IMPACT OF AGRICULTURE, MANUFACTURING AND SERVICE INDUSTRY ON THE GDP GROWTH OF PAKISTAN

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Abstract
The study will determine the effect of agriculture industry, manufacturing industry and service industry on the GDP annual growth of Pakistan. The finding of this study suggests that agriculture industry, manufacturing industry and service industry are significantly affecting the GDP annual growth of Pakistan. The study identifies the bottlenecks in its growth and suggests measures to remove them. A set of policy reforms has been suggested to make the sector more effective in the growth of the national economy. These three factors are most important for the economy of any country, especially for a developing country like Pakistan. Pakistan inherited an agrarian economy at its birth 1947. The results of the study indicate that agriculture sector is more important than other sectors of the economy for Pakistan. For the purpose of the study the secondary data was collected for 31 preceding years.

KEYWORDS: AGRICULTURE INDUSTRY, MANUFACTURING INDUSTRY, SERVICE INDUSTRY AND GDP ANNUAL GROWTH OF PAKISTAN.

Introduction

The study is conducted on Pakistan. Pakistan has a rich and vast natural resource base covering various ecological and climatic zones. This country is in the south Asian region of the world. Its local currency is Rupee. The study is conducted on the GDP annual growth. The GDP growth in Pakistan has been broad-based. The study has analyzed the factors affecting on the annual growth of GDP of Pakistan. There are only three variable selected as major contributors of the annual GDP of Pakistan. In the GDP of Pakistan, according the economic survey 2010, the contribution of agriculture sector was 21.2%, manufacturing sector contributed 25.4% and service sector contributed 53.4%.

GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.

The monetary value of all the finished goods and services produced within a country's borders in a specific time period, though GDP is usually calculated on an annual basis. It includes all of private and public consumption, government outlays, investments and exports less imports that occur within a defined territory.
Agriculture has an important direct and indirect role in generating economic growth. The importance of agriculture to the economy is seen in three ways: first, it provides food to consumers and fibers for domestic industry; second, it is a source of scarce foreign exchange earnings; and third, it provides a market for industrial goods. Agriculture corresponds to International Standard Industrial Classification (ISIC) divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3. Note: For VAB countries, gross value added at factor cost is used as the denominator. Growth in commodity producing sectors is vital as growth in this sector creates new job opportunities in the country. Decline in the share of commodity producing sectors in GDP results in joblessness and unemployment in the country. Manufacturing refers to industries belonging to ISIC divisions 15-37. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The industrial origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3. Note: For VAB countries, gross value added at factor cost is used as the denominator. Services correspond to ISIC divisions 50-99 and they include value added in wholesale and retail trade (including hotels and restaurants), transport, and government, financial, professional, and personal services such as education, health care, and real estate services. Also included are imputed bank service charges, import duties, and any statistical discrepancies noted by national compilers as well as discrepancies arising from rescaling. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. The industrial origin of value added is determined by the International Standard Industrial Classification (ISIC), revision 3. Note: For VAB countries, gross value added at factor cost is used as the denominator.

**Objective of the study**

The following are the objectives of the study:

- To determine the affect of manufacturing industry on the annual growth of GDP of Pakistan
- To determine the affect of service industry on the annual growth of GDP of Pakistan
- To determine the affect of agriculture industry on the annual growth of GDP of Pakistan
- To determine the interrelationship between manufacturing industry, agriculture industry and service industry
Scope of the study

The study will help in the following ways:

- The study will help the policy makers regarding making policy related to manufacturing industry
- The study will help the policy makers regarding making policy related to agriculture industry
- The study will help the policy makers regarding making policy related to service industry
- The study will be an addition in the literature of the topic.
- The study will be the base for future research in agriculture, manufacturing and service industry of Pakistan.

Literature review

Traditional macroeconomic accounting divides GDP into three principal categories: agriculture, industry, and services.

- Agriculture includes agricultural and livestock production and services; fishing; hunting; and logging and forestry.
- Industry includes mining and quarrying; manufacturing; construction; and electricity, gas, and water.
- Finally, services includes transport, storage, and communications; wholesale and retail trade; banking, insurance, and real estate; ownership of dwellings; public administration and defense; other services; and statistical discrepancies.

Numerous studies have shown a link between agricultural productivity growth Hazell and Ramasamy (1991). Econometric evidence suggests that agricultural growth is more effective in reducing rural poverty than is industrial growth, though this relationship may not hold when ownership of land is highly skewed [Datt and Ravallion (1998); Timmer (1997) and Thirtle (2001)].

Ahmad, K. (2011) In 1950 agriculture sector in Pakistan employed 68 percent of labor force and over 80 percent of the total population was directly or indirectly dependent upon agriculture sector.

Starting with Clark (1941) Kuznets (1957) and Fuchs (1980) observe that shifting the population or structure changes from agriculture to manufacturing and from manufacturing to services in the course of economic development. Kongsamut, et al. (2001) estimates for 123 countries from 1970-80 that with increase in services raises the per capita GDP of these economies. These economies move from agriculture sector to more in services sector and less in industrial sector. Rath, et al. (2006) analyses that higher growth in services sector leads to India’s economic growth.

A share of service sector has been increasing in major activities of economy. The service sector has major contribution in value added and gross fixed capital formation (GFCF) in Pakistan. Employment share in services sector is increasing, people are moving from agriculture sector to services sector. Service sector is also important sources of revenues as 26 percent of revenues are received from taxes compare with 1 percent from agriculture sector.

Data and Methodology

The data has been collected from the secondary source known as world development indicators from the year 1980 till 2010 consecutive years. There are basically four variables included in the model that are agriculture, manufacturing, services and GDP Growth of
Pakistan. We are testing the time series data so we use co integration technique. The co integration test provides the basis for tracing the long-run relationship between variables and to check the effect of independent variables (agriculture, manufacturing and services) on dependent variable (GDP Growth of Pakistan).

\[ \text{GDP} = \alpha + \beta_1 \text{(Agriculture)} + \beta_2 \text{(manufacturing)} + \beta_3 \text{(services)} + e \]

**Definition of the variables**

- GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.

- Agriculture corresponds to International Standard Industrial Classification (ISIC) divisions 1-5 and includes forestry, hunting, and fishing, as well as cultivation of crops and livestock production.

- Manufacturing refers to industries belonging to ISIC divisions 15-37. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources.

- Services correspond to ISIC divisions 50-99 and they include value added in wholesale and retail trade (including hotels and restaurants), transport, and government, financial, professional, and personal services such as education, health care, and real estate services.

**Empirical Results**

In this study we find out whether there exists a long run relationship between independent variables (agriculture, manufacturing and services) and dependent variable (GDP Growth of Pakistan). To empirically estimate the long run relationship we employed the multivariate co integration technique (Johansen Juselius). The first step in this analysis is concerned with establishing the degree of integration of each variable. We apply the test for the existence of a unit root in the level and first difference of each of the variables in our sample using the Augmented Dickey Fuller (ADF) test. ADF test statistics check the stationary of series. The results presented in Table 1 reveal that all other variables are non stationary in their level. However, the variables are found stationary at first difference.

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1 Stationarity tests is important for at two reasons: (I) the statistical assumption of the stationary of the covariance, this assumption should not to be violated the time series economics (II) failure to account for stochastic trends in the data series means miss specifying the model.
After the establishment of all the series and satisfied that they are stationary at same level, co integration method is used to estimate the long run relationship among the variables agriculture, manufacturing services and GDP Growth of Pakistan.
Table-2: Johansen Juselius Co integration

Trend assumption: Linear deterministic trend
Series: LNGDP LNAGRI LNMANU LNSER
Lags interval (in first differences): 1 to 1

Unrestricted Co integration Rank Test (Trace)

<table>
<thead>
<tr>
<th>Hypothesized No. of CE(s)</th>
<th>Eigen value</th>
<th>Trace Statistic</th>
<th>0.05 Critical Value</th>
<th>Prob.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>0.739606</td>
<td>58.99900</td>
<td>47.85613</td>
<td>0.0032</td>
</tr>
<tr>
<td>At most 1</td>
<td>0.414660</td>
<td>21.32333</td>
<td>29.79707</td>
<td>0.3378</td>
</tr>
<tr>
<td>At most 2</td>
<td>0.175767</td>
<td>6.327580</td>
<td>15.49471</td>
<td>0.6568</td>
</tr>
<tr>
<td>At most 3</td>
<td>0.032155</td>
<td>0.915138</td>
<td>3.841466</td>
<td>0.3388</td>
</tr>
</tbody>
</table>

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

GDP = 10.41900 (Agriculture) + 11.77431 (manufacturing) + 19.84788 (services) +e

The results from the Johansen Co-integration analysis are present in Table 2 where the Eigen value and trace statistics examine the null hypothesis of no co-integration against the alternative of co-integration. Therefore, analysis of annual data from 1980 to 2010 appears to support the proposition that there exists a stable long run relationship among Growth of Pakistan and the independent variables i.e. agriculture, manufacturing and services. Diagnostics test have been applied.

Conclusion
In this research paper our focus is on the variables that share GDP growth of Pakistan. We find out that there is positive relationship among variables. Agriculture sector recorded a modest growth of 1.2 percent in 2010-11 but provided much-needed support to boost exports, revival of manufacturing sector and caused upbeat in the consumption. Agriculture has lost significant growth momentum as its growth slowed to 2.7 percent in the decade of 2000s against 4.4 percent in 1990s and 5.4 percent in the 1980s. The reason was structural problem. Agriculture sector still can provide essential input for agro-based industry.
Within the industrial sector the share of mining and quarrying in GDP that was 2.6 percent in 2007-08 declined to 2.5 percent in 2008-09. Similarly, share of manufacturing declined by 1 percentage point from 19.2 to 18.2 percent of GDP due to the power, gas shortages and other factors in 2008-09.

Services Sectors: The share of services sector, which was 50.7 percent of the GDP in 1999-2000, has increased to 53 percent in 2007-2008 and further increased to 53.8 percent in 2008-09 owing to dull performance of industrial sector.

Improvement of agriculture sector will help to improve the other sector of the economy. The government should focus on the services sector because this sector is playing an important role in GDP Growth of the country.
References

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http://www.indexmundi.com/pakistan/gdp_composition_by_sector.html
