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Telecommunication Infrastructure and Foreign Direct Investment in Pakistan: An Empirical Study

By Nayyra Zeb, Fu Qiang & Muhammad Shabbir

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Abstract- This paper explores the role of infrastructure availability, particularly with respect to telecommunication in stimulating Foreign Direct Investment (FDI) in Pakistan. Mobile cellular subscription is taken as a proxy variable for infrastructure along with market size, labor force and trade openness as explanatory variables. The study covers the time period from 1990 to 2012 based on the fact that mobile cellular service introduced in 1990s in Pakistan for the first time. Johansen test of Co-integration has been used to check the long run relationship between the variables and then ordinary least square technique has been applied to estimate the coefficients of all the variables. The results of empirical analysis indicate the positive significant effect of infrastructure in attracting FDI to Pakistan.

Keywords: FDI, telecommunication infrastructure, market size, Pakistan.

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TELECOMMUNICATION INFRASTRUCTURE AND FOREIGN DIRECT INVESTMENT IN PAKISTAN AN EMPIRICAL STUDY

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Telecommunication Infrastructure and Foreign Direct Investment in Pakistan: An Empirical Study

Nayyra Zeb ^α, Fu Qiang ^σ & Muhammad Shabbir ^ρ

Abstract- This paper explores the role of infrastructure availability, particularly with respect to telecommunication in stimulating Foreign Direct Investment (FDI) in Pakistan. Mobile cellular subscription is taken as a proxy variable for infrastructure along with market size, labor force and trade openness as explanatory variables. The study covers the time period from 1990 to 2012 based on the fact that mobile cellular service introduced in 1990s in Pakistan for the first time. Johansen test of Co-integration has been used to check the long run relationship between the variables and then ordinary least square technique has been applied to estimate the coefficients of all the variables. The results of empirical analysis indicate the positive significant effect of infrastructure in attracting FDI to Pakistan.

Keywords: FDI, telecommunication infrastructure, market size, Pakistan.

I. INTRODUCTION

The growth of world Foreign Direct Investment in recent years has created opportunities and challenges for economic development and growth, especially for developing nations like Pakistan. Employment creation, capital formation, managerial skills and technology, export promotion and market access are among the main benefits of FDI to the receiving host countries. The inflow of world Foreign Direct Investment increased from US \$200 billion in 1993 to US \$1.3 trillion in 2000. The share of developing countries as recipients of FDI flows increased considerably, reaching from 17.1% in 1988-1990 to 21.4% in 1998-2000 (UNCTAD, 2000). Over the last decade, FDI has witnessed a dramatic increase, grew at least twice as fast as trade (Gorg and Greenaway, 2004; Meyer, 2003).

In the mid-1980s, attraction of FDI has been one of the most important goals of many countries in the world. These economies not only liberalized trade policies and investment regime but also provided fiscal incentives to foreign investors through number of tax concessions and tariff reduction. During 1993-2003, 94% of 1718 regulatory changes made by countries all over the world that were favorable to Foreign Direct

Investment (UNCTAD, 2006). Government policy changes made it easier for foreign investors to invest into more economic sectors.

In 1990s, Government of Pakistan liberalized its trade policy and opened the sectors of energy, telecommunication, agriculture, banking and insurance to FDI which were not allowed before. Despite this, the level of FDI in Pakistan remained meager as compared to other developing countries due to rapid changes in political environment and inconsistent investment policies. However, FDI steadily increased in the post liberalization era. The FDI inflows to Pakistan increased from US \$119.6 million in 1975-1979 to US \$3299.8 million in 1995-1999. The amount of FDI increased from US \$485 million in 2001-2002 to US \$5409 million in 2007-2008 (BOI, Pakistan).

One factor that has drawn attention lately is infrastructure availability in the host countries. Analysts agree that telecommunication has become an enabling industry for business and commerce in today's world. Maintenance of a stable telecom sector results in increased businesses and trade and thus increasing economic performance of the country. In the mid-1980s, utility of telecommunication sector were recognized in the world and it was considered as prerequisite for economic development.

Telecom sector of Pakistan has attracted sizable investments after deregulation. Telecom infrastructure received more than US \$12 billion during the last seven years. During last few years, Telecommunication sector has emerged as major recipient of Foreign Direct Investment in Pakistan. FDI in telecom sector increased from US \$6.1 million in 2001-2002 to US \$1.8 billion in 2005-2006. During 2006-2010, FDI in telecommunication sector exceeded 35% of total FDI in the country. Table 1 depicts inflows of Foreign Direct Investment in different sectors of Pakistan.

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Table 1 : FDI share by major sectors (%)

Years	Telecom	Textiles	Oil & Gas	Power	IT	Financial Business
2001-2002	1.2	3.8	55.3	7.5	0.5	0.7
2002-2003	1.7	3.3	23.4	4.1	0.5	26.0
2003-2004	21.8	3.7	21.3	1.5	0.6	25.5
2004-2005	32.4	2.6	12.7	4.8	0.6	17.7
2005-2006	54.1	1.3	8.9	9.1	0.7	9.3
2006-2007	35.6	1.2	10.6	3.8	1.2	18.2

Source: State bank of Pakistan

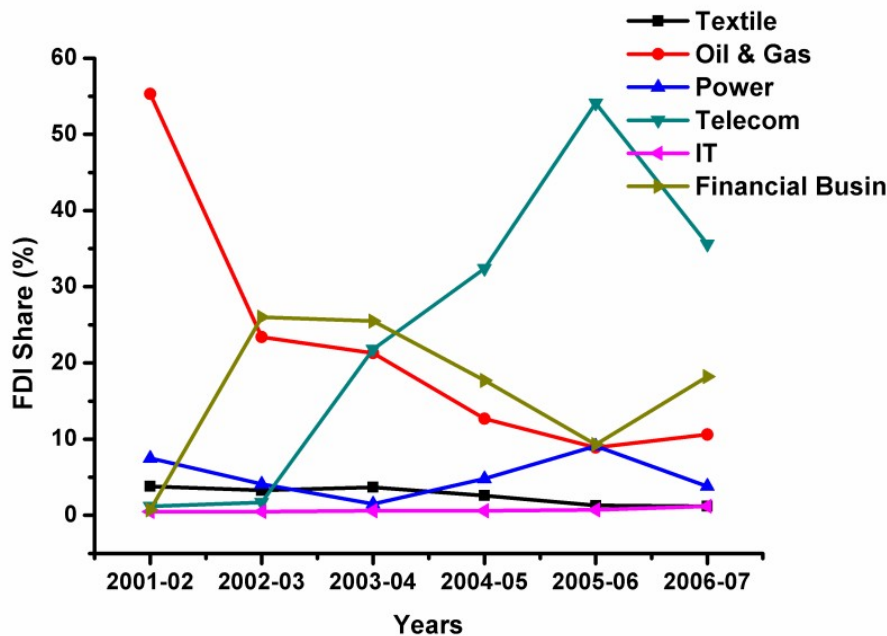


Figure 1 : FDI share by major sectors (%), Pakistan

As depicted from table1, telecom sector received 17% more FDI than Financial sector and almost 25% points more than Oil and Gas explorations in 2006-2007. Both of these sectors received greater amount of FDI a few years back. Similarly Textile, Power and IT received 1.2%, 3.8% and 1.2% FDI share during 2006-2007.

Major Foreign Direct Investment in telecom sector of Pakistan has come from cellular mobile companies. In Pakistan, five cellular mobile operators i.e., Telenor, Pakistan mobile communication limited (PMCL/ Mobilink), PTML (Ufone), Warid and China Mobile are providing services. At the end of March 2013, there were 121.13 million mobile subscribers compared to 118.32 million subscribers last year.

This study is mainly conducted to investigate the impact of telecommunication infrastructure on Foreign Direct Investment in Pakistan. The study is structured as follows: Section 2 provides the review of literature while analytical model is described in section 3. Section 4 discusses the analytical model's results followed by the concluding remarks in section 5.

II. REVIEW OF LITERATURE

Vast empirical literature exists on the relationship between Foreign Direct Investment and quality of Infrastructure in developing countries. Most empirical studies in FDI literature have found infrastructure to be a robust and significant determinant of FDI. Several studies have used large sample of countries and have used different proxy variables for infrastructure quality e.g. telephone mainlines, total length of roads, electricity generation etc. to be significant determinant of FDI. For instance Asiedu (2002) used a sample of 71 SSA and non SSA countries, Root and Ahmad (1979) used a sample of 58 economies, Wheeler and Mody (1992) for 42 countries over the period 1982-1988, Kumar (1994) and Loree and Guisinger (1995) described positive role of infrastructure in attracting Foreign Direct Investment.

Many studies show that infrastructure has different impact on developed and developing economies. For example Sekkat and Varoudakis (2007), Asiedu (2006), Iwanow and Kirkpatrick (2006), kok and

Erosoy (2009) investigated that Infrastructure has a significant effect on FDI in developing economies. Some other similar studies also observed the positive role of Infrastructure in attracting Foreign Direct Investment (Rehman et al., (2011) for Pakistan, Li and Park (2006) for China).

Most of the studies investigated positive and significant impact of Infrastructure on productivity and economic performance. Such as Aschauer (1989), Escribano and Guasch (2005), Straub (2011), Calderon and Serven (2010), Canning and Pedroni (2004), Easterly and Rebelo (1993), Jan et al. (2012) have

checked impact of different dimensions of infrastructure on development of different countries and found positive effect of infrastructure on productivity and economic performance during different time periods.

III. ANALYTICAL MODEL

To build an econometric model, it is necessary to explain the relevance of variables that determined FDI entrance in Pakistan. Although there are many factors that affect FDI but four variables were taken under consideration in the present study. The following model is proposed for regression analysis:

$$FDI = \beta_0 + \beta_1(INF) + \beta_2(LF) + \beta_3(MS) + \beta_4(OPEN) + \varepsilon. \tag{1}$$

The data comprises the period of 1990 to 2012 for Pakistan. The linkage between Foreign Direct Investment and Infrastructure is our particular concern. All the variables are treated as natural logarithmic form

(ln). The relationship between FDI and its determinants is analyzed using ordinary least square method. The variables and source of data is in the following table:

Table 2 : Determinants of Foreign Direct Investment in case of Pakistan

Source	Proxy	Variables
World Development Indicators	FDI (FDI in million US \$)	Dependent Variable: Foreign Direct Investment
World Development Indicators	INF (Mobile Cellular subscriptions)	Explanatory Variables: Infrastructure
State Bank of Pakistan	LF(Employed labor force)	Labor Force
World Development Indicators	MS (GDP in million US \$)	Market Size
World Development Indicators	OPEN (%age of GDP)	Trade Openness

IV. RESULTS AND DISCUSSION

The first procedure in time series data is to verify stationary of the series. This will be done through

Augmented dickey Fuller test developed by Dickey and Fuller (1979 and 1981). Results of ADF test are shown in Table 3.

Table 3 : ADF unit root test

ADF with 1st Diff.	ADF at Level	Variables
-3.23**	-1.51	FDI
-3.65**	-0.49	INF
-4.97*	1.89	LF
-3.96*	1.00	MS
-5.45*	-2.37	OPEN

*&** Reject the null hypothesis of non-stationary at 1% & 5% level of significance respectively.

The results presented in table 3 show that all the series were non stationary at level. When differentiated one, all the series became stationary with 1% and 5% level of significance. Since all the series are integrated of same order, it becomes necessary to determine the possible co- integration relationship between them. For this purpose, we use Johansen (1988) model which was further extended by Johansen and Juselius (1990) to find out the long run relationship between the variables. Initially we need to set the optimal lag length for our

model. According to Enders, SC test is thriftiest among others and it has specified one lag for our model. The results are presented in table 4.

Table 4 : Lag order selection criteria

SC	AIC	HQ	Lag
26.42506	26.17636	26.23033	0
19.63311*	18.14093	18.46477	1
20.32646	17.59080*	18.18451*	2

*indicates lag order selected by the criterion

Table 5 : Johansen Co-integration test

Hypothesized no.of CE(s)	Eigenvalue	Max-Eigen statistics	0.05 Critical Value	Prob.**
None*	0.815568	35.50000	33.87687	0.0318
At most 1	0.730506	27.53537	27.58434	0.0507
At most 2	0.483891	13.89018	21.13162	0.3741
At most 3	0.408977	11.04389	14.26460	0.1520
At most 4	0.272455	6.679665	3.841466	0.0598

*denotes rejection of the hypothesis at 5% level of significance

Results of table 5 show the existence of one co-integrating vector. This confirms the existence of long run relationship between Foreign Direct Investment and Infrastructure. As the long run relationship between the

variables was reached, now we can estimate the coefficients of our variables by using ordinary Least Square method. Table 6 shows the results of OLS.

Table 6 : Regression results of OLS model

Dependent variable: FDI				
Variables	Coefficient	Std. Error	t-statistics	Prob.
constant	22.5550	20.0633	1.1241	0.2757
INF*	0.5759	0.0852	6.7520	0.0000
LF	-0.0001	5.3405	-2.0599	0.0542
MS	-0.4226	0.8914	-0.4741	0.6411
OPEN*	0.1468	0.0252	5.8088	0.0000

R-Squared= 0.91

F-statistics= 46.06

Adjusted R-Squared= 0.89

Prob (F-stat) = 0.0000

Durbin-Watson stat= 1.96

*indicates significance at 1%

Results of table 6 present that INF which is the pivotal variable of our study is significant at 1% significance level and carry positive sign. The coefficient of INF represents that one percent increase in infrastructure increases FDI by almost 58%. Market size and Labor force variables are having negative relationship with FDI but the results were not found significant. The coefficient of our last variable is positive and has significant impact on FDI. It is concluded that if trade openness increases by one percent then FDI will also increase by almost 15%. The value of R²= 0.91 shows that 91% variations in dependent variable is explained by independent variables. Value of F-statistics is 46.06 and the probability is 0.000 which is less than one percent, this indicates the significance of our model. Moreover, DW statistic is 1.96 which shows that there is no autocorrelation exist in our model.

V. CONCLUDING REMARKS

The main interest of the present work was to study how telecommunication infrastructure is playing a role in attracting Foreign Direct Investments in Pakistan. Other variables namely Market size, Trade openness and Labor force were also taken under consideration along with infrastructure. The results indicated that there is long run relationship exist between Foreign Direct investment and infrastructure. One percent increase in infrastructure increases the level of FDI by almost 57%. This confirms the importance of Infrastructure in attracting Foreign Direct Investment in Pakistan. The availability of infrastructure contributes to productivity and economic development and thereby attract higher amount of FDI. The Government of Pakistan should pay

key attention to a good infrastructure by maintaining policies consistent with macroeconomic growth.

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The Retired, The Resigned, or The Laid-Off? Who are the Urban Self-Employed?

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Abstract- The study investigates the relationship between three different types of unemployment and urban self-employment in China. In spite of numerous studies on factors driving entrepreneurship and self-employment, previous literature has not shed a consistent light on the association between unemployment and self-employment. This study therefore drills down to three different types of unemployment— retirement resignation, and layoff to further conduct this investigation. Data from the China Labor Statistical Yearbooks are used. A panel data model is adopted to examine three different unemployment forces for self-employment propensity— retirement propensity, resignation propensity, and layoff propensity among the unemployed. We found that retirement and resignation among those unemployed are associated with self-employment rate growth, while the effect of those laid-off is unclear. The study interpreted the findings and indicated research limitations and future research directions.

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Abstract—The study investigates the relationship between three different types of unemployment and urban self-employment in China. In spite of numerous studies on factors driving entrepreneurship and self-employment, previous literature has not shed a consistent light on the association between unemployment and self-employment. This study therefore drills down to three different types of unemployment—retirement resignation, and layoff to further conduct this investigation. Data from the China Labor Statistical Yearbooks are used. A panel data model is adopted to examine three different unemployment forces for self-employment propensity—retirement propensity, resignation propensity, and layoff propensity among the unemployed. We found that retirement and resignation among those unemployed are associated with self-employment rate growth, while the effect of those laid-off is unclear. The study interpreted the findings and indicated research limitations and future research directions.

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I. INTRODUCTION

China, as an outstanding representative in the world of transitional economies has been intensively studied for its remarkable economic success. With overwhelming world attention focused on China's market, entrepreneurship and self-employment in China are often questioned while at the same time commanding widespread curiosity. Globalization and marketization in China makes private ownership increasingly cherished. The market plays an increasingly important role, even more important than is realized outside of China. Ownership of businesses and being self-employed start to gain popularity in China; Zhang (2013) has investigated and found an important role of entrepreneurship in economic growth in China.

Entrepreneurship is often measured by self-employment. While the relationship between unemployment and entrepreneurship or self-employment has not arrived at a conclusive or consistent consensus in previous literature, the detailed unemployment forces that is associated with self-employment in China has not been studied. With the rising private business ownership and the importance of market economy, the self-employed played an increasingly critical economic role. Further examining the relationship between three unemployment types and self-employment and under-

standing who the urban self-employed are therefore become the focal point of this study.

The value of this study is to goes one step further beyond Zhang (2013) to investigate forces related to self-employment, and to be more specific, the associations between different unemployment types and self-employment propensity in China in recent years. As a rising developing economy, the insights for self-employment forces we gain from China could be extended to the developed world in general.

II. LITERATURE REVIEW

a) *Unemployment and Self-employment*

The relationship between unemployment and self-employment has inconsistent literature evidence. Some literature finds that unemployment positively affects the probability of self-employment (Meager, 1992; Evans and Leighton, 1989; Bogenhold and Staber, 1991). Other investigators have found a negative relationship between regional unemployment and self-employment in cross-country studies (Blanchflower and Oswald, 1990; Acs and Evans, 1994; Taylor 1996; Blanchflower and Oswald, 1998). In China, approximately one third of entrepreneurs had experienced a spell of unemployment (Yueh, 2009).

On the one hand, from the macroeconomic perspective, when the economy is in the downturn, with an increasing unemployment rate, the market demand is low and there could be limited business opportunities. Workers suffer from reduced incomes and reduced availability of capital for self-employment, resulting in higher financial risk (Congregado, 2012). On the other hand, from the individual occupational choice perspective, many individuals have chosen self-employment when facing unemployment. Facing unemployment when paid jobs are difficult to get, workers' earning needs pushed them to seek for the alternative labor market option-- self-employment (Storey and Johnson, 1987). This is particularly true when the benefits of unemployment insurance is not attractive (Martinez-Granado, 2002; Parker and Rougier, 2004).

When unemployed workers chose self-employment or entrepreneurship, some are necessity entrepreneurs and some are opportunity entrepreneurs. Opportunity entrepreneur refer to people voluntarily choose to become the self-employed due to the consideration of individual positive benefits such as time flexibility, independence or freedom, wealth, self-

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fulfillers, health, and other personal motivation factors (Dawson, 2009). Necessity entrepreneurs refer to those who were pushed into self-employment due to external negative factor such as structural unemployment, the lack of paid employment, and layoff (Dawson, 2009). Among those who are unemployed and then choose to become self-employed, a largely share comes from older individuals. Self-employment on the other hand often serves as a —bridge job for older individuals (Quinn, 1980; Zhang 2008). Age therefore is a related factor in this investigation.

b) Factors for Older Individuals' Self-employment

Despite the collision of the recent large-scale economic downturn and the entrance of the first baby boomer cohort into wage-and-salary retirement ages, self-employment rates among older adults continue to be an important alternative to retirement in later life (Cahill, Giandrea, & Quinn, 2013). The prevalence of self-employment increases substantially with age, both because self-employed people work longer and many wage-and-salary ¹ workers, i.e. those working for others, turn to self-employment in later life. In fact, approximately 18% of employed persons over age 65 are self-employed (Hipple, 2004).

Zhang (2008) has found out that older individuals who have reached the average retirement age and are still active in the labor force are more likely than their younger counterparts to be self-employed and to be entrepreneurs. Outside of those who arrive in later life as self-employed individuals, people become self-employed in later life in response to both—push and —pull mechanisms (Zhang, 2008). With regard to —pull mechanisms, older people may find the opportunity for a flexible work schedule attractive due to the ability to balance work-life with other activities that are important during the early stages of later life such as self-care, volunteering, caregiving, or leisure activities. In this way, self-employment provides a model of employment that facilitates greater control and flexibility (Zhang, 2008). As explained by socio-emotional selectivity theory (Carstensen, 1992), as people age, their focus tend to change from career and family goals, to opportunities that allow them to focus on emotionally meaningful activities. Thus, self-employment itself may be a meaningful way for some to participate in economic activities, but it may also offer the flexibility to mix paid work with other unpaid meaningful activities.

With regard to —push mechanisms, as described by Zhang (2008), self-employment may be a choice for older workers who need to remain employed when wage-and-salary positions are not available or who feel their jobs no longer effectively utilize their human capital. Older workers' employment situation is

tenuous in times of economic uncertainty, in part because their salaries are higher and perceptions that they are less able to learn new skills. Coupled with factors associated with age discrimination, Lavarreda, Snyder, & Brown (2013) suggest that older workers were hit harder by the recent economic downturn than any other age group. Rather than being pushed out of the labor force completely, when faced with difficult options, some older workers choose self-employment.

As for the —pull mechanisms, according to Zhang (2008), many seniors would like to continue to fulfill their life by making good use of their invaluable human capital and wisdom. After working numerous years in life, seniors have accumulated abundant working experience, management skills, wisdom, networks and business ties, and they tend to be more ethical and loyal. Seniors also have better language skills. Human capital is the driver for our current economy, the knowledge economy. In this context, seniors with skills and human capital are a particularly valuable asset to our economy. Regardless of the —push or —pull mechanisms that lead to self-employment, self-employment could provide a way for older people to utilize their human capital to produce income for their own needs and benefit the overall economy (Zhang, 2008).

III. RESEARCH HYPOTHESES

Part of the reason that previous literature cannot found consistent relationship between unemployment and self-employment could lie in the diversity in unemployment types. Therefore, this study investigates further on the impacts of three different types of unemployment on self-employment. Using data from China Labor Statistical Yearbooks, we identified three types of unemployment among all unemployed individuals: being retired, laid-off, or resigned.

The three types are largely different from each other. Retired workers could retire with cumulated working experience, social ties, and even necessary wealth to be self-employed. Workers who resigned could resign for better career opportunities including certain entrepreneurial ambitions. Those two types, particularly the resigned, could be more likely to be opportunity entrepreneurs or opportunity self-employers when they choose to be self-employed or be business owners. However, for the retired, typically with fewer job opportunities elsewhere, they could also be necessity entrepreneurs or necessity self-employers if they could not find a job elsewhere but still need or want income.

People who are laid off were the ones who are unfortunate to be pushed out of wage-and-salary jobs. They could be fired due to poor performance, insufficient skills, or ethic issues. Those could become necessity entrepreneurs or necessity self-employers if they had the recourse to be self-employed. They could

¹ In this study, —wage-and-salary worker means workers who work for someone else as an employee, not working for themselves.

also be the ones who were laid off because company merger/acquisition issues, change of leadership and policies, or structural unemployed. Those workers do not necessarily have low skills and could not find a job elsewhere. Although they could become necessity self-employers, they could also become opportunity self-employers who on the one hand were pushed by the unemployment and on the other hand grasped the career opportunity to have more control for themselves. Moreover, those who are laid off might not go for self-employment, particularly if they lack certain skills, resources and determination to be self-employed. They could linger for government unemployment insurance benefits or await family members' help while looking for another job. Compared to the previous two types of unemployment, this group is the only one that could be eligible for unemployment insurance benefit because they are involuntarily unemployed. In addition, when the economy is suffering from downturn, the number of laid off workers will increase. The poor market demand would also self-employed businesses.

It seems that being opportunity or necessity self-employers is not the key dividing point for the diverging relationship between unemployment and self-employment. More importantly, whether workers are eligible or received unemployment insurance could be more relevant; equally relevant could be the macroeconomic factors. We therefore instead of using necessity versus opportunity self-employer, we just focused on the three types of unemployment. The laid-off propensity would be the only representing potential unemployment insurance eligible group and the laid-off also could reflected the macroeconomic ups and downs. Please note that we only focus on urban self-employment to exclude rural self-employment that could be less knowledge-based or quite different from urban self-employment. Our research hypotheses are:

The model is presented as follows:

$$DP(SE)_{it} = \alpha + \beta_1 DP(Retired)_{it} + \beta_2 DP(Laidoff)_{it} + \beta_3 DP(Resigned)_{it} + \beta_4 AgeGroup_{it} + \beta_5 Female_{it} + \sum \lambda_k Year_{it} + \epsilon_{it}$$

α, β, λ are regression coefficients.

i, t denotes individuals and year respectively.

k denotes the number of years, from 2005 ($k=1$) to 2009 ($k=5$).

D denotes a differenced term.

P denotes propensity. In this study it is in percentage points.

$DP(SE)$ denotes self-employment propensity change from year $t-1$ to year t , in percentage points.

$DP(Retired)$ denotes retirement propensity change from year $t-1$ to year t , in percentage points.

$DP(Laidoff)$ denotes layoff propensity change from year $t-1$ to year t , in percentage points.

$DP(Resigned)$ denotes resignation propensity change from year $t-1$ to year t , in percentage points.

$AgeGroup$ is for age groups with 1 for age group of 16-19, 2 for 20-24, 3 for 25-28, 4 for 30-34, 5 for 35-39, 6 for 40-44, 7 for 45-49, 8 for 50-54, 9 for 55-59, 10 for 60-64, 11 for 65 and up.

$Female$ denotes the gender dummy variable with 1 means female and 0 for male. $Year$ denotes the year dummy variables.

ϵ_{it} denotes the random error term.

1. Among the unemployed individuals for the recent years, a higher retirement propensity is related to a higher urban self-employment propensity.
2. A higher resignation propensity is associated with a higher urban self-employment propensity.
3. A higher lay-off propensity have a negative or insignificant association with urban self-employment propensity.

IV. METHODOLOGY

We used the data from the China Labor Statistical Yearbooks for annual employment and unemployment data covering years of 2005 through 2009, across eleven age groups and two genders. We therefore conducted a panel data modeling for this analysis.

Our dependent variable, $DP(SE)$, measures the changes of self-employment propensity from one year to a later year. The self-employment propensity is measure by self-employment rate for a specific age group of a specific year, then weighted by the corresponding population size to represent the unbiased population representation.

Our key independent variables include the propensity of being retired, $DP(Retired)$, being laid-off, $DP(Laidoff)$, and resignation, $DP(Resigned)$. Similarly, those three variable propensity rates also used corresponding population weights.

Our control variables include age, gender, and year. Age is the measured by age groups, with a higher value meaning an older age group. Totally 11 age groups are included starting with age of 16, the starting workforce eligibility age. Gender and year variables are dummy variables.

The model estimates are followed by diagnostics, such as VIF multicollinearity test, Breusch-Pagan (1979) and Cook-Weisberg (1983) test for heteroskedasticity, and residual plot examination. Panel data regression diagnostics are necessary to check the robustness of the model.

V. DESCRIPTIVE STATISTICS

The data shows that there is a slight upward trend for the mean self-employment propensity (in percentage) among all workers. For the three types of unemployment under observation, only the propensity of the resigned has a clear and consistent upward trend.

This indicates an increasingly large pool of career opportunities for workers, which is consistent with the rising China's economy during those years.

The overall retirement propensity among the unemployed also slightly trends up, though with fluctuations. The propensity of layoff had a little rise in 2006 and then trended down, and with an overall minor decline, comparing that in 2009 to that in 2005. This observing period of 2005-2009 is a high growth period with GDP growth rate ranging from 8.7% in 2009 to 11.4% in 2007, with 2006 and 2007 the highest growth rate, according to data from the National Bureau of Statistics.

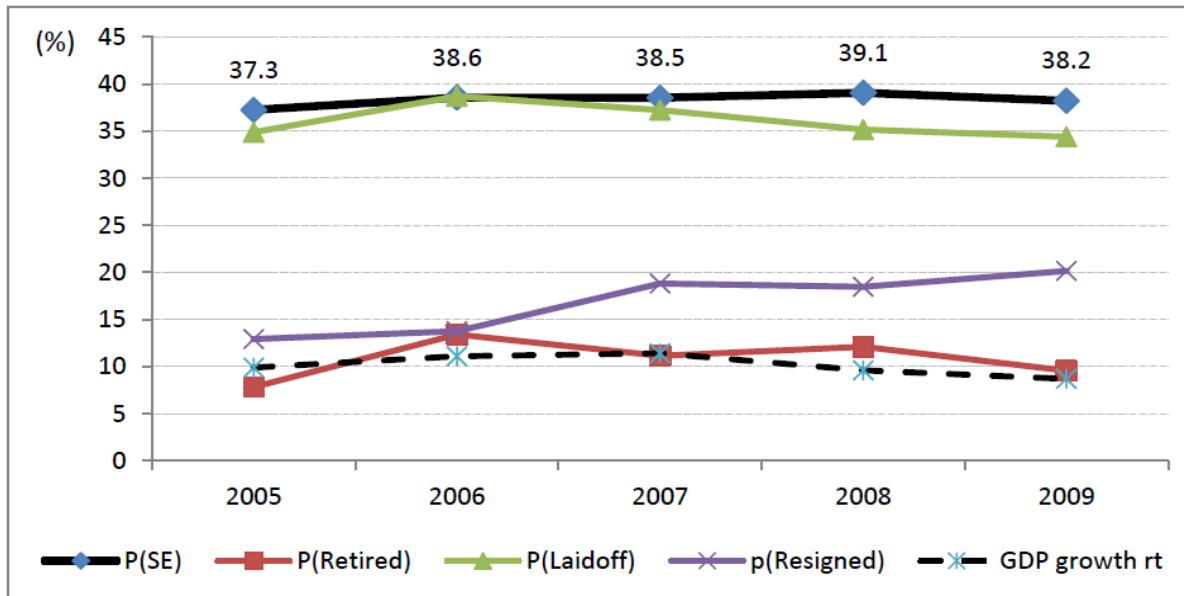


Figure 1 : Self-employment and Unemployment Type Propensity and GDP Growth Rate by Year

Based on our variable summary statistics (shown in Table 1), the mean change of self-employment propensity from one year to a later year was -0.24. This means averagely the self-employment rate dropped by 0.24 percentage points in the following year in China for years of 2005-2009. Please note that self-employment rate here is defined by the self-employed among all workers, not among the labor force or among the population.

The mean change of retirement propensity was 0.17, indicating an averagely 0.17 percentage point increase in the next year for the retirement propensity

among the unemployed. There is a gradually enlarging retirement population during the observing years. This reflects the aging situation among the unemployed.

The change of layoff propensity among the unemployed decreased by 0.51 percentage point yearly and the change of resignation propensity among the unemployed increased by 1.97 percentage points yearly.

The mean age group is valued at 5.3, meaning the average workers' age in China during 2005-2009 is between 35 and 39. Among China's workers for years of 2005-2009, 48% are female.

Table 1 : Summary and Variables

Variable	Mean	Std. Dev.	Min	Max
DP(SE)	-0.24397	1.252352	-3.7	5.9
DP(Retired)	0.169193	8.482766	-25.7	38.6
DP(Laidoff)	-0.50791	4.800101	-22.2	26.3
DP(Resign)	1.972804	3.835846	-11.1	11.3
AgeGroup	5.302829	2.31687	1	11

Female	0.484949	0.499811	0	1
Yr_2006	0.19876	0.399097	0	1
Yr_2007	0.19997	0.400008	0	1
Yr_2008	0.201331	0.401025	0	1
Yr_2009	0.201785	0.401363	0	1

VI. PANEL DATA MODEL ESTIMATES

Our panel data modeling results is presented in Table 2. Our results support our research hypotheses. Both of the retirement rate and the resignation rate among the unemployed are positively related to self-employment propensity. Controlling for all other variables, when retirement propensity change among the unemployed trends up by one percentage point, the self-employment propensity change among all workers increase by 0.01 percentage points. This is statistically significant at 0.01 level.

Holding other variables constant, when resignation propensity change among the unemployed goes up by 1 percentage point, the self-employment propensity change increased also by 0.01 percentage points and this is statistically significant at 0.1 level. This shows that those who are retired and those who resigned from their previous jobs in China during the years of 2005-2009 are more likely to be self-employed, compared to other types of unemployment, no matter they are pushed or pulled into self-employment. As mentioned earlier, those who resigned from their previous jobs could be the ones who have alternative career ambitions and options that their current jobs cannot satisfy and therefore they are very likely to shift to self-employed if other wage-and-salary jobs as an employee cannot satisfy those ambitions.

Those who are retired with skills and social capital have the resources to be self-employed; others who are retired but would like to or need to continue

working might find it difficult to find a wage-and-salary job as an employee and therefore are pushed into self-employment. Our result shows that those two types of unemployment, retired and resigned, contribute to a higher self-employment propensity.

However, the layoff propensity among the unemployed does not seem to have a clear association with the self-employment propensity change. The coefficient for the layoff propensity change is statistically insignificant. This could be related to the diversity of unemployment reason among those laid-off, as mentioned earlier. For those who lack skills, they might not have the skills and resources to be self-employed as well. For those who lost their jobs for structural reasons, they might not necessarily lack any skills or resources to be self-employed and they might easily find jobs elsewhere. This could also be related to the fact that the higher level of laid-off largely reflected the macroeconomic downturns; macroeconomic downturn means fewer employment opportunities, including overall limited self-employment opportunities. Although one may argue that the period of 2005-2009 is the booming period for China's economy, it does not exclude the macroeconomic growth ups and downs. A longer time horizon that includes major macroeconomic booms and busts would be even better, but it does not mean that the period of 2005-2009 does not reflect macroeconomic fluctuation at all. However, the general economic boom means the market demand influence would be very limited.

Table 2: Panel Data Model Results

Dep Var= DP(SE)	Coef.	Sig
DP(Retired)	0.0122	***
DP(Laidoff)	-0.0024	
DP(Resign)	0.0127	*
Female	-0.7900	***
Yr_2007	-1.0018	***
Yr_2008	-0.3074	***
Yr_2009	-0.8882	***
AgeGroup	-0.0502	***
Constant	0.7382	***
Number of obs	=	1732
F(8, 1723)	=	93.35
Prob > F	=	0.0000
R-squared	=	0.3024
Adj R-squared	=	0.2991

It is not surprising that female workers are associated with lower self-employment propensity. This is consistent with situation in most other countries. Being female reduces the self-employment propensity yearly change by 0.79 percentage point, holding all other variables constant. This gender effect is also statistically significant at 0.01 level. Females are typically assumed more child responsibilities and also our society is largely male-dominated, though women are playing increasingly and more visible role in our economic world.

For the year control variables, compared to the self-employment propensity change from 2005 to 2006, all later years' yearly self-employment propensity changes are smaller.

An interesting finding is the age effect. As we know, older ages are associated with higher self-employment rate among all workers (Zhang, 2008). This study shows that older ages are also associated with a decline in self-employment rate change among all workers. Controlling for all other variables, an older age group is associated with 0.05 percentage point drop for self-employment rate change among all workers. This indicates that on the one hand, older workers are more likely to be self-employed, on the other hand, this older age effect is declining with later years. This could be related to the booming economy in China during those years that reduce the need for post-retirement work for earnings. This could also be related to recent years' development of various senior citizen programs and communities that play an increasingly important role in satisfying many seniors' needs for social activities and engagement.

Our model diagnostics indicates there is no concern for multicollinearity issues. The Breusch-Pagan / Cook-Weisberg test for heteroskedasticity also shows no major concern for heteroskedasticity. Neither does our residual plot cause any major concern. The detailed diagnostic statistics are presented in the Appendix.

VII. LIMITATION OF THE STUDY

A major limitation of the study is the data. We used the Labor Statistical Yearbook that is aggregated labor data across age, gender, and other factors. However, to best investigate the unemployment forces for self-employment, the best dataset would be longitudinal micro data at individual level. We did not have the luxury for the data we want. We therefore had to use population weights to apply to population group data that we used. This situation removed much noise of uncontrollable inter-personal heterogeneity for individual level data and allowed us to simplify the study into limited variables of interest; however, it also only allowed us to model over the population group averaged values and killed the necessary statistical variation that is often helpful for evidence-based research.

Another limitation of the study is that we only have 5 years of data for this investigation. China was in economic boom during the 5 observed years, with only limited economic fluctuation. A longer time horizon will give us more evidence on how macroeconomic factor that largely affect the quantity of the laid-off is related to self-employment and then we can single out the negative association between unemployment and self-employment. This would better assist us investigating the difference unemployment forces for self-employment.

This study focused on the association between the self-employment and three types of unemployment; it did not imply causation. It is possible that the three types of unemployment caused different self-employment effects; it is possible that the three types of unemployment and self-employment propensities had co-movement and statistical association; it is also possible that self-employment impacted the three different unemployment types. It is one of our future research interests to investigate on the causal loop.

Also, this study overall is an exploratory study. Our model can further be fine-tuned to better address the research questions by adding more variables and trying out different model specifications. This will be another future research direction to continue this investigation.

VIII. CONCLUSION

China, as a high-growth economy, has attracted much academic attention. Entrepreneurship, that is often tangibly measured by self-employment, is found to be important for economic growth in China, as well as in many other countries. Despite numerous research on push and pull factors for entrepreneurship and self-employment, it has been a puzzle on the relationship between unemployment and self-employment. The forces of unemployment for self-employment have not been found with consistent evidence. This study therefore tested the forces of three different types of unemployment in self-employment propensity. We found that retirement and resignation among those unemployed are associated with self-employment rate growth, while the effect of those laid-off is unclear.

Those who voluntarily left their wage-and-salary jobs are an important contribution to the self-employment propensity. Those who resigned are the ones most likely to be opportunity entrepreneurs or opportunity self-employers. This reflects the pull effect of self-employment among those who have career ambition for more freedom, control, self-fulfillment, and other motivations.

The retirement propensity change has a positive association with self-employment propensity change. Consistent with findings from other countries, older workers who are retired tend to have a higher self-employment propensity. Older workers retired with skills,

business ties, and even wealth to be self-employed if they choose to continue working. Also older workers tend to lack opportunities to be employed elsewhere and therefore self-employment becomes their alternative working option.

The laid-off propensity change has a statistically insignificant association with self-employment propensity change. This reflects three situations of the laid-off. For those who are laid off due to poor work performance or insufficient skills could be the ones who do not have sufficient skills or resources to easily be self-employed as well, but they could also be necessity self-employers who cannot find jobs elsewhere but self-employment. For those who are laid off due to merger/acquisition or other structural unemployment, they do not necessarily have low skills. They might find jobs elsewhere instead of being self-employed, but they might also choose to be self-employed for better control of their economic life. For those who are laid off because of macroeconomic downturn, the macroeconomic downturn means lower market demand and could also mean limited self-employment opportunities. However, as the observing period of 2005-2009 is a booming period of China, the macroeconomic downturn effect would be largely limited.

Another interesting finding is that older age groups are associated with a negative self-employment propensity change. Although older workers have higher self-employment rates, during the years of 2005-2009, we see from our model a downward trend of older workers' self-employment propensity. This could be related to the booming economy in China that reduces the need to retirees to further seek for employment for earnings; it could also be related to recent years' seniors' community and program progress in China.

The study is not without flaw. We wish for better data that has individual level data and cover more years for both economic booms and bust. As an explorative study, much is proposed to be done in the future to continue this investigation.

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Remittances and Competition: A Policy Analysis Matrix Approach

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Abstract- The phenomenal growth of remittances in recent times has caught the attention of governments particularly in the developing countries, international organizations, Non-Governmental Organizations (NGOs) and the private sector, due to its importance as a viable source of external financing. The main problem identified in transferring these monies is that the competitive environment for money transfers in Nigeria is highly constrained. This is due to a near-monopolistic hold on the market by one money transfer organization (MTO) and the fact that banks are the only entities legally authorized to perform international payments. Findings from the policy analysis matrix results shows divergence in the revenue, costs and profits were negative (-2989360,-172074, -268246, - 2549040). This indicates that the society value remittances more than the market. The PCR was negative which shows that the system is not competitive and a negative SRP shows a tax on inbound transfer. The study concluded that money transfer service as rendered by banks and their partners in Nigeria is not competitive. Governments and policy makers can contribute to improving competition, lowering transaction costs, and reducing informality.

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REMITTANCESANDCOMPETITIONAPOLICYANALYSISMATRIXAPPROACH

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Remittances and Competition: A Policy Analysis Matrix Approach

Olatomide W. Olowa

Abstract- The phenomenal growth of remittances in recent times has caught the attention of governments particularly in the developing countries, international organizations, Non-Governmental Organizations (NGOs) and the private sector, due to its importance as a viable source of external financing. The main problem identified in transferring these monies is that the competitive environment for money transfers in Nigeria is highly constrained. This is due to a near-monopolistic hold on the market by one money transfer organization (MTO) and the fact that banks are the only entities legally authorized to perform international payments. Findings from the policy analysis matrix results shows divergence in the revenue, costs and profits were negative (-2989360,-172074, -268246, -2549040). This indicates that the society value remittances more than the market. The PCR was negative which shows that the system is not competitive and a negative SRP shows a tax on inbound transfer. The study concluded that money transfer service as rendered by banks and their partners in Nigeria is not competitive. Governments and policy makers can contribute to improving competition, lowering transaction costs, and reducing informality.

I. INTRODUCTION

Worker's remittances consist of goods or financial instruments transferred by migrants living and working abroad to residents of the home economies of the migrants. It is limited to transfers made by workers who have stayed in foreign economies for at least one year while transfers from migrants that are self-employed are excluded (IMF, 1999). The phenomenal growth of remittances in recent times has caught the attention of governments particularly in the developing countries, international organizations, Non-Governmental Organizations (NGOs) and the private sector, due to its importance as a viable source of external financing.

Official remittances flow to Nigeria in 2013 reached \$32 billion up by 6.2 percent from \$30 billion in 2012, according to a new migration and development brief on remittance trends by the World Bank. Other large remittance recipients in sub-Saharan Africa include Senegal (\$1.4 billion), Kenya (\$1.2 billion), South Africa (\$1 billion), and Uganda (\$700 million). According to thereport, entitled 'Migration and Remittance Flows: Recent Trends and Outlook, 2013-2016', remittances are an important source of foreign exchange and are helping to cover current account deficits in the region.

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The report revealed that Nigeria is the largest recipient, accounting for more than half of total remittances in the region, but as a share of gross domestic product (GDP) the largest recipients are Lesotho, Togo, Cape Verde, Senegal and The Gambia. The estimates further shows the top recipients of officially recorded remittances for 2013 are India, China, the Philippines, Mexico, Nigeria, and Egypt.

Reliable data on remittances are hard to come by in sub-Saharan Africa. Some central banks use remittance data reported by commercial banks but do not adequately capture flows through money transfer operators, post offices, and mobile money transfer operators. Some countries do not report data on remittances in the IMF balance of payments statistics.

Remittance corridors to sub-Saharan Africa and within Africa are the most expensive, remittance Prices Worldwide, data for select intra-African remittance corridors suggest that the cost of sending remittances within Africa can be very high, with just the fee ranging from 5 percent to 15 percent of the amount sent. The global average cost for sending remittances remains under 9 percent (World Bank, 2013).

Apparently, remittance flows occur within an existing regulatory environment and an intermediation marketplace for money transfers. The regulations for money transfers in Nigeria are mostly based on the Foreign Exchange Act of 1995 and the Banks and Other Financial Institutions Decree of 1991, amended in 1999. The Act authorizes banks to perform foreign currency payments under its narrow definition of "authorized dealers" in foreign currency. Section 14 of the Foreign Exchange Act (Monitoring and Miscellaneous Provisions) regulates outbound payments under specific circumstances or conditions. By establishing a very low limit of N5, 000 (US\$40 in August 2007) as the unrestricted allowance for outbound transfers, the Act implicitly restricts most transfers. Hence, Banks are the main entities allowed to perform remittance transfers.

Currently 21 commercial banks are operating in Nigeria after the Bank consolidation of 2009. 18 out of 21 commercial banks have agreements with Money Transfer Operators (MTOs). Twelve banks work with Western Union, five with MoneyGram, and one with Coinstar and Vigo Corporation (Vigo is owned by Western Union). Thus, Western Union is the largest competitor, controlling approximately 80 percent of money transfers through banks. Banks that work with

the same international MTOs, seek to compete among themselves, using their competitive advantages in such features as services, location, and value-added products, in order to increase their volume and number of transfers. Orozco (2007) reported that 340,000 transactions a month were conducted by banks out of which First Bank Plc recorded 125,000, First City monument Bank 70,000, UBA, 25,000, Union and other Banks combined recorded 30,000 transactions. The differences in the number of transactions attracted might not be unconnected with competitive advantages of one over another Bank. However, how flows transferred into Nigeria impact the market environment in which these transfers operate is not well understood, nor is it clear how much market competition there is in Nigeria over inbound flows into the country.

This paper is a first exploration of policy analysis matrix variables on remittances transfer market in Nigeria and, therefore, is subject to certain caveats. First, this is a pure cross-sectional analysis, and thus, limited, if any, inference on causality could be made. Second, analysis is also limited in scope since it includes only data from formal providers of remittance services as in Orozco (2007). According to some estimates, at least a third of remittances are sent through informal channels (Freund and Spatafora, 2008). Notwithstanding these limitations, the paper offers some interesting evidence that is hoped will stimulate further data collection efforts and analysis.

The rest of the paper is organized as follows. Section 2 describes the Policy analysis matrix. Section 3 explains the methodology/empirical approach. Section 4 presents the results, and Section 5 concludes.

II. POLICY ANALYSIS MATRIX

The concept of Policy Analysis Matrix (PAM) was developed by Monke, et al (1989) and augmented by developments price distortion analysis by Master, et al (1995). A PAM allows for the study of the impact of policy by constructing different enterprise budgets, one valued at market prices and the other valued at social prices. After formulation of the matrix, it provides an expedient method of calculating the measure of policy effects and events of competitiveness and economic efficiency/comparative advantage. It shows a set of values which can be used to calculate profit at the observed private price (market price) or social price. The private price is the actual price at which input are bought from the market or produce sold by a producer. It is the price that reflects the influence of government intervention in form of a tax or subsidy, thus, value added tax of 5% of all charges on all money transfer is encapsulated in private price. If this price is used to calculate profit, it is referred to as private profit (D) = A - (B + D).

Social Profit measures the competitiveness from the use of Domestic resources. On the other hand, the

price that does not reflect the effect of a tax or subsidy is called the social price. When this price is used to calculate profit, the profit becomes social profit (H) = E - (F + G). Social profit shows whether the producer allocated the scarce resources very well and whether there is long run competitiveness or comparative advantage in producing that commodity. Private revenue is the product of the output produced and the private price while social revenue is the product of the output and social price. Domestic factor costs are the costs of other production resources that are being used in producing a commodity. These include wire transfer (Telex), point of sale (POS) and value added. Wire transfer charges are charged as soon as the transfer succeeds. Average cost of telex is \$30. The average cost of a transaction (Bank service Charge) was US\$12.70, or close to 7 percent of the transfer (Orozco, 2007). Generally, social value of a labour can be calculated as the minimum wage rate prevailing in the economy while the interest rate can be used as the social price of a capital. Output transfers (I) and tradable transfers (J) are obtained from application of the divergences identity (entries in private prices less entries in social prices equal the effects of divergences). Output transfers (I), measures the implicit tax or subsidy on outputs, equals, private revenues (A) less social revenues (E). In turn, tradable input transfers (J), a measure of the implicit tax or subsidy on tradable inputs, equal private tradable input costs (B) less social tradable input costs (F).

Note that social factor prices (G) are found by adjusting private factor prices (C) for observed divergences causing factor price transfers (K). Because the divergences identity requires that $(C - G) = K$, it is also true that $(C - K) = G$. The final result, net transfers (L), can be found by applying either the profitability identity $(I - (J + K) = L)$ or the divergences identity $(D - H = L)$. The net transfer (L) thus can be interpreted either as the net effect of all divergences or as the difference between private and social profitability. This single measure thus shows the extent to which distorting policies and market failures implicitly subsidize a system by transferring resources into the system or tax that system by transferring resources away from the system. Domestic Cost Resources (DCR) ratio is computed at social prices. It provides a measure of the level of comparative advantages achieved by the selected systems $[(DRC = G / (E - F))]$. If the $DRC > 1$, the system has no comparative advantage, $DRC > 1$, shows that the use of domestic resource is socially profitable and the system has a comparative advantage.

Nominal Protection Coefficient (NPC) measure the level of protection for the output. It can be calculated as the ratio of A and E that is, $(NPC = A/E)$. $NPC > 1$ indicates that the system is protected by the government while $NPC < 1$ shows that the system is not protected. Effective Protection Coefficient ratio (EPC)

compares the added value at private price to added value at social price [$EPC = (A-B) / (E-F)$] which give a combined index of the level of trade distortions on both inputs and outputs. $EPC > 1$ suggests that government policies provide positive incentive to producers (here Banks) while value $EPC < 1$ indicates that producers are not protected through policy interventions. The Private Cost Ratio (PCR) is a measure of private competitiveness. A $PCR > 1$ indicate that the system is not competitive while a $PCR < 1$ indicates that the system is competitive. It is the ratio of domestic factor

costs to value added in private prices, $(C) / (A-B)$. Subsidy Ratio Producer (SRP) is said to indicate the level of transfer from divergences as a proportion of undistorted value of the system revenue. It shows the proportion of revenues in world prices that would be required if a single subsidy or tax were substituted for the entire set of commodity by macroeconomic policies. It is the ratio of $(L) / (E)$ or $(D-H) / (E)$. A negative SRP indicates tax on the system while a positive SRP indicates a subsidy to the system.

Table 1 : Components of Policy Analysis Matrix (PAM)

	Revenue	Trade Inputs Costs	Domestic Resource Costs	Profit
Private Prices	A	B	C	D
Social Prices	E	F	G	H
Divergences	I	J	K	L

Source: Adapted from Monke and Pearson, 1989.

III. METHODOLOGY

a) Data

Data for this study is extensively secondary. The study dwells on the survey and estimates of Money Transfer Operators through Nigerian Banks as presented in empirical study. The cost of receiving inbound transfer such as value added tax on all charges, telex charges etc., discussed earlier formed major part of data used to analysed the competitiveness of money transfer market using the Policy analysis matrix.

b) Estimates of Migration and Remittances to Nigeria

Estimates of remittances to Nigeria are derived by factoring the migrant population, the number of migrants remitting, and the annual amount remitted, following Orozco (2007). The UN population data analyzed by the Global Migrant Origin Dataset shows

that migrants from countries with large populations are 3.9 percent of their total population. Although this figure also underestimates migration from many of those countries (Indonesia is a striking example), we have applied the average for that population to Nigeria. The resulting number is 5.1 million. Since the release of version four of Global Migrant Origin Database (GMOD), Development Research Centre on Migration, Globalisation and Poverty (Migration DRC) which form the base of Orozco (2007) analysis of estimates of migration and remittances to Nigeria, no other version has been released. Thus, the paper adopts the estimates generated by orozco (2007) for its policy matrix analysis. With the obtained data on amounts remitted, and other prices, it becomes possible to evaluate the social and private profit as well as analyses the comparative advantages of Commercial Banks' money transfer operation.

Table 1 : Estimated Size of Remittances to Nigeria

Region	Annual \$ Sent per Migrant	Migrant Population	Estimated Total Remittances at 80% Remitting	Estimated Total Remittances at 70% Remitting
East Asia and Pacific	1,314.29	37,878.53	39,826,569.83	34,848,248.6
Europeand Central Asia	1,932.20	954,154.59	1,474,896,580.72	1,290,534,508.13
Latin America and Caribbean	1,200.00	10,950.85	10,454,414.98	9,198,717.10
Middle East and North Africa	1,200.00	145,703.47	139,875,328.62	122,390,912.54
North America	2,400.00	763,401.14	1,465,730,197.24	1,282,513,922.59
South Asia	1,200.00	61,776.72	59,305,651.81	51,892,445.33
Sub-Saharan Africa	325.00	3,197,540.02	831,360,404.14	727,440,353.62
Total	9,571.49	5,171,405.32	4,021,505,089.99	3,518,816,953.74

Source: Orozco (2007)

To figure in table 1 we apply available data on the charges on money transfer (The charges are to some extent homogenous), as well as on how many transactions/ transfer from different regions where data exist. In addition, Percentage of share in total transaction was computed for reported transactions by

Banks/partners (Table 2) were applied to derive the proportion of inbound remittance (in Table 1) that could be attributed to banks/partners. This provide platform to generate Private prices (excluding value added tax), social prices (including value added tax) and the divergences.

Table 2 : Percent share in Transactions of Banks Paying Remittances by Partner

Banks in Nigeria	MTO	Transactions	% share in total transactions
Keystone Bank	MoneyGram	30,000	18.9
Enterprise Bank	MoneyGram		
Spring Bank Nigeria.	MoneyGram		
Union Bank of Africa Plc.	MoneyGram		
United Bank for Africa Plc. (UBA)	MoneyGram		
Mainstreet Bank Nigeria Plc	Coinstar	5,000	1.7
Access Bank Nigeria Limited	Western Union	5,000	79.4
Diamond Bank Plc	Western Union	8,000	
EcoBank	Western Union	8,000	
Fidelity Bank Plc	Western Union	10,000	
First Bank Nigeria Plc	Western Union	125,000	
Zenith Bank Plc	Western Union	5,000	
First City Monumental Bank Plc	Western Union	70,000	
Guaranty Trust Bank Plc	Western Union		
IBTC—Chartered Bank Plc	Western Union		
Skye Bank Nigeria Ltd.	Western Union		
Skye Bank Nigeria Ltd.	Western Union		
Wema Bank Plc	Western Union		
Nigeria International Bank Limited (Citigroup)	N/A		
Stanbic Bank Nigeria Ltd.	N/A		

Source: Orozco (2007) and Author's calculation.

Of the 291,000 reported in survey by Orozco in 2007, Western Union is the largest competitor, controlling approximately 80 percent of money transfers

through banks followed by money Gram with about 19 percent.

IV. RESULTS AND DISCUSSION

Table 3

A	B	C	D
Revenue(₦)	Cost(₦)		Profit(₦)
	Labour	Capital	
Private Price 756800	799260	243860	-286320
Social Price 3065040	252000	292632	2520408
Divergence -2989360	-172074	-268246	-2549040

Table 4: Policy Analysis Matrix and Ratios for Remittance Transfer

Indicators	Values
PCR	-0.01
SRP	-0.83
DRC	0.10
SCB	0.18
EPC	-0.01

Tables 3 and 4 shows the results of the policy analysis matrix and ratios for remittance transfer. The divergence in the revenue, costs and profits were negative. This indicates that the society value remittances more than the market. Therefore, market failures and policy distortions have reduced the private valuation of money transfer Operator. The result also showed a loss of 2 kobo over every inbound transfer by receivers and a gain of ₦4.6 over a naira invested by Banks. The DRC result is 0.10. This implies an efficient use of domestic resource and also shows that there is comparative advantage. A SCB of 0.18 indicates a very weak competitiveness of the money transfer market. EPC result was 0.01. This reflects that the receivers of remittances were not protected through government policy. The PCR was negative which shows that the system is not competitive and a negative SRP shows a tax on inbound transfer.

V. CONCLUSION AND RECOMMENDATION

In conclusion, Money transfer in Nigeria was not privately competitively probably because the market is dominated by a major Money transfer organization (Western Union) and majority of its partners in Nigeria. A positive social profit therefore shows the potential of the enterprise in improving the welfare of the senders' family back home if the system is not taxed.

Governments and policy makers can contribute to improving competition, lowering transaction costs, and reducing informality. Government need to increase its awareness about the existence of a monopoly in money transfers to Nigeria, and the adverse effects this has on the country and clients.

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The Importance of Public Relations in Corporate Sustainability

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Abstract- The purpose of this article was to present the importance of using public relations to communicate the intent and application of corporate sustainability by organizations that are involved in this practice. Since there are three areas that corporate sustainability is involved with, public relations need involve all of them. The areas are ecological, sociological, and corporate/business. The CEOs of organizations responsible for the strategic formulation and application of public relations need to have the appropriate vision in order to merge the target of public relations with the ever-changing internal and external environment of the organization. Public Relations must be embraced by organizations that follow the corporate sustainability model. From an internal/external perspective, stakeholders, employees, and the public must communicate effectively, efficiently, and on a timely basis in order to enhance their positive interaction and attain the desired goals.

Keywords: corporation, social responsibility, sustainability, corporate sustainability, ecology, sociology, ceo, internal environment, external environment, public relations.

GJMBR-B Classification : JEL Code: H00



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The Importance of Public Relations in Corporate Sustainability

Orlando Rivero, D.B.A. ^α & John Theodore, Ph.D., D.B.A., Ph.D., CMC ^σ

Abstract- The purpose of this article was to present the importance of using public relations to communicate the intent and application of corporate sustainability by organizations that are involved in this practice. Since there are three areas that corporate sustainability is involved with, public relations need involve all of them. The areas are ecological, sociological, and corporate/business. The CEOs of organizations responsible for the strategic formulation and application of public relations need to have the appropriate vision in order to merge the target of public relations with the ever-changing internal and external environment of the organization. Public Relations must be embraced by organizations that follow the corporate sustainability model. From an internal/external perspective, stakeholders, employees, and the public must communicate effectively, efficiently, and on a timely basis in order to enhance their positive interaction and attain the desired goals.

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I. INTRODUCTION

The corporation is one of the three legal forms of enterprise defined as “a legal entity that is separate from its owners and managers” (Robbins & Coulter, 2005, p. 363). In addition to making profit for its owners/stockholders, today’s corporations have social responsibility which is defined as “the idea that business has social obligations above and beyond making profit” (Kreitner & Kinicki, 2008, p. 137).

Sustainability is “the process of establishing appropriate strategies, policies, and procedures that satisfy present needs without jeopardizing the future” (Brockett & Rezaee, 2012, p. 5). The concern of sustainability in the external environment of the organization is directed toward the ecological and sociological areas of the macro environment. In the first case, the organization is concerned with the preservation of the physical ambient whereas in the latter case the concern is with the ethical and legal conduct of the organization. Finally, the third area is the internal environment in which the organization is concerned with ethics, the law, and equitable treatment of the human factor in every level of the organizational hierarchy.

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Public relations is a management tool designed to establish support among a firm’s various internal and external publics (Thomas & Lane, 1990). Another definition stated that public relations includes activities that is build around a favorable company’s image through publicity, and community events (Zeithaml, Bitner & Gremler, 2009). The major functions of public relations are to create and maintain excellent relations with the organization’s internal and external stakeholders, such as persons and private, governmental, and societal entities in general.

Public relations can have a strong impact on public awareness at a much lower cost than advertising (Kotler & Armstrong, 2006). The tools used in public relations are press releases, lobbying, product publicity, investor’s relations, and development. In this article, press releases, public affairs, and lobbying will be discussed. The CEOs of corporate sustainability efforts can use lobbying to persuade public and/government officials to favor a particular position or decision-making (Price & Ferrell, 2003). In this case, it is promoting the organization’s efforts in sustaining and developing the social and physical environment.

Modern public relations has evolved to embrace corporate sustainability; corporate sustainability is built around the organizational structure that embraces public relations theories and practices. Ecological, sociological, and corporate/business elements must be properly promoted internally/externally by utilizing public relations efforts in order to provide the most updated information to stakeholders/employees and the public (Penning, 2007). In reference to the power center of corporate sustainability, organizations need to have CEOs with strategic background, intent, and vision in order to direct public relations to the three target areas specified in this article.

Organizations throughout the world need to understand the value of public relations in an effort to meet institutional goals and objectives. More specifically, the overall organizational strategic plan needs to incorporate public relations initiatives within the short/long term planning to avoid internal/external communication mishaps (Public Relations Society of America, 2013).

Planned organizational change in relation to corporate sustainability continues to be arguably the solution to remain competitive for most United States

medium and large-sized organizations. For several years, studies have suggested “that swiftly planned organizational change initiatives are needed to stay ahead of organizational competitors” (Rivero, 2013, p. 169).

The role of the corporation in the area of the physical environment is to provide sufficient attention and help understand the concept of ecological modernization which is “a system based approach that looks to the interconnections between policy formation, the economy, and the natural environment” (Benn & Dunphy, 2007, p. 16). Public relations is directed toward the domestic and international centers of ecological interests and concerns and toward the public in general. Corporate sustainability efforts are aiming at increasing the organization’s participation in the maintenance and growth of the physical environment; for this reason, the need to incorporate public relations within the organization’s strategic plan in meeting such goals is crucial. The use of press releases, public affairs, and lobbying are strong tools in reaching the centers of power dedicated to sustaining and developing the physical environment.

The role of the corporation in the social area of sustainability is based on socially responsible investments. These are “value chain social impacts that are affected by the organization’s activities and social dimensions of competitive context that affect the drivers of competitiveness where the organization operates” (Epstein, 2008, p. 64). Public relations is directed toward stakeholder groups and investment/financial centers. Penning (2007) stated that public relations is a critical component when it comes to public reporting, the economy, equality, and environment.

Moreover, the organization’s strategic plan should consider incorporating social responsibilities and sensitivity to diversity issues in an effort to boost organizational branding efforts. Penning also stated that organizations must be able to monitor the economy in order to readjust their organizational strategic plan initiatives to remain competitive. Furthermore, from the sociological perspective, “organizations must develop to meet the needs of our public, as opposed to strategizing to get them to change to meet the organization’s objectives” (Penning, 2007, p. 2). Public relations, lobbying, and press releases in this area, too, are excellent tools to reach the power centers that monitor corporate social responsibility.

Finally, the role of the corporation within its internal environment area is to operate under ethical and legal auspices, respect the equity between work and compensation/benefit, implant motivational forces that need to increase human resources work satisfaction, and provide opportunities for growth and development within its structure. Organizations adopting innovative and value-adding approaches to sustainability have

emphasized the “development of employee capital and corresponding competencies and have acknowledged their importance for long-term competitive advantages” (Dunphy, Griffiths, & Benn, 2003, p.187).

In order to provide continuous growth and development, the employment of organizational development becomes necessary. Organizational development makes the organization more open and more adaptive through increases in capability and potential in order for it to continue planned change efforts on an action orientation basis. Organization development is a planned change effort and involves all the parts of the organization, and it is initiated and managed from the top hierarchy. To make the organization more open and more adaptive, organization development unfreezes the existing status quo, makes the planned changes, and refreezes the new status quo in order to avoid regression (Theodore, 2012).

Public relations, in the internal environment area, is directed to both the entire organization and to its individual departments and units. Internal communication and good internal communication channels are of paramount importance. From an internal perspective, organizations must be able to communicate effectively with its human resources in order to streamline organizational development. Finally, public relations must also be an important part of internal communication to promote planned change and development within the organization (Rivero, 2013).

II. SUMMARY

The purpose of this article was to present the importance of using public relations to communicate the intent and application of corporate sustainability by organizations that are involved in this practice. The areas where corporate sustainability is involved are ecological, sociological, and corporate/business. The CEOs of organizations responsible for the strategic formulation and application of public relations need to have the appropriate vision in order to merge the goal of public relations with the ever-changing internal and external environment of the organization. The role of the corporation in the area of the physical environment is to provide sufficient attention and help under the concept of ecological modernization. Press releases, public affairs, and lobbying are strong tools in reaching the centers of power dedicated to sustaining and developing the physical environment.

The role of the corporation in the social environment of sustainability is based on socially responsible investments. Public relations is directed toward stakeholder groups and investment/financial centers and it is a critical component when it comes to public reporting, the economy, equality, and environment press releases, public affairs, and lobbying are

strong tools in reaching the centers of power dedicated to sustaining and developing the social environment.

Finally, the role of the corporation within its internal environment area is to operate under ethical and legal auspices, respect the equity between work and compensation/benefit, implant motivational forces that need to increase human resources work satisfaction, and provide opportunities for growth and development within its structure. Public relations, in the internal environment area, is directed to both the entire organization and to its individual departments and units. Internal communication and good internal communication channels are of paramount importance in conducting planned changes and overall organizational development.

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Global Financial Crisis and Nigeria Economy

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Abstract- This paper discusses the global financial crisis and Nigeria Economy. The crisis started with the US mortgage default cumulated to the system wide credit collapse and finally to the collapse of the global economy. The causes of the crisis are discussed in point. The New classical framework for the explanation of the current economic crisis is given. The ordinary least square Technique of analysis will be adopted; dummies will be used to capture qualitative variables. Also highlighted are the effects of the crisis on the Nigerian economy. Measures for overcoming the problems are advanced. The paper concludes that the crisis provide an opportunity and rationale to move more quickly to address overdue reforms in areas as diverse as financial regulation and inclusion, trade competition and public sector improvement in the Nigerian economy.

Keywords: *global financial crisis, economy, Nigeria, financial inclusion.*

GJMBR-B Classification : *JEL Code: F63, F69, G10*



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Global Financial Crisis and Nigeria Economy

Arinze Ngwube^α & Matthew Ogbuagu^ο

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I. INTRODUCTION

The topic of this paper is not only timely but also critical given the enormity of the challenges that confront the global economy during that period. In 2008, the world economy was severely jolted by a major economic meltdown which affected several sectors. *It started as an essentially American recession which was the definite result of decades of economic mismanagement in both public and private sectors, it quickly attained the status of a global meltdown. Economies in all the continents and espousing different ideologies and institutional organization were quickly caught in the inevitable web of multifarious networks which are the hallmark of globalization. The growing liberalization of international trade attained in the last twenty years of the 21th century, propelled by the reform policies championed by the world Bank and the International Monetary Fund (IMF) prepared the ground for full blown globalization. This new system of doing international business may be defined as the growing integration of markets in goods, services and capital across national borders. With the emergence of globalization, economic crisis can no longer be confined to one country, or even an economic community.*

The Nigerian economy has demonstrated particular vulnerability to the emergent global economic crisis. Driven by crude oil and gas, the nation's economy is anchored on the petroleum sector, which accounts for 80 percent of government's annual revenue and foreign exchange earnings. The petroleum sector also contributes about 50 percent of Nigeria's annual gross domestic

product. The global oil and gas industry enjoyed tremendous price increases associated with sustained economic growth around the world until mid-2008, when the price of crude oil peaked at US\$147.00 per barrel. While the boom lasted, Nigeria became a major beneficiary of crude oil price upswings, increasing its foreign exchange reserves to an unprecedented level of about US\$60 billion. The windfall also afforded Nigeria the rare opportunity to exit the Paris Club of creditors, in a development which catalyzed the discharge of its foreign debt obligations through the payment of US\$18 billion, while the sum of US\$12 billion was waived by creditors, leaving a paltry sum of US\$2 billion. However, with the advent of the global economic turmoil, global oil prices plummeted to less than US\$40.00 per barrel by the 1st quarter of 2009. This development has unleashed an external shock on the Nigerian economy. The sharp drop in oil revenue has reversed few years of fiscal surpluses to severe deficits. The dominance of the oil sector has therefore impacted negatively on Nigeria's macroeconomic performance, particularly since the emergence of the global crisis.

Igbatayo (2011) opined that in the case of Nigeria, the emergent global crisis has impacted negatively on the nation's financial sector, triggering instability in banks and the capital market. The banking sector is shaken particularly hard, causing the Central Bank to inject more than N400 billion naira or US\$2.72 billion into vulnerable banks to forestall systemic collapse in the sector. In the capital market, equity prices, in the past couple of years, have fallen sharply, with the All-Share Index at the Nigerian Stock Exchange down by 33 percent at the end of December 2009, from levels recorded in December, 2008. Here in Nigeria, how are we affected by the ravaging financial crisis? What measures are needed to cushion the impact on the economy and the people? It is important to stress that the global economy is inter-related. No country is isolated. What affects one country directly or indirectly affects the others. The instability in Nigeria's financial markets poses severe challenges to policy makers, requiring urgent measures to stem the tide. *The 2008/2009 global economic meltdown was a challenge to the Nigerian economy. As a major petroleum-producing country, Nigeria was not insulated from its effects. An important effect of the global meltdown was the decline in the demand for crude petroleum. Crude prices fell precipitately from about \$150.00 per barrel in 2008 to less than \$40.00 early in 2009, a development that subjected budgets at all tiers of government to*

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drastic downsizing. In a way, the recent global meltdown may be considered as a trial run and a simulation of conditions in Nigeria's post petroleum era.

Therefore the objective of this paper is to elaborate the challenges of the global economic crisis and its effects on Nigeria's financial markets. This paper is divided into five sections, the first section will look at the Theoretical Framework, while the second section will look at the challenges for the Nigerian economy, while the third section will look at recommendations, the final section summaries the paper.

II. THEORETICAL FRAMEWORK

Hoover (2013) believes that the New Classical Macroeconomics suggests a rejection of the Keynesian economics and a revival of classical economics, the new classical school began with Lucas (1981) attempts to provide micro foundations for the Keynesian labour market. Lucas applied the rule that equilibrium in a market occurs when quantity supplied equals quantity demanded. This turned out to be a radical step. Because involuntary unemployment is exactly the situation in which the amount of labour supplied exceeds the amount demanded, their analysis leaves no room at all for involuntary unemployment.

Keynes's view was that recessions occur when aggregate demand falls largely as a result of a fall in private investment causing firms to produce below their capacity. Producing less, firms require fewer workers, and thus employment falls. Firms, for reasons that Keynesian economists continue to debate, fail to cut wages to as low a level as job seekers will accept, and so involuntary unemployment rises. The new classical rejects this step as irrational. Involuntary unemployment would present firms with an opportunity to raise profits by paying workers a lower wage. If firms fail to take this

opportunity, then they would not be optimizing. Employed workers should not be able to resist such wage cuts effectively since the unemployed stand ready to take their places at the lower wage. Keynesian economics would appear, then, to rest either on market imperfections or on irrationality, both of which Keynes denied.

Business cycle theory opined that the economy is often buffeted by unexpected shocks. Shocks to aggregate demand are typically unanticipated changes in monetary or fiscal policy. Shocks to aggregate supply are typically changes in productivity that may result, for example, from transient changes to technology, prices of raw materials, or the organization of production. Ideally firms will choose to produce more and pay workers more when the economy is hit by favorable shocks and less when hit by unfavorable shocks (Alan, 2010).

The new classical school popularized the rational expectations, because economic decisions are forward looking. To know whether today is a day for work or for leisure, we need to decide whether tomorrow will be more or less productive than today; in short, we must have an expectation of the future.

The mathematical derivations of dynamic stochastic general equilibrium (DSGE) models and new Keynesian Phillips curves (NKPCs), both of which incorporate 'rational expectations', fail to recognize that when there are unanticipated changes, conditional expectations are neither unbiased nor minimum mean-squared error (MMSE) predictors, and that better predictors can be provided by robust devices. Further, given the prevalence of such changes, learning about the Post- change scenario is both difficult, and itself generates further non-stationarities (Ersan and Aykut; 2010).

III. MODEL SPECIFICATION

$$ASI = f(\text{MCAP}, \text{OILP}, \text{XCHR}, \text{POLs}, \text{INFL}, \text{UNMP}, \text{GDP}, \text{INV}) \quad (1)$$

$$ASI_t = \alpha_0 + \alpha_1 \text{MCAP}_t + \alpha_2 \text{OILP}_t + \alpha_3 \text{XCHR}_t + \alpha_4 \text{POLs}_t + \alpha_5 \text{INFL}_t + \alpha_6 \text{UNMP}_t + \alpha_7 \text{GDP}_t + \alpha_8 \text{INV}_t \quad (2)$$

$$ASI_t = \alpha_0 + \alpha_1 \text{MCAP}_t + \alpha_2 \text{OILP}_t + \alpha_3 \text{XCHR}_t + \alpha_4 \text{POLs}_t + \alpha_5 \text{INF}_t + \alpha_6 \text{UNMP}_t + \alpha_7 \text{GDP}_t + \alpha_8 \text{INV}_t + U_t \quad (3)$$

The above model is transformed using Koyck's transformation in order to integrate expectations into the equation (3) (Gujarati and Porter, 2009).

$$ASIt = \alpha(1-\lambda) + \beta_0 \text{MCAP}_t + \beta_1 \text{OILP}_t + \beta_2 \text{XCHR}_t + \beta_3 \text{POLs}_t + \beta_4 \text{INF}_t + \beta_5 \text{UNMP}_t + \beta_6 \text{GDP}_t + \beta_7 \text{INV}_t + \lambda ASI_{t-1} + V_t \quad (4)$$

Where: ASI= All Share Index, MCAP= Market Capitalization, OILP=Oil Price, XCHR= Exchange Rate, INF= Inflation Rate, UNMP= Unemployment Rate, GDP= Gross Domestic Product, INV= Investment (Proxy National Savings).

λ simultaneous captures the impact of the lagged values of inflation and the lagged values of the explanatory variables. Note that: $0 < \lambda < 1$, t is the time trend and μ is the white noise (stochastic term) which is

assumed according to OLS as normally distributed with zero mean and constant variance. The parameter for the estimation from equation 4 is $\beta_0 > 0$, $\beta_1 > 0$, $\beta_2 < 0$, $\beta_3 > 0$, $\beta_4 < 0$, $\beta_5 < 0$, $\beta_6 > 0$, $\beta_7 > 0$.

IV. DATA ANALYSIS AND INTERPRETATION OF RESULT

Dependent Variable: ASI
 Method: Least Squares
 Date: 02/24/14 Time: 14:02
 Sample (adjusted): 1985 2010
 Included observations: 24 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP_AT_CONSTANT_PRICES	1.066111	0.557927	1.910844	0.0783
GOVT_EXPT	0.054988	0.183183	0.300180	0.7688
INFLATIONT	1485.982	937.1905	1.585571	0.1369
M2	-0.440737	0.144903	-3.041590	0.0095
MCAP	123.9278	5.368314	23.08504	0.0000
NAT_SAVT	-0.090531	0.326659	-0.277141	0.7860
OILP	9915.396	4413.208	2.246755	0.0427
POLS	122064.7	100310.7	1.216866	0.2453
RAT_UNMT	-1601.968	2519.464	-0.635837	0.5359
XCHR	2152.210	1099.349	1.957713	0.0721
C	-489080.5	136184.0	-3.591322	0.0033
R-squared	0.999140	Mean dependent var		339462.9
Adjusted R-squared	0.998479	S.D. dependent var		1614705.
S.E. of regression	62972.26	Akaike info criterion		25.24234
Sum squared resid	5.16E+10	Schwarz criterion		25.78228
Log likelihood	-291.9081	Hannan-Quinn criter.		25.38558
F-statistic	1510.923	Durbin-Watson stat		2.135195
Prob(F-statistic)	0.000000			

The model specification is as:

$$ASI_t = -489080.5 + 1.07GDPCONSTANT_t + 0.1GOVTEXPT_t + 1485.9INF_t - 0.44M2_t + 123.9MCAP_t - 0.1NATSt + 9915.4OILP_t + 122064.7POLSt - 1602RAT-UNMT_t + 2152.2XCHR_t$$

The time series result above makes use of the OLS method. Here, a unit increase in the GDPCONSTANT will increase ASI by 1.07units. This result is significant at 10% level.

Also, a unit increase in M2 will decrease the ASI by -0.44units holding other variables constant, and it is significant at 1%, 5% and 10% levels.

A unit increase in MCAP will increase ASI by 123.9units holding other variables constant, and is significant at 1%, 5% and 10% levels.

OILP has a strong positive impact on ASI, as a unit increase in OILP increases ASI by 9915.4 units holding other variables constant. This result is significant at 5% and 10% levels.

The impact of political stability was positive on the ASI, but is insignificant.

Lastly, a unit increase in XCHR, increased ASI by 2152.2 holding other variables constant; and is significant at 10% level.

The R^2 Adjusted is over 0.9, meaning only less than 10% variation in the explanatory variable is explained by the error term.

The model is of Good fit since F-Statistic (1510) is greater than Prob (F-Statistic (0.0000)). Also, the Prob-Value of the F-Statistic is less than 1%, 5% and 10%.

The Durbin-Watson Statistic (2.16) is close to 2.00 and so there is absence of First Order Serial-Correlation.

V. FINDINGS

- The global financial crisis has a strong impact on oil price and the price of bonny light further impacted positively on the ASI.
- Political Stability is an important qualitative variable that impacts positively on those stock market indicators or financial instruments. Though it was insignificant in this study.
- MCAP also impacts positively on ASI and it is significant.
- Furthermore, XCHR is an important macroeconomic instrument; and it impacts positively on ASI. Finally, as the GDP CONSTANT increases, the ASI also increases. Meaning the ASI is positively correlated with economic growth.

VI. CHALLENGES FOR NIGERIA

The 2008/2009 global economic meltdown was a challenge to the Nigerian economy. Nigeria being a major petroleum producing country; it was not insulated from its effects. An important effect of the recent global

meltdown was the decline in the demand for crude petroleum. Crude prices fell precipitately from \$150.00 per barrel in 2008 to less than \$40.00 early in 2009, a development that subjected budgets at all tiers of government to drastic downsizing. The average Nigeria is easily seduced by conspicuous and wasteful consumption. This orientation predisposes him to an extreme short term perspective. He prefers to trade rather than produce, when he saves, he seeks financial instrument with short tenure. He is in constant search for the lucky break that makes him a multimillionaire overnight. The few companies interested in production mostly employ outmodel machinery, equipment and processes. Workers as well as managers are not exposed to the most recent technological development in their sectors.

a) *Banking Sector*

The banking sector was however more hit than other sectors. But for the sharp regression in the crude oil price and the stock exchanges, the Nigerian banking system would not have experienced much from the global economic recession. The first impact of the crisis on the sector was the withdrawal of credit lines to Nigerian banks by foreign banks thus resulting to paucity of funds in the industry. The greatest impact however came indirectly through loans granted by banks to oil companies which incurred heavy losses and could not repay the loans borrowed from banks. Also as share prices fell on the stock exchange investors suffered heavy capital losses which eroded the value of investors and hence they could not repay the share purchase loan. These two factors led to severe scarcity of funds in the banking industry and huge non-performing loans.

b) *Oil Sector*

The global financial crises occasioned credit freeze which led to declining consumer and industrial demand in Nigeria. As a result demand for crude oil as well as crude oil price fell drastically. From \$138.74 per barrel as at June 30th average price of Nigeria's crude, Bonny light dropped to \$61.14 per barrel by June 30th 2009. The Federal collected revenue fell to N1.04 trillion from N1.88 trillion during the same period. Also, instead of net foreign exchange inflow of 0.9 billion recorded by the Central Bank of Nigeria (CBN) as at June 30th 2008, the nation recorded net foreign exchange outflow of \$3.69 billion as at June 30th 2009. Also, reflecting the impact of the global economic recession the nation's external reserve dropped from a height of \$62 billion in third quarter of 2008 to about \$42 billion in first quarter of 2009.

c) *Industrial sector*

Another Sector that was hit by the crisis is the industry. The devastating impact of the global financial crisis which hit the country in the second half of 2008,

the rough the price of crude oil, which accounts for over 80% of the country's foreign exchange earning, ushered in spates of decline industry activities and massive closure of industries. No sector was left out from food beverages and tobacco sector to the textile, iron and steel, electrical and electronic, motor vehicles and assembly sector, and others, the story is the same.

VII. RECOMMENDATIONS

- Nigerian economy is a mono-economy; any crash on the price of oil internationally will cripple our economy. So it is a matter of urgency for the Nigerian economy to divest into agriculture, manufacturing, information technology etc.
- Political stability is an important factor that encourages investment in an economy. So our nascent democracy should be nurtured.
- The Central Bank of Nigeria's propagation of financial inclusion should be embraced, as it will empower the masses through the availability of cheap funds, trigger off investment, employment and an increase in aggregate demand.
- The exchange rate is an important instrument in the financial market, and as such should be allowed to be determined by market.

VIII. CONCLUSION

The global economic meltdown and the implications on the Nigerian economy were discussed. A number of possible initiatives for fast tracking the economy and the more daunting task of preparing Nigeria has the resources and management capability of becoming a major player in the global economy. An all round national re-orientation is all Nigeria needs to start moving to the promise Land.

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Empirical Analysis of Restructuring the Manufacturing in Guangzhou-Based on Dynamic Shift-Share Method

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Abstract- Manufacturing is one of the most important contents on the economical plate in Guangzhou. Accelerating the adjustment of manufacturing structure and promoting its optimization and upgrade are the major strategic tasks to create a new version of economic transformation and upgrade in Guangzhou. In this paper, a single structure-DSSA (Dynamic Shift-Share Analysis) model has been proposed which collect the data from 2001 to 2011. Then we use this model to obtain the differences in data of industrial structure and discuss the dynamic change of manufacturing structure in Guangzhou during this period. Then it provide the conversion of direction and strategic selections which would further accelerate the adjustment of manufacturing structure and promote its optimization and upgrade in the future.

Keywords: *dynamic shift-share method; manufacturing; industrial structure; empirical analysis.*

GJMBR-B Classification : *JEL Code: A19, L16, L59*



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Empirical Analysis of Restructuring the Manufacturing in Guangzhou-Based on Dynamic Shift-Share Method

WANG Xue-Li ^α, WU Cheng-Cheng ^σ & LI Xiaoran ^ρ

Abstract- Manufacturing is one of the most important contents on the economical plate in Guangzhou. Accelerating the adjustment of manufacturing structure and promoting its optimization and upgrade are the major strategic tasks to create a new version of economic transformation and upgrade in Guangzhou. In this paper, a single structure-DSSA (Dynamic Shift-Share Analysis) model has been proposed which collect the data from 2001 to 2011. Then we use this model to obtain the differences in data of industrial structure and discuss the dynamic change of manufacturing structure in Guangzhou during this period. Then it provide the conversion of direction and strategic selections which would further accelerate the adjustment of manufacturing structure and promote its optimization and upgrade in the future.

Keywords: dynamic shift-share method; manufacturing; industrial structure; empirical analysis.

I. INTRODUCTION

Guangzhou is an important manufacturing city in southern China. The manufacturing development not only speeds up the development of industrialization, but also becomes hard nucleus of economic sectors in Guangzhou after the reform and opening in China. However, the changes of economic environment in domestic and overseas lead to a series of problems loom large. Such as the cost of resource and environmental pressure are growing rapidly, structural shortage of labor is increasingly serious, the original labor costs and regional comparative advantage has been disappeared, the low level of industry, the lack of innovation and constraint of resources and environment in economic development. Therefore, it is a

matter of Guangzhou's economic future to promoting the adjustment of manufacturing structure further.

On that account, the article attempts to discuss the adjustment problems of manufacturing structure in Guangzhou based on the Dynamic Shift-Share Method. The changes of the manufacturing structure in Guangzhou are chosen as the research objects in this paper. Firstly, the dynamic DSSA econometric model has been introduced and it collects the relevant data during 2001-2011. Secondly, it carries on the quantitative empirical analysis of industrial structure, and then discusses Guangzhou's main dynamic changes of manufacturing structure. Lastly, the transformation with the strategy of speeding up structural adjustment and upgrading the manufacturing structure in the future are given.

II. THE CHANGE ANALYSIS OF MANUFACTURING STRUCTURE IN GUANGZHOU DURING 2001-2011

a) Data sources and Processing

According to the DSSA model, the article analysis the dynamic data based on Output Value of Main Industrial above the Designated Size. All the data in the article comes from the GUANGZHOU TATISTICAL YEARBOOK (2002-2012). Through preprocessing the data and converting it to constant prices of industrial production in 2001, the article obtains the table of output Value of the main manufacturing industry (table 1).

Table 1 : Output Value of Main Industrial above the Designated Size in Guangzhou (100 000000 Yuan)

Output Value \ Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Electronic and Information Technology	206.9297	306.0305	436.3698	607.3858	667.3737	693.3572	679.3954	797.5649	1075.7434	1353.2504	1489.2553
Electric Equipment and Special-purpose Machinery	222.1659	246.9731	300.8052	316.0689	397.6001	476.3435	567.5450	647.1127	624.0201	712.4017	737.8249
Petroleum and Chemistry	441.8745	488.7314	693.8331	888.0777	921.5423	1012.9157	1242.5231	1428.5666	1370.4644	1627.2533	1941.2752
Food and Beverage	164.7842	172.0396	192.8396	214.3245	233.2436	261.6947	287.1502	310.7688	421.2735	441.9613	506.8789
Textile and Garments	228.0730	250.6241	284.5794	268.3972	309.8316	341.1307	342.2227	415.9149	455.3405	563.4212	625.7588
Logging and Papermaking	105.6884	106.0397	109.8935	114.5358	120.2004	130.0997	154.7403	200.3959	180.8756	223.0338	213.8944
Medicine	61.5681	59.8355	68.0899	67.0295	77.5068	88.8288	96.8492	101.2387	116.2172	130.6335	137.1172

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Motor Vehicle	340.2613	425.2025	627.7801	776.1946	1015.4023	1354.9877	1789.5724	1901.3948	2367.1212	2827.5020	2841.3564
Total	1787.9764	2072.4664	2733.1948	3258.5714	3746.4223	4363.0808	5163.9339	5806.5308	6612.5835	7882.4317	8506.9157

Note: the data from the GUANGZHOU STATISTICAL YEARBOOK (2002-2012), Gross industrial output values are calculated at constant prices.

As seen the data in table 1, the component coefficient of industrial structure is calculated. On the other hand, the component coefficient of main manufacturing structure is given in table 2.

Table 2 : The Component Coefficient of Main Manufacturing Structure

Output Value \ Year	1	2	3	4	5	6	7	8	9	10
Electronic and Information Technology	0.320	0.461	0.753	0.664	0.455	0.158	0.216	0.471	0.568	0.601
Electric Equipment and Special-purpose Machinery	-0.047	-0.143	-0.265	-0.185	-0.158	-0.151	-0.138	-0.288	-0.324	-0.353
Petroleum and Chemistry	-0.053	0.042	0.134	0.007	-0.059	-0.018	0.006	-0.174	-0.178	-0.085
Food and Beverage	-0.115	-0.290	-0.348	-0.388	-0.414	-0.464	-0.487	-0.376	-0.465	-0.429
Textile and Garments	-0.060	-0.233	-0.424	-0.421	-0.458	-0.556	-0.515	-0.537	-0.515	-0.500
Logging and Papermaking	-0.156	-0.394	-0.485	-0.537	-0.575	-0.572	-0.499	-0.618	-0.602	-0.650
Medicine	-0.187	-0.334	-0.473	-0.469	-0.479	-0.528	-0.565	-0.561	-0.591	-0.603
Motor Vehicle	0.091	0.262	0.318	0.527	0.787	1.032	0.906	1.108	1.113	0.956

b) Empirical outcome and analyzing

We draw the corresponding curve (as shown in figure 1, 2), based on the data in table 1 and table 2 for

convenience, and you can see the changes of manufacturing production and the structure component.

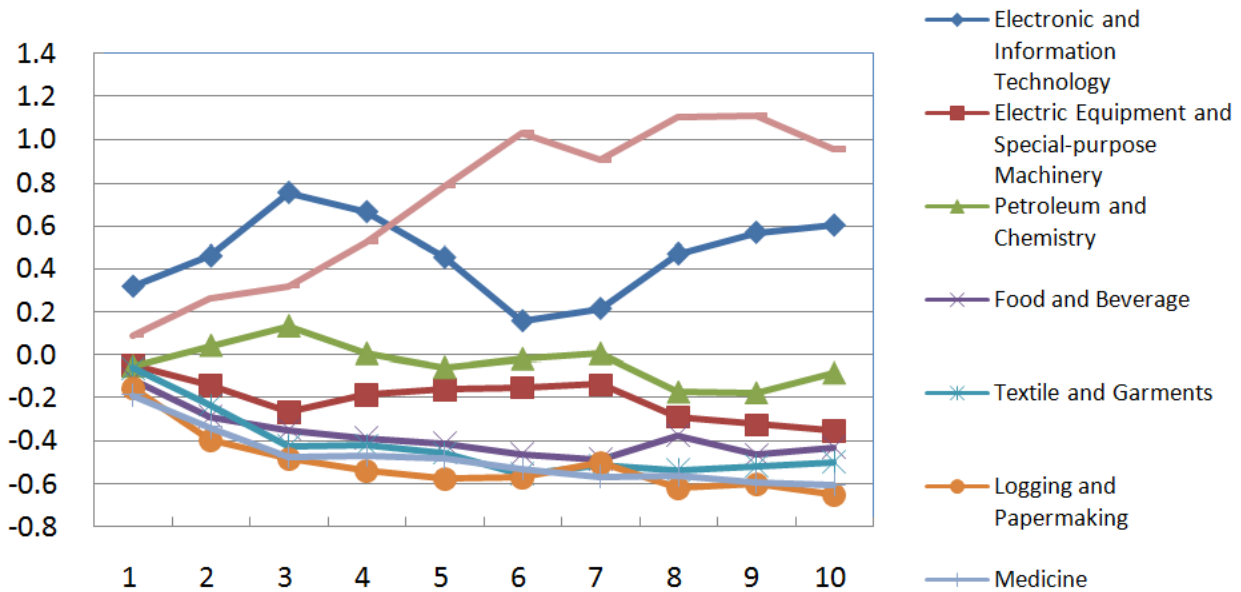


Figure 2 : Mainly Manufacturing Structural component Curve

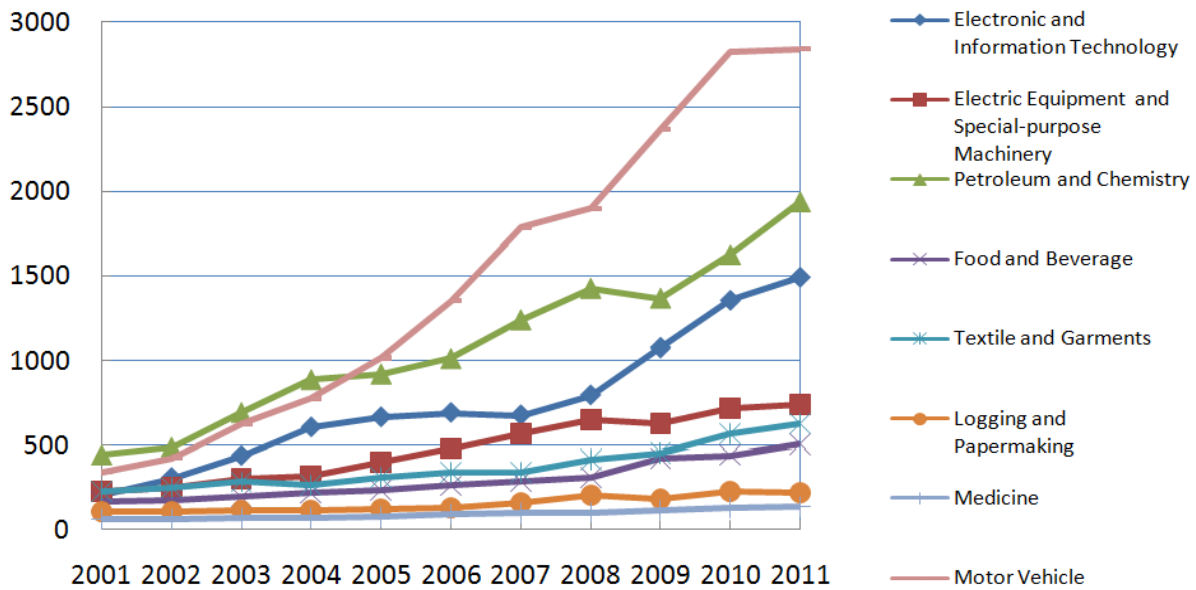


Figure 1 : Mainly Manufacturing Yield Curve

According to the above chart and dynamic DSSA analysis, it can be shown that the eight main manufacturing of Guangzhou' is keep increasing in the overall size during 2001-2011, and its industrial structure changed a lot. In general, the manufacturing of Guangzhou is transformed into capital-and tech-intensive industries in the last decade. The changes conform to the law of development of manufacturing. Moreover, the trend of manufacturing structure changes conforms to the expectation of "The Pearl River Delta Reform and Development Plan 2008-2020". It is suggested that the industrial structure become more rational and higher. It also suggests that the adjustment of industrial structure of Guangzhou cause a certain result since the late 1990s.

The curve of the figure 2 shows that the structure changes of the major manufacturing of Guangzhou can be roughly divided into three categories during 2001-2011:

1. Each component of manufacturing structure is generally raising trend. This category is mainly contain Motor Vehicle and Electronic and Information Technology, in terms of industrial structure, the " β " refers to the component coefficient of industrial structure are all over zero. The sort of the industry was rapidly changed in the process of structural adjustment and formed a relatively competitive advantage gradually.
2. The industry which each component of structure is extended to be low level down. This category is mainly Electric Equipment and Special-purpose Machinery and Petroleum and Chemistry. In terms of industrial structure, the " β " refers to their component coefficient of industrial structure are up and down over zero. The proportion of this sort of the industry was decreased in the process of

structural adjustment and its advantage of competitiveness has yet to be improved.

3. The industry that each component of structure is in low level. This category is mainly Medicine, Food and Beverage and Textile and Garments, in terms of industrial structure, the " β " their component coefficient of industrial structure are all less than zero and average. The proportion of this sort of the industry was come down every year in the process of structural adjustment and its competitiveness had drop off.

III. THE TRANSFORMATION AND STRATEGY OF SPEEDIN UP STRUCTURAL ADJUSTMENT AND UPGRADING THE MANUFACTURING STRUCTURE IN THE FUTURE

a) Directional transformation of Structural adjustment

The above empirical analysis shows that remarkable results had been achieved on restructuring work of manufacturing in Guangzhou during 2001-2011. For example, it is mainly represented by the content of manufacturing and categories of leading industry have a fundamental change and the industrial structure has a rationalization and sophistication direction. On the other hand, proportion of advanced manufacturing has risen continually, overall size has increased considerably, and competitiveness has improved rapidly, that showing a good momentum of development. But these results are just beginnings. For various challenges caused by environmental changes, the rapid growth of the manufacturing has been faced the ceiling limit, and the marginal benefit has begun declined by using the original method of structural adjustment.

Combined the above analysis with the current trend of the development of global manufacturing, it is necessary for manufacturing to convert the direction of industrial restructuring in Guangzhou. This is the only way that we can accelerate the pace of structural adjustment and improve the quality adjustment. According to current stage of economic development in Guangzhou and constraints of various factors, resources and environment, the article indicates that restructuring industry must transform relying mainly on investment attraction and capital investment into focusing on innovation to improve the efficiency and high of industrial structure. Meanwhile, restructuring industry should promote the Guangzhou manufacturing from a labor-intensive and low value-added type to technology-intensive and high value-added type.

b) Several Policies of Structural Adjustment

i. Consolidating adjustments of foundation and improving manufacturing environment of development continuously

According to the basic theory of spatial economics, it is obviously that Guangzhou has geographical advantages for the development of manufacturing industry. At the same time, mercantilist history and the policy of reform and opening making software and hardware environment of Guangzhou manufacturing both taking the lead. This may account for Guangzhou becoming the developed areas of domestic manufacturing from a weak region before the time of reform and opening. Nevertheless, it should be noted that many domestic regions such as Shenzhen, Tianjin, Suzhou, Ningbo, Dalian, and Chongqing are developing rapidly in recent years. The position of manufacturing of Guangzhou had decline relatively in the domestic. The trend of re-industrialization of developed countries and digitalization of global manufacturing promotes Guangzhou to face lots of new challenges. The experience of world's manufacturing notice that excellent environment is the key to the industry rising. In this way, there is still huge room for improvement of Guangzhou, although the country has a comparative advantage in the past.

The formation of "Lewisian turning-point" shows that the demographic dividend of China's economic development is not exist in the future. This also means that the industrial development model of plenty of low-cost labor and various resources inputs is unsustainable. Therefore, the Primer Li Keqiang claimed that economic development should rely on reform dividends. To promote a better and faster future, create a high-level and embeddedness manufacturing and maintain the sustainable development of the manufacturing, the first step of restructuring manufacturing in Guangzhou is consolidating adjustments of foundation. Of cause, the boldness and courage of reform and institutional innovation are essential.

It is necessary to modify various types of hardware and software environment, striving to improve dominant position in the domestic. Specifically, in a hardway, we should increase the investment for transportation, communications, energy, environmental protection, education, culture, municipal, information technology and other infrastructure via introduction of private capital; In the soft aspects, It is a drastic measure to play high value on business environment, investment and financing environment, innovative environment, technology and talent. At the same time, accelerating the transformation of government functions, the reform of approval system, the transition to a service-oriented government are the key to create outstanding environment. In this way, can industrial restructuring achieve excellence result.

ii. Homing on the Higher End of Value Chain, Promoting the Upgrading of Traditional Manufacturing

Guangzhou as the Pioneering areas of Chinese modern industrialization was called "millennium city". it contain kinds of traditional manufacturing with long-term advantages such as textiles and garments, food and beverages, light chemical, leather goods, building materials. They have been played a pivotal role in the development of the Guangzhou Economic. However, due to its low value-added, labor-intensive features and the increasingly prominent and environmental pressures, the relative share of these industries are shrinking. Therefore, these traditional manufacturing should not give up but make them stronger promoting its industrial competitiveness and efficiency to improve.

For the above purpose, it is wonderful to make full use of excellent market environment, kinds of factors of production, advantages of information, opened export trade platform and so on upgrading the traditional manufacturing of Guangzhou, based on promoting the policy of "double shift". To be specific, firstly, we should aim at the ends of Smiling Curve and extension of industry value chain to speed up the product technology innovation, cultivate independent brand of product, and strengthen marketing channel construction and network layout. Meanwhile, it is necessary to develop industrial products design, promote the use of advanced technology and especial the information technology to upgrading traditional manufacturing. Thereafter, simplifying the low-level processing and OEM and increasing the product technology content and added value are a proper way to enhance the competitiveness of the traditional manufacturing in Guangzhou.

iii. Strengthen the independent innovation, promoting cluster scale expansion of advanced manufacturing

"There are other hills where stones are good for working jade". The experience of the world's advanced manufacturing indicates that innovation and technology

attaches great importance to industrial structure adjustment. The Mainly Manufacturing Structural component Curve shows that Guangzhou has stepped in the stage of electronic information, manufacturing equipment manufacturing industry, automobile, etc. as the leading industry. The industry has already become the most important pillar industry in Guangzhou formed a large scale and certain competitive advantage, and its relative share in the manufacturing industry is increasing.

Obviously, it is a correct direction to adjust the manufacturing structure in Guangzhou. In order to further strengthen the embeddedness and market competitiveness of such industry, we should strive to strengthen the independent innovation, improve innovation resource allocation capabilities, construct the innovation carrier and platform, and improve the regional innovation system, promoting advanced manufacturing transform the "made in Guangzhou" into "innovative in Guangzhou".

The advanced manufacturing of Guangzhou has been developing rapidly in recent years. The focus and paths of its development should be planned to further increase its competitive advantage. Moreover, we should promote the expansion of advanced manufacturing cluster start with two points extending the industrial chain and making enterprise bigger and stronger. At the same time, it is important to note that the scale expansion of advanced industry cluster should avoid to become low-level and homogeneity. It is a measure to cultivate lots of giant bibcock enterprise of market competitive advantage forming a batch of high, refined, pointed products and brands which build up a number of high-quality advanced industry cluster.

iv. *Increase the intensity of support, and accelerate the development of potential strategic emerging industry*

Under the circumstance of the country promotes the development of strategic emerging industries, in the future, Guangzhou should focus on the national strategy, and pool resources to develop biomedicine, new materials, energy conservation, environmental protection, rail transportation equipment, nuclear power equipment and Marine engineering equipment, etc. Although this type of industry is still in its initial stage at present and the industrial proportion is not high, but upgrading of the industry must be carried out in the long term. Therefore these industries are full of great potential and broad prospects, and are also the direction of the economic development. As far as we can see, these industries will be the pillar industry of national economy in the future. Guangzhou is in the transitional period, so it should vigorously promote the development of emerging industry in order to grab the commanding heights of science and technology.

Based on the above consideration, it is necessary to constantly increase the support to potential strategic emerging industry, so that they can form its scale and competitive advantage as soon as possible. Government should pay attention to complete the system of the industrial policy, and give more discounts to this kind of industry in financial input, taxation, financing, etc. For the enterprises that have more leading ability, outstanding agglomeration features and those projects which have good economic benefit of technology innovation and technological transformation, the government should give more positive guidance and attract this kind of enterprises and projects located in Guangzhou. At the same time, the government can also guide the market demand through government procurement to support the promotion and application of emerging manufacturing product. In addition, the country can encourage to form a cross domain, cross-industry, cross-regional alliance of industry around the strategic emerging industry, promoting the strategic emerging industry of important regional resource configuration optimization and orderly development.

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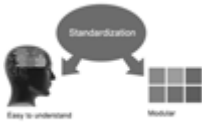




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Language: The language of publication is UK English. Authors, for whom English is a second language, must have their manuscript efficiently edited by an English-speaking person before submission to make sure that, the English is of high excellence. It is preferable, that manuscripts should be professionally edited.

Standard Usage, Abbreviations, and Units: Spelling and hyphenation should be conventional to The Concise Oxford English Dictionary. Statistics and measurements should at all times be given in figures, e.g. 16 min, except for when the number begins a sentence. When the number does not refer to a unit of measurement it should be spelt in full unless, it is 160 or greater.

Abbreviations supposed to be used carefully. The abbreviated name or expression is supposed to be cited in full at first usage, followed by the conventional abbreviation in parentheses.

Metric SI units are supposed to generally be used excluding where they conflict with current practice or are confusing. For illustration, 1.4 l rather than $1.4 \times 10^{-3} \text{ m}^3$, or 4 mm somewhat than $4 \times 10^{-3} \text{ m}$. Chemical formula and solutions must identify the form used, e.g. anhydrous or hydrated, and the concentration must be in clearly defined units. Common species names should be followed by underlines at the first mention. For following use the generic name should be constricted to a single letter, if it is clear.

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All manuscripts submitted to Global Journals Inc. (US), ought to include:

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Abstract, used in Original Papers and Reviews:

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Many researchers searching for information online will use search engines such as Google, Yahoo or similar. By optimizing your paper for search engines, you will amplify the chance of someone finding it. This in turn will make it more likely to be viewed and/or cited in a further work. Global Journals Inc. (US) have compiled these guidelines to facilitate you to maximize the web-friendliness of the most public part of your paper.

Key Words

A major linchpin in research work for the writing research paper is the keyword search, which one will employ to find both library and Internet resources.

One must be persistent and creative in using keywords. An effective keyword search requires a strategy and planning a list of possible keywords and phrases to try.

Search engines for most searches, use Boolean searching, which is somewhat different from Internet searches. The Boolean search uses "operators," words (and, or, not, and near) that enable you to expand or narrow your affords. Tips for research paper while preparing research paper are very helpful guideline of research paper.

Choice of key words is first tool of tips to write research paper. Research paper writing is an art. A few tips for deciding as strategically as possible about keyword search:



- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
- One should avoid outdated words.

Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

Numerical Methods: Numerical methods used should be clear and, where appropriate, supported by references.

Acknowledgements: Please make these as concise as possible.

References

References follow the Harvard scheme of referencing. References in the text should cite the authors' names followed by the time of their publication, unless there are three or more authors when simply the first author's name is quoted followed by et al. unpublished work has to only be cited where necessary, and only in the text. Copies of references in press in other journals have to be supplied with submitted typescripts. It is necessary that all citations and references be carefully checked before submission, as mistakes or omissions will cause delays.

References to information on the World Wide Web can be given, but only if the information is available without charge to readers on an official site. Wikipedia and Similar websites are not allowed where anyone can change the information. Authors will be asked to make available electronic copies of the cited information for inclusion on the Global Journals Inc. (US) homepage at the judgment of the Editorial Board.

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Figures: Figures are supposed to be submitted as separate files. Always take in a citation in the text for each figure using Arabic numbers, e.g. Fig. 4. Artwork must be submitted online in electronic form by e-mailing them.

Preparation of Electronic Figures for Publication

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1. Choosing the topic: In most cases, the topic is searched by the interest of author but it can be also suggested by the guides. You can have several topics and then you can judge that in which topic or subject you are finding yourself most comfortable. This can be done by asking several questions to yourself, like Will I be able to carry our search in this area? Will I find all necessary recourses to accomplish the search? Will I be able to find all information in this field area? If the answer of these types of questions will be "Yes" then you can choose that topic. In most of the cases, you may have to conduct the surveys and have to visit several places because this field is related to Computer Science and Information Technology. Also, you may have to do a lot of work to find all rise and falls regarding the various data of that subject. Sometimes, detailed information plays a vital role, instead of short information.

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21. Arrangement of information: Each section of the main body should start with an opening sentence and there should be a changeover at the end of the section. Give only valid and powerful arguments to your topic. You may also maintain your arguments with records.

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24. Never copy others' work: Never copy others' work and give it your name because if evaluator has seen it anywhere you will be in trouble.

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26. Go for seminars: Attend seminars if the topic is relevant to your research area. Utilize all your resources.



27. Refresh your mind after intervals: Try to give rest to your mind by listening to soft music or by sleeping in intervals. This will also improve your memory.

28. Make colleagues: Always try to make colleagues. No matter how sharper or intelligent you are, if you make colleagues you can have several ideas, which will be helpful for your research.

29. Think technically: Always think technically. If anything happens, then search its reasons, its benefits, and demerits.

30. Think and then print: When you will go to print your paper, notice that tables are not be split, headings are not detached from their descriptions, and page sequence is maintained.

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33. Report concluded results: Use concluded results. From raw data, filter the results and then conclude your studies based on measurements and observations taken. Significant figures and appropriate number of decimal places should be used. Parenthetical remarks are prohibitive. Proofread carefully at final stage. In the end give outline to your arguments. Spot out perspectives of further study of this subject. Justify your conclusion by at the bottom of them with sufficient justifications and examples.

34. After conclusion: Once you have concluded your research, the next most important step is to present your findings. Presentation is extremely important as it is the definite medium through which your research is going to be in print to the rest of the crowd. Care should be taken to categorize your thoughts well and present them in a logical and neat manner. A good quality research paper format is essential because it serves to highlight your research paper and bring to light all necessary aspects in your research.

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- Please note the criterion for grading the final paper by peer-reviewers.

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- To the point depiction of the research
- Consequences, including definite statistics - if the consequences are quantitative in nature, account quantitative data; results of any numerical analysis should be reported
- Significant conclusions or questions that track from the research(es)

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Approach:

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The page length of this segment is set by the sum and types of data to be reported. Carry on to be to the point, by means of statistics and tables, if suitable, to present consequences most efficiently. You must obviously differentiate material that would usually be incorporated in a study editorial from any unprocessed data or additional appendix matter that would not be available. In fact, such matter should not be submitted at all except requested by the instructor.



Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
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Approach

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<i>Abstract</i>	Clear and concise with appropriate content, Correct format. 200 words or below	Unclear summary and no specific data, Incorrect form Above 200 words	No specific data with ambiguous information Above 250 words
<i>Introduction</i>	Containing all background details with clear goal and appropriate details, flow specification, no grammar and spelling mistake, well organized sentence and paragraph, reference cited	Unclear and confusing data, appropriate format, grammar and spelling errors with unorganized matter	Out of place depth and content, hazy format
<i>Methods and Procedures</i>	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
<i>Result</i>	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
<i>Discussion</i>	Well organized, meaningful specification, sound conclusion, logical and concise explanation, highly structured paragraph reference cited	Wordy, unclear conclusion, spurious	Conclusion is not cited, unorganized, difficult to comprehend
<i>References</i>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring



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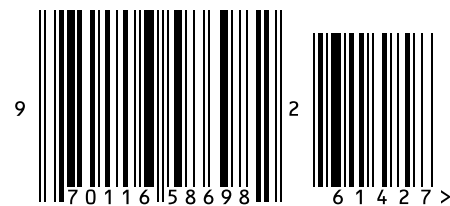
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