	1627
1994-95	3164
1995-96	1690
1996-97	1265
1997-98	3882
1998-99	5057

Source: Bunyad- ILO-IPEC, 1999

This is just the revenue side of the picture. On the other hand, a lot of children work and are still working in the production process of the soccer balls. According to Reebok international, when they entered in the soccer ball market in Sialkot in 1995, almost 20% of the workers were the children. According to some other estimates, the number of children working in Sialkot soccer ball industry range from 7500- 15000.

The issue of child labor in sporting goods industry was raised in 1995-96, during the European Nations Cup. Several trade unions and NGOs drew attention to the forced labor of children making footballs for the world market in Sialkot, Pakistan. Those children made footballs for famous trade names such as Nike, Puma, Adidas and Reebok[5]. After the publications of the reports of these NGOs, most of the importing countries decided, not to import balls from country until and unless the child labor issue is not resolved. The reduction in the export earnings can be seen from the above table when the export earnings from footballs fell down to Rs. 1265 million in 1996-97 from Rs. 1690 million in 1995-96.

The overall situation of child labor in Sialkot Rural/Urban can be explained by the following data.

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[5] Sudhaar (2001)

Table 4
Population (10-14) by Activity and Sex in Rural Areas

Sex	Total Population (10-14)	Working	Looking for work	Laid Off	Unpaid Family helpers	Students	Domestic Work	Disabled	Others
Total	265996	7228	6250	638	620	116648	125988	535	7849
Male	137607	6358	6230	539	600	114084	1251	535	7770
Female	128389	870	20	99	20	2564	124737	-	79

Source: District Census Report of Sialkot

Table 5
Population (10-14) by Activity and Sex in Urban Areas

Sex	Total Population (10-14)	Working	Looking for work	Laid Off	Unpaid Family helpers	Students	Domestic Work	Disabled	Others
Total	91315	1761	1986	102	85	41347	43610	190	2181
Male	47385	1673	1986	102	85	40748	385	190	2163
Female	43930	88	-	-	-	599	43225	-	18

Source: District Census Report of Sialkot

The table 4 and table 5 show that the incidence of child labor is more in rural areas as compared to the urban areas, which is because, most of the population resides in the rural areas. In the rural areas, the number of working children between the age group of 10-14 is 7228 and almost the same numbers of children are looking for job (6250). 638 children have been laid off and 620 children are unpaid family members. The incidence of child labor is more in male members as compared to the female members of the household. The number of male child laborers is 6358 as compared to 870 of female members.

In the urban areas, the total number of working population between the age of 10-14 is 1761 while the children looking for jobs are greater than actually working. The number of children looking for job is 1986. Total unpaid family members are 85 and total laid off workers within this age group are 102. In the urban areas also, the incidence of child labor is more in males than in females. Total male child laborers in the urban areas are 1673 while the female workers are 88. There is no data available within the age group of (5-9) years so the exact magnitude of child labor can not be shown from this particular table.

The first step taken to resolve this important issue was the **Atlanta Agreement**. The Sialkot Chamber of Commerce and Industry (SCCI), International labor

Organization (ILO) and the UNICEF were the main signatories of the agreement. The main objective of the Atlanta Agreement was to eliminate child labor in the football industry in Pakistan. It was also to give child workers the opportunity to go to school rather than simply end up working in another sector of industry.

The second step to combat child labor in Sialkot was the program of "Universal primary Education (UPE)" started jointly by the Government of Punjab and UNICEF in 1999. The objectives of the program were to,

i)   achieve 100% enrolment rate for the children in the age group of 5-7 years

ii) Retention of these children in schools for at least five years and

iii) Bring attitudinal change in communities in support of UPE

The duration of this project was three years (1999-2001) and total financial support from UNICEF was Rs. 47,304,421[6]. According to the evaluation study conducted by institute of leadership and management, the UPE succeeded in achieving the gross enrolment rate of 97% with dropout rates of 0.7% only. But this success was only up to the year 2001. After the end of this project, people again started sending their children to work instead of schools and the rate of participation of children is again increasing.

The rationale for conducting this study is to analyze the major socio-economic determinants of the supply of child labor. Sialkot has already experienced the threat of reduction in the export orders from its major trading partners and only this single issue can shake the football industry as was done in the past by our rivals in India in 2001. Team of Mr. Kelash Sathiarthy Produced a documentary for Swedish Television that there is leakage of unstitched footballs from Sialkot to Sangla Hill where the child workers at very low rates stitch these balls. The major industrialists of Sialkot have deliberately created this stitching point to escape from ILO monitoring. The reality was disclosed by the fact finding mission by Sialkot Chamber of Commerce and Industry and the ILO, that the children which were shown stitching footballs were the school going children and the documentary was just a photo session.

4. METHODOLOGY, HYPOTHESIS AND SAMPLE SIZE

A sample of 60 child laborers below the age of 14 was collected from 12 villages near Sialkot city. There were two reasons selecting the children from these villages.

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[6] UNICEF (2002)

i)   Due to ILO, UNICEF and local NGOs intervention, no children were working in the main stitching units.

ii)   It is generally believed that the level of exploitation of children in the villages is much greater as compared to the main stitching units. The involvement of subcontractor makes this exploitation twofold at the village level.

After selecting twelve villages for interviewing the children, five children per village at random were selected to collect the data. The major handicap in data collecting was to get information from the children who were afraid from their parents. Parent's point of view was totally different. They thought that just like and NGO, we will shift their children from work to school and their permanent source of income will end.

The major hypothesis of the study were

1. Poverty: Poverty is the main reason of child Labor

2. Parents Education: Parents of Child Workers are illiterate

3. Family Size: Family Size of the Child workers is larger than the
    Average

4. Birth order of   The Child laborer is generally the eldest among all

5. Child Laborer   The Brothers and Sisters and supporting the
                          parents for their Education

6. Child Exploitation   Child Workers are exploited more as compared to
    their young counterparts

5. EMPIRICAL FINDINGS

Empirical findings of the study can be divided into two parts.

i)   Socio-Economic determinants

ii)   Work Environment and Exploitation

5.1 Socio-Economic Determinants

There are many reasons due to which the parents send their children to work instead of school. Children are sent to work to supplement the family income when the income of the main earner in the house is insufficient to meet the needs of the family. Poverty is generally considered as the most important factor

ontributing to child labor. Poverty here was measured in terms of the family ncome.

Table 6
Family Income and Number of Children Working

Family Income	Frequency of working children in the income group	Percent
2000-3000	18	30
3000-4000	22	36.7
4000-5000	16	26.6
Above 5000	4	6.7
Total	60	100

Source: Author's own calculations

The analysis of the family income of the working children explains that there is an nverse relationship between the income level of the family and the incidence of child labor. The incomes of the families are so low that they are not enough to atisfy their basic needs. They can not invest in their children's education and vait for a very long gestation period. Table 6 shows that problem of child labor is nore serious in families having income less than Rs.4000 and they supply 67 percent of child laborers. If we also include the income group of Rs.4000-Rs.5000, almost 93.3 percent of the child laborers belong to this income group. Just 6.7 percent of the child workers belong to the families having incomes more han Rs.5000. All these figures show that poverty is the main supply side determinant of child labor. The situation gets clearer when we also take into account the size of the family, which also shows the dependency ratio of a family. Many studies have shown a significant correlation between the family size and he incidence of child labor. It happens because a poor family thinks that the only asset that can bring out of the poverty trap is the number of earners so the population growth rate is higher in the lower income groups.

Table 7
Distribution of the Family Size of the Working Children

Family Size	Frequency	Percentage
5-7	28	46.6
7-9	18	30
9-11	10	16.6
11-13	2	3.4
13-15	2	3.4
Total	60	100

Source: Author's own calculations

Table shows that 76.6 percent of the children were from the families where the family has at least 9 members. 46.6 percent of the children were from the families having family size between 5-7 years. In my survey, there is no child having family size less than 5. It shows that as the family size increases, the probability of child participation in the labor market increases. It also shows that in this area, parents make use of children's ability to work, continuing to produce more children and sending them to work. In this situation children seem to be less of an economic burden of their parents to meet family expenditures.

Another important determinant of child labor is the adult literacy. The parent's perception about the value of schooling is the major determinant of child labor. The following table shows the empirical evidence of the relationship between the education level of the head of the family and the incidence of child labor.

Table 8
Education Level of the Head of the Family

Education Level	Frequency	Percentage
Illiterate	28	46.7
Primary Education	16	26.6
Elementary Education	2	3.3
Matriculation	10	16.7
College Education	4	6.7
Total	60	100

Source: Author's own calculations

Table shows that there is a negative relationship between the education level of the head of the family and the child labor. Higher the level of the education of the head of the family, the more is the probability of children not going to work. 46.7 percent of the child worker belongs to the family whose head is illiterate. 26.6 percent of the children belong to the family whose head has acquired primary education. 16.7 percent of the workers belong to the family whose head has acquired education up to the matriculation level. 6.7 percent workers belong the family whose head has acquired education up to college level. Only unusual observation is that just, 3.3 percent of the workers belong to the family whose head has acquired education up to the elementary level but it is only due to small sample size. On the whole the data trends show that as the education level of the head of a family increases, the incidence of child labor decreases.

Table 9
Reasons for not Continuing Education

Reasons	Frequency	Percent	Cumulative Percent
Financial problems	16	32	32
Teachers attitude	8	16	48
To help father at work	2	4	52
To learn skills	14	28	80
Parents attitude	4	8	88
Other	6	12	100
Total	50	100	

Source: Author's own calculations

Table 9 shows the reasons due to which these children could not continue their education. Out of our sample of 60 children, there were 10 children (16.7 Percent) who never attended schools. 32 percent of the children could not continue their education due to financial problems. They were unable to pay for the school fee or pay books. 16 percent children left school because of the teacher's attitude. Most of these children left school because teachers very harsh and they found no incentive in going to school. Their parents were not in a position to send them to other schools so they could not continue their education.28 percent children did not go to schools to learn skills. This is a very important factor in parent's decision to send a child to school or at work. These children showed no interest in sending their children to schools because they thought that they will be unable to continue their studies up to college level and the education acquired will not be sufficient to add to their earnings. They also sated one more thing, "who will guarantee a job for us after getting education?" There were only 8 percent children who left school due to parent's attitude towards education. They wanted their children to get some skill and make a good earning base for the future at a relatively low age. 12 percent of the children did not attend the school due to other reasons like, cultural factors and bad company etc.

Another important determinant of parent's attitude towards sending their children to work is to finance the education of other school going age children. This hypothesis can be tested with the help of following table.

Table 10
Order among Brothers and Sisters & other School Going Children in the Family

Order Among Brothers and Sisters	Other School Going Children in the Family							Total
	0	1	2	3	4	5	6	
1		2	8	4	6			20
2	2	4	2	2				10
3	2		4		2		2	10
4	2			4				6
5	6	2	2					10
6						2		2
8	2							2
Total	14	8	16	10	8	2	2	60

Pearson Correlation .0.34   Source: Author's own calculations

Cross Tabs in Table 10 shows that there is a relationship between the number of working child among brothers and sisters and the number of other school going children in the family. The Pearson correlation value between the two variables is 0.34, which means that there is a moderate relationship between the number among brothers and sisters and the number of other school going children in the family.

Studies have shown a very strong relationship between the family income and the age at the start of work. The families, whose income is less than their necessities, send their children to work to support the family. This can be shown with the help of following table.

Table 11 below supports our hypothesis that with the increase in family income, the age at the start of work also increases. The value of Pearson correlation coefficient is 0.20, which shows that the family income explains 21 percent change in the age ate the start of work.

Table 11
Family Income vs. Age at the Start of Work

e At Start of ork	Family Income (in Thousand Rs.)													Total
	2.0	2.5	2.8	3.0	3.1	3.5	3.8	4.0	4.2	4.5	4.8	5.0	6.0	
5		2										2		4
6				2										2
7	2													2
8		2				2	2	2		2		2		12
9		2	2		2	2						2		10
10		2				2		4			2		2	12
11				2				2	2	2				8
12	2					1				3			2	8
13								2						2
tal	4	8	2	4	2	7	2	10	2	7	2	6	4	30

earson Correlation 0.21   Source: Author's own Calculations

2. Work Environment and Exploitation

Vorking conditions of working child are very important in exploring the onsequences of child labor in a certain area. The payment given to children as is reward is also considered important in terms of exploitation of children. ccording to ILO, mostly the children work the longest hours and they are the orst paid of all the laborers. This aspect was also analyzed during the study.

o analyze the exploitation of children in terms of their wages, it is very important o study the chain through which they get the footballs to stitch. This relationship an be shown with the help of following diagram.

Figure 1

Stitching Within Factory Premises

Manager → Sub Contractor (RS.40-Rs. 58) → Workers (Rs.35-Rs.55)
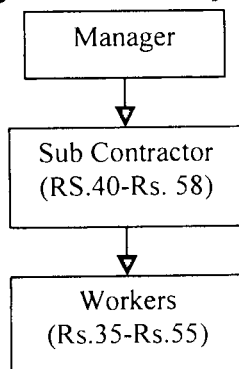
For stitching in the factory premises, the managers give the balls to the subcontractors at a rate per ball between Rs. 40 to Rs. 58. The stitching price depends upon the quality of the balls[7]. Children don't get involved in stitching the footballs in the factories. They get the football from another chain.

If a factory manager wants the footballs to be stitched outside the factory, he gives them to the subcontractor at a rate between Rs. 45-Rs.62. The subcontractor now gives the footballs to the middlemen in the villages who pay between Rs.10-Rs.16 to the Stitcher in the village earning almost 15 rupees per football. If the children stitch football without the bladder, they receive only Rs.7-Rs. 10 for stitching the whole ball. And the middle man now gives these incomplete footballs to other Stitchers including children for completing it and pays between Rs. 3-Rs. 4 for that. The detailed figure showing this framework is given in appendix 1.

This shows the extent of exploitation of children in terms of their wages. They stitch the football at a rate between Rs10-Rs16 whose stitching price is almost 50 rupees in the factory. The children are not only exploited in this wage rate, there is another sort of exploitation. If they want to have their wage at the end of a week, they receive at a lower rate as compared to, if they receive it after 15 days. There is a difference of 2 rupees per football if they want to have their wage at the end of the week. So the middleman and the subcontractors are the main gainers in this process. Our collected data also proves this situation which can be shown with the help of the following table 12.

Table12
Rate of Stitching a Football

Football Stitching Rate	Frequency	Percent	Cumulative Percent
10	8	13.3	13.3
11	2	3.3	16.7
12	16	26.7	43.3
13	12	20	63.3
14	4	6.7	70
15	8	13.3	83.3
16	8	13.3	96.7
20	2	3.3	100
Total	60	100	

Source: Author's own calculations

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[7] There are two types of soccer balls stitched. One is the local type and the other is export type. The stitching price of the local type soccer ball is less than the export type ball.

Table 12 clearly shows that 20 percent of the children received 13 rupees for stitching a football while 26.7 percent children received 12 rupees for stitching a football. There was only one child who received 20 rupees for stitching a football while all other ranged between 10-16 rupees. These children, if get the factory rate can improve their living conditions much but they can't join a factory because no worker less than the age of 16 is allowed to work there due to ILO monitoring.

The exploitation in terms of timings of wages can be shown with the help of the following data.

Table 13
Time of Salary

	Frequency	Percent	Cumulative Percent
Daily	2	3.3	3.3
After a week	8	13.3	16.7
Fifteen days	30	50	66.7
Monthly	20	33.3	100
Total	60	100	

Source: Author's own calculations

The table 13 above shows that just 16.7 percent of the children get their wages daily and after a week. 50 percent children get their wages after 15 days and remaining 33 percent children receive their wages after a month. This high percentage of workers receiving wages after 15 days and a month is only due to the factor of wage reduction.

This whole situation tells that children are exploited two times in terms of their wages and the middlemen and the subcontractors play the most important role in this exploitation. The table below indicates the working conditions of children in these five villages. It shows the reaction of the "Ustads[8]" if they commit some mistake during work.

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[8] Person for whom the Child Works

Table 14
Type of Punishment

Type of Punishment	Frequency	Percent	Cumulative Percent
Reduction in Salary	4	6.7	6.7
Abuse	8	13.3	20
Physical punishment	10	16.7	36.7
To stitch football again	32	53.3	90
Abuse and to stitch ball again	4	6.7	96.7
Other	2	3.3	100
Total	60	100	

Source: Author's own calculations

The evidence shows that 6.7 percent get problems in getting their complete salary and their "Ustads" deduct some part of the salary if they commit some mistake at work. 13.3 person children are those who face the verbal abuse of their masters and 16.7 percent of the children face the physical punishment. These are the children who do not work at homes but at their master's shop. 53.3 percent of the children have to stitch the football again if they are unable to stitch the ball correctly at the first time. There are other 6.7 percent children who face the abuse and they have to stitch the football again. It shows that the working conditions of the children are not so good. These types of punishments often wrap up their personality and make them physically and psychologically ill.

To study the impact of different variables on the working hours of the children, age at the start of the work, and family income, regression analysis was followed. Stepwise regression was used to select the variables for each of the equation. The variables used as the determinants of working hours were as follows.

1) Education

2) Number among brothers and sisters

3) Family income

4) Rate of stitching a football

5) Family size and family

6) Other school going children in the

The variables used as the determinants of the age at the start of Work were as follows.

1) Family income

2) Other school going children in the family

3) Education level of the children   4) Number of Jobs the child has already done

5) Number of literate members of the family, and

6)   Number among brothers and sisters

The variables used for the analysis of the family income were,

1)   Monthly Salary of child   2)   Education level of head of family

3)   Number of family members   4)   Literate members in the family

The values of these values were standardized to bring them on the normal curve and these standardized values were used for the regression analysis after selecting variables with stepwise regression analysis.

The results of the regression models are as follows.

Working Hours = 8.093 - .210* Rate of stitching a ball + .405* Other School going

            (3.227)   (-2.163)

Children in the Family

    (1.97) $R^2 = 0.122$

Family Income = 94.353 + 2.842* Number of literate members in the Family +

            (1.33)   (2.55)

0.227* Education of head of family + 1.96* Number of family members

    (1.86)   (3.774) $R^2 = 0.458$

Age at Start of Work = 6.672 + 0.520* Education of the Child +0.167* Number

        (6.897)   (4.110)

Among Brothers and sisters

    (1.873) $R^2 = 0.502$

The equation 1 shows that the main contributing factors to the working hours of the children are the rate of stitching of the football and the other school going children in the family. Equation shows that a one unit increase in the rate of stitching of the football will result in decreasing in the working hours by 0.21 units. It shows that the children have a certain income level in their mind, which they have to achieve. If the rate of stitching is high, they work less and as the rate decreases, they work more to achieve that level of income. It also shows that as one more child in the family goes to school, the child worker has to work 0.405 units more. The value of R-square is 0.122 which shows that the model explains 12.2 percent change in the dependent variable due to the explanatory variables.

The second equation shows that the number of literate members in the family, education level of the head of the family and the number of family members are the significant determinants of family income. If one more member in the family becomes literate, it will increase the family income by 2.842 units. The income level of the family will increase by .23 units with increase in the educational level of the head of the family. As the number of the family members increases by one unit, family income will increase by 1.96 units. This supports the hypothesis that poor take more children as their asset, which will bring them out of low income levels. This is one of the most important reasons of high population growth rates in the poor families. The R-square value of the model shows that it explains 45.8 percent change in dependent variable due to these variables.

The third equation shows that the main contributors to the age at the start of the work are the education level of the child and the number among brothers and sisters. It shows that with one unit increase in the level of the education of the children, the age at the start of the work increases by 0.520 units. With the increase in number among brothers and sisters, the age at the start of the work of the child increases by 0.167 units. The value of R-square shows that the model explains 50.2 percent of the change in the dependent variable due to the independent variables.

6. Conclusions

This paper is an attempt to point out some of the important socio-economic determinants of child labor in the football stitching industry in twelve villages of Sialkot. The main hypothesis to be tested was the relationship between child labor and variables like poverty, family size, family income, number of the child worker among the brothers and sisters and the educational level of the head of the family etc.

The analysis showed that the family income and poverty, literacy level of the family and the family size were the main determinants of child Labor. The analysis also makes comments of the level of exploitation of the children. They are exploited the most from start of the production process till the end.

Child labor eradication concern from the industry should become a part of poverty alleviation and human development strategies for this region. It is generally believed that the phenomenon of child labor and the school participation are mutually exclusive, which is not the case. Just stopping the children from working and not providing them with the facilities of acquiring good quality education is not a permanent solution to this problem. So child labor elimination program should be an integral block of broader strategy of human development.

Tackling the child labor issue calls for a holistic approach and knowledge of all the factors contributing to child labor in this particular scenario. Concentrating on prohibition of child labor without tackling income and employment opportunities and lack of access to resources may increase the poverty situation of the child workers' families, and may even lead to worse forms of illegal and underground use of child labor. Proper provision of the financial resources in the form of micro credit and guidance to the low income segments are very important in this regard to reach at some realistic and positive solutions.
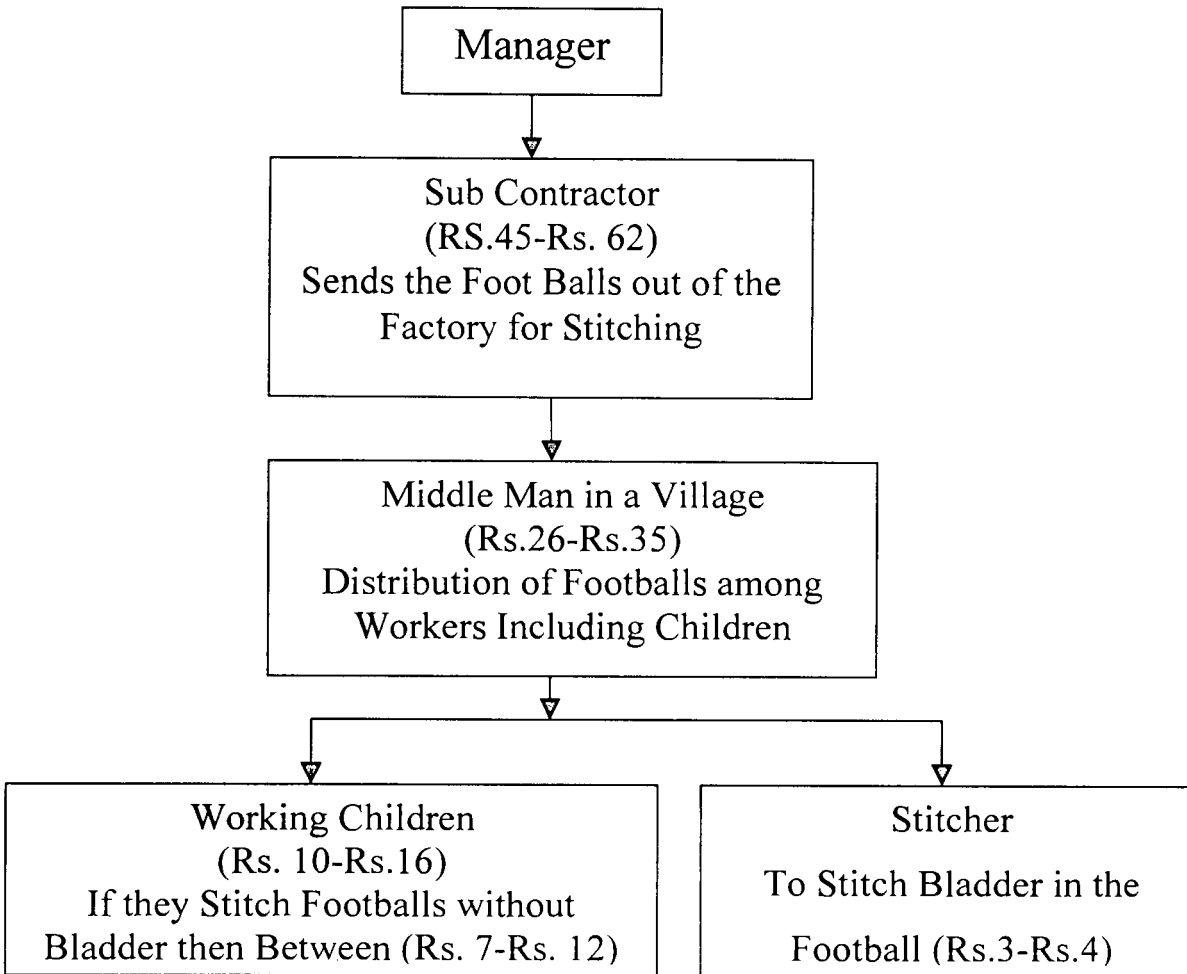
The data situation on the child labor in the whole country is not up to the satisfactory level. In the labor force surveys and the census reports, there is no data given between the age of 5-9 years. The data situation should be improved in order to understand the phenomenon of child labor in its multiple forms.

Education is the best possible alternative to child labor. In order to make it attractive, it needs to be affordable, of good quality and relevant to the needs of the community and economy. Basic primary education should be made compulsory for every child and child labor eradication concerns should become part of poverty alleviation and human development strategies as a target set for human development, as much as illiteracy eradication, preventive and curative health and poverty alleviation itself.

Child labor is a problem, which can not be alleviated from the society at once. A very long-term planning and commitment is required to uproot this problem from the society. Both the public as well the private sector will have to play a very important role here. The role of the state will come on the schooling and the law enforcing side while the role of private sector will come on the production side. According to our analysis, 16 percent children left their schools due to bad behavior of teachers and 8 percent of the children left school due to parent's behavior. So poverty was not the main reason of these 24% children in leaving their school. A proper training of the teachers is required to make the whole system incentive-based system and increase the quality of education. NGOs can play a very important role here. They can perform well on the both sides, to give trainings to the schoolteachers, enhance the quality of education and persuade the parents to send their children to schools. Sialkot has already experience a very well implemented program of Universal Primary Education with the help of UNICEF and local NGOs. At one time the enrolment rate in the primary schools reached to the peak of 97 percent with dropout rate of just 0.7 percent in just three years. This program achieved its two very important objectives but failed to bring about attitudinal changes in the people about the education because its time period was very short. The government also needs to enforce the labor laws very strictly in order to cope up with international pressure and train its human capital to use it in a better way. Private sector will also have to cooperate with the public sector because without their cooperation, it will be impossible to remove this problem form the country.

Figure 2:
Football stitching outside the factory

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                    ┌─────────────────────┐
                    │      Manager        │
                    └─────────┬───────────┘
                              ▽
        ┌─────────────────────────────────────────┐
        │          Sub Contractor                 │
        │          (RS.45-Rs. 62)                 │
        │     Sends the Foot Balls out of the     │
        │          Factory for Stitching          │
        └─────────────────────┬───────────────────┘
                              ▽
        ┌─────────────────────────────────────────┐
        │       Middle Man in a Village           │
        │          (Rs.26-Rs.35)                  │
        │     Distribution of Footballs among     │
        │       Workers Including Children        │
        └─────────┬───────────────────────────┬───┘
                  ▽                           ▽
┌─────────────────────────────┐   ┌─────────────────────────────┐
│     Working Children        │   │          Stitcher           │
│     (Rs. 10-Rs.16)          │   │                             │
│  If they Stitch Footballs   │   │  To Stitch Bladder in the   │
│  without Bladder then       │   │                             │
│  Between (Rs. 7-Rs. 12)     │   │   Football (Rs.3-Rs.4)      │
└─────────────────────────────┘   └─────────────────────────────┘
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Book Review:

Unlocking the Potential of Small Enterprises for Economic Development". By Iqbal M. Khan, Published by Sure Publishers Lahore, Pakistan 2004. Pp 222. Price Rs. 500.

The book comprises of eighteen chapters and deals with the importance of Small enterprises to Pakistan's economy. In the book, the author seeks to address all small enterprises instead of focusing only on small industries as in generally done since the concept covers all the three aspects namely, services, industry and business.

The first chapter of the book provides the reasons for the existence of the small enterprises in the economy and nature of structural changes in the industrialization process throughout the world. This chapter of the book mainly deals with the definitional issues of the small enterprises. The chapter concludes with the note that, small and micro enterprises should be treated separately and a serious study should be conducted in Pakistan to define the parameters of small, medium and micro enterprises to formulate the sector specific framework. Both, small and the medium enterprise sectors need specialized banks and development finance institutions for a sustained economic growth. This objective can be achieved through the international linkages with the multilateral agencies that facilitate in the exchange of technology and the experience.

The second chapter attempts to explain the role that small enterprises can play in bringing Social and Economic Harmony in the country through their labor absorption capacity. In Pakistan, small industries employ 73% of the manufacturing employment and account for 35% of industrial output. Due to their labor-intensive technology, small enterprises can help in creating a balance in ownership across different regions of the country and will provide a force that will be able to harness available economic resources and utilize them most efficiently for the betterment of the society. But this will need a very strong focus on the regulatory system of small enterprises. State Bank of Pakistan will have to play a very important role in this regard.

The third chapter of the book focuses on the role of small enterprises in promoting the self-employment opportunities. To create productive employment opportunities Pakistan will have to increase the productivity of the workers in this sector. For that purpose, government will have to intervene to impart technical skills through vocational training institutions and transfer of new technology. Creation of network of government, trade associations, unions and other social groups is also very important in achieving this objective.

In the fourth chapter, author explains the role of small enterprises in the internationalization of trade. The small enterprises face the problems of lack of information for export market, absence of guidance on export regulations, lack of information on quality standards for exports and absence of guidance on basic management issues relevant to the exporting firms in this regard. Government will have to give incentives to the small enterprises through tax holidays, capital subsidies, investment allowances, relief from excise duties, preference in government procurements, advanced licensing, preferential access to land and term loans to increase their participation in the international trade.

Fifth chapter of the book reinforces the importance of entrepreneurship and capacity building for the sustained growth of this sector. For building a strong entrepreneurial base in the country, policy aimed at introduction of the entrepreneurship education as a part of formal education is very important. For the capacity building purpose of the enterprises, financial institutions must insist up on the sponsors to go through a management training program aimed at the financial management, marketing, operations management and human resource management. This will help in developing a strong entrepreneurial base capacity building of the small enterprises in the country.

In the Sixth chapter, explains the importance of entrepreneurship education for the sustained growth of the economy. It requires a host of support for the "hand holding" of small enterprises. This cannot be achieved unless government educates the people to think in a particular way to achieve this goal. The author, through a theoretical debate and explaining the experiences of many countries shows that entrepreneurial culture has a very important role in promoting small enterprises. The empowerment of the spirit of entrepreneurship in the people is very important and by the development of the entrepreneurial attributes in the young generation through education system plays a very important role. This again calls for the introduction of the entrepreneurship education in the formal education system in the country.

In the chapter seven, the author explains the concept of "Business Development Services" and shows that the information about market, technology, skills, business innovations, resources in the form of raw materials and business linkages are very important for it. He concludes that the government has a very important role to play for their provision through creation of an enabling environment, in correcting and compensating for market failures and the provision of public goods and a proper infrastructure.

Chapter eight of the book focuses on the rationale for a Small Enterprise Development Bank. Most of the small enterprises face the problem of lack of finance due to higher lending cost, greater risk because of low equity, lack of revenue yielding services, administrative difficulties, low skill level of the employees and the primitive technology. The establishment of a small enterprise

development bank will help to promote the small enterprises because it will have specialized staff trained and oriented to the problems of these enterprises, small enterprises will not be overlooked, will make available the short-term loans, will provide loans to all the small firms, not just the manufacturing firms and will be authorized and be able to raise its own funds and credit line from multilateral, and regional banks. The small enterprise development bank will also have to provide the non-lending services including the programs for entrepreneurial development and greater emphasis on the human capital development and the use of information technology to get the desired results.

In chapter nine of the book, author calls for the importance of converting small industries corporation into the provincial small enterprise development authority in Punjab. It will be more effective to convert the corporation into authority rather than starting a new one because it already has the infrastructure of a development bank, the staff is experienced enough, it has a good database of industries, raw materials fabrication facilities, has an extensive network in Punjab so this organization can be expanded further to reach all the small industries clusters. So with this background, this organization can turn into a very important DFI.

Chapter ten of the book explains the importance of defining the role of commercial banks in small enterprise financing. Commercial banks do not consider long term financing as their activity and they also have a bias against small enterprises due the volatile cash and capital structure and low equity of these enterprises. The author calls for the establishment of a separate division for small enterprise financing within the banks on the basis of their potential for employment generation. Such specialized division should have its own management hierarchy, supported and guided by the top management. It should have its own regulatory framework including minimum loan amounts, collateral requirements and amortization amounts etc. so that it can direct its resources towards small enterprises.

Chapter eleven of the book discusses the issues of small enterprise financing with respect to different financial products. In most of the developed countries, the financial services generally covered for financing of small enterprises consist of venture capital, seed capital, angel financing, credit guarantee schemes, lease financing and securitization of loans. The financial services industry also provides access to other non-bank financial services such as superannuating, factoring and leasing and hire purchase. These services are not available in the developing country like Pakistan and banking industry itself is less sophisticated and unable to get into such types of secondary markets. They also don't have access to information and technology and the technical skills required to look into financing of small enterprises. So, there is a need to create an awareness of the emerging markets and the financing of this improvished market for small enterprises.

In chapter twelve, author explains the process of evolution of small enterprise sector in Pakistan. Small enterprises remain have been completely ignored during the history of the country. Economic development policies of the country favored capital-intensive technology ignoring the fact that it will create unemployment. Subsidized credit for small enterprises stimulated even more capital-intensive technologies. The need for small enterprise sector was impetrative but it was totally missing from Pakistan's industrial policy since 1990s. Considerable research work was done by UNDP in 1990s on small and micro enterprises and some considerable measures were taken in eighth five-year plan for the first time in Pakistan and different projects were started for the enterprise development.

Chapter thirteen concentrates on the definitional issues confronting small enterprises. There is more than one criterion for defining small enterprises within Pakistan and government has never considered definitions as important. At the same time, financial institutions are interested in maintaining a statement as it suits them as they can easily circumvent the rules owing to the existing definition paradigm. Further, the chapter gives a review of all the definitions used by different institutions in Pakistan but the author asserts that it is a misnomer. Small enterprises need to be properly defined in order to take a solid economic policy initiative.

Chapter fourteen gives the history and profile of small enterprise financing institutions in Pakistan. Major small enterprise development institutions in Pakistan are IDBP, SBFC, RDFC, local manufacturer machinery scheme, SME bank, Prime commercial bank, ABL, HBL, First women Bank limited and Orix leasing Pakistan equity limited. The only problem with all these financial institutions is that they have different definitions of Small enterprises and their loan portfolios cannot be compared due to the use of different definitions.

Chapter fifteen calls for the need of prudential regulations for Small enterprises through State Bank of Pakistan and proposes criteria for drafting this plan for Pakistan. The main issues to be focused in this regard are definitions for Small Enterprise are the development of mall enterprises through Sectoral studies and R&D, separation of small enterprises from medium enterprises in definitions, setting up of credit bank only for small enterprises only, training of small enterprise employees before getting loans, financing of entrepreneurship development of institutions in the SE clusters and the network of support services through partnership financing and venture capital.

Chapter sixteen explains the role of business incubators and technology parks for the development of small enterprises in the country. The enterprise incubators have a great potential for employment generation in the country but it requires the studies on technology parks, identification and promotion of specific industries, information on selected enterprises, training for management skills

and advisory skills depending upon the need of activity of marketing services. Thus, incubators can become large technology parks with the availability of good infrastructure, financial services, presence of advisory research centers and the availability of qualified human resources.

In chapter seventeen, author explains the importance of development of small industrial hub for the development of small enterprises in Pakistan but it requires a comprehensive policy concept for implementation of the institutional building of support system for small enterprises. This requires planned and focused provision of basic infrastructure, financial services and support network to the small enterprises through a separate government agency. The major objective of setting up a hub would be to better arrange the overall environment of small enterprises and giving the institutional assistance to facilitate them for entrepreneurship growth to integrate activities of support institutions in network and independence of support services for the network. Major functions of the hub will be to provide policy support services, HRD support services, financial support services, technology and environment support services, engineering and common support services, international linkage support services and information support services.

Chapter eighteen of the book gives a model for a regional support system SE development. It proposes that a positioning (SE Hub) is required to adopt this new model of small enterprise development. The purpose of the hub will be to create support centers and manage them through good governance. New Small enterprises can be developed through the functions of Hub's technology parks by venture creation for addressing unemployment. Supporting healthy relations with Small enterprises and self-help organizations for public-private partnership, linking one major hub to the hubs of other countries to develop networks.

The books is an interesting and innovative effort that takes into account all the employment generating potentials of the small enterprises and give some very important recommendations to unleash the advantage that these enterprises have over the large industries. The book is quite a comprehensive effort and is a must for the intellectuals, students and researchers working in this very important area.

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