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# Economics



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## Economics

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# Testing the Inter-Temporal Relationship between Government Spending and Revenue: Evidence from Sri Lanka

By Navoda Edirisinghe & Selliah Sivarajasingham
*University of Peradeniya, Sri Lanka*

*Abstract-* In order to achieve and sustain fiscal discipline, a proper understanding about the budgetary movements and causal relationship between government revenue and government expenditure have become a vital requirement. Therefore, this paper examines the causal relationship between government expenditure and government revenue in Sri Lanka for the period of 1960-2013. In the process of achieving the main objective, the study uses annual data of government revenue, government expenditure and GDP deflator, and utilizes cointegration and error correction modeling framework, and Granger causality tests. In addition, it presents impulse responses to shed light on the dynamic relation of revenue to a expenditure shock. The results confirm spending-revenue hypothesis both in short run and long run. Considering the above empirical findings the study suggests that, in order to achieve and sustain fiscal discipline, Sri Lankan government should adopt selective expenditure framework.

*Keywords: government expenditure, government revenue, vector error correction model, granger causality test. sri lanka.*

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# Testing the Inter-Temporal Relationship between Government Spending and Revenue: Evidence from Sri Lanka

Navoda Edirisinghe [α] & Selliah Sivarajasingham [σ]

*Abstract-* In order to achieve and sustain fiscal discipline, a proper understanding about the budgetary movements and causal relationship between government revenue and government expenditure have become a vital requirement. Therefore, this paper examines the causal relationship between government expenditure and government revenue in Sri Lanka for the period of 1960-2013. In the process of achieving the main objective, the study uses annual data of government revenue, government expenditure and GDP deflator, and utilizes cointegration and error correction modeling framework, and Granger causality tests. In addition, it presents impulse responses to shed light on the dynamic relation of revenue to a expenditure shock. The results confirm spending-revenue hypothesis both in short run and long run. Considering the above empirical findings the study suggests that, in order to achieve and sustain fiscal discipline, Sri Lankan government should adopt selective expenditure framework.

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## I. Introduction

An apposite fiscal policy is a vital ingredient for sustainable economic development. Maintaining sustainable fiscal policy has become one for the prominent problem in macroeconomic literature because, this is crucial for promoting price stability and sustainable growth in output, income and employment (Obioma & Ozughalu, 2010).Government and policy makers have the ability to achieve this vital objective by having a proper understanding about the budgetary movements and causal relationship between government revenue and government expenditure. Due to this reason many researchers have drawn their attention to comprehend the nexus between government revenue and government expenditure in political economic literature, public finance literature, etc. Furthermore, this issue has generated heated discussion around the world because, it is essential to address unsustainable fiscal deficit, evaluate government's role in the distribution of resources. Such evaluation clears the way for sound fiscal policy formulation and implementation to achieve rapid and sustainable socio-economic growth (Obioma & Ozughalu, 2010). Moreover, according to Kaya and Sen (2013), the three concepts, namely government revenue, government expenditure and fiscal balance are the key aggregates that necessary to achieve fiscal discipline.

In the context of Sri Lankan economy, the direction of causal relationship and its implication has gain major interest among economists and policy makers due to the fact that Sri Lanka is a South Asian developing country which is experiencing a chronic and persistent budget deficit throughout the time. The fiscal policy strategy of Sri Lanka was formulated in line with the Medium Term Macro Fiscal Framework (MTMFF) for 2013-2016 in order to reduce the budget deficit further (Central Bank, 2014). The recent budget deficit was maintained at 5.9 per cent of GDP which showing a slight deviation from the budgetary target of 5.8 per cent of GDP and this is a notable improvement from the deficit of 6.5 per cent recorded in 2012, (Central Bank, 2014). The main rationale for this is, though there is a reduction in 2013 government revenue to 13.1 per cent of GDP from 13.9 per cent in 2012 there also a reduction in recurrent expenditure to 13.9 per cent of GDP from 14.9 per cent in 2012 (Central Bank, 2014). But still Sri Lanka spends highly on recurrent expenditure comparative to capital expenditure because in 2013 capital expenditure was only 5.2 per cent of GDP (Central Bank, 2014). This is another puny point of Sri Lanka's fiscal policy. As a post war economy, though Sri Lanka's budget deficit fell substantially from 10% of GDP to 5.8%, this decline was not sharp enough for the government to meet its 2011 target of reducing the budget deficit to 5% (Verite Research, 2013).This explains the government's malfunction in tracking down the deficit and these kinds of failures can be overcome by having proper understanding about the nexus and the trends of government revenue and government expenditure.

*Author α σ: Department of Economics and Statistics, Faculty of Arts, University of Peradeniya, Sri Lanka. e-mails: navodae@yahoo.com, ssivaraj@pdn.ac.lk*



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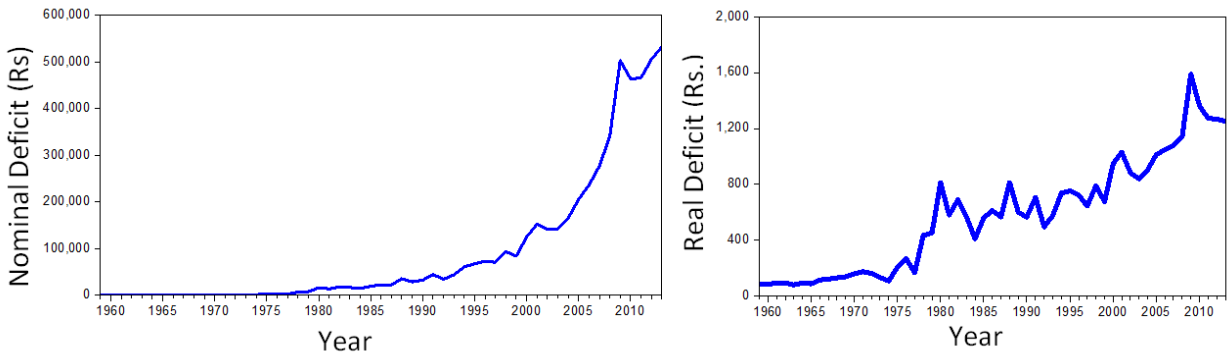



*Figure 1 :* Nominal deficit and Real deficit behavior in Sri Lanka

Figure 1 shows the high persistent budget deficit in Sri Lanka. And, this persistent behavior raise questions whether increases in the size of the government budget tend to be initiated by changes in expenditures followed by revenue adjustments or by the reverse sequence, or both.

As mentioned earlier, identification of the direction of causal relationship between government revenue and government expenditure is important to find solutions for the deficit problem and ultimately to have a sustainable macroeconomic environment. This can be done in several ways. For instance first, if government revenue causes government expenditure, then budget deficits can be eliminated by implementing policies that stimulate government revenue (Obioma and Ozughalu 2010; Ogujiuba and Abraham, 2012; and Mehrara and Rezaei, 2014). Second, if government expenditure causes government revenue, this situation can bring capital outflow as a result of the fear of consumers paying higher taxes in the future (Obioma and Ozughalu 2010). Third, if bilateral causality exists, the government should make its expenditures and revenues decision simultaneously (Elyasi and Rahimi, 2012; Hye and Jalil, 2010; and Takumah, 2014). Forth, if there is no bidirectional causality between government revenue and government expenditure, it explains that government expenditure decisions are made without any reference to government revenue decisions and vice versa (Obioma & Ozughalu, 2010). Likewise, by understanding the exact relationship and trends between government expenditure and government revenue, policy makers have the capability to implement the most appropriate policies to overcome the deficit problem within an economy. In the Sri Lankan context also determination of which hypothesis characterizes Sri Lankan economy is more than an intellectual exercise and has implications about solutions to the problem of persistent budget deficits

Due to these kinds of significances many scholars have conducted number of researches in this study area. When considering those literatures in both developed and developing countries, it is proving that those studies have used different econometric methodologies (Granger causality method, Vector Error Correction Method, VAR method, Bound testing approach and, Toda and Yamamato) and they have received mixed results. In the consideration of literatures related to Sri Lanka, we can see that there are only few studies exist and those studies have restricted their study only to identify the direction of causality between government expenditure and government revenue. In other words, none of the studies related to Sri Lanka have extended their analysis to identify the short run and long run dynamics and budgetary movement in the future.

By considering all the above research gaps, the research question is: what causes what? i.e. what is the direction of causality between government expenditure and government revenue in the case of Sri Lanka. To answer the above question the study focuses on the following objectives:

The main objective of this study is to examine the direction of causality between government expenditure and government revenue. Further, some specific objectives are formulated in order to achieve main objective systematically and comprehensively. First, to examine the tie series properties of the variables, second, to examine whether those variables are cointegrated, third, testing Granger causality test and finally, suggest policy implications. These objectives are expected to be achieved by using annual data for the period of 1960 to 2013 in Sri Lanka.

The paper is structured as follows. The Section 2, brief out the theoretical framework and review of literatures on study area. Section 3, illustrates the methodology and econometric models employed by the study. Empirical findings of this study are presented in Section 4. Finally, Section 5 consist the concluding remarks and policy recommendations.

*a) Theoretical Framework and the Literature Review*

The first part of this section will focus on the theoretical justification of the causal relationship between government revenue and government expenditure. Theoretically the existing literature explains



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the causal relationship by considering four schools of thoughts or four hypotheses, namely: i) Revenue-spend hypothesis; ii) Spend-revenue hypothesis; iii) Fiscal synchronization hypothesis; and iv) Fiscal independence or institutional separation hypothesis.

The first, the Revenue-spend school, proposed by Friedman (1978) explains that raising taxes will simply lead to more spending. According to Friedman (1982) an economy cannot reduce its deficit by raising taxes because, increasing taxes only results in more expenditure, leaving the deficit at the highest level. The most basic rule about the government's behavior, which is "government disburses what government receives plus as much more as it can get away with", also explains the above scenario (Mehrara & Rezaei, 2014). Moreover, Friedman (1982) suggests tax reduction as a solution to budget deficits, because, according to him, taxes have positive causal impact on government expenditure. In the meantime Buchanan and Wagner (1977, 1978) introduced an alternative version of the tax-and-spend hypothesis, which argue that reduction in taxes would lead to higher spending. Their viewpoint was, with the reduction in taxes the public will assume that the government intervention to welfare programs has fallen. As a result, they will demand more programs from the government which will lead to greater government spending and eventually for greater budget deficit. Therefore, their solution for budget deficit is an accretion in government taxes (Buchanan and Wagner,1977, 1978).

The second, the spend-revenue school, proposed by Peacock and Wiseman (1961, 1979) explains that government expenditure causes government revenue. According to this hypothesis, the government will first decide the level of spending and then they will adjust the tax policy to accommodate the level of spending. The spend-and-tax hypothesis is valid when spending hikes are created by temporary crisis situations (wars, natural disasters, or deep recessions) which will lead to temporary increase in expenditures and higher taxes to pay for them (Takumah, 2014). It also argues that this type of temporary tax hikes may become permanent and will change the citizens' attitude towards the proper level of government spending even after the crisis situation (Mehrara and Rezaei, 2014). This means ultimately, there will be permanent increase in the level of government expenditures and budget deficit. Therefore, this hypothesis suggests that reduction in government spending is the desired solution budget deficits (Mehrara and Rezaei, 2014; Takumah, 2014; and Elyasi and Rahimi, 2012).

The third school, fiscal synchronization hypothesis argues that governments may take revenue and expenditure decisions simultaneously, because the two variables interact independently (Meltzer and Richard, 1981; Musgrave, 1966). It also argue that, the revenue and expenditure decisions are made by analyzing costs and benefits of alternative government programs (Kaya and Sen, 2013).Therefore, this hypothesis is characterized by bidirectional causality and feedback relationship between government revenue and government expenditure (Obioma and Ozughalu, 2010).

Finally, fiscal neutrality school or institutional separation hypothesis which was introduced by Baghestani and McNown (1994) is the fourth school. This hypothesis is based on the perspective that government revenue and expenditure decisions are independent of one another. Therefore there is no causality between government revenue and government expenditure (Baghestani and McNown, 1994). According to the existing literature, government expenditure would be desired on the requirements expressed by the citizens and government revenue (tax policy) would be depended on the maximum tax burden that can be tolerated by the population (Mehrara and Rezaei, 2014; Takumah, 2014; and Elyasi and Rahimi, 2012).

In order to put a solid foundation for the study, the second part of this section will explore the most exclusive literatures about the causal relationship between government revenue and government expenditure. When considering Sri Lankan literatures in this area, only few researchers have drawn their attention to that (Ravinthirakumaran, 2011; Narayan, 2005). But, when it comes to other developed and developing countries vast number of studies have been done in the area of revenue-expenditure nexus (Mehrara and Rezaei, 2014; Takumah, 2014; Elyasi and Rahimi, 2012; Obioma and Ozughalu, 2010, etc).

In Sri Lankan context, the most recent study related to the area of revenue-spending nexus was done by Ravinthirakumaran (2011). Here, the author is investigating the causal relationship between government revenue and expenditure using Engle Granger Cointegration approach and Error Correction Model for the period of 1977-2009. According to this analysis, the two variables (government expenditure and revenue) are integrated in I(1) and has found existence of long term cointegrating relationship. But when it comes to causality analysis, the study has applied level data to the Granger causality test. But the series supposed to be stationary for conventional Granger causality test, which is the major weak point of this study. This could have led misleading result. However, the study found existence of bidirectional causality between the two variables and supported the fiscal synchronization hypothesis.

Narayan (2005) has done an empirical analysis under the same research question as the earlier study by considering nine Asian countries (including Sri Lanka). This study has employed bounds testing approach to cointegration and Granger causality method for the period of 1960-2000, and has obtained



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contrasting results for the Sri Lankan case. According to Narayan (2005) in Sri Lanka government revenue Granger cause government spending in the short run and government spending Granger cause government revenue in the long run.

Next, the paper will focus on the most recent empirical studies based on other countries. Mehrara and Rezaei (2014) have done a empirical examination to investigate the relationship between government revenue and government expenditure in Iran by using annual data for the period of 1978-2011. The study employed the Toda-Yamamoto Granger causality test for investigation and found unidirectional causality which runs from government revenue to government expenditure. Elyasi and Rahimi (2012) have examined the same research question based on Iran for the period of 1963-2007. But this study used bounds testing approach to cointegration and the results show that there is a bidirectional causal relationship between government expenditure and revenues in both long run and short run.

Takumah (2014) has evaluated the long run and short run causal relationship between government revenue and expenditure in Ghana for the period of 1986-2012. There the researcher utilized ARDL bounds testing procedure for cointegration and used real GDP as the control variable. The empirical findings revealed cointegrating and bidirectional causal relationship between government revenue and expenditure both in short run and long run.

Kaya and Sen (2013) have done an analysis on government revenue-expenditure nexus in Turkey for the period of 1975-2011 by employing cointegrated vector autoregression (VAR) method along with the Granger causality test. The findings of the analysis indicate that there is a unidirectional causality running from government spending to tax revenue and support the spend-and-tax hypothesis.

Likewise, many researchers (Hye and Jalil. 2010; Obioma and Ozughalu, 2010; Nanthakumar and Kogid, 2011; Ogujiuba and Abraham, 2012, etc) have investigated this issue (see appendix I). In the consideration of these exclusive literatures, it proves that these studies have used various econometric techniques (Granger causality method, bounds testing approach for cointegration, Toda-Yamamoto Granger causality test, etc) and have acquired diverse, contrasting results which led to inconclusive results.

Moreover, the most important fact is, only limited numbers of studies have concentrated on analyzing the nexus between government revenue and government expenditure in Sri Lanka. And those existing literature exhibits contradicting results and few weak points in application of analytical tools. Thus, this study intends to fill those gaps..

## II. Methodology

Next section of this paper will introduce the analytical tools and econometrics models which will be employed to achieve the above mentioned objectives.

*a) Data description*

The study uses annual data of government revenue (GREV), Government expenditure (GEXP) and GDP deflator of Sri Lanka as main variables. Government revenue and government expenditure are in Sri Lankan rupee millions, and GDP deflator is an index value. Since the data are being collected in nominal values, GDP deflator is used to convert nominal values into real values of variables (RGEXP and RGREV). Here, the data are being collected from the Central Bank annual reports for the period of 1960-2013.

In order to stabilize variability of the series, to linearise the series, and to make economic interpretations in elasticity, the study uses natural logarithmic transformation of all variables (LRGEXP=log of real government expenditure and LRGREV=log of real government revenue). Moving further, the study also focuses on the growth dynamics of the two variables. In that case the variables are again transformed in to growth form as follows:

$$GRGEXP=LRGEXP-LRGEXP(-1)$$

$$GRGREV=LRGREV-LRGREV(-1)$$

Here, GRGEXP= growth of real government expenditure and GRGREV= growth of real government revenue.

*b) Preliminary Analysis*

The study uses descriptive statistics in the preliminary stage of the analysis to have a better understanding of the variables. And, cross correlation matrix to confirm the association between government expenditure and government revenue.

The line graphs, error bar graph and confidence ellipses are used to understand the trend behavior and underlying relationship between GREV and GEXP respectively. More importantly, confidence ellipses will confirm the results of cross correlation matrix.

*c) Unit root test*

In the primary stage of the analysis unit root tests are applied to investigate the order of the series. Almost all economic and financial time series manifest trending behavior or non-stationarity in the mean. Therefore it is essential to test for stationarity, in order to avoid spurious regression in standard OLS approaches. Here, three standard unit-root test techniques are employed. Namely, Augmented Dickey Fuller (ADF) test, Kwiatkowski, Phillips, Schmidt, and Shin (KPSS) test and Elliot, Rothenberg, and Stock Point Optimal (ERS)test.



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i. *Augmented Dickey-Fuller Test (ADF Test)*

This paper employs the Augmented Dickey-Fuller (ADF) procedure to test for stationarity and the order of integration of RGEXP, RGREV, LRGEXP and LRGREV. This test requires both the data generating process of the series under study as well as the appropriate lag length be chosen (Gujarati, 2003). Three different data generating processes can be chosen within the Augmented Dickey-Fuller test to examine the stationarity and the order of integration, but in this study we employ only one process, which is:

A random walk with drift and stochastic trend

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \sum_{i=1}^{m} \alpha_i \Delta Y_{t-i} + \varepsilon_t \qquad (1)$$

Where;

$Y_t$ represent government expenditure and government revenue

$\Delta$ = the difference operator

$\beta_1$ = the drift term

t = the time trend

$\varepsilon$ = the white noise error term

In this procedure, acceptance of null hypothesis indicates that the time series is non-stationary or the series exhibits some trending behavior.

ii. *Kwiatkowski, Phillips, Schmidt, and Shin (KPSS) Test*

This study also will utilize KPSS test to verify the results of ADF test. This procedure was introduce by Kwiatkowski, Phillips, Schmidt and Shin in 1992. Here, series of observations is represented as a sum of three components: deterministic trend, a random walk, and a stationary error term. The model has the following form:

$$y_t = \xi t + r_t + \varepsilon_t \qquad (2)$$

$$r_t = r_{t-1} + u_t \qquad (3)$$

Where, $y_t, t = 1,2,3, \ldots$ indicates variable of interest (in this cae government expenditure and government revenue), *t*- deterministic trend, $r_t$– random walk process, $\varepsilon_t$ - error term of equation (2), by assumption is stationary, $u_t$ denotes an error term of equation (3), and by assumption is a series of identically distributed independent random variables of expected value equal to zero and constant variation . By assumption, an initial value of the second equation is a constant; and it corresponds to an intercept (Syczewska, 2010). The main difference of KPSS test from ADF test is, in KPSS test the null hypothesis state that the time series is stationary.

iii. *Elliot, Rothenberg, and Stock Point Optimal (ERS) Test*

In order to verify the consistency of the unit root results, the study employs another unit root test which is the ERS test. Elliot, Rothenberg and Stock (1996) proposed this test with improved power when trend components are present. This test is based on the following model:

$$y_t = \beta' D_t + u_t \qquad (4)$$

$$u_t = \phi u_{t-1} + v_t \qquad (5)$$

Here, $D_t$ represents a vector of deterministic terms, $E[u_0] < \infty$, and $v_t$ is a 1-summable linear process with long-run variance $\lambda^2$. Typically $D_t$= 1 or $D_t$ = [1, t]. And this procedure test the null hypothesis $\varphi = 1$ versus $|\varphi| < 1$.

iv. *Vector Error Correction Model (VECM)*

One of the objectives of this study is to identify the short run and long run dynamics of government expenditure and government revenue. In order to accomplish this objective the study employs VECM. Another importance of VECM is, there two possible sources of causality with the VECM. One, the significance of the error correction term (ECT) reveals the long run causality and the second one is lag explanatory variables that show short run causality. Though that that the prime objective of the study can be achieved which is investigating the short run and long run causal relationship between government revenue and government expenditure. The study use two VECMs considering each variable (LRGEXP and LRGREV) as the dependent variable at each time and the structure of the VECMs are as follow:

$$\Delta LRGEXP_t = \alpha_0 + \alpha_1 \Delta LRGREV_t + \lambda \hat{u}_{t-1} + \varepsilon_t \qquad (6)$$

$$\Delta LRGREV_t = \beta_0 + \beta_1 \Delta LRGEXP_t + \gamma \hat{v}_{t-1} + \eta_t \qquad (7)$$

*Expenditure function:* where, $\alpha_1$ represents the short term reaction of government expenditure to changes in government revenue, $\lambda$ shows the speed of adjustment in case of a shock and $\varepsilon_t$ is the error term. Here, $\hat{u}_{t-1} = LRGEXP_{t-1} - \hat{\alpha}_0 - \hat{\alpha}_1 LRGREV_{t-1}$ and it is known as the error correction component of the model.

*Revenue function:* $\beta_1$ represents the reaction of government revenue to changes in government expenditure in short run, $\gamma$ shows the long run speed of adjustment in case of a shock and $\eta_t$ is the white noise error term. Here, $\hat{v}_{t-1} = LRGREV_{t-1} - \hat{\beta}_0 - \hat{\beta}_1 LRGEXP_{t-1}$ and it is known as the error correction component of the model.

v. *Granger Causality Test*

Next the study moves to the analysis of short run causality. Even though VECM is capable of doing this, it is necessary to undertake a formal short run causal analysis. In that case the study employs three types of Granger causality tests to check the consistency of the results, which are: i) Pairwise Granger causality test (F test) from single equation method, ii) VAR Granger causality/Block Exogeneity Wald Tests (Chi-Square) and iii) VEC Granger causality/Block



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Exogeneity Wald Tests (Chi Square).. Here, the most important fact is, existence of Granger causality reveals the predictive ability of one variable in forecasting the other. The general form of Granger causality model is:

$$\Delta Y_t = \sum_{i=1}^{n} \alpha_i \Delta X_{t-i} + \sum_{j=1}^{n} \beta_j \Delta Y_{t-j} + u_t$$

$$\Delta X_t = \sum_{i=1}^{n} \lambda_i \Delta X_{t-i} + \sum_{j=1}^{n} \delta_j \Delta Y_{t-j} + v_t \quad (9)$$

From the above equations, if $\alpha_i$'s are significant and $\delta_j$'s are not significant, then it concludes that there is a unidirectional causality between Y variable and X variable (X causes Y). If $\alpha_i$'s are not significant and $\delta_j$'s are significant, then it concludes that there is a unidirectional causality between Y and X (Y causes X). If $\alpha_i$'s and $\delta_j$'s are not significant, then it indicates that the variables are independent, which means there is no causal relationship between X and Y. And finally, if $\alpha_i$'s and $\delta_j$'s are significant, then we conclude that there is a bilateral causality between X and Y. The study uses the above two models to examine the causal relationship between two variables in level and log forms separately, RGEXP-RGREV and LRGEXP-LRGREV.

## III. Results and Discussion

This part of the paper will exhibit the results which were obtained by the analytical tools and will discuss the interpretations of those results.

*a) Preliminary analysis*

As mentioned earlier the whole study is based on two variables which are government expenditure and government revenue. Table 1 presents the results of those variables. According to this table it is clear that both variables are positively skewed with relatively similar mean values. In the consideration of standard deviation real government expenditure shows high values comparative to real government revenue. Another significant feature exhibits by this table is, averagely throughout the sample period the country is experiencing budget deficit.

*Table 1:* Descriptive statistics of the variables

| | Real GovExpenditure | Real Gov Revenue |
|---|---|---|
| Mean | 1701.702 | 1121.496 |
| Std. Dev. | 1091.424 | 703.2840 |
| Skewness | 0.538059 | 0.636607 |
| Kurtosis | 2.269349 | 2.370022 |
| Jarque-Bera | 3.877224 | 4.624457 |
| Probability | 0.143904 | 0.099040 |

Figure 2, shows the line graph and error bar graph of real government expenditure (RGEXP) and real government revenue (RGREV) for the period of 1959-2013. This figure clearly illustrates that; prior to 1977 Sri Lanka's RGEXP and RGREV are considerably at low level and exhibits low volatility. Moreover, prior to 1977 the gap between RGEXP and RGREV is relatively small, which indicates low level of budget deficit. After 1977, there is a huge jump in RGEXP and RGREV, and this jump of RGEXP is relatively large than RGREV. Main reason for this behavior can be the trade liberalization in 1977. By opening the market to external trade Sri Lankan government had to spend lot of money on imports, export industries and infrastructure. Due to this reason government expenditure of Sri Lanka has increased substantially. Another significant feature after 1977 period is the wider gap between RGEXP and RGREV and this gap is increasing over time, which is contrasting from prior to 1977 period. This implies that after 1977 Sri Lanka has experiences chronic budget deficit. The error bar graph of figure 1, clearly display the behavior of budget deficit, how it is increasing over time and the contrasting behavior of the two time periods (before 1977 and after 1977). In the consideration of overall behavior of RGEXP and RGREV, throughout the sample period both variables show positive trend and RGEXP is increasing at a faster rate comparative to RGREV.



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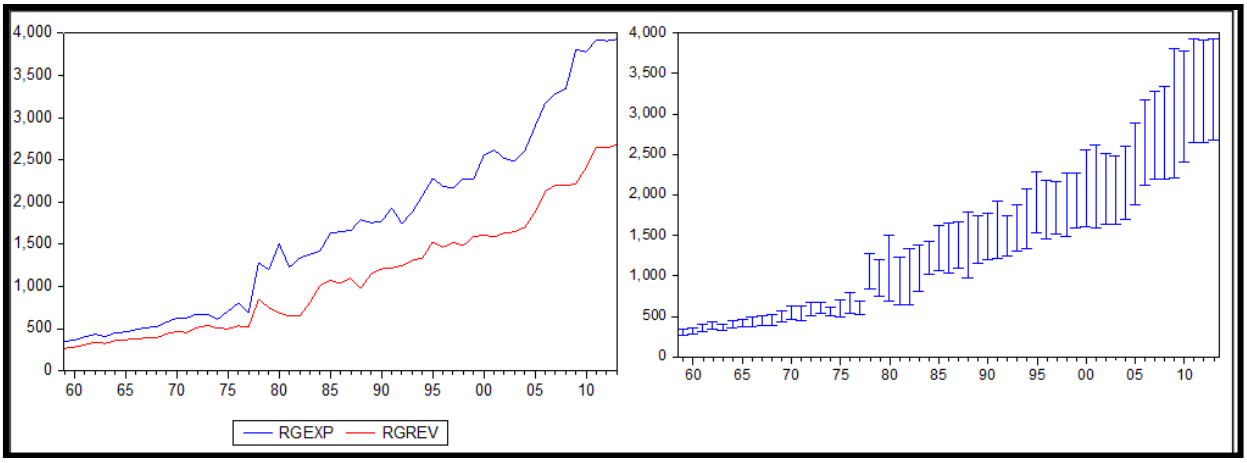



*Figure 2 :* Line graph and Error Bar graph of RGEXP and RGREV

When considering the growth dynamics of figure 3, we can identify the above mentioned notable change during the period of 1977- 1979. Figure 3, clearly shows that soon after 1977, there were sharp increase in GRGEXP and GRGREV, and GRGEXP was greater than GRGREV. Furthermore, when considering the latter part of the sample period growth of the two variables has become more or less similar.

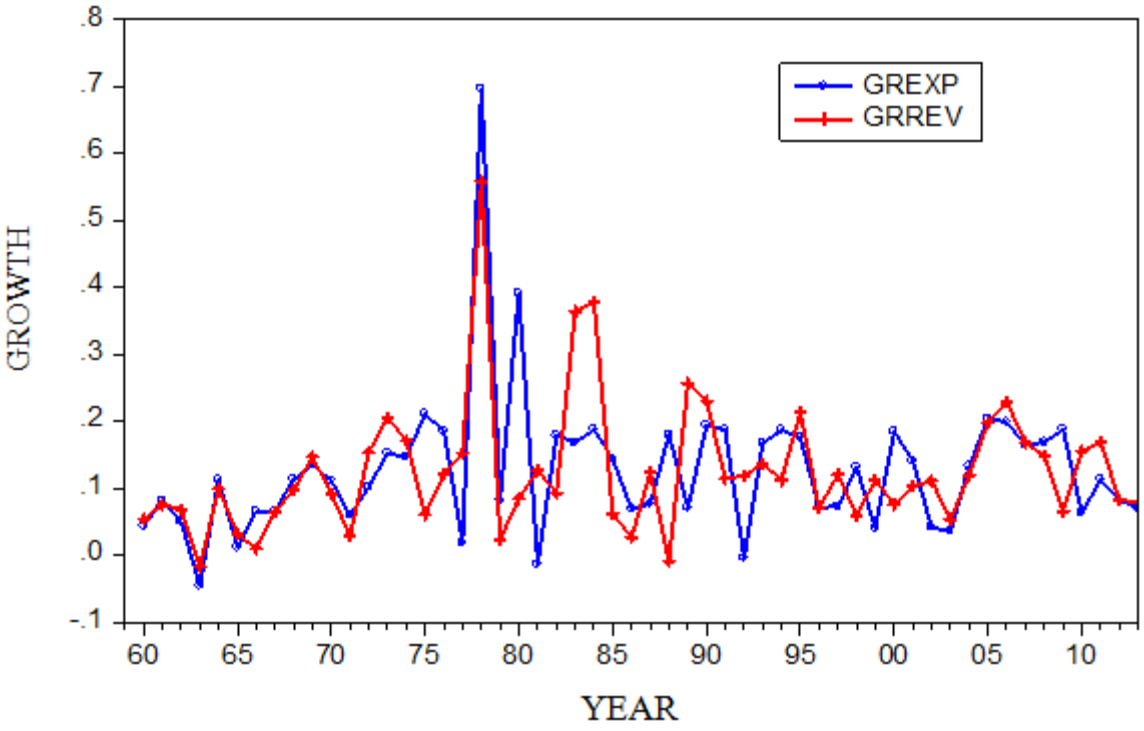



*Figure 3 :* Dynamics of Real growth series of GRGEXP, GRGREV

Under the graphical analysis, the study uses a tool to graphically illustate the correlation between the two main variables which is Confidence Ellipse. Figure 4 shows the 95% confidenc ellipse of RGEXP vs RGREV and GRGEXP vs GRGREV. The confidential ellipses clearly shows that the RGEXP and RGREV are highly positively correlated and GRGEXP and GRGREV are weakly positively correlated. In order to confirm the strong positive correlation between RGEXP and RGREV, the study employs correlation matrix, which shows in table 2. According to correlation matrix, there is a 99% correlation between RGEXP and RGREV and unanimously confirms the output of confidence ellipse.



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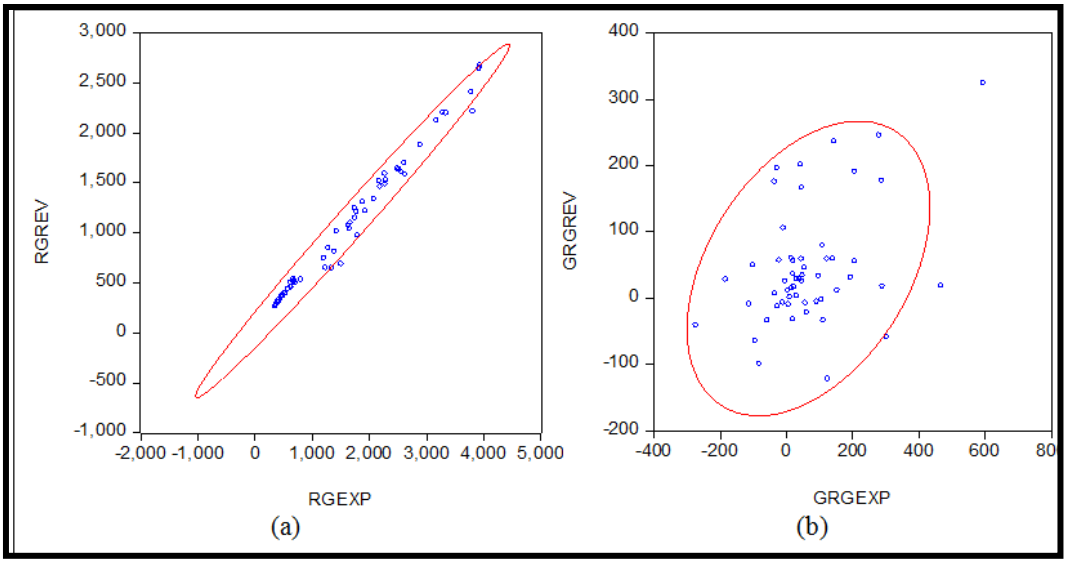



*Figure 4 :* Confidence Ellips of REXP vs RREV and RGREXP vs RGRREV

*Table 2 :* Cross correlation RGEXP vs RGREV

| | RGEXP | RGREV |
|---|---|---|
| RGEXP | 1 .00 | |
| RGREV | 0.99(0.000) | 1.0 |

*b) Unit root analysis*

As mentioned in the methodology section, unit root test is an obligatory requirement in the time series analysis to identity the trending behavior and the order of integration. Even though, the study concluded trending behavior of the two variables in the visual inspection part, it is necessary to do a formal unit root test. In that case this study uses three types of unit root tests (ADF test, KPSS test and ERS test) to verify the consistency of the results. In ADF test Mackinnon (1996) critical values are used, in KPSS test Kwiatkowski-Phillips-Schmidt-Shin (1992) critical values are used and in ERS test Elliott-Rothenberg-Stock (1996) critical values are used.

Table 3 displays the unit root test results of LRGEXP, LRGREV, RGEXP and RGREV for all three tests under level form and first difference. According to that only ADF test result indicates, LRGREV is stationary at level, because it reject the null hypothesis. On the other hand KPSS test reject the null hypothesis ($H_0$: series is stationary) and ERS test accept the null hypothesis ($H_0$: series has unit root) which indicate that LRGREV is non stationary at level form. In order to solve this contradiction the study suggests to accept the test results of KPSS test and ERS test, because those test are newly developed, the power of those tests are greater than ADF test and visually also the study concluded trending behavior of LRGREV.

Next the study follows the same procedure for LRGEXP, RGEXP and RGREV. In this case the study did not find any contradictory results. All three tests show that LRGEXP, RGEXP and RGREV are non stationary under level form.

Subsequently, in order to determine the order of integration of non-stationary time series, the same tests were employed for all variables under first difference. Those results are also shown in table 3. Here, the three tests indicate that all four variables are stationary at 5% level. Because ADF test and ERS test reject the null hypothesis and KPSS test accept the null hypothesis under first difference. This implies that LRGEXP, LRGREV, RGEXP and RGREV are integrated at same order I(1).

*Table 3 :* Unit root test results of LRGEXP and LRGREV

| Variables | Level (intercept with trend) | | | First Difference (intercept and trend) | | |
|---|---|---|---|---|---|---|
| | ADF | KPSS | ERS | ADF | KPSS | ERS |
| RGEXP | -2.123 | 0.193 | 3.820 | -10.007 | 0.125 | 18.167 |
| RGREV | -1.364 | 0.225 | 3.385 | -7.607 | 0.029 | 25.662 |
| LRGEXP | -1.809 | 0.151 | 0.369 | -11.693 | 0.059 | 43.128 |
| LRGREV | -4.063 | 0.189 | 5.019 | -7.577 | 0.023 | 12.276 |
| Critical Values (5%) | -3.497 | 0.146 | 5.712 | -3.497 | 0.146 | 5.714 |



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*c) Vector error correction model*

Next the analysis focuses on identifying the short run and long run dynamics of LRGEXP and LRGREV by using vector error correction model. When applying VECM it is necessary to use non-stationary data which are known to be cointegrated. Therefore the study has undertaken cointegration analysis by using Engle-Granger cointegration test and found that the two variables are cointegrating. This gives the opportunity for the study to apply VECM to identify short run and long run dynamics of the two variables. The study employs two VECM, one with LRGEXP as the dependent variable (results are in table 4) and one with LRGREV as the dependent variable (results are in table 5). First part of the tables (4A and 5A) reports the long run parameter estimates, second part of the tables (4B and 5B) reports the short run impact multiplier estimates and third part of the tables (4C and 5C) reports the speed of adjustment after the equilibrium in the long run. According to the results in table 4A and 5A long run relationship exist for both cases. But, when considering the coefficient of the ECTs in table 4C and 5C, only the adjustment coefficient of LRGREV is significant at 10 percent level. Therefore, we can say the there is a long run causal relationship between LRGEXP and LRGREV and one percent increase in LRGEXP will increase LRGREV by 0.91 percent in the long run. Moreover, the negative sign of the adjustment coefficient indicates that LRGREV movers downward towards the long run equilibrium and at each year the disequilibrium error is corrected in the speed of 24.4 percent.

In short run one lag period LRGEXP is having negative and significant impact on both LRGEXP and LRGREV which means, when one lag period LRGEXP increase by one percent LRGEXP and LRGREV will decrease by 0.53 percent and 0.48 percent respectively. This confirms that inshort run also LRGEXP is the influencing variable. Based on this empirical results what we can say is, due temporary crisis situations Sri Lankan government will increase spending. But in short run there will be a time constrains to adjust the revenue policy to accommodate expenditure. Therefore, there will be a negative relationship between government expenditure and revenue.

*Table 4:* VECM of LRGEXP

| A: Long Run Dynamic of LRGEXP & LRGREV | | |
|---|---|---|
| | LRGEXP | |
| LRGREV(-1) | -1.0966** | |
| | [-20.5001] | |
| C | 0.267416 | |
| **B: Short Run Dynamic of LRGEXP & LRGREV** | | |
| | D(LRGEXP) | D(LRGREV) |
| D(LRGEXP(-1)) | -0.5344** | -0.483678 |
| | [-2.75296] | [-2.75191] |
| D(LRGEXP(-2)) | -0.097065 | -0.268284 |
| | [-0.52473] | [-1.60168] |
| D(LRGREV(-1)) | 0.159996 | 0.162744 |
| | [ 0.76473] | [ 0.85903] |
| D(LRGREV(-2)) | 0.256019 | 0.059888 |
| | [ 1.25062] | [ 0.32307] |
| C | 0.0553** | 0.066651 |
| | [ 3.00874] | [ 4.00717] |
| **C: Adjustment speed** | | |
| ECT | -0.088218 | 0.22232 |
| | [-0.56731] | [ 1.57889] |

*Table 5:* VECM of LRGREV

| A: Long Run Dynamic of LRGREV & LRGEXP | | |
|---|---|---|
| | LRGREV | |
| LRGEXP(-1) | -0.9119** | |
| | [-20.5504] | |
| C | -0.243852 | |
| **B: Short Run Dynamic of LRGREV & LRGEXP** | | |
| | D(LRGREV) | D(LRGEXP) |
| D(LRGREV(-1)) | 0.162744 | 0.159996 |
| | [ 0.85903] | [ 0.76473] |
| D(LRGREV(-2)) | 0.059888 | 0.256019 |
| | [ 0.32307] | [ 1.25062] |
| D(LRGEXP(-1)) | -0.4837** | -0.534354 |
| | [-2.75191] | [-2.75296] |
| D(LRGEXP(-2)) | -0.268284 | -0.097065 |
| | [-1.60168] | [-0.52473] |
| C | 0.0667** | 0.055266 |
| | [ 4.00717] | [ 3.00874] |
| **C: Adjustment speed** | | |
| ECT | -0.2438* | 0.096742 |
| | [-1.57889] | [ 0.56731] |

*Note: ECT refers error correction term, ** significant at 1 percent level, * Significant at 10 percent level and "t" statistic values in [ ]*

*d) Granger causality test*

Finally the study moves to the crucial analysis which is the identification of causal relationship between variables. In order to ensure the consistency of the results the study employs three types of granger causality test which are; Pairwise Granger causality (F-test) from single equation, VAR Granger causality/Block Exogeneity Wald Tests and VEC Granger causality/Block



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Exogeneity Wald tests to test the causal relationship between LRGEXP-LRGREV and RGEXP-RGREV. Under the unit root analysis the study found that all variables are I(1) and stationary at first difference. Therefore, the study uses first difference data for all three granger causality tests and the results are demonstrated in table 6. The probability values in table 6 indicate the rejection decision of the null hypothesis of no causality at 5 percent level or 10 percent level. According to that, except VEC granger causality test, other two tests reject the null hypothesis of RGEXP does not granger cause RGREV at 5 percent level. Moreover, the null hypothesis of LRGEXP does not granger cause LRGREV is rejected by pairwise and VAR granger causality test at 10 percent level and by VEC granger causality test at 5 percent level. Since we have more evidence towards causality run from government expenditure to government revenue, we can conclude the in the short run government makes expenditure decisions first and government revenue depends on the expenditure decisions made by the government in prior periods.

*Table 6 :* Granger Causality Test Results

| Null hypothesis | Probability values | | |
|---|---|---|---|
| | Pairwise Granger causality | VAR Granger causality | VEC Granger causality |
| DRGREV $\xrightarrow{no}$ DRGEXP | 0.2237 | 0.2130 | 0.6321 |
| DRGEXP $\xrightarrow{no}$ DRGREV | 0.0357** | 0.0278** | 0.4773 |
| DLRGREV $\xrightarrow{no}$ DLRGEXP | 0.1676 | 0.1563 | 0.4107 |
| DLRGEXP $\xrightarrow{no}$ DLRGREV | 0.0907* | 0.0799* | 0.0215** |

*Note: ** significant at 5 percent level, * Significant at 10 percent level and lags=2*

When considering the results of table 5 and table 6, both in short run and long run the direction of causality runs from government expenditure to government revenue. Therefore the study concludes the existence of spending-revenue hypothesis in Sri Lanka. This means that government will decide the level of spending first and then they will adjust the tax policy to accommodate the level of spending. Moreover, the evidence highlights government expenditure as the most important variable in Sri Lankan government's Fiscal policy decisions. As said by Mehrara and Rezaei (2014) with the existence of this type of causal relationship, a temporary increase in expenditure may lead to permanent government expenditure hikes and ultimately greater budget deficit. To facilitate this high budget deficit the government will start to raise revenue. Then the there will be a negative impact on investors and human capital due to high taxes.

## IV. Conclusion and Policy Recommendation

This paper mainly focuses on investigating the causal and dynamic relationship between government expenditure and government revenue in Sri Lanka for the period of 1960-2013. In the process of achieving the primary objective the study uses annual data of government revenue, government expenditure and GDP deflator, and utilizes them mainly on Vector Error Correction Model and Granger causality tests. There the results supports spending-revenue hypothesis both in short run and long run, which means government expenditure is the influencing factor in Sri Lanka's fiscal policy. Moreover, when it comes to the dynamic relationship, the study finds that in long run there is a positive association between government expenditure and government revenue, but in short run there is a negative association.

Based on the empirical findings the study suggests that in order to achieve and sustain fiscal discipline or to reduce budget deficit, Sri Lankan government should adopt spending restrictions. This does not mean that government should cut down government expenditure and impose high taxes. What this paper recommends is Sri Lanka should try to reduce recurrent expenditure and increase development and investment expenditure (capital expenditure0 which will generate income in the future. When the government spends on development projects, they should conduct proper cost benefit analysis and then determine whether to undertake the project or not. In addition, implementing high taxes might not be the most intellectual contrivance because, it can discourage the whole development process and can move people away from economic activities. Therefore government's tax policy should focus the right group of people and try to improve non-tax revenue such as profits and dividends, interest income and etc since, Sri Lanka's non- tax revenue is far below than tax revenue.

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## Appendix I

| Study | Period | Country | variables | Analytical technique | Results |
|---|---|---|---|---|---|
| Ogujiuba and Abraham (2012) | 1970-2010 | Nigeria | Federally collected public expenditure (EXPN), federally collected revenue (REV), revenue from crude oil (OREV), non-oil revenue (NOREV) and crude oil price in USD (COP) | Correlation analysis, Granger causality test, Vector Error Correction Model and Impulse response function | Revenue and expenditure of Nigeria are highly correlated, causality runs from government revenue to expenditure and vector error correction model also confirms that there is a significant long run relationship between revenue and expenditure. |
| Subhani et al (2012) | 1979-2010 | Pakistan | Government revenue and government spending | *Granger causality method* | *Unidirectional causality runs from government revenue to government expenditure* |
| Nanthakumar and Kogid (2011) | 1970-2009 | Malaysia | Tax revenue and government spending | Auto-regressive distributed lag model (ADLM) and Toda-Yamamoto MWALD Granger causality analysis | Unidirectional causality runs from tax revenue to government spending in Malaysia |
| Sikdar and Mukhopadhyay (2011) | 1971-2008 | India | Central government revenue and central government spending | *Granger causality test* | *Bidirectional causality between government revenue and government spending* |
| Hye and Jalil (2010) | 1998Q1-2008Q3 | Romania | Government revenue and government expenditure | ARDL approach to cointegration, variance decomposition and rolling regression method. | Bilateral long run causal relationship between government revenue and expenditure. |
| Obioma and Ozughalu (2010) | 1970-2007 | Nigeria | Government expenditure and government revenue | *Engel-Granger two-step cointegration technique, the Johansen cointegration method and the Granger causality test* | Long run cointegrating relationship between government revenue and government expenditure. Unidirectional causality that runs from government revenue to government expenditure |
| Saunoris and payne (2010) | 1955Q1-2009Q1 | UK | Government revenue, government spendingnand GDP | *Asymetric error correction model* | *Government respond to government spending in short run a well as asymmetrically to budgetary dis equilibrium* |
| Asian and Tasdemir (2009) | 1950-2007 | Turkey | Government revenue and government spending | *Engle Granger test and Gregory-Hensen method* | *Bbidirectional causality between government revenue and government spending* |



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By HongYe Sun & GiSeung Kim
*Pusan National University, South Korea*

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*Keywords:* *unconditional quantile regression, glass ceiling, return to education.*

*GJHSS-E Classification :* *FOR Code: C21, D31, I24*




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# Human Capital and Glass Ceiling: Quantile Regression Decomposition of Gender Pay Gap in Korean Labor Market

HongYe Sun [α] & GiSeung Kim [σ]

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## I. Introduction

The latest OECD survey statistics indicates gender wage inequality in Korea is stuck in the worst circumstance comparing to other OECD countries. Notwithstanding, the OECD average gender wage gap shrink slightly from 2000 to 2014, gender wage inequality do not emerge remarkably improvement in Korean labor market. The tremendous gender earnings gap and low work participant rate of female are always tenderness problems for East Asia countries, especially for Korea. In addition, compare to other eastern and western countries, the working condition for female in Korea is still far behind other industrialized countries.

However, the level of upper secondary education participation rate is the closest between male and female than other OECD countries in the context of existing serious gender earnings inequality in Korea. Becker (1971) has argued that discrimination unrelated to workers' productivity is costly and may not be sustainable in a competitive market. Recent experience of developed countries in which the gender pay gap has generally declined seemingly supports this argument (Blau and Kahn, 2006).

Considering the diversity of pattern of wage gap on the analysis cross overall distributions, we need to mention two concepts on sketching the phenomenon, 'glass ceiling' and 'sticky floor'. In the case of wage gap increasing from bottom to top wage earners distribution, the situation is described by term 'glass ceiling'. On the contrary, if a large pay gap at the bottom distribution where women are "stuck" in low-wage jobs, this kind of situation is called 'sticky floor' (Lin, 2012).

The growing of literature on gender wage gap in Korea referred several aspects of research insight. Gender wage gap is rigorous in Korea, the average wage of female only take 45% of male's in 1970s-1980s, in 1999, the proportion has been raised to 63%, but still stuck in a bad situation (Liu, 2001). Kim (2013) utilized Oaxaca-Blinder decomposition technique and found 55.1% of overall gender pay gap account for discrimination by employing of 'Korea's Labor Statistics Survey 2010'. These studies via constructing counterfactual wage formula base on no discrimination wage structure, the method allow us to reveal gender pay gap in an entire outlook. In the route of analysis methods revolution across entire distribution, Melly (2006) developed an earnings counterfactual distribution decomposition method based on MM 2005. In 2009, Firpo et al. proposed another earnings decomposition method by meaning of recentered influence function (RIF). RIF need to be calculated after the establishing of counterfactual wage structure based on reweighting function. Regarding the studies of gender earnings gap on overall distribution in Korean labor market, the existent literature is not abundant until recently. Cho et al. (2014) divided the labor market into core and peripheral sectors and used Korea Labor & Income Panel Study to analyze the gender wage gap through Chernozhukov counterfactual decomposition method, thus they verified the evidence of glass ceiling effect. Ahn (2012) found the evidence of glass ceiling effect in Korea labor market and indicated the differential of human capital account for the gender earnings gap especially for top quantile. In which the interruption of job for baby care or family work occupy chief reason of the drawback of human capital.

*Author α: Department of Economics, Pusan National University, 30 jangjeon-dong, geumjeong-gu, Pusan, South Korea.*
*e-mail: hysun@pusan.ac.kr*
*Author σ: Department of Economics, Pusan National University, 30 jangjeon-dong, geumjeong-gu, Pusan, South Korea. (Corresponding Author) e-mail: gsk@pusan.ac.kr*



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In view of the tight relationship between gender earnings gap and education attainment, this paper highlight the effective of education on gender earnings gap and earnings determination system. This study contains several contributions and improvement compared to previous literature. First we use unconditional quantile regression investigate gender wage structure, and second we illustrate the gender wage gap and do detailed exploration. Finally we employ Melly 2006 method to decompose the gender wage gap, and summarize the main findings.

The remaining sections of this paper are organized as follows: Section two discuss the analysis data and describe the summary statistics. Section three outlines the research method. Section four presents empirical findings. And finally concludes the main point and discuss policy implications.

## II. Analysis Data and Summary Statistics

This study employs most recently available data from the Korean Labor & Income Panel Study (KLIPS), the 15th wave surveyed in 2012. The Korea Labor Institute began to collect detailed data for households and individuals starting in 1998. The key survey objective of KLIPS includes personal income, social population characteristics, health, mobility, social life style, social attitude, labor market and social security et al. This data collection is modeled after processing, which is similar to the Panel Study of Income Dynamics (PSID) from the University of Michigan. Among those individual observations, we selected those who are currently employed as wage earner and have proper average monthly income. Thus we exclude those who are currently self-employed or unemployed. Finally, we adjusted our sample size to 3,462 individual observations. We also excluded missing values for any of the explanatory variables that have to be used in our analysis.

*Table 1:* Summary statistics - average monthly wage and continued individual characteristics

| Variable | Mean | Std.Dev. | Min | Max |
|---|---|---|---|---|
| Monthly wage | 254.02 | 134.16 | 100.00 | 1,300.00 |
| Log of hourly wage | 0.20 | 0.53 | -1.26 | 2.25 |
| Age | 39.67 | 9.57 | 19 | 60 |
| Experience | 6.66 | 7.05 | 0.00 | 41 |
| Experience squared | 93.97 | 185.69 | 0.00 | 1,681 |
| Observations | | 3,426 | | |

Table 1 shows summary statistics of the final selected data. The scope of age is set from 19 to 60. The final sample contains 1,100 male and 778 female age earners. KLIPS contains survey of monthly earnings and weekly working time of wage earners. Therefore, we calculate the hourly wage by applying the formula of monthly wage/4.3*weekly working time. The average monthly wage is 254.02 KRW for total sample and the average log hourly wage is 0.2 KRW. The results are in line with the government public data which report the average wage roughly close to 210 KRW in 2012.

The dummy variables of individual characteristics include gender, education attainment, health status, marital status, living region, firm size, occupation, and industry are presented in Table 2. In our final selected analysis data, the percentage of distribution of dummy variable is relatively balanced, where the ratio of full-time employees in total male observations is about 12% more than female. Meanwhile, there is more part of male who get married than female and the differential is nearly 13%. Most observations report they have above general health level no matter male or female. Furthermore, observations live in capital area are slightly more than other areas, the relatively balanced region population distribution can helps us estimate a more accurate result whereas there likely existence a nonnegligible economic gap between capital and other areas. Moreover, the portion of male employees is more than female employees in the total observations, which is consistent with the social reality in Korea labor market. In Table 2, we also summarized the frequency of labor market demand side variables. The variables include firm size, occupation and industry which represent the labor market characteristics. The firm size was divided into 3 groups, and the distribution for male and female in the 3 groups is similar, more than half of male and female were employed by middle-small size firms (300 employees & below). We combined 4-digital occupation from raw data as 5 categories based on 2008 International Standard Classification of Occupation (ISCO) [1] . In consideration of the estimation

[1] The International Standard Classification of Occupations 2008 (ISCO-08) is a four-level hierarchically structured classification that covers all jobs in the world (ILO, 2012). The original classification of occupations in ISCO-08 includes 10 categories, Managers, Professionals, Clerical support workers, Service and sales workers, Skilled agricultural, forestry and fishery workers, Craft and related trades workers, Plant and machine operators, and assemblers, Elementary occupations, Armed forces occupations.



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bias may be caused by sample deficiency, we combined Manager/professionals, Skilled agricultural/fishery workers and Craft/related trade workers as one group, respectively. Industry was combined into 5 categories from agriculture to government service. Gender occupation and industry segregation has been widely proved by various studies in Korea labor market. It is not surprising we found polarization segregation phenomenon of occupation and industry for male and female. There are more female gathered as clerical or service worker, on contrary, the occupation distribution for male is more equally. Most of female can be found in less-technological occupation and the high-ranking position is more occupied by male. We verified the earnings highly associate with occupation, the results reveal notwithstanding male and female have relatively similar education attainment, even in the same occupation female earn lower wage than male. Furthermore, there are more female are employed by Educational, Recreational, Medical, Retailing, and Catering industry, meanwhile the male are more frequently found in physical labor industry such as Manufacturing, Transportation, Construction industry.

*Table 2 :* Frequency statistics and distribution by gender

| Variable | Male | | | Female | | | |
|---|---|---|---|---|---|---|---|
| | Freq. | Share(%) | Wage wage | Freq. | Share(%) | Wage wage | F/M (%) |
| Part-time | 360 | 16.68 | 203.63 | 360 | 28.39 | 144.66 | 71% |
| Full-time | 1,798 | 83.32 | 312.60 | 908 | 71.61 | 201.32 | 64% |
| Not married | 546 | 25.30 | 219.50 | 488 | 38.49 | 172.69 | 79% |
| Married | 1,612 | 74.70 | 319.79 | 780 | 61.51 | 193.73 | 61% |
| Under general healthy | 607 | 28.13 | 273.54 | 448 | 35.33 | 166.07 | 61% |
| Healthy | 1,551 | 71.87 | 302.59 | 820 | 64.67 | 195.75 | 65% |
| Not seoul | 1,018 | 47.17 | 291.01 | 571 | 45.03 | 175.15 | 60% |
| Seoul | 1,140 | 52.83 | 297.46 | 697 | 54.97 | 194.38 | 65% |
| *Education (%)* | | | | | | | |
| Junior high & below | 132 | 6.12 | 212.82 | 137 | 10.80 | 138.17 | 65% |
| High school | 711 | 32.95 | 263.09 | 445 | 35.09 | 157.41 | 60% |
| Junior college | 460 | 21.32 | 271.23 | 306 | 24.13 | 183.67 | 68% |
| University & above | 855 | 39.62 | 345.55 | 380 | 29.97 | 236.15 | 68% |
| *Firm size (%)* | | | | | | | |
| 1-30 | 708 | 32.81 | 233.53 | 570 | 44.95 | 154.06 | 66% |
| 30-300 | 636 | 29.47 | 273.81 | 276 | 21.77 | 180.64 | 66% |
| 300 and above | 567 | 26.27 | 391.38 | 235 | 18.53 | 228.62 | 58% |
| *Occuption (%)* | | | | | | | |
| Managers/ Professionals | 529 | 24.51 | 537.41 | 391 | 30.84 | 242.50 | 45% |
| Clericals | 440 | 20.39 | 337.78 | 364 | 28.71 | 214.28 | 63% |
| Service/Sales | 239 | 11.08 | 331.07 | 271 | 21.37 | 206.77 | 62% |
| Craft/Skilled Opera Plant/Machine Opera | 792 | 36.70 | 279.46 | 145 | 11.44 | 151.48 | 54% |
| Elementary | 158 | 7.32 | 252.95 | 97 | 7.65 | 154.24 | 61% |
| *Indusry (%)* | | | | | | | |
| Manufacturing/Mining | 757 | 35.08 | 301.95 | 252 | 19.87 | 161.38 | 53% |
| Construction/Retail | 666 | 30.86 | 268.33 | 328 | 25.87 | 164.54 | 61% |
| Financial/Real Estate | 203 | 9.41 | 332.56 | 105 | 8.28 | 236.17 | 71% |
| Education/Health | 169 | 7.83 | 302.49 | 77 | 6.07 | 178.75 | 59% |
| Tech./Other Services | 359 | 16.63 | 321.01 | 506 | 39.90 | 205.93 | 64% |
| Total | 2,158 | 62.99 | 294.42 | 1,268 | 37.01 | 185.26 | 63% |



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## III. Research Methodology

Our investigating method aims to explore the gender wage differential from a specific wage distribution view. Different from previous research method, in our analysis, we attempt to examine the wage determination mechanism and decompose the wage gap under more accurate and detailed situation. From the summary statistics results, we have already observed the wage differential for different distribution between male and female. The results in previous section also reveal the occupation distribution and human capital differentials. Our methodology focuses to test and find out the profound and deep reason of gender earnings differentials.

The decomposition of Oaxaca-Blinder focuses on the conditional mean wage differential. However, in the real labor market, gender wage differential posses the different pattern base on the different wage distribution, e.g. the glass ceiling effects (Albrecht, et al., 2003) indicates that the wage differential is more significant in high wage distribution which is described as glass ceiling effect, in addition, sticky floor effects indicates that the wage differential is more significant in low wage distribution. Therefore, the exploration for the whole wage distribution expanded previous incomplete results. Machado and Mata (2005) proposed the counterfactual wage distribution decomposition method which employed conditional quantile regression.

Melly (2006)[2] suggested to integrate the conditional quantile over the range of covariates to estimate the counter factual distribution (Thomschke, 2015). Melly (2006) pointed that the transfer of probability integral cannot assure the estimation consistent in terms of conditional distribution function or total distribution function by MM2005 decomposition. Furthermore, along with this conception, the wage differential can be divided into three factors, which can be presented as:

$$D_\tau(\ln\overline{W}_m - \ln\overline{W}_f) = \left[(\hat{\beta}_m^n \hat{\beta}_f^s X_m) - (\hat{\beta}_f X_m)\right](\tau) + \left[(\hat{\beta}_m X_m) - (\hat{\beta}_m^n \beta_f^s X_m)\right](\tau) + \left[(\hat{\beta}_f X_m) - (\hat{\beta}_f X_f)\right](\tau)$$

Where $D_\tau(\ln\overline{W}_m - \ln\overline{W}_f)$ is the raw wage differential between male and female at quantile. $\ln W_m$ and $\ln W_f$ represent the vectors of male and female characteristics, respectively. The first term on the right side of the function represents intra-group differential, the second term means inter-group differential, while the last term reveals the altering effect of individual characteristics distribution vector.

## IV. Empirical Findings

*a) Impact of human capital factors on wage determination mechanism by gender and pooled data*

For obtaining detailed and informative results, we recategorized the education group and estimated Mincerian wage function by gender and pooled data. We combined the university& above education level as high education group, and junior high & below, high school , junior college was merged as low education group which was used as a reference group in this regression. Table 3 show the estimation results by applying of unconditional quantile regression. Notably, gender significantly and considerably affect the wage determination mechanism in pooled data anlysis. Male wage earners are more in favor of obtaining higher wages than female workers especially in low quantile wage distributions. Education attainment is significant cross the entire wage distribution, namely, high educated workers are more apt to get higher wages. Further we can find the magnitude of returns to high education impact on wage mechinism become mild at upper quantiles. That proves the influce of education attainment on wage is relatively moderate for higher wage earners cluster in magnitude.

However, compared to bottom quantile, the magnitude of returns to high education is still very high. In other words, the results indicate well educated workers have relatively fair working circumstance than less educated ones. It is not surprsing that the wage premium is much higher for Full-time than Part-time workers. The rigorous job environment bring huge pressure to job seekers and central & local government. Full-time work symbolize high earings and high-class working condition than Part-time work. It is intractable and necessary to improve the salary and working condition for Part-time workers. Also, experience is another key factor make significant impact on wage determination mechnism, we find evidence to verify experice influence wage cross bottom to middle quantile but not include upper quantile. One of the most important reason is upper quantile distribution get more influence by ability and education attainment rather than experience. In addition, we also find marriage status, health and place of residence impact the wage system more or less. However, the effect is weak or insignificant at upper quantile.

There are some other independent variables[3] show consistent estimation results from low to high quantile distribution. The statisticis significance of firm-

[2] The variation in the gender-wage gap across the wage distribution is examined using quantile regression analysis, following the methodology proposed by Melly (2005). This allows us the search for possible sticky floor and glass ceiling effects – see Albrecht et al. (2003).

[3] Detailed regression results contact to authors.

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size variable reveals whether for less educated and high educated groups be emloyed by different size of firms is an effective factor on wage earners' income, the wage premium is especially in favor of emploees who are employed by big-size firm. Apart from these, we also find evidence to confirm the importance of occupation on wage, high-ranking position bring about high wage premium from bottom to upper quantiles. Moreover, for bottom quantile distribution, there is prodigious wage premium as manager/ professionals or clerical.

*Table 3 :* Unconditional quantile regression by pooled sample

| Independent variables | $10^{th}$ | $25^{th}$ | $50^{th}$ | $75^{th}$ | $90^{th}$ |
|---|---|---|---|---|---|
| *Unconditional quantile treatment effects* | | | | | |
| Male | 0.293*** | 0.352*** | 0.348*** | 0.245*** | 0.160*** |
| | (0.028) | (0.024) | (0.020) | (0.021) | (0.022) |
| High education | 0.063*** | 0.155*** | 0.236*** | 0.253*** | 0.194*** |
| | (0.021) | (0.023) | (0.021) | (0.025) | (0.028) |
| Experience | 0.009** | 0.029*** | 0.039*** | 0.042*** | 0.008 |
| | (0.004) | (0.004) | (0.003) | (0.004) | (0.005) |
| $Experience^2/100$ | -0.000 | -0.001*** | -0.001*** | -0.000** | 0.001*** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) |
| Age | -0.008*** | -0.008*** | -0.003*** | 0.004*** | 0.008*** |
| | (0.002) | (0.001) | (0.001) | (0.001) | (0.001) |
| Full-time | 0.183*** | 0.228*** | 0.183*** | 0.131*** | 0.054*** |
| | (0.039) | (0.033) | (0.025) | (0.021) | (0.018) |
| Married | 0.075*** | 0.144*** | 0.201*** | 0.154*** | 0.036* |
| | (0.029) | (0.026) | (0.023) | (0.022) | (0.022) |
| Healthy | 0.084*** | 0.073*** | 0.052*** | 0.059*** | 0.021 |
| | (0.026) | (0.023) | (0.019) | (0.020) | (0.023) |
| Seoul | 0.047** | 0.046** | 0.040** | 0.045** | 0.007 |
| | (0.023) | (0.020) | (0.017) | (0.019) | (0.022) |
| 30-300 | 0.085*** | 0.132*** | 0.095*** | 0.068*** | 0.024 |
| | (0.027) | (0.025) | (0.022) | (0.024) | (0.023) |
| 300 & above | 0.089*** | 0.162*** | 0.180*** | 0.336*** | 0.367*** |
| | (0.026) | (0.024) | (0.023) | (0.028) | (0.035) |
| Occupation | Yes | Yes | Yes | Yes | Yes |
| Industry | Yes | Yes | Yes | Yes | Yes |
| Intercept | -1.004*** | -1.059*** | -0.758*** | -0.670*** | -0.053 |
| | (0.114) | (0.093) | (0.070) | (0.070) | (0.073) |
| Number of Obs. | 3,426 | 3,426 | 3,426 | 3,426 | 3,426 |
| R-squared | 0.202 | 0.348 | 0.427 | 0.422 | 0.271 |

*Note: *, **,* ** denote statistical significance at the level of 10%, 5% and 1%.*

*Standard errors are in parentheses. Standard errors are estimated based on 100 bootstrap replications.*

Table 4 reports the unconditional quantile regression estimation results by gender. As the results documented in Table 4, the returns to individual characteristics and returns to labor market characteristics present different pattern for male and female. However, the validation of explanatory variables is similarly effective and the significant variables represent the key component on wage determination is nuance. Age is not significant for female at all quantile in Korean labor market. Marginal diminishing and the early wage declining of age on the nonlinear curve account for the non-significant of age. The education attainment is similar for male and female as we discussed before, meanwhile the returns to education for female are even higher than male.



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*Table 4 :* Unconditional quantile regression by gender

| Independent variables | Male | | | Female | | |
|---|---|---|---|---|---|---|
| | 10th | 50th | 90th | 10th | 50th | 90th |
| *Unconditional quantile treatment effects* | | | | | | |
| High education | 0.080*** | 0.167*** | 0.252*** | 0.059*** | 0.217*** | 0.374*** |
| | (0.030) | (0.024) | (0.040) | (0.020) | (0.030) | (0.060) |
| Experience | 0.018*** | 0.034*** | 0.007 | -0.004 | 0.035*** | 0.043*** |
| | (0.005) | (0.004) | (0.007) | (0.004) | (0.005) | (0.011) |
| Experience$^2$/100 | -0.000* | -0.000*** | 0.001*** | 0.000 | -0.001*** | 0.001** |
| | (0.000) | (0.000) | (0.000) | (0.000) | (0.000) | (0.001) |
| Age | -0.008*** | 0.000 | 0.009*** | -0.002 | -0.002 | 0.004 |
| | (0.003) | (0.001) | (0.002) | (0.002) | (0.002) | (0.003) |
| Full-time | 0.281*** | 0.170*** | 0.023 | 0.084** | 0.123*** | 0.138*** |
| | (0.059) | (0.028) | (0.032) | (0.037) | (0.032) | (0.034) |
| Married | 0.249*** | 0.214*** | 0.011 | 0.040 | 0.025 | 0.140*** |
| | (0.043) | (0.026) | (0.032) | (0.029) | (0.028) | (0.044) |
| Healthy | 0.067** | 0.046** | 0.055 | 0.042 | 0.043 | 0.067* |
| | (0.033) | (0.022) | (0.035) | (0.028) | (0.026) | (0.038) |
| Seoul | -0.039 | 0.024 | -0.001 | 0.091*** | 0.121*** | 0.139*** |
| | (0.029) | (0.020) | (0.033) | (0.025) | (0.024) | (0.039) |
| 30-300 | 0.084** | 0.079*** | 0.036 | 0.119*** | 0.105*** | 0.010 |
| | (0.037) | (0.025) | (0.033) | (0.027) | (0.031) | (0.051) |
| 300 & above | 0.058* | 0.240*** | 0.412*** | 0.116*** | 0.213*** | 0.233*** |
| | (0.035) | (0.027) | (0.051) | (0.027) | (0.031) | (0.065) |
| Occupation | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry | Yes | Yes | Yes | Yes | Yes | Yes |
| Intercept | -1.129*** | -0.505*** | 0.134 | -0.975*** | -0.734*** | -0.454*** |
| | (0.163) | (0.083) | (0.107) | (0.121) | (0.092) | (0.144) |
| Number of Obs. | 2,158 | 2,158 | 2,158 | 1,268 | 1,268 | 1,268 |
| R-squared | 0.200 | 0.393 | 0.238 | 0.143 | 0.392 | 0.371 |

*Note: *, **,* ** denote statistical significance at the level of 10%, 5% and 1%.*

*Standard errors are in parentheses. Standard errors are estimated based on 100 bootstrap replications.*

The results are also consistent with our previous summary statistics analysis which was revealed in Table 2. Warunsiri (2010) find the overall rate of return to education is between 14% and 16% in Thailand. In addition, he also indicated female have higher returns to education than male. For women, if one is a Full-time worker, she may get more probability to earn more than Part-time work under the same individual characteristics. However, Full-time work only significantly impact on wage for bottom wage distribution male. Some previous studies also find the same results which suggest that the Full-time work plays a particular role in signaling ability among low earnings workers who typically lack the educational certificates more conventionally thought to signal ability. Health is a significant variable for male at bottom quantiles and the effective range is much wider for female. Notwithstanding firm-size is effective on wage system cross the entire wage distributions, the results have much difference for male and female. Female get more wage premium when they are employed by middle size firms (30-300 employees), while male get more wage premium when they are employed by big size firms (more than 300 employees). It is not surprising that the influence of occupation on wage is not resemblance for male and female. As we discussed in the previous section, that not only exists gender occupation segregation, the returns to occupation is significantly different as well. High-ranking occupations get considerable wage premium. Particularly, senior managers and professionals can get more salary across all distributions. However, the estimation coefficient have huge different, for male the pattern is reversed 'U', on contrast, for female the coefficient is nearly linear growth from lower quantile to upper quantile.

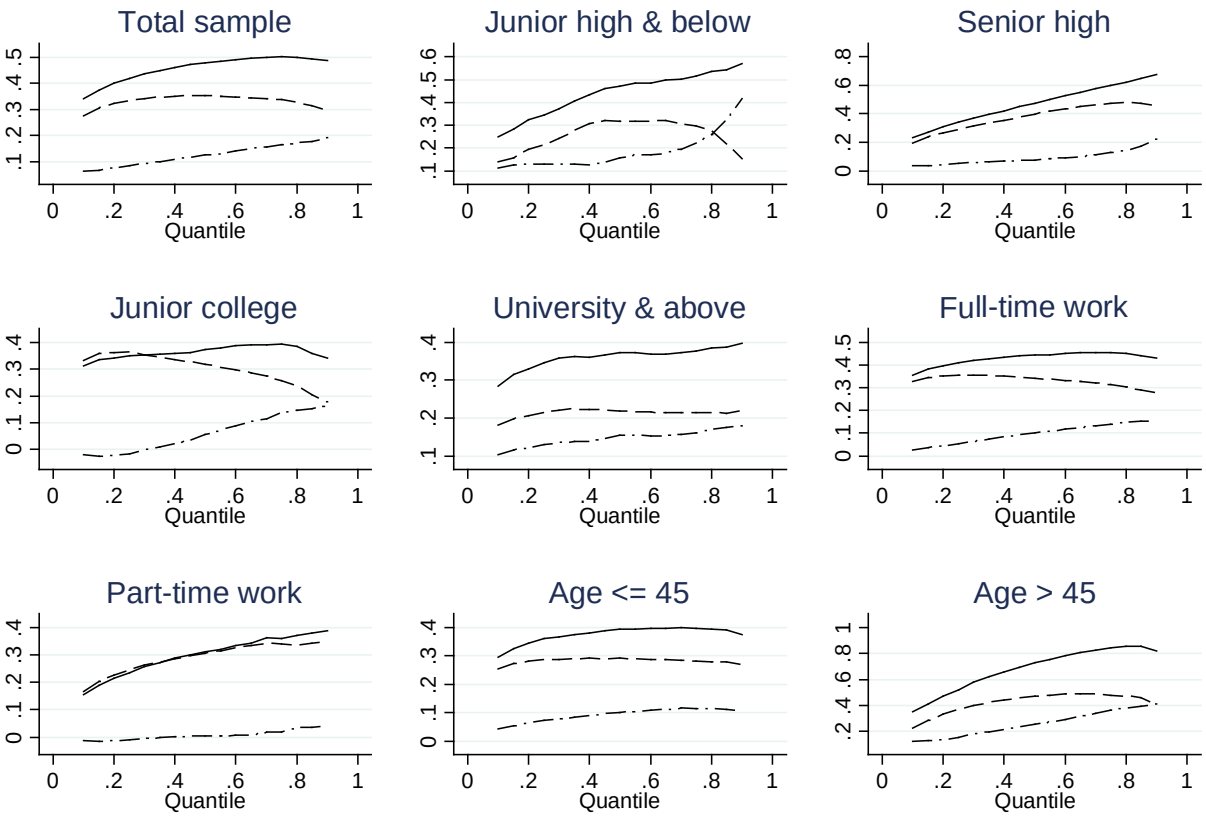
*b) Glass ceiling effect on gender wage gap*

By applying of Melly 2006 earnings decomposition technique, we can explore the pattern of gender wage gap on entire distribution. Melly 2006 also



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reveal the quantile change on how much of wage gap can be attributed to individual characteristics (endowment), and how much of wage gap account for returns to labor market characteristics (discrimination). We not only estimated the total sample results, in order to investigate the specific gender wage gap, we also added detailed estimation in our analysis (e.g. Education attainment, Age, Employment background). Figure 1 presents the estimation results by using of Melly 2006 decomposition technique. It is not surprising the tendency of gender wage gap is slightly increasing from bottom to top quantile when we use total sample. As we discussed before, Korea has upgraded to be one of the advanced country and the supply of high educated employee is relatively sufficient. In this figure, we found the increasing extent for gender wage gap at bottom quantile to middle quantile is sharp than middle quantile to upper quantile. The total gender wag gap reflects the combine effect of endowment (characteristics differential) and discrimination (returns to characteristics differential). Furthermore, we found the effect of endowment gap gradually increase from bottom quantile to upper quantile. However, the effect of discrimination reflect reversed 'U' shape pattern, which means discrimination is more considerable at relatively middle-upper quantile but not the most top distribution. Strikingly, notwithstanding the endowment effect linearly increasing, even the highest point is much lower than discrimination effect, which means discrimination effect occupy the most proportion of total gender wage gap. We also found glass ceiling effect is more significant for low educated groups. For low educated groups, the linear increasing tendency of gender wage gap is quite steeper compared to high educated groups. On the contrary, the changing tendency of gender wage gap is steady for university & above group. However, despite the pattern of endowment effect has apparently differential, the changing direction of endowment effect for all groups is consistent. The higher quantile distribution means the more obvious characteristics difference for male and female.




Note: Solid, Dash, Dash dot represent Total gap, Unexplained gap, Explained gap, respectively.

*Figure 1:* Melly 2006 decomposition method on gender earnings gap

Regarding the full-time and part-time employment status is striking in Korea labor market. Following Melly (2006) method, we further disaggregated the analysis into full-time and part-time employment groups. Figure 1 also contains the specific estimation results focusing on this situation. There is no accident that discrimination is much more serious for part-time employees. The characteristics only account for a meager part on explaining the gender wage gap. Discrimination effect for full-time employees decrease at



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upper quantile, however for part-time employees, the upper wage distribution female have to sustain the most serious discrimination.

## V. Conclusion and Policy Implication

We find evidence of glass ceiling effects for wage earners in Korea labor market by utilizing KLIPS 2010 individual survey. Further, we adopt Melly 2006 decomposition technique to investigate the details of mechanism in gender wage gap. In our study, we highlight to explore the effective of education attainment on gender pay gap. In specific, we further find pattern of glass ceiling effect strongly exist in less-educated group, but the effects gradually decrease with the rising of education attainment. No matter in higher or less educated groups, the structure effects or discrimination gap take large portion in overall gap than composite effects or endowment gap from bottom to top earnings distribution. The endowment gap continued increasing from bottom to top quantile which means there are large human capital differential at upper pay distributions. As a result of comparison for all groups, the upward increasing curve of endowment gap for high educated workers is relative placid.

Apart from gender earnings gap, we also verified the driving force of human capital factors on wage equation. Particularly, the effective of education on wage is substantially significant. A big part of the gender wage gap cannot be explained by human capital or labor market characteristics variables and the invisible earnings inequality is usually attributed by discrimination. If government does not implement proper regulations and laws to protect female rights in labor market, the employer's preference for employing male labor will further deteriorate the female employment condition. Moreover, we divided the total sample to subcomponent groups and found the glass ceiling effect become milder from low educated groups to high educated groups. Namely, the gender wage gap is relatively flat and smooth from bottom to top quantile distribution in high educated groups. We also verified the unexplained (discrimination) is serious and take most part of gender pay gap for Part-time work. The estimation results are consistent with the real social situation, which clearly illustrate the requirement of further policy direction.

In addition, the empirical results also verified female have higher returns to education than male, which is in accordance with a variety of studies on other entities. Nonetheless, the low work participant rate and the phenomenon 'same work with different pay' limit female exert adequate capability. Becker (1971) has suggested that discrimination do not associate with workers' productivity may be costly and inefficient in a competitive market. In spite of the education attainment is fairly equivalent for male and female particularly in the recent decades in Korea, the work participant rate has not got remarkable improvement for female yet. Notwithstanding, the existence of the intrinsic culture and social background is not in favor of female, government need to foster proper regulation and laws to balance productivity through labor market and help to ameliorate the female's work participant rate and gender pay gap.

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# Public Interest Considerations and their Impact on Merger Regulation in South Africa

By Simbarashe Tavuyanago
*University of Pretoria, South Africa*

*Introduction-* The ultimate goal of any competition policy is to enhance consumer welfare, and it is not surprising that the South African competition policy is founded on the same principles. The South African Competition Act 89 of 1998 aims to promote the efficiency, adaptability and development of the economy, provide consumers with competitive prices and product choices, promote employment and advance the social and economic welfare of South Africans, expand opportunities for South African participation in world markets and recognise the role of foreign competition in the Republic as well as ensure that small and medium-sized enterprises have an equitable opportunity to participate in the economy and to promote a greater spread of ownership, in particular to increase the ownership stakes of historically disadvantaged persons. It is believed that through achieving these aims, consumer welfare in South Africa will be increased.

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# Public Interest Considerations and their Impact on Merger Regulation in South Africa

Simbarashe Tavuyanago

## Chapter 1

## I. Introduction

### a) Introduction

The ultimate goal of any competition policy is to enhance consumer welfare, and it is not surprising that the South African competition policy is founded on the same principles. The South African Competition Act 89 of 1998[1] aims to promote the efficiency, adaptability and development of the economy, provide consumers with competitive prices and product choices, promote employment and advance the social and economic welfare of South Africans, expand opportunities for South African participation in world markets and recognise the role of foreign competition in the Republic as well as ensure that small and medium-sized enterprises have an equitable opportunity to participate in the economy and to promote a greater spread of ownership, in particular to increase the ownership stakes of historically disadvantaged persons.[2] It is believed that through achieving these aims, consumer welfare in South Africa will be increased.

The preamble of the Act[3] gives a broad overview of the motivation behind the enactment of the law. It makes mention amongst others, of the inequalities and injustices that emanated from Apartheid, resulting in excessive concentration of power, wealth and ownership and as a consequence the prevalence of anti-competitive policies and trade practices. It goes on to state that the law's aim must be to address these inequalities by opening up the economy to greater ownership by a greater number of South Africans.

The preamble makes it clear that in attaining this just and equitable state, an efficient, competitive economic environment, balancing the interests of workers, owners and consumers and focussed on development will benefit all South Africans and is therefore desirable. It is in this light that the law was enacted, to fulfil the aims outlined in the preamble.

*Author: LIm (Law), In The Faculty of Law, University of Pretoria, South Africa. e-mail: stavuyanago@gmail.com*

[1] Republic of South Africa Competition Act 89 of 1989 (as amended), hereinafter referred to as the Competition Act.
[2] Ibid S 2.
[3] Ibid PREAMBLE.

It is also evident from the wording of the preamble that public interest considerations, such as the welfare of workers, owners and consumers have to be considered in any policy or legislation. This has created difficulties in the past for competition authorities tasked with evaluating mergers, on how to strike a balance between competition concerns such as development of the economy and greater accessibility to global markets on the one hand and public interest concerns such as the welfare of workers and consumers on the other.

In view of the inclusion of public interest considerations in the South African Competition Act, it is evident that in carrying out an assessment of a proposed merger, there must be a two pronged test by the competition authorities. Firstly, to assess the competition concerns around such proposed merger and secondly, to assess the public interest factors.

### b) Nature and scope of dissertation

The aim of this dissertation is to look at recent developments in South African Competition Law, paying particular attention to the role of public interest considerations as expressly provided for by the Competition Act in merger regulation. The dissertation will define what public interest entails, assess how it has been applied in high profile cases hitherto and determine what role it plays in merger regulation. It will look at what the role of public interest considerations are in relation to competition considerations as well. The application and attempted balancing of the competition considerations and the public interest considerations has raised the question whether or not the two facets can be reconciled or whether one outweighs the other. It is therefore the aim of this dissertation to unpack this issue and answer it.

The chronology of the dissertation will be to look at the definition of the South African competition policy first, putting it into the context of the South African competition law background. I will then investigate the inclusion of the public interest provision in the Act and its role in supporting or bringing to effect the desired outcome of competition policy. Further, an expose on the application of the public interest provision will follow, highlighting a couple of high profile cases that have been adjudicated with regards to public interest provisions.

I will look at and dichotomise a number of merger cases in an effort to determine how public



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interest considerations are applied, what their role is and how much impact they can have on a proposed merger.

A comparative analysis will be made to see how other jurisdictions deal with the balancing of competition considerations and public interest considerations if any. Lastly an attempt will be made to reconcile the two seemingly polar considerations and recommendations will be made.

## Chapter 2

## II. Merger Control in South Africa

### a) *Current merger regime*

Modern antitrust law is concerned with market power, which is the power of a firm to control prices, exclude competition or behave to an appreciable extent, independently of consumers, competitors or suppliers.[4] While a firm may gain market power through its own independent endeavours, one of the easiest ways is to merge with or acquire another firm.[5] It is submitted that it is this possibility that gives rise to a great concern as to the potential for abuse of this facility, which in turn necessitates the monitoring and regulation of mergers. Checks and balances to ensure that anti-competitive practices do not become commonplace are therefore necessary.

According to the Competition Act, a merger occurs when one or more firms directly or indirectly acquire or establish direct or indirect control over the whole or part of the business of another firm.[6] Such a merger may be attained through the purchase or lease of the shares, an interest or assets of the other firm in question, or an amalgamation or other combination with the other firm.[7]The Act provides for the assessment of three different mergers, viz horizontal, vertical and conglomerate. While it is not the aim of this dissertation to go into the specifics of each of these types of mergers and the Act itself does not specifically distinguish conceptually between the three categories of mergers,[8] it is worthwhile to differentiate between the different mergers for academic reasons.

A horizontal merger is a merger between firms producing or selling identical or similar products in the same geographical area. This type of merger results in the elimination of direct competition since the firms are in a horizontal relationship with each other and compete for the same consumers in relation to the same goods. A vertical merger is one where there is a combining of firms that are in a vertical relationship such as a manufacturer and a distributor. These do not eliminate direct competition per se as the firms are not in a horizontal relationship. Conglomerate mergers generally cover all other mergers where the merging parties have no apparent economic relationship. The parties in this type of merger may not be producing the same goods, or be in the same geographical area but may for one reason or another, such as efficiencies, decide to merge.[9]

The bottom line, having looked at all the different mergers is that as a result of a merger a competitor is being removed from the market which leaves an altered market structure; and because of that, merger control is necessary to ensure that there is no abuse of the merger and acquisition process. Although horizontal mergers give rise to the most serious competition law concerns, this paper looks at mergers in the general sense and why merger assessment and regulation is important.

Some of the major concerns that give rise to and necessitate merger control are that mergers could result in the combined entity gaining market power, enabling it to increase prices and reduce output unilaterally.[10] This would definitely be to the detriment of consumers and will counter one of the aims of the Competition Act, which is to increase consumer welfare as consumers will be deprived of competitive prices and a wide range of product options as envisaged by the Act.[11] Due to increased market concentration there may be a tendency to collude, because the reduction of players in the industry is likely to facilitate the arms-length tacit co-ordination of behaviour.[12] Such a result would lead to adverse effects for consumers as firms can fix prices and enter into other anti-competitive practices while servicing their own interests and not those of the consumers.

### b) *Responsible authorities for merger control*

#### i. *Introduction*

Chapter 3 of the Competition Act regulates mergers and is the backbone of the dissertation as it not only provides who should carry out the assessment but also outlines what should be considered and to what extent it should be considered. Section 12 sets out specifically who should carry out the assessment. "Whenever required to consider a merger, the Competition Commission or the Competition Tribunal…".[13] It is clear from the wording of the section that the responsible authorities in terms of merger regulation are the Competition Commission and the Competition Tribunal. These authorities and their duties

[4] M. Brassey, *Competition Law*, 2002, 1st Ed, p. 224.
[5] Ibid.
[6] S 12(1)(a).
[7] S 12(1)(b)(i-ii).
[8] M. Brassey, *Competition Law*, 2002, 1st Ed, p. 228.
[9] Ibid p. 229.
[10] Ibid p. 225.
[11] S 2(b).
[12] M. Brassey, *Competition Law*, 2002, 1st Ed, p. 225.
[13] S 12A(1).



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are set out in Chapter 4 of the Act, parts A and B respectively.

ii. *Competition Commission*

The Competition Commission has a number of duties, with its central functions being to investigate and evaluate alleged prohibited practices in terms of Chapter 2, to consider applications for exemptions from provisions of Chapter 2, to consider mergers of which it receives notice in terms of Chapter 3. Of particular importance to this dissertation is the third function where the Competition Commission is responsible to authorise with or without conditions, prohibit or refer mergers to which it receives notice in terms of chapter 3.[14]

In respect of merger control, the Commission must be notified of all mergers that fall into the definition of an intermediate or large merger.[15] Small mergers need not be notified unless specifically required by the Commission within six months of the implementation of the merger.[16]

*a. Powers of the Commission*

In the case of small and intermediate mergers notified to it, the Commission must either approve conditionally or unconditionally or prohibit implementation of a merger.[17] If the Commission issues out a certificate, be it conditional or unconditional approval or the prohibition of a merger, one of the parties, or a registered trade union or employees of one of the parties may appeal such decision to the Competition Tribunal.[18] The Commission with regards to notification of a large merger has no power to make a decision. The Commission must refer such notice to the Competition Tribunal, together with a recommendation as to whether the implementation of the merger should be approved or prohibited.[19] .

iii. *Competition Tribunal*

The main functions of the Competition Tribunal are to adjudicate on any conduct prohibited in terms of Chapter 2, to determine whether prohibited conduct has occurred and if so impose remedies provided for by the Act, to adjudicate any other matter that may in terms of the Act be considered by it and to make any order provided for by the Act, and to hear appeals from or review any decision of the Commission that may in terms of the Act be referred to it.[20]

With regards to merger proceedings, the Tribunal must consider large mergers referred to it by the Commission and either approve such mergers conditionally or unconditionally or prohibit them.[21] The Tribunal must also consider small and intermediate mergers referred to it by a party to a merger, registered trade union or employees of a party to a merger.[22] In these circumstances the Tribunal serves as an appeal forum and is supposed to review the decision of the Commission and either confirm or revoke that decision.[23]

iv. *Competition Appeal Court*

While the Competition Appeal Court has no direct input in terms of assessing, approving or prohibiting a small, intermediate or large merger, it still has a role to play in merger assessment. It is a court of appeal and therefore may review any decisions of the Tribunal and consider any appeal against any of the Tribunal's final decisions that may in terms of the Act be taken on appeal.[24]

The Competition Appeal Court may make any decision and give any judgement or make any order, including an order to confirm, amend or set aside a decision or order of the Tribunal or to remit the matter to the Tribunal for further hearing on terms it deems appropriate.[25] It is therefore important to appreciate the role of the Competition Appeal Court in terms of merger assessment as merger assessment does not always end with the Commission or Tribunal.

*c) Test for assessment of a merger*

i. *Introduction*

In terms of section 12A of the Competition Act, the Competition Commission or Competition Tribunal in evaluating a merger, has to carry out a two-pronged assessment. The Commission or Tribunal has to consider competition considerations on one hand, which are purely economic and public interest considerations on the other in order to make a decision whether to approve a merger conditionally or unconditionally or whether to prohibit a proposed merger.

ii. *Competition considerations*

In terms of section 12A of the Act, the Commission or Tribunal has to determine whether or not the merger is likely to substantially prevent or lessen competition by assessing the factors set out in subsection 2, namely:

- The actual and potential level of import in the market
- The ease of entry into the market, including tariff and regulatory barriers
- The level and trend of concentration and history of collusion in the market
- The degree of countervailing power in the market
- The nature and extent of vertical integration

[14] S 21(1)(e).
[15] S 13(1)(a).
[16] S 13(5)(b); S 14(1)(b).
[17] S 14(1)(b).
[18] S 16(1)(a-b) read with S 13A(2).
[19] S 14A(1).
[20] S 27(1).
[21] S 16(2).
[22] M. Brassey, *Competition Law*, 2002, 1st Ed, p. 289.
[23] S 16(1).
[24] S 37(1); S 61(1).
[25] S 37(2)



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- Whether the business or part of the business of a party to the merger or proposed merger has failed or is likely to fail, and
- Whether the merger will result in the removal of an effective competitor

If the Commission or the Tribunal finds that the merger is most likely to have an anti-competitive effect, it may still justify the merger on the basis of technological, efficiency and pro-competitive (TEP) gains,[26] which may be greater than the negative impact of anti-competitive practice and may therefore offset the effects of the merger being anti-competitive. The Commission or Tribunal must also consider whether or not the merger can be justified on substantial public interest grounds by assessing the factors laid out in subsection 3.[27]

Even where a merger is not anti-competitive, the competition authorities still have to consider whether the merger can or cannot be justified on public interest grounds.[28] It appears from the wording of section 12A(a) and (b) that there are two distinct stages at which public interests is considered.

iii. *Public interest considerations*

Section 12A(3) provides that when determining whether a merger can or cannot be justified on public interest grounds, the Commission or the Tribunal must consider the effect the merger will have on;

- A particular industrial sector or region
- Employment
- The ability of small and black businesses to become competitive
- The ability of national industries to compete internationally

The public interest assessment takes place separately and independently.[29] The public interests that must be considered fall into a closed list as seen above. The Competition Act is very specific about which public interests must be considered, as section 12A(3) limits the public interest inquiry to the four factors specifically mentioned.

The wording of the section does not make it clear whether public interest considerations must be taken into account if a merger was to substantially restrict competition but is justified on the basis that pro-competitive effects that outweigh the anti-competitive ones.[30] However, the fact that the public interest test must be applied separately and independent of the outcomes of the competition test was confirmed in *Harmony Gold mining Co/ Gold Fields Ltd*[31] wherein the following was stated, "Mergers following either path are then subject to the public interest inquiry…"[32]. The quote confirms that no matter what the outcome of the competition test is, the public interest consideration must still be applied as the second prong in the process of merger assessment.

To briefly summarise the merger evaluation process: it requires the Commission or Tribunal to carry out a dual test, Firstly considering competition concerns and secondly considering public interest factors. Even though a merger may not have an adverse effect on competition, it still has to be reviewed on public interest grounds as it may be prohibited based on that assessment. Conversely, the public interest inquiry may also work to resuscitate a merger that is otherwise anti-competitive. This makes the test mandatory because of the dichotomy of possible outcomes. Ultimately, public interest considerations can lead to the approval or prohibition of a merger.

## Chapter 3

## III. Public Interest Considerations in Merger Evaluation

*a) Introduction*

The South African Competition Act provides for competition authorities when considering mergers, to consider whether the merger can or cannot be justified on substantial public interest grounds by assessing the public interest factors set out in sub section (3).[33]

It is imperative that as a starting point, the term 'public interest' be defined. The Department of Trade and Industry (DTI) provided an insight into the scope of what public interest entails;

> The public interest is far broader than the sectional interests of firms and their workers within a particular industry. It also stretches beyond the interests of consumers, of emerging black entrepreneurs or of labour and community constituencies – although each must be satisfied that the end result fairly addresses their concerns.[34]

The opinion of the DTI provides a broad and all-encompassing view of what public interest entails. However, this definition is too broad and for purposes of application of the Act the 'public interest' is narrowed down. Section 12A(3) builds the understanding of public interest further by outlining the factors that are considered as public interest grounds. These factors mirror those outlined in the purpose of the Act.[35]

[26] S 12A(1)(a)(i).
[27] S 12A(1)(a)(ii).
[28] S 12A(1)(b).
[29] M. Brassey, *Competition Law*, 2002, 1st Ed, p. 275.
[30] P. Sutherland and K. Kemp, *Competition Law of South Africa*,2013, binder issue 17, p. 10-93.
[31] 93/LM/Nov04.
[32] Ibid at para 44.
[33] S 12A(1)(a)(ii).
[34] Department of Trade and Industry, *Proposed guidelines for competition policy; A framework for competition and development*, 27 Nov 1997, par. 1.1.3.
[35] J. Hodge et al, 'Public interest provisions in the South African Competition Act – A critical review', Competition policy, Law and Economics Conference 2009 p. 6.



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For purposes of this dissertation and for the application of the Act, public interest will be limited to the specific grounds that are unambiguously provided for by the Act. The fact that the Act unequivocally provides a list of the public interest grounds is supported by David Lewis' assertions, "The uncertainty that public interest evaluation introduces is significantly ameliorated by the specific content that the Act gives to public interest. It is not as it often is an infinitely elastic concept but is specifically limited by the Act's definition."[36] The Competition Act provides that when determining whether a merger can or cannot be justified on public interest grounds, the Competition Commission or the Competition Tribunal must consider the effect that merger will have on-

a) A particular industrial sector or region
b) Employment
c) The ability of small businesses or firms controlled or owned by historically disadvantaged persons to become competitive
d) The ability of national industries to compete in international markets[37]

Two important points may be taken from the public interest provision in section 12A(3). Firstly, it is submitted that the use of the word 'must' by the legislature emphasises the fact that competition authorities do not have discretionary powers when it comes to applying the public interest test. It is compulsory that they consider the effect of such a proposed merger on public interest. Secondly, the public interest grounds constitute a closed group. The Act provides for only four specific grounds. Anything over and above what the Act provides for in section 12A(3) is beyond the scope of the Act and is therefore irrelevant for purposes of this dissertation.

*b) Rationale for considering public interest*

Section 12A(1)(a)(ii) of the Act provides that in assessing the impact of a transaction on public interest, it is also necessary to assess whether it can or cannot be justified on substantial public interest grounds, by assessing factors set out in sub section (3). The use of the alternatives 'can and cannot' has been interpreted by the Competition Tribunal to mean that public interest can work in two directions, either having positive or adverse effects.[38] The words can or cannot are then instructive. They tell us that public interest can have both adverse and benign effects.[39]

It is evident that the public interest test unlike the efficiency defence has a 'janus-faced' quality.[40] It can save a merger that would otherwise have been prohibited on pure competition grounds, but may also result in the prohibition of a merger which is not anti-competitive.[41] The same was re-iterated in *Harmony Gold mining Co/ Gold Fields Ltd* case, "A merger that has failed in the competition test can still be passed on the public interest test and hence be approved. Conversely, that a merger that has passed the competition test could still fail the public interest test and hence be prohibited."[42]

*c) Public interest considerations to be substantial*

The Act requires the public interest being considered to be substantial.[43] This requirement raises the question as to what a substantial ground entails. The Act does not give a defined outline on what substantial means as noted in the *Shell South Africa/ Tepco* case.[44] The Tribunal states, "Note that the Act does not otherwise guide us in balancing the competition and the public interest assessments except insofar as section 12A(1)(b) requires that the public interest grounds should be substantial."[45]

Some light into what substantiality entails was shed by the *Distillers Corporation* case.[46] The Tribunal in addressing the public interest of employment was tasked with determining when job losses would be substantial. "How many jobs must be lost before one has grounds for substantial public interest? The legislature wisely does not seek to answer that for us, nor can we assume that it should be a uniform figure for all mergers – it would depend on the context."[47] The abstinence from giving a definition of what substantiality would entail aids in the development of Law. It is submitted that each case is unique and therefore regards should be had to circumstances and context. The legislature's omission to provide a yardstick in this view may be seen as constructive in the sense that each case can be decided based on its merits and does not have to fit a pre-determined mould, which may not be suitable for the context.

Another pointer as to how substantiality may be determined would be to look at residual public interest. The Tribunal's approach is to focus on residual public

[36] D. Lewis, 'The role of public interest in merger evaluation', International Competition Network, Merger Working Group, Naples 28-29 Sept 2002 p. 3.

[37] S 12A(3)(a-d).

[38] Harmony Gold Mining/ Goldfields Limited 93/LM/Nov04 at para 54.

[39] Ibid

[40] P. Sutherland and K. Kemp, *Competition Law of South Africa*,2013, binder issue 17, p. 10-93.

[41] Ibid.

[42] Harmony Gold Mining Limited/ Goldfields Limited 93/LM/Nov04 at para 45.

[43] S 12A(1)(b).

[44] Shell South Africa (Pty) Ltd and Tepco Petroleum (Pty) Ltd 66/LM/Oct01.

[45] Ibid at para 38.

[46] Distillers Corporation (SA) Limited/ Stellenbosch Farmers Winery Group Ltd 08/LM/Feb02.

[47] Ibid at para 240.



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interest or that part that is not susceptible to or better able to be dealt with under another law.[48] The approach in *Distillers Corporation* is supported by the decision in *Shell South Africa/ Tepco*, where it was decided that the role played by the competition authorities in defending even those aspects of the public interest listed in the Act is at most secondary to other statutory and regulatory instruments, in this case the Employment Equity Act[49] and the Skills Development Act[50].[51]

What the above suggests is that the public interest considerations provided for in section 12A(3) can only be considered to be substantial where there is no other law or regulatory instrument to safeguard them. There are different pieces of legislation whose specific purpose is to protect some of the public interests listed in the Act such as the Labour Relations Act[52], The Basic Conditions of Employment Act[53] and The Black Empowerment Act.[54] It is submitted that the competition authorities' purpose is not to usurp the duties of such legislation but rather to play a supplementary role.

*d) Cases where Public Interest considerations have been applied*

i. *Introduction*

There are a number of cases in which the public interest considerations listed in section 12A(3) have been applied. This section of the dissertation seeks to highlight the importance of those public interest considerations by showing the weight which they are afforded within merger considerations. In some instances the public interest provision is invoked to try and save an anti-competitive merger whereas in others it seeks to prohibit pro-competitive mergers.

ii. *Industrial Sector or Region*

The Competition Act provides that when determining whether a merger can or cannot be justified on public interest grounds, the Competition Commission or the Competition Tribunal must consider the effect that the merger will have on a particular industrial sector or region.[55] The use of the word 'sector' instead of market allows for a wide range of issues to be considered. In *Anglo American/ Kumba Resources*[56] Anglo alleged that it would invest heavily in the target firm Kumba post merger.[57] The Tribunal did not determine under which public interest concern, but it must be likely that if falls under this rubric.[58] The case was important in illustrating how the competition authorities must approach each of the public interests even if not specifically mentioned.

*a. National Pers Ltd/ Education Investment Corporation Ltd*[59]

The case involved the merger of the education businesses of National Pers Limited and Education Investment Corporation into a new company. There were a number of factors to consider and be decided.

The definition of 'industrial sector' was the first port of call in the case. The term 'industrial sector' had to be interpreted widely to include any sector of economic activity.[60] The Tribunal had to decide whether the merger fell into the education 'sector'. It was noted that education is central to the South African economy and society, and that Apartheid has left a scar upon and massive challenges to this sector. Education is particularly important in addressing the legacy of Apartheid which left a large number of students unprepared for the world of work and so hampered the social and economic development of South Africa.[61]

The Tribunal accordingly paid full attention to the merger to protect the access of prospective students to education and thus giving effect to the purpose of section 12A(3)(a) of the Competition Act. The case illustrated how protection can be extended to a particular industry. The merger was approved with conditions, with the main condition being the divestiture of Success College.

*b. Wal-Mart Stores Inc and Massmart Holdings Ltd*[62]

With regards to the public interest of assessing a merger's impact on a particular industrial sector or region, the major concern with the Wal-Mart merger was the issue of procurement of products.

The Government and Southern African Clothing and Textile Union (SACTWU) were concerned that post merger, the merged entity would materially divert its procurement of products from local industries and markets to imports and that would have an impact on the products of domestic firms whose demand for their local products would dwindle and force them to close or downscale.[63] The theory of harm was based on the merged entity's increase in market share because of lower prices which it could offer because of its superior buying power in sourcing products overseas. The

[48] Ibid at para 237.
[49] Employment Equity Act 55 of 1998.
[50] Skills Development Act 97 of 1998.
[51] Shell South Africa (Pty) Ltd and Tepco Petroleum (Pty) Ltd 66/LM/Oct01 at para 58.
[52] Labour Relations Act 66 of 1995.
[53] Basic Conditions of Employment Act 75 of 1997.
[54] Broad Based Black Economic Empowerment Act 53 of 2003.
[55] S 12A(3)(a).
[56] Anglo American Holdings Ltd/ Kumba Resources Ltd with Industrial development Corporation intervening 46/LM/Jun02.
[57] Ibid at paras 141-144
[58] P. Sutherland and K. Kemp, *Competition Law of South Africa*,2013, binder issue 17, p. 10-95.
[59] 24/LM/May03.
[60] P. Sutherland and K. Kemp, *Competition Law of South Africa*,2013, binder issue 17, p. 10-95.
[61] Ibid.
[62] 73/LM/Nov10.
[63] Ibid at para 73.

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intervening parties came up with two proposals to alleviating the concern. Either the merger had to be prohibited, or there had to be an import quota imposed on the merged entity to limit the amount of imports versus local products.

The imposition of such a condition posed problems in itself. Firstly, the imposition of specific import quotas would contravene international trade law and conditions of the World Trade organisation. Secondly, the direction of the quota condition was not decided, SACTWU proposed 5 years while SMME's proposed 3 years.[64] To deal with the import quota problem, the merging parties proposed an investment remedy aimed at developing local suppliers in the amount of R100 million over a 3 year period.[65] The investment remedy was more attractive as the Tribunal felt it was more appropriate as it sought to make local industries more competitive.

The imposition of the investment remedy was a major development in merger law in South Africa. While this kind of remedy had been applied before in the *Pioneer* case[66] where a development fund remedy involving a cartel in the bread and milling industry was set aside for Agro-Processing competitiveness, this was the first time such remedy was being applied in merger law.

It is evident from the discussed cases that the industrial sector or region consideration plays an important role in the assessment of mergers. Not only is it a specifically provided public interest in terms of the Act but the public interest has practical implications as it is actually applied in case law.

iii. *Employment*

Of the various public interest grounds contained in the merger provisions, employment has thus far received a fair deal of consideration.[67] When evaluating the effect of a merger on employment, competition authorities will keep in mind that other regulatory regimes provide more direct protection for employees.[68] They will not be prepared to interfere with regards to wages, collective bargaining and working conditions.[69]

On the face of it, it is difficult to distinguish protection of employment levels from interference in other aspects of employment.[70] Yet it has been accepted that because of the powerful link between direct employment loss and a restructuring initiative such as a merger, it is undoubtedly in this area that the legislature intended a role for the competition authorities.[71] In evaluating the effect of a merger, the competition authorities will not merely play the numbers game.[72] They will not merely consider the number of jobs lost through a merger, they will rather look at the substantial effect which the merger has on employment.[73] In this regard, the questions whether retrenchment packages are sufficient enough and whether retrenchments are properly negotiated will be more important than the number of jobs lost.[74] Bearing this in mind, it is thus important for the employees and their views to be represented in matters that will directly affect them. The most important rights given to employees by the competition laws are procedural.[75] This allows employees to receive timeous information about mergers that often affect them deeply.[76]

To ensure that the effect of a merger on employment is properly analysed by the competition authorities, input from affected employee groups and trade unions is considered. The Act specifically requires that trade unions and /or employee representatives of affected employees be notified of any proposed mergers that are notifiable to the competition authorities.[77] In this regard, trade unions have played a very notable role in the public interest of employment, representing employees and ensuring that mergers do not have an uncompensated adverse effect on employment.

The competition authorities summarise the rights of employees accurately with regards to the effect a merger can have on employment,

> The prime concern of employees would obviously be the effect of a merger on employment. Keeping this information confidential deprives labour of not only the right to access to information that legislation clearly gives them, but also the right to make meaningful representation to the competition authorities on an issue that directly affects their interest.[78]

The importance of trade unions and employee representatives will be clearly articulated in some of the case law below.

[64] Ibid at para 108.
[65] Ibid at para 119.
[66] Competition Commission v Pioneer Foods (Pty) Ltd 15/CR/Feb07 and 50/CR/May08.
[67] V. Chetty, 'The place of Public Interest in South Africa's Competition Legislation', ABA section of Antitrust Law, 53rd Spring Meeting, Mar 30 – April 1 2005, p. 16.
[68] Distillers Corporation (SA) Limited/ Stellenbosch Farmers Winery Group Ltd 08/LM/Feb02 at para 232.
[69] Ibid at paras 233-238.
[70] P. Sutherland and K. Kemp, *Competition Law of South Africa*,2013, binder issue 17, p. 10-96.
[71] Ibid.
[72] Ibid.
[73] Ibid.
[74] Ibid at paras 242-243.
[75] P. Sutherland and K. Kemp, *Competition Law of South Africa*,2013, binder issue 17, p. 10-96.
[76] Ibid.
[77] S 13A.
[78] Competition Commission of South Africa and Competition Tribunal of South Africa, *Unleashing Rivalry, Ten years of enforcement by the South African Competition Authorities [1999-2009]*, 2009 p. 31.



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*a. Unilever PLC/ Competition Commission/ CEPPWAWU*[79]

CEPPWAWU is a trade union that represented the interests of Chemical, Energy, Paper, Printing, Wood and Allied Workers. The public interest concern in this case was the number of potential job losses in South Africa (a country with and already high unemployment rate) resulting from the merger.[80]

The Tribunal imposed a condition of approval that merging parties had to consult the trade unions regarding job losses, as a pre condition of approving the merger.[81] It was argued that section 13A(2) of the Act provides that merging parties must serve a copy of the merger notice on the registered trade union, employee representatives or, failing any of them, the employees themselves.[82] The Tribunal further argued that the most significant right the Competition Act has extended to employees and unions is the right to timeous information with regards to the potential employment impact of a merger.[83]

However, having alluded to the protection that the Competition Act extends to employees in terms of mergers, the Tribunal felt that the most powerful and therefore appropriate channel for unions to address the employment related issues arising from the merger was labour specific legislation, in this case being the Labour Relations Act[84] in terms of collective bargaining agreements.[85]

*b. Wal-Mart Stores Inc and Massmart Holdings Ltd*[86]

The target firm in this merger was Massmart holdings, a local wholesaler and retailer of groceries, liquor and general merchandise. The acquiring firm was Wal-Mart, the largest retailer in the world.[87] The merger did not raise any competition issues as it did not threaten to substantially prevent or lessen competition. The major concerns were public interest grounds such as employment and industrial sector. The public interest concerns were of such a serious nature that they warranted an intervention by various third parties who all opposed the merger.[88]

The public interest consideration at play was the effect of the proposed merger on employment, in particular the potential number of job losses through retrenchments post merger. In assessing the impact on employment, the Tribunal noted that there was no evidence that retrenchments would result from the merger, if anything the merger was likely to create jobs.[89] However, in reaching its decision, the Tribunal was cautious of relying on documentary evidence filed by the merging parties that predicted job growth for two reasons;

a) There was no guarantee that there would be creation of jobs post merger as expansion of the merged entity could happen elsewhere outside of South Africa
b) The expansion of the merged entity could be divisional rather than uniform. Meaning that one division could do well while others struggled, resulting in job losses in departments struggling[90]

The problem with looking at possible expansion in the broad sense would have been that while the net effect is expansion of the firm, the expansion could be divisional. This means that some divisions would flourish while others would suffer. The danger then of accepting the documentary evidence was that there was no guarantee that the South African division(s) would do well and therefore escape the potential of job losses. To ensure the protection of employment the merging parties undertook that there would not be any retrenchments in South Africa resulting from the merger for a period of two years; a retrenchment moratorium similar in nature to that in the *Metropolitan* merger.[91]

To further the public interest of employment, the case not only dealt with the potential job losses during the merger, but also extended the protection to employees of the merged entity. The intervening third parties demanded that there be a condition that would regulate how the merged entity would deal with organised labour in the future. Given Wal-Mart's antipathy with organised labour, the unions wanted conditions that would introduce central bargaining. The Tribunal was satisfied with these arguments and imposed two conditions with regards to trade unions;

a) The merged entity to continue to honour existing labour agreements
b) The merged entity not to challenge SACCAWU as the largest representative union within the merger entity for an appropriate period determined by the Tribunal.[92]

[79] [2001-2002] CPLR 336 (CT).
[80] V. Chetty, 'The place of Public Interest in South Africa's Competition Legislation', ABA section of Antitrust Law, 53rd Spring Meeting, Mar 30 – April 1 2005, p. 8.
[81] Unilever PLC/ Competition Commission/ CEPPWAWU [2001-2002] CPLR 336 (CT) at para 1.
[82] Ibid at para 40.
[83] Ibid at para 43.
[84] 66 of 1995
[85] Ibid.
[86] 73/LM/Nov10.
[87] Ibid at para 2.
[88] The intervening parties were the South African Commercial Catering and Allied Workers Union(SACCAWU), Congress of South African Trade Unions(COSATU), Food and Allied Workers Union(FAWU), National Union of Metal Workers in South Africa(NUMSA), South African Small Medium and Micro Enterprises Forum(SMMEF), South African Clothing and Textile Workers Union(SACTWU), The Minister of Economic Development, The Minister of the Department of Trade and Industry(DTI) and The Minister of Department of Agriculture Forests and Fisheries(DAFF).
[89] 73/LM/Nov10 at para 39.
[90] Ibid at para 40.
[91] Ibid at para 42.
[92] Ibid at para 59.



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The import of this case is two-fold. It illustrates the importance of taking into consideration the public interest ground of employment when assessing a merger. It also highlights the value of trade unions as employee representatives, making sure that the views of employees are adequately heard and addressed.

*c. Metropolitan Holdings Limited and Momentum Group Limited*[93]

This case brings to the fore the interaction between public interest (employment in this case) and commercial efficiencies. The case included the acquisition of 100% of the issued share capital of Momentum by Metropolitan Holdings. In considering the merger, the Tribunal first carried out a competition test and decided that the merger did not pose any threat to competition. The question then shifted to whether the merger had any detrimental effects on public interest grounds.

The merger gave rise to one public interest concern, being the loss of jobs resulting from the merger. The merging parties submitted that the merger would result in an approximate 1000 job losses as a result of duplication of roles and the need to improve efficiencies in the merged entity.[94] In passing its judgement and seeking to protect the rights of employees, the Tribunal issued a moratorium on retrenchments for a period of two years with the following terms;

a) The merged entity was to ensure that there were no retrenchments in South Africa resulting from the merger for a period of 2 years from the effective date of the proposed transaction
b) The condition in (a) would apply to the 204 senior management positions set out in the table provided in the record
c) Metropolitan and Momentum were to circulate conditions (a) and (b) to all their employees within 7 days of the date of the order[95]

The parties sought to downplay the job losses by claiming that they had a plan to redeploy, retrain and offer early retirement packages to some of the employees, bringing down the number of those affected by the merger from the initial 1500 to 1000 employees.[96] The Tribunal revealed the importance of clearly articulating the connection between job losses and efficiencies. There had to be a clear picture of how the job losses were determined and whether they could be justified based on the public efficiencies of the merged entity. The Tribunal found that the parties had failed to show a rational connection between the efficiencies sought from the merger and the job losses claimed to have been necessary.[97]

The Tribunal emphasised that while a negative impact on employment may clearly be connected to a particular claimed efficiency, that does not discharge the parties of their duty to show that the losses could be justified for a reason that is public in nature. The parties in this case had failed to discharge that onus and as a result the merger was approved subject to the above conditions.

*d. Daun et Cie AG/ Kolosus Holdings Ltd*[98]

The public interest of employment and how the competition authorities go about protecting this interest was central in this case. The case went far to reiterate the pivotal role that trade unions and employees representatives play in matters that directly affect employees and employee rights. The merging parties in the case had estimated that in the worst case scenario, the merger would give rise to about 150 retrenchments. However, the parties acknowledged during the hearing that the ultimate number of job losses could potentially exceed that number.[99]

The trade unions SACTWU and SAFATU expressed concerns with regards to the job losses and sought assurance that the job losses resulting from the merger would be limited. The Tribunal in its decision imposed a condition that the parties had to limit the number of job losses to 150 for a year post merger, and emphasised the need for true and accurate disclosure of facts when notifying a merger,

> It must be emphasised that the notification requirements exist precisely to ensure transparent disclosure of all material aspects of the transaction at an early stage. This is needed to allow the competition authorities and with regards to labour issues, the trade unions to react accordingly. It is improper for the notification to be sugar-coated merely to ensure a favourable reaction, while later in the process less favourable facts are disclosed, particularly when the number of retrenchments is as significant as in this case.[100]

The Tribunal further stipulated that it also took into cognisance the fact that it was easy for companies to disguise merger related retrenchments so that it would appear that they would still occur absent the merger. It went on to chastise the practice, remarking, "These practices are strongly discouraged and the importance of transparent bona fide disclosure is once again emphasised. It is those concerns that motivated the imposition of the condition in the merger."[101]

[93] 41/LM/Jul10.
[94] Ibid at para 61.
[95] Ibid at para 64.
[96] Ibid at para 79.
[97] Ibid at para 70.
[98] 10/LM/Mar03.
[99] Ibid at para 121.
[100] Ibid at para 136.
[101] Ibid at para 138.



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It is evident from the treatment of the need for disclosure of possible job losses and the involvement of the trade unions in discussions that employment is a key public interest ground when considering the effect of a merger on public interest. The importance of employment cannot be ignored or downplayed.

*e. Tiger Brands Ltd and Ashton Canning Company Ltd and Others*[102]

The case was based on the public interest ground of employment as well, in particular the potential number of job losses that would be a direct result of the merger. It was estimated that there would be a loss of 45 permanent jobs and 1000 seasonal jobs due to the merger.

The Commission sought to protect the interests of employees and in so doing imposed a condition that provided for the creation of a training fund to the tune of R2 million to benefit retrenched employees, seasonal farmers and members of the Ashton community.[103] In as much as the condition would not minimise job losses, it would go far in developing the skills of retrenched employees and seasonal farmers, better equipping them for any other prospective employment. It is submitted that the imposition of the condition also worked to signal to all employees the substance of employment as a ground that had to be considered in merger evaluations. It reiterated the fact that the competition authorities do not just play the numbers game in considering employment as the number of job losses is not always commensurate to the protection afforded employees. In *Metropolitan Holdings Limited and Momentum Group Limited*[104] the potential permanent job losses were in the 1000s, whereas in this case only 45 permanent jobs were anticipated, however both cases were given due consideration with regards to protection of employment.

What can be taken deduced from the discussed case law is that the public interest ground of employment is central in the assessment of what effect a merger will have on public interest as a whole. It empowers the competition authorities to extend protection of employment and employee rights through the imposition of conditions. Often the levels of employment cannot be maintained at pre merger levels if efficient gains are to be realised.[105] The imposition of conditions can thus only go so far. Sometimes the conditions are only for a short specified period, as noted in *DB Investments vs De Beers;*[106] it could not be expected of an employer to provide a perpetual undertaking to ensure that all the conditions were adhered to.[107]

In arguing for the protection of employment it will not be sufficient to show that job losses will occur after the merger. It is necessary to prove that the job losses will be a consequence of the merger.[108] Only then may competition authorities deem it fit to intervene and issue conditions where possible.

Over and above the protection that employees get from legislation and statutory instruments specifically enacted and tasked with protecting them, the competition authorities still have a duty to extend that protection. Many of the job losses can be addressed by the imposition of conditions as seen in some of the cases above. The fact that the competition authorities, over and above the specific labour legislation assume jurisdiction and seek to extend protection of employment, goes on to demonstrate the significance of the public interest ground of employment.

iv. *The ability of smallbusinesses, or firmscontrolled or owned by historically disadvantaged persons, to become competitive*

In terms of section 12A(3)(c) of the Competition Act, the effects of a merger on the ability of small businesses, or firms controlled or owned by historically disadvantaged persons to become competitive must be evaluated as part of the public interest test. This falls in line with one of the definite aims of the Act as provided for in the preamble, to spread greater ownership by a greater number of South Africans.

*a. Anglo American Holdings Ltd and Kumba Resources Ltd, Industrial Development Corporation Intervening*[109]

The facts of the matter were that Anglo attempted to purchase Kumba, a black economic empowered company. The Industrial Development Corporation(IDC), a statutory body whose primary function is to foster economic development pertaining to black owned businesses, intervened on the public interest ground provided in section 12A(3)(c) of the Act. The IDC argued that the merger would create a barrier to entry for potential black firms and therefore impede empowerment in the industry.[110] It therefore proposed that Kumba remain an independent black owned company.

In its submissions, the IDC stated that the Tribunal was to respect the object of promoting a greater spread of ownership by historically

[102] 46/LM/May05.
[103] Ibid at para 132.
[104] 41/LM/Jul10.
[105] P. Sutherland and K. Kemp, *Competition Law of South Africa*,2013, binder issue 17, p. 10-97.
[106] DB Investments south Africa v De Beers Consolidated Mines Ltd [2001-2002] CPLR 172 (CT).
[107] Ibid at paras 172-173.
[108] P. Sutherland and K. Kemp, *Competition Law of South Africa*,2013, binder issue 17, p. 10-97.
[109] 45/LM/Jun02 and 46/LM/Jun02
[110] Ibid at paras 148-152.

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disadvantaged persons.[111] The provision was to be interpreted widely so as to encompass the purpose of the preamble of the Act.[112] It had to be borne in mind that the Apartheid economic system had led to excessive concentration in the economy and it was a major goal of the Act to promote wider spread of ownership.[113]

Anglo on the other hand argued that the Tribunal should not accept the broad interpretation of the 'spread of ownership' provision.[114] In its submissions for the merger, Anglo argued that such a wide interpretation of the provision would result in the transformation of the Competition Act from an antitrust statute albeit with a public interest aspect into an unchecked vehicle for redistribution.[115]

The Tribunal stated that if the IDC's approach were to be adopted there was no evidence to suggest that the merger would frustrate the purpose of the Competition Act by closing the door on further entry by black owned firms. It was also not sufficiently proven that the interests of the black owners of Kumba would not be increased despite the merger since Anglo had given notice of an undertaking to comply with all the regulations that required empowerment transactions to take place.[116] It also had completed a memorandum of understanding with the Government in which it agreed to promote the interests of previously disadvantaged persons. The merger was therefore approved with the aforementioned conditions.

It is submitted that in as much as the IDC did not get a favourable judgement, the Tribunal had benefited from the intervention of the IDC given the economic and social significance of the transaction. The intervention had created a platform where the unpacking and discussion of what public interest grounds to consider and their application could be addressed. Overrally this was beneficial to the development of competition law as it provided precedence on how to apply the public interest consideration of black empowerment.

*b. Shell South Africa (Pty) Ltd and Tepco Petroleum (Pty) Ltd*[117]

In this matter, Thebe, a black economic empowerment company attempted to sell off its subsidiary Tepco to Shell South Africa citing financial problems. Tepco was suffering net losses due to the mature nature of the oil industry and high structural barriers to entry.[118]

Having determined that the merger did not pose any threat to competition, the Tribunal shifted its focus to the public interest test. Bearing in mind that Tepco was a company owned by black persons, the question whether the merger would have an effect on the ability of small or black controlled or owned firms to become competitive had to be addressed.

The Commission in its assessment of the merger has imposed a condition that Tepco continue to exist as an independent firm jointly controlled by Thebe and Shell South Africa.[119] The Tribunal was however sceptical of this condition as it resulted in the restructuring of the original deal into one that neither of the merging parties wanted.[120] The Tribunal argued that the Commission's role was to promote and protect competition and a specified public interest. It was not to second guess the commercial decisions of precisely that element of public interest it is enjoined to defend.[121] It went on to point out that the competition authorities however well intentioned, were well advised not to pursue their public interest mandate in an over-zealous manner, lest they damage precisely those interests that they ostensibly sought to protect.[122]

The merger was considered to be commercially sound and not to pose any threat to public interest. It was therefore approved without any conditions.

v. *Ability of national industries to compete in international markets*

As provided for by section 12A(3)(d) of the Competition Act, when applying the public interest test and assessing the impact of a merger on the public interest, regard must be had to the effect that a merger will have on the ability of national industries to be competitive on international markets.

*a. Nampak Ltd/ Malbak Ltd*[123]

The parties to the merger were firms involved in the packaging industry with overlapping activities in folding cartons and flexible plastic packaging.[124] The rationale for the merger was that the merged entity would be able to compete more effectively for the business of multinational customers, also increasing a deeper penetration of export markets.[125]

In their submissions, the parties produced evidence relating to the scale of operation required to compete for the business of multinational consumers. They argued that a would-be supplier would not be able to compete without the scale and concomitant technology to match the output of the world scale.[126]

[111] Ibid at paras 147-150.
[112] Ibid at para 148.
[113] Ibid.
[114] Ibid at para 156.
[115] Ibid.
[116] Ibid at para 168.
[117] 66/LM/Oct01.
[118] Ibid at para 11.
[119] Ibid at para 2.
[120] Ibid at para 42.
[121] Ibid at para 51.
[122] Ibid at para 58.
[123] [2004] 2 CPLR 337 (CT).
[124] Ibid at paras 5-6.
[125] Ibid at para 9.
[126] Ibid at para 50.



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They argued that the merger would provide them with such capacity.[127] The Tribunal acknowledged the importance of multinational customers to the parties' business, noting that its decision was rooted in evidence that strongly indicated significant developments in the manner in which multinational corporations organised their global production.[128]

The Tribunal concluded that the pro-competitive arguments raised by the merging parties justified the merger on the public interest of promoting international competitiveness as envisaged by section 12A(3)(d).[129] The merger was therefore approved.

*b. Tongaat-Hullet Group Ltd/ Transvaal Suiker*[130]

This merger had been found by the Competition Commission to be anti-competitive as it would have substantially prevented or lessened competition. The parties to the proposed merger argued the public interest ground of national industries becoming competitive on the international markets in a bid to save the anti-competitive merger.[131]

The parties when arguing for the merger had alleged that the merged entity would have a greater ability to compete on international markets because of the larger scale of the entity.[132] However, the Tribunal warned that it would be reluctant to consider an argument that domination of a local market by a merged firm was necessary for international success.[133]

The Tribunal further argued that in selected instances, scales of economies and rationalisation of production units may support the argument.[134] However, the size of the firm in itself would not be conclusive.[135] Where the merger did not increase the size of productive units, or allow them to operate more effectively, the Tribunal would not allow an anti-competitive merger on that basis.[136] The merger was therefore prohibited.

The major import of this case was to illustrate the dual application of the public interest test. On the one hand the test may be used to challenge a merger that is pro-competitive and does not pose any threat to competition based on the negative impact such merger would have on any of the listed public interest grounds. On the other hand, the test may be used to attempt to approve a merger that is anti-competitive, on the basis that the benefit to public interest would offset the anti-competitiveness effects of it.

*e) Summary*

It is evident from the cases discussed above that public interest considerations have to be taken into account in merger evaluation as they are mandated by legislation. The Competition Act unequivocally provides for public interest to be considered in every proposed merger. It is compulsory to apply the public interest test regardless of the outcome of the competition test. However, in as much as the public interest is provided for and protected by the act, the competition authorities have been cautious in the consideration and application of the test. There is an unlikely possibility of approving an anti-competitive merger based on public interest grounds.

Basing on the above discussed case law, it can be deduced that having considered the competition test and having applied the public interest test, the competition authorities may make any of the following decisions with regards to mergers;

- Unconditional approval, such as in *Shell South Africa/Tepco* merger;
- Conditional approval, such as in *Tiger Brands/Ashton* merger;
- Prohibition, such as in *Tongaat-Hullet/ Transvaal Suiker* merger.

In evaluating the public interest provision, the competition authorities take cognisance of the fact that competition law is not directly aimed at protecting any of the specific public interest grounds. Rather, the jurisdiction of the authorities with regards to the public interest is secondary, owing to the fact that there are specific mechanisms to protect public interest.

There are statutes enacted to specifically deal with the public interest grounds listed in section 12A(3). Some of the legislation includes the Labour Relations Act[137], the Basic Conditions of Employment Act[138], the Skills Development Act[139] and the Broad Based Black economic Empowerment Act[140] to name a few. The Competition Act's provisions that extend the protection of public interest play a secondary role to the specific legislation. It is submitted that it is because of this secondary role that the competition authorities follow a cautious approach, as they do not intend on commandeering the duties and responsibilities of other instruments.

[127] Ibid.
[128] Ibid at para 63.
[129] Ibid at para 65.
[130] 83/LM/Jul00.
[131] Ibid at para 114.
[132] Ibid.
[133] Ibid at para 115.
[134] Ibid.
[135] Ibid.
[136] P. Sutherland and K. Kemp, *Competition Law of South Africa*, 2013, binder issue 17, p. 10-99.

[137] 66 of 1995.
[138] 75 of 1997.
[139] 97 of 1998.
[140] 53 of 2003.



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## Chapter 4

## IV. Comparative Analysis

*a) Introduction*

A brief overview of public interest considerations in merger regimes internationally shows that a number of jurisdictions give credence to public interest considerations.[141] However, the consideration is strictly limited to certain sectors and different bodies assessing the public interest and the competition aspects. I will briefly look at the regime in the United Kingdom and compare it with the South African one.

The UK has been specifically been picked for a two reasons. Firstly, English law to this day forms part of the sources for South African Common Law. South African Common Law has these main strands: Roman Dutch Law, English Law and South African precedent.[142] Considering that many of the English doctrines have remained as part of the South African Law[143], it is reasonable that a comparative analysis be made with a system of law that is familiar. Secondly, it is submitted that both competition regimes are fairly new, with the South African Competition Act[144] coming into effect in 1999 and the UK Enterprise Act[145] coming into effect in 2003. It is submitted that a comparison between the two is most ideal as they were promulgated around the same period of time and therefore would have had some similar influences.

I will look at the similarities in the systems and the differences as well, and try and conclude whether the systems are just procedurally of fundamentally different.

*b) United Kingdom Merger Control*

The United Kingdom, like South Africa, has a fairly new competition regime, which was ushered in with the introduction of the Enterprise Act 2002.[146] The legislation involved a major overhaul of the domestic system of merger control.[147] It fundamentally changed both substantive and the institutional architecture of the domestic law of the UK.[148] Under the old regime, which operated under the auspices of the Fair Trading Act,[149] there was a broad public interest test to be applied in assessing mergers. However, the Labour Government argued that the public interest test was too vague and should be replaced.[150]

Pursuant to the Labour Government's push, reform to the UK competition regime came in the form of the Enterprise Act 2002. One of the primary objectives of the reforms to UK merger control introduced by the Enterprise Act 2002 was the de-politicisation of the system.[151] Under the old regime, the Secretary of State for Business, Enterprise and Regulatory Reform[152] was the ultimate decision maker with regards to mergers.[153] For example, where the Competition Commission had concluded that a merger would likely harm public interest, it fell to the Secretary of State to decide what action to take.[154]

However, with the advent of the Enterprise Act 2002, powers to make decisions were conferred on the Competition Commission in relation to mergers and market investigations.[155] The Act diminished substantially the powers of the Secretary of State to make decisions in competition law cases, particularly relating to mergers.[156] The Secretary of State now has limited powers with regards to merger control but still retains powers of intervention in relation to certain mergers.[157] The Secretary of State may intervene in public interest cases as provided for by the Act.[158]

The Enterprise Act 2002 also removed decision making powers of the Ministers with relation to mergers, passing the responsibilities to the competition authorities which were at the time, the Office of Fair Trading[159] and the Competition Commission.[160] The primary responsibility of the regulation of mergers and takeovers now lies with the Competition and Markets Authority (CMA).[161] The CMA has to investigate and assess whether a merger should be prohibited on the basis of whether the merger can be expected to lead to

[141] In Canada for example, public interest in merger assessment is focussed on mergers in the banking sector and is subject to approval by the Minister of Finance. The Canadian Competition Act provides for the assessment of proposed bank mergers to be subjected to a public interest assessment because of the potential effects on retail and by extension impact on consumers.

[142] F. du Bois (ed.), *Wille's Principles of South African Law,* 2007, 9th Ed, p. 65.

[143] Ibid p. 66.

[144] Competition Act 89 of 1998.

[145] UK Enterprise Act 2002 Chapter 40 (hereinafter referred to as the Enterprise Act 2002).

[146] UK Enterprise Act 2002 Chapter 40.

[147] R. Whish, *Competition Law*, 2008, 6th Ed, p. 887.

[148] Ibid p. 59.

[149] UK Fair Trading Act 1973 Chapter 41.

[150] A. Seely, 'Takeovers, The public interest test', standard note SN5374, September 2014, p. 1.

[151] Slaughter and May, 'UK Merger Control Under the Enterprise Act 2002', 2009, p. 34. www.slaughterandmay.com (accessed 2014-10-28).

[152] Hereinafter referred to as Secretary of State.

[153] Slaughter and May, 'UK Merger Control Under the Enterprise Act 2002', 2009, p. 34. www.slaughterandmay.com (accessed 2014-10-28).

[154] Ibid.

[155] R. Whish, *Competition Law*, 2008, 6th Ed, p. 61.

[156] Ibid p. 60.

[157] Slaughter and May, 'UK Merger Control Under the Enterprise Act 2002', 2009, p. 34. www.slaughterandmay.com (accessed 2014-10-28).

[158] S 42(2) Enterprise Act 2002 Chapter 40.

[159] Office of Fair Trading Closed on 01/04/2014, (www.gov.uk/government/organisations/office-of-fair-trading)

[160] A. Seely, 'Takeovers, The public interest test', standard note SN5374, September 2014, p. 1.

[161] Ibid p. 2.



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a substantial lessening of competition.[162] This is purely a competition test, which is the only test the CMA is mandated to apply when assessing mergers. While the establishment of the CMA was a major reform in the competition regime, it should be underlined that this did not see any changes either to Ministers' powers to intervene, or to the substantial lessening of competition test which the CMA applies in assessing mergers.[163] It would therefore appear as if the competition authorities in the UK have no power to assess any public interest concern that the merger may have an impact on as these powers rest with the Secretary of State.[164]

With the introduction of the Enterprise Act, the new test for merger assessment became more focussed on competition;

> Although in recent years it has been rare for merger cases to be decided on anything other than competition grounds, such a change may help to reduce strategic uncertainty in that companies should have a clearer idea as to the issues that will be taken into account in an investigation… A merger control regime that is more focused on competition will benefit consumers by promoting the maintenance of open competitive markets.[165]

In as much as the test for merger assessment is based on the competition test, it must be borne in mind that the Act still allows the Secretary of State to intervene in special case mergers where they give rise to certain specified public interest concerns.[166] There are three types of possible public interest cases, namely:

- Public Interest
- Special Public Interest
- In respect of mergers with a community dimension, cases raising legitimate interests[167]

It is within any of these three categories that the specified public interest may fall. The specified public interest considerations that the Secretary of State may consider in terms of section 58 of the Act are:

- National Security, which includes public security
- The interest of maintaining stability of the UK financial system
- Plurality of media, including accurate presentation of news in newspapers, free expression of vies in newspapers and a plurality of views in newspapers[168]

In the specifically mentioned public interest cases, the Secretary of State may make an assessment of a merger purely on the grounds that it runs counter to the public interest, without deferring to the substantial lessening of competition test.[169] He may also give regards to both tests in coming to his decision.[170]

One important feature of the new regime is the independence from Government interference in general insofar as the competition authorities are dealing with a purely competition based test. The Secretary of State does not have any powers to make a decision or interfere in the decision making of a merger assessment that is purely based on the substantial lessening of competition.[171] Looking at the nature of the merger assessment regime in UK, being purely competition based and barring any interference from Government, it can be deduced that the specified grounds on which the Secretary of State may intervene create the exception rather than the norm.[172]

Another important feature is that the Act allows Government, through the Secretary of State to amend the public interest provision. The Secretary of State may add or remove any specified public interest ground, which has been done once. In October 2008 the then Labour Government presented secondary legislation to add the public interest, "The interest of maintaining stability of the UK financial system" in response to the global financial crisis and having regards to the importance of the financial services sector.

*c) UK system v South African system*

It is imperative to carry out a close analysis and comparison of both the systems of merger assessment in the UK and South Africa by juxtaposing them. While both systems have a number of similarities, they also differ fundamentally in the approaches in which they carry out their merger assessments with regards to public interest considerations. As a general point of departure it is of the essence to note that both jurisdictions recognise public interest as factor that may be considered in certain merger assessments. However, that is as far as it goes in terms of similarities as the countries differ in terms of where public interest has to be considered, by whom it has to be considered and how it has to be considered.

i. *Recognition of public interest*

Both countries recognise specific public interest grounds which may be considered in assessing a merger. South African competition law recognises public interest through the Competition Act[173] while United Kingdom recognises specific public interest grounds

[162] Ibid.
[163] Ibid.
[164] Ibid p. 4.
[165] Department of Trade and Industry, 'The enterprise Act, Competition Reform', Regulatory impact assessment, 2002, p. 10.
[166] S 58 Enterprise Act 2002 Chapter 40.
[167] S 6.1 Merger Assessment Guidelines, Competition Commission and Office of Fair Trading, 2010.
[168] Ibid S 6.1.4.
[169] A. Seely, 'Takeovers, The public interest test', standard note SN5374, September 2014, p. 1.
[170] Ibid.
[171] Ibid p. 4.
[172] S 6.2 Merger Assessment Guidelines, Competition Commission and Office of Fair Trading, 2010.
[173] S 12A(3) Competition Act 89 of 1998.



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through the Enterprise Act.[174] Both Acts recognise a closed group of public interest grounds as they are specific.[175]

The difference in the systems is that in South Africa, public interest forms part of the merger assessment process as the second part of a two-pronged process. When assessing a merger the competition authorities have to carry out a competition test first and then carry out a public interest test.[176] However in the UK public interest does not form part of the merger assessment, there is only one test to be applied, which is the competition test. Public interest is rather an exception to the norm; the Secretary of State may intervene in a merger where it may have an effect on specified public interests. So while both countries recognise public interest, in South Africa it forms part of the merger assessment process whereas in the UK it is raised as an exception.

ii. *Enforcement Authorities*

In South Africa, the duty to carry out merger assessment lies with the competition authorities, being the Competition Commission and the Competition Tribunal.[177] Whereas in the UK, the duty lies with the CMA, which formerly lay with the Office of Fair Trading and the Competition Commission.[178] In South Africa, the same authorities are responsible for carrying out both the competition and the public interest tests. They first have to assess whether a merger is likely to substantially prevent or lessen competition and regardless of the outcome must still carry out the second test, determining whether there are any public interest ground that may be used to justify the approval or prohibition of the merger. The advantage of having the same authority carry out both tests is that in striking a balance between both tests, the authority will put everything in context as they are not removed from either of the tests.

In the United Kingdom, there is a separation of the authorities that are in charge of carrying out the competition test and raising the public interest considerations. The competition authorities are tasked with carrying out the only test recognised in merger assessment which is the competition test. The Secretary of State under special circumstances may however raise specified public interest concerns and assess the merger either solely based on those public interest grounds or having regards to the competition test. The separation of regulatory power in the UK helps in that mergers are decided on purely competition grounds without interference from Government. However, the separation may also be detrimental in that it does not always put into context the reason behind a decision by the competition authorities when the Secretary of State intervenes. The fact that the Secretary of State may decide on a merger solely on public interest grounds where he intervenes is also counter-productive as the decision of the competition authorities should always be taken into account.

iii. *Effect of public interest test*

In South Africa, public interest consideration in a merger assessment may have one of two outcomes. It can work to either prohibit a merger that is not anti-competitive having considered the adverse effect that the merger may have on public interest. It may also work to approve a merger that is anti-competitive where the benefits to the public interest are benign and off-set the negative effect of the competition test.

In the UK on the other hand, it appears that public interest will only be used to prohibit a merger based on one of the specified public interest grounds. The Enterprise Act provides for intervention of a merger assessment by the Secretary of State and enables him to prohibit a merger that runs contrary to any of the specified public interests. There is no mention of the fact that the Secretary of State has power to approve an anti-competitive merger based on public interest considerations.

iv. *Ability to adapt the law*

Both jurisdictions have a closed list of public interest consideration that may be taken onto account when assessing mergers.[179] As these are explicitly set out in legislation, the competition authorities cannot remove or add any other grounds or act outside these precepts.

In the UK, the public interest grounds that the Secretary of State can invoke when considering the impact of a merger on public interest are also a closed list. However, UK legislation gives the Government power to change these grounds, "The Secretary of State may by order modify this section for the purpose of specifying in this section a new consideration or removing or amending any consideration which is for the time being specified in this section."[180] An advantage of this proviso is that it allows for adaptability to developments in law and other factors that may be necessary to take into consideration when assessing mergers. This was evidenced by adapting the law with regards to the 2008 global financial meltdown which prompted an addition to the public interest ground (The

[174] S 58 Enterprise Act 2002 Chapter 40.

[175] S 12A(3) Competition Act and S 58 Enterprise Act.

[176] The South African Competition authorities have to consider a competition analysis first in terms of S 12A(1) and S12A(2) and then consider public interest considerations set out in S 12A(3). In the UK, the CMA carries out a competition test and the Secretary of State may intervene and consider public interest cases.

[177] S 12A Competition Act 89 of 1998.

[178] S 22(1) Enterprise Act 2002 Chapter 40.

[179] S 12A(3) of the Competition Act recognises four public interest considerations while S 58 of the Enterprise Act recognises three specific public interest considerations.

[180] S 58(3) Enterprise Act 2002 Chapter 40.



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interest of maintaining stability of the UK financial system) provided for by the Act.[181]

*d) Summary*

While there are a number of similarities in the UK and South African systems of merger assessment, there are also a number of marked differences. There are differences with regards to responsible authorities for carrying out different aspects of merger assessment, differences in the procedure of carrying out the merger assessment and differences in the powers that different authorities have. The natural inclination where there are differences between two or more systems is to attempt to find the most effective and better system. This is not the case in this situation. The differences in the substance and approaches of the two systems have to be considered in the context of the history of competition law in each country and the histories of the countries as a whole.

The UK does not give any consideration to public interest in assessing mergers because even in the old regime, the public interest had almost become abrogated by disuse, "Although in recent years it has been rare for merger cases to be decided on anything other than competition grounds…"[182] There was no need for the public interest test, which was also considered to be vague.

The South African situation on the other hand is very different. Bearing in mind not only the history of competition but the country as a whole and the past injustices of the Apartheid regime, most legislation enacted seeks to correct the wrongs of that era and the Competition Act is no exception. The competition policies of the Apartheid regime led to a lot of concentration of the economy, it was therefore imperative to include and embed public interest grounds such as employment and black economic empowerment into the Act so as to specifically protect and advance those interests.

It is reasonable to conclude that while both systems have their differences, the common denominator is that they both recognise and protect public interest, albeit on different levels and affording them different weight in the merger assessment process. The different systems both work well in their respective jurisdictions, because of the context in which they are applied. It is therefore unnecessary to want to change or adapt the South African system to any other system because of its unique history.

[181] A. Seely, 'Takeovers, The public interest test', standard note SN5374, September 2014, p. 4.

[182] Department of Trade and Industry, 'The enterprise Act, Competition Reform', Regulatory impact assessment, 2002, p. 10.

## Chapter 5

## V. Conclusion

*a) Justification of the inclusion of public interest considerations in the Act*

The rules of the market game that include competition rules can enhance market outcomes by promoting not only the achievement of efficiencies but also greater equity. To this extent, South Africa's competition law is progressive in its explicit incorporation of public interest considerations; whereas even mature jurisdictions shy away from such potentially contentious territory.[183]

Considering the history of South Africa, the nature of the economy and the unequal distribution of wealth and resources that resulted from unfair and unjust apartheid economic policies, the inclusion of public interest considerations in the Competition Act is justified. Putting everything into a historical context, there needed to be an impermeable policy that would seek to address such inequalities in the field of competition law. Employment creation and black economic empowerment are major challenges to sustainable development in South Africa and explicit reference to these factors is thus to be expected in a significant area of policy and law such as the Competition Act. In some sense this provides a balance of considerations in the challenge to develop a set of complementary policies and laws to facilitate enterprise development and the achievement of broader socio-economic objectives.[184]

David Lewis argues that public interest considerations weigh more heavily in developing countries than they do in developed countries.[185] The reasons for this are instructive; first, it is widely accepted that there is a greater role for industrial policy, for targeting support at strategically selected sectors or interest groups, in developing rather than in developed countries.[186] Secondly, developing country competition authorities are still engaged in a very basic struggle to achieve credibility and legitimacy in their countries, thus:

[183] T. Hartzenberg, 'Competition Policy and Enterprise Development', The role of public interest objectives in South Africa: Competition Policy, pp. 19-20 in W. Myeni, Public Interest and merger controls in South Africa, The role of public interest in merger evaluations and how efficiency-driven principles are reconciled with public interest considerations, LLM Dissertation, University of Cape Town, 2008, p. 48.

[184] W. Myeni, Public Interest and merger controls in South Africa, The role of public interest in merger evaluations and how efficiency-driven principles are reconciled with public interest considerations, LLM Dissertation, University of Cape Town, 2008, p. 49. www.uctscholar.uct.ac.za (accessed 2014-10-28).

[185] D. Lewis, 'The role of public interest in merger evaluation', International Competition Network, Merger Working Group, Naples 28-29 Sept 2002, p. 2.

[186] Ibid.



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> In a country like South Africa, while we in the competition authorities may understand the pitfalls in balancing competition and public interest, we equally recognise that a competition statute that simply ignored the impact of its decisions on employment or securing a greater spread of black ownership would consign the Act and the authorities to the scrap heap.[187]

It is therefore evident that in a developing country such as South Africa, while economic growth and development is paramount, there are broader social factors that should be considered in attempting to further that economic growth.

The institutional framework of competition law prior to 1994 lay with the Competition Board as mandated by the Competition Act of 1979, which had powers to start an investigation into merger activity of its own volition.[188] However, the competition law was fully integrated into the structure of Governmentand had no political independence, the implications being that it was used by the ruling party as a tool to protect their economic interests even though they were in the minority.[189] It thus became necessary to change the whole of competition policy so as to extend protection to the majority of South Africans. The new policy had to go above and beyond the scope of just economic competition policy; it had to contribute to changing the ownership structure of the economy so as to allow redistribution of wealth.[190] This saw the introduction of the new Competition Act and with it provision for the consideration of public interest in merger regulation.

The cases discussed above are testament to the fact that competition law is one of the instruments used to promote South Africa's non-competition objectives. The incorporation of public interest in the Act does not override the underlying competition policy objectives. It is submitted that if anything, the public interest provision plays an ancillary role in furthering the objectives of competition policy.

The inclusion of non-competition objectives in the Act is an example of how the principles of international antitrust law may be achieved even though non-competition factors are incorporated into legislation. Such incorporation sets the South African system apart from others, customising antitrust law to suit its history and context. Such inclusion can be justified by noting that their purpose is not to circumvent the objectives of competition policy but rather to further them. Evidence to this is that to date, no merger has been barred because of the inclusion and consideration of public interest considerations. This is because the South African competition authorities will always view public interest as being secondary to competition objectives. It will always be assessed second, after a merger has either been approved or prohibited based on purely competition grounds.

It must be borne in mind that South Africa is an independent country, with a unique history and therefore unique needs. In any jurisdiction around the world, policies are made in response to the conditions prevalent in that jurisdiction, to solve problems pervasive in that society and to further its development. Likewise, the South African competition policy was formulated as a direct response to the serious need to further the socio-economic rights of the majority of South Africans, hence the inclusion of non-competition objectives in the Act. The inclusion of public interest objectives in the Act was a way to address the inequalities that were brought about by the Apartheid policies. Black economic empowerment and employment are major societal concerns which also form part of the national policy objectives. It is unthinkable that reference to these key concerns would have been omitted from a piece of socio-economic legislation as significant as the Competition Act.[191]

The Act seeks to spread ownership to previously disadvantaged individuals and protect the interests of such individuals. The need to promote black ownership and create jobs for those disadvantaged by the Apartheid regime's policies is a story unique to South Africa. It is plausible to reason that under such circumstances, the policies of Government and other instruments that seek to promote Governmental objectives should also be unique.

*b) Criticism of the inclusion of public interest considerations in the Act*

There have been a number of criticisms levelled against the inclusion of public interest in the Competition Act. The major argument being that competition legislation should seek to further the objectives of competition policy and not include any political, non-competition objectives.[192] Competition policy should purely be based on competition issues and the object of implementing controls to promote competition within a market. Non-competitive objectives such as promotion of employment that falls outside the scope of the

[187] Ibid

[188] W. Myeni, Public Interest and merger controls in South Africa, The role of public interest in merger evaluations and how efficiency-driven principles are reconciled with public interest considerations, LLM Dissertation, University of Cape Town, 2008, p. 50. www.uctscholar.uct.ac.za (accessed 2014-10-28).

[189] Ibid p. 51.

[190] Ibid p. 52.

[191] W. Myeni, Public Interest and merger controls in South Africa, The role of public interest in merger evaluations and how efficiency-driven principles are reconciled with public interest considerations, LLM Dissertation, University of Cape Town, 2008, p. 54. www.uctscholar.uct.ac.za (accessed 2014-10-28).

[192] R.W. Duncan, 'The Competition Act, 1998: An Economic Perspective',*The South African journal of Economics*, vol. 67, 2, 1999, p. 257.



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Competition Act should not be included in competition policy.[193]

One of the criticisms levelled against the inclusion of public interest is the definition and scope of what 'public interest' entails, with it being open to many different interpretations.[194] While the Act provides a closed list of public interest grounds that should be considered in proposed merger evaluations, there is an opinion that there is no predefined public interest; therefore any regulation based on pursuing the objective is necessarily open to individual interests.[195] The scope for error, flexible interpretation and subjectivity of judgement seems great. Prospective local and foreign investors could then be well deterred from takeover activity if there are to be unknown and unpredictable reactions by the authorities.[196] A reduction in such activities could adversely affect exports, corporate tax revenue and hamper possible spinoff demand for products of small and medium enterprises.[197] What the uncertainty created by the inclusion of non-competition issues does is that it threatens the very competition policy principles the Act is founded on through the scaring off of potential investors.

Another criticism of the inclusion of public interest considerations is that they have no place in competition law as they are political and not competition objectives.[198] The defined public interest grounds include socio-economic objectives that also form part of the national development objectives. It is argued that in relying on competition policy to achieve such national goals is inappropriate.[199] There are more specific and directed pieces of legislation to protect these socio-economic rights of consumers.[200] Major concerns such as employment and advancement of black economic empowerment are specifically provided for by legislation such as the Labour Relations Act[201] and Broad Based Black Economic Empowerment Act[202] respectively.

Duncan argues that the aim of competition policy is not to become a redistribution tool.[203] The overall welfare is seen as greatest when the resources of a society are allocated in the economy so that consumers are able to satisfy their wants as far as technological and physical constraints permit.[204] In this way, the wealth of the nation is maximised. The aim of competition policy should be to help bring about this result.[205] Where Government wishes to include other (political) objectives into application of competition policy then it poses a large challenge to the credibility and duty of competition policy.[206] Antitrust authorities may note such goals but they are the responsibility of other agencies.[207]

The inclusion of the public interest element in merger evaluation has also been criticised for creating a lot of unnecessary litigation, resulting in unnecessary delays in merger decisions. This has had a negative impact on the competition authorities as the workload of the Tribunal and the Commission has overwhelmingly been concentrated on merger control.[208] In most hostile takeovers[209], the target firm will rely on public interest grounds as a last ditch attempt to prevent such transaction.[210]

Where pure competition issues fail, the public interest is invoked with enthusiasm. Firms that are not known for their love of labour or employment become overnight the standard bearers of social equity.[211] This has been the case dating back to the failed Nedbank bid for Standard bank through to *Harmony/ Goldfields* saga and to the bid of the HCI for Johnnic.[212]

In *Harmony Gold Mining Company Limited/ Gold Fields Limited*[213] Gold Fields asked the Competition Tribunal to block a merger between the two firms on public interest grounds alone, where the merger did not substantially prevent or lessen competition.

[193] Ibid.

[194] W. Myeni, Public Interest and merger controls in South Africa, The role of public interest in merger evaluations and how efficiency-driven principles are reconciled with public interest considerations, LLM Dissertation, University of Cape Town, 2008, p. 40. www.uctscholar.uct.ac.za (accessed 2014-10-28).

[195] T. Hartzenberg, 'Competition Policy and Enterprise Development', The role of public interest objectives in South Africa: Competition Policy, p. 19.

[196] R.W. Duncan, 'The Competition Act, 1998: An Economic Perspective',*The South African journal of Economics*, vol. 67, 2, 1999, p. 283.

[197] Ibid.

[198] Ibid.

[199] Ibid.

[200] Ibid.

[201] 66 of 1995.

[202] 53 of 2003.

[203] R.W. Duncan, 'The Competition Act, 1998: An Economic Perspective',*The South African journal of Economics*, vol. 67, 2, 1999, p. 283.

[204] Ibid.

[205] Ibid p284.

[206] Ibid.

[207] Ibid.

[208] W. Myeni, Public Interest and merger controls in South Africa, The role of public interest in merger evaluations and how efficiency-driven principles are reconciled with public interest considerations, LLM Dissertation, University of Cape Town, 2008, p. 43. www.uctscholar.uct.ac.za (accessed 2014-10-28).

[209] A hostile takeover occurs where a target firm is acquired by another firm (acquiring firm) by going straight to the target firm's shareholders and not through a negotiated agreement with management.

[210] N.Manoim,'The role of Competition authorities in hostile takeovers and its inter-relationship with the Securities Regulation Panel',Speech delivered at the Annual Gala event of the Competition Law Committee, 15 November 2005.

[211] Ibid.

[212] Ibid.

[213] 93/LM/Nov04.



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The claim from Gold Fields was that if a merger raised no competition problems and no negative public interest issues, it must still be prohibited if there is no evidence that it can be justified on public interest grounds.[214] This argument was based on section 12A(3) of the Act, which makes it mandatory for there to be a public interest test in every merger evaluation regardless of the outcome of the competition test. Gold Fields argued that firstly the competition authorities must consider whether the merger cannot be justified on public interest and secondly to consider whether a merger can be justified on public interest.[215] They continued to argue that where there is no evidence that the merger can be justified on public interest grounds, it must be prohibited.[216] What Gold Fields sought to claim was that unless a merger had a positive public interest gain, it was not supposed to be approved. The Tribunal found that the conclusion had far reaching implications as it would render a lot of mergers that came before the Tribunal susceptible to prohibition.[217]

The litigation resulted in a delay of the merger. It is submitted that such delays caused by conducting lengthy and unnecessary public interest analysis may be bad publicity for South Africa's reputation in the international antitrust law arena. Such delays may be problematic for parties hoping to close an international deal as soon as possible, which might in turn shut out investors.

*c) Conclusion and Recommendations*

It can be argued that many regimes claim to uphold a 'pure' competition analysis whilst responding to overwhelming public interest by tailoring competition analysis to support a decision that has been actually made on public interest grounds. In the case of South Africa, there is no necessity to engage in such obfuscation, as the competition authorities are explicitly required to consider public interest.[218]

The Act, having recognised public interest considerations, provides for the balancing of the public interest grounds with competition factors as well. The Act specifically sets out the sequence to be followed in the merger evaluation process, with competition considerations being assessed first and the public interest factors being assessed second. The provision for a balance presupposes the existence of at least two aspects that have to be assessed together. In the case of merger evaluation those two aspects are competition concerns and public interest considerations. There cannot be one test without the other, which explains why to date, no decision has been made by the competition authorities based on public interest considerations alone.

The need for a balancing between competition and public interest considerations shows that public interest is not more important than the competition analysis. The responsibility that is also placed on the competition authorities to carry out this balancing of factors points to the fact that while public interest is considered, competition concerns remain the focal point as competition authorities are tasked with carrying out the analysis. It is submitted that the two pronged test is the correct one, with competition analysis taking precedence. The two pronged approach is effective in creating a coherent position for public interest considerations in merger control.

The primacy of competition considerations is reiterated through the fact that it is the initial test to be carried out in the evaluation of a proposed merger. The public interest test is conducted based on the outcome of a completed competition analysis. The precedence of the competition analysis coupled with the competition authorities carrying out the analysis reaffirms the primacy of competition and the subordinate nature of the public interest considerations.

The structure of the Act with regards to the two pronged approach is cardinal in underpinning a developing system of law that has the principal decision being made based on competition grounds with public interest considerations seeking to ameliorate the negative impact of the merger through imposition of conditions where applicable. The structure therefore creates a check for the competition considerations, through assessing their impact on the public and striking a compromise that is beneficial to both competition policy and public interest.

With regards to the difference with other jurisdictions in expressly providing for public interest considerations it has to be borne in mind that every jurisdiction is unique and its policies will be tailored to match the demand in society. Lewis remarks that:

> No public agency that relies on public support can escape the influence of a strongly held public interest. It is inevitable that in a developing country such as South Africa, where distributional poverty problems are at the forefront, all social and economic policies are expected to contribute to the alleviation of these problems.[219]

The inclusion of public interest considerations in the Competition Act is in direct response to the socio-

[214] Ibid at para 33.
[215] Ibid at para 34.
[216] Ibid.
[217] Ibid at para 35.
[218] W. Myeni, Public Interest and merger controls in South Africa, The role of public interest in merger evaluations and how efficiency-driven principles are reconciled with public interest considerations, LLM Dissertation, University of Cape Town, 2008, p. 56. www.uctscholar.uct.ac.za (accessed 2014-10-28).
[219] D. Lewis, 'The role of public interest in merger evaluation', International Competition Network, Merger Working Group, Naples 28-29 Sept 2002, p. 3.



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economic needs of South Africans. There is need to advance employment, black economic empowerment and the thriving from small businesses so as to set off the effects of the Apartheid competition regime that concentrated power and ownership in the hands of a few.

The inclusion of public interest in merger evaluation is not evidence of a fatally compromised competition regime. In one way or another, it is a feature of most regimes and in those regimes where it is a particularly strong feature, serious consideration of the public interest by competition authorities is likely to underpin the credibility of fledgling authorities.[220]

Taking into consideration the above discussion on different histories of different jurisdictions influencing policy, I strongly recommend that public interest remain a part of the Competition Act as it plays a fundamental role as one of the instruments used to redress past inequalities. The recognition of public interests does not circumvent the purpose of the Act, if anything it helps to advance objects such as employment creation and protection and the spread of ownership to more South Africans.

There may be need for the Legislature to reconsider some of the aspects with regards to public interest in merger evaluation. For example, rather that analysing public interest grounds as the second part of the merger evaluation process public interest should be invoked as defence to a merger that has been found to be anti-competitive. The 'janus-faced' system should rather adopt an approach akin to that of the United Kingdom where public interest only has one role to play, which is to prohibit a merger where the specified grounds have been considered and it is found to be against public interest.

In the same light, the public interest considerations in South Africa must only be invoked as a defence that attempts to save an anti-competitive merger by offsetting the anti-competitive effect with the positive effect the merger will have on public interest. Such an approach will in turn reduce the number of vexatious litigations as some cases brought to the authorities on public interest grounds are a last ditch attempt to invoke frivolous claims based on public interest.

The approach will also lessen the work load of the competition authorities, or at least lessen the number of merger cases that they have to adjudicate so that they can focus on other aspects of competition law. Lastly the change in approaches will also bring about a level of legal certainty as to whether or not a merger can be prohibited based on public interest considerations, as it will clearly define what can and cannot be done by invoking public interest.

[220] Ibid p. 4.

It is evident from the above discussion and from the analysis of above cases that the South African competition authorities have not been arbitrary in the application of the public interest provision. There has been a very careful approach to the balancing of public interest concerns and competition issues in the evaluation of mergers since the inception of the Competition Act 89 of 1998.

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# A Study of Prevalence and Household Socio-Economic Determinants of Malnutrition among School Children in Mumbai Metropolitan Region

By Sanjay Rode
*Mumbai University, India*

*Abstract-* School children's health status is related to future physical growth, intellectual capacity and income. But malnutrition at early stage among children affects on physical growth and intellectual capacity. Mumbai Metropolitan Region is most developed region of India. But the incidence of malnutrition among school children is higher in slums of region. The incidence of severe malnutrition among male is higher in Ghatkopar and among female, it is higher in Kalwa. Highest severe incidence of malnutrition is found among male and female of 6-8 age groups. The children of illiterate mothers have higher incidence of severe malnutrition. But the incidence of severe malnutrition among children is higher with father's secondary education. The per capita income of the severe malnourished children is low. The logistic regression for female shows that the malnutrition is positively co-related to sex, purify water and it is negatively co-related to age, per capita income, per capita liters of water, bike and number of sons.

*Keywords: intake, health care, sanitation.*

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# A Study of Prevalence and Household Socio-Economic Determinants of Malnutrition among School Children in Mumbai Metropolitan Region

Sanjay Rode

*Abstract-* School children's health status is related to future physical growth, intellectual capacity and income. But malnutrition at early stage among children affects on physical growth and intellectual capacity. Mumbai Metropolitan Region is most developed region of India. But the incidence of malnutrition among school children is higher in slums of region. The incidence of severe malnutrition among male is higher in Ghatkopar and among female, it is higher in Kalwa. Highest severe incidence of malnutrition is found among male and female of 6-8 age groups. The children of illiterate mothers have higher incidence of severe malnutrition. But the incidence of severe malnutrition among children is higher with father's secondary education. The per capita income of the severe malnourished children is low. The logistic regression for female shows that the malnutrition is positively co-related to sex, purify water and it is negatively co-related to age, per capita income, per capita liters of water, bike and number of sons. The incidence of male malnutrition is positively co-related to male trips and bike. But it is negatively co-related to sex, household size and per capita income. Therefore the municipal corporations in region must provide the infrastructural facilities in slums. The state government must provide the vocational education to male and female. It will improve their monthly household income. The increase in household income will lead to the improvement in quality of diet and access to health care. The physical and electronic asset holding will increase among poor households. The children must be taught about nutrition in schools and at home. Health care staff must counsel to poor households about importance of nutrition and health care for children. Government must provide affordable housing to poor people in region. It will improve their standard of living in region. In slums, households do not have access to water supply, solid waste collection, sewage line and roads. Municipal Corporations must provide drinking water in all slums in region. It will reduce the water carrying activities and physical energy of the children, men and women. Women and men can spend more time in income generating activities. Children can continue study and remain in school for long period. All the policies will certainly reduce the incidence of malnutrition among children.

*Keywords:* *intake, health care, sanitation.*

## I. Introduction

The malnutrition, especially that affecting young children, is one of the principal public health problem in developing countries. Growing children in particular are most vulnerable to its consequences (Hasan, I.Mohd Zulkifle 2010). Children are the most important segments for a nation for the optimal physical, mental, emotional development of its future worthy citizens. A nation's health depends on the healthy citizen. A healthy adult emerges from a healthy child. Good nutrition is the fundamental right of children for the maintenance of positive health.

A proper diet is essential from early stage of life. The children below age of five year constitute over twenty percent population and also form a most vulnerable group. The foundation of good health and sound mind are laid during this period of life. The level of food insecurity within the household determines the nutritional status of children and is the immediate cause of malnutrition. The caregivers and parents make most food choices for meals consumed at home. These choices are based on culture, beliefs, cost, time restraints and availability. The nutritional status of a child, as with any individual, is assessed through dietary, anthropometric, biochemical and physical observation for signs of malnutrition (Kaur Herbaksh et.al 2014). The school age period is nutritionally significant because this is the prime time to build up body stores of nutrients in preparation for rapid growth of adolescence.

Malnutrition during growth spurt is moreover associated with one or the other micronutrient deficiencies. In such a situation, iron and iodine deficiencies may play an obstructive role. Preschool age is considered as one of the most critical stage of human life where different nutritional deficiencies may occur. Hence, various ongoing programs on prevention mode during early childhood are run in the country. At the juncture of age five, they are considered more or less safe from nutritional disorders and little attention is paid to the quality of life. School children are not considered as "at risk" population, but physiologically this period demands unique interventions in the life cycle. Growth spurt in children are observed in their school going day (Joshi Kejal and Sirimavo Nair 2011). Most of the studies

*Author:* *Assistant professor, S.K. Somaiya College, Mumbai University, India. e-mail: sanjayjrode@gmail.com*



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in India have estimated the prevalence of malnutrition in children attending government schools. In India, government has taken steps to combat malnutrition among school children, by providing them one nutritious meal at school called 'mid day meal'. But mid day meal is provided in government schools but not in private schools. There is dearth of studies focusing on the nutritional status of children in private schools and also those trying to assess the relationship between malnutrition and scholastic performance (Rashmi1 et.al 2015). In urban area, the school children's are ignored from nutritional policy. Improving the quality of life through good nutrition may directly influence effective learning and the future of productivity of a particular economy. When children are hobbled by poor nutrition and ill health, their weakened condition reduces their learning capacity and forces them to end their school carrier prematurely. Moreover the ill health of this population for lack of good nutrition is also a source of infectious diseases which affect the growth of the children. The long run effect latter falls on the wider society which bears burdens workforce and impaired adults.

The Mumbai Metropolitan Region is most developed region in India. The people migrate from the rural and semi urban areas. They search different employment opportunities in formal and informal sector in region. The informal sector does not require skills and work experience. Most of less educated and informal sector workers live in slums. They are depending on daily earning for their livelihood. Some household members are engaged in construction activities and self employment. The persons with regular jobs are very low. The income earned from the daily basis is very low. Most of the households do not earn enough income to fulfill their basic needs. Low per capita income and big household size forcing the family to have gender discrimination of food. The female are discriminated in house. They are offered less food and health care. Therefore they become more malnourished as compare to male. If the family has more preference to the son then they wait for boy, in such situation, the number of girls exceeds in the family. Due to more girls and less family income, the girls become more malnourished. Family neglect girls and they do not invest in their health and education. At lower age, girls are more malnourished because they do not show any preference for food and care. As the age of the girls' increases, the deficit of nutrition also increases and they become more malnourished.

Most of the slums in region do not get the water supply from Municipal Corporations. They are either on government or private land. They are treated as illegal squatters. Municipal Corporations in region are reluctant to supply the basic infrastructural facilities to slums. It includes water supply, sewage, solid waste, roads, street lights and housing. The drinking water supply is not available in slums. The women children struggle to get few liters of required drinking water. The male and female children carry drinking water from longer distance in slums. The drinking water is available at common tabs within slums. There is long queue for water supply at common tabs in slums. But the family members have no choice but to carry drinking water from longer distance. Carrying drinking water required time and energy. If all members spend more time and energy to carry drinking water then family has enough water. The economic condition does not allow family to buy water from private water venders. If it is bought then it is only used for drinking purposes. The water used for other purpose is of wells, pond, stored and rain water etc. Such water leads to water washed diseases. The women and children are the victims of the water borne and washed diseases in slums. They do not take health treatment for various water related diseases. In order to visit health care facilities, the family members has to go early, stand in a long queue, take prescription of doctor, buy medicines etc. They do not have that much time because most of the members are involved in daily wage earnings. They cannot remain absent from work. If they absent for one or two days then they are removed from job. Therefore most of the families either rely on self medication or private medical facilities. The self medication is practiced till the disease is not severely affecting the body of family member. The private health care facilities are expensive but families do not have choice but to spend money for it. The private health care affects on their economic condition. They usually take loan from informal sources to treat family members in private health care. Therefore major illness to any member leads to poverty and destitution. There is no any kind of social security or health insurance to poor households in slums. Due to poverty at home, children are feed in adequately. They required quality food and nutrition for their physical growth and intellectual development. Central and state government has the mid day meal scheme at public school. But the quantity of food given to children is very low. Such food is insufficient to tackle the malnutrition among children. Similarly, there is no space in schools of slums to prepare food. If food is prepared in school, then the hygiene, quantity of food, time to serve food matters to children. The children are of vulnerable section required special diet and adequate nutrition. The present mid day meal scheme required improvement in quantity and quality of food. This study is important because childhood is an important period of rapid physical growth and emotional and cognitive development. It is well known that the wellbeing of this age group is very essential for better health status (Thilakarathne and Wijesinghe 2011). The objective of the study is to find the incidence of malnutrition among school children in region. The second objective is to find the linkages of the socio-economic factors with school children. The

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first part of paper deals with incidence of malnutrition among children in region. The second part of paper deals with regression result. The last part of paper deals with conclusion and policy implication.

## II. Economic Model

We have developed the economic model of malnutrition among school children in Mumbai Metropolitan Region. It is presented as follows.

$$TM_{SC}=(C, A, E) \quad (1)$$

Total incidence of malnutrition is observed among children, adults and elderly in region. But it is different for different age groups.

$$TMC=(C, E, W, T) \quad (2)$$

Total malnutrition among school children is observed in central, western and eastern part of Mumbai city. The Thane city and some parts of Thane district have also observed as malnutrition among school children.

$$Cm=A \quad (3)$$

Child malnutrition is related to age of the children. The age of the school children is important because at lower age more incidence of malnutrition is observed.

$$Cm=PE \quad (4)$$

The child malnutrition is related to education of parents.

$$PE= (M, F) \quad (5)$$

Education of mother and father is linked to the malnutrition among children.

$$E_{mf}= (P, S, HS, C) \quad (5a)$$

Education of mother and father is classified as illiterate, primary, secondary, high school and college.

$$A= (P, E) \quad (6)$$

Assets are classified as physical and electronic assets in house. The physical assets are classified as follows.

$$P=(C, S, T) \quad (7)$$

The physical assets in household are categorized as chair, sofa and table in house.

$$E= (T, R, C, B) \quad (8)$$

The electronic assets are classified as television, radio, car and bike.

The food eaten by the family is classified as the vegetarian and non vegetarian food.

$$F= (Vg, Nvg) \quad (9)$$

We have categorized the vegetarian and non vegetarian food as follows.

$$Vf=(M,C,P,B,V,F,) \quad (9a)$$

The vegetarian food eaten at home is classified as milk, curd, pulses, beans, vegetables, fruits etc. The non vegetarian food consists as.

$$Nov= (E, C, M, F) \quad (9b)$$

The non vegetarian food is classified as eggs, chicken, meat, fish etc.

$$Cm= (Y) \quad (10)$$

Child malnutrition is depending on income. Such income is classified as the mothers, fathers and other source of income.

$$Y= (M, F, O) \quad (10a)$$

Such income sources are differs from household to household.

## III. Data

For this study, we have collected primary data of slum households in Mumbai Metropolitan Region. We have collected 767 households data from eight slums such as Mankhurd East and West, Govandi East and West, Kalwa, Koparkhairne, Rabale, Turbhe, Vashi and Ghatkopar. The household heads and women are interviewed during survey. The questionnaire comprises as different questions related to household members, income and expenditure, fertility behavior, household assets, media exposure and illness. We have given special emphasis of health of the school children. The primary data was collected in May-June 2014. We have analyzed data in SPSS@20 and STATA@12 software.

## IV. Methodology

Child malnutrition is a major public health issue in developing countries. Malnutrition among children is a leading cause of high morbidity and mortality. Various studies have highlighted the socio-economic and demographic factors related to child malnutrition. BMI is a very useful indicator to calculate the nutritional status of school children.

$$BMI=\frac{\text{Weight}}{\text{Height}^2(\text{m})}$$

Body mass index is used to assess underweight, overweight and risk for overweight. Children's body fatness changes over the years as they grow. This is why BMI for children, also referred to as BMI-for-age. The BMI figure shows protein and fat reserves and it reflects functional reserves including ability to survive nutritional deficiencies and diseases.



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The BMI is thought to be a more accurate indicator of body fat content than the CDC height-weight tables that have been in use for over 30 years. The weight-for-stature curve does not show age-related changes while the BMI-for-age chart does show age related changes are more useful. BMI is a very useful approximation to what one should weigh depending on height in children and teens (Babar Fazal et.al. 2010). We have used BMI indicator to classify school children's nutritional status in metropolitan region.

*a) Incidence of malnutrition among children*

The nutritional status of the school children is studied by many researchers. The age of 5 to 15 years is a period of transition between childhood and adulthood which occupies a crucial position in the life of human beings. This period is characterized by an exceptionally rapid rate of growth. School provides the most effective and efficient way to reach large portion of the school age population (Bhoite, Rachana, Uma Iyer 2011). Therefore we have considered six to sixteen age groups for this study. We have used the body mass index to classify the incidence of malnutrition among children. Such incidence is classified according to the suburbs and type of malnutrition.

*Table 1 :* Malnutrition among children in suburbs of region (Percent)

| | Sever | | Moderate | | Mild | |
|---|---|---|---|---|---|---|
| Suburb | M | F | M | F | M | F |
| Mankhurd(E) | 67.65 | 48.72 | 8.82 | 10.26 | 8.82 | 7.69 |
| Mankhurd(W) | 50.00 | 55.00 | 2.78 | 0.00 | 5.56 | 5.00 |
| Govandi(E) | 66.67 | 33.33 | 25.00 | 8.33 | 0.00 | 8.33 |
| Govandi (W) | 60.71 | 33.33 | 17.86 | 12.50 | 3.57 | 0.00 |
| Kalwa | 64.52 | 64.71 | 11.83 | 5.88 | 9.68 | 3.92 |
| Koparkhairn | 56.41 | 63.16 | 2.56 | 2.63 | 10.26 | 18.42 |
| Rabale | 47.37 | 25.00 | 5.26 | 8.33 | 21.05 | 16.67 |
| Turbe | 61.54 | 50.00 | 7.69 | 5.88 | 7.69 | 8.82 |
| Vashi | 46.15 | 50.00 | 0.00 | 0.00 | 15.38 | 0.00 |
| Ghatkopar | 75.00 | 14.29 | 0.00 | 0.00 | 0.00 | 28.57 |
| Total | 60.06 | 53.10 | 8.77 | 6.21 | 8.77 | 7.93 |

*Source: Compiled from primary data*

Above table shows that in Ghatkopar 75 percent of male are severely malnourished. It is the highest incidence of malnutrition reported among male in Ghatkopar. In Vashi only 46.15 percent male are severely malnourished. The 64.71 percent female are severely malnourished in Kalwa. The 25 percent male in Govandi (E) are moderate malnourished. The 12.50 percent female in Govandi (E) are moderate malnourished. The 21.05 percent male are mild malnourished in Rabale. The female in mild malnutrition category are 28.57 percent in Ghatkopar. It may be stated that the children frequently suffer from different types of diseases. The health service system was not so well developed at the concerned zone. The major diseases were diarrhea, malaria, jaundice, fever, skin disease and common cold. Parents cannot buy a variety of vegetables. They are habituated to consume rice and locally available vegetables. They do not consume recommended diet. So, the fewer intakes in amount and absence of vegetables are causing deficiency in energy, proteins and vitamins. Again boys of 8 to 12 years of age were regularly being engaged in different types of hard work with their parents. The girls are engaged in household work. As the boys remain outside they can get food only for three times but the girls take some light food one or two time daily in addition to three times of heavy foods. All these are directly related to malnutrition. Less physical labor and extra light food are the causes of less percentage of malnutrition of girls (Kumar P. et.al. 2011)



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*Table 2 :* Age wise malnutrition among school children (Percent)

| Malnutrition | age group | 6-8 | 9-11 | 12-15 | Total |
|---|---|---|---|---|---|
| Sever | M | 69.18 | 53.01 | 50.63 | 60.06 |
| | F | 67.26 | 53.85 | 36.36 | 53.10 |
| Moderate | M | 4.79 | 9.64 | 15.19 | 8.77 |
| | F | 3.54 | 7.69 | 8.08 | 6.21 |
| Mild | M | 4.79 | 9.64 | 15.19 | 8.77 |
| | F | 3.54 | 10.26 | 11.11 | 7.93 |

*Source: As per table 1*

There are 69.18 percent of male are severely malnourished in 6-8 age group. The 67.26 percent female in 6-8 age groups are severely malnourished. At lower age we have found more incidence of severe malnutrition among male and female in region. The 15.19 percent male in 12-15 age group are moderate malnourished. The 8.08 percent female in 12-15 age group are moderate malnourished. The 15.19 percent male in 12-15 age group are mild malnourished. The 10.26 percent female are mild malnourished. From severe to mild malnutrition, the incidence declines fast in region. The lack of education, inadequate or inappropriate education breeds illiterate or semi – illiterate individuals who easily succumb to superstitions, taboos and irrational beliefs about some food items. The causes of malnutrition are multi – factorial. Inadequate nutrition results from several biologic, socio-cultural and economic aberrations among which are poverty, inadequate knowledge of nutrition, inadequate and unsafe water supply which predisposes individuals to diarrhea and water borne diseases. Hungry children are less able to concentrate in school and malnutrition expose children to a higher risk of infection, resulting in more frequent illness and absence from school than in the case of well nourished children. Moreover, if malnutrition is allowed to persist for a long time, it may degenerate into Kwashiokor, Marasmus and even Obesity with their attendant consequences. Kwashiokor, for example, may precipitate edema, growth retardation, muscles wasting among others, while obesity is known to predispose individuals to hypertension and other cardiovascular diseases, diabetes, cancer, arthritis, difficulties in pregnancy and child birth later in life (Ayenigbara G.O 2013). We have also considered the parents education and school children health.

*Table 3 :* Parents education and malnutrition among school children (Percent)

| **Mother education** | BMI categories | | |
|---|---|---|---|
| | Sever | Moderate | Mild |
| Illiterate | 52.71 | 5.43 | 10.08 |
| Primary | 44.44 | 7.41 | 7.41 |
| Second | 50.00 | 9.26 | 5.56 |
| Higher secondary | 0.00 | 0.00 | 0.00 |
| College | 0.00 | 0.00 | 0.00 |
| **Father education** | | | |
| Illiterate | 59.23 | 8.46 | 8.46 |
| Primary | 47.37 | 31.58 | 15.79 |
| Secondary | 75.00 | 0.00 | 8.93 |
| Higher secondary | 0.00 | 0.00 | 0.00 |
| College | 0.00 | 0.00 | 0.00 |

*Source: As per table*

The mother's education is playing an important role in health status of children. Literate mothers adopt many improved behaviors related to maternal and child health care, feeding and eating practices which ultimately affect the nutritional status of children (Joshi et.al 2011). The 52.71 percent illiterate female have severe malnourished children. Nearly half of the secondary studied mothers have severe malnourished



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children. The 59.23 percent illiterate fathers have severely malnourished female. The 75 percent secondary studied fathers have severely malnourished children. We have not found college studied parents in slums. Father's education and occupation were important factors for chronic malnutrition. Illiterate fathers have an association with children leading to malnutrition. In societies where the women's education level is low, male education gains importance. More emphasis should be given to educate both parents for a better nutrition of their children. There was a significant correlation of father's education level with the nutritional status of the child. A matriculate father was also effective in maintaining the optimum nutritional status of his child. Matriculate or intermediate qualified housewife mothers' input in child-feeding decision making and assistance in upbringing of her child evident in her activities were also positively associated with optimum child nutrition. However, mothers with extremes of educational levels tended to have malnourished, growth retarded, or stunted children. Mothers with education up to graduation who mainly stay at home are more capable of maintaining the nutritional status of their children up to 90 percent and above. Surprisingly, the highly professional and educated mothers have relatively malnourished children which may be due to their pursuit of career, longer time out of home due to duty hours, and chronic tiredness and over fatigued working curriculum (Siddique et.al 2013). Mothers of these children should be educated about the importance of balanced diet. Consumption of foods like cereals, pulses, green leafy vegetables, roots and tubers, sugar and jaggery, fats and oil, milk and milk products, fruits etc., should be promoted. Government should introduce awareness programs through community participation, involvement of NGOs and other sectors regarding affordable but nutritious foods (Shivaprakash et.al 2014). Household assets play an important role in health status of adults and children. Household assets are considered as the standard of living of family. The socio-economic status is calculated on the basis of assets in house. At the same time, the gradient of household socioeconomic status remains as a crucial determinant of level of nutritional achievement among children. Betterment of such condition thus is expected to improve growth of children likely through better nutritional intake and reduced morbidity (Kanjilal et al. 2010). We have asked various electronic and physical assets holding with different households in slums.

*Table 4 :* Malnutrition among children and asset holing (Percent)

| | Sever | | Moderate | | Mild | |
|---|---|---|---|---|---|---|
| Assets | M | F | M | F | M | F |
| Cooker | 66.40 | 51.39 | 10.40 | 8.33 | 5.60 | 2.78 |
| chair/bed | 63.64 | 42.11 | 12.12 | 5.26 | 9.09 | 2.63 |
| Watch | 77.42 | 52.17 | 6.45 | 8.70 | 3.23 | 0.00 |
| Electricity | 64.06 | 50.36 | 9.38 | 7.30 | 7.81 | 4.38 |
| Fan | 64.29 | 49.31 | 9.52 | 8.33 | 7.94 | 5.56 |
| Bicycle | 50.00 | 50.00 | 15.38 | 6.25 | 3.85 | 6.25 |
| Swing machine | 25.00 | 80.00 | 25.00 | 0.00 | 0.00 | 0.00 |
| Radio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Telephone | 61.40 | 63.83 | 5.26 | 6.38 | 8.77 | 4.26 |
| refrigerator | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 33.33 |
| Television | 69.89 | 53.61 | 7.53 | 9.28 | 7.53 | 4.12 |
| Bike | 55.56 | 75.00 | 11.11 | 0.00 | 0.00 | 0.00 |
| Car | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total | 64.77 | 51.44 | 9.48 | 7.74 | 6.95 | 4.10 |

*Source: As per table 1*

The 66.40 percent male and 51.39 percent female are severely malnourished but they have cooker in house. The 63.64 percent male and 42.11 percent female are severely malnourished but they have bed in house. Most of the houses do not have bed in house. The 77.42 percent male and 52.17 percent female are severely malnourished but they have watch in house. The 64.06 percent female and 50.36 percent male are malnourished but they have electricity in house. The 64.29 percent male and 49.31 percent female are severely malnourished but they have fan. The half male and female are severely malnourished but they have bicycle. Bicycle is used to carry different things from market. For short distance, bicycle is very useful for



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family. The 80 percent severely malnourished female have swing machine at home. The 61.40 percent male and 63.83 percent female are severely malnourished but they have telephone at home. All male have refrigerator but they are mild malnourished. The refrigerator is useful to preserve food and improve nutritional status of children and adults. Total 70 percent male and 53.61 percent female have television at home but they are severely malnourished. Television is useful to watch nutrition related programs. It is providing different type of knowledge to all household members. The 55.56 percent male and 75 percent female are severely malnourished but they have bike at home. Bike at home improves mobility of the family members. They can have access to various facilities in suburb. The car is not owned by any household of malnourished school children. In slums, parents do not have time to observe children's activities. They play games and eat different kinds of food. The nutritional status of the children affect due to the unhygienic food. Sometime parents provide money to the children. They buy gems and biscuits from shops. Finally, it also affects on their health status. Most of the children watch television. They observe the junk food advertisement through a wide range of channels. The children do not aware of nutritional status of such food. The children get influence of food by awareness, preference, loyalty (Story Mary and Simone French 2004). Such food does not provide the nutritional need of the children. We asked the children about the food eaten at home.

*Table 5 :* Malnutrition among children and knowledge of children (Percent)

| nutritional knowledge | Sex | Milk | Curd | Pulses | Beans | Vege | Fruit | Eggs | Chicken | Meat | Fish | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sever | M | 62.11 | 65.66 | 65.74 | 58.54 | 63.29 | 62.31 | 60.38 | 60.12 | 63.70 | 60.87 | 62.17 |
| | F | 51.18 | 56.03 | 53.97 | 54.92 | 53.04 | 53.89 | 52.00 | 51.10 | 52.63 | 52.49 | 52.92 |
| | M | 8.07 | 6.06 | 7.41 | 7.32 | 7.59 | 10.00 | 9.43 | 8.93 | 9.59 | 8.70 | 8.45 |
| Moderate | F | 6.47 | 6.90 | 7.94 | 8.20 | 6.63 | 7.19 | 6.86 | 7.14 | 7.02 | 6.63 | 7.04 |
| | M | 8.07 | 10.10 | 9.26 | 12.20 | 8.23 | 8.46 | 9.43 | 8.33 | 7.53 | 8.07 | 8.75 |
| | F | 7.65 | 8.62 | 6.35 | 6.56 | 7.18 | 5.99 | 7.43 | 6.59 | 5.85 | 6.63 | 6.85 |
| Mild | F | 1.76 | 1.72 | 1.59 | 1.64 | 1.66 | 1.20 | 1.71 | 1.65 | 1.17 | 1.10 | 1.51 |

*Source: As per table 1*

The 60.12 percent male and 51.10 percent female are severely malnourished and eat chicken. Chicken provides good nutrition to children. But it is costly also therefore family cook chicken once or twice in a week. The 10 percent male and 7.19 percent female eat fruits but they are moderate malnourished. Fresh fruits are costly and poor households cannot afford to eat fruits. The 12.20 percent male and 6.56 percent female are mild malnourished but they eat beans. We understand the relationship between per capita income of household and the malnutrition among children in the following table.

*Table 6 :* Per capita income and malnutrition among children (Percent)

| Water Requirement(Liters) | Sex | 0-500 | 600-1000 | 1100-1500 | 1600-2000 | 2100-2500 | 2600-3000 | 3100-3500 | 3600-4000 | 4000> |
|---|---|---|---|---|---|---|---|---|---|---|
| Severe | M | 59.38 | 66.67 | 70.00 | 66.67 | 22.22 | 0.00 | 0.00 | 0.00 | 0.00 |
| | F | 49.25 | 62.07 | 44.44 | 25.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 |
| | M | 12.50 | 5.88 | 3.33 | 0.00 | 11.11 | 0.00 | 0.00 | 0.00 | 0.00 |
| Moderate | F | 4.48 | 10.34 | 8.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | M | 7.81 | 5.88 | 6.67 | 33.33 | 11.11 | 0.00 | 0.00 | 0.00 | 100.00 |
| Mild | F | 2.99 | 3.45 | 11.11 | 50.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 |

*Source: As per table 1*

Family income is the sole determinant of nutritional status of school children. At lower income, higher incidence of severe malnutrition is observed in sample. The incidence of severe malnutrition among male is 59.38 percent in Rs.0-500.Among Rs.600-1000, the incidence of severe malnutrition among male is 66.67 percent. Among female, it is 62.07 percent. The incidence of severe malnutrition among male in Rs.1600-2000 is 70 percent among male. Among female it is 44.44 percent. The incidence of severe malnutrition among male is 66.67 percent in Rs.2100-2500. Among the female, the incidence of moderate malnutrition is 50 percent. The incidence of severe malnutrition among male is 22.22 percent in Rs.2100-2500. All the female are obese 3 in Rs.2100-2500 income category. All female of Rs.2600-3000 are severely malnourished. All



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male are moderately malnourished of above Rs.4000 income category. It means at lower income more male and female are severely malnourished. As the income increases, the incidence of severe malnutrition declines fast. It is very clear in the following figure.

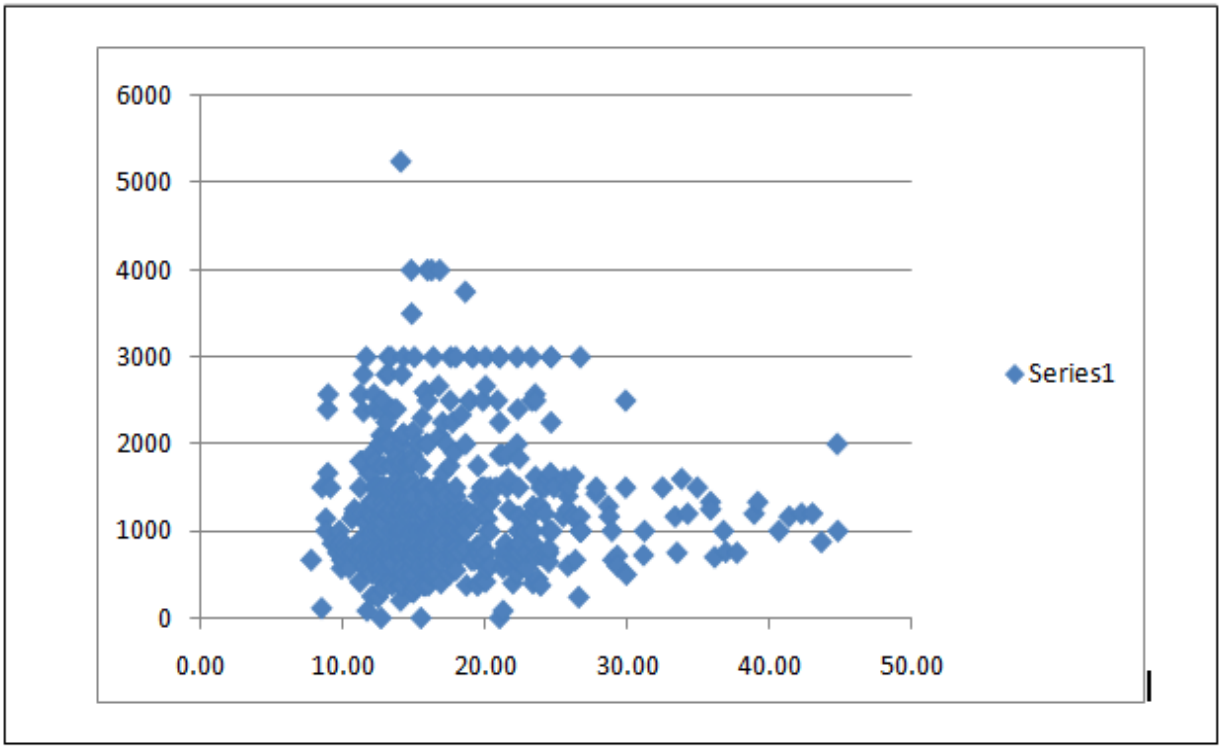



*Figure 1 :* Children's BMI and per capita income

The average per capita income is Rs. 1000 in slums. The maximum cases of malnutrition among children are found in the Rs.1000 to Rs 2000 per capita in slums. The obesity among children is also found in the same per capita income group. As the income increases, the normal BMI among the school children also increases.

## V. Regression Result

We used Logit regression model (Greene W.H. 2003) in order to examine the socio-economic factors behind the school children malnutrition. Such model is used to 6-15 age group children in slums. The children are classified as malnourished if the BMI falls below 18.5 and above 25.

Logit model for school children in slums is as follows

$$\Pr ob(a\ \ given\ \ school\ child\ is\ ma\ln ourished = 1) = \frac{Exp(b`x)}{1+\exp(b`x)}$$

We have used such model for male, female children of MMR slums. The results are presented in the following table.

*Table 7 :* Logit regression for female children

| Variables | Coefficients | Std.error | Z score | 95% Conf. Interval |
|---|---|---|---|---|
| Sex | 5.93* | 0.62 | 9.48 | 4.70-7.15 |
| Age | -0.16** | 0.05 | -3.21 | -0.26--0.06 |
| Per capita income | -0.00** | 0.00 | -2.08 | -0.00--0.00 |
| Per capita liters | -0.00*** | 0.00 | -1.65 | -0.00-0.00 |
| Purify water | 2.15*** | 1.25 | 1.72 | -0.29-0.61 |



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| | | | | |
|---|---|---|---|---|
| Bike | -1.36*** | 0.80 | -1.71 | -2.93-0.20 |
| Number of sons | -0.31** | 0.12 | -2.52 | -0.56--0.07 |
| Constant | -2.11** | 0.83 | -2.52 | -3.75-0.47 |
| | LR $chi^2$ = 568.92 Prob > $chi^2$ = 0.0000 | | Log likelihood = -190.6734 Pseudo $R^2$ = 0.6754 | |

**significant at 1 percent **significant at 5 percent ***significant at 10 percent*

The female are more likely to be malnourished as compare to male. The female are more malnourished because of gender discrimination. Female are discriminated in terms of food, medical care etc. Less food intake during physical growth phase make them worse. Boys are given more preference in terms of care and food. The age of female child is negatively co-related to the malnutrition. At lower age female are more malnourished. They are neglected in terms of care. It is negatively affect at the lower age. At older age, female demand food and care at home. At lower age, female are more malnourished. The per capita income is negatively co-related with female malnutrition. The households have lowest income. At lower income, they are not able to buy different inputs required for health. The inputs such as food, care etc. required to children. But poor households cannot buy such inputs. The per capita liter of water is negatively co-related with the female malnutrition. The purified drinking water is positively co-related to the malnourished female. Households use traditional methods for water purification. They do not use water treatment machine for water purification. The ownership of bike is negatively correlated to females. The sons are negatively co-related to the female malnutrition. Female are malnourished because households expects sons. They expect boys and therefore they do not use family planning. More numbers of girl are not given proper care and nutrition and health care.

*Table 8 :* Logit regression for male children

| Variables | Coefficients | Std.error | Z score | 95% Conf.Interval |
|---|---|---|---|---|
| Sex | -4.34* | 0.49 | -8.72 | -5.31--3.366 |
| Household size | -1.11** | 0.59 | -1.86 | -2.29-0.058 |
| Per capita income | -0.00** | 0.00 | -2.29 | -0.00--0.00 |
| Male trips | 0.00** | 0.00 | 2.25 | 0.00-0.00 |
| Bike | 1.67** | 0.86 | 1.94 | -0.14-3.36 |
| Cons | 1.48* | 0.29 | 4.98 | 0.90-2.06 |
| | LR $chi^2$ = 457.62 Prob > $chi^2$ = 0.0000 | | Log likelihood = -184.53727 Pseudo $R^2$ = 0.5536 | |

**significant at 1 percent **significant at 5 percent ***significant at 10 percent*

The male children are less likely to be malnourished as compare to the female. Male are less likely to be malnourished. They affect care and nutrition at home. It is statistically significant and negatively co-related. Household size is negatively co-related to male children. Most of the male children are from nuclear families. Male are not given proper food and care. The working women find the problem of child care in slums. The per capita income is negatively co-related to the male children. The households have lowest income. At lower income, they are not able to buy different inputs required for health. The inputs such as food, care required to children. But poor households cannot buy such inputs. The male trips for carrying water are positively co-related with male children. Most of the male carry drinking water in slums. It is positively co-related and statistically significant. The bike owned is positively co-related to the male children. Malnourished male have bike at home. If the family socio-economic background is good then they can afford to have bike at home. Therefore it is statistically significant and positively correlated.

## VI. Policy Implication and Conclusion

Nutritional status plays a vital role in deciding the health status among children. Nutritional deficiencies give rise to various morbidities, which in turn, may lead to increased mortality. Under-nutrition is a known factor closely associated with child mortality rates (Rao et.al 2005). The health of children is of fundamental importance in every country. The school children population approximate one –fifth of the total population and forms the future hope of the Nation. Health of the children is the wealth of the nation. The school age period is nutritionally significant because this is the prime time to build up body stores of nutrients in preparation for rapid growth of adolescence. Malnutrition remains the world's most serious health problem and the single biggest contributor to child mortality. Nearly one third of the children in the developing world are either underweight or stunted and more than thirty percent of the developing world's population suffers from micronutrient deficiencies. More broadly, malnutrition in India is in a state of "Silent Emergency" and there by demand greater priority than ever before, the nutritional state of population therefore



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critical to the development and well being of the nation (Singh Sunil Pal 2014). The incidence of malnutrition among children is widely viewed in slums of Mumbai Metropolitan Region. The incidence of severe malnutrition among male is higher in Ghatkopar and among female and it is higher in Kalwa. Highest severe incidence of malnutrition is found among male and female at lower age groups in Metropolitan Region. The illiterate mothers have higher incidence of severe malnutrition among children. But the incidence of severe malnutrition among children is higher with father's secondary education. The asset holding is higher with incidence of severe malnutrition among children. The household income of and BMI of children is very low. Children are most vulnerable to under nutrition due to their low dietary intake, less access to food, inequitable distribution of food within households, improper food storage and preparation, dietary taboos and infections with pathogens. Child under-nutrition can be mitigated through nutritional information campaigns, broader access to maternal and child health care practices and availing affordable, diverse, and nutrient-rich food (Degarege et. al. 2015).Therefore the municipal corporations must provide the infrastructural facilities in slums. The state government must provide the vocational education to male and female. It will improve their income. The income improvement will improve the qualitative diet of poor people. It will abolish the incidence of malnutrition among children. The birth weight and mother's education are the most important risk factors in the prevalence of severe malnutrition in urban children (Rikimaru et.al. 1998). The vocational training to unskilled workers will improve asset holding among poor households. Most of the households are poor and they cannot afford to buy different assets which are required for the daily needs. The children must be taught about nutrition in schools. In the present study, nutritional status and underweight was found highly related to the personal hygiene and socio-economic status. Main emphasis may be given to nutrition education, personal hygiene, health education, apart from the regular educational activities in the community (Hasan I. et.al. 2013). Health care staff must explain to poor households about importance of nutrition in day to day life. Government must provide affordable housing to poor people. It will improve their standard of living. All the above policies will certainly improve the nutritional status of school children in Mumbai Metropolitan Region.

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# Banking Role and Loan Schemes for Agricultural Development in China & Pakistan

By Abdul Rehman, Luan Jingdong, Yuneng Du & Rafia Khatoon
*Anhui Agricultural University China, China*

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*Keywords: banking role, loan schemes, agricultural development.*

*GJHSS-E Classification : FOR Code: 149999*




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# Banking Role and Loan Schemes for Agricultural Development in China & Pakistan

Abdul Rehman [α], Luan Jingdong [σ], Yuneng Du [ρ] & Rafia Khatoon [ω]

*Abstract-* This paper is an analysis and study of role of banking sector and loan schemes between China and Pakistan. As "banks are the financial intermediary and money creator that creates the money and lending money from borrowers." In other words banks are the financial institutions that kept the money and saving for commercial purposes or invested and supplied for loans.

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## I. Introduction

The total land area of Pakistan is about 803,940 square kilometres and above 48 million hectares or 60 percent is classified as unusable for agriculture. For agriculture most of the areas consist of desert, mountains and urban settlements. China has a land area of about 9.6 million square kilometres and is the third world largest country in land size. Its land consists of mountains, rivers, plateaus, lakes and hills with a wealth of natural resources. About 11,580 $km^2$ is planted for crops permanently and rest is for temporary crops.

Both countries has good and fast banking system which playing an important role and providing financial support for the development of agriculture sector of both countries China and Pakistan. In China there are three main banks that have different loan schemes and programs for the agriculture development in China. These banks are Agricultural Bank of China (ABC), Agricultural Development Bank of China (ADBC) and Rural Credit Cooperatives (RCCs). In Pakistan Agricultural development Bank of Pakistan or Zarai Taraqiati Bank Limited Pakistan (ZTBL), National Bank of Pakistan (NBP) and Khushhali Bank Limited Pakistan are providing loan schemes for agriculture development.

## II. Banking Loan Schemes for Agricultural Development in China & Pakistan

*a) Agricultural Bank of China (ABC)*

Agricultural Bank of china is the first bank of china that provides loan schemes for the development of agriculture. ABC was established in 1951 and later in 1970s Agricultural Bank of China specialized and wholly state-owned as a commercial Bank and subsequently controlled by Commercial Bank.

Agricultural Bank of China provides investment banking, fund banking management, financial leasing and life insurance services. The bank has total assets of RMB 13,244,342 million, deposit of RMB 10,862,935 million and loans of RMB 6,433,399 million at the end of 2012. Bank capital and non-performing loan ratio are 12.61% and 1.33% respectively. In 2012 bank achieved a net profit of RMB 145,131 million.

*b) ABC Role in Agriculture Sector*

Agricultural Bank of China has important role in the agricultural sector, also for the development of the country. For agriculture it has three types of banking:

1. Agricultural Related Personal Products
2. Agricultural Related Corporate Products
3. SMEs in Country Areas

i. *Agricultural Related Personal Products*

In agricultural related personal products it has following types:

*a. Farmer's Kins Benefit Card*

The overview of Farmer's Kins Benefit Card is like a Union Pay standard debit card issued to farmer households. It has various financial functions such as cash deposit and withdrawal, cash transfer and settlement. It also has consumption and financing, it provides card holders to specific functions including micro-finance to farmer households and financial subsidy as well as certain financial services.

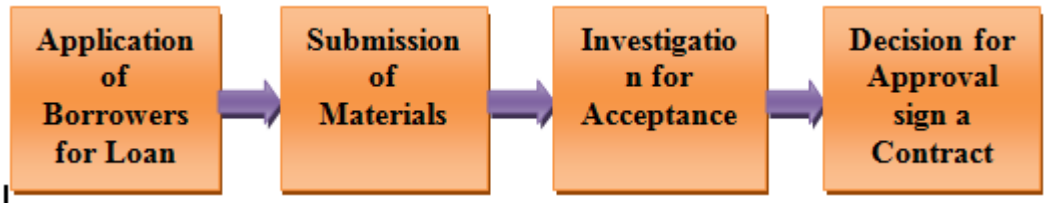
*b. Micro Financing for Farmer's Household*

The third feature of ABC is Micro Financing for Farmer's Household and it refers to granted to individuals according to requirements which based on commercialization. Its flexible for the mode of loan. According to different mode of loan for example loan for personal production and operation in rural areas of the country divided into to two modes first one is revolving mode and second is general mode for self-services. For the saving of interest personal loan for the production and operation in the rural areas of the country calculated services actual days. The procedure is following:

*Author α: PhD Candidate College of Economics and Management Anhui Agricultural University China. e-mail: thebestofr@gmail.com*
*Author σ: Dean of College of Economics and Management Anhui Agricultural University China. e-mail: luanjingdong@ahau.edu.cn*
*Author ρ: Lecturer College of Economics and Management Anhui Agricultural University China. e-mail: Duyuneng@ahau.edu.cn*
*Author ω: Master in Business Administration (MBA). The University of Azad Jammu & Kashmir.*

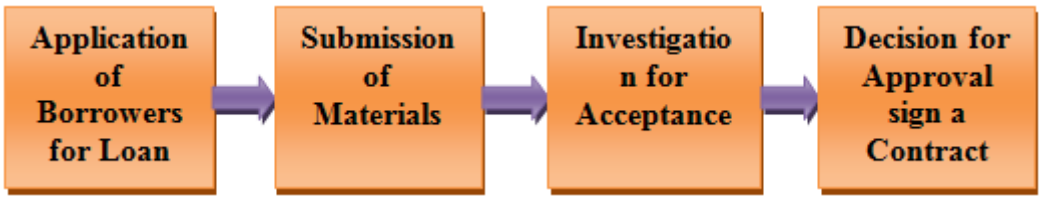


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*c. Personal Business Loan for Farmer's*

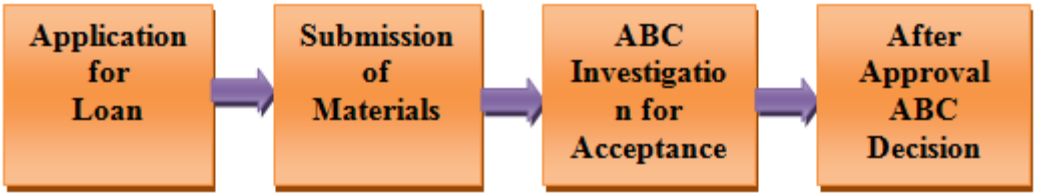
It refers to large amount of credit which is granted to individual members to meets their demand on production scale and operation. It has same features like Micro- financing for farmers households. The procedure for applying is as follows:




*d. Loan for House Construction in Earthquake Stricken Areas*

Loan for House construction in earthquake stricken areas refers to the loan which is provides by Agricultural Bank of China to those farmers their houses are seriously damaged or destroyed in the earthquake. Due to funds support, loan solves the affected farmer's house reconstruction, moving or settlement and assisting to rebuild. The features of these types of loans are as follows:

1. It has preferential loan rate, its lower limit executes from 0.6 times interest rate and upper limit executes the interest rate of PBOC without floating.
2. It has flexible repayment mode. According to this loan scheme a farmer can repayment in a month, quarterly or up to so on. Depending upon the income of farmer ABC grant the time of one year before payment begins on the loan.
3. Third feature is diversified with the mode of guarantee. For this type of loan a farmer can apply by the means of pledge, mortgage and guaranty of households.
4. Fourth feature is preferential credit program. ABC provides preferential guarantee of the loan for affected farmers who fulfill the requirements. For apply this procedure is as follows:




ii. *Agricultural Related Corporate Products*

In agricultural related corporate products it has following types:

*a. Working Capital Loan (WCL)*

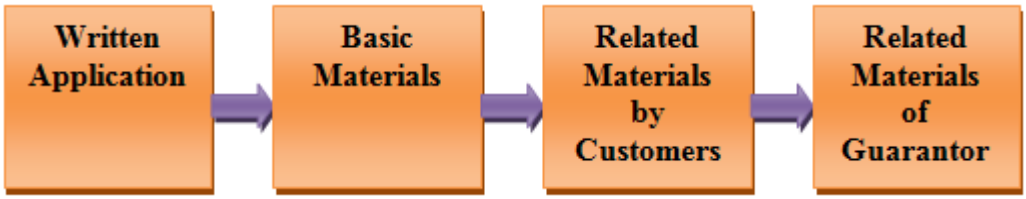
WCL is granted to borrowers during the normal operation and production. It can be either for short term loan or mid-term loan. Short term loan is for less than one year and the mid-term loan one to three years. The feature of WCL is to satisfy the borrower's financial need. The procedure to apply is that submits the application form first and then provides relevant documents like License of business, certificate of legal representative, financial statements, approvals of mortgager, import/ export permits and loan certificate issued by the BOC (Bank of China).

*b. Revolving Line of Credit*

The second type is revolving line of credit and it refers to line of credit which is approved by bank and conveniently under the credit line of customers. It includes revolving credit line and international trade finance line. The features of revolving credit line are that meet the customers demand not exceeds half a year. It includes short term working capital loan, discount, acceptance and letter of credit within six months and trade finance under the international settlement. Procedure for applying is as follows:

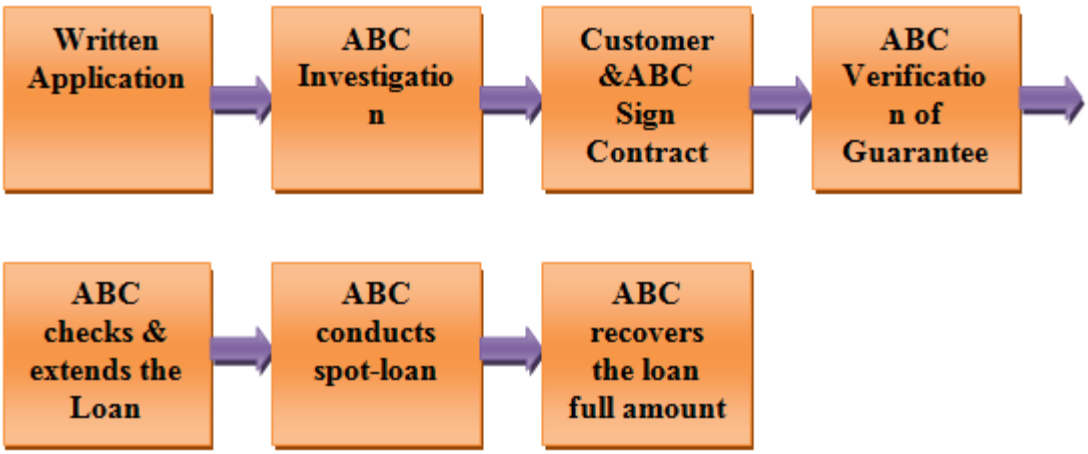


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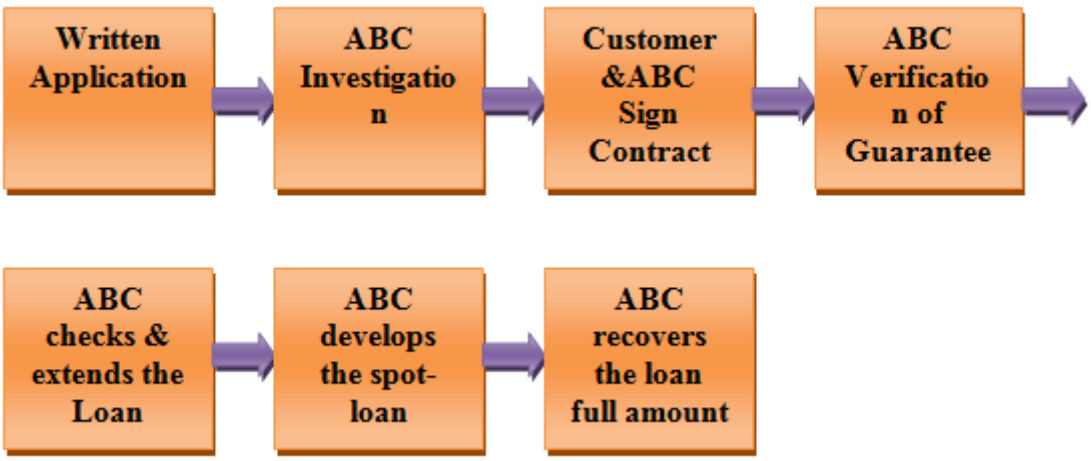

*c. CCM Construction loan*

The third type is Commodity Circulation Market Construction Loan (CCM). This loan refers to the fixed assets loan for country level commodity market construction. The administration doing work related to this have different branches are known as Country-level Area. It consist of agricultural products, cultural supplies, building decoration materials, costume, hardware, furniture steel products, seeds and fertilizers. For the development of agricultural products wholesale market is available in the country area. Procedure is as follows:




*d. Off-Season Fertilizers Reserve Loan*

ABC provides this type of loan to customers for their development of chemical fertilizers during off-seasons. It is also acceptable in the form of discount, bills, letter of guarantee and short term credit within three months. The national development and reform commission and the Ministry of Finance able to develop the business of chemical fertilizers with the agreement, that agreement is called Storage Enterprises and another one is called General Enterprises. It helps for he development of business related to commercial reserves of chemical fertilizers. Applying procedure is following:




*e. Rural Urbanization Loan*

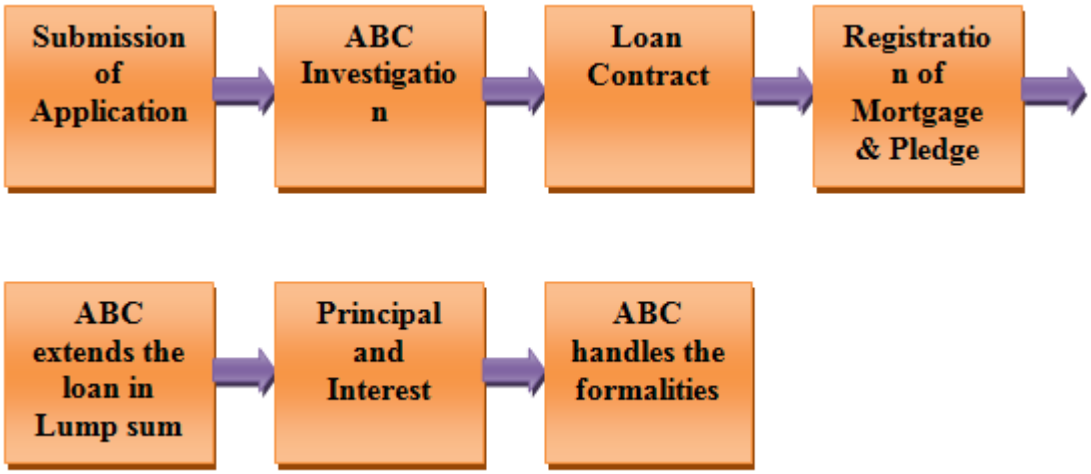
RUL loan is used for the construction and development of various infrastructures in the country, which is provided by ABC to his customers improving the production and living condition. Basically it is a project loan and further it is classified into general rural urbanization projects with advance payment. Advance payment means the money provided at the completion of project as partial or whole source of payment.



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*f. Rural Infrastructure Construction Loan*

This loan is applied for the development of rural infrastructure construction projects which is invested and conducted by central and provincial level finance. It is determined according to the total investment and duration is no more than 20 years. The features of this loan are that, fund is totally applied for the public projects such as national welfares, water, electricity, gas, roads, medical and education. Applying for this kind of loan procedure is as following:

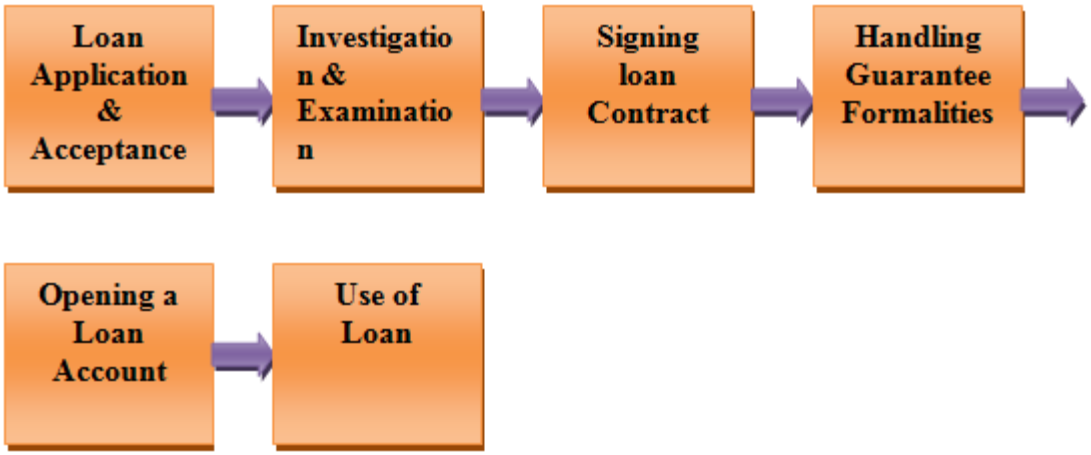



iii. *SMEs in Country Areas*

In SMEs in country Areas it has following types:

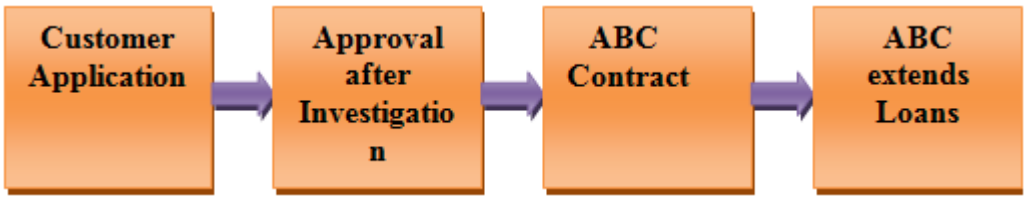
*a. Self-Services Revolving Loan for Small Business*

It's the first type of SMEs in Country Areas; it is a RMB loan provided by ABC to small business customers and has specific credit line. Through this customers of small business can use loan in a self-services and revolving way. The important feature is that it is meets mainly to small business customers they have demand for normal production and operation. Customers can borrows and repay the money at any time in the small business. Procedure for applying is as follows:




*b. Simple and Quick Loan for Small Business*

This type of loan is provided to small business enterprises with a single gross limit within limit 2 million RMB without independent credit. The business loan is handled directly according to the requirements under the mortgage and will be deduct when loan terms are completed. Mainly it is temporary working capital small enterprise's needs. Procedure is as follows:

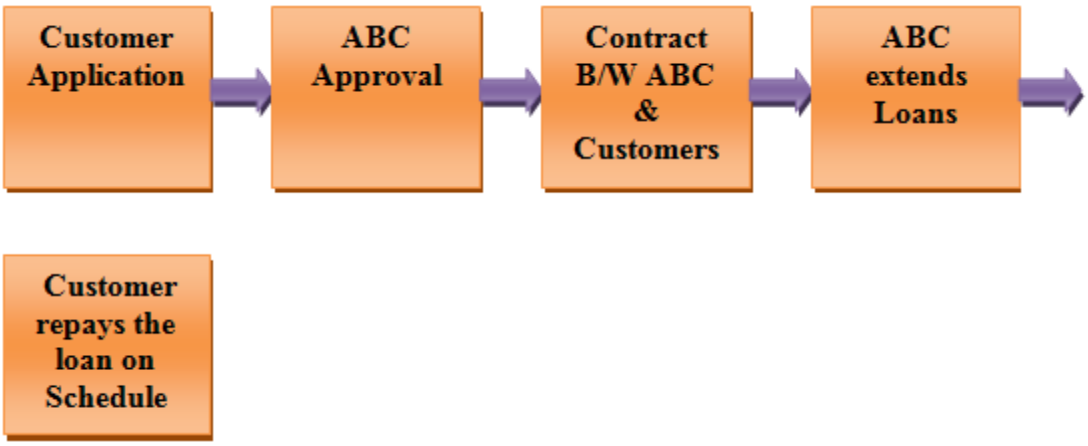





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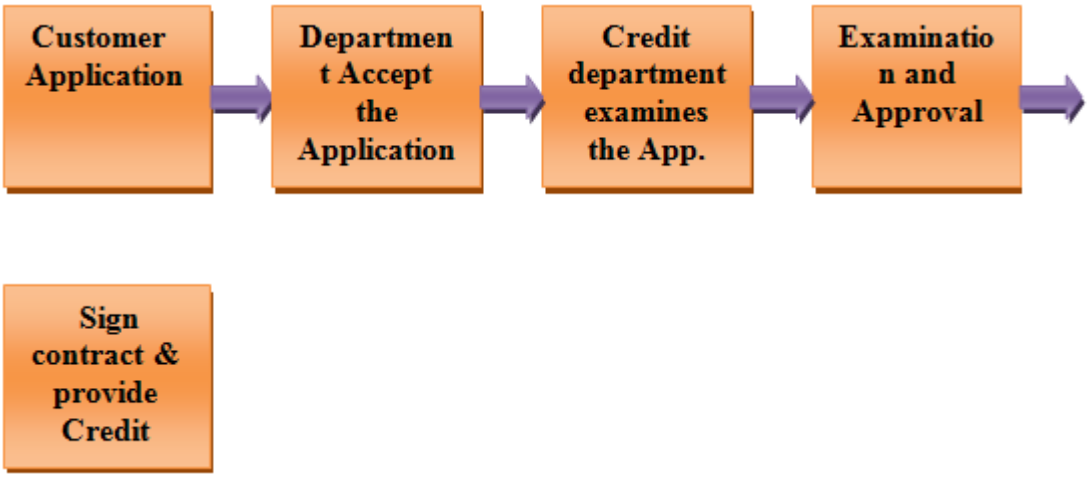
*c. Loan on Real Estate*

Loan on Real Estate refers to loan of ABC to small enterprises which have gross financing RMB 8 million and mortgage guarantee is lawful, full value and effective. This loan scheme is only Jiangsu Branch of ABC offers. This is convenient for loner and borrowers also green channel for small enterprises with good credit. Procedure is as follows:




*d. Golden Way Park-Small Enterprise Products*

It refers to the serial credit products which are provided by enterprise customers located in the cities level in the industrial parks and agricultural parks in Chongqing city. Loan maximum amount is 20 million RMB and loan term is 1-year minimum and not more than 5 years. The important feature of this loan is going into production of entrepreneurial enterprises. For mature type of loan amount is 2,000 RMB and duration is 3 years. For applying procedure is following:

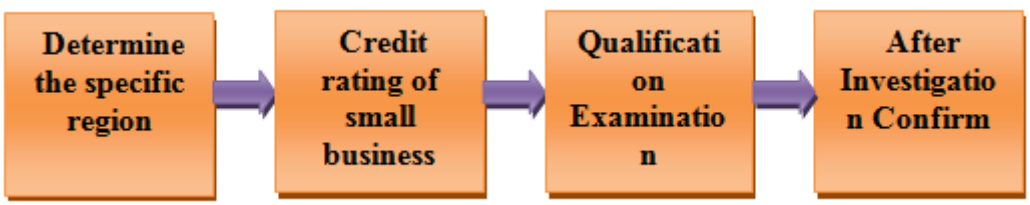



*e. SME Plant Mortgage Loan*

This loan is extended to SMEs for purchasing general plants for industrial parks. This time only Xiamen Branch of ABC offers this. Features of this loan is that it has low access condition paid in capital and less than or equal to 1 million RMB, its first payment is less than or equal to 30%. It will repayment maximum of 10 years in monthly installment.

*f. Multi-household Joint Guaranty Loan for Small Business*

This type of loan for small business refers to corporation customer membership with a joint guaranty group and having several guarantee responsibilities if the borrower fails to repay interest. It provides financing for small business customers. Procedure is as follows:






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## III. Agricultural Development Bank of China (ADBC)

Agricultural Development Bank of China (ADBC) is the second largest agricultural bank of China that has important role in agriculture sector. ADBC was founded in 1994 in order to improve the rural financial services and implement better polices for industrial development and regional development. It has 259.2 billion RMB for agricultural policy loans transferred from the Agricultural Bank of China ABC and Commercial Bank of China CBC.

Agricultural Development bank of china previously borrowed funds from People's Republic bank of china. In 2005 ADBC increase the sources of funds through capital money market. ADBC borrowed 387.0 billion RMB from the People's Republic Bank of China. Agricultural development Bank of China funds are mainly used for the development of agricultural sector like purchasing grain, cotton and edible oil. The total loan issued to ADBC amount of 884.4 billion RMB, for grain 745.4 billion RMB and for cotton 117.3 billion RMB.

*a) ADBC Banking Business and Scope*

ADBC business scope is defined and readjusted by State Council with the national economic development needs. Agricultural Development bank of China major business is following:

1. Loans for procurement, for marketing of grain, edible oil and cotton;
2. Special loans for the reservation of meat, sugar, tobacco, wool and chemical fertilizer;
3. Loans for cotton, grain and edible oil processing;
4. Loans for the procurement of grain, edible oil seeds and cotton;
5. Loans for the granaries of building and technology innovation and equipment rebuilding the cotton processing enterprises;
6. Loans for the small enterprises of agricultural and technical;
7. Loans for the construction of agricultural infrastructure. This loan is used to support construction of the rural roads, water network, power grids and information network.
8. Loans for the development of integrated agricultural development. This type of loan is used to support construction of agricultural technical services and water irrigation and conservancy. It is also used for rural circulating system.
9. Loans for the agricultural means of production.
10. Funds of central government for supporting the agricultural development.
11. Deposit business including contractual and inter bank deposits for the domestic enterprises.
12. Financial bonds issuing;
13. Money market business and trading;
14. Insurance agency and other intermediate services;
15. International settlement under import and export account, foreign exchange deposits etc.
16. Other related business which is approved by State council and china Banking Regulatory Commission.

From 2004 to 2014, purchase loan of the bank is 3.7 trillion Yuan RMB for supporting the purchase of grain about 60%, cotton accounts more than 50% of production. The bank assets increased from 719 billion RMB to 719 billion RMB, non-performing ratio of loan fell to 0.71% from 18.8%, funds rate from 16% to 86% and operating income increased from 2.4 billion RMB to 49 billion RMB in 2013 as compared to 2014.

*b) ADBC Construction Target*

1. ADBC guiding ideology to strengthen the construction of enterprises.
2. Culture construction of the bank enterprises.
3. For culture construction main tasks are following:
   a) To create new construction rural bank
   b) Promoting bank enterprises culture and core idea
   c) Implementation and construction of culture for the improvement of management efficiency
   d) Improving the employees comprehensive quality
   e) Establish a good public image and visual identification system
4. The ways to strengthen construction of enterprises culture
   a) Grasp the four combinations
   b) Education and publicity
   c) Strong enterprise culture
   d) Increasing the strength of professional culture

*c) ADBC Financial Status*

ADBC operating income was 37.856 billion RMB in 2010, it increases year by year rate of 8.201 billion RMB. Business spending is 32.834 billion RMB and increase year by year rate of 6.456 billion RMB, net non-operating income 72 million RMB. The annual interest on net income was 37.495 billion RMB 99.05% of revenue which is increasing year by year rate of 8.068 billion RMB. The revenue of financial institutions was 4.237 billion RMB increasing every year with the rate of 1.094 RMB, deposit interest rate of payments was 1.444 billion RMB and increasing with the rate of 285 million RMB. The interest payments on bond were 26.324 billion RMB increasing with the rate of 1.714 billion RMB.

At the end of 2010, the total asset of ADBC was 1.750816 trillion RMB and increasing with the rate of 93.992 billion RMB. The loan balance of 1.671065 trillion RMB and increasing with the rate of 219.806 billion, mainly the infrastructure of medium and long-term loans increased. Similarly the total amount of liabilities 1.722081 trillion RMB and increasing with the rate of 90.265 billion RMB.



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The main aim of Agricultural Development Bank of China is that its business is not for the purpose of profit and savings. ADBC main aim is necessary to support the long term developments program of the agriculture and commercial banks to support the industries. It has clear business for the development of agriculture, loans and to the purposes.

## IV. Rural Credit Cooperatives (RCCs)

A rural Credit cooperative was created in 1950s. It was not commercial enterprises like banks, but it creates channeled between state and the people's communes in the rural areas of the country. Later in 1970s when economic reforms enabled RCCs began to function as grassroots banks that provided credit and savings accounts to the families. RCCs worked under the Agricultural Bank of China ABC until 1996, after these RCCs were transferred to the People's Bank of China. RCCs were banned in 1988 when the state council of the people's republic of China issued the provisions for the illegal financial institutions and activities. Many of RCCs transformed gradually into Rural Commercial Banks (RCBs) in 1998. In 2006, first foreign investment in RCB was allowed with the help of International Finance Corporation (IFC).

Now Rural Credit Cooperatives is an independent enterprise legal person having all its assets and liabilities for the debts of the rural credit cooperatives civil rights with accordance of law. Restructuring process for RCCs has been shows the good performance and transformed into rural commercial banks and rural cooperative banks. In 2010, RCCs system includes 2,646 RCC country union, 223 rural cooperative banksand 85 rural commercial banks. It is still the dominant credit institution in rural areas, covering about 50% of all townships in the country.

*a) RCCs System and Reforms*

In previous performance, RCCs enjoyed a net profit of 23.3 billion RMB and non-performing loan rate just 5.6 percent in 2010. The improvement in their assets quality can be largely attributed and bailouts from the central government. In 1990s RCC system was simply unsustainable. The capital adequacy ratio and net equity of RCCs were in negative territory, it means their liabilities were so enormous that they were eating equity of shareholders. RCCs are both the primary holders of rural household's savings and the primary providers of household credit.

In 2007, the PBOC provided two forms of financial assistance 168 billion RMB debt-for-bonds swaps and 830 million RMB in earmarked loans to assist RCCs in deposing bad assets and writing off historical losses. RCCs are the best as a myriad of locality based credit institutions with varying financial performance and asset quality. Reforms have also transformed some credit cooperatives into rural commercial banks and rural cooperative banks. Though rural credit cooperatives are largely profit-oriented institutions, they are strongly encouraged to lend to rural households and agricultural borrowers.

*b) Loans and Interest Rate*

1. Legal Interest Rate

The state council approval and authorized by the state council formulated by the people's bank of China rate for all kinds of legal interest rate.

2. Benchmark Interest rate

The people bank of china, commercial banks and other financial institutions of deposit and loan interest rate as the benchmark interest rate.

3. The Contract Rate

Lender according to legal loan interest rate stipulated by the people's bank of China and the floating scope of complicity, agreed with the borrowers and the same would be specified in the loan contract with specific loan interest rates.

*c) Loan Conditions*

For applying loans it has following conditions for borrowers;

1. Borrowers have the ability to debt-services payments on schedule.
2. In addition to the natural person and not approved by the department of industry and commerce registration of enterprise legal person.
3. Rural loan has basic account or a general deposit account and keep it within the certain margin.
4. For guarantee and mortgage it must be conform to the provisions of the loan guarantor, he loan pledge.
5. Rural assets and liabilities of the borrowers shall not be higher than 70%.
6. Rural borrowers must according to the regulations of the people's bank of China credit card.

## V. Zarai Taraqiati Bank Limited Pakistan (ZTBL)

In 1952 Agricultural Development Finance Corporation (ADFC) was created under the Central Act for the purpose of financial facilities and promoting development in agriculture sector of Pakistan. The Agricultural Bank of Pakistan (ABP) was established in 1957 for both shot term and long term loans. In 1961, both institutions changed into Agricultural Development Bank of Pakistan (ADBP). Later in 2002, Federal Government of Pakistan converted the Agricultural Development Bank into Zarai Taraqiati Bank Limited (ZTBL).

*a) Loans Schemes of ZTBL in Agricultural Sector*

Following are the Loans schemes of ZTBL;

i. *Loan Schemes for Production or Production Loan Schemes*

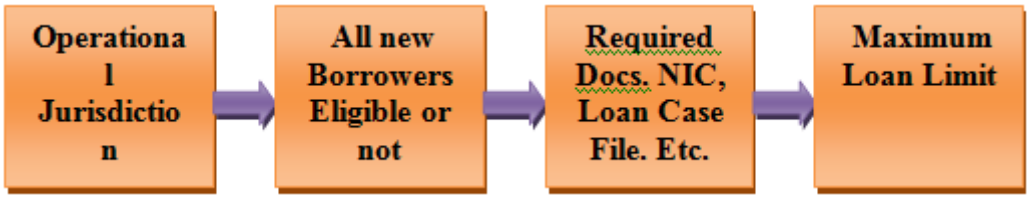
It has following types with details;



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*a. Farmer Friend Scheme / Kissan Dost Scheme*

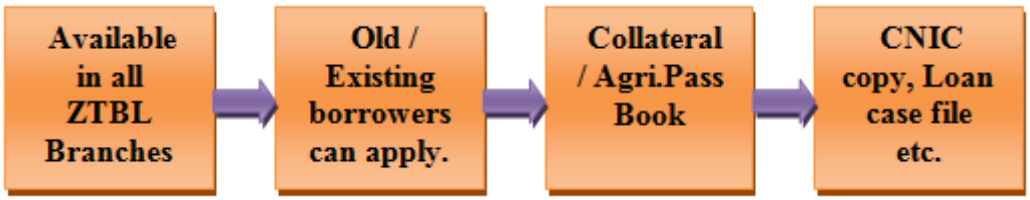
The first type of production loan schemes is Kissan Dost Scheme (KDS). KDS launched for financing of crop production loans, seeds, fertilizer and pesticides. KDS is available in all ZTBL branches. Applying procedure for this loan is following;




The required documents for this scheme are copy of CNIC, loan case file, agriculture pass book, two fresh photos and e-CIB report. All new borrowers can apply for this scheme. The maximum amount of loan is 0.700 billion PKR.

*b. All Time Scheme / Sada Bahar Scheme (SBS)*

SBS is second type of Production loan Scheme. This type of loan scheme caters the financing requirements primarily for existing eligible farmers for good production on annual basis. Applying procedure is following;




Copy of CNIC, loan case file, agriculture pass book, 2 recent photographs and e-CIB are required for this loan scheme. The maximum loan amount limit is 0.500 million PKR. In this scheme loanable items are seed, fertilizer / pesticides, working capital for poultry, dairy, fishery and orchards.

*c. Awami Zarai Scheme (AZS) - Farm Credit*

Awami Zarai Scheme (AZS) is the third loam type of Loan Production scheme. It is mandatory for new borrowers and optional for old borrowers for the production of crop under sadabahar scheme. Its prime features are that it is available in all ZTBL branches. Loans disbursed for wheat and other rabi crops. The maximum loan amount is 0.700 million per borrower.

*d. AZS-Non- Farm Credit*

This product is related which type of working capital provided for poultry, fishery and dairy renewable on yearly basis and maximum period is 3 years. This type of loan scheme is available on all ZTBL branches. All certified and experienced poultry, fishery and dairy farmers are eligible for this loan to run successfully non-farm Credit activities. CNIC copy, loan case file, agri.Pass book, recent fresh photo-graphs and e-CIB are required documents. The maximum loan amount limit is 0.700 million per borrower. In this loan scheme borrower's contribution is 10% of the loan amount.

*e. SBP - One Window Operation (OWO) Scheme*

This type of scheme is for easy and quick access of production loan to the intending farmers. It is available in all districts across the country. All new as well as old farmers having good track records can apply for this loan. Copy of CNIC, loan case file, agri.Pass book, fresh recent photographs and e-CIB report are required documents. The maximum loan limit is 0.2 million per borrower. Loanable items consist of inputs-seed-fertilizer, pesticides/POL/labour charges etc.

ii. *Loan Schemes for Development*

Following are the loan schemes for development with details;

*a. Solar System Scheme / ShamsiTawanai Scheme*

The first type of loan schemes for development is solar system scheme. This loan scheme has been introduced to provide alternate source of energy to help the farmers to overcome energy crisis. This loan is available in all ZTBL branches. The eligibility criteria is that all new borrowers who have already open well, tube well or other source of lifting water for irrigation purposes and also having the experience of running such activities for improving their living standard. Old borrowers can also apply for this loan. Borrower's contribution in this loan will be 10% of the loan amount.

*b. Energy Saving Scheme / TawanaiBachat Scheme (Bio Gas Unit)*

ZTBL Energy Saving Scheme help farmers to overcome energy crisis which is an alternative energy producing resource. Farmers will not get only energy at low cast through this scheme but also help in boosting the agriculture production as well. It is also available in



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all ZTBL branches. The borrowers who have worthy credit and having repay capacity also have good experience of Bio-Gas unit are eligible to get this scheme. Maximum loan amount is 0.750 million PKR per borrower, and borrowers contribution will be 10% of the loan. This loan will recover within 5 years in half yearly installments.

*c. Women Support Scheme / KhawateenRozgar Scheme*

In order to encourage the rural women to play role in agricultural activities by increasing income of family and contribution towards GDP, this type of loan scheme is introduced. All new and old credit worthy women who have technical experience in farming, textile and clothing, bamboo cane and related things are eligible. Required documents are CNIC copy, loan case file, agri. Pass book and recent photographs are important. Loan maximum amount will be 0.200 million PKR per borrower, and for loan surety up to 25,000 per party or borrower. In this scheme borrower's contribution will be 10% amount of the loan. Loan will recover within 18 months and 5 years respectively.

*d. Easy Loan Scheme*

This scheme is especially for youth to engage in national Development and raise their standards to check their migration to urban areas. It is available in all branches of ZTBL. Under this scheme of loan age limit of 18-35 creditworthy and reputable youth are eligible. The amount of 0.200 million PKR per borrower or party, and borrower contribution will be 10%.

*e. Tobacco Barn Financing Scheme*

This scheme is introduced with the objective to facilitate the tobacco growing to get suitable price. This scheme is available in few branches of ZTBL. Creditworthy and reputable farmers are eligible for this scheme. The loan amount is 0.400 million PKR per party.

*f. Rural Development Scheme*

Rural development scheme is for dairy, poultry, sheep and goat farming in rural areas of the Azad Jammu and Kashmir. This scheme is available in only Azad Jammu & Kashmir ZTBL branches. In this scheme borrowers are selected by AJ&K Small Industries Corporation. Maximum loan amount is 1.500 million PKR per borrower or per party. Repayment will be within 5 years.

*g. Dry Fruit Scheme*

ZTBL dry fruit scheme is only for dates growing in different areas of the country. This scheme is available in limited branches of the ZTBL. Creditworthy and reputable farmers having capacity to repay with well experience can apply for this loan scheme. The maximum loan limit is 0.500 million PKR per borrower / Party.

iii. *ZTBL Other Schemes*

ZTBL other schemes consist of following loan schemes;

1. Crop Loan Insurance Scheme
2. ModelVillage Establishment

*a. Crop Loan Insurance Scheme*

ZTBL introduced crop loan insurance scheme (CLIS) as per the instruction of government. This scheme is available in all branches of ZTBL throughout the country. The maximum amount limit is 5000,000 PKR per individual. This loan scheme covers the wheat, sugarcane, cotton, rice and maize crops.

*b. Model Village Establishment*

In order to insure the development in the agricultural sector and establishment of model village in each zone of bank, ZTBL launched village establishment scheme. This scheme is responsible for introduction of modern agricultural technology in different areas, like tunnel farming, irrigation system, installation of Bio-gas, windmills, quail faming, ostrich farming, fish farming, poultry farming, dairy farming, cut follower cultivation tuberose, ginger cultivation, embryo transplantation and animal fattening etc. In this loan scheme 14.30% p.a is in development loan and 13.5% p.a in production loan. The loan maximum amount is 1.000 million per party or borrower.

## VI. National Bank of Pakistan (NBP)

National Bank of Pakistan is another bank in the Pakistan who supports the agriculture sector of Pakistan. It was established in November 20, 1949 a semipublic commercial bank. The primary objective of NBP was to purchase jute from growers and provide credit for agriculture and agriculture production. NBP is now the biggest financial institution having assets above 270 billion PKR, in agriculture and commodity operation sector having above 35 billion PKR.

*a) NBP Schemes for Agriculture Development*

i. *Poultry Farming in Controlled Environment*

It is the first scheme of National Bank of Pakistan. It is the most important agriculture sector that provides employment to above 1.5 million people. The broiler meat which is cheapest animal protein available in Pakistan with the contribution of 4.81% in agriculture growth and 9.84% in the livestock growth. In Pakistan currently 25, 00 Environmental Control Houses (ECH) are working and capacity is 5,000 according to industry sources. A population of 35,000 birds needs a capital investment estimated 19.2 million PKR for construction and for purchasing machinery equipment's. For working capital 5.7 million PKR and total estimated cost is 24.9 million PKR.

ii. *Dairy Farming*

Dairy farming also plays an important role in the economy of the country by contributing approximately



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51.8 percent of the agriculture value and 11.3 percent to GDP. Livestock at current cost factor has increased from 1,052 billion PKR to 1,568 billion. It shows an increment of 22.6%. The value of livestock is 6.1 % more than the combined value of major and minor crops.

iii. *Off-Season Vegetable Farming in Tunnels*

Off-Season Vegetable Farming in Tunnels is another scheme of National Bank of Pakistan. Vegetables are good source of vitamins, proteins and carbohydrates. Farmers are limited to grow seasonal vegetables due to lack of advanced production technology of vegetables. The off-season vegetable scheme using high tunnel technology on area of 9 acres need a estimated capital investment 6.6 million PKR for construction, purchasing new machinery and equipments. In addition, for purchasing of seeds, fertilizers and pesticides 0.3 million PKR is required as working capital.

iv. *Floriculture in Pakistan*

In the developed and developing countries cut flowers has increased the demand last several decades. Trade of flowers in whole world is increasing yearly due to high demand. Flowers production and selling them in the international market at the moment make an industry up with the billions of sales of flowers and employ millions of people worldwide. To support the industry and earn profit, it is necessary to promote floriculture in Pakistan.

The floriculture farm with area of 50 acres needs a capital investment estimated at 3.39 million PKR for construction, purchasing machinery and equipment. For purchasing of seeds, fertilizers and pesticides a sum of 5.3 million PKR is required for working capital. The total cost of project is estimated at 8.7 million PKR and estimated income varies from 8.8 to 16 million PKR per annum from first to tenth year of the project.

v. *Orange / Kinnow Processing Plant*

Orange is a rich source of vitamin C and is one of the best varieties of fresh mandarins having high juice content with good flavor. Citrus is the one and main fruit crops which make the contribution in the national income. In the world Pakistan is at tenth largest producer of kinnow with good quality and taste. For the production of kinnow in the area of two acres needs a capital investment estimated at 19.81 million PKR for construction, purchasing machinery and equipments. For purchasing raw material a sum of 50.40 million PKR is required as working capital. The estimated total project cost is 70.21 million PKR.

vi. *Dehydrated Fruits and Vegetables Plant Feasibility*

Pakistan is blessed with fertile agriculture land, persistent abundant water supply and four seasons for growing variety of crops. The agriculture land holding is constructing with the population growth as per hereditary laws prevailing in the country. Dehydrated products have good potential market value at national and international level.

The Dehydrated vegetables and fruit processing project of 5,797 kg per day with area of 8 kanal needs 25.497 million PKR capital investments for construction, purchasing machinery and equipment. For working capital a sum of 2.867 million PKR is required for purchasing of raw material. The total estimated cost of project is 28.364 million PKR.

vii. *Dates Processing Plant*

Dates are the most important cash fruit crops of Pakistan. It is cultivated an area of 223.88 thousand acres in Pakistan with the annual production of 531.2 thousand tons per year. It has huge national and international market demand. The dates processing project 250 kg per hour in area of 4 kanal needs estimated 19.54 million PKR capital investments for construction, purchasing machinery and equipments. For working capital a sum of 2.18 million PKR is required for purchasing raw material. The total estimated project cost is 21.72 million PKR.

## VII. Khushhali Bank Limited Pakistan

Khushhali Bank Limited was founded in 2000 and is the first microfinance bank in Pakistan. It was the part of Government of Pakistan's poverty reduction strategy. The Pakistan Microfinance Sector Development Bank, which provided a US$150 million loan to the government of Pakistan and US$70 million being used for micro loans provided by KB. It operates under the supervision of State Bank of Pakistan (SBP) and many commercial banks are its shareholders.

*a) Khushhali Bank Limited Loan Schemes for Development*

Following are the loan schemes of Khuhhali Bank Limited with details:

i. *Enterprise Loan*

It is the first loan scheme of Khushhali Bank. It is for the managing a running business and purchasing new assets. Loan eligibility will be the age between 18 - 58 years; total annual income is less than 300,000 PKR and having two years experience in the relevant business. Loan maximum amount is 10,000 to 15,000 PKR and repayment will be monthly/quarterly/ Semiannual/Annually.

ii. *Agriculture Loan*

Agriculture Loan of Khushhali Bank is for the purchase of seed, fertilizer, pesticides, irrigation, rental of agriculture equipment and transportation etc. It is a group based loan product and age between 18 - 58, total income is less than 300,000 and having two year's experience in the relevant field. The maximum loan amount is from 10,000 to 15,000 PKR and repayment will be monthly/quarterly/Semiannual/Annually.



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iii. *Livestock Loan*

Livestock Loan of Khushhali Bank is for the purchase of livestock. It is also a group based loan product and age between 18 - 58, total income is less than 300,000 PKR and having two year's experience in the relevant field. The maximum loan amount is from 10,000 to 15,000 PKR and repayment will be monthly/quarterly/Semiannual/Annually.

## VIII. Conclusion

Thus in both countries have good banking system which is playing an important role for the development of agriculture. Both countries banks have different kind of loan schemes and have easy access to farmers applying for this. Agricultural Bank of China (ABC), Agricultural Development Bank of China (ADBC) and Rural Credit Cooperatives are issuing loans for the economic development in China. In Pakistan ZTBL, National Bank of Pakistan and Khushhali Bank Limited playing role to develop the economy of Pakistan and issuing loans in the agriculture sector.

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# "Tributary Trade" Activity in Diplomatic Relations between Vietnam & China in the Feudal Period

By Dr. Nguyen Thi My Hanh
*Hanoi National University of Education, Viet Nam*

*Abstract-* In diplomatic relations between Vietnam and China in the feudal period, Tributary activity (which was considered as one of two important contents of diplomatic relations besides investiture beseeching) was not only a method of maintaining pacific political relations but also the orthodox way of establishing trade relations between Vietnam and China. During the feudal period in Viet Nam, the Kings after coming to the throne paid special attention to tributary activity for Chinese emperors. In terms of form, tributary activities were diplomatic rituals and an indispensable means of communication in the relations between "vassal" (Vietnam) and "mother country" (Chinese). However, in fact, the value of tributes and gifts was not small. Broadly, we can divide the tribute and gift system into 2 categories: The first is the tributary materials and items that Vietnam's King presented to Chinese Emperor; the second is items the ambassadors brought with them.

*Keywords:* *vietnam, china, tributary activity, diplomacy, trade, feudalism.*

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# "Tributary Trade" Activity in Diplomatic Relations between Vietnam & China in the Feudal Period

Dr. Nguyen Thi My Hanh

*Abstract-* In diplomatic relations between Vietnam and China in the feudal period, Tributary activity (which was considered as one of two important contents of diplomatic relations besides investiture beseeching) was not only a method of maintaining pacific political relations but also the orthodox way of establishing trade relations between Vietnam and China. During the feudal period in Viet Nam, the Kings after coming to the throne paid special attention to tributary activity for Chinese emperors. In terms of form, tributary activities were diplomatic rituals and an indispensable means of communication in the relations between "vassal" (Vietnam) and "mother country" (Chinese). However, in fact, the value of tributes and gifts was not small. Broadly, we can divide the tribute and gift system into 2 categories: The first is the tributary materials and items that Vietnam's King presented to Chinese Emperor; the second is items the ambassadors brought with them. Each part of such tribute system was associated with the ambassadors' different trade ways at that time. In spite of the fluctuations in diplomatic relations in the field of politics, tributary trade relations between Vietnam and China were heterogeneous but had ups and downs through the historical periods (which were fully proven vividly under the Nguyen dynasty, especially when Vietnam-China relation was influenced or under pressure from the third "factor"- French colonialism), the remarkable achievements of "tributary trade" activities between two countries contributed to maintaining and building a peaceful diplomatic relation between Vietnam and China and laid a necessary foundation for the continuation and development of the Vietnam- China economic relation in the next periods.

*Keywords: vietnam, china, tributary activity, diplomacy, trade, feudalism.*

## I. Introduction

It can be said in the diplomatic relation history of Vietnam until now, the diplomatic relation between Vietnam and China has always played a very important role. This relation reflects firstly the compulsory diplomatic policy due to specific historical and geographical circumstances of two countries. In term of time, total war years is still shorter than the peaceful centuries when the two countries have set up cultural, economic and diplomatic relations, etc. Thus, under the feudalism, besides the peacefully political diplomatic relation, we witnessed significant developments in economic relations between Vietnam and China. In particular, tributary activity[1] (which was considered as one of two important contents of diplomatic relations besides investiture beseeching) was not only a method of maintaining pacific political relations but also the orthodox way of establishing trade relations between Vietnam and China at that time. A question is raised that, how did such activity take place in practice? Under the ever-changing historical circumstances, especially the changes in the political relations between the two countries and the impact of external factors, how did "tributary trade" activity between China and Vietnam change through the historical periods? What is the essence of "tributary trade" activity like? What is its role in the economic and political relations between Vietnam and China in the feudal period? These are important issues that this article focuses on.

## II. Overview of Vietnam- China Economic Relation from the Years of National Construction to the Year 938

Vietnam - China economic relation emerged naturally very early along with the development of the relation between two countries. Throughout thousands of historical years of co-existing with each other, the diplomatic relation between two countries was up and down from time to time but almost never interrupted.

For a long time, when it comes to the political relation as well as the economic relation between Vietnam and China, it has been often referred to the event: Viet Thuong country in the South offered white pheasant as a tribute to Thanh Vuong Emperor of Zhou Dynasty (in China) (1134 B.C - 221 A.D). However, this act not only has economic significance in nature because its main goal is to establish a diplomatic relation with the neighboring country –China, which was accomplished through the political means. Vietnam-China economic relation naturally begins at the border. Is it true that the geographical proximity as well as the intimate friendship among ethnic groups in two countries' frontier is an advantageous condition for two sides to exchange production as well as business experience? As early as the third century B.C, the

*Author: Faculty of Vietnamese Studies, Hanoi National University of Education, Vietnam. e-mail: myhanhvnh@gmail.com*

[1] "Tribute" means tax, precious items payable to big countries in the defined period, have binding force (Ta, 1995, p.70-71).



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techniques of wet rice cultivation and drum processing were spread from the North to the South (Tran, 1966). At the same time, the trade exchanges at the state level gradually emerged. According to *A complete history of the Dai Viet* book, it is was recorded that "in 196 B.C, Luc Gia, who is Han Dynasty's mandarin in China, went to Nam Viet as an ambassador and returned with a lot of expensive jewelry" (Ngo, 1972, p.3). Or in 184 B.C, due to discrimination between Chinese and Vietnamese furniture, Han Dynasty banned Nam Viet people from buying bronze work, ironwork at the door of court; Horses, buffaloes, goats (of Han Dynasty) exchanged with Nam Viet were just male, not female (Ngo, 1972, p.75 - 76). The above events, on the one hand, reflected the political aspect in the Vietnam - China economic relation; on the other hand, they also reflected the fact: Not to this point, the object exchange between two countries began that this activity must have existed before. Therefore, under Han Dynasty, Lu Hau issued above prohibition order – which is to ban an activity which had already existed before. Obviously, Vietnam - China economic relation had been quite developed until Han dynasty, their mutual dependence had reached to the extent they could cause several economic difficulties to each other in a certain extent. Moreover, while the goods imported from China such as iron farming tools, cattle, goats, horses, etc, were products symbolizing the agricultural economy, Vietnam's economy was only in the rudimentary cultivation stage but the objects exchanged with Han Dynasty were forest products and seafood such as ivory, pheasant, pearl, cinnamon bark, etc. In the early period, trade exchanges between two countries took place in such a simple way!

From the year 111 BC to 938 AD, Vietnam was under Chinese domination for more than 1,000 years. The economic relationship between two independent countries was also no longer maintained in this period. These trade exchanges between two countries were almost dependent on China or just unorthodox exchanges of two countries' merchants during this period. At that time, Vietnam had increasingly become a market for Chinese merchants to sell their goods (especially porcelain, tea, Chinese traditional medicine, etc), consume and purchase goods (especially ivory, halcyon fur, jewels, etc) which were then brought to China or other countries to sell for profits. Of course, in Vietnam there were also Vietnamese merchants who had even dealt with Chinese merchants before, later became rivals fiercely competing with each other. Especially, with the exclusive trade policy of most important items of Tang dynasty (in China), Vietnamese merchants gradually lost all their economic interests. Vietnam's dependence on China in term of politics inevitably led to the economic dependence.

Up till the tenth century, particularly after Bach Dang victory of Ngo Quyen in 938, when Vietnam became independent completely, Vietnam - China economic relation officially opened.

## III. Tributary Trade Activities between Vietnam and China before 1802

For Vietnam feudal dynasties, tributary activities between Vietnam and China showed small country' respect for big country, expressing wish for establishing, maintaining a peaceful relation between the two countries. To express such respect and pacific attitude, Vietnam's feudal dynasties based on specific figures such as the number of tributes and gifts offered to Chinese Emperor on each tributary occasion. These figures vividly demonstrated the value and real economic significance of tributary activities at that time.

The following table summarized the Vietnamese ambassadors' typical tributes and gifts offered to Chinese Emperor on the tributary occasions from 938 to 1802

*Table 1 :* Summary table of the Vietnamese ambassadors' typical tributes and gifts offered to Chinese Emperor on the tributary occasions from 938 to 1802

| *No.* | *Dynasty* | *Vietnam's typical tributary occasions from 938 to 1802* | *Vietnam's tributes and gifts for China dynasties from 938 to 1802* |
|---|---|---|---|
| 1 | Tien Le dynasty | 1004: Le Ngoa Trieu assigned his younger brother, Minh Xuong, and Hoang Thanh Nha to bright tributes to Song dynasty | Present white rhinoceros |
| 2 | Ly dynasty | 1014: Phung Chan, Ly Thac arrived in China to inform Song Emperor about the victory | Present 200 horses |
| | | 1034: Tran Ung Co and Vuong Van Khanh arrived in China to establish a peaceful relation | Present an unicorn (An animal has one horn) |
| | | 1046: To Nhan To và Dao Duy Phien arrived in Song Dynasty to | Present 10 elephants |



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| | | | |
|---|---|---|---|
| | | inform about winning Champa | |
| 3 | Tran dynasty | 1266: Duong An Duong and Vu Hoan visited Yuan dynasty | Present frankincense wood, rhinoceros horn, ivory, gold, silver, porcelain bowl |
| 4 | Hau Le dynasty | 1428: Le Thieu Dinh, Le Canh Quang, Le Duc Huy assigned to present items | Present a golden statue, a silver incense burner, a pair of silver flower vase, 300 pieces of local silk cloth, 14 pairs of ivory, 200 incense vases, two ten thousand incense sticks, 24 blocks of solid aloes wood. |
| 5 | Mac dynasty | 1542: Mac Phuc Hai assigned Nguyen Kinh Dien, Nguyen Cong Nghi and Luong Gian arrived in China to give thanks and present items | Tribute 4 set of golden incense burner and flower vases (100 hundred grams), 1 yellow turtle (90 hundred grams), 1 piece of silver crane and 1 piece of silver lamp support (50 hundred grams), 2 sets of silver flower vases and incense burners (150 hundred grams), 12 pieces of silver tray (641 hundred grams), 60 kg frankincense wood, 148 kg solid aloes wood. |
| 6 | Le Trung Hung dynasty | From tributary occasion in 1721, tributary procedures were carried out every 6 years; 2 offerings were tributed as regulated[2] | Tributary procedures were carried out every 6 years including:<br>- The offerings were taken before: 66 hundred grams of local silver, 39 pieces of local silk cloth, 290 pieces of fan, 29 kg pepper.<br>- The offerings for met ceremony: 100 hundred grams of local silver, 50 pieces of local silk cloth, 30 kg pepper, 2000 black incense sticks, 2000 white incense sticks, 200 pieces of fan<br>- Two sets of tributes, one set of offerings as follows: 4 pieces of incense burner and flower vases (209 hundred grams in total, used for 29 gold bullion bars), 20 pieces of silver tray (692 hundred grams in total, used for 69 silver bullion bars), 960 hundred grams of aloes wood, 2,368 hundred grams of solid aloes wood<br>- The offerings for the ambassadors carry with them: two ingot gold bars (10 hundred grams/bar), 3 logs of red leaf (18 rules/log), 3 logs of green leaf, 824 grams of local silver, 400 pieces of local silk, 600 black incense sticks, 600 white incense sticks, 200 pomade pots, 600 paint fans, 30 kg pepper, paper-wide 5000 sheets, 30 laminated wood plates.<br>- Thanksgiving offerings: 1 golden incense burner and 1 golden flower vase (57 hundred grams), 1 silver crane and 1 silver lamp support (48 hundred grams), 1 silver incense burner and 1 silver flower vase (50 hundred grams)<br>- Congratulation offerings: 1 yellow turtle (18 hundred grams), 1 silver crane and 1 piece of silver lamp support (50 hundred grams), 1 |

[2] Qing Dynasty regulated in 1718 when Vietnamese ambassadors arrived in China to inform King Hy Tong's funeral.



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| | | | |
|---|---|---|---|
| | | | silver incense burner and 1 silver flower vase (49 hundred grams), 30 kg frankincense wood, 60 kg solid aloes wood, 100 paint fans.<br>- The offerings at funeral notice: 30 kg frankincense wood, 70 kg solid aloes wood<br>- Reporting offerings: like congratulation offerings except 100 paint fans were not required. |
| 7 | Tay Son dynasty | 4/1789 and 9/1789: Quang Trung King assigned the ambassador to Qing Dynasty 2 times for giving tributes | -Tribute: 2 set of golden flower vases and incense burners (104 hundred grams and 5 grams); 6 silver pots (345 hundred grams and 5 grams); frankincense wood (480 hundred grams); 1810 hundred grams of solid aloes wood; 300 pieces of rhino chloroplast and pomade in the other pot; 300 coconut leaf fans; 158 small-sized ceramic pots and wet incense in other pots; 50 white incense sticks, 30 black incense sticks |

*(**Source:** Phan, H. C. (1961). Regulations of Successive Dynasties by Subject-Matter – Matters of diplomatic relations (Translation). Hanoi: Historical Publishing House; Nguyen, T. L. (2005). Diplomatic relations of Dai Viet, Volume I, II, III, IV. Hanoi: Culture and Information Publishing House.)*

According to the above statistics, it can be seen: The quantity of tributes, gifts that was presented from Vietnam to China was not small and not purely symbolic significance. In fact, China has obtained great economic benefits from these tributes. Therefore, in terms of semantic aspect as well as the actual content, the tributary activities, firstly and mainly were "tax" which maintained by Chinese feudalism to collect great economic resources from the smaller nations in the region. To keep sovereignty peacefully, Vietnam and many "vassal" countries of China were required to conduct economic relations in the form of tributary activities.

On the side of China, upon receipt of tributes, Chinese Emperor gave some gifts to Vietnamese King and mission's members. Chinese Emperor's gifts were often brocade, chiffon, silk, etc which were its "specialties". For example, in 1260, during Vietnamese ambassadors' trip to China to reciprocate Yuan dynasty, Yuan Emperor gave Vietnam's ambassadors "3 pieces of west brocade, 6 pieces of *kim thuc cam* (one kind of brocade)" (Ngo, 1972, p.194). Or in 1790, on the occasion of Qianlong Emperor's longevity anniversary, Vietnam's mission, especially with participation of Quang Trung King arrived in China. Vietnam's mission presented China's Emperor various specialties and Qianlong Emperor presented: 5 pieces of *doan ngoai* (a kind of cloth), 5 pieces of *doan trong* (a kind of cloth), 4 pieces of brocade, 4 pieces of doan bong (a kind of cloth), 4 pieces of *doan vay* (a kind of cloth), 1 pair of large ha *bao*, 2 pair of small ha *bao* and many other cloths (Nguyen, 2005, volume 4, p.58). Indeed, compared to the Vietnamese mission's total specialties, the gifts of Chinese court were small. However, based on the specific rewards of Chinese court to Vietnamese mission, it is unavoidable to think this is one of the expressions of commodity exchange between two countries as a result of natural economic development needs between contiguous countries although such exchange of economic products wasn't truly equal.

However, it comes to tribute, we not only talk about gifts Vietnamese Kings presented Chinese Emperor but also items carried by ambassadors. The ambassadors bring items with them to exchange and do business in China for profits. The number of items brought by the ambassadors was not small in fact. This was described by Truong Han under Ming Dynasty as follows: "the gifts of Ming dynasty were great but only accounted a very small part compared with tributes. Cost was only less than one ten thousandth of *items brought by the ambassadors* [i.e. a small number compared to the quantity of goods that the missions brought with them to do business with China]" (Ly, 1988. p.19 - 20).

It can be said that the way to China of the ambassadors of many Southeast Asian countries, including Vietnam is the most favorable trade and exchange way in the feudal period. Chinese government admitted it and assigned officials to do business with the ambassadors from the Southeast Asian countries. Since Ming Dynasty, local items of countries brought in China were tested and transported by officials at Thi bac ty (district). This is also a main reason why this exchange and business method is called "tributary trade". *In Survey of civilization through the dynasties* book, Vuong Ky, an author under Ming Dynasty, wrote: "Our court established *Thi bac ty* to manage the ambassadors who bring tributes with them. Our court allows them to bring items with them to do business with people at a transaction center established by the



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Government, called *Ho thi* (where commercial activities between people in other countries with Chinese people are conducted), Ho thi only exists when there is a boat to tribute" (Ly, 2006, p.96). In particular, for Vietnamese feudal dynasties, before increasingly popular commercial activities of the ambassadors, some strict rules were also issued: "The ambassadors absorbed in trading in goods shall be reduced to a lower rank or deported. The ambassadors who are allowed buying strange treasures, books and medicine have to declare all items bought in details. If there is anything worth offering to the King, the purchase price of such items shall be returned to the ambassadors. If there is any untruthful information, the ambassadors shall be reduced to a lower rank and such items shall be seized" (Tran, 1995). However, in fact, due to the advantages of this business method as well as great revenues, the ambassador's commercial activities didn't always take place as prescribed by the government.

Ngo Si Lien in *A complete history of the Dai Viet* book repeatedly mentioned the cases of Vietnamese ambassadors to China did surreptitiously business, violated the regulations and were discovered. For example: "In 1433, Le Dynasty assigned a mission led by Le Vi to Yen Beijing to inform King Le Loi's death. A member of the mission, Pham Tu Minh, made belts (shirts, hats) to sell to the Ming people. Chief envoy Le Vi and Chief envoy Nguyen Truyen purchased 30 Chinese cargo loads in Vietnam". Ultimately, Le Dynasty "seized all goods to arrange at the palace in order to humiliate them. The handling measure then became a general rule". Similarly, in 1435, Thai Quan Thuc and Nguyen Tong Thu arrived in Ming dynasty as ambassadors "brought a lot of money and bought goods in China, the King took all luggage to give mandarins as a penalty on them" (Ngo, 1993, p.327). Obviously, "such handling method then became a general rule". This statement of Ngo Si Lien reflected the fact that: at that time Vietnamese diplomatic envoys' trade exchange activities became quite popular. Vietnamese ambassadors might bring their valuable goods to China for sale and then transported Chinese goods to Vietnam and turned them into luxury goods at that time. In that sense, both sides (Chinese government or tributary countries) earned huge profits. Therefore, it was the reason why under rigid control of Government (typically Le Dynasty (Vietnam), tributary trade activities were constantly maintained through Vietnam dynasties.

On the side of China, besides huge profits from exchange and trade with Vietnamese ambassadors, Chinese ambassadors also frequently brought their goods to Vietnam and sold to Vietnamese dynasty at a high price. They also bought more goods from Vietnam to bring them to their hometown. The following facts proved it clearly: In 1434, Quach Te and Chu Bat, ambassadors of Ming dynasty, visited Vietnam to attend King Le Thai To's death anniversary. They assigned a lot of people to transport goods from China to Vietnam and then forced Le Dynasty (Vietnam) to buy at high price. Along with that trade method, in December 1435, the ambassadors of Ming dynasty, Chu Bat and Ta Kinh, arrived in Vietnam to inform about Minh Anh Tong's enthronement. During this trip, the mission led by Chu Bat brought a lot of Chinese goods to Vietnam, offered at high prices and forced Le dynasty to buy them. When returning their home country, they bought a lot of goods of Le dynasty, mobilized thousands of people to carry tributes and luggage on their shoulders (Ngo, 1993, p.334, 358). So, once again, using the above purchasing method, the Chinese government increased profits from this trade activity. Moreover, objectively, this trade activity was characterized by unbalanced exchange rate. Chinese government and ambassadors received huger profits. In other words, as well as the tribute activity, concurrently commercial activity of the ambassadors between two countries was an unequal exchange.

However, besides the tributary trade activities of the missions, there were only a few of trips for purely trade purposes of the ambassadors of two countries. For example: in 1790, King Quang Trung assigned Nguyen Hoanh Khuong to go to Qing Dynasty to trade with Emperor Phuc An Khang to buy ginseng for his mother who was sick (Nguyen, 2005, Vol 4, p.50 - 51). Similarly, upon the needs of the King or royal members, Vietnamese Kings assigned the ambassadors to go to China to buy Chinese specialties to meet urgent needs. Meanwhile, Chinese Emperor repeatedly assigned the ambassadors or sent a letter to Vietnam to buy Vietnam's precious specialties to serve the royal needs. The following example is an illustration. It was under Song Dynasty, Emperor Tong Hien Tong who had just been on the throne was going to hold Nam Giao Offering Rituals, assigned an envoy to go to Vietnam to buy 10 elephants. Thus, the Vietnamese mission gave elephants as tributes after Emperor Tong Cao Tong removed the prohibition of using elephants as a tribute. However, in comparison with the trade activity of diplomatic missions, the trips just for purely trade purposes of the missions of the two countries were not significant.

So, we realize that the way of going to the foreign country as King' envoy become a quite lively trade way between Vietnam and China. As for Vietnam, tributary trade activities were maintained as an important diplomatic method and brought certain huge economic benefits. Meanwhile, as for China, these activities not only brought enormous economic benefits but also improve the political ascendancy and put China in tune with the actual needs and the regional economic environment movements even when it applied the policy of "sea prohibition" and "closed -door".



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## IV. "Tributary Trade" Activities in Vietnam - China Diplomatic Relations during Nguyen Dynasty - the Last Feudal Dynasty in Vietnam History

### a) *"Tributary trade" activities in Vietnam - China diplomatic relations from 1802 to prior-French colonial aggression*

Like the previous feudal dynasties, under Nguyen Dynasty - the last dynasty in Vietnamese feudal history, the tributary activities are not only a method of maintaining pacific political relations but also the orthodox way of establishing trade relations between Vietnam and China.

Tribute system in fact always consists of two parts: First, the tributes and gifts of Nguyen King and second, the items brought with by the ambassadors. In terms of form, like the former dynasties, the tributes (as prescribed) and gifts of the Kings of the Nguyen Dynasty to Qing Emperor was an indispensable diplomatic means of communication in the relations between "vassal" country (Vietnam) and "Mother country" (China) at that time. However, in fact, the quantity of tributes and gifts was not small.

In addition to tributes offered to Qing Emperor, Vietnamese ambassadors were also offered objects to make presents on the way. In *Compendium of Institutions and Administrative Cases of Dai Nam* book, the quantity of tributes and gifts of ambassadors recorded are: "Silver bullion bars and silver rings weighed 1,140 hundred grams (the ambassadors used 100 bullion bars (10 hundred grams/ bullion bar); 14 bullion bars (2 hundred grams/ bullion bar), 52 bullion bar (1 hundred grams/ bullion bar), 100 bullion bar (5 guans/ bullion bar); 1000 silver rings (1 guan/ring). Only ambassadors for congratulation used: 30 silver bullion bars (1 hundred grams/ bullion bar) and 140 silver bullion bars (5 guans/ bullion bar). In other cases, the ambassadors used tributes as above). Vietnamese white silk cloth: 120 pieces, Vietnamese new silk cloth: 220 pieces (The ambassadors for graduation only used 100 silk cloths, 200 unbleached silk cloths), 100 Vietnamese cloth pieces, 50 kg Vietnamese cinnamon, 20 ivory cups, 300 ivory fans, 200 elephant hairs (30 gold-coated hairs, 170 silver-coated hairs), 150 hawksbills (75 medium size pieces, 75 small-size pieces), 150 pomade boxes. The items brought by Lang Son province mandarins during waiting at the door of court: 24 Vietnamese unbleached silk cloth pieces, 20 kg Vietnamese cinnamon, 40 hawksbill pomade boxes, 8 hundred grams of pomade, 80 ivory fans, 40 silver - covered tail hairs, 10 platinum bars[3] . Lang Son mandarins presenting gifts to the mandarins of Qing Dynasties used: 10 buffaloes, 10 goats, 10 pigs, 10 kg rice, 20kg wine. The items brought by mandarins of 3 provinces who assigned to wait at the door of court were: 50 colored silk cloth pieces, 10 white unbleached silk cloth pieces, 40 ivory fans, 20 hawksbill pomade boxes, 30 elephant tail hairs (15 silver-coated hairs, 15 gold-coated hairs), 1 kg cinnamon bark (Caption: under King Gia Long, each ambassador's items reduced: 100 colored silk cloth pieces, 100 silver-encrusted elephant tail hairs, 100 fans, 50 pomade boxes. Until the 9th year of Minh Menh, some new items were supplied to the ambassadors. Like the old rules, tributes included ivory fans and hawksbill fans. Until the 12th year of Minh Menh, fan types were manufactured with frames made of straight ivory, fan swings made of Vietnamese silk cloth." (Internal Affairs of Nguyen dynasty, 1993, p.312 - 313).

The above figures show that tributes and gifts in Vietnam- China relations in the first half of the nineteenth century had a real economic significance and were not merely the symbolic gifts. Following the former feudal dynasties, Qing Dynasty maintained the ancient tribute regime for the economic exploitation of small countries near China. With the desire of keeping independence and sovereignty in a peaceful manner, Vietnam forced to give tributes to China (Ta, 1995, p.81). Humility in political relations, the economic losses is the price Vietnam has to pay for independence, freedom and the peaceful relations between Vietnam and China, which Vietnamese people never want to lose.

In response, Qing Emperors always gave gifts back to Vietnamese ambassadors when they came China to offer the tributes. For example, in 1804, to requite Vietnam's tributes, Qing Emperor gave Vietnamese ambassador the gifts, including: 8 pieces of *doan mang* (a kind of cloth), 8 pieces of *doan mo* (a kind of cloth), 8 pieces of brocade, 27 pieces of silk, 27 pieces of *truu mua xuan* (a kind of cloth) (Library of Nguyen Dynasty, 2002, vol. I, p.581). These gifts were less than Vietnam's tributes. However, it is easily understandable for thinking that the exchange of tributes and gifts between Vietnam and China originated from the natural needs of socio-economic development between countries in the same region although such exchange was unequal due to the political relations regulated by two countries at that time.

Besides tributes and gifts offered by the Kings of Nguyen Dynasty to Chinese Emperors and mandarins on the tributary occasions, the ambassadors of Nguyen dynasty *also brought a large number of items with them to do business for profits*. Qing dynasty itself didn't also ignore large resources from exchanging and trading in this tributary trip of "vassals" like Vietnam. Therefore, following the former feudal dynasties, Qing dynasty still continued to maintain the department of inspecting, shipping and conducting sales of goods carried by the

[3] Each bar is 24 grams

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tributary ambassadors. *In The history of diplomatic relations of China with Annam - Vietnam in XVI – XIX centuries* book, G. Deveria based on *Annam' products* book, listed goods types that Vietnamese ambassadors often brought to China to sell; for example, natural gold, silver, copper, pearl, tortoise-shell, coral, frankincense wood; libel pearl; white pheasant; white deer; rhino; elephant; female rhino horn used to make drinking cups; mountain goat; gorilla; tropical monkey; mouse-catching monkey; python; mangoes; jackfruit; dried areca; pepper; spruce wood; ebony; salt; paint (Deveria, 1880, 88-89). To gain the highest profits, the Chinese merchants often took several measures to force prices in the goods purchase process of Vietnamese ambassadors. The resources that Chinese Government gained from tributary activities of Vietnamese ambassadors increased accordingly.

Besides carrying tributes to the Chinese Emperors, Vietnamese ambassadors who arrived in China as Nguyen dynasty's envoy for the tributary task, thanksgiving, report, congratulation, *etc were in charge of purchasing goods for the court*. Therefore, in addition to the envoys (including one chief envoy and two assistant envoys), the Court also added a retinue and many porters in charge of carrying palanquin for the envoy, especially tributes, sold goods and purchased goods. This showed the remarkable advantages of tributary trade activities compared to other exchange and trade types at that time. There are many historical data sources which rather exhaustively recorded sold goods and purchased goods of Nguyen dynasty's ambassadors in the first half of the nineteenth century. According to *Appendix of all administrative documents of Nguyen Dynasty book*, on March 28th of the 7th year of Ming Menh (1826), Nguyen Huu Thuan, the Governor of Bac Thanh reported the King that two ambassadors returned to Thang Long after a trip to Qing dynasty. When two chief envoys, Hoang Kim Hoan and Hoang Van Quyen returned Hue Capital early, four assistant envoys had to stay in Thang Long to control goods. Nguyen Cong Thiep and the assistant envoys checked and categorized purchased items. Lighter commodities like brocade, cloths, etc; included 14 boxes and were divided into 12 loads transported by road to Hue capital from March 25th. Heavy goods included 16 boxes and were sealed and assigned to Manufacture Bureau for storage, which were waited for transported to Hue capital by sea along with 53 boxes of personal belongings and two missions and entourages (State Archives Department, 1998, p.420). Or according to *True Records of Dai Nam* book, it was also recorded that the ambassadors of Nguyen Dynasty under King Tu Duc dynasty sought and bought Chinese goods in 1848 as follows: "Office of Interior Affairs delivered the purchase orders to the ambassadors to go to Qing Dynasty (Chief envoy Bui Quy and the assistant envoys, Vuong Huu Quang and Nguyen Thu, went to China to notify Qing Dynasty of King Thieu Tri' furneral and ask for King Tu Duc's enthronement and buy goods of Qing dynasty. Besides, pearl furniture, antiques, porcelain and strange toys were also recorded" (Library of Nguyen Dynasty, 2007, vol VII, p.46).

Goods bought by the ambassadors of Nguyen dynasty often were very various specialties of the provinces and cities of China where they went through on their mission journey. Among the items purchased, it cannot be mentioned Jiangxi ceramics. Normally, on the mission journey, the ambassadors dropped in Jiangxi, ordered ceramic items as required by the court and mandarins of Vietnam (porcelain for specific purposes). Upon returning the home country, they transported porcelain ordered to Vietnam. Porcelain for specific purposes was usually carved the reign title (for example, "Made under King Minh Menh", "Made under King Thieu Tri", "Made under King Tu Duc", "Made under King Khai Dinh", etc...). Moreover, the ambassadors also ordered to purchase porcelain items for themselves and often required to carve the year of their mission journey to mark the arduous journey they had went through (for example, "Made in Rat's year" (1804); "Made in Tiger's year" (1820); "Made in Dog's year" (1826); "Made in Snake's year" (1857)...(Tran, 2007, p.305).

Besides Jiangxi porcelains, Jiangnan premium silk cloths, Guizhou wine, Beijing traditional medicine, Hubei tea, snappers, peacocks, horses, special fabrics, Thien Truong paper, local flute types, marbles, copper ores, copper platinum, diamonds, purple quartz, lapis lazuli, gypsum, amber, small stones, black salt, camphor, etc in Guangxi and Yunnan…were Chinese specialties preferred by Vietnamese ambassadors (Derevia, 1880, p.86 - 92).

However, besides the above tributary trade activities of the ambassadors, during the first half of the nineteenth century, the history witnessed the trips of ambassadors for *purely commercial purpose.*

*Table 2 :* Statistical table of the number of the trips of Vietnamese missions for purely commercial purpose by the orders of Nguyen dynasty (1802 - 1858)

| *Dynasty* | *The trips of Vietnamese missions for purely commercial purpose* | *Times* |
|---|---|---|
| Gia Long | | 0 |
| Minh Mang | - 1825: Nguyen Dac Suy and Tran Van Trung went to Guangdong to buy goods and returned to Da Nang in 1826 (State Archives Department, 1998, p.420). | 3 |



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| | | |
|---|---|---|
| | - 1826: Tham Trung went to Chaozhou to buy items for the court. (State Archives Department, 1998, p.356).<br>- 1826: Tuan Duc Trang's boat departed to Guangdong to purchase goods (State Archives Department, 1998, p.711). | |
| Thieu Tri | 1846: The Court assigned Kim Thanh Ngo to Guangdong to purchase goods (Tran, 2007). | 01 |
| TOTAL | | 04 |

*Source*: *State Archives Department - Hue University - Center for Vietnam Research and Cultural Exchange. (1998). Appendix of all the administrative documents of Nguyen Dynasty, 2 volumes. Hanoi: Cultural Publishing House; Tran, D. A. S. (2007): "Commercial activities of Vietnamese embassy in China during the Qing dynasty". Summary record of the scientific conference: Vietnam in the Asian trade system in the 16th – 17th centuries. World Publishing House.*

This statistical table shows the ambassadors of Nguyen dynasty went to China to purchase goods by the orders of the court four times in the 1802 -1858 period. Comparing 4 trips for purely commercial purposes of Vietnamese ambassadors in this period with 11 tributary trips (in 1804, 1809, 1813, 1817, 1824, 1828, 1832, 1836, 1849, 1853, 1857) and 10 gift offering trips (1804, 1809, 1819, 1820, 1824, 1830, 1841, 1845, 1848, 1851) in the same period (Library of Nguyen Dynasty, 2002, 2004, 2007, Vol. I – VII; Sun, 2005, p.80-82), it can be seen that the tributary trade form of the ambassadors under Nguyen Dynasty was more popular than their pure trade form. This also clearly shows the advantages of tributary trade form of the ambassadors of Vietnam and China at that time. Is it true that the overlap between political and economic color of this trading activity is one of the outstanding characteristics, contributing to create such special advantages of tributary trade activity?

b) *"Tributary trade" in Vietnam - China diplomatic relations from the invasion of French (1858) to the permanent cessation of "Mother country" – "Vassal" relationship between China and Vietnam under the Tianjin Convention between France and China in 1885*

Like the previous historical periods, the tributary trade activity in this period was not only the maintenance of Vietnam – China peaceful ties but also the official trading way between two countries.

In the period of 1858 - 1885, Nguyen Dynasty sent tribute missions to China for five times under the rules (in 1861, 1868, 1872, 1876, and 1880) and for 4 or 5 times on the occasions of thanksgiving, death notice, congratulation…(Library of Nguyen Dynasty, 2007, Vol. VII - VIII; Sun, 2005, p.81-82). However, the tributary activities didn't take place smoothly and conform to the subjective desire of both countries' court because it was strictly monitored and even objected by the French Colonialist. As a result, the tributary trade activity was restricted and interrupted during this period.

Like pre-1858 periods, tributes and offerings that Nguyen Dynasty's missions paid to Qing Dynasty were not merely a symbol but contained a really economic content. For example, in the 1880, Nguyen dynasty's mission led by Chief envoy Nguyen Thuat and Assistant envoy Tran Khanh Tien offered to the king of China the following tributes:

Two ivories
Two rhinoceros horns
45 kilograms of areca-nuts
600 hundred grams of frankincense woods
300 hundred grams of phoenix woods
100 native silks
100 canvas sheets
100 corduroy sheets (Many Authors, 1997, p.41-42).

Afterwards (12/08/1880), Rheinart – France's representative in Hue sent a letter to the Governor of Cochinchina and said that those tributes are less valuable, but his words were only an excuse and "self-comforted" the French in face of their helplessness in protesting against the regular tributary missions between Vietnam and the China at that time. In fact, it reflects political relations between two states that had hidden mutually-economic benefits.

In response to Nguyen Dynasty's tribute missions, Qing emperor always rewarded gifts. This was also a general rule that Qing Dynasty imposed on "tributary countries", including Vietnam. For instance, on an official trip to Beijing in 1870 (led by Chief envoy Tran Bich San and Assistant envoy Pham Hy Luong), Nguyen Dynasty's mission visited and offered gifts to Qing court for the purpose of investigating the situation of China and its policies against the invasion of the West. In return, Qing emperor gave items to Nguyen King: 8 cymbals for each embroidered and rough brocade, 8 bullions, 12 fine silks, 5 silk cymbals. The ambassador was awarded 3 bullions, 8 bundles, 5 silk cymbals, 5 fine silks, 2 silk cords. Both the member of entourage and mahout were given 5 bundles, 5 silk cymbals, 3 fine silks. In addition, the Ministry of Rites also had other gifts for the king and ambassador of Vietnam. Specifically, drugs, 40 ginsengs and 4 decanters were for the king; 10 drugs and 4 decanters were for the ambassador; 5 drugs and 1 decanter were for the entourage (Nguyen, 2005, Vol. V, p.85). Obviously, the tributes of Nguyen Dynasty and presents of Qing Dynasty are "specialty goods" of each country.

The exchange of tributes and gifts between two courts reminds us of the bilateral commodity exchange due to the economic development demand in the same



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region, despite the fact that the exchange of economic products is of unequal nature.

*Apart from tributes and gifts for "Mother country" (China), Nguyen dynasty's missions often carried a lot of goods to trade with China* because this is the most favorable way of trade: free of charge, duty-free… Always, goods that Vietnam' embassy sold in China usually are special items such as: natural gold, silver, cooper, frankincense wood, rhinoceros, elephant, dried areca, pepper, spruce wood, ebony, salt ... On the way back to the home country, Vietnamese ambassadors always bought a lot of specialties from provinces and cities of China, notably: Jiangnan silk, Jiangxi ceramics, Guizhou alcohol, Beijing herbal medicine, Hubei tea, Yunnan forestry products.

These purchased commodities and the Chinese emperor's gifts were transported to Vietnam smoothly. *Appendix of all the administrative documents of Nguyen Dynasty* book clearly recorded that: When returning home, the tributary missions were escorted by Chinese military forces and their goods and luggage were carried by local servants whenever they went through. Local authorities would be in charge of reporting to Qing dynasty about the journey of Vietnamese missions from leaving Beijing to crossing the border into Vietnam. Then, the government agencies near the border such as Lang Son, Thuy Vi, Binh Nguyen would appoint escorts to accompany the missions and goods to Hanoi. Here, goods and gifts would be preliminarily classified. Accordingly, the gifts of Qing court together with accompanying luggage of the missions and important goods would be brought to Hue capital. The bulky and less important ones would be temporarily controlled by the authority in Northern Vietnam (Bac Thanh) and after that would transported to Hue capital by waterway (State Archives Department, 1998, p.420). It demonstrates the superiority of tributary trade compared with other contemporary types of exchange and trade.

*Besides the concurrently commercial activities, in this period, some Vietnamese missions were for purely commercial purposes under the direction of the central court*. In particular, Tran Dinh Tuc and Nguyen Huy Te went to Hong Kong to give gifts on the occasion of the 60th birthday of Queen mother Tu Du in the 21st Tu Duc Year (1868) (Tran, 2007, p.303) or another Hong Kong trip to purchase goods for the court of Hoang Van Xuong in the 30th Tu Duc year (1877) (Tran, 2000, p.82). It is worth noting that under the influence and pressure of the Western science and technology, besides Vietnamese ambassadors bought goods from China, Nguyen dynasty appointed a person to buy a steam train in France since 1860 and then appointed Nguyen Thanh to bring agricultural products and handicrafts to attend the fair in Paris…

*Especially, some Chinese economic sectors had been initially introduced into Vietnam* during this period. The case of the ambassador Dang Huy Tru is a typical demonstration. After two mission trips to China in 1865 and 1867 for "situation reconnaissance", he not only purchased 239 guns, established many businesses in Hanoi to export goods to China and other countries but also learnt photography and imported it to Vietnam. *Cam Hieu Duong*[4] photography studio opened on 11/03/1869 in Hanoi and became the first studio in the history of Vietnam. Moreover, he opened the first printing house *Tri Trung Duong* (Pham, 1990, p.69).

In summary, in terms of trading activities of ambassadors, except for some trips for purely commercial purposes, the majority of trading activities were concurrently commercial activities in tribute occasions. Thus, it became an official exciting trade route between Vietnam and China for a long time. But such form of trade didn't develop strongly and constantly anymore in this period. Furthermore, goods in the tributary trade system were mainly luxury consumer goods used in court, with limited quantities; therefore, it couldn't be denied that this superior trade was more restricted than the folk one.

c) *Comments on some changes in "tributary trade" in Nguyen dynasty*

In general, the kings of Nguyen dynasty paid special attention to send tributes and gifts to Chinese emperors in period 1802-1885. "Tributary trade" was always associated. Therefore, the changes in tributary activities made new moves of tributary trade.

Firstly, the tributary activities took place less in period 1858-1885 and not as steadily and smoothly as before due to the strict control and obstruction of the French colonist, sometimes it was disrupted (period 1861-1867); as a result, the tributary activities were *not regular and continuous since 1858*.

Basically, the structure of tributary activities in pre-1858 periods unchanged after 1858. However, due to the strong development of the Western science and technology, Nguyen dynasty appointed ambassadors not only to China but also to France buy a steam train and ordered agricultural products and handicrafts to attend the fair in Paris… So, the structure of tributary trade in period 1858-1885 had certain changes.

[4] Name of the photography studio shows his intent to help offspring have died parents' picture to worship for filial piety.



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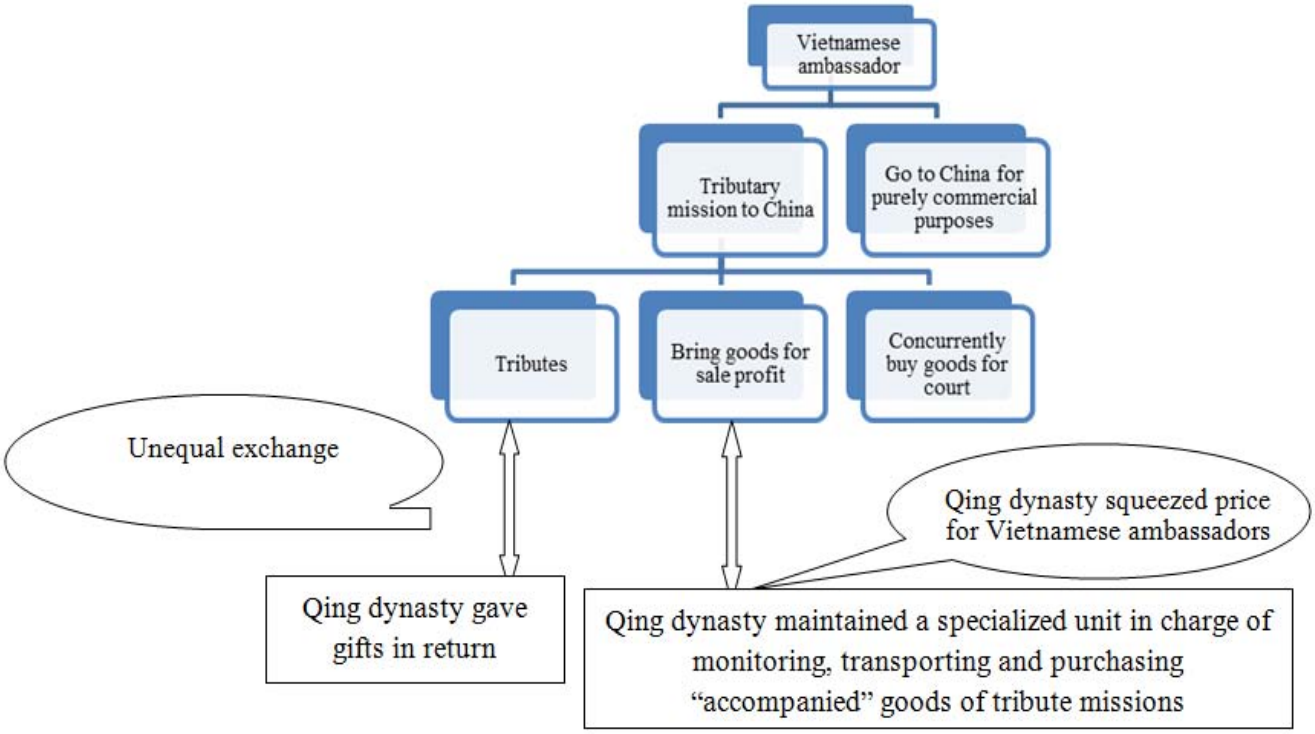



*Diagram 1 :* Tributary trade between Vietnam and China in period 1802 – 1858

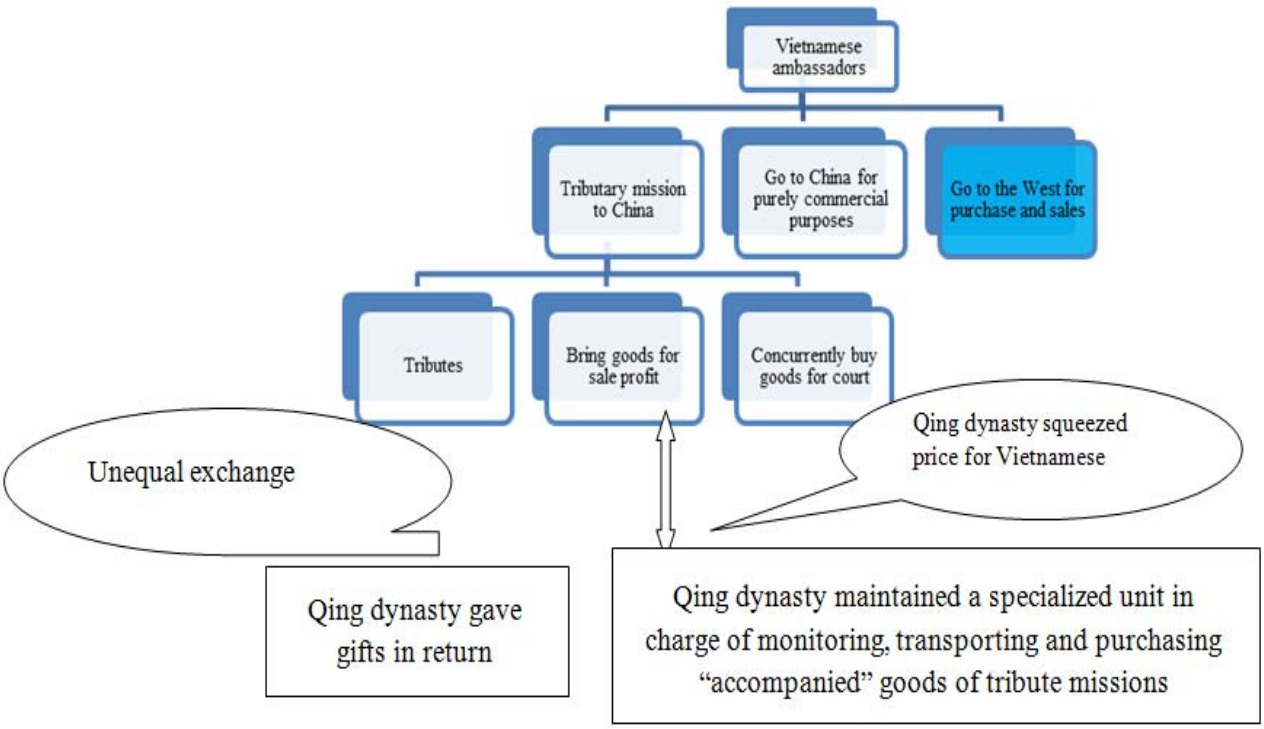



*Diagram 2 :* Tributary trade between Vietnam and China in period 1858 – 1885

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The post-1858 changes in tributary trade proved *the trade vision of Nguyen dynasty had been more broadened than before*, even though, such vision was still largely restricted within the limits of the East.

Besides, on the mission's trips to China in 1865 and 1867 led by Dang Huy Tru, *some Chinese economic sectors such as printing and photography had been initially introduced into Vietnam*. This was a new positive trend of tributary trade in the second half of the 19th century, which promoted the mutually economic – cultural exchanges between Vietnam and China in the feudal time.

## V. General Comments

We can see that while business activities by road and by sea are international trade, mainly conducted by traders and border residents and purchased goods are popular items that people need, tributary activities is always regarded as an officially superior form of trade and purchased goods are mostly luxury consumer goods for senior officials of the court. Therefore, the limitation of this type of trade compared with informal folklore trade activities is something we cannot deny. Yet, with the unique advantage of it (free of charge, duty-free…), the road to China of the diplomatic ambassadors indeed become the exciting trade route between two countries in the feudal time.

However, both commercial and political relations between two countries through historical periods are ups and downs. This is lively demonstrated under the governance of Nguyen dynasty. In the first half of the 19th century (1802-1858), Vietnam-China diplomatic relations were still independent without external dominance or pressure, but in the second half of the 19th century (1858-1885), the France "factor" always affected all diplomatic activities between two countries, including tributary trade activity. Thus, during this period it didn't happen on a regular and smooth basis as before. It is due to two countries must confront with new threats to the life of the nation and the obstruction from the French colonialist.

In particular, if we look at tributary trade activities between China and Vietnam under the feudal time, the predominance and superior position belonged to China. That is the foreign trade restriction of Vietnam in the feudal time generally and also the weakness to be overcome in economic relations with neighboring China from past to present.

In spite of the foregoing weaknesses, the remarkable achievements of Vietnam-China economic relations in the feudal time, particularly "tributary trade" activity contributed to maintain and build a peaceful and strong diplomatic relationship between two countries in the tough historical context and laid a necessary foundation for the continuation and development of Vietnam-China economic ties in the subsequent periods.

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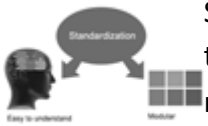



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- Two Column with Equal Column with of 3.38 and Gaping of .2
- First Character must be three lines Drop capped.
- Paragraph before Spacing of 1 pt and After of 0 pt.
- Line Spacing of 1 pt
- Large Images must be in One Column
- Numbering of First Main Headings (Heading 1) must be in Roman Letters, Capital Letter, and Font Size of 10.
- Numbering of Second Main Headings (Heading 2) must be in Alphabets, Italic, and Font Size of 10.

**You can use your own standard format also.**
**Author Guidelines:**

1. General,

2. Ethical Guidelines,

3. Submission of Manuscripts,

4. Manuscript's Category,

5. Structure and Format of Manuscript,

6. After Acceptance.

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2) Drafting the paper and revising it critically regarding important academic content.

3) Final approval of the version of the paper to be published.

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Complete support for both authors and co-author is provided.

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Review papers: These are concise, significant but helpful and decisive topics for young researchers.

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The recommended size of original research paper is less than seven thousand words, review papers fewer than seven thousands words also.Preparation of research paper or how to write research paper, are major hurdle, while writing manuscript. The research articles and research letters should be fewer than three thousand words, the structure original research paper; sometime review paper should be as follows:

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(a)Title should be relevant and commensurate with the theme of the paper.

(b) A brief Summary, "Abstract" (less than 150 words) containing the major results and conclusions.

(c) Up to ten keywords, that precisely identifies the paper's subject, purpose, and focus.

(d) An Introduction, giving necessary background excluding subheadings; objectives must be clearly declared.

(e) Resources and techniques with sufficient complete experimental details (wherever possible by reference) to permit repetition; sources of information must be given and numerical methods must be specified by reference, unless non-standard.

(f) Results should be presented concisely, by well-designed tables and/or figures; the same data may not be used in both; suitable statistical data should be given. All data must be obtained with attention to numerical detail in the planning stage. As reproduced design has been recognized to be important to experiments for a considerable time, the Editor has decided that any paper that appears not to have adequate numerical treatments of the data will be returned un-refereed;

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(h) Brief Acknowledgements.

(i) References in the proper form.

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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 × 10-3 m3, or 4 mm somewhat than 4 × 10-3 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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- 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.

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*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.

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## TECHNIQUES FOR WRITING A GOOD QUALITY RESEARCH PAPER:

**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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**18. Pick a good study spot:** To do your research studies always try to pick a spot, which is quiet. Every spot is not for studies. Spot that suits you choose it and proceed further.

**19. Know what you know:** Always try to know, what you know by making objectives. Else, you will be confused and cannot achieve your target.

**20. Use good quality grammar:** Always use a good quality grammar and use words that will throw positive impact on evaluator. Use of good quality grammar does not mean to use tough words, that for each word the evaluator has to go through dictionary. Do not start sentence with a conjunction. Do not fragment sentences. Eliminate one-word sentences. Ignore passive voice. Do not ever use a big word when a diminutive one would suffice. Verbs have to be in agreement with their subjects. Prepositions are not expressions to finish sentences with. It is incorrect to ever divide an infinitive. Avoid clichés like the disease. Also, always shun irritating alliteration. Use language that is simple and straight forward. put together a neat summary.

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**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 though 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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**Key points to remember:**

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

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A purpose of organizing a research paper is to let people to interpret your effort selectively. The journal requires the following sections, submitted in the order listed, each section to start on a new page.

The introduction will be compiled from reference matter and will reflect the design processes or outline of basis that direct you to make study. As you will carry out the process of study, the method and process section will be constructed as like that. The result segment will show related statistics in nearly sequential order and will direct the reviewers next to the similar intellectual paths throughout the data that you took to carry out your study. The discussion section will provide understanding of the data and projections as to the implication of the results. The use of good quality references all through the paper will give the effort trustworthiness by representing an alertness of prior workings.

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To make a paper clear

· Adhere to recommended page limits

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- Separating a table/chart or figure - impound each figure/table to a single page
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· Keep on paying attention on the research topic of the paper

· Use paragraphs to split each significant point (excluding for the abstract)

· Align the primary line of each section

· Present your points in sound order

· Use present tense to report well accepted

· Use past tense to describe specific results

· Shun familiar wording, don't address the reviewer directly, and don't use slang, slang language, or superlatives

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An abstract is a brief distinct paragraph summary of finished work or work in development. In a minute or less a reviewer can be taught the foundation behind the study, common approach to the problem, relevant results, and significant conclusions or new questions.

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- Reason of the study - theory, overall issue, purpose
- Fundamental goal
- 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)

Approach:

- Single section, and succinct
- As a outline of job done, it is always written in past tense
- A conceptual should situate on its own, and not submit to any other part of the paper such as a form or table
- Center on shortening results - bound background information to a verdict or two, if completely necessary
- What you account in an conceptual must be regular with what you reported in the manuscript
- Exact spelling, clearness of sentences and phrases, and appropriate reporting of quantities (proper units, important statistics) are just as significant in an abstract as they are anywhere else

**Introduction:**

The **Introduction** should "introduce" the manuscript. The reviewer should be presented with sufficient background information to be capable to comprehend and calculate the purpose of your study without having to submit to other works. The basis for the study should be offered. Give most important references but shun difficult to make a comprehensive appraisal of the topic. In the introduction, describe the problem visibly. If the problem is not acknowledged in a logical, reasonable way, the reviewer will have no attention in your result. Speak in common terms about techniques used to explain the problem, if needed, but do not present any particulars about the protocols here. Following approach can create a valuable beginning:

- Explain the value (significance) of the study
- Shield the model - why did you employ this particular system or method? What is its compensation? You strength remark on its appropriateness from a abstract point of vision as well as point out sensible reasons for using it.
- Present a justification. Status your particular theory (es) or aim(s), and describe the logic that led you to choose them.
- Very for a short time explain the tentative propose and how it skilled the declared objectives.

Approach:

- Use past tense except for when referring to recognized facts. After all, the manuscript will be submitted after the entire job is done.
- Sort out your thoughts; manufacture one key point with every section. If you make the four points listed above, you will need a least of four paragraphs.

- Present surroundings information only as desirable in order hold up a situation. The reviewer does not desire to read the whole thing you know about a topic.
- Shape the theory/purpose specifically - do not take a broad view.
- As always, give awareness to spelling, simplicity and correctness of sentences and phrases.

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- Explain materials individually only if the study is so complex that it saves liberty this way.
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- Do not take in frequently found.
- If use of a definite type of tools.
- Materials may be reported in a part section or else they may be recognized along with your measures.

Methods:

- Report the method (not particulars of each process that engaged the same methodology)
- Describe the method entirely
- To be succinct, present methods under headings dedicated to specific dealings or groups of measures
- Simplify - details how procedures were completed not how they were exclusively performed on a particular day.
- If well known procedures were used, account the procedure by name, possibly with reference, and that's all.

Approach:

- It is embarrassed or not possible to use vigorous voice when documenting methods with no using first person, which would focus the reviewer's interest on the researcher rather than the job. As a result when script up the methods most authors use third person passive voice.
- Use standard style in this and in every other part of the paper - avoid familiar lists, and use full sentences.

What to keep away from

- Resources and methods are not a set of information.
- Skip all descriptive information and surroundings - save it for the argument.
- Leave out information that is immaterial to a third party.

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The principle of a results segment is to present and demonstrate your conclusion. Create this part a entirely objective details of the outcome, and save all understanding for the discussion.

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.



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Content

- Sum up your conclusion in text and demonstrate them, if suitable, with figures and tables.
- In manuscript, explain each of your consequences, point the reader to remarks that are most appropriate.
- Present a background, such as by describing the question that was addressed by creation an exacting study.
- Explain results of control experiments and comprise remarks that are not accessible in a prescribed figure or table, if appropriate.
- Examine your data, then prepare the analyzed (transformed) data in the form of a figure (graph), table, or in manuscript form.

What to stay away from

- Do not discuss or infer your outcome, report surroundings information, or try to explain anything.
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- Do not present the similar data more than once.
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- Never confuse figures with tables - there is a difference.

Approach

- As forever, use past tense when you submit to your results, and put the whole thing in a reasonable order.
- Put figures and tables, appropriately numbered, in order at the end of the report
- If you desire, you may place your figures and tables properly within the text of your results part.

Figures and tables

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- All figure and table must be adequately complete that it could situate on its own, divide from text

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- Make a decision if each premise is supported, discarded, or if you cannot make a conclusion with assurance. Do not just dismiss a study or part of a study as "uncertain."
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- You may propose future guidelines, such as how the experiment might be personalized to accomplish a new idea.
- Give details all of your remarks as much as possible, focus on mechanisms.
- Make a decision if the tentative design sufficiently addressed the theory, and whether or not it was correctly restricted.
- Try to present substitute explanations if sensible alternatives be present.
- One research will not counter an overall question, so maintain the large picture in mind, where do you go next? The best studies unlock new avenues of study. What questions remain?
- Recommendations for detailed papers will offer supplementary suggestions.

Approach:

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