Foreign Direct Investment and Economic Growth in Pakistan: Sectoral Analysis

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Foreign Direct Investment (FDI)

- Definition: An investment abroad, usually where the company being invested in and is controlled by the foreign corporation.
- Two Theories of FDI- Modernization and Dependency
- Modernization theory based on Neoclassical and new growth theories.
  - FDI contributes positively to the economic development of the host country.
  - Increases the level of social wellbeing.

  - Reasons:
    - Foreign Capital influences the quality and quantity of capital formation.
    - Inflow of capital and reinvestment of profits increases the total savings of the country.

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- Government revenue increases via tax and other payments.
- Infusion of foreign capital reduces the balance of payments pressures of the host country.
- Inferior production technology in developing countries replaced by superior one from advanced industrial countries:
  - Transfer of technology, managerial skills, market information, organizational experience and the training of workers.

Pakistan's Case

- There is gap between savings and investment and this gap can be filled by transferring of resource from outside.
- To increase the volume of foreign capital the liberalization of trade and investment regime is necessary i.e.
  - Relaxing controls
  - Offering finance and trade incentives
  - Pursue active liberalization policies
  - Encourage investment in export-led sectors
  - Adopt investor friendly policies

FDI Policies

- Very Liberal regulatory regime.
- Freedom to bring, hold and take out foreign currency from Pakistan in any form.
- Privatisation of an enterprise is fully protected.
- Original FDI as well as profits earned can be repatriated to the country of origin.
- Equal treatment to the foreign investor and local investor in terms of import and export of goods.
- No double taxation on income earned by foreign investors.
- Foreign currency accounts are fully protected and they cannot be frozen.
- Foreign equity up to 100 percent is allowed in all sectors.
- No lower limit on the size of FDI in manufacturing sector

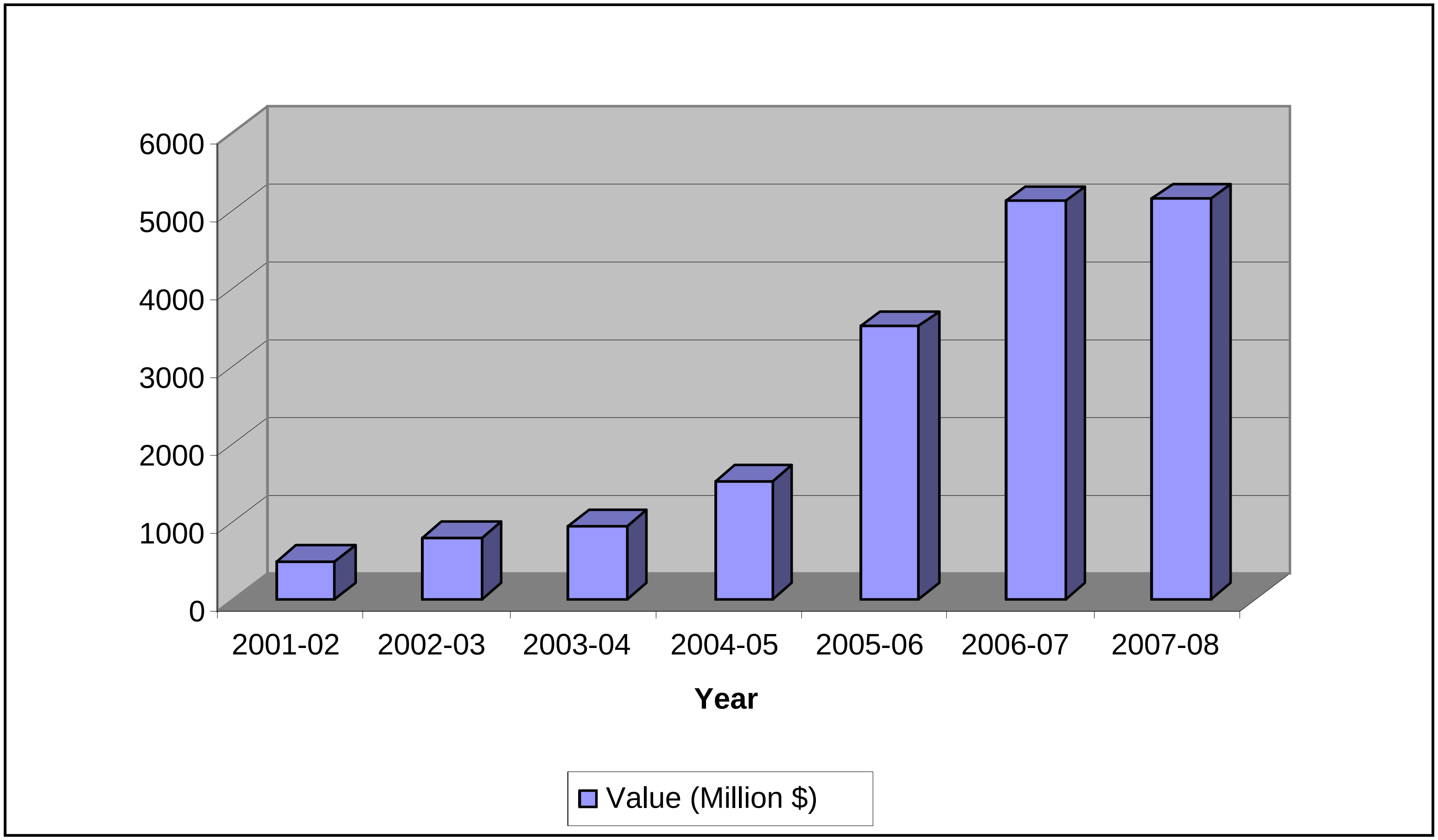
- In agriculture, infrastructure and social sectors the minimum amount of foreign equity investment is $0.3 million and in services sector $0.15 million.

- No government sanction is required to set up any industry (except arms and ammunition, currency and mint and alcoholic beverages).

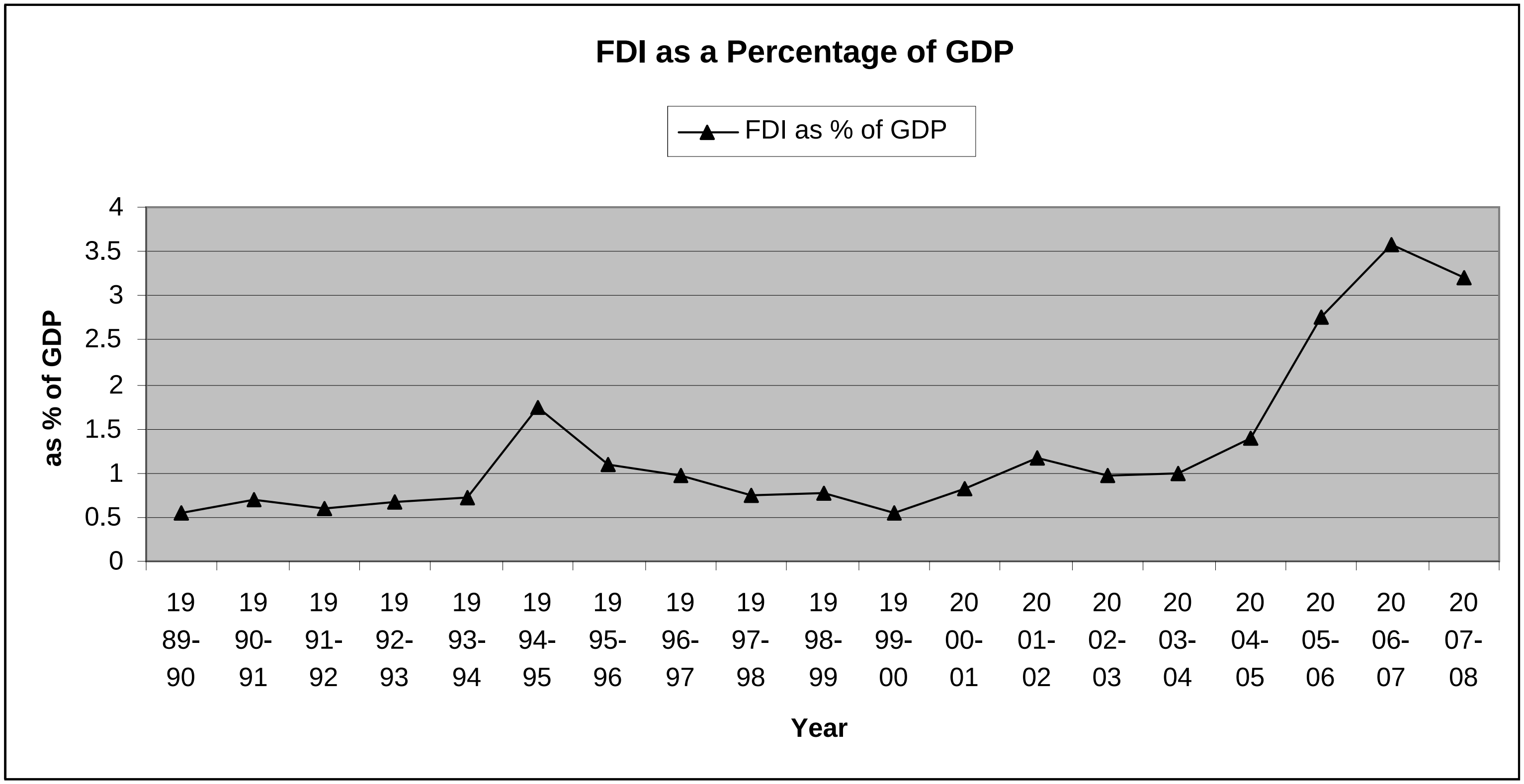
- Custom duty on import of plant machinery is 0 percent in the agricultural sector, while in the manufacturing, services, infrastructure and social sectors it is not more than 5 percent.

- There are no restrictions for payment of royalty and technical fees in the manufacturing sector, whereas in the non-manufacturing sector, a maximum rate of 5 percent of net sales is allowed.

Foreign Direct Investment in Pakistan



FDI as a Percentage of GDP



Year	Greenfield Investment	Privatisation Proceeds	Total FDI	Private Portfolio Investment	Public Portfolio Investment	Total Foreign Investment
2001-02	357	128	485	-10	-483	-8.4
2002-03	622	176	798	22	-261	559.1
2003-04	750	199	949	-28	339	1,260.70
2004-05	1,161	363	1,524.00	153	458	2,134.60
2005-06	1,981	1,540	3,521.00	351	613	4,485.00
2006-07	4,873.20	266	5,139.60	1,820	1,468.30	8,428.20
2007-08	5,019.60	133.2	5,152.80	19.3	20.8	5,193.00
2008-09 (July-April)	3,205.40	-	3,205.40	-451.5	-541	2,212.90
Total	**17,969.20**	**2,805.20**	**20,774.80**	**1,875.80**	**1,614.10**	**24,265.10**

Source: Board of Investment, Government of Pakistan

Sector wise Share in FDI
percent

	FY04	FY05	FY06	FY07	FY08
I Manufacturing	**17.9**	**16.8**	**7.1**	**18.8**	**11.9**
1 Transport equipment	0.3	2.2	0.9	1.0	2.2
2. Cement	0.2	0.9	1.1	0.7	2.0
3. Chemicals	1.6	3.3	1.8	0.9	1.5
4. Textiles	3.7	2.6	1.3	1.2	0.6
5.others	12.0	7.9	2.0	15.1	5.6
II Non-manufacturing	**82.1**	**83.2**	**92.9**	**81.2**	**88.1**
A-extractive industries	**21.4**	**12.8**	**9.2**	**11.2**	**13.2**
1. Oil & gas explorations	21.3	12.7	8.9	10.6	12.3
2.others	0.1	0.1	0.3	0.6	0.8
B-Other services	**60.6**	**70.4**	**83.7**	**69.9**	**75.0**
1. Communications	23.4	34.0	55.0	37.0	31.5
A) Telecommunications	21.8	32.4	54.1	35.6	27.9
B) Information Technology	1.4	1.5	0.9	1.4	3.5
2. Financial business	25.5	17.7	9.3	18.2	31.2
3. Trade	3.8	3.4	3.4	3.4	3.4
4. Construction	3.4	2.8	2.5	3.1	1.7
5. Transport	0.9	0.7	0.5	0.6	1.4
6. Power	-1.5	4.8	9.1	3.8	1.4
7.Others	5.2	7.0	3.8	3.9	4.3

Source: State Bank of Pakistan

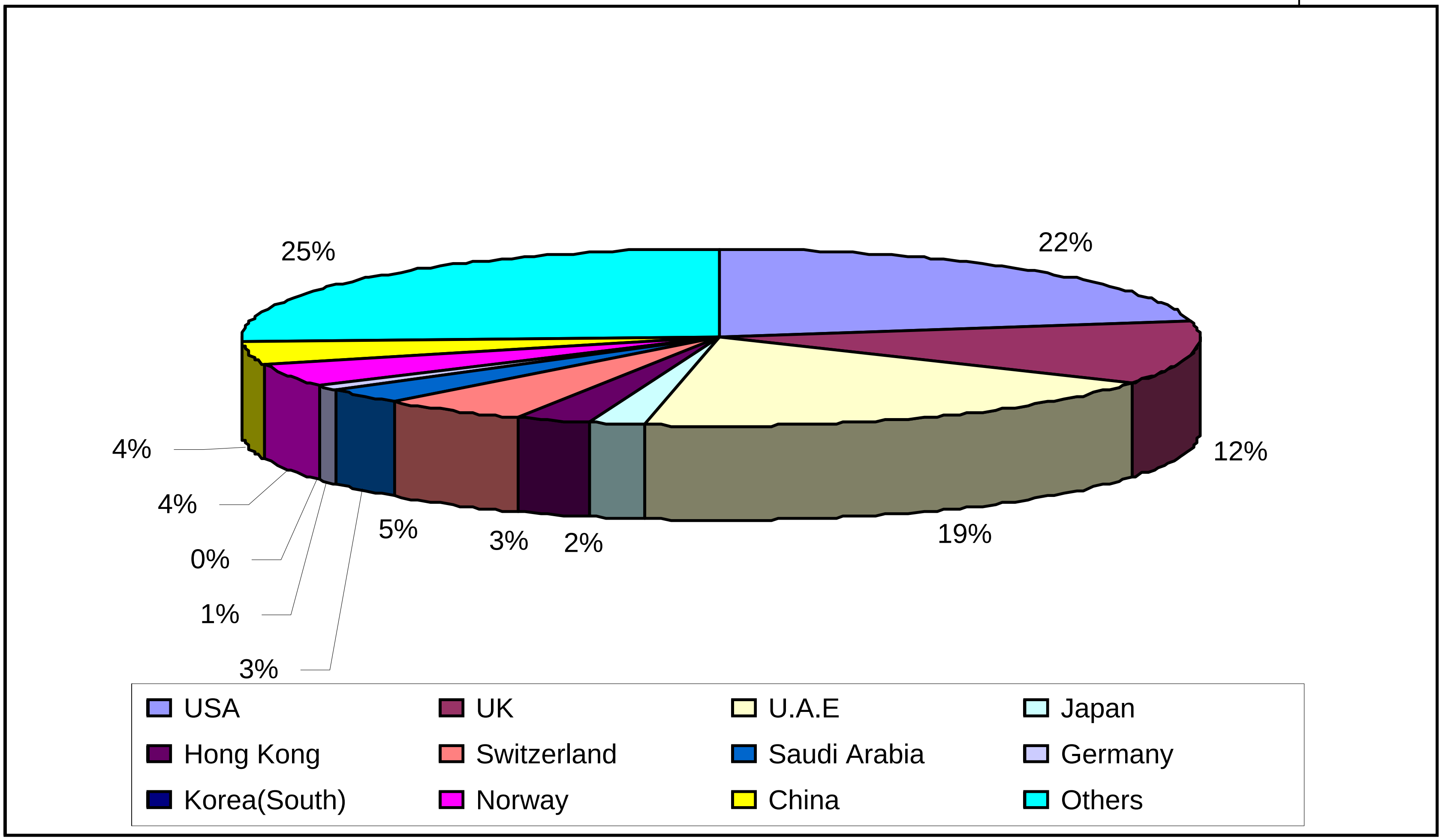
Country-wise FDI Inflows

Million ($)

Country	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2007-08 (Jul-April)	2008-09 (Jul-April)
USA	92.7	326.4	211.5	238.4	325.9	516.7	913.1	1,309.30	1,161.40	745.2
UK	90.5	30.3	219.4	64.6	181.5	244	860.1	460.2	304.8	220.2
U.A.E	5.2	21.5	119.7	134.6	367.5	1,424.50	661.5	588.6	535.3	170.2
Japan	9.1	6.4	14.1	15.1	45.2	57	64.4	131.2	100.3	65.2
Hong Kong	3.6	2.8	5.6	6.3	32.3	24	32.6	339.8	121.3	124.4
Switzerland	3.6	7.4	3.1	205.3	137.5	170.6	174.7	169.3	141.4	210.4
Saudi Arabia	56.6	1.3	43.5	7.2	18.4	277.8	103.5	46.2	37	-55.6
Germany	15.5	11.2	3.7	7	13.1	28.6	78.9	69.6	61.7	60.4
Korea(South)	3.7	0.4	0.2	1	1.4	1.6	1.5	1.2	0.8	0.9
Norway		0.1	0.3	146.6	31.4	252.6	25.1	275	154.8	91.9
China		0.3	3	14.3	0.4	1.7	712	13.7	13.2	-69.7
Others	41.9	76.6	173.9	108.6	369.3	521.9	1,512.20	1,748.70	1,087.10	1,641.90
Total	**322.4**	**484.7**	**798**	**949**	**1523.9**	**3521**	**5139.6**	**5,152.80**	**3,719.10**	**3,205.40**

Source: Board of Investment, Government of Pakistan

Country-wise Share of FDI Inflows 2001-08



Motivation

- No research carried out on the growth effects of FDI on sectoral level in Pakistan.

Industries Included in Panel

Broad Sector	Included Industries
Primary Sector	Agriculture, Forestry, Hunting & Fishing, Mining and Quarrying
Secondary Sector	Manufacturing: Large-scale and Small-scale; Food, Beverages, Tobacco, Textiles, Leather, Clothing, Chemical and Chemical Products, Basic Metals and Metal Products, Machinery Equipment and Electrical Machinery, Motor Vehicles and other Transport Equipment
Services Sector	Construction, Electricity and Gas Distribution, Wholesale & Retail Trade, Transport, Storage & Communication, Finance, Ownership of Dwellings, Other Services

Model

Following Chakraborty and Nannenkamp (2008)

$$gdp_{it} = \alpha_i + \delta_t + \beta_i fdi_{it} + \varepsilon_{it}$$

- gdp : Natural Log of real GDP
- fdi: Natural Log of FDI
- The short-run error-correction Model is:

$$\Delta gdp_{it} = a_i + \sum_q \gamma_i \Delta gdp_{it-q} + \sum_q \eta_i \Delta fdi_{it-q} + \lambda_i \varepsilon_{it-1} + u_{it}$$

Empirical Findings

- Test of Unit Roots:

IPS Unit Root Test

Variable	IPS
gdpit	-0.1171
fdiit	-0.4389
D(gdpit)	-5.1240*
D(fdiit)	-7.9672*

Cointegration Test

- Pedroni Test

	No C&T	Individual C
(within-dimension)		
Panel v-Statistic	-1.11 (0.866)	-0.55 (0.709)
Panel rho-Statistic	-3.25 (0.001)*	-1.92 (0.028)**
Panel PP-Statistic	-3.25 (0.001)*	-2.00 (0.023)**
Panel ADF-Statistic	-0.92 (0.180)	-0.04 (0.485)
(between-dimension)		
Group rho-Statistic	-1.83 (0.034)**	-1.42 (0.077)***
Group PP-Statistic	-4.09 (0.000)*	-2.04 (0.021)**
Group ADF- Statistic	-0.52 (0.302)	0.55 (0.710)

Cointegration Results

- null hypothesis of no cointegration is rejected by panel Rho and panel PP tests
- Panel v and panel Rho tests also reject the hypothesis of no cointegration between dimensions
- However, panel v and panel ADF tests fail to reject the hypothesis of no cointegration.
- Since panel rho and panel PP are assumed to be more reliable tests of cointegration
- We conclude that cointegration exists between GDP and FDI

DOLS Model

- Dynamic OLS
- Method: Panel EGLS (Cross-section weights)

$\mathbf{gdp}_{it} = a + ß(fdi_{it}) + \gamma_1 D(fdi_{it} (-1)) + \gamma_2 D(fdi_{it} (-2)) + \gamma_3 D(fdi_{it} (+1)) + \gamma_4 D(fdi_{it} (+2)) + e_{it}$

Long-Run Results

Variable	Coefficient	t-Stat	Prob.
C	9.85	9.21	0.000
fdit	0.31	2.44	0.000
Weighted Statistics:			
Adjusted R-squared	0.78	N 69	
F-stat	34.66		

- The coefficient of FDI is positive (i.e. 0.31) and significant, which suggests that FDI influences real GDP in the long-run.
- However, the impact of FDI inflows is not as large. This may be due to the inflow of just market seeking FDI.

Short-Run Results

Dependent Variable		Independent Variable	
	D(gdp)	D(fdi)	Error correction term
D(gdp)	-	30.83[0.000]*	0.38[0.536]
D(fdi)	25.60[0.000]*	-	4.49[0.026]**

- the null of no short-run causality running from FDI to GDP and vice versa is rejected, indicating a strong bi-directional causality between FDI and output.
- For the long-run, only the null of no causality running from GDP to FDI is rejected. This result implies that in Pakistan only market seeking FDI inflows in the long-run.

Sector-Wise Results

Sector	Dependent Variable	Independent variable	
		D(gdp)	D(fdi)
Primary	D(gdp)	-	49.87[0.000]*
	D(fdi)	0.81[0.937]	-
Manufacturing	D(gdp)	-	0.32[0.852]
	D(fdi)	5.63[0.060]***	-
Services	D(gdp)	-	10.00[0.040]**
	D(fdi)	4.48[0.345]	-

- primary sector: no causality running from FDI to output is rejected. This implies that in the short-run, FDI significantly affects the productivity of primary sector.
- manufacturing sector: no causality running from FDI to real output cannot be rejected. However, an evidence of causality running from real GDP to FDI is observed. This result implies that in manufacturing sector the bulk of FDI may be market-seeking and resource-seeking type.

- services sector: the evidence of one-way causality from FDI to GDP has seen. This result is consistent with the fact that in the recent years a substantial inflow of FDI in the services sector, especially in telecom sector, which played an integral role in growing the economy.

Conclusions

- FDI and real GDP were cointegrated and the DOLS estimates suggested that at the aggregate level, FDI is positively related to real output.
- an evidence of uni-directional causality between FDI and real GDP is observed in the long-run and in the short-run there exists bi-directional causality.
- uni-directional causality running from FDI to real GDP in the primary sector.
- uni-directional causality running from GDP to FDI for manufacturing sector

- uni-directional causality running from FDI to GDP for the services sector
- These results suggest that FDI promotes output in the primary and services sectors.
- policymakers may focus on attracting FDI in these sectors in order to attain short-term growth.
- the manufacturing sector has received relatively small amount of FDI; especially the textile sector has received low level of FDI inflows.

- This means that Pakistan has received little export-oriented FDI. Hence, there is limited role of FDI in export promotion.

Thanks