International Journal of Sciences: Basic and Applied Research (IJSBAR)

ISSN 2307-4531

http://gssrr.org/index.php?journal=JournalOfBasicAndApplied

Informal Employment and Foreign Direct Investment in Pakistan

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Abstract

In this study we analyze informal employment and foreign direct investment in Pakistan. The purpose of this study is to determine whether foreign direct investment impact on informal employment or not. The data used in this study is secondary data which has been taken from SBP, WB, LBS and FBS. In this study we use sample of 30 years from 1980to2010. We use OLS model to regress the data. Variable used in this study are Informal employment (dependent variable) and service sector, manufacture sector, FDI, electricity consumption, tax, export receipts, education level (independent variable. According to our empirical result there is positive relationship between informal employment and foreign direct investment, as a result of foreign direct investment informal employment increase in Pakistan because foreign investor take advantage of cheap labor. Informal employment is negatively related with export receipts, GDP, electricity consumption, manufacture sector and service sector. Informal employment is positively related with education level and tax rate. Policy implication of this paper is formalization of the informal economy has become a serious issue required to be resolved for Pakistan. In order to fight against the informal economy it is required to ensure that: This is formulated in an official Governmental policy. A permanent work groups is established. A strategic action plan is prepared.

Key Words

FBS (Federal Bureau of statistics);SBP (State Bank of Pakistan);WB (World Bank);LFSP (Labour force survey of Pakistan);FDI (Foreign Direct Investment);OLS (Ordinary least square);GDP (Gross Domestic Product);ICLS (International Conference on labour statistics);GNP (Gross National Product);EL(Education Level);EC (Electricity Consumption)

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1. Introduction:

The informal sector or informal economy is that part of an economy that is not taxed, monitored by any form of government, or included in any gross national product (GNP), unlike the formal economy. Other terms used to refer to the informal sector can include the black market, the shadow economy, the underground economy and System D. Associated idioms include under the table, "off the books" and "working for cash".
The original use of the term 'informal sector' is attributed to the economic development model put forward by W. Arthur Lewis, used to describe employment or livelihood generation primarily within the developing world. It was used to describe a type of employment that was viewed as falling outside of the modern industrial sector. An alternative definition uses job security as the measure of formality, defining participants in the informal economy as those 'who do not have employment security, work security and social security." While both of these definitions imply a lack of choice or agency in involvement with the informal economy, participation may also be driven by a wish to avoid regulation or taxation. This may manifest as unreported employment, hidden from the state for tax, social security or labour law purposes, but legal in all other aspects. There are three broad categories of informal sector workers/producers, one is owners and Owner-Operators (of Informal Enterprises), 2nd is Self-Employed (own-account-workers, heads of family businesses, unpaid family workers) and 3rd is Wage Workers (employees of informal enterprises; casual workers; home workers or industrial outworkers, domestic workers, temporary and part-time workers, unregistered workers).

The informal economy includes all those economic activities which are not reported or not included in the National Income Accounts. These include both legal and illegal economic activities. According to the Resolution adopted by the 15th International Conference of Labor Statisticians (ICLS), the legal side of the informal economy comprises of units such as household enterprises, engaged in the production of goods and services with the primary objective of generating employment and income to the persons concerned, not necessarily with the deliberate intention of evading the payment of taxes or other legislative or administrative provision.

The present study can be hopefully useful for analytical and empirical analysis of informal employment and FDI of our country (Pakistan). The informal economy includes all those economic activities which are not reported or not included in the National Income Accounts. These include both legal and illegal economic activities. According to the Resolution adopted by the 15th International Conference of Labor Statisticians (ICLS), the legal side of the informal economy comprises of units such as household enterprises, engaged in the production of goods and services with the primary objective of generating employment and income to the persons concerned, not necessarily with the deliberate intention of evading the payment of taxes or other legislative or administrative provision. This study includes the major determinants of informal employment such as self employed. GDP, Electricity consumption. Education level, Manufacture sector, Service sector, Export Receipts, External debt, Tax and especially FDI. The span of time for the study has been taken as three decades (1980 t0 2010) for the purpose of examining the informal employment of Pakistan.

1.1. Objectives:

This study examines the informal employment of Pakistan in an OLS framework with the following objectives.

- To determine whether there is any relationship between informal employment and determinants of informal employment (FDI, GDP, Electricity consumption, MS, SS, Education level, SE, tax, Export Receipts and ED)
- It will test the impact of informal employment on FDI, GDP, Electricity consumption, MS, SS, Education level, SE, tax, Export Receipts and ED during last three decade of Pakistan(1980 to 2010)
- To investigate the relationship between informal employment and determinants of informal employment as given in hypothesis.

1.2. Hypothesis:

- We hypnotized that there is positive relationship between informal employment and foreign direct investment.
- We hypnotized that there is positive relationship between informal employment and Tax

- We hypnotized that there is positive relationship between informal employment and education level
- We hypnotized that there is positive relationship between informal employment and Service sector.
- We hypnotized that there is negative relationship between informal employment and GDP
- We hypnotized that there is negative relationship between informal employment and export receipts

We hypnotized that there is negative relationship between informal employment and electricity consumption.
The rest of the paper is organized as follows: Section 2 outlines the review of relevant literature. Section 3 discusses the data and empirical methodology in detail. Section 4 analyzes the results and discussions. Finally, Section 6 comprises of the conclusion (also containing some public policy guidelines) of the paper.

2.2.Literature reviews:

The authors in [3] have analyzed the impact of foreign direct investment on Employment Opportunities. The data used in this study is panel data which has been taken from china, India and Pakistan over the period of 24 years from 1985-2005. In this study all of the data except GDP of Pakistan has been taken from IFS. The GDP of Pakistan has been taken from various issues of Economic Survey of Pakistan. In this study three variables (foreign direct investment, employment and GDP) are used for empirical investigation. In order to find out the long run relation between three variables this study first applied the unit root tests given by Im-Pesaran-Shin (IPS). Then, after getting the order of the integration the Pedroni's test of co integration is applied. Finally, a Seemingly Unrelated Regression (SUR) test is applied to find out whether FDI has an impact upon employment in case of Pakistan, India and China. Results suggested that only GDP has a significant impact upon level of employment in all of the three countries. In addition, FDI does not have any impact upon the creation of employment in Pakistan, India and China. This study results are similar to those of [1]. The policy Implicati on is that whatever other benefits may accrue from FDI it should not be expected to create employment opportunity in any of the three countries directly and FDI enhancement policies must be supplemented by the other measure to stimulate employment growth. Our estimation of the impulse response shows that the growth elasticity of employment on average in the three countries is extremely low and employment enhancing policies must be priorities. Employment growth will not occur in these three countries as a spontaneous consequence of growth in GDP. Shortcoming of this study is that it did not explicitly differentiate between direct and indirect impact of DFI growth as was done by [2]. This study did not find impact of FDI on employment opportunities in Pakistan, India and China. It may be due to time lag because FDI can also have impact on employment through economic growth.[3]

The authors in [4] have analyzed the impact of globalization on telecom industry in Pakistan .the data used in this study is primary data which has been collected from different districts of Pakistan. The Micro simulation method proposed in this paper relationship of both a CGE (Computable General Equilibrium Model) model and Household model. Is its bi directional relationship. The model line Globalization and its impact on economy of Pakistan and poverty on both household and rural spending. To compare the impact of Globalization on rural and urban population this study started with the simple model, which however integers all the standard characteristics of the CGE model of small under developed country. The demand system is derived from the Cobb Douglas utility function with two factors of Globalization and poverty relationship. Regarding the household model this study have an income function consisting of rural projects of FDI and their general impact on the rural households on consumption. The Household Model this model limited only capture the heterogeneity element in household behavior. There are two main factors Globalization and their impact on GDP and economic growth. In the second model linear expenditure system (LES) replaces the demand of system derived from Cobb-Douglas utility function. This exercise highlighted the contribution household disaggregating in the context of CGE modeling exercise and marginal contribution of introducing the heterogeneity elements. The results of this study provide significant implication of Globalization on the rural poverty in Pakistan. According to result of this study the urban population they are getting benefit of the FDI and huge employment and investment in the different sector provides the positive results for the urban population and there is significant change in the production and consumption of urban population. The result of this study shows that Globalization has significant impact on the economy of Pakistan. CGE Model has been gaining importance in policy analysis of the inequalities of poverty. Globalizations policies can affect in not only improve the economic growth but also help in poverty reduction policies. The task of the policymaker is to coordinate policies affecting the two areas in such a way as to optimize the contribution of Globalization to alleviate poverty in Pakistan.

The authors in [8] have analyzed the FDI Horizontal and Vertical Effects on Local Firm Technical Efficiency. The purpose of this empirical study is to examine the spillovers from foreign investment on technical efficiency of manufacturing small and medium size enterprises, both horizontally and vertically, in the context of the developing economy of Vietnam. The data used in this study is a panel firm level data, combining with industry level data on backward and forward linkages of FDI. The estimation of technical efficiency used in this study is the stochastic frontier analysis (SFA) method, which is invented simultaneously by [5] and [6]. to examine the relationship between FDI and technical efficiency of SMEs in same industry or other industry, we combine Javorcik (2004) approach in specifying and estimating a Cobb-Douglas production function. Variables used in this study are the total revenues of firm i operating in sector j at time t. Kijt is total assets of firm I at time t in sector j, which is determined at the end of the year. Lijt is the measure of labour, defined as the total permanent employees including the management at the end of the year. Where Horizontal, Backward and Forward are used as proxies for the horizontal and vertical effects of FDI on local enterprises as used by [7]. The OLS regressions on the impacts of FDI on productivity show that the direction of horizontal and vertical impacts of FDI on domestic manufacturing enterprises productivity and technical efficiency are relatively consistent. the sign of the coefficient means that FDI has negative impacts on domestic enterprises by attracting high quality labour from them. find negative technical spillovers from foreign invested enterprises to their local suppliers in the upstream sector. In stochastic frontier models, production functions are established where firms' output is the dependent variable and its variation is explained by the mix of labour and capital as explanatory variables. In all models, we use sector dummy variables to capture the differences in production by enterprises in different industries. The results of the estimations show that, all the main independent variables are very significant. Except the time variable which shows that there is no significant technological change in the observed periods of time. Findings of the analysis of this paper are important to policy making in developing countries, where FDI is seen an important device to improve and expand the small and inexperienced domestic enterprise sector. In terms of horizontal spillovers, this study do not find the expected theoretical labor mobility effects of the technical efficiency from foreign invested enterprises to domestic enterprises.

Mubarak [9] has analyzed role of foreign assistance in economic development of Pakistan. This study evaluates current position of Pakistan's external debt and aid with special references to the effectiveness of external development assistance to Pakistan. This study is accomplished in the light of Paris Declaration , which seeks to address ways through which the effectiveness of external aid can be enhanced by overcoming the deficiencies of both donors and recipient countries. The data used in this study is secondary data which has been taken from Economic Survey, Government of Pakistan, various issues and Statistical Supplement Economic Survey. Data is taken from 1960 to 2006 period. This study use time series analysis. Variables used in this study are GDP Growth (%), External Debt, and Debt as % External Aid, Aid % of GDP, Export Receipts and Foreign Exchange Earnings. Pakistan has achieved relatively high growth rates in income and consumption since independence. Foreign aid and external borrowing made it easier to avoid hard policy choices and trade-offs. As a result Pakistan has lied beyond its mean for the last two decades, and has been fortune in bridging the gap between domestic savings and investment through heavy reliance on foreign savings and current income transfers from abroad. The external financing strategy pursued so for has placed a greater emphasis on foreign aid, external borrowing, and workers remittances. Pakistan would be better served by increasing those sources of external financing that are stable, have positive effects on growth, and are largely within the policy control of the Pakistani authorities, rather than contributing to depend on the traditional; sources, which have been found volatile, less stable, overly dependent on the whims and caprices of external policy makers and make a questionable contribution to growth performance. The external economic environment does influence the demand for exports, supply of FDI, and foreign assets of Pakistanis. But it has been found that, in general despite their short-term fluctuations, these sources of finance are influenced relatively more by domestic policy variables and hence can be relied upon to ma much greater extent for long-term development financing than worker's remittances, official aid, or external borrowing. At a latter stage of development, when the credit worthiness of a country is well established on the financial markets, commercial borrowing assumes a more stable role. Pakistan however, has yet to reach that stage. The main purpose of aid is to eradicate extreme poverty, promote gender equality, investing in health and education and achieving environmental sustainability. The active participation of recipients in the design and management of aid programs through effective partnerships with donor countries is an important tool in increasing their capacity to participate as equal partners in the global knowledge society. This would help create an environment, which will enhance the effectiveness of foreign aid. Capacity building for ODA management and Harmonization and simplification of donor procedures will also increase aid effectiveness. In countries where both macroeconomic policy and institutional capacity are strong, aid should be channeled more liberally in the form of budgetary

support, which could reduce cost overheads and simplify administration. Aid effectiveness also requires objective and rigorous evaluation of outcomes, the dissemination of information for purposes of institutional learning and mechanisms for the resolution of Conflict.

The authors in [10] have analyzed the Foreign Ownership and Employment Growth in Indonesian Manufacturing. The objective of this study is to examine the employment growth in Indonesia in a large panel of plants between 1975 and 2005, and especially in plants taken over by foreign owners from domestic ones. Data used in this study is secondary data which has been taken from the Indonesian Statistical Office for the period, 1975 to 2005 for all manufacturing plants with more than 20 employees. Estimation techniques used in this study are OLS estimation, probit model, fixed effects technique, propensity score matching and balancing property test. The variables included in this study are employment (dependant variable),plant (A vector of lagged plant characteristics, i.e. plant size measured by employment, energy intensity (quantity of energy per employee), which is a proxy for physical capital intensity, and inputs of intermediate goods, defined as raw materials, fuel, and lubricants, per employee), ownership(Ownership dummy variables indicating three ownership categories, private domestically-owned, private foreign-owned, and government-owned) and Dummy variables for year, industry (two-digit ISIC), and region (provinces aggregated into 5 regions). This study first used the OLS analyses on the whole universe of manufacturing plants. The equations include the ownership variables, Foreign and Government, and the reference group is therefore domestic-private firms. The coefficient for Foreign is positive and statistically significant, indicating a rate of growth in employment is higher in foreign-owned than in domestic-private plants. The coefficient for government is statistically significant. Large firms have comparatively low growth rates, as has been found in previous studies [10].This study also examine growth of the numbers of blue- and white- collar workers. The positive effect on the employment of blue-collar workers is substantially larger than the effect on white-collar workers. The effect of government ownership is also higher for blue- than for white- collar workers but both effects are small compared to the effect of foreign ownership. Finally, the negative effect of size and the positive effect of input per employee on employment growth primarily affect blue-collar workers, as is also the case for the positive effect from energy intensity. This study separates the effects of foreign takeovers from those of foreign ownership in general. The OLS estimate of the effect of foreign ownership aside from foreign acquisition effects is faster growth in employment. The effect of foreign acquisition is subsequent growth in employment faster than in domestic plants. The fixed effect approach looks at growth in employment within a firm before and after the acquisition and removes the time-constant unobserved plant characteristics that could confound the explanation of acquisition effects. The effect on blue-collar workers is about twice as large as the effect on white-collar workers. Moreover, the results indicate that domestic acquisition reduces the subsequent rate of employment growth, although only the effect on white-collar workers is statistically significant. The effect of FDI on employment might differ between trade regimes [11]. FDI flows drawn to a developing country to take advantage of cheaper labor costs would respond to an export-oriented policy by expansion. By contrast, FDI induced by import substitution policy is limited by the size and income level of the host-country market.[12]

[13] have analyzed the foreign firms and Indonesian Manufacturing wages. The data used in this paper is secondary data which has been taken from Indonesian Statistical Office. The data include all manufacturing plants with more than 20 employees in any of the years 1975-1999. Inclusion of plant identification codes enables us to construct a panel and follow the plants over time. The number of plants in the Indonesian manufacturing sector increased from 7,355 in 1975 to 22,041 in 1999 and the number of plants with foreign ownership from 263 to 1,710. The foreign presence is relative low in Food products, Wood products, and Paper and Pulp, and relative high in Basic Metal Industries, Fabricated Metal Products and Other Industries. The wage ratios between foreign owned and private-domestically owned plants . In 1975; wages were about three times as high in foreign- owned plants as in private domestic plants. The wage differences have gradually decreased over time and were in 1999 about 44 percent for blue-collar workers and 68 percent for white-collar workers. The difference in blue collar-wages has been high in Food products, Paper and Pulp, Chemicals and Non-Metallic Minerals, and in white-collar wages in Food products, Non-Metallic Minerals, Fabricated Metal Industries, and Other Industries. White-collar wages have been higher in private domestic than in foreign- owned plants in Basic Metal Products. Takeovers in both directions, foreign of domestic plants and domestic of foreign plants, were larger, on average, than existing domestic plants, overall and in almost every industry group in each period. However, takeovers in both directions were considerably smaller than existing foreign plants. Foreign takeovers were, on average larger than domestic takeovers, but the margin was small overall and not consistent among industry groups. Thus, with respect to size, takeovers were not a random selection among domestic plants or foreign eplants. Foreign takeovers were biased toward the larger domestic plants and domestic takeovers toward the smaller foreign plants.

In [13] the authors estimate substitution elasticity's between employees in parent companies and their foreign affiliates as well as between employees in affiliates disaggregated by geographical location and stage of development of the host country. Among their main findings is a very low degree of substitution between parent and affiliate employment. In contrast, employees in affiliates in different emerging market countries are found to have a very high degree of substitution, whereas the relationship between employees in affiliates in industrial countries and emerging market countries is one of complimentarily. All in all, the results point to a vertical production structure in which MNEs attempt to minimize costs by distributing production globally according to differences in skills and wages.

In [14] the authors have examined the effect of Foreign Direct Investment (FDI) on unemployment and welfare in labor-surplus economies in the post-globalization era by using a three-sector general equilibrium framework. The purpose of the paper has been to provide a theoretical discussion on the possible impact of exogenous increase in capital stock on unemployment and welfare in a transitional economy. In this paper a three-sector general equilibrium model in which unemployment of Harris Todaro type is incorporated. This study has been analyzed three-sector, small open, economy. One of the sectors is the industrial, protected, import-competing sector, . The other two sectors belong to the broad category of agricultural sector. One is the traditional, import competing agricultural sector producing wage goods and the other one is the export-oriented, modern agricultural sector . Next, this paper considered input use in different sectors. X is produced with labor and capital. Y is produced with the help of labor and land, while land, labor and capital are used in the production of Z. The result of this paper shows that if modern agricultural sector is land-intensive compared to the traditional agricultural sector, the flow of FDI aggravate the problem of urban unemployment. There also exists a possibility of immeserisation in the sense that welfare may decline in the wake of foreign capital inflow. The results in this paper are sensitive to the assumptions of factor intensity ranking and complementarily that is embedded in a three-sector general equilibrium model. Since unemployment and immeserisation are disturbing phenomena, they can be potential sources of discontent against capital market liberalization. A broad policy message of this paper is that capital flow in general and it's destination in particular should be judiously managed.[14]

In [15] the authors have analyzed the Patterns of Entry, Post-Entry Growth and Survival: A Comparison between Domestic and Foreign Owned Firms. This study compares the patterns of entry, survival and growth of domestic and foreign owned firms. The data used in this paper were obtained from an annual survey which has been conducted by the Portuguese Ministry of Employment since 1982. This study worked with the original raw data files from 1982 to 1992, which included over 100,000 firms in each year. Among other data, the survey recorded the share of equity held by non-residents, Moreover, the survey has a longitudinal dimension, and i.e. firms are identified by a unique number which allows firms to be followed over time. This study used a panel survey of data. Logit regression, sample average and weighted average techniques are used in this paper .This study analyzed entrants, industries entered, survival and post entry growth. The results of this paper show that foreign entrants also pay higher wages. A great deal of these wage differences is due to the higher education of the people employed by foreign firms. In fact, results shows that the proportion of people with college and high school degrees is remarkably higher in foreign owned firms than in domestic ones. These differences are also statistically significant. Comparing domestic entrants with Greenfield's and acquisitions, respectively. Acquisition entrants clearly enter industries where the intensity of entry is lower .This result is not entirely conclusive for the comparison between domestic and foreign firms entering by Greenfield entry. Domestic firms enter industries where entry rates are higher. These results arise because Greenfield entrants are disproportionately larger than domestic ones in industries with high entry rates. The probability that a person employed by a foreign firm holds a college degree is also higher than the corresponding probability for individuals employed by a domestic firm. Within foreign entrants, this probability is higher for Greenfield entrants. The estimated coefficients do not have a direct interpretation due to the non-linear ties of the model, but a useful statistic (the odds ratio) can easily be derived in this study. The odds ratio, that is, the ratio between the probabilities that one individual working for a foreign and for domestic firm holds a college degree, is given by the exponential of the estimated coefficient in the logit model .Acquisition entrants experience the lowest and domestic entrants the highest probabilities of exit in almost all periods. Moreover, a difference emerges in the comparison between firms that were newly created (domestic and foreign) and acquisition entrants. . The survival rates and the hazard rates for the three types of entrants are analyzed in this paper. While the first group of firm's experiences a significant decrease in the exit probability from the first to the second year, perhaps owing to some liability of newness. An easy way to compute a formal test on the time pattern of exit and to assess whether the decline in the hazard rates is statistically

significant is to regress (by weighted least squares) the log of the hazard rates on a constant and on the log of age . The results of estimating a logit model, where the dependent variable is 1 if the firm is still operating five years after entry and 0 if it exited. In the first specification, the independent variables are the two dummies discriminating between entry types. In the second specification, the 345 industry dummies are also included. In the model including industry effects, the estimate of the coefficients associated with the foreign dummies show a slight decrease relative to the models without industry dummies. However, they remain highly significant, and the relative odds ratio changes. Those firms that manage to survive grow in the post-entry period. For each type of entrant two measures of growth are used in this paper. The first measure (Firm Growth) is the average of the growth rates of firms in the sample. Each firm is weighted equally in this average. The second (Employment Growth) is the growth rate of total employment in firms in the sample. This rate is a weighted rate of growth, the weights being firm size in the beginning of the period three results emerge from analyses. The first is that firms grow over their lives. This holds for all of our entry types. The second is that the unweighted growth rate is generally larger than the weighted rate. This indicates that growth comes primarily from small firms, a result which is well recognized in the literature that has analyzed the growth of firms [15]. Third result is that foreign Greenfield entrants grow much faster than domestic entrants. This result is consistent with this paper finding that Greenfield entrants employ a more skilled labor force and are less likely to operate joint-ventures than are acquisition entrants. Employing a more skilled labor force, they are in a better position to exploit the superiority of firm-specific assets. On the other hand, due to the importance of their firm-specific assets, their contribution towards the value of firms increases relative to that of other potential partners. This makes them less likely to be willing to operate joint-ventures and share its profits, as found by [16] . It is very clear that from this study results foreign Greenfield entrants are those which experience the highest growth rate. This result still holds after controlling for industry affiliation. On the contrary, the growth rate of acquisition entrants is estimated to be lower than that of domestic entrants, but the difference is never statistically significant. This paper findings show that when the overall macroeconomic conditions worsen and prices fall in the market for firms, acquisition entry becomes more attractive relative to Greenfield entry. Foreign Greenfield entrants are more likely to be started in industries where concentration and scale economies are of lesser importance. Similarly, establishments created by new firms were found to grow faster than those which were created by ongoing firms . One of the limitations of this paper is that this paper does not analyze the identity of the foreign owners, and this paper could not pursue this line of investigation. New businesses typically have to learn about the environment and develop routines which enable them to deal effectively with it. By creating new productive facilities and adding new capacity to the market, entrants may provoke aggressive responses from incumbents. Greenfield entry also has greater benefits, as the whole firm can be designed in order to suit the foreign owner.[17]

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3.Data and methodology setup:

This section briefly outlines the empirical setup by illustrating data and structural and statistical approach to estimate the informal economy for Pakistan.

3.1. Data:

In my research paper dependent variable is informal employment and independent variable are FDI, GDP, Electricity consumption, MS, SS, Education level, SE, tax, Export Receipts and ED. Principle variable is FDI and other variable are exporting variables. This study is reviewed base .All the data used is secondary and published data. It is collected from various resources like FBS, WB, and SBP

3.1.1 .Data Sample:

The present study consists upon time series data for the last three decades of Pakistan informal economy. This study ranges from 1980 to 2010.It consist on 30 year of Pakistan informal economy. The time period from 1980 to 2010 is used with the purpose to see three decade performance of Pakistan informal economy

3.1.2.OLS (ordinary least square) :

The OLS method is one of the most popular and widely uses method for regression analysis. The method was developed by Cart Friedrich Gauses (1821) and has subsequently evolved to become CLRM. It mainly used to establish whether one variable is dependent on other or a combination of other variable. It entails establishing the coefficient of regression for sample and then making inference on the population

3.2. Methodology:

In this chapter, we formulate a framework of analysis to determine the effects of various factors on informal employment in Pakistan, which we have taken in our sample. The underlying objective is to explain the relationship between FDI and informal employment**.** In the Informal employment function we consider all those factors that can potentially play a meaningful role in the determination of informal employment in Pakistan. Informal employment is effected by FDI for that we employ FDI. Informal employment is also affected by other factors such as GDP, Tax , Electricity consumption, education level, external debt and export. In this respect we incorporate all these variables

Economic Model

INFEM=f (FDI, EXP, EL, ED, EC, SS, MS)

3.2.1. Statistical analysis:

In addition to descriptive analysis OLS regression model using Eviews software is use to explore the informal economy of Pakistan.

3.2.2. Econometric Model:

INFEM =Bo+B1 (FDI) +B2 (TX) +B3 (EL) -B4 (MS) +B5 (SS)
-B6 (EC) -B7 (EXP) -B8 (GDP) +U

INFEM = Informal employment
FDI = Foreign direct investment
SS = Service sector
MS = Manufacture sector
TX =Tax
EL =Education level
EXP = Export
EC = Electricity consumption
GDP = Gross domestic Production

4. Results and discussion

Here we describe the empirical result of this study. We analyze informal economy of Pakistan with the following determinants that are given below.

Table 1. Result table:

Dependent Variable: INFEM
Method: Least Squares
Date: 01/29/13 Time: 20:49
Sample: 1980 2010
Included observations: 31

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP	-0.327830	0.196029	-1.692351	0.0186***
FDI	1.885193	1.063291	2.972979	0.0901***
EXP01	-0.015940	0.007556	-2.109548	0.0465***
EL	0.181762	0.230034	2.790154	0.0379***
EC	-0.009876	0.013586	-0.726931	0.4749
SS	0.148668	0.388447	0.382723	0.1056
MS	-2.743764	0.591169	-4.641254	0.0001**
TX	3.396055	0.493095	6.887218	0.0000*
C	21.25450	20.67691	1.027934	0.3152

R-squared	0.934933	Mean dependent var	28.67742
Adjusted R-squared	0.911272	S.D. dependent var	6.084883
S.E. of regression	1.812522	Akaike info criterion	4.265016
Sum squared resid	72.27523	Schwarz criterion	4.681335
Log likelihood	-57.10776	Hannan-Quinn criter.	4.400726
F-statistic	39.51384	Durbin-Watson stat	2.127303
Prob(F-statistic)	0.000000		

* represent 1 percent level of significance, **represent 5 percent level of significance and *** represent 10 percent level of significance

4.1. Discussion:

4.1.1. Informal employment and FDI (Foreign direct investment):

FDI is positively related with informal employment. This relation is statistically significant. Due to foreign direct investment informal employment increase i,e when foreign invester invest in a developing country than they came technocrats from their country only labor hire from that country so informal employment increase due to foreign direct investment. FDI flows drawn to a developing country to take advantage of cheaper labor costs.

Employment in US affiliates is significantly influenced by relative wage levels in industrial as well as emerging market host countries. Moreover, even if affiliate production does not directly affect home production, the fact that the labour intensity of output varies significantly with wage costs is likely to influence home employment.

Employment growth is relatively high in foreign-owned establishments, although foreign firms
own relatively large domestic plants, which in general grow more slowly than smaller plants. For plants that change the nationality of ownership during our period, we find a strong effect of shifts from domestic to foreign ownership in raising the growth rate of employment, but no significant effects of shifts from foreign to domestic ownership. The faster growth of employment in the foreign-owned plants in general is concentrated in the takeovers, especially in the year of acquisition. Foreign takeover of a domestically-owned plant, on average, brings a large immediate expansion of employment.

4.1.2. Informal employment and Education level:

We measure education level by literacy rate. Informal employment is positively related with education level and this relationship is statistically significant. In Pakistan literacy level is so low, a person who can read and write is called illiterate so informal employment increase as a result of higher literacy rate on the other hand employment level is very low in Pakistan due to that unemployed peoples involves in informal employment.

4.1.3. Informal employment and GDP (gross domestic product):

Informal employment is negatively related with GDP. This relationship is statistically significant. When informal employment increase than GDP reduced because in informal employment also include illegal economy whose income is not include in GDP . A large income which is earn through illegal activities is not include in GDP so as a result of higher employment GDP reduced and vice versa.

4.1.4. Informal employment and Manufacture sector :

Manufacture sector growth is negatively related with informal employment. This relationship is statistically significant. When there is higher growth in manufacture sector than there is low informal employment because in manufacture sector being permanent employee. In manufacture sector informal employment is not exist.

4.1.5.Informal employment and Tax:

Informal employment is positively related with tax .Relationship between informal employment and tax is statistically significant. As a result of increase in tax informal employment increase because a large number of people do not pay tax and hide their income due to higher tax rate. Tax burden is significant determinant and play a dominant role in expansion/contraction of the informal economy in Pakistan. Due to higher rate of tax people hide their income, wealth and assets and cause reduction of GDP as a result informal employment increase in country.

4.1.6.Informal employment and Export:

Informal employment is negatively related with export receipts and this relationship is statistically significant. Informal employment decrease due to higher export receipts because due to new technology informal employment level reduced. In Pakistan most export is primary product which we gain from agriculture sector. In early time we use labour in agriculture but due to invention and new technology now we use thresher, harvester, fertilizer and pesticide etc in spite of labour which reduce our informal economy. Other export came from manufacture sector and in manufacture sector not being informal employment.

5. Conclusion and recommendation:

The present study explores the relationship between informal employment and foreign direct investment in Pakistan. It analyzes the impact foreign direct investment on informal employment coupled with some relevant control variables on employment using time-series data and econometric techniques. The empirical evidence suggests that foreign direct investment has impact on the informal employment generation in Pakistan. the proxy variables of informal employment are statistically significant and responsive to generate informal employment in Pakistan. Literacy rate also has positive impact on employment. Tax rate also positively related with informal employment. GDP, manufacture sector electricity consumption and export is negatively related with informal employment and statistically significant. Service sector is positively related with informal employment but statistically insignificant.

Based on empirical evidence we can say that the informal economy, one of the biggest problems of today's economies, has become a complicated concept with its causes, consequences, and functioning. Therefore, formalization of the informal economy has become a serious issue required to be resolved for Pakistan. In order to fight against the informal economy it is required to ensure that:

- This is formulated in an official Governmental policy.
- A permanent work groups is established.
- A strategic action plan is prepared.
- Registration of the enterprise and existence of financial accounting method.

- Cooperation and coordination among institutions are attained.
- An effective monitoring and evaluation system is developed.
- Formal activities are promoted.
- Improvement in tax system

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Annex

Table 1. Variable table with economic definition and data source

Dependent variable	**Economic definition of variables**	**Data source**
INFEM(Informal employment)	Informal employment (as % of total economy) continuous variable	Labour force survey
Independent variable		
EXP(Export)	Export of goods and services (million rupees) continuous variable	FBS(Federal Bureau of statistics)
GDP(Gross domestic product)	Gross domestic product (annually %) continuous variable	FBS(Federal Bureau of statistics)
EL(Education level)	Education level(literacy rate) continuous variable	FBS(Federal Bureau of statistics)
EC(Electricity consumption)	Electricity power consumption(kw per capita) continuous variable	WB(World Bank)
TX(tax)	Tax rate(as % of GDP) continuous variable	FBS(Federal Bureau of statistics)
SS(Service sector)	Service sector(as % of GDP) continuous variable	WB(World Bank)
MS(Manufacture sector)	Manufacture sector(as % of GDP) continuous variable	WB(World Bank)