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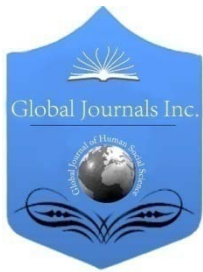
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Off-Farm Income's Share and Farm Investment among Small-Scale Farmers in North-Central Nigeria: The Heckman's Selection Model Approach

By Ogbanje, Elaigwu Christopher, Chidebelu, Sonny A.N.D. & Nweze, N.J.

University of Agriculture, Nigeria

Abstract- The study evaluated the probability of investing offfarm income's share of household income in farming among small-scale farmers in North-Central Nigeria. Multistage sampling technique was used to select 360 respondents. Primary data for the study were analysed using Heckman's two-stage selection model. The lambda of the model was 1.38%, while the chi-square was significant. While education, household size and operating profit margin significantly ($p < 0.05$) increased the probability of off-farm work participation, education, total crop revenue, primary occupation, farm asset to household asset ratio, and asset turnover ratio significantly ($p < 0.05$) increased investible off-farm income's share. Thus, factors in the business environment, other than government policies, shape off-farm work and farm investment decisions. Therefore, policy thrust should focus on interest and tax rates reduction and ease of farm asset acquisition for small-scale farmers.

Keywords: farm, heckman, income, income's share, investment, off-farm, small-scale farmers.

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Off-Farm Income's Share and Farm Investment among Small-Scale Farmers in North-Central Nigeria: The Heckman's Selection Model Approach

Ogbanje, Elaigwu Christopher ^α, Chidebelu, Sonny A.N.D. ^σ & Nweze, N.J. ^ρ

Abstract- The study evaluated the probability of investing off-farm income's share of household income in farming among small-scale farmers in North-Central Nigeria. Multistage sampling technique was used to select 360 respondents. Primary data for the study were analysed using Heckman's two-stage selection model. The lambda of the model was 1.38%, while the chi-square was significant. While education, household size and operating profit margin significantly ($p < 0.05$) increased the probability of off-farm work participation, education, total crop revenue, primary occupation, farm asset to household asset ratio, and asset turnover ratio significantly ($p < 0.05$) increased investible off-farm income's share. Thus, factors in the business environment, other than government policies, shape off-farm work and farm investment decisions. Therefore, policy thrust should focus on interest and tax rates reduction and ease of farm asset acquisition for small-scale farmers.

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I. INTRODUCTION

The agricultural landscape in Nigeria is dominated by rural-based small-scale farmers. Inadequate finance and impeded access to farm credit facilities constitute the major constraint faced by these farmers. Hence, farmers resorted to off-farm work in order to generate fund for farm investment (Ogbanje, Chidebelu & Nweze, 2014a). Off-farm work refers to activities from which farmers earn income apart from their own farm. In Nigeria, off-farm work is broadly disaggregated into agricultural wage employment, non-agricultural wage employment, and self-employment (Babatunde, Olagunju, Fakayode & Adejobi, 2010; Ibekwe *et al.*, 2010; Ogbanje, Chidebelu & Nweze, 2014b).

The off-farm sector is of importance to the rural economy because of its production linkages and employment effects, while the income it provided to rural households could represent a substantial and sometimes growing share of farm capital (Davis, 2003;

Zeller, 2010). The income obtained off-farm doubles as risk minimisation and household income stabilisation strategies in both developed and developing countries (Babatunde, 2008; Blank, Erickson, Nehring & Hallahan, 2009; Briggeman, 2011). Off-farm income also insures against agricultural production risk and market failure (Reardon, 1997; Ellis & Freeman, 2004). It follows that off-farm income's share is a measure of the extent of farm household reliance on off-farm income. Ogbanje (2014) found that off-farm income share of household income constituted 50.28% of household income of small-scale farmers in North-Central Nigeria.

Some researchers have indicated that the inadequacy of farm income and high prevalence of poverty have resulted in the inability of small-scale farmers to meaningfully invest in farm business (Lambert & Bayda, 2005; Kwon, Orazem & Otto, 2006). Others have contended that farmers' resort to sourcing credit from financial intermediaries has not brought the much anticipated farm capital relief (Musser, White & McKissick, 1977; Bagachawa, 2000; Obike, Ukoha & Nwajiuba, 2007). Furthermore, as the farmer allocates his endowed time among farm work, off-farm work, and leisure, off-farm work diverts critical productive resources from the farm sector. The resultant and emerging dual farm structure, which could affect food production, therefore, suggests that so many factors – socioeconomic and farm financial characteristics – could account for participation in off-farm work as well as the amount of off-farm income's share of household income invested in farming.

The study was designed to determine the effect of socioeconomic and farm financial characteristics of farmers on the probability of participation in off-farm work and amount of off-farm income's share of household income invested in farming. Studies on off-farm work are of great importance to agrarian nations and economies in transition. They are also necessitated by the imperativeness to forestall dual farm structure from impairing food production. In addition, the International Fund for Agricultural Development and stakeholders in rural finance could derive models from off-farm work studies that would guarantee adequate

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finance for sustainable food production and rural development. Finally, findings from studies of this nature could enhance proper management of resources accruing from off-farm work, and thus, enable small-scale farmers to take advantage of the policy thrust on agribusiness and financial inclusion.

a) *Theoretical formulation of Heckman's two-stage selection model*

Limited dependent variables are common in social and health studies. The primary characteristics of such variables are censoring and truncation (Vance, 2006). Truncation, which is an effect of data gathering rather than data generation, occurs when sample data are drawn from a subset of a larger population of interest. Thus, a truncated distribution is the part of a larger, untruncated distribution. Assuming that an income survey was administered on a limited subset of a population (e.g. those whose incomes are above a certain threshold), the dependent variable in the survey would be observed only for a portion of the whole distribution. The task of modeling is to use that limited information—a truncated distribution—to infer the income distribution for the entire population. Censoring occurs when all values in a certain range of a dependent variable are transformed to a single value. Using the above example of population income, censoring differs from truncation in that the data collection may include the entire population, but below the given threshold, incomes are coded as zero. Under this condition, researchers may estimate a regression model for a larger population using both the censored and the uncensored data (Cragg, 1971; Vance, 2006).

The central task of analysing limited dependent variables is to use the truncated distribution or censored data to infer the untruncated or uncensored distribution for the entire population. In the context of regression analysis, it is typically assumed that the dependent variable follows a normal distribution. The challenge, then, is to develop moments (mean and variance) of the truncated or censored normal distribution. Theorems of such moments exist. In these theorems, moments of truncated or censored normal distributions involve a key factor called the inverse Mills ratio, or hazard function, which is commonly denoted as. Heckman's two-stage sample selection model, a variant of double hurdle model, uses the inverse Mills ratio to estimate the outcome regression.

The Heckman's model essentially applies the moments of the incidentally truncated bivariate normal distribution to a data generating process. The basic selection equation in Heckman's model is stated as follows:

$$Z_i^* = w_i x_i + u_i$$

where:

Z_i^* = dichotomous and continuous dependent variable,

x_i = exogenous variable,

w_i = coefficient of exogenous variable, and
 u_i = error term.

The conditions for Z_i are set out as follows:

$$z_i = \begin{cases} 1 & \text{if } z_i^* > 0 \\ 0 & \text{if } z_i^* \leq 0 \end{cases}$$

The basic outcome equation is as follows:

$$y_i = \begin{cases} x_i \beta + \epsilon_i & \text{if } z_i^* > 0 \\ 0 & \text{if } z_i^* \leq 0 \end{cases}$$

According to Harris, Blank, Erickson & Hallahan (2010), the investment decision could be viewed as a binary one, i.e. to invest or not. This can be analysed using a dichotomous choice model. However, farmers are also faced with the decision of how much to invest. According to Cragg (1971) and Smith (2002), two hurdles are involved in the process of investment decisions, which can be determined separately or simultaneously. In order to observe a positive level of investment, two separate hurdles must be passed.

These two significant decisions, according to Ahituv and Kimhi (2002), determined the growth of the farmer's earnings through his life-cycle paths in terms of both human and physical capital. At the macro level, the decisions taken by many individual farmers were essential to the overall development of the agricultural sector and the economy as a whole, resulting in major policy implications.

Available empirical findings about inter-temporal analysis of employment choice (Nakamura & Nakamura, 1985; Gould & Saupe, 1989; Weiss, 1997; Corsi & Findeis, 2000) agreed that individuals with previous off-farm employment record were more likely to participate on the off-farm labour market than those who had not (and vice versa).

II. METHODOLOGY

The study area was North-Central Nigeria. The region comprised six states, namely, Benue, Kogi, Nasarawa, Plateau, Kwara and Niger, with a total land mass of 296,898 km² and total population of 20.36 million people. The region is bounded in the north by Bauchi, Kaduna, Zamfara, and Kebbi States; in the south by Cross-River, Ebonyi, Enugu, Edo, Ondo, Ekiti, Osun and Oyo States; in the east by Taraba State and Cameroon; and in the west by the Republic of Benin. Situated between latitudes 6°30" N and 11°20" N and longitudes 7°E and 10° E, the region has average annual rainfall that ranges from 1,500 mm to 1,800 mm, with average annual temperature varying between 20°C and 35°C. North Central Nigeria has 6.6 million hectares of land under cultivation, with rain-fed agriculture accounting for about 90 percent of the production systems (NBS, 2008). Majority of the populace are in agriculture, with farm size ranging from 0.4 to 4.0 ha (FAO, 2002; NFRA, 2008).

The region features prominently in national agricultural production statistics. For instance, Benue and Kogi States were among the states of the federation that cultivated over 200,000 ha of cassava in 2007, with over two million metric tonnes of cassava output. For yam, Benue and Niger States cultivated over 200,000 ha and harvested over two million metric tonnes. Niger State was among the states that cultivated over 300,000 ha of maize and sorghum, with output of over 400,000 metric tonnes. Niger, Benue and Kwara States were among the states that cultivated over 100,000 ha of rice with an output of over 200,000 metric tonnes. For legumes (cowpea, soyabean, bambara nut, and sesame), Niger, Benue and Kogi States ranked among the highest producers in the country (NFRA, 2008).

Multistage sampling technique was used to select respondents for the study. Using simple random sampling in stage one, Benue, Kogi and Niger States were selected from the region. In stage two, simple random sampling was used to select two agricultural zones from each state namely, zones A and C from Benue State, zones B and D from Kogi State, and zones A and B from Niger State. In stage three, simple random sampling was used to select two local government areas (LGAs) from each agricultural zone. In Benue State, the LGAs were Ukum and Katsina-Ala from zone A, and Otukpo and Oju from zone C. In Kogi State, the LGAs were Dekina and Bassa from zone B, and Ofu and Olamaboro from zone D. In Niger State, the LGAs were Shirorro and Paikoro from zone A, and Gbako and Lavun from zone B. In stage four, three farming communities were randomly selected from each LGA. Finally, using stratified random sampling, 10 small-scale farmers (five participants and five non-participants in off-farm work) were selected from each farming community giving a total sample size of 360 respondents.

Data for the study were obtained from primary source with the aid of pre-tested structured questionnaire, which was validated as recommended by Kerlinger (1973). Test-retest method and Pearson's product moment correlation coefficient were used to ascertain the reliability of the instrument. Heckman's two-stage selection model was used to analyse the data for the study.

a) Empirical formulation of Heckman's two-stage selection model

The model had two dependent variables – the dichotomous (y_1) and continuous (y_2). The specification was as follows:

$$Y^* = b_0 + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + b_9x_9 + b_{10}x_{10} + b_{11}x_{11} + b_{12}x_{12} + b_{13}x_{13} + b_{14}x_{14} + b_{15}x_{15} + b_{16}x_{16} + e_i$$

$$Y^* = Y_1 \text{ and } Y_2,$$

Y_1 = probability of participation in off-farm work (1 = participated, 0 otherwise),

Y_2 = amount of off-farm income's share of household income invested in farming (₦),

X_1 = age of farmer (years),

X_2 = sex of household head (1 = male; 2 = female),

X_3 = education of farmer (number of years spent in formal educational institutions),

X_4 = household size (number of people in a farm household),

X_5 = farming experience (years),

X_6 = total farm size (ha),

X_7 = total crop revenue (₦),

X_8 = distance to market (km),

X_9 = primary occupation (1 = farming; 0 otherwise),

X_{10} = land ownership (1 = own farm land; 0 otherwise),

X_{11} = government payment (₦),

X_{12} = ratio of farm assets to household assets,

X_{13} = operating profit margin,

X_{14} = asset turnover ratio,

X_{15} = capital input (₦),

X_{16} = farm capital (₦).

β = coefficient of explanatory variables.

III. RESULTS AND DISCUSSION

a) Participation in Off-farm Work and Amount of Off-farm Income's Share invested in Farming

The analysis of the probability of participation in off-farm work and the amount of off-farm income's share invested in farming is as presented in Table 1. The lambda of the model provided the proportion of total variability not explained, which was 1.38%. This meant that the variables in the model accounted for 98.62% of the variation in the amount of off-farm income's share of household income that was invested in farming. The chi-square of the model was statistically significant ($p < 0.01$). Hence, socioeconomic and farm financial characteristics of farmers have significant effect on their participation in off-farm work and the amount of off-farm income's share of household income that was invested in farming.

In the first hurdle, age had no significant effect on the probability of participation. In the second model, however, age significantly ($p < 0.01$) reduced the amount of off-farm income's share as a percentage of household income invested in farming. A 10% increase in the age of farmers would result in 0.01% decrease in the amount of off-farm income's share invested in farming. As a farmer advanced in age, the intensity of off-farm work, as well as the associated income, reduced. More so, the tempo of farm activities and the level of total investment dropped. All these contributed to the reduction in total household income and the off-farm income's share that was reserved for farm investment. The results of the two models contradicted Harris *et al.* (2010) and El-Osta (2011) where age did not significantly affect off-farm work participation decision or the level of capital invested in farming.

In the first hurdle, farm size had no significant effect on the probability of participation but significantly ($p < 0.01$) reduced the amount of off-farm income's share that was invested in farming. The implication is that a 10% increase in farm size would result in 0.05% decrease in the amount of off-farm income's share invested in farming. The inverse relationship could be attributed to the fact that increasing farm size imposed restriction on off-farm work participation as well as the income from the sector. Although, Harris *et al.* (2010) showed empirically that larger farmers required larger capital expenditures, as the farm size of a household increased, off-farm work and off-farm income declined, thereby reducing the amount of off-farm income's share invested in farming.

In the second hurdle, government payment significantly ($p < 0.01$) reduced the amount of off-farm income's share invested in farming, implying that a 10% increase in government would result in 0.001% decrease in the amount of off-farm income's share invested in farming. Those who were in government service would pay relatively less attention to farming and, hence, reallocated their off-farm income's share to the non-farm sector. Thus, the more of government payment they received, the farther away they drifted from farming. In Harris *et al.* (2010), government payment did not significantly affect investment in the second hurdle.

In the first hurdle, operating profit margin significantly ($p < 0.05$) increased the probability of participating in off-farm work. This implied that a 10% increase in operating profit margin would increase the probability in off-farm work participation by 0.74%. This would have arisen from the prudent management of funds injected into farm enterprises. The benefit obtained in the previous period would have informed and sustained the resolve to participate in off-farm work in line with life-cycle hypothesis of Ahituv and Kimhi (2002). The result was consistent with Lagerkvist, Larsen

& Olson (2006), suggesting the possibility of larger farm firm growth.

Capital input significantly ($p < 0.05$) reduced the probability of participating in off-farm work. The implication was that a 10% increase in capital would decrease the probability of off-farm work participation by 0.003%. For some farmers to participate in off-farm work, they obtained loan or diverted part of their credit for farm investment to off-farm sector. This loan, in rural areas, attracted high interest rate (Nweze, 1990). Again, off-farm businesses were more vulnerable to taxes from various authorities than farm businesses. Thus, capital input, which comprised interest paid on loan and taxes, could discourage and limit participation in off-farm work.

The ratio of farm asset to household asset significantly ($p < 0.05$) increased the share of off-farm income that was invested in farming. The implication was that a 10% increase in the ratio of farm asset to household asset would increase the investible off-farm income's share by 0.25%. Higher ratios shifted emphasis towards farm assets relative to household assets. More farm assets would require maintenance and, eventually, replacement at the end of the useful period. In either of these scenarios, off-farm share came handy.

Asset turnover ratio significantly ($p < 0.01$) increased the amount of off-farm income's share that was invested in farming. This implied that a 10% increase in asset turnover ratio would raise farm-investible off-farm income's share by 0.05%. In other words, for every one naira of asset held, a farm household generated annual off-farm income of ₦0.0048. Hence, the more a farm household converted the utilisation of its farm assets to income, the more it would invest its off-farm income's share in farming. According to Myyra, Pietola & Heikkila (2011), this ratio described the capital rotation speed in agriculture.

Table 1: Participation in off-farm work and amount of off-farm income's share invested in farming (n=360)

Independent variables		Coefficient	z	P => z
	Age (years)	0.0881	0.93	0.35
	Sex (1=male, 0 otherwise)	-0.5434	-0.56	0.578
	Education (years)	11.2431	2.06**	0.039
Decision to participate in off-farm work model	Household size	0.9972	2.19**	0.029
	Farming experience (years)	-0.1406	-1.60	0.11
	Total farm size	-0.9168	-1.44	0.151
	Total crop revenue (₦)	0.0003	0.45	0.655
	Distance to market (km)	-0.3432	-0.84	0.401
	Primary occupation (1=farming, 0 otherwise)	2.6734	1.48	0.14
	Land ownership (1=own farmland, 0 otherwise)	-284.1234	-13.00*	0.000
	Government payment (₦)	0.00009	1.86	0.063

	Ratio of farm asset to household asset	-3.8003	-1.56	0.118
	Operating profit margin	798.1200	2.12**	0.034
	Asset turnover ratio	-0.0385	-0.32	0.748
	Capital input (₦)	-0.0079	-2.12**	0.034
	Farm capital (₦)	0.0009	-1.25	0.212
	Constant	0.2919	8.28*	0.000
	Age (years)	-0.0013	-4.08*	0.000
	Sex (1=male, 0 otherwise)	-0.0006	-0.09	0.93
	Education (years)	0.0171	2.53**	0.011
	Household size	0.0012	1.15	0.252
	Farming experience (years)	0.0004	1.68	0.093
Amount of off-farm income's share invested in farming (₦)	Total farm size	-0.0052	-3.49*	0.000
	Total crop revenue (₦)	0.000004	2.25**	0.024
	Distance to market (km)	-0.0004	-0.37	0.712
	Primary occupation (1=farming, 0 otherwise)	0.0107	2.12**	0.034
	Land ownership (1=own farmland, 0 otherwise)	-	-	-
	Government payment (₦)	-0.0001	-12.94*	0.000
	Ratio of farm asset to household asset	0.0245	2.00**	0.046
	Operating profit margin	0.0737	0.30	0.764
	Asset turnover ratio	0.0048	6.65*	0.000
	Capital input (₦)	0.0003	0.78	0.437
	Farm capital (₦)	0.00001	5.67*	0.000

*, ** significant at 1% and 5%, respectively; $\Lambda = 0.01377$; $\rho = 0.48381$; $\Sigma = 0.02846$; $\chi^2(15) = 631.33$; $\text{Prob} > \chi^2 = 0.000$;

Source: computed from field survey, 2013

Farm capital significantly ($p < 0.01$) decreased the amount of off-farm income's share invested in farming, implying that a 10% increase in farm capital would reduce farm-investible off-farm income's share by 0.0001%. This meant that farmers with low farm capital level would invest more of their off-farm income's share in farming so as to shore up their farm capital level. In line with Mundlak (1993) that capital constraints constituted major determinants of the rate of adoption of new technologies, the investment of off-farm income's share would then raise the level of acquisition and utilisation of relevant technologies.

Education significantly ($p < 0.05$) reduced the odds of participating in off-farm work. The implication was that a 10% increase in the number of years of formal education would increase the probability of off-farm work participation. In Nigeria, the elites either abhorred farming or substituted farm labour with capital. This increased their probability to participate in off-farm work. In the second model, education increased the amount of off-farm income's share ($p < 0.05$) that was invested in farming. This implied that more number of years of formal education increased the amount of off-farm income's share that was allocated to farm investment. Higher level of education conferred on

farmers increasing efficiency in farm management skills. This was in line with Harris *et al.* (2010) that highly educated farm operators used off-farm income to finance farm investment.

The first hurdle showed that household size significantly ($p < 0.05$) increased the probability of participating in off-farm. Hence, a 10% increase in household size would raise the probability of off-farm work participation by 0.01%. Large household implied increased consumption expenditure profile. A rational head of large household would seek for additional sources of income or investment that would smoothen the path of consumption. Therefore, the need to participate in off-farm work heightened. This was in line with the push factor diversification of Reardon (1997) which induced households to manage income and consumption uncertainties via diversification. In the second model, however, household size had no significant effect on the amount of off-farm income's share invested in farming.

Land ownership significantly ($p < 0.01$) increased the odd of participating in off-farm work, implying that increase in land ownership by 10% would lead to increase in the probability of off-farm work participation by 0.001%. Farmers who operated on own

farmland could afford to intensify investment on the land and even exploit expansion effect as against those who held temporary farmland rights. Own farm land operators would normally be inclined to seek investment fund off-farm where credit constraint was prevalent. This finding was inconsistent with Jerome (2002) that more secure rights improved household's ability and readiness to increase investment, provided better access to credit, and reduced transaction cost associated with land transfers. Besley (1995) corroborated that more secure tenure to a plot of land increased the probability that individuals would undertake a wide range of investment on the land. This variable, however, did not have significant effect on the amount of off-farm income's share invested in farming.

Total crop revenue significantly ($p < 0.05$) increased the amount of off-farm income's share that was invested in farming. This meant that additional 10% of crop revenue would increase farm-investible off-farm income's share by 0.00004%. The more income a farm household generated from the farm sector, the more of its off-farm income's share it invested in farming. This is because the economic well-being of a farm is evaluated in terms of farm income. Myyra *et al.* (2011) noted that commercial farms were profitable if they produced annual income and accumulated expected value over time.

Primary occupation significantly ($p < 0.05$) increased the amount of off-farm income's share invested in farming. This meant that if additional 10% of farmers chose farming as primary occupation, farm-investible off-farm income's share would rise by 0.11%. This implied that farmers who derived their livelihood largely from farming reinvested more off-farm income's share in farming. This, according to Kwon *et al.* (2006), was in response to large fluctuations in farm income faced by farm households.

IV. CONCLUSION AND RECOMMENDATIONS

Surrounding business and environmental factors affect shape the decision to seek farm capital relief from the off-farm sector. These factors also determine the proportion of off-farm income that could be transferred to farm investment. Thus, it is axiomatic that the small-scale farmer exercises some independent level of farm investment decision. Some inhibitive factors beyond his control are also in this ambient environment.

It was recommended that the government and the International Fund for Agricultural Development should consciously regulate the business environment in the rural areas in a way that farmers invest off-farm income in farming. Policy thrust should focus on reduction in interest and tax rates for small-scale farmers; deliberate transition to market-oriented agricultural production that would improve crop revenue; and ease of asset acquisition. These measures would strengthen production chain linkages and

facilitate employment generation, thereby sustaining agribusiness development in Nigeria.

REFERENCES RÉFÉRENCES REFERENCIAS

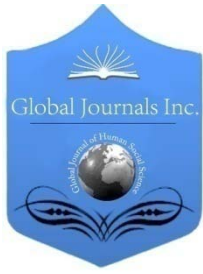
- Ahituv, A. & Kimhi, A. (2002). Off-farm work and capital accumulation decisions of farmers over the life-cycle: The role of heterogeneity and state dependence. *Journal of Development Economics*, 68, 329 – 353.
- Besley, T. (1995). Property rights and investment incentives: Theory and evidence from Ghana. *Journal of political economics* 103, 5 – 11.
- Davis, J.R. (2003). The rural non-farm economy, livelihoods and their diversification: Issues and options. Report 1, *NRI Report No. 2753*.
- Babatunde, R.O. (2008). Income portfolios in rural Nigeria: composition and determinants. *Trends in Agricultural Economics*, 1(1), 35 – 41.
- Bagachawa, D. (2000). The rural informal sectors in Tanzania. In: *Farewell to Famine: De-agrarianisation and Employment in Africa*, Brycesson, D. & Jamal, D. (eds), United Kingdom: Aldershaft, Ashgate.
- Blank, S.C., Erickson, K.W., Nehring, R. & Hallahan, C. (2009). Agricultural profits and farm household wealth: A farm-level analysis using repeated cross sections. *Journal of Agricultural and Applied Economics*, 41(1), 207 – 225.
- Corsi, A. & Findeis, J.L. (2000). True state dependence and heterogeneity in off-farm labour participation. *European Review of Agricultural Economics*, 27 (2), 127–151.
- Cragg, J.G. (1971). Some statistical models for limited dependent variables with applications to the demand for durable goods. *Econometrica*, 39, 829 – 844.
- El-Osta, H. (2011). The Impact of human capital on farm operator household income. *Agricultural and Resource Economics Review*, 40(1), 95–115.
- FAO (2002). *Land Tenure and Rural Development*. FAO Land Studies No. 3, Rome, Italy.
- Gould, B.W. & Saupe, W.E. (1989). Off-farm labour market entry and exit. *American Journal of Agricultural Economics*, 71(4), 960 – 969.
- Harris, J.M., Blank, S.C., Erickson, K. & Hallahan, C. (2010). Off-farm income and investments in farm assets: A double-hurdle approach. Selected Paper prepared for presentation at the *AAEA, CAES, and WAEA Joint Annual Meeting*, Denver, Colorado, July 25-27, 2010, 19pp.
- Jerome, A. (2002). Land rights and investment incentives in Western Nigeria. *Paper prepared for presentation at the Beiyer Research Seminar on Property Right Structures and Environmental Management in South Africa*. 24pp.
- Juvančič, L. & Erjavec, E. (2003). Intertemporal analysis of employment decisions on agricultural

- holdings in Slovenia. Contributed paper selected for presentation at the 25th International Conference of Agricultural Economists, Durban, South Africa, 18pp.
15. Kwon, C., Orazem, P.F. & Otto, D.M. (2006). Off-farm labor supply responses to permanent and transitory farm income. *Agricultural Economics*, 34, 59 – 67.
 16. Lagerkvist, C., Larsen, K. & Olson, K. (2006). Off-farm income and farm capital accumulation: a farm-level data analysis. *Annual Meeting of the American Agricultural Economics Association*, California, 22pp.
 17. Lambert, D.K. & Bayda, V.V. (2005). The impact of financial structure on production efficiency. *Journal of Agricultural and Applied Research*, 37(1), 277 – 289.
 18. Mundlak, Y. (1993). On the empirical aspects of economic growth theory. *American Economic Review* 83 (2), 415 – 420.
 19. Musser, W.N., White, F.C. & McKissick, J.C. (1977). An analysis of optimal farm capital structure. *Southern Journal of Agricultural Economics*, ageconsearch.umn.edu/bitstream/29295/1/09010163, pp 1 – 6.
 20. Myyra, S., Pietola, K. & Heikkila, A. (2011). Farm-level capital: capital positions, structures, the dynamics of farm-level investments, capital accumulation and leverage positions. *Factor Market Working Paper*, No. 7, www.factormarket.eu.
 21. Nakamura, A. & Nakamura, M. (1985). Dynamic models of the labour force behaviour of married women which can be estimated using limited amounts of past information. *Journal of Econometrics*, 27, 273 – 298.
 22. National Bureau of Statistics (2008). *Annual Abstracts of Statistics*. Abuja: National Bureau of Statistics, 134pp.
 23. National Food Reserve Agency (2008). *Report of the 2007 Agricultural Production Survey*. Federal Ministry of Agriculture and Water Resources. 89pp.
 24. Nweze, N.J. (1990). The Structure, Functioning and Potentials of Indigenous Co-operative Associations in Financing Agriculture. The Case of Anambra and Benue States, Nigeria, A Ph.D Thesis submitted to Department of Agric. Economics, University of Nigeria, Nsukka.
 25. Obike, K.C., Ukoha, O.O. & Nwajiuba, C.U. (2007). Poverty reduction among farmers in Nigeria: The role of National Directorate of Employment. *The Medwell Agricultural Journals* 2 (4), 530 – 534.
 26. Ogbanje, E.C. (2014). Farm-level analysis of off-farm work and farm capital accumulation among small-scale farmers in North-Central Nigeria. Ph.D thesis submitted to the Department of Agricultural Economics, University of Nigeria, Nsukka.
 27. Ogbanje, E.C., Chidebelu, S.A.N.D. & Nweze, N.J. (2014a). Off-Farm Diversification among Small-Scale Farmers in North- Central Nigeria. *Journal of Economics and Sustainable Development* 5 (13), 136 – 144.
 28. Ogbanje, E.C., Chidebelu, S.A.N.D. & Nweze, N.J. (2014b). Discriminant Function Analysis of Factors affecting Off-farm Diversification among Small-scale Farmers in North Central Nigeria. *Journal of Economics and Sustainable Development* 5 (13), 127 – 135.
 29. Reardon, T. (1997). Using evidence of household income diversification to inform study of the rural nonfarm labor market in Africa. *World Development* 25:735-747.
 30. Smith, M. (2002). On specifying double-hurdle models. In: *Handbook of Applied Econometrics and Statistical Inference*, Ullah, A., Kwan, T.K. & Chaturvedi, A. (eds), New York: Marcel Dekker Incorporated.
 31. Vance, C. (2006). Marginal effects and significance testing with Heckman's sample selection model: A methodological note. *RWI Discussion Papers No. 39*. <http://hdl.handle.net/10419/18590>.
 32. Weiss, C.R. (1997). Do they come back again? The symmetry and reversibility of off-farm employment. *European Review of Agricultural Economics*, 37, 1149 – 1168.
 33. Zeller, M. (2010). Models of rural financial institutions. *An International Conference on Best Practices*, http://www.basis.wisc.edu/live/rfc/theme_models.pdf.





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The Dynamic Stochastic General Equilibrium Model for the Monetary Policy Analysis in Tunisia

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The ultimate goal of the model is to be used in simulation exercises, policy advice and forecasting at the Bank of Tunisia.

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GJHSS-E Classification : *FOR Code: 140202*



THE DYNAMIC STOCHASTIC GENERAL EQUILIBRIUM MODEL FOR THE MONETARY POLICY ANALYSIS IN TUNISIA

Strictly as per the compliance and regulations of:



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The Dynamic Stochastic General Equilibrium Model for the Monetary Policy Analysis in Tunisia

Abdelli Soulaïma ^α & Belhadj Besma ^α

Abstract- The paper is aimed to the behaviour analysis of the Tunisian economy with inflation targeting regime represented by a New Keynesian dynamic stochastic general equilibrium model. This model is employed as a macroeconomic method of modelization to analyze this policy estimated with the Bayesian technique in a response to many exogenous shocks. The paper tests the model's proprieties on recent Tunisian data. Moreover, it shows the monetary policy transmission mechanism. The model seems to give a satisfactory approximation of the Tunisian economy behaviour.

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I. INTRODUCTION

Nowadays many events threaten the Tunisian economy and compel the economists to develop the monetary policy. We note for example the growing public debts illustrated by the change in levels of debt/GDP ratio in major industrialized countries from 2007 to 2010. According to the International Monetary Fund (IMF), the budget deficit in Tunisia evolve from 1.1% in 2010 to 3.5% of GDP in 2011 hence the ratio (debt/GDP) increase from 40% of GDP in 2010 to 44.5% of GDP in 2011. Also the inflation rate was 4.9% in 2008 and becomes 6% in 2014. (Amiri and Talbi, 2013) underlined the evolution of the inflation in Tunisia. It was under control after a spike in August 2006 to 4.490% due to the rise in international oil prices, the periods of excess of liquidity and the deteriorating of the exchange terms. However in May 2007, it recognizes an important reduction to 2% due to the monetary tightening and the acceleration of the real GDP's growth to 5%¹. They observed from the graphic that the average variation of the Consumer Price Index

(CPI) was around 4.43% in 2011 and begins to go up to 5.15% in 2010. The aim of this study is to highlight the monetary transmission mechanisms (MTM). In this field, (Boughrara, 2007) criticized the limited knowledge of this mechanism in Tunisia considered as an handicap that delays the implementation of Inflation Targeting (IT). This paper also intend to show the main driving forces behind Tunisian business cycle and to understand how the shocks and monetary policy of inflation targeting transmit into the Tunisian economy using the Dynamic Stochastic General Equilibrium model (DSGE) model. In fact DSGE is chosen in this case because it had several attractive advantages for the analysis of the macroeconomic policy compared to VAR, like for example the escapement from the Lucas critique, the fact that they are structural, microfounded. The model is forward looking as it sets the importance of expectations of the agents and the credibility of the Central Bank (Tetlow, 1999). It also provides an integrated approach to the study of the business cycle and the optimal response of the policy-makers to shocks. It evaluates the success of the adoption of inflation targeting regime. However, issues like the technical capabilities and the Central Bank's autonomy, are most of time lacking in the most emerging market economies, so they are not explicitly considered in our context. The Monetary policy of the Central bank in this case is represented by the generalized Taylor rule. We should remember that the subject of inflation targeting became more important since the vast literature on "the Science of Monetary Policy" concentrates on the industrial countries and the developed emerging markets (Clarida et al. 1999; Taylor, 1998; Smets and Wouters; Villarverde, 2009; Lubik and Shorfheide, 2007). Even so, there is a few literature about the emergent countries implementing targeting we note for instance (Peiris and Saxegaard, 2007; Benes et al., 2007; Ben Aissa and Rebei, 2009). As far as the objectives of the monetary policy are concerned. We note for instance stabilizing the prices' level, the economic growth, the financial market and minimizing the unemployment. In accordance with the Article 33 of the new Law No. 2006-26 concerning the organization of the BCT

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¹ due to the expansion of the agriculture sector as well as a recovery in the textile sector

(Central Bank of Tunisia), the objective of monetary policy is to maintain the prices stability. To this end, the issuing institution will use the interest rate as a basic instrument to act on the prices (Chockri and Frikha,2011). They elucidated that the Tunisian central bank intend to keep the inflation rate to the level comparable to its partners and competitors²(especially the European union). They added that the Tunisian monetary authority adjust systematically the exchange rate to maintain the inflation differential, and therefore preserve the external competitiveness. This paper focuses on stabilizing prices via the technique of the inflation target.Since 1987, the Tunisian monetary authority tried to ensure a policy of economic growth and to control the inflationary pressure. So it created a financial sector reform in 1988 via the liberalization of the interest rates and the gradual removal of the volume 's control and the composition of the credits. In fact, the monetary policy in Tunisia recognized a deep mutation. It replaces the direct and discretionary instruments by the intervention in the monetary market. Also it adopted a device which consist in targeting the currency (M3) whose operational target is the monetary base. In 2010,the Board of Directors of the Central Bank decided the adoption of a monetary policy which aimed at controlling the inflation , ensuring an adequate financement of the economy to maintain unchanged the interest rate .It also monitors the shift in the international conjunctures and its possible impact on the national economy and the balance of payments in particular(Amiri andTalbi,2013).The inflation targeting monetary strategy is not a new approach. Indeed, it was first implemented in New Zealand in 1990, then in the developed economies like Finland, Sweden, Australia, The Czech Republic, Poland, Brazil, Chile, Colombia, South Africa, Thailand, South Korea, Mexico etc followed this strategy. The success that New Zealand, Canada or Great Britain is witnessed through an inflation that does not overcome the claimed **flation target (Ammer and Freeman, 1995)**. Inflation targeting was adopted only in1999 by the developed countries (Leiderman and Svenson, 1995; McCalum, 1996; Bernanke et al. 1999). Given the benefits of this policy in terms of credibility and anchor expectations, Tunisia plans to adopt it in the medium run, also it is guided to a flexible exchange rate. According to (Baccar, 2008), the Tunisian governor of the Central Bank at that time, IT is closely linked to the capital account liberalization, the total convertibility of the currencies, the flexibility of the exchange rate, the competitiveness of the country,

the unemployment, the independency of the Central Bank, the depth of the financial market and the banking system's strength.

The paper is outlined as follows. Section 2 discusses the modeling strategy of the DSGE model. Section3 briefly outlines the estimation procedure and describes the estimation results using the Bayesian technique (Smets and Wouters, 2002) to find the posterior mode, the variance decomposition and the impulse response function of the macroeconomic variables to different shocks. Section 4 summarizes the main findings of this paper.

II. DSGE MODEL FOR THE MONETARY POLICY ANALYSES

Actually much research has been conducted to investigate the impact of (IT)on the macroeconomic variables . For example (Vasicek and Musil, 2005) analyzed the behavior of the Czech economy with (IT) regime following DSGE model. They found that the model seems to give a very satisfactory approximation of the Czech economy behavior.(Benes et al. 2007) used a DSGE model to support the monetary policy in the emerging market economies following (IT). They tested the model's properties on recent Turkish data, and show that the main stylized features relevant for the monetary policy making, are well captured by the model. (Vítola and Ajevskis, 2011) assessed the implications of IT versus the fixed exchange rate regime for seven EU non-euro area countries with DSGE model. They found that in all the countries the IT monetary rule guarantees more stable inflation and output than under the other regimes i.e fixed or flexible exchange rate. (Burriel et al,2010) described the main features of the Spanish economy for the policy analysis using the MEDEA (Modelo de Equilibrio Dinámico de laEconomía Española) type of DSGE model which is estimated with the Bayesian techniques, and performed different exercises to illustrate the potential of MEDEA. (Peiris and Saxeegard, 2007) evaluated the monetary policy-tradeoffs like the exchange rate peg and the IT in low-income countries using a (DSGE) model estimated on Mozambique data taking into account the sources of major exogenous shocks, and the level of the financial development. The transition to the IT regime needs the comprehension of the monetary transmission mechanism. To do so, the basic New-Keynesian model (the DSGE) in the spirit of (Villaverde, 2009) is described. In this model 3 agents are presented. Begining by the households, the latter represent a continuum so that we can obtain a whole distribution of wages with each household charging its own differentiated wage. The need of a balanced growth path implies that the household maximizes the lifetime utility of the form:

² According to European central bank(BCE) the price stability is defined when the annual inflation rate is inferior to 2% and near to 2%

$$E_0 \sum_{t=0}^{\infty} \beta^t e^{d_t} \left\{ \log c_t - e^{\varphi_t} \psi \frac{l_t^{1+\theta}}{1+\theta} + v \log \left(\frac{mb_t}{p_t} \right) \right\} \quad (1)$$

The utility function depends on the consumption c_t , employment l_t and real money balances mb_t/p_t . In this case E_0 is the conditional expectation operator, p_t is the price level, β is the intertemporal discount factor representing time preferences. The period utility function is affected by two shocks ε_d and ε_φ which are normally distributed $N(0,1)$. The demand shock is an intertemporal preference shock d_t which makes the agent consume more or less in the current period.

$$d_t = \rho_d d_{t-1} + \sigma_d \varepsilon_{d,t} \quad (2)$$

The other shock is a shock to labor supply φ_t that captures the movements in the observed wedge relating to the preference between leisure and labor (Hall, 1997).

$$\varphi_t = \rho_\varphi \varphi_{t-1} + \sigma_\varphi \varepsilon_{\varphi,t} \quad (3)$$

Both shocks follow an autoregressive process of order 1. Their autoregressive coefficient and their standard deviation are respectively ρ_d , ρ_φ and σ_d , σ_φ . The household can save on capital k_{t-1} with a depreciation rate δ , so that the investment on physical capital x_t satisfies :

$$k_t = (1-\delta)k_{t-1} + x_t \quad (4)$$

They can also save on money balances mb_t , or government bonds b_t paying a nominal gross interest rate of R_t .

The first order condition (FOC) of the household are:

$$\frac{e^{d_t}}{c_t} = \lambda_t \quad (5)$$

Where λ_t is the lagrangian multiplier associated with the budget constraint.

$$e^{\varphi_t} \psi l_t^\theta c_t = w_t \quad (6)$$

The equation above is the leisure choice where θ is the frish labor supply elasticity and Ψ the weight on leisure.

The pricing kernel is defined by:

$$m_t = \beta \frac{\lambda_t}{\lambda_{t-1}} \quad (7)$$

The final goods' producing firm produces the final domestic goods (y_t) using the intermediate domestic goods

(y_{it}) with the following production function:

$$y_t = \left(\int_0^1 y_{it}^{\frac{\varepsilon-1}{\varepsilon}} di \right)^{\frac{\varepsilon}{\varepsilon-1}} \quad (8)$$

where ε is the elasticity of substitution between consumption today and tomorrow across the domestic intermediate goods. The final goods' firms maximize profits in a perfectly competitive environment subject to the production function.

As far as the Intermediate goods' producers are concerned, there is a continuum of intermediate goods' producers in a competitive market who rent the capital and labor. Each one is defined by i producer and has access to technology represented by a production function:

$$y_{it} = A k_{it-1}^\alpha (e^{z_t} l_{it})^{1-\alpha} \quad (9)$$

Where α is the elasticity of output to capital, A is a scaling parameter which stands for a neutral technology level, k_{it-1} is the capital rented by the firm, l_{it} is the amount of labour input rented by the firm and z_t is the technology growth rate which follows AR(1) process which is defined by:

$$z_t = \rho_z z_{t-1} + \sigma_z \varepsilon_{z,t} \quad \text{where } \varepsilon_{z,t} \sim N(0,1) \quad (10)$$

It is worth stating that the firm has constant returns to the scale, so the output rises by the same proportional change in inputs. The marginal cost does not depend on i , i.e all the firms receive the same technology shocks and all the firms rent inputs at the same price.

The marginal cost is given by:

$$mc_t = \left(\frac{1}{1-\alpha} \right)^{1-\alpha} \left(\frac{1}{\alpha} \right)^\alpha \frac{w_t^{1-\alpha} r_t^\alpha}{A e^{(1-\alpha)z_t}} \quad (11)$$

Where r_t is the rental price of capital. The intermediate goods' producers consider that they are subject to a Calvo pricing mechanism, so they choose the price that maximizes the discounted real profits. In each period a fraction $1-\theta$ is considered of the firms that can change their prices. It is the probability of reoptimizing prices, while the others keep the previous prices. The firm change their prices to satisfy:

$$p_t^{1-\varepsilon} = \theta p_{t-1}^{1-\varepsilon} + (1-\theta) p_t^*{}^{1-\varepsilon} \quad (12)$$

The recursive equation of prices:

$$\varepsilon g_t^1 = (\varepsilon - 1) g_t^2 \quad (13)$$

The recursive equation for prices 2 :

$$g_t^1 = \lambda_t mc_t y_t + \beta \theta E_t \Pi_{t+1}^\varepsilon g_{t+1}^1 \quad (14)$$

The recursive condition for prices 3:

$$g_t^2 = \lambda_t \Pi_t^* y_{t+1} + \beta \theta E_t \Pi_{t+1}^{\varepsilon-1} \left(\frac{\Pi_t^*}{\Pi_{t+1}^*} \right) g_{t+1}^2 \quad (15)$$

The government is considered as the last agent in the model. The latter decides the nominal interest rates through the open market operations that are financed through lump-sum transfers T_t according to the following Taylor rule as a function of the past interest rates, and the inflation :

$$\frac{R_t}{R} = \left(\frac{R_{t-1}}{R}\right)^{\gamma_R} \left(\frac{\pi_t}{\pi}\right)^{\gamma_\pi (1-\gamma_R)} \exp(\sigma_m m_t) \quad (16)$$

In this Taylor rule π is the target level of inflation (equal to the inflation in the steady state) and $R = \frac{\pi}{\beta}$ is the steady state nominal gross return of capital. ε_{m_t} is a random shock to the monetary policy normally distributed with an autoregressive coefficient ρ_m and a standard deviation σ_m . The implementation of the interest rate can be shown either through the open market operations or through the paying interest on bank reserves. The monetary policy yields either a surplus or a deficit in both cases that is eliminated through lump-sum transfers T_t to the households. The equilibrium of the economy is characterized by the first order conditions of the household, the firms, the Taylor rule of the government and the market clearing.

III. THE BAYESIAN ESTIMATION OF THE DSGE MODEL

To ensure that the model is not stochastically singular and to reproduce the dynamic in the data, a number of stochastic shocks are incorporated in the model. The shocks that affect the economy in this case are the intertemporal, the productivity, the labor supply and the monetary shock. To estimate the parameters of the DSGE model, the data are quarterly chosen covering the time interval from 1980Q1 to 2011Q4. We use time series for 7 macro-economic variables in Tunisia which are defined by the real gross domestic product (GDP), the consumption, the total investment, the inflation, the real wages, the employment and the nominal interest rate. All the data are supplied by the International Financial Statistics (IFS), the web site of the Central Bank of Tunisia, and the National Statistics Institute of Tunisia web site (INS). The output, consumption, investment, employment were transformed to quarterly data using low to high quadratic-much-sum converter of EViews. The macroeconomic variables were transformed into real per capita. The missing data are filled by K Nearest Neighbor (KNN) of matlab. According to (Juillard et al. 2004) the time trend in the data are removed on the key macro variables with Hodrick Prescott filter. All the seasonal features of the series are removed using X12 ARIMA FILTER because the theoretical model is not designed to pick up the seasonal fluctuations in the macro-economic data. The seasonally adjusted data are also considered in

logarithms except the wage rate. The DSGE model is estimated using the Bayesian techniques. It is worth reminding that this approach which characterizes the posterior distribution of the parameters of the model places a prior distribution $p(\theta)$ on the deep parameters and updates the prior through the likelihood function. (Geweke, 1998) shows that this is directly related to the predictive performance of the model and it is useful for the policy analysis and forecast. This Bayesian approach enables us to process the model and the uncertainty parameter explicitly and seeks a model with the highest posterior probability. For the calibrated values which are quite standard in the literature, the paper refers to the values of (Villaverde, 2009) and (Ben Aissa and Rebei, 2009) which are based on the parameterization of (Backus and Crucini, 2000). The quarterly discount factor β in equation (1) is set equal to 0.98 so that a yearly nominal R interest rate is about 4% at the steady-state. The latter is annualized so that $\beta = \exp[-r/400]$. The steady state rate of inflation π defined in the equation (16) is set to 1.005. The quarterly depreciation rate of capital $\delta = 0.025$ noted in the equation (4) is chosen like the value calibrated in the low income countries detected by (Peiris and Saxegaard, 2007). The persistence of all the shock $\rho_\phi, \rho_z, \rho_d$ presented respectively in equation (3), (10) and (2) is set to 0.8 but their associated standard deviation are different. For example, the standard deviation for the productivity shock determined in equation (10) in our case is very low $\sigma_z = 0.01$ according to (Gali and Monacelli, 2005) and to the average of the international business cycle literature. This is because the new technologies are usually introduced slowly in respect to the quarterly periods. The standard deviation of the monetary shock expressed in equation (16) is very low where $\sigma_m = 0.005$ and the corresponding autoregressive coefficient is set to 0, $\rho_m = 0$. Table 1 exhibits the calibrated parameters that are selected according to the literature and by the theoretical restrictions imposed on some of the parameters while the table 2 displays the steady state result.

Table1 : Calibrated parameters

Parameters	Value	Description	Parameters	value	Description
β	0.98	Discount factor	Autoregressive coefficient (persistence) of the shocks		
α	0.35	Elasticity of output to capital ratio	ρ_α	0.8	Degree of smoothing the preference shock
ψ	1/3	The weight on leisure	ρ_ψ	0.8	Degree of smoothing the productivity process
θ	0.5	Frish labor supply elasticity	ρ_θ	0.8	Degree of smoothing of labor supply shock
A	1	Technology level	Shock standard deviation		
δ	0.025	Depreciation rate of capital	σ_α	0.025	Standard deviation of preference process
ε	8	Elasticity of substitution	σ_ψ	0.01	The standard deviation of labor supply shock
θ	0.75	a fraction of firms that keep the previous price.(does not change price)	σ_θ	0.01	The standard deviation of technology (productivity)shock
π	1.005	Target level of inflation	σ_m	0.005	The standard deviation to monetary shock
γ	1.5	The degree of interest rate smoothing			

As for the choice of the prior distribution of the parameters. The Beta distribution is selected for the parameters that lie between 0 and 1 such as the autocorrelation coefficients of the shock processes ρ . The Normal distribution was chosen for the unconstrained parameters while the Inverse Gamma and gamma distribution was selected for the shocks and the parameter values greater than zero i.e real positive value. For the choice of the mean and the standard deviation of the priors, we refer to the model

of (Villaverde, 2009) and (Smets and Wouters, 2007). The average duration in which a firm can optimize its price are centered around four quarters. According to(Smets and Wouters, 2002),it is two and a half years(2,5) .The estimation result are demonstrated in table 3 and 4.The Posterior distributions of the model's parameters are yielded using MATLAB/Dynare toolbox. Different posterior simulation methods are presented by (Geweke, 1998) to calculate the marginal likelihood .

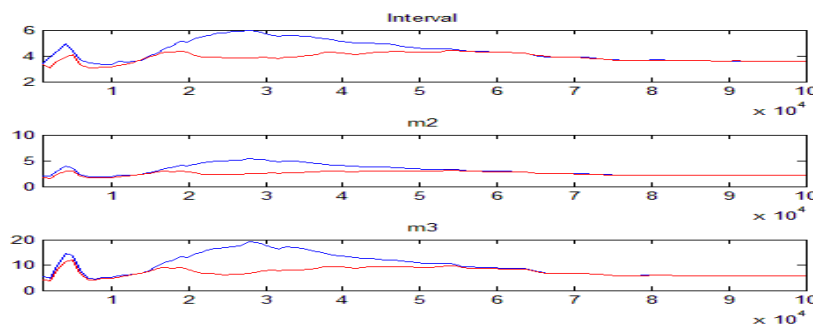


Figure 1 : Multivariate diagnosis(convergence diagnosis)

The Metropolis–Hastings sampling algorithm (MH) is a simulation method used for the estimation of the DSGE model (Smets and Wouters, 2003) to compute the posterior inference referring to (Brooks and Gelman, 1998) and this is achieved by generating a sample and approximate posterior distributions. Draws are generated from the posterior using the MH, then the resulting empirical distribution are used to obtain the point estimates, the standard

deviations, etc. Our estimates point is the mean of the posterior. Figure 1 depicts three statistics diagnostic graphs for the MH. There are three measures reported by the dynare “interval” which is constructed from a 90% confidence interval around the parameter means. “m2” is the measurement of the variance and “m3” is a measurement of the third moment. The Markov Chain Monte Carlo (MCMC) algorithm is applied to yield draws from the posterior distribution to draw the

inference on the parameters. According to the multivariate and univariate diagnostics, a sample of 100000 draws were sufficient to ensure the convergence of the Metropolis-Hastings sampling algorithm. Especially The MCMC is run with 100000 draws with 2 parallel chains of MH algorithm. In each case of the three figures, dynare reports both within and between the chains' measures. The red line measures the parameter vector within the chains while

the blue line measures the parameter vector between the chains. The convergence of the MH method measures computed within and between the chains should converge. An overall convergence is reached after 100000 draws. There are many convergence diagnoses, which enable the determination of the chain convergence. Without convergence verification, the approximation of the posterior distribution is not credible (Grabek et al. 2011).

Table 2 : Steady state results

Parameter	Value	Description	Parameter	Value	Description
Utility			mc	0.875037	Marginal cost
lagrangian	1.20317	Lagrangian multiplier	π	1.005	Inflation rate
allocation			π^*	1.01623	Inflation at the equilibrium
y	1	output	Rn	1.02551	Nominal interest rate according to taylor rule
c	0.831141	consumption	v	1.00144	Price dispersion inefficiency
x	0.168859	Investment	Auxiliary function		
l	0.333333	labour	g1	4.47853	Recursive equation for prices2
k	6.75437	capital	g2	5.11832	Recursive equation for prices 3
Prices			Stochastic process		
m	0.98	Pricing kernel	d	0	Intertemporal shock
r	0.0454082	Interest rate	φ	0	Labor shock
w	1.70878	Real wage	z	0	Productivity shock

Table 3 reports the mode and the mean as well as 90% per cent confidence interval of the posterior probability which reflects the uncertainty on the structural parameters. The confidence interval reports the 5, and 95 percentile of the standard deviation of the posterior distribution of the parameters obtained through the MH sampling algorithm. The Calvo parameter or the price stickiness parameter of the intermediate good producers for the price adjustment determined in equation (12) presents information about the timing of the price and the wage setting decisions by the domestic firms and the households. The posterior mean of this parameter is found $\theta = 0.4997$ i.e 49% of firms do not reoptimize their price setting implying a price duration of the non optimizing firms of $1/(1-\theta) = 1.99$ quarters. This means that the nominal prices are fixed for 2 quarters approximatively. This parameter is important but it is low compared to the one of the euro area which is nearly 3 quarters for $\theta = 0.9$ see (Smets and Wouters, 2003; Adolfson et al. 2005; Galí and Gertler, 1999). Knowing that the inflation is negatively correlated to the price stickiness. If there is a high rigidity, there will be a sluggish or gradual response (increase or decrease) of inflation to a monetary shock

(Mankiw, 2000; Christiano et al. 2011). This rigidity rationalizes the persistent effect of the monetary shock and brings about a lesser fluctuation of the variable. The posterior mean of the Frish labor supply elasticity ϑ defined in (6) is 1.5128. According to (Burriel et al. 2010), the posterior mean of this elasticity in the Spanish economy accounts for 1.83, which is in line with most estimations for the other countries. As an example, (Smets and Wouters, 2007) estimate a high Frisch elasticity of 1.9. The value found is rather credible once we think about both the intensive and the extensive margin of the labor supply. Also (Hall, 2009) affirmed that the fluctuation in the total hours worked in the economy as the workers involuntarily lose jobs in economic downturns and regain jobs as economic conditions improve, is largely due to the changes in the number of workers who move in and out of unemployment rather than to changes in workers' desired work hours. The elasticity of output to the capital which is the relative shares of the capital in the goods production noticed in equation (9) is set to $\alpha = 0.4102$. According to (Adjemian and Devulder, 2010) this parameter α obtained from the Cobb-Douglas function is situated between [0,1] interval. They think that it is nearly in the neighborhood of 1/3 as the

conventional settings. In terms of the posterior mean of the elasticity of substitution of consumption given by equation (8) ϵ , it amounts to 2.7209. This value is not consistent with the log preferences and the

findings of (Casares, 2001) for the euro area and the RBC literature which assumes an elasticity of substitution between a half and one.

Table 3 : Structural parameters prior and posterior distribution (Estimation results)

Parameter	Prior distribution	Prior Mean	Prior Standard deviation	Maximized posterior (estimated maximum posterior)			
				mode	mean	Confidence interval Posterior distribution (MH)	
						5%	95%
β (bbeta)	gamma_pdf, G2($\mu, \sigma, p3$)	0.250	0.1000	0.0705	0.0705	0.0698	0.0712
Ψ (ppsi)	normal_pdf, N(μ, σ)	9.000	3.0000	19.9816	20.2257	20.0599	20.4362
ϑ (zzeta)	normal_pdf, N(μ, σ)	1.000	0.2500	1.5330	1.5128	1.4888	1.5321
α (aalpha)	normal_pdf, N(μ, σ)	0.300	0.0250	0.4121	0.4102	0.4079	0.4119
δ (ddelta)	beta_pdf, B($\mu, \sigma, p3, p4$)	0.025	0.0030	0.0365	0.0366	0.0363	0.0369
ϵ (eepsilon)	normal_pdf, N(μ, σ)	1.500	0.3700	2.7001	2.7209	2.6673	2.7799
θ (ttheta)	beta_pdf, B($\mu, \sigma, p3, p4$)	0.500	0.1000	0.4897	0.4997	0.4911	0.5071
ρ_d (rrhod)	beta_pdf, B($\mu, \sigma, p3, p4$)	0.500	0.2000	0.6731	0.6855	0.6709	0.7011
ρ_ϕ (rrhophi)	beta_pdf, B($\mu, \sigma, p3, p4$)	0.500	0.2000	0.9925	0.9554	0.9401	0.9718
ρ_z (rrhoz)	beta_pdf, B($\mu, \sigma, p3, p4$)	0.500	0.2000	0.999	0.9999	0.9999	0.9999

However, in this case it is highly conspicuous that consumers are less responsive than expected to change their current consumption decisions in response to the interest rate shocks. This value is not very far compared to the inverse of the intertemporal elasticity of the consumption substitution perceived by (Gelain and Kulikov, 2009) which is centered around 1.85. It is higher than the value 1.39 reported by (Smets and Wouters, 2003) for the euro area. When it comes to the estimates of the autoregressive coefficients of the stochastic processes, we can see that they are high as they reflect a high degree of persistence found in the data. Based on the posterior mean, the estimates of the smoothing degree of the preference shock noted in equation (2) is $\rho_d = 0.6855$ considered important. So it has an effect on the permanent change in the preference. The other estimated coefficients imply a higher persistence for the labor supply shock $\rho_\phi = 0.9554$ detected in equation (3). This persistence, coming from the labor disturbance, is sufficient to describe the observed dynamics of the Tunisian time series. The persistence for the productivity shock noticed in (10), is $\rho_z = 0.9999$ which seems to be in line with the literature as well as with the benchmark studies for the euro area (Smets and Wouters, 2003)

and (Adolfson et al, 2005). In this context (Burriel et al. 2010) observed that the estimation of the autoregressive parameters 's shock processes show that the domestic shocks are very persistent, especially those related to demand, public consumption, and preferences. The next set of the parameters reported in Table 4 is related to the standard deviation of the shock. Beginning with the labor supply shock σ_ϕ defined in equation (3), it is estimated to 0.0574 so they are not very important in explaining the business cycle fluctuation. Henceforth, the deviation of the preference shock observed in (2) is $\sigma_d = 0.0566$. The monetary shock is larger with a mean of $\sigma_m = 0.0725$. Finally the productivity shock presented in (10) has the value of $\sigma_z = 0.5357$ which is the most volatile. It is crucial to refer to the previous studies in the Tunisian economy with DSGE. For the instance, the research carried out by (Ben Aissa and Rebei, 2009) who detected the standard deviation of the technology shock both for the subsidized and the non subsidized intermediate goods which amounts to 0.00925 on average. It is more volatile than the monetary shock set to 0.001 on average, and that of (Jouini and Rebei, 2013) who noticed respectively the standard deviation for both the technology and the



monetary shock 0.012 and 0.007 on average, to finally corroborate the same outcome.

Table 4 : Shock, prior distribution and posterior distribution

Parameter	domain	Prior distribution	Prior Mean	Standard deviation	Maximized posterior			
					mode	mean	Confidence interval	
							5%	95%
σ_d (ssigmad)	R+	inv_gamma_pdf,	0.100	2.0000	0.1302	0.0566	0.0302	0.0832
σ_ϕ (ssigmaphi)	R+	inv_gamma_pdf	0.100	2.0000	0.0396	0.0574	0.0259	0.0828
σ_z (ssigmaz)	R+	inv_gamma_pdf	0.100	2.0000	0.5410	0.5357	0.4801	0.5880
σ_m (ssigmam)	R+	inv_gamma_pdf	0.100	2.0000	0.0464	0.0725	0.0245	0.1231

a) The Impulse response function

These functions are used to demonstrate the behavior of the model and the fit to the data as well as the responses of the macroeconomic variables to the shocks equal to one standard deviation. All impulse

responses are reported as a percentage deviations from the model's steady state. They are displayed in figures 3-6. These figures show the 5 and 95% confidence bands implied by the posterior distribution of the parameters.

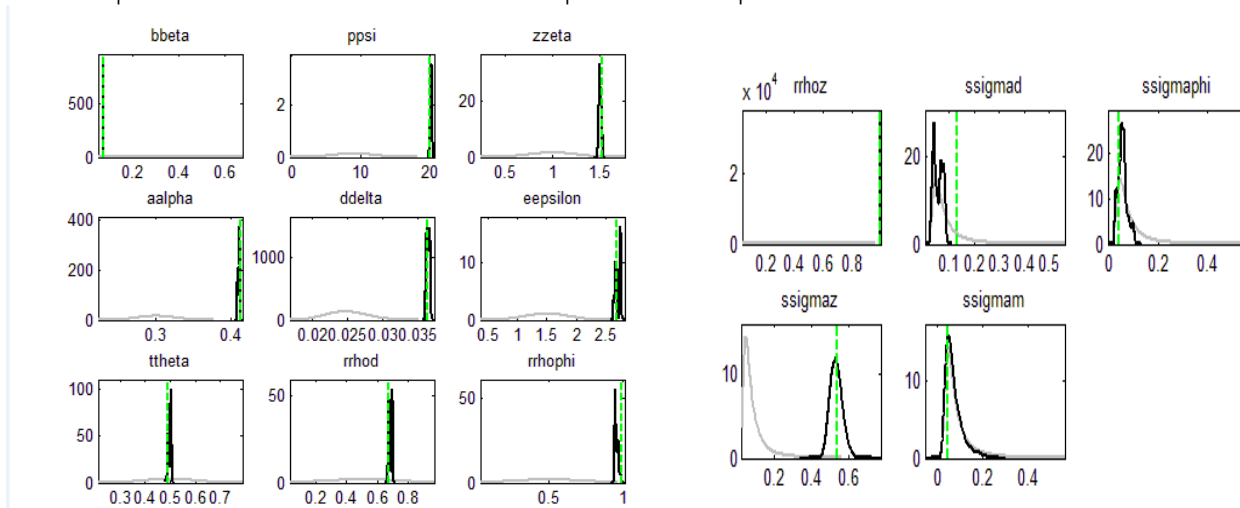


Figure 2 : The prior (light colored line) and posterior (dark colored line) distributions; the green vertical line is the posterior mode

Beginning with the monetary shock reported in figure 3 which assumes that the monetary authority temporarily deviates from its rule by surprisingly raising the nominal policy rates. It is the contractionary or the restrictive monetary policy via the increase in the interest rate. Our estimates of this shock are different from the findings of (Peersman and Smets, 2000 ; Mkrтчyan et al. 2009; Vasicek and Musil, 2005; Gelain and Kulikov, 2009; Smets and Wouters, 2002). Nevertheless, our result is nearly the same as (Daboussi et al. 2013; Chockri and Frikha, 2011), who studied the possibility of applying the IT in Tunisia. Despite the slight increase in the output (y) defined by (8) which can encourage the investment (x) observed in (4) as well as the employment (l) and consumption (c)

defined in (1) only in the short run, it tends to disappear and levels off near zero in the long run leading to a slowdown of the economic activity. As regards the inflation (ppi) presented in (16), there is latter soars at the beginning of the period. This surging inflation was detected by many researchers like (Benes et al. 2007) after four years, (Huseynov, 2010) who picked up an increase in the CPI inflation in Turkey and (Burriel et al. 2009) who focused on the Spanish economy using the (MEDEA). Over time, (Daboussi et al. 2013; Chockri and Frikha, 2011) revealed that the effect on the inflation is stabilized or even vanished. (Burriel et al. 2009) emphasized that the monetary shocks seem effective in controlling inflation in a relatively swift manner. In the long run,

just as inflation, the production and the interest rates detected in(11) are close to zero. As far as the nominal interest rate is concerned(R_n) presented in

(16), it is declining in the stable economies (Benes et al. 2007; Mkrtychyan et al. 2009; Daboussi et al. 2013; Chockri and Frikha. 2011) .

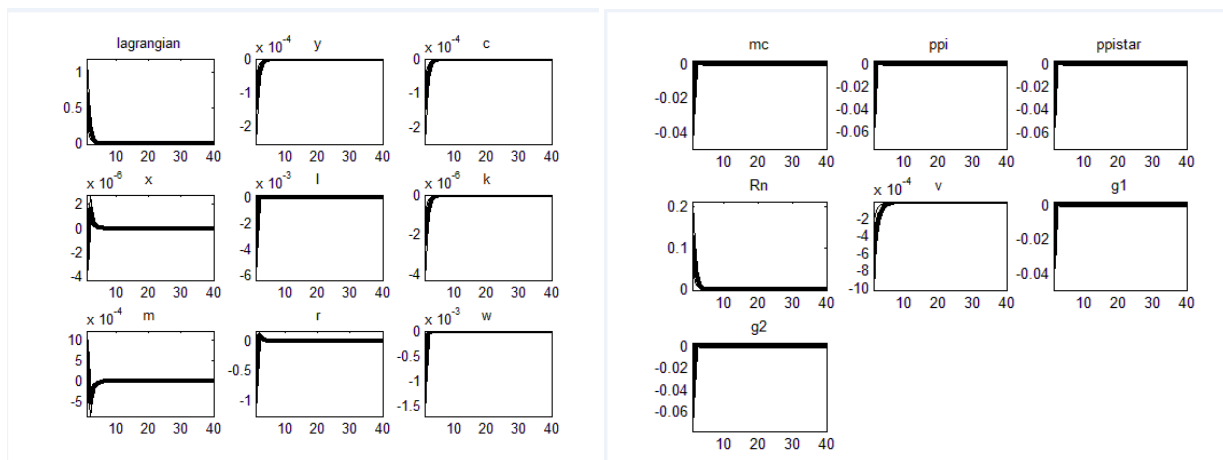


Figure 3 : The Model variables response to the-one standard deviation monetary shock

In fact, in the long run, the reduction in the money supply via the interest rate reduces proportionally the inflation. As stated by Friedman "inflation has a monetary origin". Therefore, the

currency has no effect on the production and the nominal interest rate in the long run. In absence of the money effect in the long run, we can conclude that it is neutral.

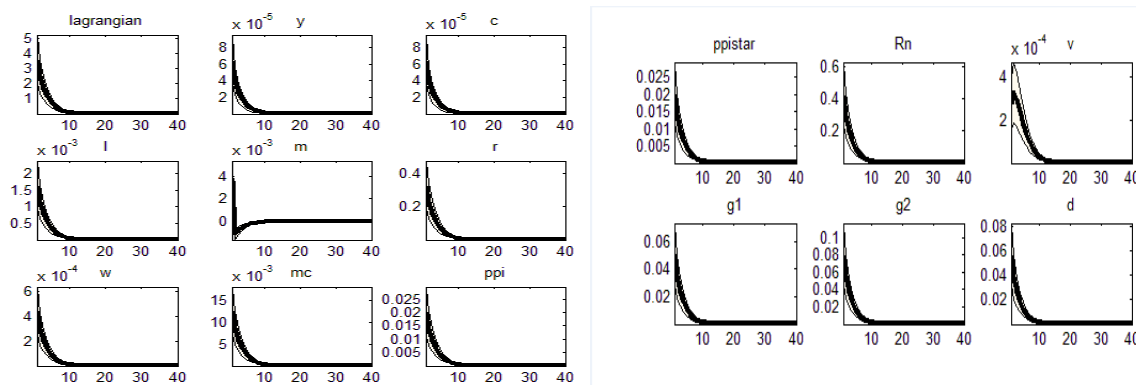


Figure 4 : The Model variables response to one the standard deviation intertemporal(preferance) shock

Figure 4 plots the intertemporal preference shock or the discount factor shock. The latter is a demand shock which make the agent prefer to consume more or less in the current period. The consumption choices can be affected by the deep habit that it not mentioned in this case. Our result is different from the one of (Smets and Wouters, 2002) focusing on the effect of a positive preference shock, that is an increase in the interest in consumption, and to the temporary shock of (Vasicek and Musil, 2005) in terms of inflation, output and interest rates. It is also different from (Grabek et al. 2011) with the positive preference shock, in terms of consumption, output, employment ,domestic prices and interest rate. On the other hand, we find that labor supply (l) as well as

the real wage(w) reveal a downward trend. This is justified by the decreasing demand in consumption that puts pressure on the real wage which will drop making the marginal cost (mc) defined in (11)and the inflation(ppi) fall.(Smets and Wouters, 2004) claimed that the downturn in the US economy is mostly driven by a negative preference and an investment shock.

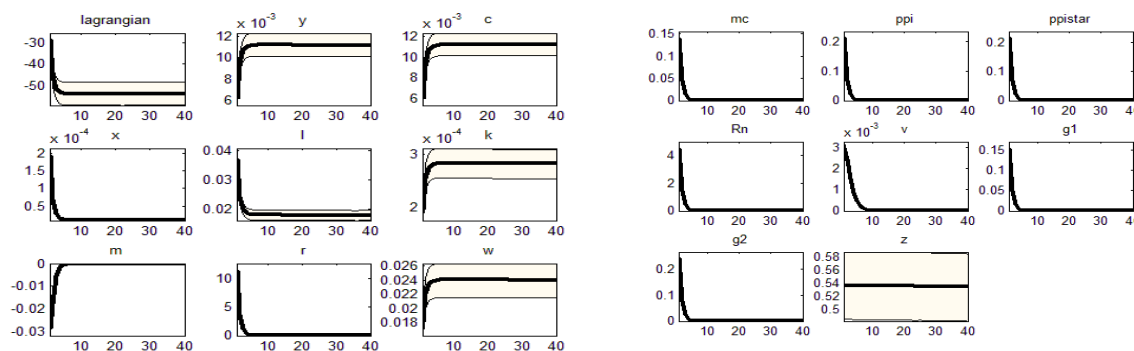


Figure 5 : Model variables response to one standard deviation technology shock from the steady state

The technology or the productivity shock is represented in Figure 5. When there is a high productivity, the representative intermediate goods-producing firms are able to produce more goods at a lower price. Therefore we can deduce like (Adnen and Frikha, 2011) and (Daboussi et al. 2013), that in the short term, a supply shock has a positive effect on production which is rising (around 10^{-2}). According to the conventional theory, a rise in the productivity and an improvement in the production technology leads to an increase in the output(y) and the consumption(c). In this context,(Jouini and Rebei, 2013) highlighted that the increasing production shock in the goods' sector raises demand throughout the Tunisian economy and hikes the aggregate outputs as well. For more information, we can refer to the results of (Gelain and Kulikov, 2009; Mkrtychyan et al. 2009; Smets and Wouters, 2002; Huseynov, 2010). This shock makes the price level or the inflation(ppi) decline in the short term because the monetary policy cannot offset the decline in the marginal cost (Peiris and Saxegaard, 2007). According to (Mkrtychyan et al. 2009), the inflation decreases owing to the reduction of the production cost and the higher labor productivity. Also (Huseynov, 2010) ascertains that more production and more distribution networks imply a decrease in the domestic price which leads to a drop in the domestic inflation. The interest rate(r) dips in the short run. (Mkrtychyan et al. 2009) and (Benes et al. 2005) claimed that the monetary authority responds to deflation by lowering interest rates. Furthermore, (Grabek et al. 2011) added that lower inflation implies a reduction of the interest rate. This result is similar to the one of (Smets and Wouters, 2003;Gelain and Kulikov,2009). In the medium term, it is important to remember the finding of (Chockri and Frikha, 2011; Daboussi et al. 2013) who revealed that this positive effect of the supply shock on output(y), the nominal interest rate (R_n) and the price level are more likely to decline and vanish. Therefore this shock effect becomes negligible and tends to be absorbed in the long run. Concerning the investment(x), it declines as

the result found by (Jouini and Rebei, 2013) in Tunisia because of the depreciation of the real exchange rate according to them. Employment(I) declines as a result of the interaction between the sticky prices and the technological shift pointed out by (Gali,1999; Smets and Wouters,2002; Peiris and Saxegaard, 2007 ;Grabek et al. 2011).(Peiris and Saxegaard, 2007) explained that the reason that makes the firms reduce employment is the decrease of the aggregate price level and the rise of the aggregate demand less than the growth of productivity. (Peiris and Saxegaard, 2007) and (Grabek et al. 2011), discovered that the marginal cost (mc)of the domestic production falls across all the firms due to the rise in productivity (Smets and wouters, 2002).The latter enables them to lower the prices of the domestic goods(Mkrtychyan et al. 2009). Finally, following this positive productivity shock ,the real wage(w) gradually rises in the medium term which is consistent with the result of (Gelain and Kulikov, 2009) and (Smets and Wouters, 2002).

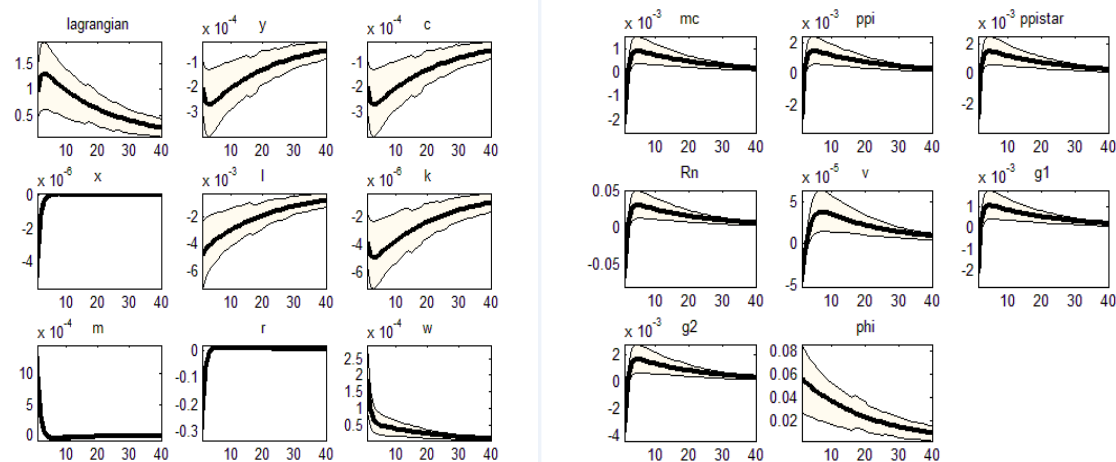


Figure 6 : Model variables response to one standard deviation labor shock from the steady state

Eventually, there is another interesting shock which is the labor-shock interpreted by a rise in the labor supply. This shock is displayed in the figure 6 . Since the end-nineties, there have been significant shifts in the Tunisian economy, mainly due to the increase in the labor force participation, the large immigration flows and the integration of the women and the young manpower in the labor market. It is noticeable that the nominal interest rate(R_n) has increased then leveled off. There is also a wage -reduction (w). In this context, (Gelain and Kulikov, 2009) puts forward that when working- hours increase, wages drop which imply a reduction in the domestic inflation(ppi) in the long run via the effect of the reduction of the marginal cost(mc). Indeed, (Smets and Wouters, 2002) showed that the fall in real wages leads to a fall in the marginal cost as well as a decrease in the inflation. To further elucidate the trend of these two variables, one can refer to (Grabek et al. 2011) who confirms that the marginal costs of domestic production as well as the inflation rise in the short term' then will slightly decrease in the medium term. He also justified that an increase in the price of labour services makes the inflation important.

In our case, the output as well as the consumption insignificantly drop in the beginning of the period but will recover very shortly. This reduction in the output is explained by a large negative demand shock, when the labor supply was negative (Burriel et al. 2010). However, in the medium and the long run there is a stimulation of consumption (c) which in turn boosts the output(y) and the investment(x) because of the fall of the inflation (Gelain and Kulikov, 2009). The Employment(l) rises in line with the rise in the output(y) like the findings of (Smets and Wouters, 2002) due to the fall in the leisure. The investment is improved due to the augmentation of the consumption and the reduction of the leisure. The result related to output, consumption and investment

the one of (Grabek et al. 2011) in analyzing the increase in the importance of the leisure. According to them, an improvement of the leisure ,leads to the reduction in the investment, the GDP , the employment and the consumption.

b) Variance decomposition

The importance of the structural shock which contributes to the dynamics of the state variable in the DSGE model is measured by the share of the total variation that a shock explains for each variable of the model (Gelain and Kulikov, 2009).Table 5 presents the variance decomposition result for the Tunisian economy. The most important shock is the monetary shock ϵ_m which accounts for 50% of the state variables. The second shock is the intertemporal shock ϵ_d defined in (2). It accounts for approximately 45% of the variance of the variables. The other shocks have a marginal contribution to the overall variability of the model notably the labor shock. Concerning the output variation, like the results of (Smets and Wouters, 2002), they are driven primarily by the monetary shock $\epsilon_m= 55.81\%$ and the intertemporal shock $\epsilon_d =20.04 \%$, but the labour and the productivity shocks contribute successively with 4.96 % and 19.20 % of the error variance.

Table 5 : Variance decomposition (in percent) (HP filter, lambda = 1600)

	ϵ_d	ϵ_ϕ	ϵ_z	ϵ_m
y	20.04	4.96	19.20	55.81
c	90.94	1.40	4.83	2.82
x	47.49	2.82	11.64	38.05
l	22.30	5.50	7.99	64.22
k	67.93	4.00	16.51	11.55
w	4.82	0.92	14.49	79.77
r	10.34	1.93	10.58	77.16
Π	10.97	2.16	12.51	74.35
Rn	40.30	7.92	45.95	5.82

Moreover, it is noted that the most striking shock that contributes to the inflation variability is the monetary shock with $\epsilon_m=74.35\%$. As (Daboussi et al. 2013), we find the prevalence of the monetary shock over the inflation rate. So an anti-inflation policy is deemed necessary. This is contrary to the result of (Smets and Wouters, 2002) who noticed that the monetary shock account little for the variation of the inflation. Besides, there is the productivity shock with $\epsilon_z=12.51\%$. The contribution of the preference shock ϵ_d is not negligible with 10.97 %. In some research previously carried out, there are other shocks like the wage mark up and the price mark up shock that are very crucial in the contribution of the inflation variability. Unfortunately they are not available in this paper. For the interest rate, the most visible shock is also the monetary shock which contributes with $\epsilon_m=77.16\%$ to the variation of the latter. Then, follows the productivity shock with $\epsilon_z=10.58\%$ and the preference shock with the contribution of $\epsilon_d=10.34\%$ of the variability of the interest rate. For the employment, the most striking shock is again the monetary shock ϵ_m with 64.22%; then occurs the preference ϵ_d with 22.30% and finally the labor shock that accounts for $\epsilon_\phi=5.50\%$ of the employment variability. To conclude for the real wage variable, it is necessary to mention that in the study of (Smets and Wouters, 2002) the wage mark up shock is the most conspicuous in the variation of the real wage, but in this case, the monetary shock occurs at the top with a part of $\epsilon_m=79.77\%$ and the productivity ϵ_z shock comes after with a contribution of 14.49 % of the real wage variability.

IV. CONCLUSION

This paper provides a simple neoknesian model of (Villaverde, 2009) represented by DSGE to evaluate the transmission of the monetary policy in Tunisia and to see the effect of applying the IT policies. To do so, the Central Bank must stabilize the prices according to the Taylor rule to adjust the interest rate. This model is estimated with the Bayesian techniques with the nominal rigidities using seven macroeconomic variables and 4 shocks. The empirical properties of the model is examined by studying its impulse-response functions and its variance decomposition. The estimated DSGE turned out to have economically plausible properties in terms of the propagation of the key economic shocks into the Tunisian economy and their contribution to the business cycle fluctuations. It seems to show a suitable approximation of the behavior of the Tunisian economy with respect to the results. The findings reveal that the monetary shock bears a significant influence on inflation. The graphics and estimations show the importance of the interest rate channel to

stimulate the output and the consumption.. In addition, it is worth noticing that there are some conditions to be met before choosing this regime policy. According to (Mishkin, 2000; Batini and Laxton, 2005), these conditions are the independency of the Central Bank, the advanced infrastructure techniques for a reliable forecasting, the solid financial system, also having a low inflation because of the difficulty of forecasting inflation and hitting an inflation target in the conditions of high and volatile inflation (Hammond, 2012). (Pétursson, 2000) pointed out that there are other factors beyond the control of the Central Bank that have short-term effects on inflation making it difficult to implement like the fiscal dominance and the labor market conditions. Concerning the limits of this study, (Kvasnicka, 2001) and (Mizen, 1998) affirmed that the examples of success achieved by many countries do not mean that IT is the best conduction driven by the monetary policy. Until now researchers don't know whether this regime is more suitable for the developed countries (Masson et al. 1997) or for the emerging countries. They cannot take general conclusions for this policy because the period of implementation it is too short (Jonas and Mishkin, 2003). (Hammond, 2012) added that IT is not the optimal monetary policy regime for curbing inflation but it proved to be effective at anchoring inflation expectation around the target and maintaining inflation stable. Many other features are tremendously essential to capture the persistence and the covariance in the data, to ameliorate the fit of the model and to delay the response of the economy to shocks, are missed in this paper. For example the habit persistence in consumption, the adjustment cost of investment and changing the utilization rate, the labor market frictions that will enrich the study. In this paper, we put forward a closed small model of the Tunisian economy. In the further research, the open economy model as well as IT with a floating exchange rate as a new monetary policy framework of choice will take our interest, because of the failure of money targeting in the mid 1980 and the collapse of the fixed exchange rate pegs in the early 1990 (Hammond, 2012).

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We would like to thank Mr Jesus Fernandez Villaverde, Johannes Pfeifer, Senbeta Sisay Regassa, Michel Juillard, Frank Schorfheide, Wouters Rafael, Fabrice Collard for their helpful remark and comments. and Mr Lotfi Mouelhi for his support in English.

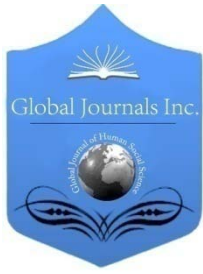
REFERENCES RÉFÉRENCES REFERENCIAS

1. Adjemian, S., Devulder, A. 2010. "Évaluation de la politique monétaire dans un modèle DSGE pour la

- zone euro ". *Revue française d'économie* 26 : 201-245.
2. Adjemian, S., Bastani, H., Juillard, M., Ferhat, M., Perendia, G., Ratto, M., Villemot, S. 2014. "Dynare manual version 4.4.1". Dynare Working Papers Series.
 3. Amiri, K., Talbi, B. 2013. "Règle de Taylor dans le cadre du ciblage d'inflation : cas de la Tunisie ". *La Revue Gestion et Organisation* 5 : 176-182.
 4. Ashot, M., Dabla-Norris, E., and Stepanyan, A. 2009. "A New Keynesian Model of the Armenian Economy". IMF Working papers No. 09/66.
 5. Ben Aïssa, M., Rebei, N. 2012. "Price subsidies and the conduct of monetary policy ". *Journal of Macroeconomics* 34 (3): 769-787.
 6. Benes, J., Binning, A., Fukac, F., Lees, K., Matheson, T., McCaw, S. 2005. "K.I.T.T.: Kiwi Inflation Targeting Technology- A DSGE model for New Zealand". Reserve Bank of New Zealand, Economic Department, P.O. Box 2498.
 7. Benes, J., Branco, C., Vavra, D. 2007. "A Simple DGE Model for Inflation Targeting". IMF Working Paper No. 07/197.
 8. Boughrara, A., Boughzala, M., Moussa, H. 2007. "Credibility of Inflation Targeting in Morocco and Tunisia". Economic Research Forum, Workshop.
 9. Burriel, P., Villaverde, J., Rubio-Ramírez, J. 2010. MEDEA: "a DSGE model for the Spanish economy". *SERIEs* 1:175-243.
 10. Chokri, A., Frikha, I. 2010. "La portée de la politique de ciblage d'inflation: Approche analytique et empirique pour le cas Tunisien ". *Panoeconomicus* 1 : 91-111.
 11. Christiano, J., Trabandt, M., Walentin, K. 2011. "DSGE Models for Monetary Policy Analysis". Handbook of Monetary Economics, NBER Working Paper.
 12. Daboussi, O., Chebbi, A., Madouri, A. 2013. "Inflation Targeting Policy: Pre-requisites and Opportunities for Tunisia ". *Science Journal of Economics* : 2276-6324.
 13. Gali, J., Monacelli, T. 2005. " Monetary Policy and Exchange Rate Volatility in a Small Open Economy". *Review of Economic Studies* 72 : 707-734.
 14. Gelain, P., Kullikov, D. 2011. "An Estimated Dynamic Stochastic General Equilibrium Model for Estonia". *Eastern European economics* 49 (5): 97-120.
 15. Grabek, G., Kłos, B., Koloch, G. 2011. "SOE PL 2009 – An Estimated Dynamic Stochastic General Equilibrium Model for Policy Analysis And Forecasting". National Bank of Poland ,Working Papers No. 83.
 16. Hammond, G. 2012. "State of the art of inflation targeting". Bank of England, Centre for Central Banking Studies. CCBS Handbook No. 29.
 17. Huseynov, S. 2010. "An estimated DSGE model for Turkey with a monetary regime change". Central European university.
 18. Hwang, Y., Pei-Ying, H. 2010. "Optimal Monetary Policy for Taiwan: A Dynamic Stochastic General Equilibrium Framework". *Academia Economic Papers* 40 (4): 447-48.
 19. Jouini, N., and Rebei, N. 2013. "The Welfare Implications of Services Liberalization in a Developing Country: Evidence from Tunisia". IMF working paper No.13/110.
 20. Kremer, J., Lombardo G., von Thadden, L., Werner, T. 2006 . "Dynamic Stochastic General Equilibrium Models as a Tool for Policy Analysis". *CESifo Economic Studies* 52 (4):640-665.
 21. Peiris, J., Saxegaard, M. 2007. "An Estimated DSGE Model for Monetary Policy Analysis in Low-Income Countries". IMF Working Paper No. 07/282.
 22. Pétursson, G. 2000. "Exchange rate or inflation targeting in monetary policy?" *Monetary Bulletin* No. 2000/1.
 23. Reichling, F., Whalen, C. 2012. "Review of Estimates of the Frisch Elasticity of Labor Supply". Congressional Budget Office Washington, Working Paper Series.
 24. Sbordone, A., Tambalotti, A., Rao, K., Walsh, K. 2010. "Policy Analysis Using DSGE Models: An Introduction". Federal Reserve Bank of New York, *Economic Policy Review* 16 (2).
 25. Smets, F., Wouters, R. 2002. "An estimated stochastic dynamic general equilibrium model of the euro area". *Journal of economic association* 1(5): 1123-1175.
 26. Smets, F., Wouters, R. 2004. "Comparing shocks and frictions in US and Euro Area business cycles: A Bayesian DSGE approach". *Journal of Applied Econometrics* 20 (2): 161-183.
 27. Vasicek, O., Musil, K. 2005. "The Czech Economy with Inflation Targeting represented by DSGE Model: Analysis of Behavior". Working Papers No. 7/2005.
 28. Vītola, K., Ajevskis, V. 2011. "Fixed exchange rate versus inflation targeting: Evidence from DSGE modeling". Working Paper No. 2 / 2011.
 29. Villaverde, J. 2010 . " The econometrics of DSGE models". *SERIEs* 1: 3-49.



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Paucity of Public Funds and Growth of Professional Colleges in India

By Dr. (Mrs.) Medha. J. Gupte

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Abstract- Indian higher education has undergone a metamorphosis in the last several years. The right to education is a fundamental right in India. Education falls under the Concurrent list of the Indian Constitution. In 1997 the Indian Government, in its proposals for subsidies, accorded higher education the status of a 'non - merit' good while elementary education remained a 'merit good'. The Ministry of Finance, Government of India thus reclassified higher education as a 'merit-2-good' which need not be subsidized by the state as a 'merit good'.

One of the major hurdles confronting our system is that of scarcity of finance. Beginning with the Kothari Commission all the succeeding Committees have emphasized the need for increasing the budgetary allocation for higher education. However, in the light of increasing demand and competitiveness more specifically after 1991, public funding is becoming difficult and this has led to growing privatization in the education sector.

Keywords: financial constraints, privatization, professional colleges.

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Abstract- Indian higher education has undergone a metamorphosis in the last several years. The right to education is a fundamental right in India. Education falls under the Concurrent list of the Indian Constitution. In 1997 the Indian Government, in its proposals for subsidies, accorded higher education the status of a 'non - merit' good while elementary education remained a 'merit good'. The Ministry of Finance, Government of India thus reclassified higher education as a 'merit-2-good' which need not be subsidized by the state as a 'merit good'.

One of the major hurdles confronting our system is that of scarcity of finance. Beginning with the Kothari Commission all the succeeding Committees have emphasized the need for increasing the budgetary allocation for higher education. However, in the light of increasing demand and competitiveness more specifically after 1991, public funding is becoming difficult and this has led to growing privatization in the education sector.

The spurt in Privatization is more clearly reflected in the Professional sector, where India has witnessed the growth of Professional Colleges, (namely engineering, medicine and management.). They have their own merits and demerits. While India boasts of a few high quality institutions some are very backward. They have to be regulated if India has to make her mark as a knowledge hub in the near future.

Keywords: financial constraints, privatization, professional colleges.

I. INTRODUCTION

Indian higher education has been facing an unprecedented transformation in the last few years. This has been largely helped by economic and demographic changes. It is generally predicted that by 2020, India would be the third fastest growing economy, besides she also has the advantage of having the youngest populations in the world. In this Paper an attempt is made to look at the source of public spending, the need for Privatization of Indian higher education, the sources of private funds and examine in detail the growth of Professional Institutes in India.

II. PUBLIC FUNDING OF HIGHER EDUCATION

The right to education at the elementary level is a fundamental right in India. Education in India is essentially a state supported service falling under the control of both the Union Government and the State Governments. The challenge confronting the Indian higher education is, finding out diverse sources of

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funding, while simultaneously ensuring an efficient allocation of resources, so as to achieve the three main goals of access, equity and quality of higher education.

In 1997 the Indian Government, in its proposals for subsidies, accorded higher education the status of a 'non - merit' good while elementary education remained a 'merit good'. The Ministry of Finance, Government of India thus reclassified higher education as a 'merit-2-good' which need not be subsidized by the state as a 'merit good'. In line with this thought process, a Private University Bill was introduced in the Rajya Sabha, which has not been passed to date.

As early as 1964 the Kothari Commission recommended that 6% of GDP should be on education. The Knowledge Commission, appointed in 2005 under the Chairmanship of Shri Sam Pitroda, echoed the same wave of thinking, when it recommended that out of the 6% of the GDP on education 1.5% should be on higher education.

Under the Twelfth Five Year Plan the target spending on higher education is expected to be 1.5% of India's GDP, up from current 1.22%.

The introduction of economic reforms in India in 1991, led to laying of emphasis on improving competitiveness. They included both structural adjustments and stabilization policies. This led to fiscal constraints in all investments in the social sectors. The result was a cut in the budgetary allocation to higher education.

One can say that the major sources of finance are:

a) State Finance

Higher education is essentially a merit/public good which falls in the Concurrent list of the Indian Constitution, hence, it follows that the primary responsibility of financing higher education lies with both the central and state governments. While 80% of the funding is from the state governments, 20% comes from the central government.

b) Raising the tuition fees

It is generally believed that tuition fees are low in India, which have not been hiked for years. The need is for periodic assessment of fee structure, in keeping with the existing inflation and rising cost of education. But there are general apprehensions that rise in fees will discourage poor families from pursuing higher education.

Several Committees have been appointed from time to time to look into the financing of Indian higher education. The Consensus among them is that, students should bear the costs and the government should only support those fields which lack market orientation. Accordingly, in 2000, the Ministry of Higher Education decided that the colleges and universities should hike the fee regularly.

c) *Student Loan Scheme*

To complement the increase in fees, a new education loan program was announced in 2001. The Scheme covers loans for poor and needy students desirous of undertaking basic education and meritorious students wishing to pursue higher education at home and abroad. The maximum amount awarded is Rupees 7, 50,000 for studies in India and 15, 00,000 for studies abroad.

In addition, in order to ensure that talented students are not deprived entry to technical and professional courses on account of shortage of resources, a scheme is in operation since the year 2009-10 to provide full interest subsidy, during the moratorium on educational loans taken by students belonging to economically backward classes whose parental income is less than Rupees 4.5 Lacs per annum.

d) *Sale of Publications*

The government comes out with various publications related to higher education. The sale proceedings can be seen as a means of financing higher education.

e) *Donations and linkages between academic and corporate bodies*

Several Philanthropists have made contributions to India in the past. This source has to be encouraged to supplement the much starved financial institutions of its resources. Many of our educational institutions have the ability and courseware to facilitate manpower development. Several of these topics are of interest to the industry and institutions, and they can facilitate training in areas which are of interest to the industry. The corporate bodies, however, have remained far away. They have to be encouraged to not just provide monetary support but also help in the setting up of Post-Graduation and Research activities.

The introduction of the process of Globalization laid emphasis on the competence of human capital. Economic reforms were introduced in India in 1991. They were inclusive of structural adjustments and stabilization policies. This led to fiscal constraints in all investments in the social sectors. Consequently, there was a cut in the budgetary allocation to higher education. Under these circumstances there exist pressures for mobilizing resources from non-governmental sectors. Therefore, steps have to be initiated, to implement measures such as hike in fees,

provision of student loans and encouragement of privatization in order to mobilize resources. The need is for changing our policies and regulations to permit other forms of funding and bring about complementarity between public and private educational institutions.

Four major challenges tend to impair India's rate of growth. These include:

1. Gap between supply of higher education and demand for higher education associated with low enrolment ratio;
2. Low quality of teaching and learning, largely on account of faculty crunch, outdated/rigid curricula and pedagogy, absence of quality assurance and separation of research and teaching;
3. Absence of proper facilities for carrying out Research and a poor Research Record;
4. Uneven growth and existence of disparities which hamper opportunities to the weaker sections of society.

Under these circumstances there exist pressures for mobilizing resources from non-governmental sectors. Therefore steps have to be initiated, to implement measures such as hike in fees, provision of student loans and encouragement of privatization in order to mobilize resources. The need is for changing our policies and regulations to permit other forms of funding and bring about complementarity between public and private educational institutions.

III. PRIVATIZATION OF HIGHER EDUCATION AND GROWTH OF PROFESSIONALISM

Indian system of higher education has experienced unprecedented growth over the years. This remarkable change, particularly since the nineties, can largely be attributed to the alarming growth of private sector. In fact one can say that the size of the private sector in terms of enrolment and number of institutions is far larger than the public sector.

The most important challenging problem of higher education is one of funding. According to the policy framework, higher educational institutions are required to have a non-profit structure irrespective of how they are funded. However, the power of awarding degrees lies solely with the University Grants Commission (UGC), as specified under Section 23 (3) of the UGC Act 1956.

The Act resulted in a unique and complex system encompassing hundreds of teaching colleges-both private and public affiliated to Public Universities. The latter in turn can be funded by state or central sources.

In India there is a huge demand for university education and over the past few decades, India has witnessed a phenomenal growth in the number of universities and colleges. The growth is even more pronounced in case of Professional colleges (more

particularly engineering, management and medicine.), as also private vocational training courses especially those catering to the IT sector.

All this results in an increasing trend towards privatization, although the degree to which states have allowed private higher educational institutions and the quality of such institutions, varies widely from state to state. Privatization of higher education manifests itself in the following forms:

a) *Privatization of public institutions*

Government has been encouraging institutions to adopt privatization policies. This implies withdrawal of government grants, encouraging though incentives mobilization of resources from private sources which is inclusive of fees and introduction of courses which have a high market value. The state however, continues to remain an important source of finance.

b) *Establishment of private institutions with government support.*

This source is becoming more and more popular in developing countries like India. The sources of finance are tuition fees, donations from Philanthropists, contribution of foundations' and government support.

c) *Self-Financing Non Profit Institutions*

Over the years the trend is towards vocational courses, this becomes reasonable when one thinks of the future prospects, in terms of employment and further studies. This resulted in the introduction of a number of market oriented courses. This together with the willingness of the students to pay for these courses led to a supportive environment, which resulted in the introduction of these courses at the Under Graduate and Post Graduate Courses, after obtaining the necessary approval from the UGC. Keeping in mind the fact that these courses have different fee structures, they are commonly referred to as Self-Financing Courses.

d) *Profit making financial institutions*

The primary aim of private bodies is, to establish institutions which are founded, funded and run by them. Their primary aim is maximization of profits.

IV. GROWTH OF PROFESSIONAL EDUCATION IN INDIA

In keeping with the manifold needs of a fast moving economy, the private sector has cropped up to complement the public educational institutions. Privatization in India is more noticeable in case of Professional Education. The basic objective of privatization of higher education has been to reduce the number of public colleges and universities, authorize decentralization of academic administration and promote creativity, innovation and higher standard.

Higher education in India has witnessed the growth of privatization and the most noticeable trend has been the transformation in the provision of Professional education, particularly engineering, medicine and business schools. There are a large number of courses at the Under Graduate Level and students can opt for them depending on the basis of eligibility and interest.

- 1) MBBS: - is a Course at the Undergraduate level. Its full form is Bachelor of Medicine, Bachelor of Surgery;
- 2) Engineering is a four year course and after which you are awarded a BE (Bachelor of Engineering) or BTech Degree
- 3) Management is generally a two year course, at the end of which you get a Management Degree.

The main regulating Body of Technical education is the AICTE (All India Council for Technical Education). It was constituted in 1945 as an advisory body and was given the statutory status in 1987 by an Act of Parliament. It has been playing an important role in the development of technical education in the country.

The AICTE has delegated to the respective state governments the power to process and grant approval for the starting of new technical institutes, for the introduction of new courses and for variation in the intake capacity of technical institutions.

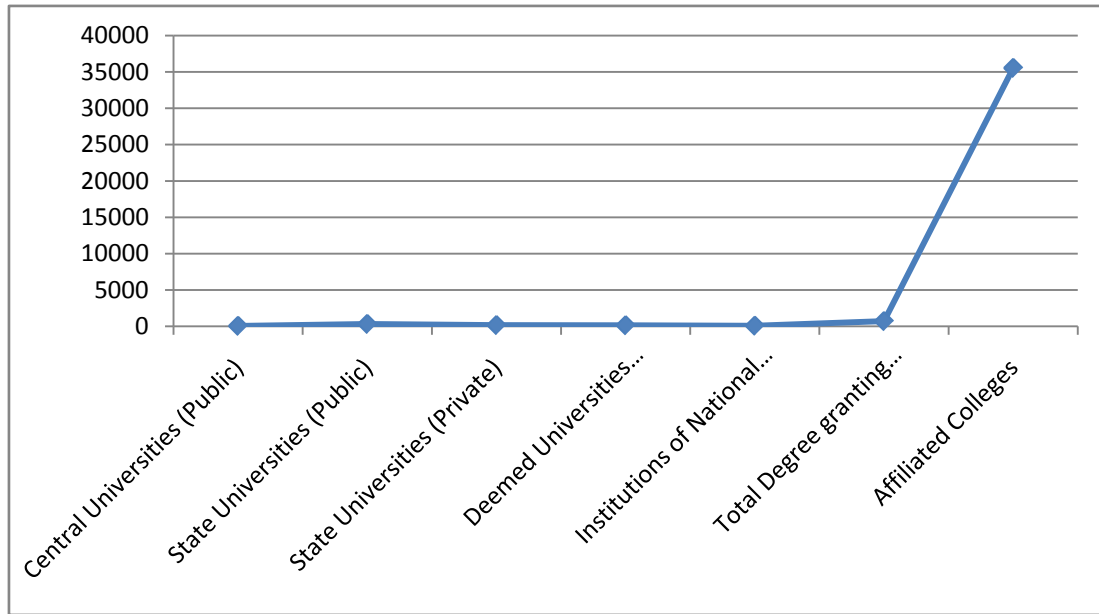
The AICTE has to shoulder the responsibility of ensuring quality development of technical institutions and also laying down the norms and standards for such institutions. The AICTE also has a promotional role to play by promoting schemes which promote technical education of women and physically, socially and economically backward sections of society.

The technical institutions under the AICTE include Post Graduate, Undergraduate and Diploma in the whole spectrum of technical education. The All India Institute of Medical Sciences looks after medical education.

Table 1 : Types of Institutions in India

Central Universities (Public)	44
State Universities (Public)	306
State Universities (Private)	154
Deemed Universities (Private/ Public)	129
Institutions of National Importance	67
Total Degree granting institutions	700
Affiliated Colleges	35,539

Graph 1



The table and Graph above clearly show that colleges affiliated to the universities dominate the scene, with the others lagging way behind.

The Arts stream seem to be dominating the scene followed by science, commerce/management and engineering in that order. Although there seems to be an increase in the growth of Professional Courses India has still a long way to go.

Table 2 : Enrolment of Indian Students by fields of study

Field	Percentage of Total
Arts	37
Science	19
Commerce & Management	18
Engineering & Technology	16
Medicine	4
Law	2

Graph 2

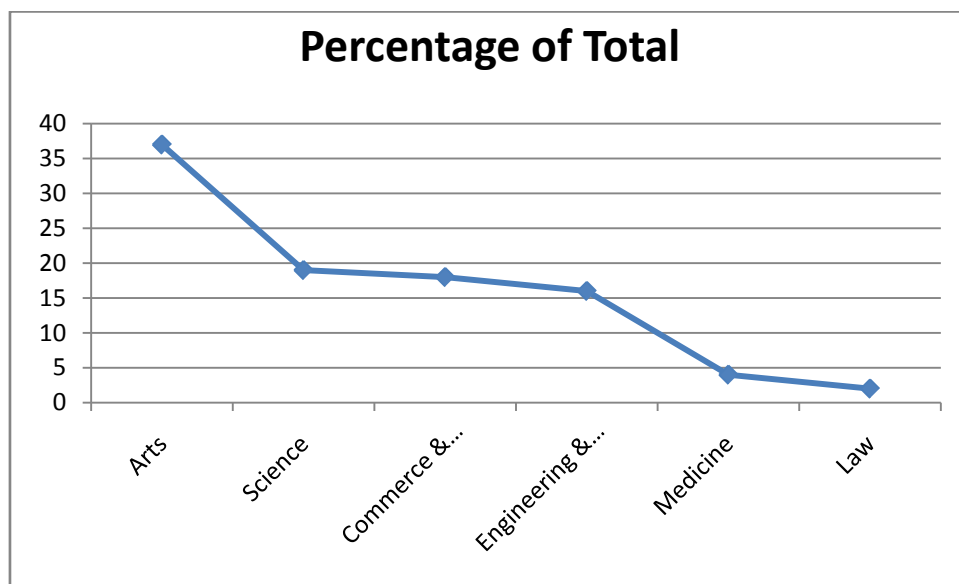
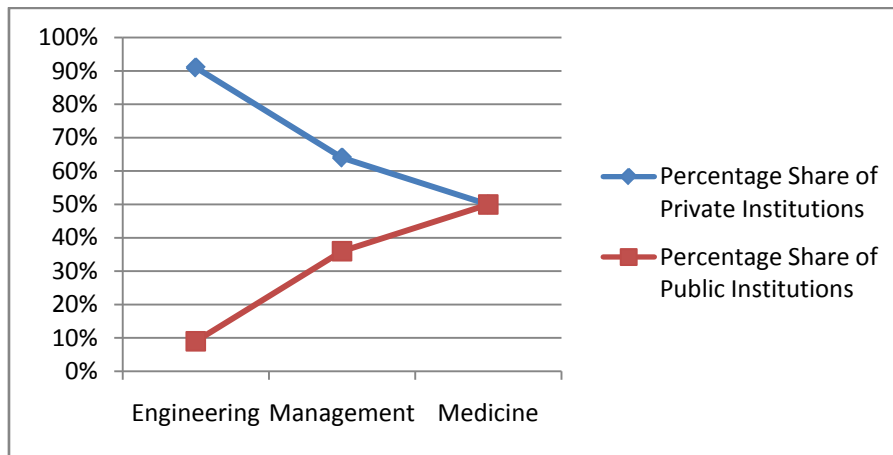


Table 3 : Share of Public and Private Courses in select Professional Courses

Course	Percentage Share of Private Institutions	Percentage Share of Public Institutions
Engineering	91%	9%
Management	64%	36%
Medicine	50%	50%

Source: AICTE and Other Professional Council 2009

Graph 3



The Professional Stream shows a trend towards privatization. While the share is as high as 91% in case of engineering colleges it is 64% and 50% in case of management and medical colleges.

When one looks into the origin of Professional education in India, we can say that it started in the 19th century, although it received momentum in the 20th century with the onset of the Constitution of Technical Education (CABE). The establishment of Indian Institute of Technology, Indian Institute of Management and Indian Institute of Science were major steps in this direction.

The history of IIT dates back to 1946 and the first IIT was formed in Kharagpur in 1950. The Indian Institute of Science was established by Jamshetji Tata in 1909. Engineering can be said to go back to 1900. The first Indian Institute of Management was set up in Kolkata in November 1961. The study of medical sciences on the other hand goes back to the British Raj and the Calcutta Medical College was established in 1835.

After independence there has been a rapid expansion of the Professional education and in fact after the opening of the Indian economy in 1991 there has been a real spurt in expansion. Undoubtedly there is an increase in the participation of the private sector in India. But year after year we churn out graduates who are unemployable. In addition doubts can be raised about the profit motive objectives of these institutions. One must not forget the fact that two major problems plague Indian economy namely: poverty and population

expansion. Thus in keeping with the current trend privatization is essential, the latter should be regulated.

V. CONCLUSION

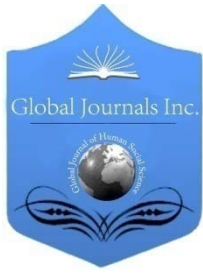
The Indian education system thus seems to be undergoing changes. Population growth, emerging middle class and rising aspirations of the people are factors responsible for laying emphasis on higher education. As public funding is subject to a lot of competing demands, it follows that the private sector is gaining more importance in the field of higher education. However, while recognizing its role one must not forget that this sector should be kept under strict vigilance which would also keep in mind the cultural values, maintaining the dignity of teaching-learning process and laying emphasis on socio-economic and democratic values.

Many of our private institutions have attained international reputation for their quality and standards. The government should encourage private participation in the higher education sector, without in any way compromising on quality and social objectives. There is little scope for profit seeking private higher education institutions. The final objective is to encourage the knowledge potential of the country and make India an attractive destination and knowledge hub of international standards.



REFERENCES RÉFÉRENCES REFERENCIAS

1. Cheney Getchen Rhines, Ruzzi Betsy Brown and Muralidharan Karthik, (2005): "A Profile of the Indian education system", Paper prepared for the New Commission on the skills of the American Workforce, November.
2. Choudaha, Rahul, (2013): "Three Solutions for Reforming Indian higher education", *Comparative and International Higher Education*, 5
3. Dr.Gupta, DP, and Dewanga, Arvind, (2012): "Challenges before engineering education in India", *Researchers World Journal of Arts, Science and Commerce*, April.
4. Forbes, Naushad: "Higher Education in India: Growth with challenges, Chapter 4", *Confederation of Indian Industry and Forbes Marshall Limited*.
5. Gupta Deepti, and Gupta Navneet, (2012): "Higher Education in India: Structure, Statistics and Challenges", *Journal of Education and Practice*, Volume 3, No2.
6. Report of the British, Council, (2014): "Understanding India: The future of higher education system and opportunity for international cooperation", February.
7. Rizvi, Fasal, and Gorur, Radhika, (2011): "Challenges facing Indian Higher Education", *Australia India Institute*, Volume 2.
8. Stolavick, Kevin, (2014): "India's Higher Education system", *Working Paper Series*, April.
9. Sundararajan, N, and Gopal, Nanda, VB, (2013): "Private Sector Participation in Higher Education", *University News*, Vol. 53, No 33, August, 19-25.
10. Tilak, Jandhyala, (2014): "Private Higher Education in India", *Economic and Political Weekly*, October,4.



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Women's Role in Livestock Economy of Cholistan Desert, Pakistan

By Dr. Asad Ali Khan & Kinza Khan

Islamia University of Bahawalpur, Pakistan

Abstract- In contemporary world, women are playing a significant role in the economy of nations. Yet, in some parts of the world including Pakistan they are not counted as economically producing units. Women constitute almost one half of the population of Pakistan. Besides household duties they also remain involved in many field works like cotton picking, crop sowing and harvesting, livestock rearing and back yard poultry farming thus, contributing an appreciable part in rural economy. The study, focusing on to the role of women in livestock economy, was conducted in three villages of Cholistan, where except northern portion, most of the area is bare desert that cannot be utilized for crop production and people serve a nomadic life. They ought to adopt subsistence farming of livestock which predominantly consists of native breeds. Using primary as well as secondary data, the study revealed that the women of this region efficiently work side by side with the men to earn their livelihood. They are used to go with their herds of animals for grazing.

Keywords: *cholistan, tobas (rain water ponds), livestock economy, women's role, nomadic life, subsistence farming.*

GJHSS-E Classification : FOR Code: 149999



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Women's Role in Livestock Economy of Cholistan Desert, Pakistan

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Abstract- In contemporary world, women are playing a significant role in the economy of nations. Yet, in some parts of the world including Pakistan they are not counted as economically producing units. Women constitute almost one half of the population of Pakistan. Besides household duties they also remain involved in many field works like cotton picking, crop sowing and harvesting, livestock rearing and back yard poultry farming thus, contributing an appreciable part in rural economy. The study, focusing on to the role of women in livestock economy, was conducted in three villages of Cholistan, where except northern portion, most of the area is bare desert that cannot be utilized for crop production and people serve a nomadic life. They ought to adopt subsistence farming of livestock which predominantly consists of native breeds. Using primary as well as secondary data, the study revealed that the women of this region efficiently work side by side with the men to earn their livelihood. They are used to go with their herds of animals for grazing. They spend many hours in feeding, caring and milking of animal, waste disposal, collecting fire wood and bringing water from 'tobas' as without these activities livestock rearing would be incomplete. These working hours are not recognized and are unpaid. It was found that women of these areas remain involved in look after and product selling of livestock as a routine household work and are not appreciated while their contribution in promoting livestock production in this area is undoubtedly well significant. Spreading over three districts of Bahawalpur division Cholistan is a vast region where the livestock population comprised of *cholistani, sahiwal, nili ravi* buffalo, *beetle, teddy, dera den panah* and *nachi* goats, *buchi* and *lohi* sheep and local breeds of camel. Study reached the conclusion that rural areas of Cholistan are potential suppliers of animal products for growing future needs and the role of women may remain significant in this regard and need due consideration. Recognition of their role and improvement in their socio-economic status is dire need of the time.

Keywords: *cholistan, tobas (rain water ponds), livestock economy, women's role, nomadic life, subsistence farming.*

I. INTRODUCTION

It is usually said that man and woman are two wheels of a vehicle called life, if any of them is not functioning properly, this vehicle cannot run effectively (Sammo 1993). But unfortunately the cultural system existing in most of the rural areas of Pakistan does not realize this

reality, although women of those areas are more efficient in doing not only the household work but also the field works like crop sowing and harvesting, rearing of livestock and back yard poultry farming (Kausar and Ahmed 2005). Almost half of our rural population consists of females (Government of Pakistan 2005) and they contribute about 74% in agricultural sector (Government of Pakistan 2009). Livestock farming is an important sub-sector of agricultural economy that offers remarkable options for increasing family earnings through female's contribution. However, this sector requires adequate institutional assistance for more profits and improvement of female's livestock farming abilities. Livestock farming contributes nearly 50% of the agricultural income and 10.6% of the GDP (Younus et al. 2007). It is obvious that in male dominating society of Pakistan, the role of females in rural economy has never been completely appreciated and regarding this side they have suffered a lot. Their socio-economic conditions can be improved immensely by increasing microcredit rural support programs, encouraging the involvement of private sector, and targeting female's role in livestock management. Several studies reveal that females carry out a great range of works at the home and at farms (Akhtar and Khan 2000; Javed, Sadaf and Luqman 2006; Arshad et al. 2010; Amin, Ali, Ahmad and Zafar 2010; Arshad, Muhammad, Randhawa, Ashraf and Ch. 2010; Nosheen, Ali, Anwar and Ahmad 2011; Munawar et al. 2013; Nazir, Khan, Shahbaz and Anjum 2013; Arshad, Muhammad and Ashraf 2013). Their participation in farm operations specifically in post-harvest work needs no mention. Their input in seed preparation, harvesting, weeding and farm-yard manure collection is vital. After crop harvesting, cleaning, drying and storage of grains is their sole responsibility. Likewise, livestock rearing is regard as the exclusive liability of females in rural areas of Pakistan like Cholistan (fig 1). It provides jobs not only to males but also to almost 50% of females of agricultural family. In rural areas of Punjab, they work about 15 hours a day spending most of their working time in livestock management (Younus et al. 2007). They are involved in a wide range livestock management activities including herding, looking after the health of herd, processing animal products, feeding, milking dairy animals, poultry look after and so on.

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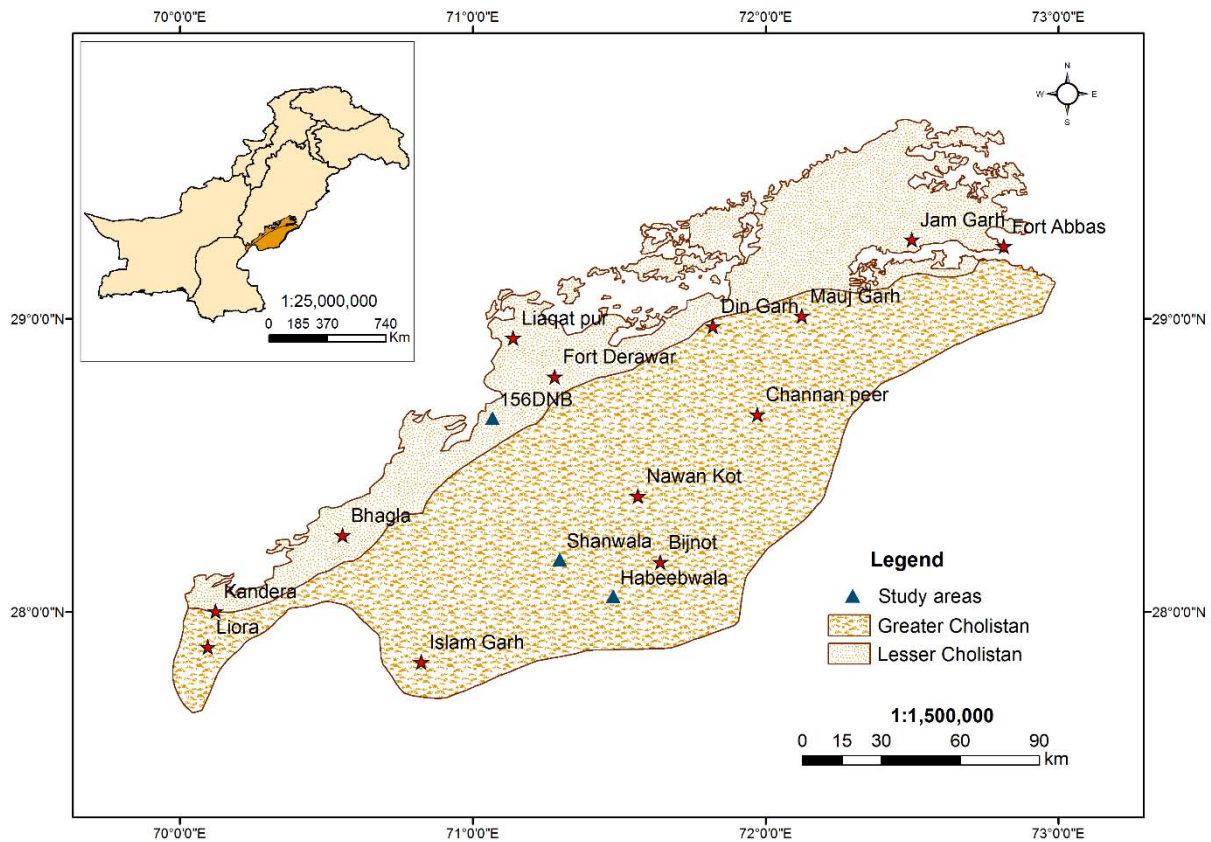


Figure 1 : Study Region (Cholistan)

The study area, Cholistan, lies in Bahawalpur division of Southern Punjab which is labeled as one of the poorest region of Pakistan (Alff, 1995) where most of the human population relies on livestock for their livelihood, women is mostly engaged to livestock management (Ashraf et al. 2013). Cholistan is an extension of Great Indian Desert (Khan et al. 2004), which occupies about 3.265% of the total area of Pakistan (Farooq et al. 2010) and formed by the desertification of old Hakra river bed (Raziq et al. 2011). It is situated between latitudes $27^{\circ} 42'$ and 29° North, and longitudes $69^{\circ} 57' 30''$ and $72^{\circ} 52' 30''$ East (Ali et al. 2009). Length of this desert is 298.3 miles, and breadth ranges from 20-119.30 miles (Akbar et al. 1996). Although, with the development of irrigation system much of its area is now cultivable but still most of the land is desert (Ahmad 2005). Cholistan is divided into two distinctive geographic zones by demarcation of old Hakra river bed. i.e. The Greater Cholistan, which is situated in the south to the Hakra river and the Lesser Cholistan which is on the northern side of Hakra river (Akhter et al. 2006). The greater Cholistan has relatively low vegetation and harsh environment as compared to lesser Cholistan due to lack of irrigation system while lesser Cholistan has somewhat better vegetation and most of its area is occupied by nearby cities (Khan et al. 2010). Annual rainfall in Cholistan is only 100-250 mm

so this area suffers with scarcity of water, fodder shortage and sometimes famine (Khan et al. 2004). In desert most of the flora is halophytes (Naz et al. 2009; Weber 2009; Aziz et al 2011) and xerophytes (Khan et al. 2010) which can grow on brackish sub-soil aquifers (Khan and Khan 2010) and resist to water scarcity respectively like shrubs, grasses, forbs, sedge and scattered trees (Akhter 2006).

Table 1 : Geographic Profile of Cholistan

Sr. No.	Selected features	Area/Number	Observations and annotations
1	Total area of Cholistan	6655360 acres (26,000 sq. km)	At present carrying capacity is low but potential resource for future
2	Area located in Bahawalpur	4028217 acres	Constitute about 60.5% of the total area of Cholistan which is mostly located in tehsil Yazman
3	Area located in R. Y. Khan	1615965 acres	Comprise about 24.3% of the total area of Cholistan mostly less productive at present
4	Area located in Bahawalnagar	1011200 acres	Constitute about 15.2% of the total area of Cholistan generally characterized with low productivity
5	No. of inhabitants	0.155 million	Very low population density at present
6	No. of livestock	1.220 million	Production can be increased by managing water and forage resources
7	No. of Cholistani cattle	0.567 million	Potential for development exists
8	No. of camel	0.030 million	Potential for development exists
9	No. of goat	0.210 million	Potential for development exists
10	No. of sheep	0.450 million	Potential for development exists
11	No. of tobas	1100	Effective planning is needed
12	Average No. of families at a toba	30	Water is very precious and limiting factor in Cholistan provides base for nomads settlements
13	Average No. of cattle per family	5-10	Low at present but can be increased by facilitating the nomads
14	Livestock productivity	-	Low due to limitations of water, nutrition, non-domesticated system, marketing, animal health & production services

Source: Agriculture Census of Pakistan 2006 and personal observations

As the land of this area is unfit for agricultural activities so the livestock rising on natural herbs and flora of this land becomes the need for the native human population which compels them to lead a pastoral life (Ahmad 2005). During severe hot months of the year the pastoralists move along with their animals towards irrigated areas and river sides where ample amount of water and fodder for their animals are available (Khan et al 2004). As the winter begins, they move back to the desert. In the desert, their main source of water are "tobas" which are formed for the collection of rain water in a pond and used for drinking purpose both for human and livestock (Ahmad 1999). Table 1 depicts some of the significant geographic features of Cholistan specifically regarding livestock activity.

Thus, in the prevalence of such hard geographic conditions women of this region have to work hard equally to their men in care of their livestock, their handling, grazing, milking, cleaning and adopting the precautionary measures according to the season and in disease conditions. Along with these tasks they also look after their household work regarding their families. In this regard their duties are more than those of men but overall credit of home maintenance goes to men as they are heads of their families and remain dominant (Khan et al 1996). But above all, role of women cannot be ignored at any cost. Thus the main objective of this study is to draw attention towards the role of Cholistani women in livestock economy and to probe the constraints faced by the women of this comparatively ignored region. Besides this, study also intends to bring out the intention of government to plan

for incentives for Cholistani women as well as to bring out the intention of government as well as private sector to do extension work for social wellbeing of nomads and their livestock resources to get maximum benefit from this area.

II. MATERIAL AND METHOD

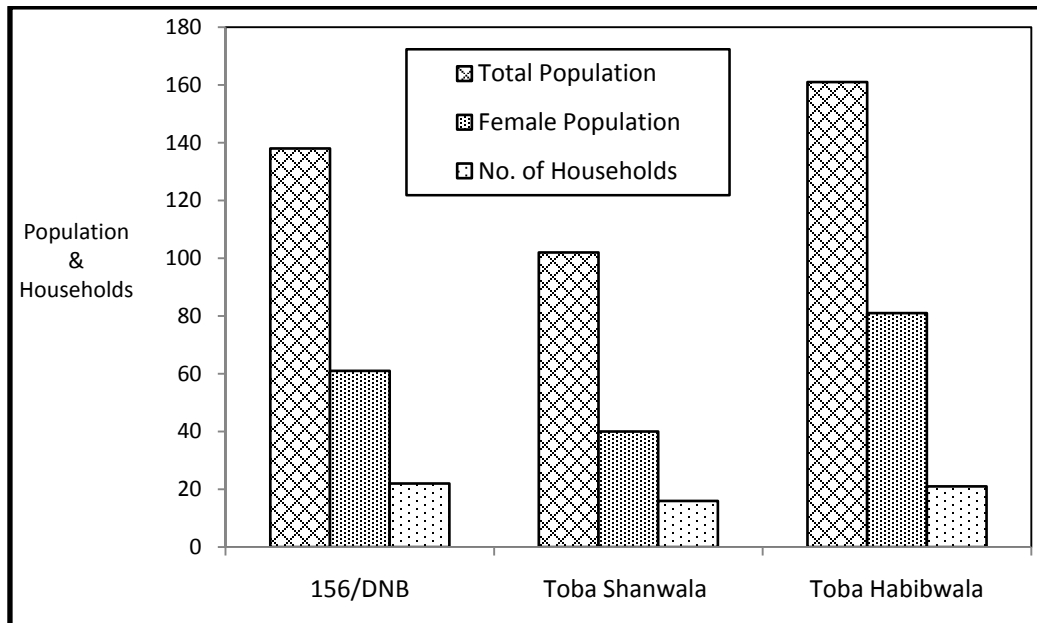
The research design is largely descriptive, based on the visits to the Cholistan region specifically its tobas and villages. A cross sectional survey of three small sized sample settlements/tobas of Cholistan located in tehsil yazman was conducted through questioner during the month of December 2013 (table 2 and fig 2).

Table 2 : Surveyed settlements of Cholistan

Settlements	Location Tehsil	Total Population	Female Population	No. of Households	Average Household size	Housing Structure
156/DNB	Yazman	138	61	22	6.3	Kacha & Semi-pacca
Toba Shanwala	Yazman	102	40	16	6.4	Kacha
Toba Habibwala	Yazman	161	81	21	7.8	Kacha

About half of the area of Cholistan is located in Yazman which is area wise biggest tehsil of Bahawalpur as well as of the Punjab. Besides visual observations quantitative data was collected from the 50% randomly selected those pastoral families of these settlements where most of the women were engaged with livestock management activities. Then averages of the parameters measured were calculated for each

settlement and compared to each other. Then a comparison of this firsthand information was made with the data collected from other secondary sources like various reports, articles and unpublished research work of the students of geography, economics and social sciences. Finally the results regarding this information were drawn and interpreted.



Source: District Census Report of Bahawalpur 1998 & Field Survey 2013.

Figure 2 : Women population in research area

III. RESULTS AND DISCUSSION

a) Livestock Breeds and their Population in Cholistan

A population of about 118,000 herders (Population Census Organization 1998) depends exclusively upon livestock for their livelihood. They lead a pastoral nomadic life with replenished only by rains. The only profession of this community is livestock rearing consisting mainly of sheep, goat, cattle, camel and rarely donkeys (Afzal and Naqvi 2004). The livestock population and significant breeds of the region are given in table 3 and elaborated by figure 3.

Table 3 : Livestock population and breeds in Cholistan

Sr. No.	Livestock Species and Poultry	No. of Heads	Breeds
1	Cattle	567510	Cholistani and Hasari
2	Buffalo	9923	Nili Ravi
3	Sheep	356024	Buchi, Khadali, sipli
4	Goat	257285	Jattal, DDP, Nachi
5	Camel	11328	Marecha, Brella
6	Horse	922	Balochi, Thorough bred
7	Mule	106	-----
8	Ass	6429	-----
9	Poultry	85935	Fayoumi, RIR, leghorn

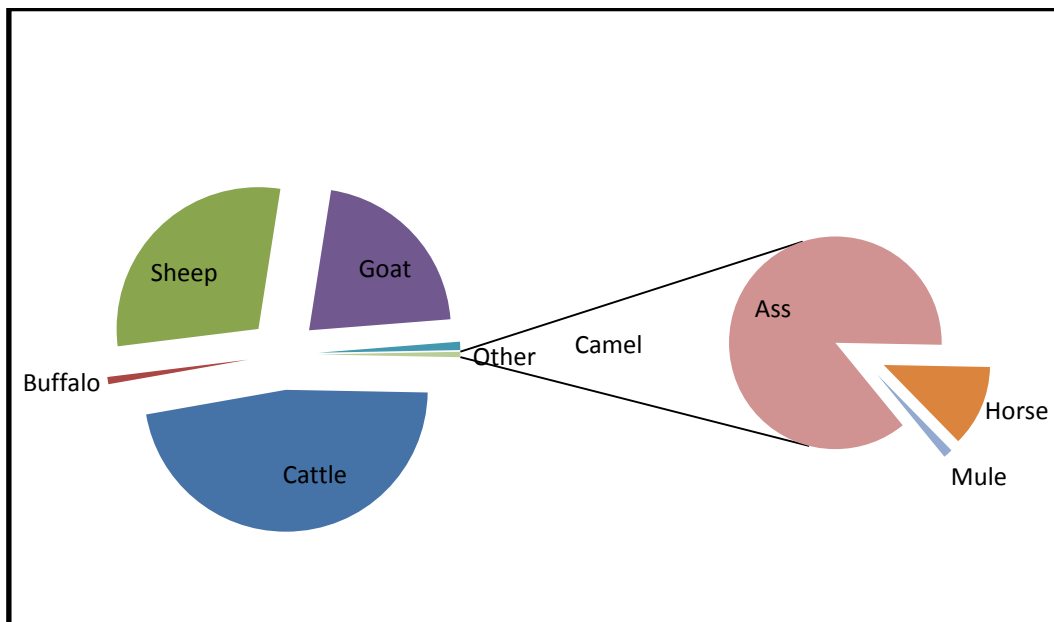


Figure 3 : Composition of livestock population in Cholistan

Source: Anonymous, 2006; Akhtar et al 2006; Ghaffar 2011; Author's own visit

b) Consumable Flora of Cholistan by Livestock

Grasses are mostly efficiently grazed by cattle, sheep and goats due to their grazing habits and anatomical structure suitable for grazing while camel

also consumes some grasses when trees are unavailable (Aziz 2010). Table 4 presents the picture consumable grasses of Cholistan and consumer species of livestock

Table 4 : Consumable flora and consumer species of livestock

Sr. No.	Perineal and Annual Grasses	Consumer Species
1	<i>Stipagrostis plumosa</i>	Cattle, Sheep, Goat
2	<i>Cenchrus ciliaris</i>	Cattle, Sheep, Goat
3	<i>Cymbopogon jwarancusa</i>	Sheep, Cattle
4	<i>Ochthochloa compressa</i>	Cattle, Sheep, Goat
5	<i>Lasiurus scindicus</i>	Cattle, Sheep, Goat
6	<i>Panicum antidotale</i>	Cattle, Sheep Goat, Camel
7	<i>Panicum turgidum</i>	Cattle, Sheep Goat, Camel
8	<i>Sporobolus ioclodus</i>	Cattle, Sheep Goat, Camel
9	<i>Aeluropus lagopoides</i>	Cattle, Sheep Goat, Camel
10	<i>Aristida adscensionis</i>	Sheep, Goat
11	<i>Aristida mutabilis</i>	Sheep, Goat
12	<i>Aristida funiculata</i>	Sheep, Goat
13	<i>Aristida hystricula</i>	Sheep, Goat
14	<i>Cenchrus biflorus</i>	Cattle, Sheep, Goat
15	<i>Cenchrus prieurii</i>	Cattle, Sheep, Goat
16	<i>Enneapogon desvauxii</i>	Sheep, Goat
17	<i>Eragrostis barrelieri</i>	Sheep, Goat
18	<i>Leptothrium senegalense</i>	Cattle, Sheep, Goat
19	<i>Tragus racemosus</i>	Cattle, Sheep, Goat

Source: Akhtar et al 2006.

Shrubs are equally consumed by almost all types of livestock in Cholistan. However, some of these are much liked by animals specifically by camel and goat (table 5).

Table 5 : Shrubs of Cholistan and consumer species of livestock

Sr. No.	Shrubs	Consumer Species
1	<i>Crotalaria burhia</i>	Camel
2	<i>Aerva persica</i>	Camel
3	<i>Calotropis procera</i>	Cattle, Sheep, Goat
4	<i>Pulicaria rajputanae</i>	Camel
5	<i>Calligonum polygonoides</i>	Camel, Cattle, Goat
6	<i>Acacia jacquemontii</i>	Sheep, Goat, Camel
7	<i>Haloxylon recurvum</i>	Camel
8	<i>Haloxylon salicornicum</i>	Camel
9	<i>Salsola baryosma</i>	Camel
10	<i>Suaeda fruticosa</i>	Camel
11	<i>Capparis decidua</i>	Camel, Cattle
12	<i>Zizyphus nummularia</i>	Sheep, Goat, Cattle, Camel
13	<i>Leptadenia pyrotechnica</i>	Camel

Source: Akhtar et al 2006.

Trees are also consumed by all types of livestock but preferably by camel due to their long height and by goats due to their browsing nature. While sheep and cattle can also consume them if the branches are cut and offered to them by their owner (table 6).

Table 6 : Trees of Cholistan and consumer species of livestock

Sr. No.	Trees	Consumer Species
1	<i>Prosopis cineraria</i>	Sheep, Goat, Cattle, Camel
2	<i>Acacia nilotica</i>	Sheep, Goat, Cattle, Camel
3	<i>Prosopis juliflora</i>	Sheep, Goat, Camel
4	<i>Zizyphus spina christi</i>	Sheep, Goat, Cattle, Camel
5	<i>Tamarix aphylla</i>	Camel
6	<i>Salvadora oleoides</i>	Sheep, Goat, Cattle, Camel

Source: Akhtar et al 2006.

c) Importance of Pastoral System in Cholistan

Basically there are two types of pastoral system i.e. Transhumant and nomadic systems. Both of these exist in Cholistan, but nomadic system is more common as Cholistan is a desert area with sparse vegetation and very limited resources and it is not possible to make this land to use for cultivation without a continuous irrigation system (Ashraf et al. 2013). So both human and livestock populations cannot survive if they remain at same place in desert during the whole parts of a year. For their survival they remain in continuous shifting from less green area to more green area in search of food and water resources, this is called transhumant system (Ahmad 2005). They utilize the natural resources of the area and earn their livelihood by selling their animal products e.g. milk, meat, eggs, wool and hides in nearby human population or market. Hence, it is considered as a best system for their survival as well as for utilization of native flora and livestock conservation at subsistence level (Khan et al 2004). While in nomadic system, pastoralists remain in desert throughout the year along with their animals and some of their family members move along with their animals in transhumant

system (Ahmad, 2005). During the course of their journey they earn their livelihood by selling animal products. However, it is mentionable that prices of their animal products are not too reasonable and as compared to hard work and efforts they put their earnings are not too much (fig 4).

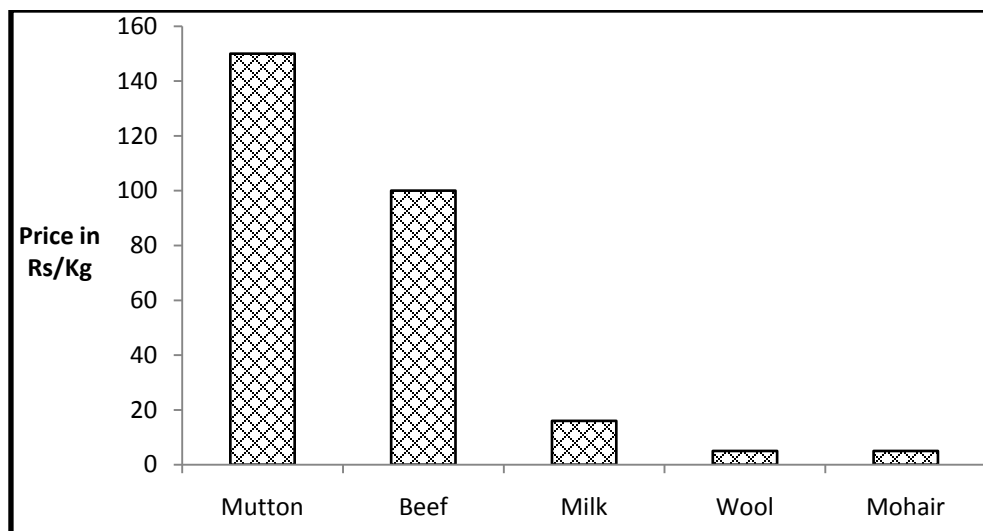


Figure 4 : Prices of livestock products in Cholistan desert

Source: Soharwardi et al 2011.

d) Role of Cholistan women in livestock management

In such harsh climatic conditions, it is not possible for men to struggle for their wellbeing alone so, the women role becomes very important. It is observed with our survey that these women not only efficiently work along with their men in managing the herds of their livestock but also do their house hold works side by side. Starting from early morning, they fetch the water from nearby toba, for their family and animals, milking of animals, do the household work and go for herd grazing along with their men, then return back in evening to their colony along with their animals. Some of the females remain at home and do the household work. In the evening they also do milking of animals. Some amount of milk at both times is consumed by their families and remaining is sold to the nearby city. In water shortage season, milk is used in place of water by their families by making its yoghurt, cheese and whey specially the camel milk is used for kneading the dough because of its salty taste.

The survey data reveals that 77.7% women of 156/DNB, 78.9% of Toba Shanwala and 85% of Toba Habibwala are engaged in livestock rearing. They spend almost 8 to 13 hours a day in livestock management and other alike activities. During summer season lasting from the months of April to September, on an average, women of 156/DNB spend 11.4 hours, women of Toba Shanwala spend 9.5 hours, and women of Toba Habibwala spend 12.6 hours in managing livestock and other alike activities. During winter season extending over the months of October to March they spend 9.3, 7.9 and 10.4 hours respectively in such activities (table 7 and fig 5). Therefore, the role women of this region appear to be vital in the earnings from livestock rearing activities. Various organizations and agencies like Cholistan Development Authority (CDA), Pakistan

Council for Research in Water Resources (PCRWR), Cholistan Institute of Desert Studies (CIDS) of the Islamia University of Bahawalpur etc. working on the issue also confess that women of this region as manager of livestock bear immense potential as units of change in economic conditions of the herding communities. If appropriately trained, they have the talent to boost up animal production. In order to enhance per animal production, it is obligatory that women of this region should be guided to opt best techniques for animal health and production particularly for housing, feeding, breeding, and disease control dealings. It is evident that any poverty eradication campaign cannot be made successful without active participation of rural women. Except they are permitted to make full use of their potential, the condition of Cholistan might stay unchanged. Even though, females are vital component of the economy of the region, their share in financial benefits, and right to use resources and opportunities is not in proportionate to their hard work.

If Cholistan women are given opportunities of easy access to trainings concerning livestock rearing and micro-credit schemes through Rural Support Program (RSP), Agricultural Development Bank of Pakistan, Pakistan Poverty Alleviation Fund (PPAF), First Women Bank, and Khushali Bank etc., they can play very effective part not only to the progress of Cholistan but also to the prosperity of Pakistan. RSP have been initiated by the government with the prime objective of promoting the extremely wanted linkage between the livestock rearing and rural women. The females of this region have either no or very little access to credit services. Offering such facilities can enable them to enhance their earnings through better utilization of their labour inputs. By collective efforts, females of this region can dragged out from poverty trap. The government

should also arrange on-site training programs to increase their skills for the management of livestock. The areas that should be addressed more efficiently are animal feeding, watering and vaccination, and processing and marketing of animal products. The livestock and dairy development department of the government of Punjab should instigate new

development projects focusing on to the socio-economic improvement of women folk. The females of this region trained in livestock production activities can be helpful in raising household incomes and in increasing meat, milk and wool production at national level.

Table 7 : Contribution of women in economy of Cholistan

Sr. No. of Animal Holder	V 1	V 2	V 3	V 4	V 5	V 6	V 7		V 8	V 9	V 10	V 11
							Sum	Win				
Sample settlement No. 1 (156/DNB)												
1.	2	8	0	0	4	4	14	12	100	12,000	15,000	80
2.	0	10	1	5	3	3	12	10	100	15,000	17,000	88.2
3.	2	5	0	0	5	3	13	12	60	6,600	8,000	82.5
4.	0	10	0	0	7	5	8	5	71.4	10,000	10,000	100
5.	15	2	2	0	5	4	13	10	80	13,000	15,000	86.7
6.	10	7	5	0	7	6	14	11	85.7	17,500	17,500	100
7.	10	5	1	16	2	2	13	11	100	13,000	14,000	92.8
8.	3	6	0	2	3	2	10	9	66.6	10,000	20,000	50
9.	7	4	0	8	4	3	9	8	75	12,000	16,000	75
10.	1	6	0	10	4	2	11	8	50	11,500	19,000	60.5
11.	0	8	0	12	3	2	8	6	66.6	12,500	21,000	59.5
Average	4.5	6.4	0.8	4.8	4.3	3.3	11.4	9.3	77.7	12,100	15682	79.6
Sample settlement No. 2 (Toba Shanwala)												
1.	22	12	3	0	4	2	7	5	50	11,000	12,000	91.7
2.	36	10	0	0	5	3	5	4	60	10,000	10,000	100
3.	40	13	0	0	3	3	6	5	100	15,500	15,500	100
4.	35	14	0	3	7	7	10	8	100	16,500	16,500	100
5.	31	13	2	3	3	2	7	6	66.7	17,000	17,000	100
6.	41	17	0	0	3	3	12	10	100	16,000	16,000	100
7.	29	10	4	0	4	3	15	13	75	18,000	19,000	94.7
8.	30	14	3	0	5	4	14	12	80	14,500	14,500	100
Average	33	12.9	1.5	0.7	4.2	3.4	9.5	7.9	78.9	14812.5	15062.5	98.3
Sample settlement No. 3 (Toba Habibwala)												
1.	16	14	5	0	5	4	16	13	80	20,000	20,000	100
2.	31	13	4	1	1	1	9	7	100	12,000	13,000	92.3
3.	80	11	4	0	4	4	15	11	100	22,000	24,000	91.7
4.	47	4	2	2	3	3	13	11	100	18,000	20,000	90
5.	59	10	1	5	3	3	13	12	100	19,500	20,000	97.5
6.	40	11	0	5	5	3	11	9	60	14,500	15,000	96.7
7.	16	18	2	0	4	3	12	10	75	20,000	24,000	83.3
8.	44	12	4	0	5	3	12	9	60	16,000	16,000	100
9.	38	11	0	0	4	3	13	11	75	15,000	15,000	100
10.	28	13	0	0	3	3	12	11	100	13,000	13,000	100
Average	39.9	11.7	2.2	1.3	3.7	3	12.6	10.4	85	17,000	18,000	95.1

Source: Field Survey (December, 2013).

V 1= No. of sheep and goats, V 2= No. of cattle and buffalo, V 3= No. of camels, V 4= No. of poultry, V 5= Total women in family, V 6= Women participate in managing livestock, V 7= Time spent by each women for livestock/day (hrs), V 8= Percentage of women in family engaged in livestock rearing, V 9= Total earnings form livestock/month (Rs.), V 10= Total income of family/month (Rs.), V 11= % share of

livestock in total income, Sum= Summer season, Win= Winter season.

Figure 6 shows the comparison of total income and share of livestock income in it, which clearly reveals that major portion in total average income in each village of study area, is contributed by livestock production.

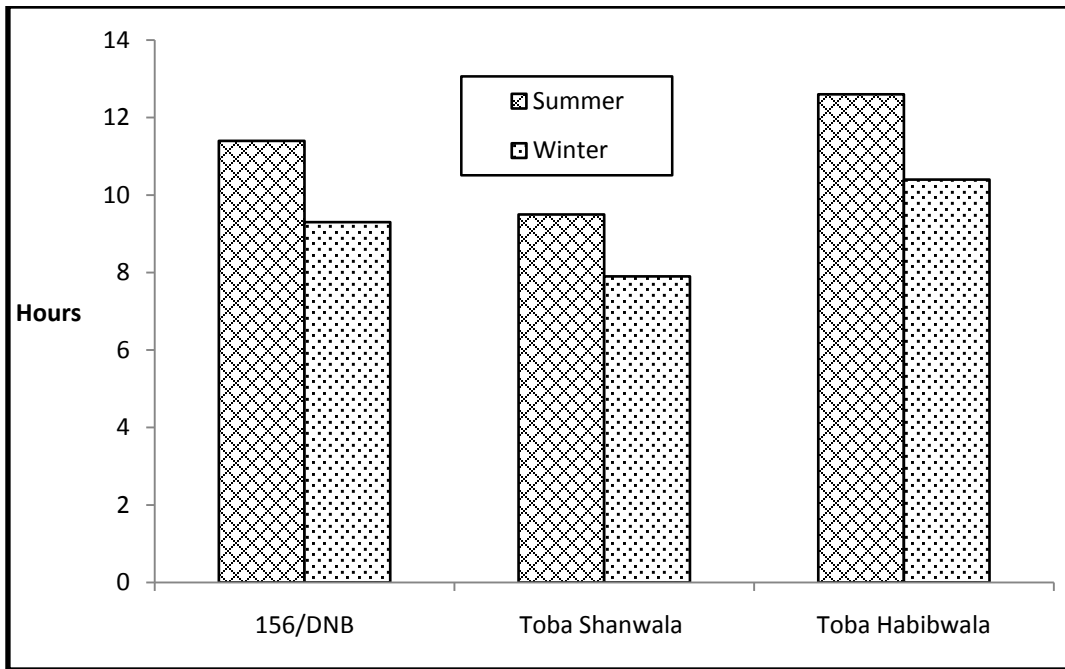


Figure 5 : Time spent by Cholistani females on livestock management

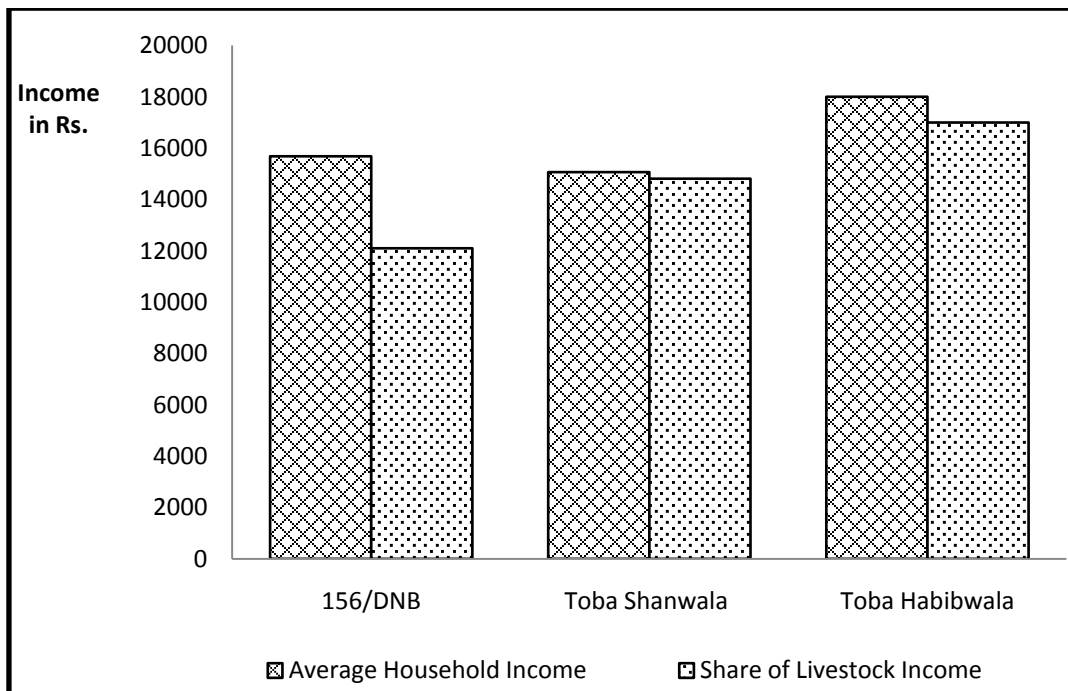


Figure 6 : Share of Livestock Income in Total Household Income of Study Areas

IV. CONSTRAINTS FACED BY CHOLISTANI WOMEN

Besides the lack of water facility which is the most major constraint of this area, the foremost challenges confronted by the women folk of Cholistan are exceedingly low literacy rate, load of multiple responsibilities, un-compatible tools and techniques to manage livestock activities, and poor dietary and health conditions. There is a lack of health care facilities for the

women at their door step and they suffer with nutritional deficiencies. According to their climate and food pattern, they should be supplied with mineral, vitamins and amino acid supplements by LHV (lady health visitor) and LHW (lady health worker) of the respective area.

Due to almost zilch literacy rate, the Cholistan women are not able to understand and communicate effusively with the extension workers for livestock trainings. The traditional boundaries also hinder and do

not allow these ladies to communicate and learn the tips and new technologies for better livestock rising.

Lack of proper vaccination, treatment and other herd health care facilities is another big problem. No veterinary doctor is available in these areas and they have to travel a long distance to consult a veterinary doctor.

The families of these ladies are not getting the actual price of their livestock products which they deserve because of unawareness of market prices and due to interference of middle man which purchase their products at a very low price and sale it on high rates.

V. CONCLUSION AND SUGGESTIONS

The present study reveals that like other women of the country, Cholistan women are playing a vital role in economy of their area, conservation of native livestock breeds by taking care of them like their family members. The women are rather more devoted and sincere to their work as they have only this single aim of their lives, so if they would be educated and guided through extension services, they can better perform their role in development of this region and earn their livelihoods in a prosperous way. In spite of their significant contribution in productive activities, at present they are suffering from lot of problems as has been mentioned in the foregoing discussion. To lessen their sufferings and to make them further supportive, appropriately designed research based development efforts are urgent need of the time. On the basis of our present study following suggestions for the development of region are put forth;

1. There should be some steps taken by the government for the irrigation and development of greater Cholistan.
2. Proper health care services should be provided both for the herders' population and also for their animals' health.
3. There is a need of a lot of work to be done by the researchers in this region regarding breed improvement and culling of low producers and for this purpose farmers have to be educated in order to introduce high yielder animals in their herds to improve their return both for their hardworking as well as their economics.
4. Role of middle man should be eliminated and a direct link between the pastoralists and the industrialists should be created to improve the income of these native people.

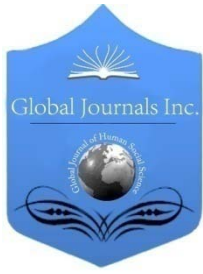
REFERENCES RÉFÉRENCES REFERENCIAS

1. Afzal, M. and Naqvi, A. N., Livestock resources of Pakistan: Present status and future trends. *Sci. Vision*, 9. 2004.
2. Ahmad, F., Agro-pastoral systems in Cholistan. *Pak. Geogr. Rev.*, 60, (2): 65-69. 2005.
3. Ahmad, F., Ecological restoration in cholistan. *Journal Geographic*, 2, (1): 34-38. 1999.
4. Akhtar, H. and Khan, B. B., Women: Dynamic Partners in Livestock Production: Review, *Pak. 1. Agri. Sci. Vat.* 37(3-4): 195-199. 2000.
5. Akhter, R. and Arshad, M., Arid rangelands in the Cholistan Desert (Pakistan). *Secheresse*, 17, (1-2): 210-217. 2006.
6. Akbar, G. A., Taj, N. K. and Ashraf, M., Cholistan desert Pakistan. *Rangelands*. 18, (4): 124-128. 1996.
7. Alff, C., The Day to Day Life of Women in Rural Punjab. Proceedings of the Sixth All Pakistan Geographical Conference 26-29 December 1993, Department of Geography Islamia University Bahawalpur Pakistan. 1995.
8. Ali, I., Chaudhry, M. S. and Farooq, U., Camel rearing in Cholistan desert of Pakistan. *Pak. Vet. J.*, 29, (5): 85-92. 2009.
9. Amin, H., Ali, T., Ahmad, M. and Zafar, M. I., Gender and Development: Roles of Rural Women in Livestock Production in Pakistan, *Pak. J. Agri. Sci.*, 47(1): 32-36. 2010. Accessible at: [Http://Www.Pakjas.Com.Pk](http://www.Pakjas.Com.Pk)
10. Anonymous. Punjab Province (livestock census 2006). Livestock census of Pakistan. 2006.
11. Anonymous. Agriculture Census of Pakistan 2006.
12. Anonymous. District census report of Bahawalpur 1998.
13. Arshad, S., Muhammad, S. and Ashraf, I., Women's Participation in Livestock Farming Activities, *J. Anim. Plant Sci.*, 23(1): 304-308. 2013.
14. Arshad, S., Ashfaq, M., Saghir, A., Ashraf, M., Lodhi, M. A., Tabassum, H. and Ali, A., Gender and Decision Making Process in Livestock Management. *Sarhad J. Agric.* 26(4): 693-696. 2010.
15. Arshad, S., Muhammad, S., Randhawa, M. A., Ashraf, I. and Ch. Mehmood, K., Rural Women's Involvement in Decision-Making Regarding Livestock Management, *Pak. J. Agri. Sci.*, Vol. 47(2): 162-165. 2010. Accessible at: [Http://Www.Pakjas.Com.Pk](http://Www.Pakjas.Com.Pk)
16. Ashraf, S., Chaudhry, R. H., Farooq, U., Mustafa, Y. S., Fatima, H. and Akhter, S., Prospective of dairy farming in Cholistan. *Sci.Int.(Lahore)*, 25, (2): 345-346. 2013.
17. Aziz, A. A survey of field report entitled: The cholistan desert ecosystem. Unpublished work. Bahawalpur: Govt. Sadiq Egerton College, pp. 1-36. 2010.
18. Aziz, I., Gul, B., Gulzar, S. and Khan, M. A., Seasonal variations in plant water status of four desert halophytes from semi-arid region of Karachi. *Pak. J. Bot.*, 43, (1): 587-594. 2011.
19. Farooq, U., Samad, H. A., Sher, F., Asim, M. and Khan, M. A., Cholistan and Cholistan Breed of Cattle. *Pak. Vet. J.*, 30, (2): 126-130. 2010.

20. Ghaffar, A. Livestock resources of cholistan. Unpublished work. Bahawalpur: I. U. B., pp. 1-95. 2011.
21. Government of Pakistan. Labour Force Survey of Pakistan. Federal Bureau of Statistics. 2009.
22. Government of Pakistan, Economic Survey of Pakistan, Economic Advisor's Wing, Finance Division, Islamabad, Pakistan. 2005.
23. Javed, A., Sadaf. S. and Luqman, M., Rural Women's Participation in Crop and Livestock Production Activities in Faisalabad-Pakistan, *J. Agri. Soc. Sci.*, 2(3): 150-154. 2006. Accessible at: [Http://www.fspublishers.org](http://www.fspublishers.org)
24. Kausar, T. and Ahmad, S., Social Stratification in the participation of women in agricultural activity: A case study of district khushab, punjab, pakistan. *Pak. Geog. Rev.*, 60, (2): 80-86. 2005.
25. Khan, A. A., Khan, K. and Chaudhry, M. S., Ecosystem services and human wellbeing in Cholistan desert, Pakistan. *Pak. J. Geog.*, 20, (1): 51-74. 2010.
26. Khan, K. and khan, A. A. Deer raising in Cholistan desert of Pakistan: Prospects and Possibilities. In *Strategies to improve red meat production in Pakistan*. B. Z. U., Multan., pp. 13-30. 2010.
27. Khan, A. A., Rashid, M. and Sarwar, H., Socio-economic profile of cholistani people-A Geographic view. *J. Soc. Sci. Humanities*, 2, (1): 49-72. 2004.
28. Khan, A. A., Chaudhry, M. S. and Aziz, S., Natural resource diversity in cholistan desert (Pakistan) and possible conservational measures. *J. Pure App. Sci.*, 23, (1): 25-47. 2004.
29. Khan, N. Z., Ali, K. and Anania, J. R., Productivity Constraints of Cholistani Farmers. *The Pak. Develop. Rev.*, 35, (4): 549-563. 1996.
30. Naz, N., Hameed, M., Ashraf, M., Ahmad, R. and Arshad, M., Eco-morphic variation for salt tolerance in some grasses from Cholistan desert, Pakistan. *Pak. J. Bot.*, 41, (4): 1707-1714. 2009.
31. Nazir, S., Khan, I. A., Shahbaz, B. and Anjum, F., Rural Women's Participation and Constraints in Agricultural Activities: A Case Study of District Nankana Sahib, Punjab, *Pak. J. Agri. Sci.*, 50(2): 317-322. 2013. Accessible at: [Http://www.pakjas.com.pk](http://www.pakjas.com.pk)
32. Nosheen, F., Ali, T., Anwar, H. N. and Ahmad, M., An Assessment of Participation of Rural Women in Livestock Management and Their Training Needs in Potohar Region, *Pak. Vet. J.*, 31(1): 40-44. 2011. Accessible at: www.pvj.com.pk
33. Munawar, M., Safdar, U., Luqman, M., Butt, T. M., Hassan, M. Z. Y. and Khalid, M. F., Factors Inhibiting The Participation of Rural Women in Livestock Production Activities, *J. Agri. Res.*, 51(2): 213-220. 2013.
34. Raziq, A., Verdier, K. and Younas, M., Rapid change of strategy is necessary for development of dromedary camel pastoralism in the Cholistan desert of Pakistan. *Pastoralism: Research, Policy and Practice* 1, (3). 2011.
35. Sammo, Z. Earning and expenditure of rural women (Role of women in rural economy). In *Proceedings of the sixth all Pakistan Geographical conference*. I. U. B., Bahawalpur., pp. 78-86. 1993.
36. Soharwardi, M. A., Ali, K. and Arshad, M., Migration of Cholistani People from Desert areas toward Irrigated areas: Causes and Consequence (A Case Study of Cholistan, Pakistan). *Int. J. Soc. Sci. Edu.*, 1, (3): 262-271. 2011.
37. Weber, D. J. *Adaptive Mechanisms of Halophytes in Desert Regions*, Volume 2, Netherlands: Springer Netherlands. 2009.
38. Younus, M., Shehzad, G. and Rehman, H., Women's Role in Livestock Production, *News Channel*, Monday, December 17, 2007. Accessible at: [Http://www.pakissan.com/english/news/newsdetail.php?newsid=15874](http://www.pakissan.com/english/news/newsdetail.php?newsid=15874)



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Factors Affecting the State of Empowerment of Migrant Workers through Complaints Mechanisms: Comparative Study of Migrant Workers in Thailand and Japan

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Keywords: *complaints mechanisms, empowerment, migrant workers.*

GJHSS-E Classification : FOR Code: 140399



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Strictly as per the compliance and regulations of:



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Factors Affecting the State of Empowerment of Migrant Workers through Complaints Mechanisms: Comparative Study of Migrant Workers in Thailand and Japan

Ruttiya Bhula-or ^α & Yukio Ikemoto ^σ

Abstract- Migrant workers, one of vulnerable worker population, are likely to live and spend their lives in poverty an expose to limited chances and options. This study aims to identify factors affecting different state of empowerment using migrant workers' decisions to promptly respond to labour-related problems as a proxy. This study uses a quantitative approach, Multinomial Logistic Model, as well as a qualitative approach, an analysis of interviews. The study applies Thailand and Japan, as developing and developed countries where sharing same characteristics as net immigrant countries in East and South East Asia. During 2012-2015, a total of 150 migrant workers, 75 migrants in Thailand and 75 migrants in Japan, were interviewed with the focus on low-skilled migrant workers. Though the characteristics of migrant workers in these two countries are generally different, factors affecting migrant workers being in the state of empowerment are indifferent. The result of the regression suggests that an additional year of schooling and holding a proper working permit increase the probability to be empowered. It is clear that those who know what to do but take no action consider themselves having alternative options. The current scheme in promoting labour rights should not only outreach and disseminate about Complaints mechanisms to migrant workers, but also emphasize on the effectiveness of the mechanisms, and labour market analyses. Promoting the accessibility of migrant workers to Information and Communication Technology is also a key to better understanding in labour rights, widening their job options in countries of destination and their home country though rational alternatives to change employers and easy, timely, accessible employment services and escalating their skills to ensure their better job options and better individual bargaining power with their employers.

Keywords: *complaints mechanisms, empowerment, migrant workers.*

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I. INTRODUCTION

The labour market is one of key determinants of leaving poverty since jobs create income and eventually increase the consumptions and

leverage living standards. However, a number of workers are working in less formal work arrangements, and therefore lack decent working conditions. They are characterized by inadequate earnings, and low productivity and also embedded by inadequate social security and normally do not join an effective representation by trade unions and similar organizations. Migrant workers, one of amongst vulnerable worker population, are likely to live and spend their lives in poverty an expose to limited chances and options.

Migrant workers, especially low-skilled workers, are facing the exploitation and inequality in various ways. Many groups of migrants around the world who face human rights abuses and exploitation, and who live in very vulnerable situations (IOM, 2013), while trends of global migrant is increasing globally. Among the number of the migrant workers, the estimated number of migrants in an irregular situation was roughly 20–30 million globally As a result of trafficking. The total of 2.45 million was estimated to be forced labour, where 1.36 million people or 55.5 per cent are in the Asia Pacific region (ILO, 2005: 14).

The working conditions of migrant workers, in particularly low-skilled workers, are widely recognized on their inferior working conditions with multiple disadvantages. Most of them can find employment only in sectors where wage are tightening up because producers are at the highly competitive end of global production chains. Their employment is likely to find according to their network which mostly located in low productive sectors, resulting in their low wages (Eurofound, 2007). Trends towards more flexible employment relationships, gender discrimination, abuses in recruitment and irregular status compound these disadvantages and have increased the vulnerability of most migrant workers (ILO, 2010: 113). They are also more likely to be over-qualified for their work, because the lack of recognition of educational credentials acquired by migrants in their country of origin (Eurofound, 2007). Temporary migrant workers are likely to bear in the less job security. In some countries, residence permits are only valid if they work,

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so that losing a job means losing the right to live in the country. Therefore, they are likely to be more tolerating in unfavorable working conditions. The temporary migrant workers in some countries are allowed to seek alternative employment for the duration of their residence permit. In some countries, there are restrictions to keep them from looking for another job, since migrants are not allowed even to change their employer. While in most countries native workers can expect some form of protection if they lose their employment, such as redundancy payments or unemployment insurance. A number of literatures approved that the temporary foreign workers are one of the vulnerable workers (e.g. Law Commission of Ontario 2012; Kamibayashi, 2013). Wage disparities between national and migrant workers, as well as a high level of segmentation in the labour market are found in the Middle East (Sabban, 2002) and in some Asian destination countries (Wickramasekara, and Abella, 2003; ILO & ARCM, 2013¹). In addition to paying migrant workers low wages, their employers may fail to give them their full wage payments, delay paying them, or refuse to pay them at all (ILO, 2010: 76).

Under such vulnerable situations, laws on labour protections and existence of grievance mechanisms open to migrant workers' opportunities to protect themselves and urge for their justice properly. It also works as a protective measurement to labour rights' violation and promotes the labour productivity (Chevalier, Siebert, and Viitanen, 2003²). Lord and Hutchison (1993: 7) classified the concept of empowerment into 3 levels: the personal level, the interpersonal level, and the community level. Some literatures define community as political empowerment e.g. Gutierrez and Ortega (1991: 25).

Nevertheless, it is clear that this mechanism does not practically perform well. A survey conducted by ILO & ARCM (2013) in the fishing industry in Thailand reflected the inadequate protection available to fishers, in particular to migrant fishers. Only 5.2 per cent of fishers surveyed filed a grievance of any sort, and most directly engaged with their employer or approached non-government organizations (NGOs), rather than Complaints to government authorities. Interestingly, among those who are forced laborers³ only 8.9 per cent

made grievance and the rest indicate that more people wanted to complain but did not.

The previous literatures reflect challenges of migrant workers and their difficulties in accessing Complaints mechanisms. However, the key questions remain on how to empower migrant workers to tackle the labour rights' violation if they face such problem. In addition, key factors shaping their decision to access to Complaints mechanisms are not been discussed in the previous literatures.

This study then investigates factors affecting migrant workers in defining their state of empowerment using Complaints mechanisms. It also explores opinions of the workers and finds ways to enhance the migrant workers' accessibility to Complaints mechanisms. The results of the study will fill existing gaps of as well as propose the framework to tackle with this prevailing problem. It discusses how to empower their accessibility to labour rights and thus reduces the prevailing inequality in exercising basic human rights.

In order to elaborate on those factors in both developing and developed countries, the study applied Thailand and Japan, where sharing same characteristics as net immigrant countries in East and South East Asia⁴ for comparative analysis. Between October 2012 and March 2015, the in-depth interviews, surveys, questionnaires and focus groups were conducted in Bangkok and Tokyo and its surrounding prefectures with 75 migrant workers in Japan and 75 migrant workers in Thailand. Migrant workers in this study are those who are working in the low paid occupations in the service and manufacturing sector; for example, being a worker in a production line, a waiter. These sectors are key economic sectors in the targeted area and to avoid the sampling variation of agricultural sector.

Generally, average wages in the city are higher than the surrounded area drive and attract both domestic and international labour migration. It also accounts for about 10-12 per cent of national country population (Table 1).

¹ Most migrant fishers working on Thai vessels are paid at least a portion of their wages according to the catch. Still, Myanmar fishers received a higher mean wage than Cambodian fishers but both groups were paid roughly half of what Thai fishers received

² The study shows that negative selection conflicts with human capital so that the relationship between employee turnover and productivity is U-shaped.

³ Some of the key questions asked in determining cases of forced labour included: (1) Are you working in the fishing sector against your will?; (2) If not willingly, why are you working in the fishing sector?; (3) If you've ever tried to leave your employer, what type of obstacles or threats made you unable to leave?

⁴ The net migration, the total number of immigrants less the annual number of emigrants, is found consistent to international migrant population. United Nations Population Division, World Population Prospects. World Development Indicators. Available online <http://data.worldbank.org/indicator/SM.POP.NETM/countries?display=map>

Table 1: Scope and area of the study

Geological background	Tokyo and vicinity	Bangkok and vicinity
Area (The capital city)	2,104 square kilometres (Tokyo)	1,568.7 square kilometres
Economic perspective		
Population	Approx 13 Million (2011)(10 percent of the total population)	Approx 8.5 million (2011) (12 percent of the total population)
Labour Force	A total labor force of 6.387 million persons, of whom 8.17 million employed persons (2010).	A total labor force of 5.33 million persons, of whom 5.25 million employed persons (2014). 2/
Economic sectors	Manufacturing and transport 11.1% Sales, services, and others 88.9% (2010) 1/	Agri- (0.08%) Manufacturing and transport (28.0%) Sales and services- (71.9%) (2012)

Source 1/ Bureau of Finance, Tokyo Metropolitan Government, *The Financial Position of the TMG and TMG Bonds*. Tokyo Metropolitan Government, November 2013 Available online: http://www.zaimu.metro.tokyo.jp/bond/en/lir_library/lir_document/lir_document2013.pdf Retrieved on 5 March 2015.

2/National Statistical Office of Thailand (2014) *Labour Force Survey*. National Statistical office, Office of the Prime Ministry, Bangkok.

II. FRAMEWORK AND METHODOLOGY

Based on the literature reviews and developed during the interview, Figure 1 depicts the framework in accessing factor affecting the state of empowerment. The key component composes of individual characteristics and institutional characteristics. The individual characteristics are composed of migrants' background, work sector, skills and legal status in working in the country of destination. The institutional characteristics can be classified into legal/ institutional supports framework and driving factors from labour markets and job options (Fig 1).

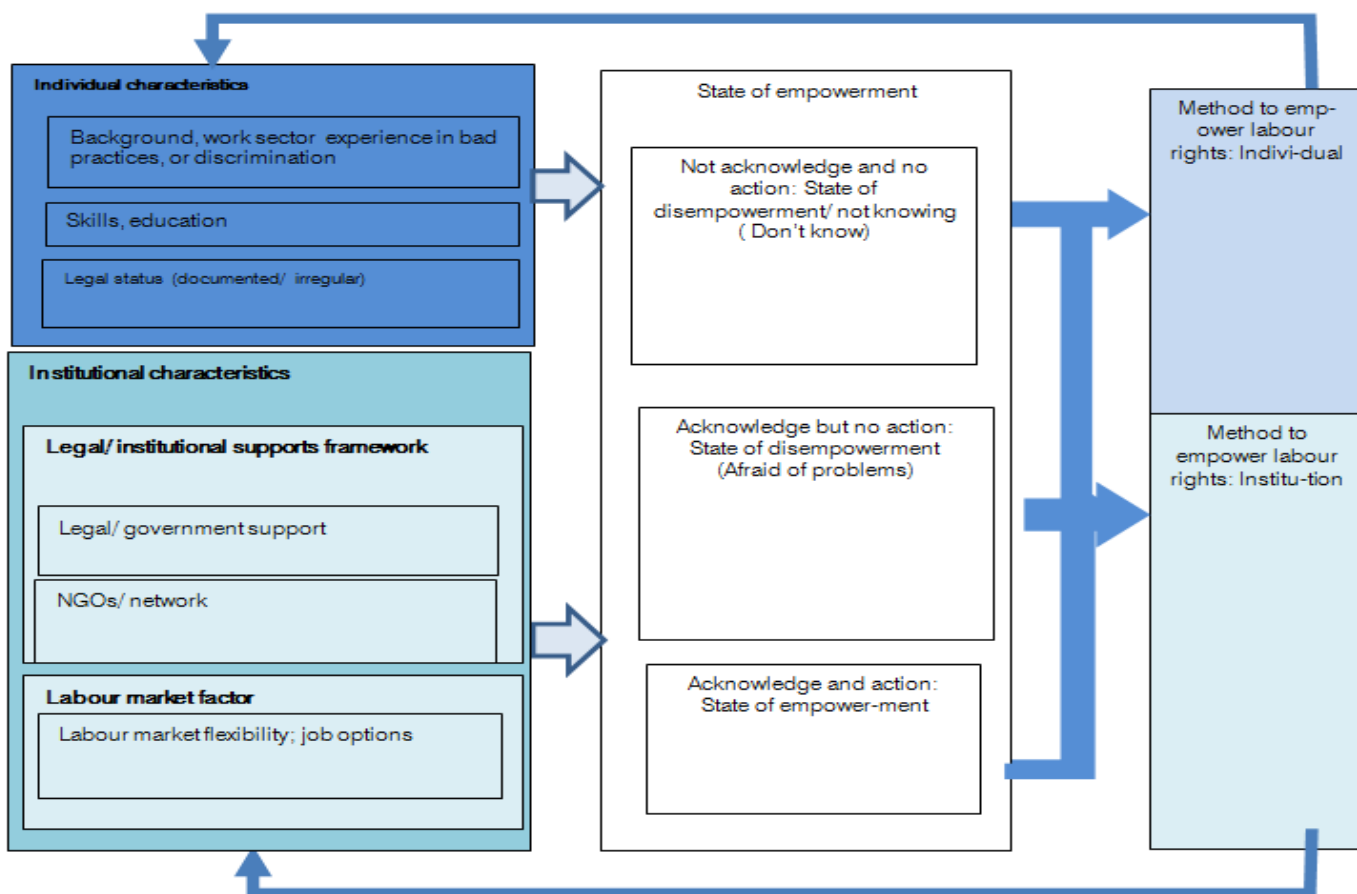


Figure 1: Framework of the study

Observing factors affecting the state of empowerment and the difference among groups, the Multinomial logistic regression (MLR) is used to analyse relationships between a non-metric dependent variable and metric or dichotomous independent variables. Multinomial logistic regression compares multiple groups through a combination of binary logistic regressions.

The state of empowerment the base case of the MLR is represented by the state of acknowledge what to do and take any action in tackling labour problems that they face. The other cases of the MLR are the cases where migrant workers do not know what to do and the case where the migrant workers acknowledge but take no action. For each independent variable, there would be two comparisons. The key benefit of this method is to observe whether the case of being in the state of empowerment (base case) and the other two cases are different due to which factors.

The Multinomial Logit Model, the score can directly be converted to a probability value, indicating the probability of observation i choosing outcome k given the measured characteristics of the observation.

Logistic analysis can be extended to multinomial dependents by modeling a series of binary comparisons: the lowest value of the dependent compared to a reference category (by default the highest category), the next-lowest value compared to the reference category, and so on, creating $k - 1$ binary model equations for the k values of the multinomial dependent variable.

The logistic function $\sigma(emp)$ is defined as

$$\text{follows: } \sigma(emp) = \frac{e^{emp}}{e^{emp} + 1} = \frac{1}{1 + e^{-emp}}. \quad \text{Multinomial}$$

logistic regression uses a linear predictor function $f(k, i)$ to predict the probability that observation i has outcome k , of the following form:

$$f(k, i) = \beta_{0,k} + \beta_{1,k}x_{1,i} + \beta_{2,k}x_{2,i} + \dots + \beta_{i,k}x_{k,i}$$

where β_k is the set of regression coefficients associated with outcome k , and x_i (a row vector) is the set of explanatory variables associated with observation i .

The list of variables is described as follows:

Y_{Emp} denotes the state of empowerment. It represents the state of empowerment of migrants who know their rights and will take action in solving the problem. The question in responding to this question is "If there is a Complaints about labour rights violation/ or about problems at work, do you know where to get help/ consultation?". The migrants who know where are seek for consultation/ filing Complaints and will go is given as an indicator as those who are empowered. On the other hand, migrant workers who are disempowered are those

who answer as follows: I don't know, I know where but do not want to because I don't want problem/ I don't believe that filing a compliant can change anything. (1=Don't know, 2=Don't want to be in trouble/ no change after all, 3=Know where/ how to tackle with the problem at work.)

X_{Fam} denotes the family needs. The question is "Are you the mainsource of income for your household in the home country?". Those who are the main source of the income is given to be represented by 1, otherwise is 0.

X_{age} denotes years of age of the interviewee.

X_{sex} denotes gender of the interviewee. Male is represented by 1, female is 0.

$X_{wsector}$ denotes to the working sector of the migrants. Those who are working in manufacturing sector are represented by 1, while those in service sector are 0.

X_{workps} denotes legal status of the interviewee. In Japan, holders of proper legal working status are holding the work-related visa i.e. working or intern status. While those who are not holding legal working status are holding non work-related visa. In Thailand, those who do not hold valid work permits yet they are working are accounted as irregular workers. The migrant workers with regular status are represented by 1, 0 is otherwise.

X_{edu} denotes years of age of the formal study of the interviewee.

X_{speaki} denotes the ability in speaking local language in the country of destination. Migrant workers with poor ability are represented by 0, while those with fine ability are respresented by 1.

X_{wskill} denotes the working skills. Migrant workers, who respond to the question "Which of the following alternatives would best describe your skills in your own work?" as "I need further training to cope well with my duties", are regarded as those who might consider themselves to have insufficient skills working with the current jobs. Those who responded that "My present skills correspond well with my duties" and "I have the skills to cope with more demanding duties" are categorised as those who have sufficient skills to cope with the work in their own capacity. Migrant workers who earn sufficient skills are symbolized as 1, while the migrant workers with insufficient skills are denoted by 0.

X_{sur} represents where the interviews were conducted. Those who were interviewed in Japan is given by 1, 0 for those who were interviewed in Thailand. It is to reflect the institutional and working environmental difference X_{bddis} donates to those who experienced any kind of bad practices (eg verbal abuses, wages withholding) or any kind of discrimination (eg. gender, nationality). This group is represented by 1, while the other group is denoted by 0. between Thailand and Japan.

X_{formals} denotes to the accessibility to grievance system through formal/ and legal mechanisms. The question in response to the following question “In your opinion, which mechanics or means would be the effective consultation regarding legal, living condition, and general cases”. If the responder answered government authorities, their embassy, or overseas employment offices of their own country, it implies that they know this mechanism and will go through, at least, the formal consultation process. This group is denoted by 1, otherwise is denoted by 0.

X_{network} denotes to the accessibility to Complaints mechanisms through informal mechanisms. The question in response to “If you face problems at work, who will you talk to?”. If the responder answered no one, it means that that migrant worker does not have any network to seek consultation, or at least to talk about those problems. This group is denoted by 0, which means the lack of networking Channels, otherwise is denoted by 1.

X_{jobopt} denotes to job options available to migrant workers' opinion. The question in response to the following question “If I were to lose or quit my current job, it would be easy for me to find a job of similar salary”. It is the ranking answers rated from “strongly agree”, “agree”, “indifferent”, “disagree” and “strongly disagree”. Those who responded strongly agree and agree, reflect that they have certain confidence in finding jobs in compatible occupations. Their perceived knowledge on the job options implies if they encounter problems at the current work. They may consider changing the job. It may be considered as a proxy of the labour market flexibility in migrant workers perspective. It also reflects a legal barrier in changing their jobs due to national laws and regulations. In addition, the job options in migrant's view also indicate the possibility in accessing employment services in the country of destination and the country of origin. Those who consider finding other jobs easily are denoted by 1, while those who considered difficult to find a new job are denoted by 0.

Average age and average years of schooling of migrant workers in Japan are higher than those of migrant workers in Thailand. In Thailand some migrant workers in Myanmar do not experience formal schooling at all.

III. RESULT AND DISCUSSION

a) Interviewee Profile

Interviews and focus groups were conducted to collect at the total of 150 respondents. In Japan, there were 10 Thai male migrants and 65 Thai female migrants, while in Thailand, 23 male Burmese migrants, and 52 female Burmese migrants. The targeted areas are Tokyo and Bangkok, the metropolitan of Japan and Thailand.

The migrant workers in both countries are the main source of income of the countries of origin at reported at 70 per cent in Japan and 88 per cent in Thailand.

Table 2 : Interviewee profiles

Migrant workers in Japan	Min	Max	Mean	Std. Deviation
Main source of income	0.00	1.00	0.698	0.463
Age	24.00	48.00	38.088	4.874
Holding a proper work permit	0.00	1.00	0.905	0.296
Year of schooling	9.00	16.00	10.381	1.938
Ability to speak local language	0.00	1.00	0.206	0.408
Working sector	0.00	1.00	0.730	0.447
Working skill	0.00	1.00	0.556	0.501
Experience bad practices and discrimination	0.00	1.00	0.381	0.490
Government mechanism	0.00	1.00	0.413	0.496
Labour market flexibility	0.00	1.00	0.143	0.353
Networking	0.00	1.00	0.540	0.502
Migrant workers in Thailand	Min	Max	Mean	Std. Deviation
Main source of income	0.00	1.00	0.875	0.333
Age	17.00	35.00	24.935	5.063
Holding a proper work permit	0.00	1.00	0.634	0.485
Year of schooling	0.00	16.00	8.431	3.135
Ability to speak local language	0.00	1.00	0.694	0.464
Working sector	0.00	1.00	0.153	0.362
Working skill	0.00	1.00	0.417	0.496
Experience bad practices and discrimination	0.00	1.00	0.472	0.503
Government mechanism	0.00	1.00	0.028	0.165
Labour market flexibility	0.00	1.00	0.347	0.479
Networking	0.00	1.00	0.819	0.387

Source: Authors' estimations

It is clear that most migrant workers in Japan consider that they can find a new job more difficult than those in Thailand. Moreover, networking of migrant workers in Thailand is more extensive than that of in Japan (Table 2).

majority is that they afraid of problems incurred by their employers incurred at the workplace (caused by their employers and, some cases, by their employers and their work colleagues (Table 3).

IV. STATE OF EMPOWERMENT

Interestingly, the majority of migrant workers in Thailand and Japan are in the state of disempowerment, but because of different reasons. The migrant workers in Japan believe that though they file Complaints no change after all, while majority of migrant workers in Thailand do not know what to do, and the second

Table 3 : State of empowerment (percent)

	Survey in		Total
	Japan	Thailand	
State of disempowerment	78.7%	88.0%	83.3%
I don't know	17.3%	54.7%	36.0%
Afraid of problems	17.3%	30.7%	24.0%
No change after all	44.0%	2.7%	23.3%
State of empowerment	21.3%	12.0%	16.7%
I know where and what to do and I will do	21.3%	12.0%	16.7%
Total	100.00%	100.00%	100.00%

Source: Authors' estimations

Table 4 : Factors affecting state of empowerment Multinomial logistic regression

	Model I				Model II				Model II			
	Exp(B)		Exp(B)		Exp(B)		Exp(B)		Exp(B)		Exp(B)	
	Don't know	I know, but I don't want to	Don't know	I know, but I don't want to	Don't know	I know, but I don't want to	Don't know	I know, but I don't want to	Don't know	I know, but I don't want to	Don't know	I know, but I don't want to
	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)	B	Exp(B)
Intercept*	33.398*** (6.780)	-	30.683*** (6.853)	-	27.402*** (2.851)	-	26.248*** (2.748)	-	24.371** * (1.849)	-	24.164*** (1.829)	-
Place of work	-4.839** (2.405)	0.008	2.305 (2.450)	10.027	-2.753** (1.283)	0.064	0.419 (1.281)	1.521	-2.271** (1.082)	0.1032	0.706 (1.003)	2.0261
Age	.006 (.112)	1.006	-.133 (.127)	0.876								
Sex	-2.019 (1.826)	0.337	.151 (2.105)	0.943								
Year of schooling	-1.069*** (.409)	0.337	-.980** (.385)	0.375	-.691*** (.229)	.501	-.683*** (.224)	0.505	-.462*** (.159)	.6297	-.539*** (.164)	0.5832
Main source of income	-5.067* (2.685)	0.006	.039 (2.698)	1.040	-1.569 (1.051)	0.208	-0.508 (1.052)	0.601				
Work Sector	4.752** (1.893)	115.861	.616 (1.741)	1.852	2.411** (1.168)	11.145	-.176 (1.187)	1.193	1.646 (1.003)	5.188	-1.26 (0.909)	0.882
Work permit	-18.862*** (.966)	0.000	-19.517*** (0.000)	0.000	-19.376*** (.587)	.000	-19.171*** (.000)	0.000	- 18.913** * (.544)	.000	-18.659*** (.000)	0.000
Ability to speak local language	.053 (1.679)	1.054	-2.545 (1.913)	0.184	0.124 (1.108)	0.883	-.221 (1.148)	0.802				
Working skills	.472 (.988)	1.603	.518 (1.012)	1.679								
Experience bad practice	3.103** (1.581)	22.260	.730 (1.609)	2.076	.1566 (0.870)	4.790	.632 (0.877)	1.881				
Gov assistance	-.730 (1.584)	0.482	2.453* (1.400)	11.620	0.743 (1.033)	2.102	0.345 (0.951)	1.411				
Network	1.849 (1.978)	6.355	6.695*** (2.172)	808.259	-1.621 (0.899)	0.198	2.239** (.951)	9.383	0.974 (0.716)	2.6483	1.883*** (.718)	6.570
Labour market flexibility	-2.246 (1.606)	0.106	-6.571*** (1.932)	0.001	-1.621 (0.899)	4.790	-3.155*** (.946)	.0043	-1.489* (0.762)	0.2257	-2.826*** (.832)	.0059
	Cox and Snell 0.642		Nagelkerke 0.740		Cox and Snell 0.458		Nagelkerke 0.529		Cox and Snell 0.418		Nagelkerke 0.482	

Note: Std. Error is shown in the parenthesis. *** Significance at 1%, ** Significance at 5%, * Significance at 10%. The base case represents those who know what to do and will take action. It must be noted, again. That the small sample sizes should primarily become of concern for multinomial regression analyses when the standard error presented in the parameter estimates is exceptionally high. The acceptable standard error of the study should less than 2. In addition, sample size guidelines for multinomial logistic regression indicate a minimum of 10 cases per independent variable (Hosmer and Lemeshow, 2000). The total number of observations is expected to be at least 100 (Long, 1997).

Source Author's estimations

V. ACTORS AFFECTING BEING IN THE STATE OF EMPOWERMENT

Interestingly, the place to conduct the survey does not significantly affected on being in the state of empowerment. Those, who are in the state of disempowerment of which they do not know what to do, are differentiated to those, who are in the state of empowerment, due to individual factors. Holding a proper work permit, and additional year of schooling increase the probability to being in the state of empowerment.

On the other hand, those, who are in the state of disempowerment of which they know what to do but do not want to take any action, are differentiated to those, who are in the state of empowerment, due to individual and institutional factors. The key positive individual factors, similar to the first group, are holding a proper work permits and additional year of schooling. In addition, they also consider their job option as a key priority whether they should tackle the problem. On the contrary, they consider that having the network will

reduce the probability to file formal Complaints since it provides initial consultation to other possible options.

VI. CONCLUSION AND RECOMMENDATIONS

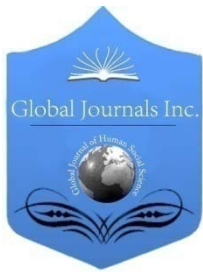
This study aims to explore factors affecting migrant workers in defining their state of empowerment through Complaints mechanisms. It emphasizes on how to empower migrant workers to tackle the labour rights' violation if they face such problem. A total of 150 migrant workers in Thailand and in Japan were interviewed employing the qualitative and quantitative analysis.

It can be implied from the results of the study that, In complementary to the traditional view which emphasizes on the existence of Complaints mechanisms, job options and networking are also key components that drive migrant workers in taking any action. Therefore, in order to empower migrant workers, the scheme to promoting labour rights should emphasize on labour market analyse and widen their job options. In this regard, the outreach activities and Information and Communication Technology are taking critical roles in promoting knowledge on labour rights,

visualizing them successful case studies in a simple format, and at the same time, widening their job options in countries of destination and their home country an easy and timely accessibility and rational alternatives to change employers and easy, timely, accessible employment services, as well as escalating their skills ensuring their better job options and a better individual bargaining power with their employers if their labour rights are violated.

REFERENCES RÉFÉRENCES REFERENCIAS

1. Chevalier, A., W. S. Siebert; and T. Viitanen (2003) Wage policy, employee turnover and productivity. ISSC WP 2003/08. Available online <http://www.ucd.ie/geary/static/publications/workingpapers/isscpw2003turnover4.pdf>.
2. Eurofound (2007) European Foundation for the Improvement of Living and Working Conditions
3. Gutierrez, L., & Ortega, R. (1991) Developing methods to empower Latinos: The importance of groups. *Social Work with Groups*, 14(2): 23-43. Available online <http://www.pathwaysrtc.pdx.edu/pdf/pbMeasuringEmpowermentInFamilies.pdf>
4. Hosmer D. W., and S. Lemeshow (2000) Applied Logistic regression. 2nd edition. USA
5. International Organization for Migration (2013) World Migration Report 2013: Migrant well-being and development
6. International Labour Organization and Asian Research Center for Migration. 2013 Employment practices and working conditions in Thailand's fishing sector http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_220596.pdf
7. International Labour organization (2005) A global alliance against forced labour. Global Report under the Follow-up to the ILO Declaration on Fundamental Principles and Rights at Work 2005. International Labour Conference. 93rd Session 2005 Report I (B).
8. Kamibayashi, Chieko (2013) Rethinking Temporary Foreign Workers' Rights: Living Conditions of Technical Interns in the Japanese Technical Internship Program (TIP). Available online <http://repo.lib.hosei.ac.jp/bitstream/10114/7977/1/169kamibayashi.pdf>
9. Law Commission of Ontario (2012) Vulnerable Workers and Precarious Work (Toronto: December 2012) Available online <http://www.lco-cdo.org/vulnerable-workers-final-report.pdf>
10. Lord J.; and P. Hutchison (1993) The Process of Empowerment: Implications for Theory and Practice. *Canadian Journal of Community Mental Health* 12:1, Spring 1993, Pages 5-22. Available online http://www.johnlord.net/web_documents/process_of_empowerment.pdf
11. Long JS (1997) Regression Models for categorical and limited dependent variables. Thousand Oaks, CA: Sage Publications.
12. Sabban, R. 2002. Migrant women in the United Arab Emirates: The case of female domestic workers, Gender Promotion Programme (GEN PRO M) Working Paper No. 10, Series on Women and Migration (Geneva, ILO).
13. Wickramasekara, P.; and Abella, M. 2003. "Protection of migrant workers in Asia: Issues and policies", in *Labour migration in Asia: Trends, challenges and responses in countries of origin* (Geneva, International Organization for Migration), pp. 53–75.



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Keywords: telecommunication, poverty, alkiere and foster, logit, rural nigeria.

GJHSS-E Classification : FOR Code: 140213p



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Effect of Telecommunication on Poverty Status of Rural Households in Nigeria

Ogunsola Grace Oluwatofunmi ^α, Salman Kabir Kayode ^σ & Popoola Oluwafemi Adebola ^ρ

Abstract- Poverty is a serious problem in Nigeria and the rural areas are mostly affected. Information Communication Technology is crucial to poverty reduction. Mobile phone which is an integral part of ICT has become one of the most important media of information communication of our time. This study examined the effect of telecommunication on poverty status of rural households using the Demographic and Health Survey (DHS) 2008. 17104 households were sampled for the study and the data was analyzed using descriptive statistics, Alkire and Foster methodology and logistic regression. Analysis of the socioeconomic characteristics revealed that majority were males (84.28%) with a mean age of 42.69 years, had no formal education (46.68%) and a mean household size of 6 members. Four dimensions were used to estimate the multidimensional poverty status of rural households namely; education, housing and sanitation, asset and health using the Alkire and Foster methodology. When the poverty cut off $K=1$, poverty incidence is 97.3% and 66.1% of the households were multidimensional poor as against 58.6% poverty incidence and 50% poor households when $k=3$. This implies that when households are deprived in at least one dimension, 66.1% are multidimensional poor. The health and housing & sanitation dimensions had the highest relative contribution to multidimensional poverty. The Logit regression reveals that access to telecommunication services by rural households reduces the probability of being MPI poor by 40.7%. Concerted effort should be made by government, Service Providers (SP) and other development agencies in providing access to GSM services to many rural communities in Nigeria and basic infrastructural facilities in areas of health and sanitation.

Keywords: telecommunication, poverty, alkire and foster, logit, rural nigeria.

I. INTRODUCTION

The world is a global village and telecommunication plays a key role. It is a key infrastructure of economic and social development; a major catalyst for information and knowledge that can create development opportunities and choices for rural communities which help to improve the living conditions of the rural poor (UN, 2004). The application of ICT in different areas of human endeavor has brought about

many benefits not only to the individual but also to the community whether urban or rural. Information is the pivot around which development revolves. Provision of current and up-to-date information to the rural populace on the various activities such as current market prices of goods, market locations, simple food processing, agricultural practices, etc. is a *sine qua non* for increased productivity and income growth which invariably reduces poverty (Onwuemele, 2011).

There is significant relationship between adoption of ICTs (such as mobile phone, personal computer and telephone) and gross national Income of developing countries (Fong, 2009). Thus ICTs have potential of alleviating poverty in poor countries (World Bank, 2003; World Bank, 2006; Jensen, 2007). These technologies have also been viewed by governments and international aid agencies as important tools for national integration because they are capable of enabling greater access to health and education services and creating economic opportunities for underprivileged population groups.

Notable developments in Nigeria telecommunication sector include; liberalization of the sector in 2001, the establishment of Universal Service Provision Fund (USPF) in 2003, Deregulated Telecommunications Services, Increase in the number of major players and others, which have made the sector to witness unprecedented growth since 2001. In 2004, the Nigerian telecom sector received global acclaim as one of the fastest growing mobile markets in the world and this trend continued to date (Pyramids Research Reports, 2009). The sectoral growth of the telecommunications component of the GDP increased from 8% to 30% between 2000 and 2004 and that, the percentage contribution of telecommunications to GDP increased from 0.55% in 2001 to 2.75% in 2008 (Urama and Oduh, 2012).

Despite rapid economic growth in several countries, achieving global poverty reduction remains a major challenge. More than half the world's population today lives on less than US\$ 2 per day and almost 1.1 billion people live in extreme poverty, defined as less than US\$ 1 per day (Rice, 2006). The situation is more disturbing in Sub-Saharan Africa where, according to the World Bank (2006), 44 per cent of the population lived in poverty in 2002. The Bank's current projections are that in 2015, Africa's poverty rate will remain over 38 per cent: far above the 22.3 percent target. This paints a

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pessimistic picture for Africa, as the continent is unlikely to meet the United Nations Millennium Development Goal of halving poverty by 2015 (UN, 2004).

In Nigeria, rural poverty is relatively high. A national poverty survey carried out indicates that the high tropic areas have moderate poverty while the northern regions have poverty levels that are as high as 60% (Salman 2012; Okunmadewa et al., 2005; NBS, 2009). Poverty remains a rural phenomenon as posited by NBS,(2005). Despite improvements in telecommunication, rural tele-density in Nigeria is quite low and this has been attributed to the scarcity of communication infrastructure in most parts of rural Nigeria a scenario that has created the digital divide between the urban and rural areas in Nigeria (Coyle, 2005).

Literature is vast with respect to poverty measurements in Nigeria. Some have employed the unidimensional approach (Adeoti and Ogbenna, 2004; Oni and Yusuf, 2007; Obayelu and Awoyemi, 2010) while others viewed it from a multidimensional perspective. (Oyekale et al.,2009; Oni and Adepoju, 2011). This paper contributes to literature on poverty measurements in Nigeria in that it estimates poverty using the Alkire and Foster approach- a multidimensional measure and takes into account the intensity of deprivations among the poor and not only the incidence of poverty which previous methodologies do not take into consideration.Only few studies that have used it in Nigeria (Ologbon, 2012; Adeoti and Popoola, 2012; Adeoti, 2014) Following the high incidence of poverty and the rapid growth of the telecommunication sector, it therefore becomes imperative to examine the effect of telecommunication on the poverty status of rural households in Nigeria.

a) Objectives

The broad objective of this study is to examine the effect of telecommunication on poverty status of rural households in Nigeria. Specifically, it

1. Estimates the multidimensional poverty status of rural households
2. Examine the effect of telecommunication on poverty status of rural households.

II. A REVIEW OF POVERTY MEASURES

Attempts to quantify poverty dates back to 1900, with the use of the traditional approach (uni-dimensional measure), this could be money-metric (income, consumption, expenditure) or subjective. Subjective poverty was introduced by Goedhart et al., (1977), which is an easy measure of poverty and can be used to calibrate an interpersonally comparable welfare function based on observed covariates deemed to be relevant on prior grounds. However, its weakness is that the response of individuals could stem from mood

effects, personality traits or simply errors. The money metric measures are described as follows: The Sen Index, proposed by AmartyaSen in 1976, has a virtue of taking the income distribution among the poor into account, but it is almost never used outside of the academic literature because it lacks the intuitive appeal of some of the simpler measures of poverty also it cannot be used to decompose poverty into contributions from different subgroups (Deaton, 2006).

Oyekale et al., (2006) employed this measure to estimate the level of income inequality in Nigeria. A development on the Sen Index is the Sen-Shorrocks-Thon (SST). The SST index is advantageous as it gives a good sense of the source of change in poverty over time, although it is complex and almost impossible to compute confidence interval. A popular and widely used measure is the Foster, Greer and Thorbecke (FGT). It satisfies the Sen-transfer axiom and does not only count the poor among the population but also tells how the poor the poor are, thus differentiating the poor and the poorer. However the measure is unidimensional and does not take into account other dimensions associated with poverty. Empirical studies that employed this measure include Oni and Yusuf, (2007); Obayelu and Awoyemi, (2010); Sadiq and Kolo (2015) among others. The Watt index (1968) satisfies all the theoretical properties needed in a poverty index, also it satisfies the Ravallion and Chen, (2001) axioms: focus axiom that a measure should not vary if income of the non-poor varies, the monotonicity axiom that any income gain for the poor should reduce poverty and the equality axiom that reducing transfers among the poor should reduce poverty. Morduch 1998 built on the Watt index by deriving a poverty statistic that is decomposable by population subgroups and is also sensitive to distribution of expenditure (or income) among the poor.

A deviation from uni-dimensional measure is the multidimensional measure. A multidimensional measure is the Human Poverty Index (HPI) developed by the United Nations Development Programme (UNDP) in 1997 is simple and easy to understand but they are less sensitive to wide fluctuations in the market that can cause problems when using income-based measures and does not provide a headcount of the number of people below a certain threshold. Another is the fuzzy set approach, developed by Zadeh in 1965. It estimates the average poverty index of the population of households and measures the relative deprivation and poverty corresponding to each component or attribute. Empirical studies include Oyekale et al., (2009); Salman, (2012). The Principal Component Analysis (PCA) is also a frequently used multidimensional measure to construct indices for which there are no well-defined weights but it is limited to quantitative or continuous data. Similar to this is the Multiple Correspondence Analysis (MCA). A newly proposed multidimensional measure is the Alkire and Foster dual cut off approach

that is very advantageous as it can break down poverty by population group, breakdown by dimension/indicator, compare across time, target the poorest groups. Empirical studies include Alkire and Suman (2009); Adeoti and Popoola, (2012); Adeoti, (2014).

III. METHODOLOGY

a) Scope of the study

The scope of the study is rural Nigeria. Nigeria the most populous nation in Africa, is made up of 36 states and a federal Capital Territory (FCT), grouped into six geopolitical zones: North West, North East, North Central, South East, South South, and South West and with 774 constitutionally recognized local government areas (LGAs). Nigeria lies between latitudes 4°16' and 13°53' north and longitudes 2°40' and 14°41' east with population of 140,431,790 (NPC, 2006).

b) Data Sources and Collection

The study employed the Demographic and Health Survey (DHS) 2008 a nationally representative data. Data was extracted for rural Nigeria and a total of 17104 households were considered for this study.

c) Analytical technique

The study estimated multidimensional poverty using the Alkire and Foster, (2007) methodology. The Alkire and Foster method employs a dual cut-off (identification and the deprivation cutoff) approach to generate the poverty incidence and a class of indices (M_α).

d) Identification method:

Following Alkire and Foster (2007), the vector c of deprivation counts is compared against a cutoff k to

identify the poor, where $k = 1, \dots, d$. The identification method ρ is defined as $\rho_k(A_i B) = 1$ whenever $c_i \geq k$, and $\rho_k(A_i B) = 0$ whenever $c_i \leq k$. The method identifies as poor any household head that is deprived in more than k number of dimensions. Where ρ_k is referred to as the dual cutoff method because it first applies the within dimension cutoff B_j to determine who is deprived in each dimension and then the across dimension cut off k to determine the minimum number of deprivations for a household head to be considered poor (Alkire and Foster 2007)

Head count ratio or the percentage of household head that is poor is defined by $H = \frac{q}{n} \dots \dots \dots (1)$ where, $q = q(A; B)$ is the number of household head in the set B_k , as identified using ρ_k the dual cutoff method. Alkire and foster approach allows the computing of a final adjusted head count ratio that satisfies the properties of decomposability and poverty focus. The adjusted head count is given by $M_0 = H \times A \dots \dots \dots (2)$ where M_0 is the adjusted head count, H is the headcount ratio, A is the average deprivation shared across the poor. The M_0 satisfies decomposability, replication invariance, symmetry, poverty and deprivation focus, weak rearrangement. Then we compute M_1 which reflects the incidence, intensity and depth of poverty. It is given by $M_1 = H \times A \times G$ where H is the headcount ratio, A is the average deprivation shared across poor and G is the poverty gap. The M_2 reflects the incidence, intensity and depth like M_1 but it also considers the inequality of poverty among households. It is given by $M_2 = H \times A \times S$ where S is the squared poverty gap.

Table 1 : Selected dimensions, indicators and deprivation cut offs

Dimensions	Indicator	Deprivation cutoff
Education	Ever attended school Years of schooling	Household heads who have never attended school and have not completed 6 years of education.
Housing and Sanitation	Main Wall material, main wall material, main roof material. Type of toilet facilities	Households living in houses without improved wall, roof, floor materials and without improved toilet facilities.
Asset	Ownership of television, radio, bicycle, refrigerator, agricultural land, car/Truck	Households who do not possess the listed assets.
Health	BMI, Under weight	Households with mothers having a body mass index less than normal for a woman and children who are underweight.

Source: Following United Nations (2003) and Adeoti and Popoola (2012).

e) Logistic regression

The effect of telecommunication on poverty status was estimated using the Logit regression. The logistic regression is given as:

$$Y_i = \ln\left(\frac{P_i}{1-P_i}\right) = \beta_0 + \beta_1 X_1 + \dots + u_j$$

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + u_j$$

Where,

Y_i = logarithm of the odds ratio representing dummy for poverty status. The β s are the coefficients of the independent variables which were specified as Age in years (X_1), Marital status (X_2), educational level (X_3), farming experience (years) (X_4), Own agricultural land (X_5), Region (X_6), access to mobile phone as a proxy to telecommunication service (X_7), Household size (X_8).

household heads were male while female constituted 15.7%. This implies that rural Nigeria is largely a patriarchal society. Majority of household heads were between 21 and 60 years of age (85.92%) with a mean age of 42.69 years. Thus implying that majority were in their active working years. They were mostly married with about 42.9% having between 4-6 members while about 32% had more than 7 members. The mean household size was about 6 members implying that households are fairly large. About 46.68% had no formal education followed by those with only primary education (24.96%). Household heads varied across the different regions in the country.

IV. RESULTS AND DISCUSSIONS

a) Socioeconomic Characteristics

Table 2 presents the socioeconomic characteristics of households in rural Nigeria. 84.28% of

Table 2 : Socioeconomic characteristics

Characteristic	Frequency	Percentage (%)
Gender		
Male	14416	84.28
Female	2688	15.72
Age (years)		
1-20	399	2.33
21-40	8484	49.60
41-60	6212	36.32
>60	2009	11.75
Marital Status		
Single	734	4.29
Married	15265	89.25
Widowed	928	5.43
Divorced	177	1.03
Household size		
1-3	4291	25.09
4-6	7338	42.90
7-9	3772	22.05
≥ 10	1703	9.96
Educational level		
No formal education	7984	46.68
Primary	4270	24.96
Secondary	3555	20.78
Tertiary	1295	7.57
Region		
North Central	3132	18.31
North East	3401	19.88
North West	4578	26.77
South East	1718	10.04
South South	2598	15.19
South West	1677	9.80

$N = 17104$

b) Poverty Assessment

The household multidimensional poverty estimates were based on four dimensions: education, housing and sanitation, asset and health. For each dimension, poverty lines/thresholds, a second cutoff k .

were set below which a household head is considered poor. The estimated poverty index depends on the value of the cutoff, k and poverty measures decreases with the level of k following Batana, (2008) and Adeoti and Popoola (2012). The head count ratio show that 97.3%

of households were multidimensional poor when the poverty cutoff $k = 1$; 84.2% for $k = 2$; 58.6% for $k = 3$; and 24.3% for $k = 4$. The adjusted head count ratio also revealed that M_0 equals 0.661 at when $k = 1$, and 0.500 at $k = 3$. The intensity of poverty (A) shows that the share of dimensions in which the poor are deprived

increases with k . Although, the household multidimensional poverty index is decreasing, the number of households that are poor reduced with increase in k but with an increase in intensity among the poor.

Table 3 : Household Multidimensional poverty indices

Poverty cutoff (k)	M_0	(H_0)	(A)
1	0.661	0.973	0.679
2	0.628	0.842	0.746
3	0.500	0.586	0.853
4	0.243	0.243	1.00

c) *Relative contribution of dimensions to MPI*

The Alkire and Foster (2007) class of indices were decomposed to assess the relative contribution of the various dimensions to overall multidimensional poverty as shown in table 4. The result reveal that the highest contribution is from health dimension with 28.67% at $k=1$. This is closely followed by housing and sanitation dimension with 28.24% at $k=1$ and the least being the education dimension (17.72%). At $k=3$, similar

results were reported but the housing and sanitation dimension contributed the highest (27.62%) as reported by JMP, (2008) that a higher proportion of rural dwellers do not have access to improved sanitation. This is followed by health dimension (26.54%). This implies that households in rural Nigeria are mostly deprived in these dimensions and as such the health, housing and sanitation conditions of rural households should be a policy target.

Table 4 : Relative contribution of dimensions

Poverty cut-off (k) Dimensions	Education (%)	Housing and Sanitation (%)	Asset (%)	Health (%)
1	17.72	28.24	25.37	28.67
2	18.35	28.48	25.49	27.67
3	20.76	27.62	25.08	26.54
4	25.00	25.00	25.00	25.00

d) *Effect of telecommunication on poverty status*

The effect of access to telecommunication on the poverty status of rural households is presented in table 5. The MPI obtained when $k=3$ (0.500) was taken as the poverty line to classify households into poor and non-poor. The diagnostic statistics reveal that the model has a log likelihood ratio of 14868.08 and is significant at 1 percent with a pseudo R squared of 0.6285 indicating that 62.85% of the variation in multidimensional poverty is explained by the independent variables and that the model is a good fit.

Access to telecommunication¹ was significant and had a negative effect on the probability of being MPI poor. This means that households with access to mobile phones (telecommunication services) decrease the probability of being MPI poor by 40.7%. Female headed households increase the probability of being MPI poor by 6.5%. As household heads increase in age, the probability of being MPI poor increase by 10.5%. This means that poverty increases as the household head grows older. Contrary to apriori expectation, as the

number of household members' increase, the probability of being MPI poor decreases. This might be because rural household mainly uses family labour for their farming activities which boost production and increased revenue for the farmers. Results also indicate that ownership of agricultural land reduces probability of being MPI poor. The marginal effect estimate reveals that it reduces poverty by 15.3%. Residing in the north east region of the country increases multidimensional poverty by 22% while residing in the south western region of the country reduces multidimensional poverty by 4%.

¹ Households with access to mobile phone was used a proxy for access to telecommunication.

Results are interpreted with marginal effect estimates.

Table 5 : Effect of access to telecommunication on poverty status of rural households

Variables	Coefficient	Marginal effect
Gender		
Female	0.3033*** (0.0933)	0.0651*** (0.0162)
Age (years)		
21-40	-0.2091 (0.1895)	-0.0466 (0.0206)
41-60	0.1139 (0.1971)	0.0252 (0.0293)
>60	0.5074** (0.2140)	0.1049** (0.0147)
Household size		
4 – 6	-0.1934*** (0.0719)	-0.0432*** (0.0201)
7 – 9	-0.3376*** (0.0877)	-0.0773*** (0.0253)
≥ 10	-0.6412*** (0.1193)	-0.1520*** (0.0208)
Educational Level		
	5.1972*** (0.0836)	0.81445*** (0.0263)
Marital status		
Married	0.3628** (0.1407)	0.0841** (0.0147)
Widowed	0.4711** (0.1855)	0.0968** (0.0192)
Divorced	0.3387 (0.2811)	0.0709 (0.0422)
Access to mobile phone	-1.7917*** (0.0679)	-0.4076*** (0.0434)
Own agricultural land	-0.7582*** (0.0731)	-0.1532*** (0.0405)
Region		
North east	1.1488*** (0.0908)	0.2205*** (0.0133)
North west	0.1229 (0.0920)	0.0271 (0.0051)
South east	-0.0609 (0.1117)	-0.0137 (0.0337)
South south	0.0647 (0.0950)	0.0143 (0.0347)
South west	-0.1818* (0.1131)	-0.0414* (0.5482)
constant	-1.6501	
Number of observations	17104	
LR chi square	14868.08	
Prob> chi square	0.0000	
Pseudo R ²	0.6285 (62.85%)	

*** Significant at 1%, ** significant at 5%, * significant at 10% Standard errors in parenthesis

V. CONCLUSION AND RECOMMENDATION

This paper examined the effect of telecommunication on poverty in rural Nigeria. Household heads were mostly male with a mean age of

42.69 years, had no formal education and had fairly large households with a mean household size of 6 members. The adjusted head count ratio also revealed that Mo equals 0.661 at when $k = 1$, and 0.500 at $k = 3$. The highest contribution to multidimensional poverty is

the health dimension closely followed by housing and sanitation dimension at $k = 1$. Access to telecommunication was significant and had a negative effect on the probability of being MPI poor. This means that households with access to telecommunication services decrease the probability of being MPI poor.

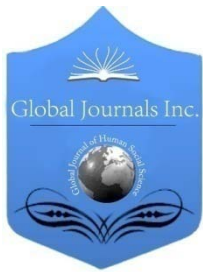
It is recommended that the government should focus on the health and sanitation dimension to reduce multidimensional poverty in rural areas and concerted efforts should be made to increase access to telecommunication services through mobile phones to rural households.

REFERENCES RÉFÉRENCES REFERENCIAS

- Adeoti A. I. (2014): Trend and Determinants of household poverty in rural Nigeria. *Academic Journals* Vol 6(5) pp 220 – 231
- Adeoti A.I and C.N Ogbenna (2004): Poverty and Rural Non-farm Employment in Oyo State. *Faman Journal* 7(1), 53-62
- Adeoti, A.I and O. Popoola (2012): Determinants of Child Poverty in Rural Nigeria: A Multidimensional Approach *Global Journal of Human Science* Vol. 12 No 12
- Alkire S. and Suman, S. (2009): Measuring Multidimensional Poverty in India. A new proposal OPHI Working paper 15, Oxford University: Oxford poverty and Human development Initiative
- Alkire, S. and Foster (2007): Counting and Multidimensional Poverty Measurement' Oxford Poverty & Human Development Initiative, OPHI, unpublished manuscript
- Coyle, D. (2005): Africa: The impact of mobile phones. Vodafone Policy Paper Series, Number 2, March 2005. Vodafone Group. pp.3 – 9
- Deaton, A. (2006): Measuring Poverty" in *Understanding Poverty*. A. V. Banerjee, R. Benabou and D. Mookherjee (eds), Oxford University Press.
- Fong, M. (2009): Digital Divide: Reaping the benefits of ICT. Europe's productivity challenge. Report sponsored by Microsoft Euro monitor International, GMI Database. Retrieved November 12, 2008
- Goedhart, T., Halberstadt, V., Kapteyn, A., and B.M.S. van Praag (1977): The Poverty Line: Concept and Measurement. *The Journal of Human Resources*, 12, 503-520.
- Jensen, R. (2007): The digital provide: Information (technology) market performance, and welfare in the south Indian fisheries sector. *The Quarterly Journal of Economics*, CXXII (3), 879-924.
- Morduch, (1998): Poverty, Economic Growth and Average Exit Time' *Economics Letters* 59: 385-90
- National Bureau of Statistics (NBS) (2009): (www.nigerianstat.gov.ng)
- NPC, (2003): National Population Commission Population Census report.
- Obayelu, O. A. and Awoyemi, T. T. (2010): Spatial dimension of poverty in rural Nigeria" *Journal of Development and Agricultural Economics* Vol. 2(6): 231-244, June
- Okunmadewa, F.Y., S.A. Yusuf, and B.T. Omonona, (2005): Social capital and poverty reduction in Nigeria. Research Report Submitted to the African Economic Research Consortium AERC), Nairobi for the Second Phase Collaborative Poverty Research Project.
- Ologbon O. A. C., Adeoti A. I., Omonona B. T. and Falusi A. O.(2012): Welfare Deprivation Among Riverine Households In Southwestern Nigeria *ARNP Journal of Agricultural and Biological Science* Vol 7 No 5.
- Oni, O.A. and Adepoju, T. A. (2011): A capability Approach to the Analysis of Rural Households' Wellbeing in Nigeria. MPRA Paper No. 34508
- Oni, O.A. and S. A. Yusuf (2007): Determinants of Expected Poverty among Rural Households in Nigeria <www.csae.ox.ac.uk/conferences/2007-EDiALaWBiDC/papers/434-Oni.pdf>
- Onwuebele, A. (2011): Impact of Mobile Phones on Rural Livelihoods Assets in Rural Nigeria: A Case Study of Ovia North East Local Government Area *JORIND* 9(2) December, 2011. ISSN 1596 – 8308. www.Transcampus.Org,www.Ajol.Info/Journals/Jorind
- Oyekale, T. O., F. Y. Okunmadewa, B. T. Omonona and O. A. Oni (2009): Fuzzy Set Approach to Multidimensional Poverty Decomposition in Rural Nigeria. *The Icfai University Journal of Agricultural Economics*. 6(3&4): 7-44 India.
- Oyekale, A.S., Adeoti, A.I., and Oyekale, T.O. (2006): Measurement and Sources of Income Inequality among Rural and Urban Households in Nigeria. PMMA Working Paper 2006-20, Poverty and Economic Policy Research Network (www.pep-net.org)
- Pyramids Research Reports, (2009): Nigeria becomes Africa's biggest Mobile Telecom Market.
- Ravallion and Chen (2001): Measuring Pro-poor Growth. Poverty Research Working Paper No. 2666, World Bank, Washington DC.
- Rice, S.E. (2006): The threat of Global Poverty. *The National Interest*, New York, pp. 76 – 82 (Accessed 23 May 2007)
- Sadiq, M.S and Kolo M. D. (2015): Poverty Profile of rural farming household in Niger State and its implication on Food security in Nigeria. *International Journal of Agricultural research and Review* Vol3, No 2.Pg 161-171
- Salman, K. K. (2012): Do Microenterprises reduce poverty in rural Nigeria? *ARNP Journal of Agricultural and Biological Science*. Vol. 7(6)
- Sen, A. K. (1976): Poverty: An Ordinal Approach to Measurement' *Econometrica* 44 (2): 219-31

28. UN, (2003): Indicators for monitoring the Millennium Development Goals. The United Nations. New York
29. UN, (2004): United Nations Millennium development goals, www.un.org/millenniumgoals/bkgd.shtml
30. UNDP, (1997): Human Development Report 1997. New York: Oxford University Press.
31. UNDP, (2010): Human Development Report Nigeria 2008-2009. Achieving Growth with Equity. United Nations Development Programme
32. Urama, N. E and M.O Oduh, (2012): Impact of development in telecommunication' Journal of Economics and Sustainable Development Vol 3, No 6.
33. WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP), 2008 report.
34. World Bank (2003): ICT and MDGs: A World Bank Group Perspective", Washington, D.C.: The World Bank Group,
35. World Bank (2006) Information and Communications for Development: Global Trends and Policies. Washington DC: The World Bank.
36. Zadeh I.A. (1965): Fussy Sets, Department of Electrical of Electrical Engineering and Electronic Research Library, University of California; Information and Control, Vol 8, Pp 338 – 353, 1965.





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Azerbaijan' WTO Accession Process: Non Agricultural Export Subsidies Aspects of Negotiations

By Imamverdiyeva Sevda Shakir

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Keywords: export subsidy, WTO, GATT, agreement on Subsidies and countervailing measures, azerbaijan, export enhancement program (EEP).

I. OVERVIEW

World Trade Organization (WTO) Members requested that Azerbaijan commit to binding its agricultural export subsidies at zero. Although Azerbaijan does not currently maintain agricultural export subsidies and does not have any plans to adopt them in the near future, the purpose of this paper is to provide a rationale for why Azerbaijan should make this zero export subsidy a life time commitment. We analyze the implications of having or not having such subsidies in the short and long run and point out that under any circumstances which such subsidies may ever be desired by Azerbaijan can be better achieved by other policies under the purview of the WTO. This paper shows the possible negative implications of Azerbaijan ever using agricultural export subsidies and that there are no circumstances in the future that would require the need for such subsidies.

This paper is outlined as follows. The next section provides background on the history and current

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state of export subsidies on agricultural products under the WTO. The key conclusion is that export subsidies for manufacturing products have been prohibited under the WTO for 40 years and WTO members have agreed to do the same for agriculture in the yet unfinished Doha trade negotiations. Furthermore, the European Union, which made up 90 percent of the total export subsidy commitments at the end of the Uruguay Round, has now reduced export subsidies to zero as of 2013. Section 3 explains the economics of export subsidies and shows why they are regarded as the most pernicious method of protection for agricultural products. Section 4 categorizes all of the different ways export subsidies can be delivered while Section 5 shows how ineffective export subsidies are in trying to achieve the various policy goals of governments using export subsidies in the past. Section 6 explains the countervailing duty provisions in the WTO which gives recourse to Azerbaijan in the event it faces export subsidies from other countries. The final section summarizes the reasons why Azerbaijan should commit to zero export subsidies in the WTO.

II. BACKGROUND ON AGRICULTURAL EXPORT SUBSIDIES AND THE WTO

GATT Article XVI - subsidies - addresses the issue of subsidies in general as well as on exports. While it called upon contracting parties to cease to grant either directly or indirectly any form of subsidy on the export of non-primary products, an exception was made for primary products. An export subsidy was said to be subsidized when the export price is lower than the comparable price charged for the like product in the domestic market. GATT Article XVI recognizes the possibility of harmful effects as it states that "contracting parties should seek to avoid the use of export subsidies on the export of primary products". It is further stated that if a country grants directly or indirectly any form of subsidy which operates to increase the export of any primary product, such subsidy shall not be applied in a manner which results in:

"that contracting party having more than an equitable share of world export trade in that product, account being taken of the shares of the contracting parties in such trade in the product during a previous

representative period, and any such special factors which may have affected or may be affecting such trade in the product".

Subject to this condition, therefore, export subsidies on agricultural products were permitted and it proved to be difficult to define the term "equitable" in practice so agricultural export subsidies proliferated and the practice became a major source of international trade disputes. The remedy to subsidized exports is addressed by Article VI - anti-dumping and countervailing duties. Article VI did not make a distinction between a primary and a non-primary product, which meant countries were always allowed to take countervailing measures against subsidized exports of even the primary product where the above condition (i.e. "equitable share in world trade") is violated. In fact, several disputes related to agricultural subsidies were brought to the GATT over the years.

Export subsidies boost domestic production and lower domestic consumption, thereby causing a sharp increase in exports and depressing international prices. This hurts other exporters, and exacerbates the volatility of world prices by insulating domestic markets. As a result of the Uruguay Round Agreement on Agriculture, 25 members of the WTO, mostly rich countries, are still able to use such subsidies for the farm products. They specified export subsidies by product in 1995 which were capped and subject to annual reduction commitments throughout the implementation period. By the end of 2000, subsidized exports of developed countries were to reach expenditure levels and quantity levels that are 36 per cent and 21 per cent, respectively, below those of the base period (1986-88).

Table 1 : Types of Export Subsidies Subject to Reduction Commitments

- | |
|---|
| a. The provision by governments or their agencies of direct payments-in-kind, to a firm, to an industry, to producers of an agricultural product, to a co-operative or other association of such producers, or to a marketing board, contingent on export performance; |
| b. The sale or disposal for export by governments or their agencies of non-commercial stocks of agricultural products at a price lower than the comparable price charged for a like product to buyers in the domestic market; |
| c. Payments on the export of an agricultural product that are financed by virtue of governmental action, whether or not a charge on the public account is involved, including payments that are financed from the proceeds of a levy imposed on the agricultural product concerned, or on an agricultural product from which the exported product is derived; |
| d. The provision of subsidies to reduce the costs of marketing exports of agricultural products (other than widely available export promotions and advisory services) including handling, upgrading and other processing costs, and the costs of international transport and freight; |
| e. Internal transport and freight charges on export shipments, provided or mandated by governments, on terms more favorable than for domestic shipments; |
| f. Subsidies on agricultural products contingent on their incorporation in exported products. |

Source: Article 9.1 of the Agreement on Agriculture.

The European Union accounted for 90 percent of the bound export subsidies (Hoekman and Messerlin, 2005). Article 8 of the Agreement on Agriculture – export competition commitments – provides the overall rule by requiring each Member to be in conformity with their export subsidy commitments as specified in that Member's Schedule. Article 9 of the Agreement on Agriculture or the "Export Subsidy Commitments" Article identifies export subsidies subject to reduction commitments. Article 9.1(a) consists of three important provisions: the government agency provision, the in-kind provision, and the export contingency provision. The government agency provision indicates that support does not have to be provided directly by the government. Support can also be provided by a governmental agency, including marketing boards. Furthermore, the in-kind provision indicates that direct subsidies including payments-in-kinds are also subject

to reduction commitments. In addition, the fact that export subsidies subject to reduction are those subsidies contingent upon export performance is reiterated in the export contingency provision. Article 9.1(c), or the governmental action provision, states that export subsidies do not require budgetary outlays to be subject to reduction commitments; payments financed by virtue of governmental action not involving a charge to the public account are also subject to reduction. Its Article 9.1 defines various types of export subsidies that are disciplined (Table 1). Article 9.2(a) simply states that, subject to some flexibility provided for in 9.2 (b), the maximum quantity of the product in respect of which export subsidies may be granted and the maximum level of outlay for such subsidies are specified for each year in the Member's Schedule. These articles also imply that a Member that has no export subsidy commitment

in the Schedule is not allowed to introduce them in the future. This applies to Azerbaijan.

Article 10 of the Agreement on Agriculture address issues associated with circumvention of a member's outlined reduction commitments. Article 10.1, or circumvention provision, states that export subsidies not explicitly stated in the export subsidy commitments article, which attempt to circumvent reduction commitments are also prohibited. Article 10.3 places the burden of proof on the defendant. The burden of proof provision states that any exports in excess of the reduction commitment amount are assumed to have been subsidized unless the defendant provides proof to the contrary.

Although the Uruguay Round Agreement on Agriculture permitted export subsidies on agricultural products, constraints were imposed. This outcome was considered to be one of the most important results of the agreement in view of the potentially disruptive effects that export subsidies can have on world markets. But countries reduced export subsidies faster than the caps and the European Union has reduced them to zero (see discussion of Figure 1 below).

To date, the Doha Round has been similar to the Uruguay Round in placing heavy emphasis on strengthening disciplines on export subsidies. Much effort has focused on obtaining agreement to ban export subsidies, and elimination of export subsidies was finally accepted by WTO members that are the most intensive users of such subsidies—most notably, the European Union—in the July 2004 Framework Agreement. That agreement spells out in some detail how liberalization is to occur: export subsidies are to be eliminated by a “credible” date, decreases are to be implemented in annual installments during the transition period, and an explicit link is to be made between the abolition of export subsidies and the negotiation of equivalent disciplines on other forms of export support, in particular the subsidy component of export credits, subsidies granted by state trading enterprises (STEs), and food aid. Special and differential treatment for export support granted by developing countries is to be limited to a longer transition period and “special consideration” for poorer countries' state trading enterprises. However, these commitments are conditional on an agreement on all the topics (agriculture, industry and services) currently negotiated in the Doha Round, a still distant goal.

The WTO's July 2004 Framework Agreement also call for elimination of so-called implicit export subsidies in many forms that are disbursed indirectly and non-transparently through food aid programs (that disrupt local markets and commercial trade flows), STEs (low-interest loans and government underwriting of losses), publicly underwritten export credits (long

maturities and below-market interest rates), export promotion activities,¹ and domestic policy levers that can, in combination, function as an export subsidy. Such nontransparent mechanisms were subject to few disciplines in the Uruguay Round Agreement on Agriculture and so are key issues for the discipline in the current Doha negotiations, despite the complexity of calculating their subsidizing effect. The elimination of export subsidies and their equivalents will finally put agriculture with manufacturing products.

Many countries have eliminated or suspended subsidies of some or even all commodity exports beyond the Uruguay Round Agreement requirements. This unilateral action may be in part due to high world prices in the early years of implementation that allowed more countries to export without subsidy. But much of the reduction can be attributed to policy changes, especially for the European Union which have reduced export subsidies significantly and are close to zero in 2012 (Figure 1). Changes to the language on export subsidies in the single Common Market Organization regulation go further than before in limiting the future use of export subsidies, without quite taking the final step of eliminating them altogether (Matthews, 2013). This new regulation setting export subsidies to zero in all circumstances except where there is a market disturbance or a market emergency does represent a very positive development and so one can expect that the EU Commission is adopting a strict approach in evaluating when a market disturbance or emergency occurs in the future.

III. THE ECONOMICS OF EXPORT SUBSIDIES

Suppose a government offers a \$1 per bushel of wheat export subsidy. To profit from such a scheme, an exporter bids up the price of domestic wheat and sells it on the world market \$0.60/bushel below domestic prices and pockets a profit of \$0.40/bushel from the \$1/bushel government subsidy. But competing exporters see this excess profit being made and so participate in exporting more too by bidding up the domestic price even higher and so increases exports. This keeps going until there are no “excess profits” being made buying domestic wheat and selling it on world markets. The world price for wheat is in the end fully discounted by the \$1/bushel government export subsidy.

Several things happen in this process. First, domestic prices increase so domestic consumers are worse off but farmers are better off (provided the

¹ The evidence suggests that the subsidy element of export credits is much less of a problem in terms of distorting world markets than are direct export subsidies (OECD 2012). Assessing the magnitude of the associated distortions and determining the subsidy equivalent is difficult, however, and much more work is required to understand better the prevailing situation and the possible benefits and costs of alternative types of multilateral disciplines.

process of exporting is a perfectly competitive market, something not guaranteed always in some countries of the world, especially in countries where corruption is an issue).

Second, it costs taxpayer monies. Hence, domestic consumers and taxpayers both become worse off because of the export subsidy.

Third, world prices decline because of the double whammy of reduced domestic consumption and increased production. So the net increase to producers is less than \$1/bushel in our example. Subsidies clearly hurt other agricultural exporters, especially small countries, by cutting their market shares and reducing export earnings. Furthermore, subsidies represent income transfers from the subsidizing country to consumers in the importing countries. So the effectiveness of export subsidies in reaching any domestic policy goal (discussed in the next section) is severely curtailed.

Fourth, an exporter has to also impose an import barrier to make the export subsidy effective. Otherwise, other exporters will undercut the effectiveness of the export subsidy in raising domestic prices. Imposing import barriers may not be possible, given Azerbaijan's market access commitments. This is especially true in regional free trade agreements. After the North America Free Trade Agreement (NAFTA) was signed, the U.S. wheat export subsidy became ineffective as Canada began to export wheat to the United States. Because of prior commitments in NAFTA, the United States was forced to eliminate export subsidies for wheat.

Fifth, if the WTO's Agreement on Agriculture agrees that all exporters eliminate export subsidies, then the self-defeating effects of each exporter's export subsidy in reducing world prices is eliminated and the world price can return to its free market levels, often higher than the domestic price for a small country exporter who is more adversely affected by large country export subsidies (e.g., the European Union) in this world trade war. Therefore, there is a special incentive for small countries to not have export subsidies because a \$1/bushel export subsidy by the European Union can reduce world prices so much that a \$1/bushel export subsidy by a small country cannot compensate for the price decline. It is better off for the small country to insist no country has an export subsidy. For all these reasons, export subsidies are regarded as one of the most pernicious subsidy schemes to exist and probably explains why the WTO has outlawed their use for industrial goods many decades ago and has now been agreed to now for agriculture in the Doha Round trade negotiations which still need to be completed.

Arguments often made in favor of export subsidies

Some economists have argued that export subsidies may under special circumstances be

beneficial for the exporting country. One such literature is called "strategic trade policy" where it is possible but not certain, that a country can improve its welfare (at the expense of the rest of the world) provided it is a "large country" (can affect world prices), imperfect competition exists and products are differentiated (Panagariya, 2010). But Azerbaijan agriculture is perfectly competitive in world markets and is too small a country to affect world prices. Besides, the purpose of the WTO is not to improve one country's economic welfare at the expense of others but to maximize economic welfare of all countries together.

Another common argument for using export subsidies, made by the United States in the 1980s under the Export Enhancement Program, is to discipline other countries' trade policies (export subsidies and import barriers). But that invites retaliation by other countries and is not a constructive way to carry out trade relations with other countries. Besides, Azerbaijan is unable to retaliate against a trading partner's export subsidies or for neutralizing import tariffs because it is a "small" country. A country has to have a big share of the world market to discipline other countries and even then, it may not be beneficial yet be very costly in terms of higher domestic consumer prices and taxpayer expenditures.

Another argument put forward for export subsidies is to protect infant export industries in the presence of externalities (market failures like inadequate transportation facilities). But it is better to have non-distorting production subsidies or have policies that address the source of the market failures; in other words, correct the market failures by internalizing the externalities (e.g., provide public good investments that build infrastructure).

The thinning of the market for credit insurance because of adverse selection (exporter values the good more highly than the importer because of asymmetric information) and moral hazard (firm taking out insurance does not minimize risks) is another theoretical justification for export subsidies. But all WTO members have access to export credit facilities provided by their government so long as they abide by the OECD protocol on export credits (OECD 2012). Export credits can also help Azerbaijan penetrate foreign markets with a differentiated agricultural export product (e.g., natural tea).

Finally, maintaining a cultural heritage or a rural way of life may also be a justification for export subsidies only if the domestic market is too small to achieve the public goal.

IV. HOW MANY DIFFERENT KINDS OF POLICIES CONSTITUTE AN EXPORT SUBSIDY?

Any policy that places a wedge between domestic and world prices constitutes an “export subsidy”. The source of funding for a traditional export subsidy is domestic taxpayers and consumers. Export subsidies, even when not masquerading under other names, come in numerous forms. They may be specific, as fixed or ad valorem payments made on the volumes exported. Export subsidies can also be provided indirectly by marketing agencies or boards that buy on the domestic market and have monopoly rights to sell on international markets. Such agencies provide an export subsidy if they purchase a commodity at a higher price domestically than they sell it internationally. In this case, consumers only are the source of the subsidy where “preferential exports” share is at a lower price than the pooled price as farmers “forego revenue” and

the price received is “contingent on exports”. Consumer only financed export subsidies can therefore be derived from price discrimination and revenue pooling arrangements, and “financed by virtue of governmental action” to allow these arrangements in the first place. An export subsidy can be achieved by any combination of domestic policy measures that tax consumption and subsidize production. There are many such complex and indirect ways for governments to subsidize exports including low-cost loans or tax relief for exporters, or government financed international advertising or R&D. Public expenditures for export promotion are often part of an expansionary trade philosophy. Indirect export subsidies not only are more difficult to measure than direct subsidies, but also involve programs that under some circumstances are beneficial or crucial, such as food aid. Hence, any rules to discipline their use must be carefully designed and will involve more disciplines on reporting and monitoring than will those on more explicit forms of subsidy.

Table 2 : Summary of Provisions of the WTO Framework Agreement on Export Competition In the Doha Round Negotiations July 2004

Export subsidies	<ul style="list-style-type: none"> Eliminate export subsidies by a credible end date. Agree on schedule and modalities of reductions.
Export credits	<ul style="list-style-type: none"> Eliminate export credits, guarantees, and insurance programs with repayment period of more than 180 days.
Food aid	<ul style="list-style-type: none"> Eliminate food aid that is not in conformity with disciplines to be agreed. Disciplines will be aimed at preventing commercial displacement. Negotiate other food aid issues (role of international organizations, humanitarian and development issues, aid in grant form).
State trading enterprises	<ul style="list-style-type: none"> Eliminate trade-distorting practices of state trading enterprises. Negotiate use of monopoly powers.
Special and differential treatment for developing countries	<ul style="list-style-type: none"> Allow longer implementation periods for reductions and elimination. Permit developing countries to continue to benefit from Article 9.4 exceptions. Make appropriate provisions for export credits in line with Decision on Least Developed and Net Food-Importing Countries. Accord developing countries special consideration in negotiation of disciplines on STEs. Allow, in exceptional circumstances, ad hoc temporary financing arrangements relating to exports to developing countries.
Export restrictions	<ul style="list-style-type: none"> Strengthen disciplines on export prohibitions and restrictions.

Source: Josling (2005).

a) Food aid

Although food aid can have market effects similar to those of export subsidies, it was not included in the WTO's Agreement on Agriculture schedule of reductions. Crucial in cases of national disaster, food aid has been used by developed countries to dispose of surpluses, provide budget support for the recipient government, and underpin foreign policy. Such uses have created serious problems. When given in kind, food aid may be detrimental to local producers by

lowering prices and altering traditional dietary preferences. When distributed outside normal commercial distribution channels—as it usually is—in-kind food aid also disrupts the development of those channels and interrupts the movement of food to the deficit areas from surplus regions in the country and from neighboring countries. Disruption increases the likelihood and severity of future famine. Hence, food aid should be purchased from other developing countries and from food surplus areas of the country assisted, as

a first priority. Also, food aid should never be used by industrial countries as a way of disposing of surpluses.

To avoid these risks, food aid in full grant form such as cash or vouchers should be directed to meet the needs of well-defined vulnerable groups or in response to an emergency as determined by the United Nations. This will also support local producers and traders. For these reasons, cash aid is often preferable to in-kind distribution. The exceptions are crisis situations where transportation is severely disrupted or markets are not functioning, or when there are good reasons to believe that in-kind food distribution can be better targeted to those with the greatest need.

b) *Export credits*

Officially supported export credit programs have averaged about \$6.5 billion per annum, with the United States providing around 50 percent of the world total. The programs involve credit guarantees, public assumption of risk, and subsidization of interest and insurance. It is very difficult to measure the value of the export subsidy associated with these programs because the value of the risk reduction they provide is difficult to estimate. At the same time, export credit programs enhance food security for countries suffering from financial or food crisis, thereby expanding exports to everyone's benefit. However, only about 20 percent of agricultural export credit is extended to poor developing countries. Although the subsidy component of these credit programs is found to be small, disciplines are required for all such public expenditures (with exemptions for poor country importers in emergency situations).

c) *State trading enterprises (STEs)*

STEs and domestic policies that allow for market segmentation and protection of domestic markets can subsidize exports through price discrimination, that is, by using revenues from high domestic prices to subsidize fixed costs for the rest of production, which is then exported. STEs and domestic marketing arrangements can also be used to pool revenues to farmers, a practice that constitutes an export subsidy if domestic consumer prices are higher than world prices. Domestic production expands with pooling, and consumption declines, as in the case of a taxpayer-financed export subsidy. Pooling can occur over time and across markets and commodities.

Some export STEs may counter the power of multinational trading firms and hence may improve competitive conditions in the market. But disciplines are needed to ensure that STEs are more transparent and subject to the same general rules as private firms. In particular, disciplines should be placed on price pooling and on taxpayer support to STEs (for credit guarantees or promotion, for example), with targets for their eventual phasing out. More stringent requirements for reporting

acquisition costs and prices are required to ensure that any price discrimination by the STE is within normal business practices and that no product is sold on world markets consistently below domestic prices. There should be no discrimination against private firms' participation in the market; nondiscrimination discourages STEs from using discriminatory practices. Special financing privileges should be also disciplined, with exemptions for poor countries dealing with inadequate institutional infrastructure.

d) *Price discrimination and pooling*

Price discrimination and pooling can combine to create an export subsidy. Export subsidies based on price pooling and price discrimination are quite complex and can occur in different settings. Extra revenues derived from price discrimination are "pooled" and then "averaged" to farmers, thereby acting as a production subsidy, while higher prices to consumers act like a consumption tax. No tax revenues are involved, but the outcome is identical to that of a standard taxpayer-financed export subsidy: supply is increased and demand is reduced at the same time. Such practices are often referred to as "consumer-financed" export subsidies.

Price discrimination with pooling can be carried out by an STE or through legislation fixing domestic prices. Non-traded domestic products (fluid milk, for example) can be used to support implicit export subsidies. Although the milk itself is not traded internationally, its high domestic price can be used to cross-subsidize exports of related products such as cheese or milk powder. If an STE practices price discrimination only in world market segments, without taxing domestic consumers, but pools the revenues, the resulting subsidy is not disciplined in the URAA.

The Dispute Settlement Body of the WTO ruled in 2003 and 2004 for the Canadian dairy and EU sugar sectors, respectively, that price discrimination alone with production quotas have the effect of cross-subsidizing exports and so violate commitments made under the URAA to reduce export subsidies. The WTO panel agreed with Brazil's argument that higher domestic prices for quota production have allowed farmers to expand output and sell the extra output at lower world prices below total average costs of production. The practice constitutes a subsidy because losses in one market (the export market) are offset by profits in another (the domestic quota market).

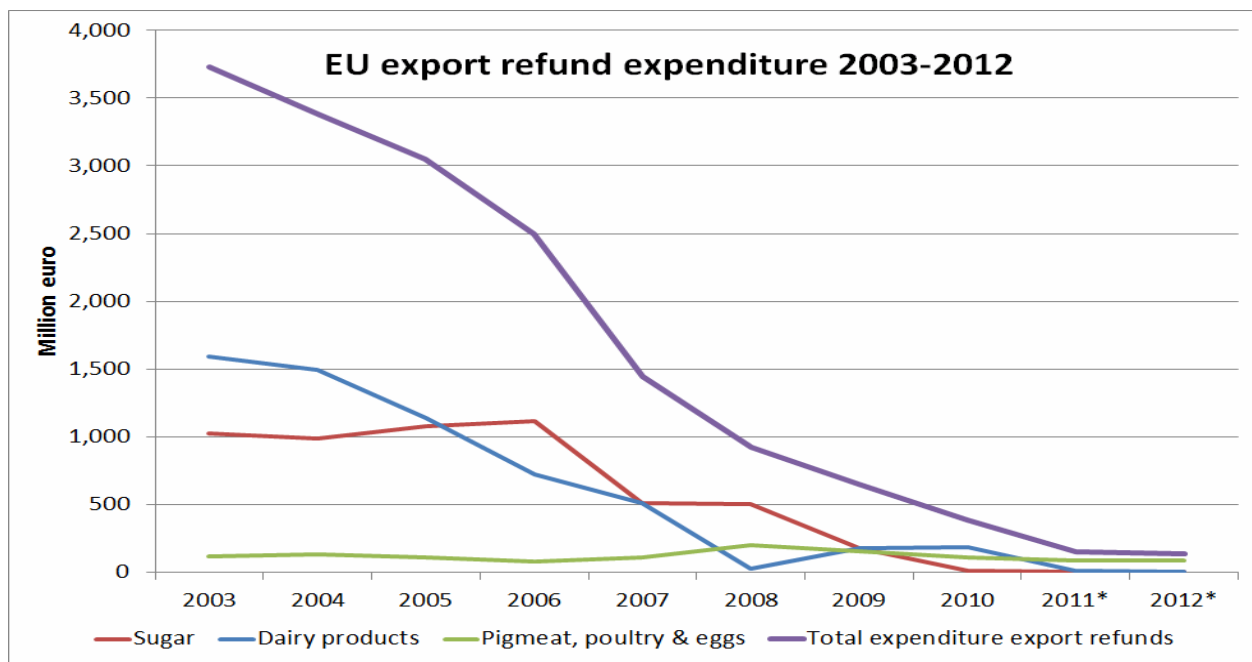


Figure 1: EU ends use of Export Subsidies by 2013

Source: <http://capreform.eu/end-the-use-of-export-subsidies-in-the-2013-cap-review/>

Why would farmers accept a loss on exports? Because the unit-cost savings they realize from higher output are greater than the marginal losses they incur. Exploiting economies of scale under these circumstances constitutes cross-subsidization, according to the WTO panel. Output is also distorted because some farmers limit their production to the quota amount and would have exited the industry were it not for high domestic prices on the quota. This is output distortion due to “exit deterrence” as opposed to distortions that are due to cross-subsidization (where some farmers produce beyond the quota amount at lower world prices but are able to do so because of higher domestic prices).

These rulings have implications for all production subsidies on limited output (known as “infra-marginal” subsidies), whether financed by taxpayers or consumers. Subsidies on a limited amount of output have been increasing since the Agreement on Agriculture was adopted. It is therefore possible that other commodity sectors and countries are in contravention of their export subsidy reduction commitments.

V. HOW EFFECTIVE ARE EXPORT SUBSIDIES RELATIVE TO OTHER FORMS OF POLICY INTERVENTIONS?

Typically, there are several motivations for countries to use export subsidies. Historically, mercantilism has been a dominating economic doctrine where government control of foreign trade is of paramount importance for ensuring the military security

of the country. In particular, it demands a positive balance of trade. But in the modern world of free trade and the WTO, along with military alliances, it is not necessary to be mercantilist although the most common notion amongst voters to this day is still that imports are bad and exports are good.

Furthermore, at the macroeconomic or general equilibrium scale, an export subsidy draws resources (e.g., land and labor) away from the import competing sector, causing the prices of these inputs to increase and so more imports result. The important thing to recognize is that export subsidies by themselves may not improve the country's balance of trade.

Another motivating factor for export subsidies is food self-sufficiency. But being self-sufficient in food is a poor indicator of food security which is best achieved by making sure the population has the resources to pay for food, regardless of the source. But export subsidies are counterproductive in that regard as domestic prices increase, curtailing consumption. Furthermore, more production is exported rather than maintained in the domestic economy. It is far better to use other policy instruments to achieve food self-sufficiency.

The most common political motivation for agricultural export subsidies in the past has been to support farm incomes and promote rural development. But an export subsidy is a very inefficient policy to achieve a farm income goal. There are economic efficiency losses due to a higher domestic price. There is inefficiency costs because overproduction of the agricultural product (resources could be better used for other agricultural products) and under consumption

(higher domestic prices cause consumers to under consume relative to what free markets would dictate).

The excess burden associated with taxpayer-financed transfers induces two types of distortion. The first reflects the deadweight costs of raising revenues through income taxes; the second reflects the deadweight costs associated with disbursing taxpayer funds to farmers. Estimates of the size of these losses vary widely but can be quite high.

There are also distributive leakages (reallocations) to input suppliers, consumers, taxpayers and rest of the world through market price changes. Hence, for the cost to domestic consumers (in the form of higher prices) and taxpayers, only a fraction of the transfer ever reaches the farmer. Research by the OECD (2003) has established that output related support mechanisms (which an export subsidy is) are relatively inefficient, and that decoupled instruments such as direct income payments have the potential to deliver more efficient assistance to the farm sector. Not only are there upstream leakages to input suppliers who benefit from an export subsidy (the degree to which depends on the characteristics of the input supply curve and purchased input share of farm production costs), there are also downstream reallocations among processors, distributors and foreign consumers who now benefit from lower world prices.

A broader consideration of the transfer efficiency issue for export subsidies should also acknowledge that policy benefits may "leak" not just to unintended recipients up and downstream from the farm gate, but also to unintended recipients within the farm sector (for example wealthier farmers). Price based policies designed to help farmers inevitably help larger farms and so are a poor instrument to target income to specific farmers that need it most.

According to OECD (2003), no support policy linked to agricultural activity succeeds in delivering more than half the monetary transfers from consumers and taxpayers as additional income to farm households. In the case of market price support such as export subsidies, the share is one fourth or less. Only 25 percent of producer support on average actually finds its way into the farmer's pocket.

In the case of market price support (e.g., export subsidies), the stimulus to output, and hence to input demand, means that much of the increase in receipts is paid back out to input suppliers or capitalized into land values. This raises costs for farmers buying or leasing land. Farmers that own land do benefit, but this increase in wealth should not be interpreted as additional income, since it does not improve the long-term economic welfare of farm households as a whole. While there is a wealth gain for farmers that own land at the time such policies are introduced, farmers who subsequently rent or purchase land at these higher prices will face reduced profitability and lower incomes

(OECD, 2003). The same applies, of course, to land costs for alternative, non-farm uses in rural areas.

Replacing domestic measures of support such as production subsidies by decoupled support is straightforward in the small country case and can be shown that it is a superior method to support agriculture. Instead of providing output-based subsidies, the government makes lump-sum payment to producers based on some historical criteria without any constraint or requirement on the current use of their resources. Under the lump-sum scheme, producers can receive higher payments as inefficiencies are no longer in place and they can be made better off. Taxpayers can also be better off if part of the efficiency gains is translated to lower taxes. Because both relevant groups (producers and taxpayers) can be made better off, decoupling in the production subsidy case is clearly a better way to achieve policy goals.

Decoupled payments have the advantage of being taxpayer financed so are transparent, allow for targeting to better achieve policy goals, allows the government to phase out all other programs so world prices rise (and reduce trade distortions), the efficiency of transferring income to farmers increases remarkably, and is politically acceptable and administratively feasible.

One of the more famous export subsidy programs in the United States was called the Export Enhancement Program (EEP). Its stated purpose was to help U.S. farmers compete with farm products from other subsidizing countries, especially the European Union, in other words, to challenge unfair trade practices, to expand U.S. agricultural exports, and to encourage other countries exporting agricultural commodities to undertake serious negotiations on agricultural trade problems. But this program was undermined by Canadian exports, being part of the free trade agreement, and so the United States had to dismantle the program. A small country like Azerbaijan could never undertake an export subsidy program with the same policy goals as the United States had with EEP.

Economic effects of export subsidies are to increase domestic prices and taxpayer costs, are inefficient, hurt other exporters, is non-transparent because it involves a higher domestic price and the domestic cost of helping foreign consumers is difficult to measure, has self-defeating aspects including reducing world prices and encouraging other exporters to subsidize exports as well, and involves the risk of retaliation by importers to impose import barriers on the affected product.

VI. HOW AZERBAIJAN CAN PROTECT THEMSELVES FROM OTHER COUNTRIES SUBSIDIZING EXPORTS: THE AGREEMENT ON SUBSIDIES AND COUNTERVAILING MEASURES (ASCM)

We have shown above that using export subsidies to battle other country export subsidies will not work, especially if you are a small country trader (e.g., Azerbaijan) and the other country is a large country (e.g., the European Union). Unlike for import barriers, there are no safeguard clauses in the WTO legal code that would allow an exporter to use export subsidies if there were abrupt market changes. An exporter cannot claim that it can temporarily resume export subsidies because of domestic injury. The "Safeguards Agreement" deals only with import restrictions. However the country can request a waiver or a renegotiation (two long-standing types of safeguards) but the political cost for an exporter to resort to such devices would be very high.

But Azerbaijan has access to the WTO Agreement on Subsidies and Countervailing Measures (hereafter ASCM) where remedies are available for an importing country that faces injurious subsidization by an exporter. The ASCM provides procedures and detailed rules on assessing the market impacts of these subsidies, as required to determine serious prejudice (measured by changes in market share, imports displaced or price suppression), material injury to domestic producers (a subsidy can therefore be countervailed) or nullification and impairment of agreed disciplines in the WTO. In other words, Azerbaijan has recourse to the Dispute Settlement mechanism in the WTO to guard against other country export subsidies, even if Azerbaijan is a competing exporter or importer of the subsidized product.

Article 6 of the ASCM provides more detail on when subsidies are considered to cause serious prejudice to the legitimate interests of other members. The following apply: (a) reduce imports into the home market of the subsidizer (b) reduce exports into third country markets; (c) undercut the price of other members or suppress or depress relevant market prices; or (d) increase the market share of the subsidizer.

As with anti-dumping and safeguards, these provisions apply within the context of the sales of a "like" product. In determining whether a country has violated its obligations under the ASCM, a series of facts must be proven: First, there are prohibited subsidies, subsidies that are contingent on exports. But a country must first prove that a subsidy *exists*: the government is making a financial contribution (direct or indirect with revenue foregone). A subsidy is *actionable* if it meets the definition of a subsidy and be specific.

The complainant must also prove that "a benefit is thereby conferred" *and* the requirement that the subsidy results in adverse effects to the complainant. The complainant must then show that *serious prejudice* or other *adverse effects* have occurred as a result of the subsidy. Three mechanisms are listed for determining whether or not adverse effects exist:

- First, the complainant's domestic industry could be injured directly
- Second, the complainant's benefits under GATT could be impaired or eliminated completely
- Finally, there could be "serious prejudice to the interests of another Member."

If all three items are found in the affirmative by the WTO panel, then the complainant is highly likely to win the case.

Export credits are allowed under some circumstances

The SCM Agreement Article 3 says that "subsidies contingent, in law or in fact, whether solely or as one of several other conditions, upon export performance" -- in other words, export subsidies -- "shall be prohibited." Seemingly, export subsidies are prohibited for the most part but not entirely. Item (k) of the SCM Agreement's Illustrative List of Export Subsidies says that the following *are not* export subsidies:

"Provided, however, that if a Member is a party to an international undertaking on official export credits to which at least twelve original Members to this Agreement are parties as of 1 January 1979 (or a successor undertaking which has been adopted by those original Members), or if in practice a Member applies the interest rates provisions of the relevant undertaking, an export credit practice which is in conformity with those provisions shall not be considered an export subsidy prohibited by this Agreement."

In essence, this provision means that government export credit agencies can provide export subsidies as long as they comply with certain international agreements (in practice, the OECD Arrangement on Export Credits). If they comply with the terms set out there, then the practice "shall not be considered an export subsidy prohibited by this Agreement." Of course, that does not change the fact that it is still an export subsidy; it is just not prohibited.

VII. CONCLUDING REMARKS: WHAT ALTERNATIVES TO EXPORT SUBSIDIES DOES AZERBAIJAN HAVE?

Regardless of the political goal, be it an improved balance of trade, food self-sufficiency, food security, improved farm incomes and rural development, or protection from other countries subsidizing their exports and hurting Azerbaijan, Azerbaijan has far more

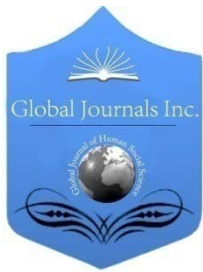
effective tools available that are WTO compatible and in the interests of Azerbaijan to pursue.

We therefore recommend Azerbaijan forego the opportunity to ever be able to use export subsidies because:

- Export subsidies on manufacturing products have been prohibited for 40 years and the Doha Framework Agreement has specified zero export subsidies for agriculture as well
- The European Union, which held 90 percent of total export subsidies in the Uruguay Agreement on Agriculture, has allowed exports subsidies to expire in 2013
- Export subsidies cause domestic consumer prices to rise, cost taxpayers money and income is being transferred to consumer in the rest of the world. Azerbaijan can ill afford higher consumer prices, tax payer costs and subsidizing foreign consumers
- Export subsidies can also cause world prices to go down, thereby being partly self-defeating
- Import barriers will also have to be imposed to make export subsidies effective, violating WTO or regional trade agreement rules
- There is no use for a small country like Azerbaijan to use export subsidies in retaliation of other countries export subsidies or trade barriers because the small country always loses; besides, Azerbaijan will have recourse to the countervailing duty provision in the ASCM of the WTO to protect itself
- Export subsidies will not necessarily improve Azerbaijan's balance of trade because it draws resources away for the import competing sector
- Using for export subsidies for food self-sufficiency or food security is self-defeating as consumer prices increase and more food leaves the country
- Using agricultural export subsidies to support farm incomes and promote rural development is very inefficient and causes distributive reallocations to input suppliers, consumers, taxpayers and rest of the world through market price changes (decoupled payments are a far better policy)
- Azerbaijan still has access to export credits provided it conforms to the OECD protocol on such measures.

REFERENCES RÉFÉRENCES REFERENCIAS

1. Josling, Tim. 2005. "The WTO Agricultural Negotiations: Progress and Prospects," *Choices* 20(2): pages 31-36.
2. Kropp, Jaclyn., and Harry. de Gorter. 2005. "The Economics of Cross-Subsidization: Implications of the WTO Panels on EU Sugar and Canadian Dairy." Paper presented at the IATRC summer symposium on Pressures for Agricultural Policy Reform, Seville, Spain, June 21.
3. Matthews, Alan. (2013). "The end of export subsidies?" <http://capreform.eu/the-end-of-export-subsidies/>
4. Messerlin, Patrick, and Bernard Hoekman. (2005). "Consequences of removing the exception of agricultural export subsidies." Chapter 7 in *Agricultural Trade Reform and the Doha Development Agenda*, K. Anderson and W. Martin (eds.), New York: Palgrave Macmillan co-published with the World Bank.
5. OECD. (2003). *The Incidence and Income Transfer Efficiency of Farm Support Measures*.
6. *Farm Household Income: Issues and Policy Responses*. Paris, France. http://www.keepeek.com/Digital-Asset-Management/oecd/agriculture-and-food/farm-household-income/the-incidence-and-income-transfer-efficiency-of-farm-support-measures_9789264099678-4-en#page1
7. OECD. (2012). "Officially Supported Export Credits." TAD/PG(2012)9], Trade and Agriculture Directorate, Paris, France.
8. <http://search.oecd.org/officialdocuments/displaydocumentpdf/?doclanguage=en&cote=tad/pg%282013%291>
9. World Trade Organization. (2002). *Negotiations on Agriculture*. Committee on Agriculture Special Session TN/AG/6 (02-6943) 18 December.



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Integration among Spatial Onion Markets in Nigeria- A Cointegration Analysis

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Keywords: *co-integration, onion market, spatial integration and nigeria.*

GJHSS-E Classification : *FOR Code: 340299*



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Integration among Spatial Onion Markets in Nigeria- A Cointegration Analysis

Adesola Adebola Ikudayisi ^α & M. A.Y. Rahji ^σ

Abstract- The study aimed at examining spatial market integration among geographically separated onion markets in Nigeria. Secondary data involving monthly retail price data of onion crop in the selected producing and consuming states were used for the analysis. The study was analysed using Ravallion model, Johansen cointegration, error correction model and granger causality. The index of market concentration indicated low short run market integration of onion market ($IMC > 1$), which could be as a result of poor road network in spatially separated markets. There was long run cointegration exist among the producing and consuming states and the error correction model result indicated that the rates of price transfer were generally moderate. This may be related to efficiency of information flow. The study recommends that farmers should be provided with more price information and good road network to enable them take advantage of spatial price differences.

Keywords: co-integration, onion market, spatial integration and nigeria.

I. INTRODUCTION

The objectives of marketing and pricing policies are to ensure stability and remunerative incomes for producers especially farmers. Marketing plays a central role in the developmental process of the agricultural sector and the market serves as the link between the producers and the consumers. Prices are the most readily available and reliable information that guide farmers' planting decisions in Nigeria. A farmer's planting decisions depend on anticipated profits which depend on anticipated prices of planted crops. This has made prices important tool in the economic analysis of markets (Momoh *et al.*, 2007). Meanwhile, agricultural commodities produced over an extensive spatial area are costly to transport relative to their total value as results in a complex set of spatial price linkages which affect the performance of markets.

Onion is one of oldest food sources in the world. Nigeria is noted as one of the highest producers in Sub Saharan Africa. Onion is a crop produced mainly in the northern parts of Nigeria. The production areas include Kaduna, Kano, Jigawa, Kastina, Kebbi, Sokoto, Plateau, and Bauchi States (Philip *et al.*, 1996). In Nigeria, onions are the second most important vegetable after tomato (Hussain *et al.*, 2000).

In terms of its trade value in Nigeria, onion can stand in comparison with tomatoes and pepper,

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because of its unique position as a popular vegetable that is utilized almost daily in every home (Bednarz, 1986). Onion is used in cooking with other vegetables and meat in addition to be consumed as a salad. Due to its inelastic demand and perishable nature of onion, there are frequent variations in onion price and trade between different markets depending on their supply position (Lohano *et al.*, 2005).

The supply of onions to markets is seasonal as a result of their growth and climatic requirement. The problem of assemblage and perishability of onions has resulted in relatively few market actors at the wholesale levels, as opposed to existence of a large number of buyers at the retail levels, thus increasing the number of market actors which is likely to elicit competition (Onyuma *et al.*, 2006). The prevailing marketing system of onions suffer from a number of imperfections and problems particularly that of poor transportation and information flow concerning prices. This problem causes glut because traders are not aware of profitable marketing opportunities. Lack of viable and cheap post-harvest technologies to boost marketing are also constraining variables (Maritim, 1995). The marketing system failed to address prices stability from time to time due to information asymmetry (Okoh, 2005).

An efficient marketing system is one where there is a perfect market integration and full price transmission, with instantaneous price adjustment to changes from within or outside the system. Such a system would enable the producers, middlemen and consumers in the marketing chain to derive maximum gains. It would help in the elimination of unprofitable arbitrage and integrate spatially differentiated markets and would also ensure that efficient allocation of resources across space and time is achieved (Nkang *et al.*, 2007).

Spatial market integration of agricultural products has been widely used to indicate overall market performance. If price changes in one market are fully reflected in alternative market, these markets are said to be spatially integrated (Goodwin & Schroeder, 1991). Spatial market integration refers to a situation in which prices of a commodity in spatially separated markets move together and price signals and information are transmitted smoothly across the markets (Ghosh, 2000). Prices in spatially integrated markets are determined simultaneously in various locations, and information of any change in price in one market is

transmitted to other markets (Gonzalez-Rivera and Helfand, 2001). In more integrated markets, farmers specialize in production activities in which they are comparatively proficient, consumers pay lower prices for purchased goods, and society is better able to reap increasing returns from technological innovations (Vollrath, 2003). In order to facilitate agricultural development process, analysis of market integration is considered pertinent and it is expected that favourable pricing efficiency will stimulate production and marketing.

It is necessary to study price movement in spatial markets because they represent the movements of equilibrium paths of demand and supply for produce e.g onions. The degree of proximity of the price movement and the speed and accuracy of price adjustment help to understand the speed and accuracy of diffusion of price information or the efficiency of price transmission between markets (Okoh, 1999). The knowledge of the state of integration in onion market system will help market intermediaries to identify the possibilities for substituting between markets and between commodities.

Examining integration among spatial onion markets in Nigeria is however important as price behaviour and dynamics would reveal the market's ability to efficiently transfer information across markets particularly for the dichotomized Nigerian economy with its increasing population of urban food deficit centres and food surplus rural areas.

II. MATERIAL AND METHODS

The study covered two major onion producing states in Nigeria. Secondary data from National Bureau of Statistics (NBS), Nigeria were used for this study. The data were those on the monthly retail prices of onions in producing and corresponding consumption states. All prices are in Naira/kilogram (₦ / kg). The data covered the period January 2005- December 2010. The producing states were selected based on their relevance to the onion trade in Nigeria. Two production areas of Kebbi and Sokoto, and four consumption states of Abia, Oyo, Lagos and Rivers were selected for the study. The analytical tools used are Ravallion model, Cointegration, granger causality and error correction model.

a) Ravallion Model

The model seeks to determine whether a change in the price of the product in a local market is influenced by the change in price in the central market. The conventional demand – supply theory explains that the actual price of a commodity in a given market at a given point of time is higher than the equilibrium price when the product is “deficit” (i.e. excess demand where the demand is greater than domestic supply) and the price of which is lower than the equilibrium when it is

“surplus” (i.e. excess supply where the domestic supply is greater than the demand). Consequently, there exists an opportunity for trade between these two types of markets (i.e. from surplus to deficit regional market), and ultimately these two markets become integrated by adjusting into a single price (Udith, 2007). The Ravallion model (1986) can be used as the theoretical base to explain the said behavior, and briefed in turn. It assumes that a radial distribution of markets where one “Central Market” with price R is related to other “Regional/Reference Markets” (n) with the respective prices P (i.e. P₁, P₂...P_n) as follows:

$$R = f(P_1, \dots, P_n, X) \tag{1}$$

$$P_i = f_i(R, X) \text{ for } i = 1, \dots, n \tag{2}$$

The term X_i in equation (1) and (2) represents a vector of other non- price exogenous variables that might influence price formation in markets i, (e.g. seasonal changes, government policy). Equation (1) in particular shows that price in the central market is associated with that which exists in regional markets. Equation (2) indicates that price in any regional market will have an association with the price that occurs in the central market simultaneously. The dynamic form of equation (2), as explored by Ravallion (1986), with lag of one month is depicted in equation (3) below:

i. Index of Market Concentration Analysis

Index of Market Concentration (IMC) is used to measure price relationship between integrated markets. Timmer (1983) established the following formula to calculate IMC:

$$p_t = \sum_{j=1}^l a_j P_{t-j} + \sum_{j=0}^l b_j R_{t-j} + cX_t + e_t$$

$$P_t = \beta_0 + \beta_1 P_{t-1} + \beta_2 (R_t - R_{t-1}) + \beta_3 R_{t-1} + E_t$$

Where R_t = Urban price

P_t = Rural price

P_{t-1} = Lagged price for rural (central) markets

R_{t-1} = Lagged price for urban (reference) markets

R_t - R_{t-1} = Difference between urban price and its lag

E_t = Error term or unexplained term

β₀ = Constant term

β₁ = Coefficient of rural lagged price

β₂ = Coefficient of R_t-R_{t-1}

β₃ = Coefficient of urban lagged price

$$IMC = \beta_1 / \beta_3$$

$$0 < IMC < \infty$$

According to the model, IMC equals to the coefficient of lagged price in rural markets divided by the coefficient of lagged prices in urban market. The interpretation of the IMC is as indicated.

IMC < 1 implies high short-run market integration

IMC > 1 implies low short-run market integration

The closer to zero the value of the IMC is, the higher the degree of market integration

b) *Cointegration analysis.*

i. *Stationarity test*

A variable is said to contain a unit root or I (1) if it is non-stationary. The use of data characterised by unit root may lead to serious error in statistical inference.

$$Y_t = \beta Y_{t-1} + E_t$$

If β equals 1 the model is said to be characterised by unit root and the series is non-stationary. For a series to be stationary β must be less than unity in absolute value, i.e $-1 < \beta < 1$. (Vaura *et al*, 2005). When the price series are stationary, cointegration test is carried out. Cointegration analysis is to determine the long run relationship among variables. Johansen (1988) and Johansen and Juselius (1990) developed a procedure of testing for cointegration. It constructs a test statistic, called the likelihood ratio (LR) test. This is used to determine the number of cointegrating vectors in a cointegration regression. This method treats all the variables as explicitly endogenous. It takes care of the endogeneity problem by using a procedure that does not require arbitrary choice of a variable for normalization. It also allows tests for multiple cointegrating vectors (Basu, 2006). The tests are:

(i) *Trace test:* The null hypothesis is that there are r or fewer cointegrating vectors in the system. The test statistic is:

$$\lambda_{\text{trace}}(r) = -T \sum \ln(1 - \lambda_j)$$

Where λ_j = The eigen-values.

T = Total number of observations.

To determine the number of cointegrating vectors, r, we test the sequence of null hypotheses $r=0, r \leq 1, r \leq 2, \dots, r \leq (q-1)$. If $\leq q$ is the first null hypothesis that is accepted then we conclude that there are $r=q$ cointegrating vectors.

(ii) *Maximal eigenvalue test:* The null hypothesis is that the number of cointegrating vectors is r while the alternative hypothesis is that the number is r+1. The test statistic is

$$\lambda_{\text{max}}(r, r+1) = -T \ln(1 - \lambda_{r+1})$$

To determine the number of cointegrating vectors, r, we test the sequence of null hypotheses $r=0, r=1, \dots, r = q-1$. If $r=q$ is the first null accepted, then we conclude that there are $r=q$ cointegrating vectors (Hande *et al.*, 2009).

c) *Error Correction Model*

Error Correction Model is a dynamic system with the characteristics that the deviation of the current state from its long run relationship will be fed into its short run dynamics (Mukhtar, 2007). The tight linkage between cointegration and error correction models stems from the Granger representation theorem. This

theorem states that two or more integrated time series that are cointegrated have an error correction representation, and two or more time series that are error correcting are cointegrated (Engle and Granger 1987).

A bivariate single-equation error correction model:

$$\Delta Y_t = \alpha_0 - \alpha_1 (Y_{t-1} - \beta_1 X_{t-1}) + \beta_0 \Delta X_t + E_t$$

In the equation above, current changes in Y are a function of current changes in X (the first difference of X) and the degree to which the two series are outside of their equilibrium in the previous time period. Specifically, β_0 captures any immediate effect that X has on Y, described as a contemporaneous effect or short-term effect. The coefficient, β_1 , reflects the equilibrium effect of X on Y. It is the causal effect that occurs over future time periods, often referred to as the long-term effect that X has on Y. Finally, the long-term effect occurs at a rate dictated by the value of α_1 .

d) *Granger causality*

The Granger causality test is a statistical hypothesis test for determining causality between variables in a time series. It is useful in forecasting if X variable granger cause Y variable or X contains useful information for predicting Y. A time series X is said to Granger-cause Y if it can be shown, usually through a series of t-tests and F-tests on lagged values of X (and with lagged values of Y also included), that those X values provide statistically significant information about future values of Y. Granger causality is sensitive to the numbers of lags introduced in the model and the direction of causality may depend critically on the number of lagged terms included (Gujarati *et al.*, 2009). The test involves estimating the following pair of regression:

$$Y_t = \sum \alpha_i X_{t-i} + \sum \beta_j Y_{t-j} + u_{1t}$$

$$X_t = \sum \lambda_i X_{t-i} + \sum \delta_j Y_{t-j} + u_{2t}$$

Where it is assumed that the disturbances u_{1t} and u_{2t} are uncorrelated. There are four cases in predicting Granger causality:

- 1 Unidirectional causality from x to y is indicated if the estimated coefficients on the lagged x are statistically different from zero as a group and the set of estimated coefficients on the lagged y is not statistically different from zero.
- 2 Conversely, unidirectional causality from y to x exists if the set of lagged x coefficient is not statistically different from zero and the set of the lagged y coefficients is statistically different from zero.
- 3 Feedback, or bilateral causality, is suggested when the sets of x and y coefficients are statistically significantly different from zero in both regressions
- 4 Finally, independence is suggested when the sets of x and y coefficients are not statistically significant in either of the regressions.



The test for Granger causality works by first running a regression of ΔY on lagged values of ΔY . (Here ΔY is the first difference of the variable Y — that is, Y minus its one-period-prior value. The regressions are performed in terms of ΔY rather than Y if Y is not stationary but ΔY is.) Once the set of significant lagged values for ΔY is found (via t-statistics or p-values), the regression is augmented with lagged levels of ΔX . Any particular lagged value of ΔX is retained in the regression if (1) it is significant according to a t-test and (2) it and the other lagged values of ΔX jointly add explanatory power to the model according to an F-test. Then the null hypothesis of no Granger causality is accepted if and only if no lagged values of ΔX have been retained.

III. RESULTS AND DISCUSSION

a) *Ravallion Result of the Market Pair*

The results in table 1 confirmed the existence of short run market integration which is either low or high in the state pairs. The degree of market integration is measured by how close the IMC values are to zero. The closer to zero the value is, the higher the degree of market integration and thus market efficiency. From the result, price information of onions will not be transmitted instantaneously within lag periods across states, except in Sokoto and Oyo states pair that had high short run market integration. It implies that price changes in both states can be transmitted within a month. Also Oyo state which is a national market in Nigeria has direct link to Sokoto state where onion is majorly produced in Nigeria thus serves as a terminal for other markets. Using the Index of Market Concentration as a proxy for marketing efficiency, in other pairs there is presence of market inefficiencies indicating high variation in price across space and time. This can be as a result of poor storage facilities due to the perishable nature of onions and long and indirect route, poor road network from onions producing states to consuming states. This implies high handling costs which are likely to introduce imperfections into the marketing system.

$$IMC_1 = a_1/a_4 \quad \text{and} \quad IMC_2 = a_1/a_5$$

Table 1 : Regression result for the market pairs

Producing market	Consuming market	β_1	β_2	β_3	β_4	β_5	T	R ²	IMC 1	IMC 2	Classification
Kebbi	Abia	0.8288 (0.1193)	-0.1880 (0.1379)	-0.0293 (0.1399)	0.1362 (0.1407)	0.3283 (0.1370)	-0.0025 (0.1620)	0.5486 -	6.0852 -	2.5245 -	Low S/R market integration both periods
Kebbi	Lagos	0.5505 (0.1371)	0.0895 (0.1406)	0.4606 (0.0910)	-0.3217 (0.1088)	0.2580 (0.1086)	-0.0232 (0.1137)	0.5927 -	1.7112 -	2.1337 -	Low S/R market integration both periods
Kebbi	Oyo	0.4518 (0.1258)	0.1067 (0.1335)	0.3011 (0.1214)	0.1256 (0.1347)	0.0972 (0.1343)	-0.1144 (0.1525)	0.3547 -	3.5971 -	4.6481 -	Low S/R market integration both periods
Kebbi	Rivers	0.3735 (0.1202)	0.2309 (0.1178)	0.0068 (0.1099)	0.2358 (0.1188)	0.2512 (0.1237)	-0.0802 (0.1385)	0.3061 -	1.5840 -	1.4868 -	Low S/R market integration both periods
Sokoto	Abia	0.7216 (0.1210)	-0.2460 (0.1155)	-0.0674 (0.1646)	0.4152 (0.2067)	0.1690 (0.1797)	0.3309 (0.1128)	0.6021 -	1.7380 -	4.2698 -	Low S/R market integration both periods
Sokoto	Lagos	0.4473 (0.1495)	0.1415 (0.1494)	0.6253 (0.1265)	-0.4290 (0.1761)	0.1593 (0.1510)	0.2382 (0.1216)	0.5596 -	1.0427 -	2.8079 -	Low S/R market integration both periods
Sokoto	Oyo	0.4685 (0.1209)	0.1885 (0.1168)	0.0967 (0.1518)	0.5045 (0.1905)	-0.3048 (0.1621)	0.1791 (0.0996)	0.4007 -	0.9286 -	1.5370 -	High S/R market integration period 1 Low S/R market integration period 2
Sokoto	Rivers	0.3507 (0.1263)	0.1591 (0.1236)	0.2112 (0.1481)	0.0021 (0.1981)	0.2562 (0.1690)	0.2605 (0.1089)	0.3406 -	16.700 -	1.3689 -	Low S/R market integration both periods

Figures in parentheses are standard errors. R² indicates their irrelevance in determining market integration by the method used.

b) Cointegration Test sResult

Table 2 : Result of Stationarity test for onions prices

Variables (State pair)	ADF (At Level)	ADF (At First Difference)
ABIA	- 3.28**	- 7.59*
KEBBI	-- 4.85*	-4.57*
LAGOS	-3.79*	- 10.04*
OYO	-4.06*	- 12.05*
RIVERS	-4.51*	- 11.99*
SOKOTO	-4.14*	- 9.62*

*and ** denotes significance at 1% and 5%. MacKinnon critical values of ADF statistics are -3.526 (1%) and - 2.902 (5%). H_0 is there is unit root. If ADF value is greater in absolute value than the critical value the H_0 is rejected.

Augmented Dickey Fuller test showed that all price series in the states were stationary at level I (0) at 1% except for Abia state at 5%. Monthly price series in all the states were strongly integrated at first difference

of I (1). This implies that the mean and variance of the variables in the time series or the monthly price data do not change over time.

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Table 3 : Result of Johansen Cointegration Test for Onions Prices

Null hypothesis	Alternative hypothesis	Trace statistic	0.05 Critical value	Probability**
$r = 0^*$	$r > 0$	127.1960	95.75366	0.0001
$r \leq 1^*$	$r > 1$	87.17535	69.81889	0.0011
$r \leq 2^*$	$r > 2$	55.24671	47.85613	0.0087
$r \leq 3$	$r > 3$	29.61418	29.79707	0.0525
$r \leq 4$	$r > 4$	15.09674	15.49471	0.0573
$r \leq 5$	$r > 5$	2.864860	3.841466	0.0274

Trace test indicates 3 cointegrating equations at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

** MacKinnon- Haug- Michelis (1999) p values

r – is the number of cointegrating vectors.

Cointegration test was carried out since all variables are integrated of the same order I (1). The result from trace statistics showed three (3) cointegrating equations which implies that there is cointegration among the variables. Thus, the null hypothesis of no cointegration, i.e., $r = 0$ is rejected. This is because calculated trace statistics for the null of $r = 0$ are greater than the critical values of 0.05. This means that there is at least one cointegrating vector among the variables. The null of $r \leq 1$ versus $r > 1$ and r

≤ 2 versus $r > 3$ are rejected in both cases by the trace test; therefore, there are three cointegrating vectors. The result is in line with the result obtained by Basu (2006). It implies that the number of cointegrating equations signifies the strength and stability of price linkages among markets. There exists strong and stable price linkage in onions markets as the price in one market can be used to predict other market prices.

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a) Error Correction Model Result

Table 4 : Result of Error Correction Model (ECM)

State pair	ECM coefficient	Standard Error	Probability	R ²
Abia – Kebbi	- 0.4357	0.1243	0.0009	0.2853
Abia – Sokoto	- 0.5289	0.1280	0.0001	0.3106
Lagos – Kebbi	- 0.6281	0.1400	0.0000	0.5434
Lagos – Sokoto	- 0.6444	0.1576	0.0001	0.4672
Rivers – Kebbi	- 0.5649	0.1723	0.0017	0.3520
Rivers – Sokoto	- 0.6182	0.1858	0.0015	0.3470
Oyo – Kebbi	- 0.5886	0.1637	0.0006	0.3248
Oyo – Sokoto	- 0.4730	0.1466	0.0020	0.3584

Table 4 shows that all the coefficients were significant at 1%. The ECM coefficients showed the rate at which onions prices are transmitted across market

pairs. Lagos – Sokoto pair had the highest value of - 0.6444 while Abia – Kebbi had the lowest value - 0.4357. The high value signifies that there will be about

64% instantaneous adjustment of onions prices across the pair in the same month. Large values of ECM are indicative of how swiftly market prices are transferred from the producing states to consuming states within a particular time frame. Low values imply low efficiencies in terms of price information flow between states.

The different rates of onions price transfer from the result have implication on the performance of the

b) *Granger Causality Test Result*

markets. States pair Lagos – Kebbi and Lagos- Sokoto, with higher rates suggests higher spatial efficiencies in onions market. Traders operating between these states could easily form correct expectation about price changes and this would help them in taking proper decisions on the volume and time of purchase of onions therefore minimising the problem of price uncertainty

Table 5 : Price Causality Result

Number of Lags	F-Statistic	Direction of Causality	Probability
2	3.9082	Kebbi → Abia	0.0250*
2	6.5349	Abia ← Kebbi	0.0026**
2	7.1173	Lagos → Abia	0.0016**
2	3.4010	Sokoto → Abia	0.0394*
2	3.5655	Kebbi → Lagos	0.0339*
2	5.6341	Kebbi → Rivers	0.0055**
2	6.7986	Lagos → Oyo	0.0021**
2	6.7608	Oyo → Rivers	0.0022**
2	5.2485	Sokoto → Oyo	0.0077**
2	3.4131	Rivers → Sokoto	0.0390*

⇒ denote direction of causality. ** 1% and * 5%

There is granger causality in at least one direction since prices series are cointegrated. From the result, the null hypothesis is that there is no granger causality. The rejection of the null hypothesis is when F statistics is significant and/or the p values at 1% and 5% level of significance. The number of lag used was two (2) at least all price information should be transmitted within 2 months across states. From the result, among 15 pairs, only 10 showed causality in at least in one directional. There is unidirectional granger causality in all the variables except in Abia and Kebbi states which is bilateral (both directions).

Kebbi state granger cause Abia, Lagos, Rivers while Sokoto granger cause Abia and Oyo. Market prices in Kebbi and Sokoto States influence other consuming states because they are the producing states. They are able to increase the accuracy of the prediction of how market prices changes in consuming markets. Lagos granger cause Oyo because of their nearness and there is a direct channel of distribution from onions producing states. Absence of causality in other pairs does not mean lack of price transmission, the marketing chain or channel of distribution might be weak and also presence of market imperfections.

IV. SUMMARY, CONCLUSION AND RECOMMENDATIONS

Spatial market integration was examined by estimating price linkages among geographically separated onion markets in Nigeria. It was tested using

Ravallion model, cointegration, granger causality and error correction model.

The unit root test results indicate that price series are stationary at level and first difference at 1% and 5 % level of significance. The Index of Market Concentration result indicate low short run market integration in both periods except in Oyo and Sokoto state pair that had high short run market integration in the period 1. The Johansen cointegration result indicates long run relationship among variables. The result indicated three (3) cointegrating relationship among variables consider at 5% level of significance. There is a strong and stable price linkage across producing and consuming states. Presence of price transmission in the states enables producers to specialise according to comparative advantage.

The Error Correction Model result indicates that the rates of price transfer were generally moderate. This may be related to the efficiency of information flow while the Granger causality test indicated that among 15 pairs only 10 granger cause one another in at least one direction. From the result, the producing states are the leading market because they predict the market price changes in all other consuming states.

It is concluded that there is spatial market integration in Onions Market in Nigeria. Based on the results of the analysis, the degree of integration and rate of price transmission have been found to differ across states. The presence of market integration is a vital tool and precondition for efficient marketing. Policy intervention for improvement of market integration in the long run may take the form of improvements of



marketing infrastructure, price information channels, road networks and transportation facilities, which may eventually reduce transport cost and enhance interregional trade. It is expected that this will eventually lead to expansion of the market boundary within which each onions farmer and seller operates.

These improvements will prevent the inefficient allocation and / or distribution of crops in some states and further improve the efficiency of the onion market found to be currently inefficient. The study has highlighted low market integration between producing and consuming states and has suggested to devise strategies to bring about greater integration between these states, so that both the producing states and the consuming states in the country are benefitted.

REFERENCES RÉFÉRENCES REFERENCIAS

1. Basu, J. P 2006. Cointegration and Market Integration: *An Application to the Potato Markets in Rural West Bengal, India*
2. Bednarz, F. 1986. Suggestions on Onions (*Allium cepa L.*).Variety improvement in Nigeria. Mimeograph, plant science department, I.A. R., ABU .Zaria.
3. Engel, R.F. and Granger, W.J. 1987. Cointegration and error correction: Re-presentation, estimation and testing. *Econometrica*, 55(2): 251–76.
4. Ghosh, M. 2000, Cointegration Tests and Spatial Integration of Rice Markets in India. *Indian Journal of Agricultural Economics*, 55(4), 616-625.
5. Gonzalez-Rivera, G. and Helfand, S.M. 2001. The Extent, Pattern, and Degree of Market Integration: A Multivariate Approach for the Brazilian Rice Market. *American J. Agric. Econ.*, 83: 576–592.
6. Goodwin, B.K. and Schroeder, T.C. 1991. Cointegration Tests and Spatial Price Linkages in Regional Cattle Markets, *American Journal of Agricultural Economics*,73(2),452-464.
7. Gujarati D.N. 2009. *Basic Econometrics*. Fifth edition. The McGraw–Hill Companies.
8. Hande E. and Joniada Milla .2009. Analysis of Cointegration in Capital Markets of France, Germany and United Kingdom. *Economics & Business Journal: Inquiries & Perspectives*, 2(1), October 2009
9. Hussaini, M. A, Amans, E .B and Ramalan A.A. 2000. Yield, bulb size distribution and storability of onions (*Allium cepa L*) under different level of N fertilization and irrigation regime. *Tropical Agriculture (Trinidad)*., 77(3): 145- 149.
10. Johansen, S. 1988. Statistical analysis of cointegration vectors. *Journal of economic dynamics and control*, 12(2/3), 231-254.
11. Johansen, S., & Juselius, K. 1990. Maximum likelihood estimation and inference on cointegration with applications to the demand for money. *Oxford Bulletin of Economics and statistics*, 52(2), 169-210.
12. Lohano, H.E. and Mari, F.M.2006. Testing Market Integration in Regional Onion Markets of
13. Pakistan: Application of Error Correction Model in the Presence of Stationarity. *International Research Journal of Finance and Economics*. ISSN 1450-2887.
14. MacKinnon, J.G., Haug, A.A., and Michelis, L. 1999. Numerical distribution functions of likelihood ratio tests for cointegration. *Journal of Applied Econometrics*, 14, 563-577.
15. Maritim, H. K. 1995. The structure of performance of fruit and vegetable processing in Kenya. In: S. Carter (eds) "Cases and Research in agricultural marketing and agribusiness" 2:273-83.
16. Momoh S. and Agbonlahor, M. U. 2007. Food price differences and market integration in Oyo State. *ASSET Series C 2 (1)*: 79-86
17. Mukhtar, T and Muhammed T. J. 2007. Price integration in wholesale maize markets in Pakistan. *The Pakistan Development Review*, 46(4):1075 – 1084.
18. Nkang, M. N., Hentry, M.N. and Gabriel, N.O. 2007. Price transmission and integration of cocoa and palm oil markets in cross river state, Nigeria: Implications for rural development, *Agricultural Journal*, 2(4): 457-463.
19. Okoh, R.N. 1999. An Analysis of Oligopolistic Pricing and Market Integration of Cassava Roots and Products in Delta and Edo States, Nigeria. PhD dissertation, University of Ibadan, Ibadan.
20. Okoh R N and P.C. Egbon. 2005. The integration of Nigeria's rural and urban foodstuffs markets. *AERC Research Paper 151 African Economic Research Consortium, Nairobi*.
21. Onyuma S. O., Icart E., and Owuor G. 2006. Testing Market Integration for Fresh Pineapples in Kenya. Poster Paper prepared for presentation at the International Association of Agricultural Economist Conference, Gold Coast, Australia, August 12-18, 2006.
22. Philip, D.O.A and Ahmed, B. 1996. An Assessment of Farmer's participation in the choice of crops and water use practices under large scale irrigation schemes in Nigeria. The case of Kano river project phase one (KRP - 1)". *Nigeria Journal of rural economy and society*. 1(2): 39- 45.
23. Ravallion, M. 1986. Testing market integration, *American Journal of Agricultural Economics*, 68(2):292-307.
24. Timmer, C. P., Falcon, W. P. and Pearson, R. S. 1983. *Food Policy Analysis*. Baltimore, JHU Press.
25. Udith K. Jayasinghe-Mudalige. 2007. An Economic Analysis on Spatial Integration of Regional Rice Markets in Sri Lanka.
26. Vavra, P. and Goodwin, B. K. 2005. Analysis of Price Transmission Along the Food Chain. *OECD Food*,

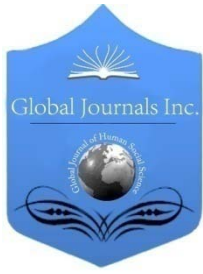
Agriculture and Fisheries Working Papers, No. 3, OECD Publishing. doi:10.1787/752335872456.

27. Vollrath, T.L. 2003. North American Agricultural Market Integration and its Impact on the Food and Fiber System. Agriculture Information Bulletin No. 784, Market and Trade Economics Division, Economic Research Service, USDA, USA.





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Revenue-Generating Social and Economic Mission-Entwined Praxis of Organizations

By Professor Dr. Kazi Abdur Rouf

York University, Canada

Abstract- Researchers, academicians, social scientists, policy makers, executives, and state leaders realize that classical economics, profit-maximizing corporations and traditional businesses are unwilling or unable to altruistically strive for public wellbeing in fulfilling the needs of society. Profitmaximizing capitalism destroys humanity and the harmony of society. Corporations are harmful to the environment; it has created poverty, unemployment, malnutrition, inequality, injustice and abnormality in the community. Hence many economists, policy makers, executives, academicians and state leaders comprehend that business policies should be adapted to enhance public wellbeing. They think that the sociology of economics and of business as well as political economy are missing in profit-maximizing business capitalism. Therefore, many thinkers believe it is necessary to include social objectives alongside profit-maximization to establish more altruistic businesses with practices that promote rather than hinder public wellbeing.

Key Terms: *Community economic development, Grameen social business design lab, Nabin Udyokta, social business, social entrepreneurship, social enterprise, social economy and social investment.*

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In order to establish people-centered social enterprises/social businesses, different scholars suggest different types of business models that blend both social and economic missions to address social, economic and environmental problems that originate from profit-maximizing businesses. They suggest and develop different types of financial and legal models for different types of socio-economically entwined business organizations. The author has worked in and visited many revenue-generating socio-economically entwined business organizations as well as reviewed different social economy organizations. This paper is a nutshell description of different social enterprises in order to catch the readership of various kinds of social entrepreneurship around the world. Moreover, this manuscript explores different legal and financial models of different socio-economically entwined business organizations and tries to find out their gaps. The study finds that different revenue-generating social businesses have different names and that these different social enterprises/businesses have been crafted and implemented differently in different countries/societies. However, it still remains challenging for these business organizations to work independently as separate legal entities because these social entrepreneurial organizations are not registered under a separate legal Act, rather they are registered under either a Private Business Act or Charity Act. However, it is urgent and essential for these social entrepreneurial businesses to be registered under separate Acts in order to get the status of independent social entrepreneurship entities around the world.

Key Terms: Community economic development, Grameen social business design lab, Nabin Udyokta,

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social business, social entrepreneurship, social enterprise, social economy and social investment.

I. WHY NEEDS REVENUE GENERATED SOCIOECONOMIC BLENDED BUSINESS ORGANIZATIONS (RATIONALITY OF SOCIAL ENTERPRISE)

The profit-maximizing capitalism can never deliver equitable distribution of income in the society. Today's world, 85 individuals own more wealth than all those in the bottom half. Top half population of the world own 99% the wealth of the world, leaving only 1% for the bottom half. Out of 7.3 billion world population, the numbers of young population are around 1.8 billion who are job seekers (Grameen Dialogue 93, 2014, pp. 3). It may get worse because technology will remain under the control of the people at the top (Yunus, 2014). In capitalism, maximizing personal profit is the core of economic rationality. Therefore, government and the non-profit sector are necessary, but insufficient to address society's greatest challenges. The social economic missions blend businesses are necessary to address the private sector monopoly profit maximizing exploitative market oppressions. As the public sector funding is limited and this sector is inefficient to serve the community, hence social economy activities and services are crucial for public wellbeing services. Hence M. Yunus (2013) provokes for social business that must create value for society, not just shareholders. Now the world needs, for example, systemic challenges require systemic solutions and the beneficial corporation (B Corp) movement, CIC, Grameen Social Business, Community Economic Development agencies and social enterprises that offer a concrete, market-based and scalable solution. The emergence of social enterprises, and the range of goods and services social entrepreneurial businesses produce, has evolved against the milieu of capitalist states reforms towards a mixed economy of private, public and third sector provider.

Social entrepreneurs have launched enterprises to provide many necessities like malnutrition, illiteracy, poverty eradication, blindness, solar power, biomass fuel, low-energy cooking stoves. For example, the Canadian National Institute for Blinds (CNIB) and Balance Toronto provide health products like reading glasses, hearing aids to blind people. In Bangladesh,

BASF Grameen manufactures malaria nets is working to address the issue of mosquito bites and protect people from malaria disease. Social entrepreneurs are influencing the regulatory and investment environments to hold businesses more accountable to their social and environmental performance and to support social enterprises. These social entrepreneurs reflect enlightened human values (Jack, Mook, & Armstrong 2009; and Yunus, 2014).

In the revenue generated socioeconomic twisted business framework, social enterprises have emerged as an effective tool to deliver policy objectives in two key areas of social and economic policy: Service delivery and social inclusion. Hence, many scholars think social enterprises pioneer in leading to social cohesion and social inclusion. Its dominant feature is civil society development. Social enterprises can support the financial and regulatory sustainability of civil society initiatives aimed at supporting disadvantaged groups and develop partnerships for social innovation. A social enterprise has two goals: (1) to achieve social, cultural, community economic and environmental outcomes; and (2) to earn revenue. Social enterprises are businesses whose primary purpose is the common good. The social entrepreneurs use methods and disciplines and the power of the marketplace to advance their social, environmental and human justice agendas. However, social enterprises are revenue-generating businesses with entwined - social and economic objectives following capitalism.

II. DIFFERENT NAMES OF THE REVENUE GENERATED SOCIAL AND ECONOMY MISSIONS TWISTED BUSINESSES

Social enterprises, social businesses, social economy, social entrepreneurship, Social Capital Partners, social clubs, social financing, social housing, social investment organizations, and social purpose businesses are revenue generated social entrepreneurial businesses. The Community Investment Corporations (CIC) UK based, L3C-USA based, Beneficial Corporations (B-Corporation) USA, social entrepreneurship, Social Capital Partners, Venture Philanthropy, Farmers Cooperatives, Commercial Cooperatives and Financial Cooperatives (credit unions) are latest models social economic organizations. Other forms of social entrepreneurial organizations are members based organizations (workers cooperatives, trade unions), non-profit mutual associations, professional associations, business association, housing cooperatives, networking organizations and revenue earned cultural associations.

Moreover, the Chamber of Commerce, mutual insurance, not-for profit organizations, non-governmental organizations, community enterprises, community economic development projects, micro-

finance institutions (MFIs), commercial non-profits are also termed social enterprises. The civil society organizations, community foundations, enterprising non-profit programs, non-profit organizations (NPOs), self-help groups, Solidarity Economy belongs to social economy agencies. All these social enterprises perform social and economic objectives under different framework, different strategies and different funding models.

a) *Entrepreneurship*

The word “entrepreneur” originates from the French *entreprendre* and the German *unternehmen*, both of which mean literally “to undertake,” as in accepting a challenging task. They refer to the groundbreaking development of the concept by Cantillon (1680-1734) and Say (1767-1832) (see, e.g., Dees, 1998: 2f). An entrepreneur is a risk taker person driven by the burning desire to put his business idea into action. He is ready to tackle difficulties, to experiment boldly, to work long hours, and to experience personal setbacks and disappointments without becoming discouraged. He is not satisfied until his project is implemented successfully, producing the desired results-either financial reward or social improvement. Entrepreneurship is an integral part of human nature. Social business offers a new and exciting way of expressing it. Social business also provides an outlet for the creativity that millions of people harbour within themselves.

b) *Social Entrepreneurship*

‘Social entrepreneurship’ describes an initiative of social consequences created by an entrepreneur with a social vision because it is exercised by individuals. Entrepreneurship is best thought of as an extended activity which may well be carried out by a team or a group of people (Stewart, 1989). To be an entrepreneur may therefore mean being an individual, a member of a group, or an organization who/which carries out the work of identifying and creatively pursuing a social goal. In fact, some scholars even refer to organizations that pursue both commercial and social objectives as hybrids (Davis, 1997). In a sense, these hybrids pursue two bottom lines, one of which deals with profit while the other deals with social value.

According to Bornstein and Davis (2010) social entrepreneurs is a process, a way to organize problem-solving efforts. Social entrepreneurs carry risks. They have relationship between the individual and society. Social Entrepreneurship to be understood with appropriate flexibility-its aims at creating social value, either exclusively or at least in some prominent way; (2) its shows a capacity to recognize and take advantage of opportunities to create that value (“envision”); (3) it employ(s) innovation in creating and/or distributing social value; (4) It is willing to accept an above-average degree of risk in creating and disseminating social

value. According to Peredo & McLean (2006) the social entrepreneurship allows the entrepreneur to balance the interests of many people and remain true to the mission in the face of moral intricacy. Social entrepreneurs are excel at recognizing and taking advantage of opportunities to deliver the social value that they aim to provide. Social entrepreneurs show risk-tolerance, innovativeness, and pro-activeness are not showed by commercial entrepreneurs. Social entrepreneurs have "social value" i.e. contribute well being in a given human community. However, this definition allows not wealth creation.

In contrast with social entrepreneurs, social business is a very specific type of business- a non-loss, non-dividend Company with a social objective. A social business may pursue goals similar to those sought by some social entrepreneurs, but the specific business structure of social business makes it distinctive and unique. Hence social entrepreneurship and social business should be similar concept. Social business is not a non-profit organization. The foundation, for example, would get its money back and be able to use it for some other worthy purpose. However, it is not possible in the traditional NGOs who could own a social business. By contrast, a social business is designed to be sustainable. This allows its owners to focus not on asking for donations, but for investment. However, it would need to be separated from the NGOs for legal, tax and accounting purposes.

Social Entrepreneurship has many benefits like systematically identify people with innovative ideas and practical models for achieving major societal impact and to develop support systems to help them achieve significant social impact. Social entrepreneurship shifted to organizational excellence. It is contagious (Bouchard, Ferraton, & Michaud (2006); Quarter, Mook, & Armstrong (2010), Bornstein & Davis (2010), Putnam (1996); McFarlan (1999); Mort, Weerawardena & Carnegie (2003); Mintzberg (1991);, Mendall & Neamtan (2010), Peredo and McLean (2005); Amin & Hausner (1997); Belal (2008), D'Amours (2007); Rothschild & Russell (1986); Shrage & Fontan (2000); Salamon & Anheier(1997); Owen, Swift, Humphrey & et al. (2000), MacLeod (1997), Hall (2009). Peredo & McLean(2006). For example, social economy organizations like micro-credit institutions all over the world are doing well that become a social economy model for the world. In Canada and many other countries various other social economic business models invented and functioning that better serve the disadvantaged community people in economic way, democratic way. These organizations created huge employment opportunities in the world. It is efficiently meeting the social and economic needs of the marginalized people (Lasby, D.M., Hall, M.H., & Ventry, R.M et al. (2010);, Quarter, Mook, & Armstrong, 2009; Schugurensky & Mccollum (2010); and Yunus 2010).

Below the paper describes different concepts of social entrepreneurial organizations, their different financial and legal models, and their contributions to different societies.

c) *Social Economy*

According to Quarter et al. (2009) the social economy is a bridging concept for organizations that have social objectives central to their missions and their practice, and either have explicit economic objectives or generate some economic value through the services they provide and purchases that they undertake. The majority social organizations are charities in Canada (Lasby, Hall, & et al., 2010; and Salamon (1999) termed it a form of mobilizing economic resources towards the satisfaction of human needs. The SEOs have democratic principles of one member/one vote with very high participation rates. It is serving the public as well as mutual associations, cooperatives making connection to people and the communities (Quarter et al., 2009).

In Canada and many other countries various other social economic business models invented and functioning that better serve the disadvantaged community people in economic way, democratic way (Quarter, Mook, & Armstrong (2009); Bornstein & Davis (2010); Schugurensky & Mccollum (2010; and Lasby, D.M., Hall, M.H., & Ventry, R.M et al. (2010). These organizations created huge employment opportunities in these two countries. Social entrepreneurship has many societal impact (MacMartin 2007); Mendall & Neamtan (2010), Amin & Hausner (1997), Belal (2008), D'Amours (2007), Rothschild & Russell (1986); Salamon & Anheier(1997); Owen, Swift, Humphrey & et al. (2000); MacLeod (1997); Hall (2009); and Peredo & McLean (2006).

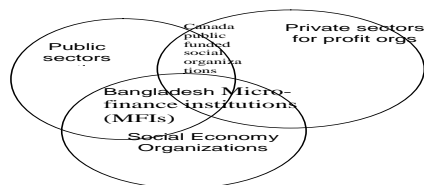
NGOs, civil societies, non-profit organizations (NPOs), Self-help Groups, Solidarity Economy etc. organizations are belong to social economy because they are performing social and economic objectives under different framework, different strategies and different funding models (Quarter, Mook & Armstrong, 2009). These social economic organizations are very important because they are working in opposite to multinational corporations and private sectors who are monopoly in profit maximizing exploitative market (Bornstein & Davis (2010); Quarter, Mook, & Armstrong (2010); Schugurensky & Mccollum (2010); Yunus (2010). Social economy organizations encompass the full range of human needs and interests (Lasby, Hall, Ventry & et al., 2010; Yunus 2010). They provide opportunities for economic development and solidarity in the community.

Social economy renaming 'Third Sector' that organizations set up for social purpose can generate economic value-they may produce and market services, employ people and own valuable assets (Quarter, Mook, & Armstrong, 2009). At the Economic and

Employment Summit in Quebec in 1996 define social economy objectives are serves to members and community. Here SEOs managements are independent (Chantier de l'économic sociale, 2005). The Human Resources and Social Development Canada (HRSDC, 2005) defined the social economy is a grass roots entrepreneurial, not-for-profit sector, based on democratic values that seek to enhance the social, economic conditions of communities and focus on their disadvantaged members. The Walton Council, Belgium, termed it 'social market economy'. These social entrepreneurships have "double bottom line" means placing equal emphasis on profit and social benefit. However, there are challenges found in CBEs like maintaining a balance between individual and collective needs, and among economic and social, goods.

Quarter, Mook & Armstoring (2009) also included social economy organizations that are incorporate or non-incorporate cooperatives, social enterprises, community development initiatives, public sector nonprofits, non-profit member associations and civil society organizations. Non-profit and non-governmental organizations refers them to social, social purpose and citizen-sector organizations. and social entrepreneur refers to founders of organizations even it s not legally structured as a profit seeking entity (Bornstein & Davis (2010).

According to Mendell & Neamtan (2010) social economy is a process of re-engaging government in new ways and working across boundaries to participate in new policy design. The figure below diagrammatically describes the intersection between the private sector, public sector and social-economic organizations three areas. The common characteristics of the social economy organizations include social and economic missions, social ownership, volunteer/social participation, and civic engagement.



These social economic missions blend organizations are very important to address multinational corporations, private sectors monopoly profit maximizing exploitative market and limited public sector funding and public sector inefficiency to serve the community social economy. They are working for the well-being of the disadvantaged people in the society. These organizations created huge employment in the different countries.

Schugurensky & McCollum (2010) mention that in Canada and internationally, the social economy makes a significant contribution to the social, economic, cultural and environmental well-being of communities. The Human Resources and Social Development (HRSD) in Canada (2005) acknowledges that 'the Government of Canada is just beginning to understand the power and potential of social economy enterprises and organizations.' In Bangladesh, MFIs are intensively working for the poor and they are popular to them; on other pole Canadian Charitable organizations, civil society organizations, credit unions are providing service, meet needs of the citizens. However, there are fewer interactions among public sectors and social economic organizations. Many social organizations, community economic programs gets funding from public sectors in Canada, which are less in Bangladesh. Currently many private sectors opened their foundations and funds to work with social and economic missions.

d) Social Business

Social businesses are social-purpose businesses. They have blended social and economic values. Social entrepreneurship represents fundamental reorganizations of the problem solving work of society-a shift from control-oriented top down policy implementation to responsive, decentralized institution building. They provide services and do businesses with the bottom of the pyramid (Prahalad 2003). They are do-gooders, many made self-sacrifice. For example, the Bangladesh Ashraon Housing Project has funded by public sector and this project is intensively monitored by the project gross root workers.

According to Muhammad Yunus (2013) a social business is a Non-loss, Non-dividend Company designed to address a socioeconomic objectives. These organizations' profits are used to expand the company and to improve the product/service. This model has grown from the work of Grameen sister organizations and others following social principles. Social business is a cause-driven business. In a social business, the investors/owners can gradually recoup the money invested, but cannot take any dividend beyond that point. Purpose of the investment is purely to achieve one or more social objectives through the operation of the company, there is no personal gain is desired by the investors. The social business organization must cover all costs and make revenue, at the same time achieve the social objective, such as, healthcare for the poor, housing for the poor, financial services for the poor, nutrition for malnourished children, providing safe drinking water, introducing renewable energy, etc. in a business way. The impact of the social business on people or environment is worthy, rather than maximizing profit solely. The objective of the social business organization is to achieve social and economic goals.

It is not for maximizing profit, but for maximizing social benefit. It is not a charity. It is not part of corporate social responsibility. It does not fall within the category of NGO or Cooperatives. It is distinct from social entrepreneurship in strict sense of the term. It is a sustainable business proposition and it is a market based solution for poverty reduction. It is about combining business principles with social objectives. It is not social objectives versus profit objectives rather it has combination of the two. It is designed and operated as business enterprise with products, services, customers, markets expenses and revenues, but with the profit maximizing principle replaced by social benefit principles.

e) *Features and Goals of Social Business*

A social business is generating enough surpluses to pay back the invested capital to the investors as early as possible. It generates surplus for expanding the business, for improving the quality of business, to increase efficiency of the business through introducing new technology, to innovative marketing to reach the deeper layers of low-income people and disadvantaged communities. There are eleven features of Social Business Organizations:

- They are Innovation
- SBO rejects the traditional methodology of the conventional banking
- SBO provides banking services at the doorstep of the poor it serves
- SBO provides physical and non-human inputs (e.g., microcredit, machines, tools, training) to poor people
- It empowers borrowers through positive reinforcement
- SBO promotes the unity, conscience, and social cohesion among group members through social solidarity
- SBO applies logical appeal to increase integration among group members
- It applies social relationships to increase social capital
- The SBO provides organizational support to create income-generating self-employment
- It promotes, collective consciousness: the SBO uses moral force to create two-dimensional social entrepreneurs
- SBO helps to create a world without poverty, illiteracy, diseases, and slum dwellers

f) *Community Economic Development (CED)*

Community Economic Development (CED) organizations are social enterprises serving people with disabilities, Aboriginal People from the crown body Community Futures Development Corporations Canada, and Canada Institute for Health Information. Community economic development (CED) is action by people within

a specific geographic community or group of communities to create local economic opportunities and improve quality of life (Salamon & Anheier, 1997). CED recognizes that local challenges and opportunities are as varied as the individual communities themselves. By using knowledge and resources resident in the community, CED identifies and capitalizes on local opportunities to stimulate economic growth and employment. This can include developing entirely new businesses or industries, adding value to existing sectors, strengthening capacity, and improving local infrastructure to help communities achieve their full economic potential. Communities have increased economic opportunities and capacity to respond to challenges, as well as the necessary investments in public infrastructure. In Canada CED projects are in regions that have below average standard of living or involve groups who experience extraordinary challenges. Hence special arrangements are created by government, foundations or some other parenting organizations to support the initiative (Jack & et al. 2009).

In Canada, Western Economic Diversification Canada (WD) contributes to community economic development in urban centres and rural areas through initiatives that capitalize on opportunities for growth and development, and enable communities to adjust to challenges that hinder competitiveness and quality of life. A significant proportion of WD's community economic development funding stems from the western region Canada agent for national programs offered by the federal government such as infrastructure programs. WD supports to community economic development that has included:

- Encouraging regional approaches to economic development through partnerships with communities and non-profit organizations,
- Helping rural communities identify and capitalize on new sources of economic growth and employment,
- Increasing the capacity of rural communities to undertake value-added processing and encourage new opportunities for skilled employment,
- Enhancing Aboriginal participation in the economy,
- Designing and delivering regional and community development programs to help western Canadian communities make a successful transition into the 21st century economy,
- Revitalizing urban communities by supporting initiatives that undertake inner city renewal, build community capacity, enhance knowledge and skills, and foster economic development, and

g) *CED Funding Sources*

Investing in infrastructure to sustain rural and urban communities, CED funding sources are:

- The Community Infrastructure Improvement Fund is a two-year national program that invests over \$46 million in the Western Canada for the rehabilitation and improvement of existing community infrastructure that is non-commercial and accessible to the public.
- Western Diversification Program is the main program through which WD invests in projects that support strategic outcomes related to innovation, business development and entrepreneurship, community economic development and policy, advocacy and coordination.
- Western Canada Business Service Network is a group of several independent organizations that receive funding from WD to provide a range of services to help create and build small businesses across the West. One of the Network partners, Community Futures Development Corporations, undertakes broad-based community economic development initiatives in rural western communities.
- The CED invests \$3.2 million in the West over five years to support business and to encourage sustainable growth in Western Canada's Francophone communities.

h) *Community Based Enterprises (CBEs)*

Community Based Enterprises (CBEs) often constitute a culturally appropriate way of addressing problems such as poverty-alleviation. According to Peredo & Chrisman (2006) the community based enterprises are typically rooted in community culture, natural and social capital is integral and inseparable from economic considerations, transforming the community into an entrepreneur and an enterprise. The CBEs are important when public sectors and private sectors development efforts have been largely unsuccessful. In such situation, social economy scientists encourage the creation of small businesses owned by the community. The CBEs are alternative socioeconomic model where the community acts as an entrepreneur when its members acting as owners, managers and employees, create or identify a market opportunity and organize themselves in order to respond to it. CBEs are managed and governed by the people, rather than by the government. CBEs structures are designed to be participatory, not only representative. Here community may come together to solve its problems. However, CBEs success depends on Social Capital: there people depend on social relations to fulfill their needs.

Bourdieu (1997), Putnam (1973) say that community networks allow resources to be pooled, actions to be coordinated, and safety nets to be created that reduce risks for individual community members. They are based on available community skills, multiplicity of goals- economic, social and

environmental benefit and will be directed by profits, but dependent on community participation (Peredo & Chrisman, 2006). However, there are challenges found in CBEs like maintaining a balance between individual and collective needs and among economic, social, environmental and cultural goods.

i) *Civil Society Organizations*

Civil Society Organizations are primarily associations and organizations representing the mutual needs of a membership in the society. They work for professional interests, labour rights, recreation, sports, religion and environment. For example, Bangladesh Medical Association, Bangladesh Agriculturalist Association etc. are associations lobbying for medical doctors and agriculturalists interest. In Canada Farmers Cooperatives organized for to lobby for their products, rights and to link their products to the local and the international markets. The Canadian Chamber of Commerce and the Dhaka Chamber of Commerce in Bangladesh work for promoting trade and commerce of the respective countries although performance is different of each of them. Desjardins, a credit union in Canada, is successful financial credit unions are working across Canada. Such a model is absent in Bangladesh. Milk producers' cooperatives are smoothly functioning in Bangladesh. These organizations have social objectives, social ownership, the assets belong to members, social participation and have civic engagement.

III. DIFFERENCE BETWEEN SOCIAL ENTREPRENEURS AND BUSINESS ENTREPRENEURS

Social entrepreneurs, the bottom line is to maximize some form of social impact, usually by addressing an urgent need that is being mishandled, over looked or ignored by other institutions. For business entrepreneurs, the bottom line is to maximize profits or shareholders wealth, or to build an ongoing, respected entity that provides value to customers and meaningful work to employees. Social entrepreneurs earn profit through social enterprises and business people are concerned about social responsibility. Social entrepreneurs involve elements of newness and dynamisms. They are clean-tech, green-tech (Greg Dees, 2002). According to Dees (2001) social entrepreneurs are one species in the "genus entrepreneur", meaning social entrepreneurs are a subgroup of entrepreneurs. Peredo and McLean (2006) assert that 'business methods' social economic entrepreneurs approach applying principles from for-profit business without neglecting the core mission. The private sectors are maximising profit making, tax evasion, loan defaults and share scandals indicates poor ethical performance of private businesses. They

provide sub-standard poor quality goods to market that create health hazards to people.

To better understand social entrepreneurship, Austin et al. (2006) distinguished between two types of entrepreneurship. In their framework, commercial entrepreneurship represents the identification, evaluation, and exploitation of opportunities that result in profit. In contrast, social entrepreneurship refers to the identification, evaluation, and exploitation of opportunities that resulting social value. Organizations can pursue commercial entrepreneurship, social entrepreneurship, or some combination of both.

IV. WHAT'S A SOCIAL ENTERPRISE?

According to Organization for Economic Cooperation Development (OECD) Social enterprises have developed from and within the social economy sector, which lies between the market and the State and is often associated with concepts such as 'third sector' and 'non-profit sector'. The social enterprise concept does not seek to replace concepts of the non-profit sector or social economy. Rather, it is intended to bridge these two concepts, by focusing on new entrepreneurial dynamics of civic initiatives that pursue social aims. Social enterprises produce these benefits while reducing the draw on public and philanthropic funds. They earned income or replace grants and donations to produce a dramatically higher return on investment (ROI). For example, a non-profit that earns 50% of its budget through its social enterprise is effectively matching every dollar of "public income" with a dollar of "marketplace income", doubling the social return on investment (ROI) of those public dollars. Canadian government sometimes offer such benefits to community economic development programs.

Social enterprise is emerging as sector between the traditional worlds of government, nonprofits and business. It addresses social concerns. However, it is more efficient than government to solve every social problem (Hall, 1998) As social needs continue to spike in light of shrinking government budgets, employment rolls, and social safety nets, social enterprise is emerging as a self-sustaining, market-based, business-like and highly effective method of meeting social needs.

Social enterprise also known as social entrepreneurship, broadly encompasses ventures of nonprofits, civic-minded individuals, and for-profit businesses that can yield both financial and social returns. According to Social Enterprise Canada "*Social enterprises are businesses owned by non-profit organizations, that are directly involved in the production and/or selling of goods and services for the blended purpose of generating income and achieving social, cultural, and/or environmental aims. Social enterprises are one more tool for non-profits to use to meet their*

missions to contribute to healthy communities" (Social Enterprise Council of Canada, 2015). From the above discussion, it is found that social enterprise should have a clear social and/or environmental missions set out in their governing documents. It generates the majority of their income through trade and reinvests the majority of their profits. It is to be autonomous of state and it has interests of the social mission.

Social enterprises are also emerging in the provision of community services, including in the educational, cultural and environmental fields. The key economic and social elements are as follows:

a) *Economic Criteria*

- 1) Unlike traditional non-profit organisations, social enterprises are directly engaged in the production and/or sale of goods and services
- 2) The financial viability of social enterprises depends on the efforts of their members, who are responsible for ensuring adequate financial resources, unlike most public institutions
- 3) Activities carried out by social enterprises require a minimum number of paid workers, even if they may combine voluntary and paid workers.

Social criteria

- 4) Social enterprises are the result of an initiative by citizens involving people belonging to a community or to a group that shares a certain need or aim
- 5) Decision making rights are shared by stakeholders, generally through the principle of 'one member, one vote'. Although capital owners in social enterprises play an important role, decision-making power is not based on capital ownership
- 6) Social enterprises are participatory in nature in the management of activities
- 7) Social enterprises include organisations that totally prohibit the distribution of profits and organisations such as co-operatives, which may distribute their profit only to a limited degree. Social enterprises therefore avoid profit maximising behaviour, as they involve a limited distribution of profit
- 8) Social enterprises pursue and promote social responsibility at local level.

b) *Social Enterprise Leverage (Weight)*

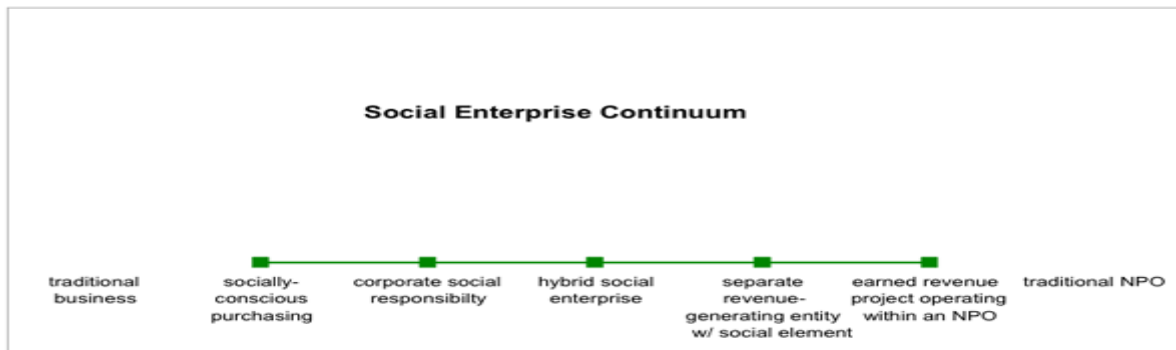
Social enterprises produce higher social returns on investment than other models. A classic employment-focused social enterprise, for example, might serve at least four public aims: fiscal responsibility-it reduces the myriad costs of public supports by providing a pathway to economic self-sufficiency; it provides public safety-by disrupting cycles of poverty, crime, incarceration, chemical dependency and homelessness. Moreover social enterprises generate economic opportunity and create jobs in communities and ensure social justice—it they give a chance to those most in need.

Social economic organizations could address the above mentioned issues in an accountable and transparent manner because here philanthropic mission is the first place in addition to revenue generation commitment. However, in Canada cooperatives and nonprofits have millions of members and manage millions of dollars every day (Schugurrensky & McCollum, 2010). Therefore, Yunus (2013), Quarter, et al. (2009), Hall (2000), Polany, and Putnam (1996) idea of social business is not an utopian dreams, but viable alternatives to organizing economic enterprises. According to Yunus (2013) social business will not

replace traditional business rather it co-exist with traditional business and expand social businesses in the world.

There are three characteristics distinguish a social enterprise from other types of businesses, nonprofits and government agencies:

- It directly addresses an intractable social need and serves the common good, either through its products and services or through the number of disadvantaged people it employs.



Source: BC *Centre for Social Enterprise* Newsletter April 2015.

- Its commercial activity is a strong revenue driver, whether a significant earned income stream within a non-profit's mixed revenue portfolio, or a for profit enterprise.
- The common good is its primary purpose.

The top five missions of social enterprises are workforce development, housing, community and economic development, education, and health. Social enterprise business models are equally diverse, including: retail, service and manufacturing businesses; contracted providers of social and human services; fee-based consulting and research services; community development and financing operations; food service and catering operations; arts organizations; and even technology enterprises.

c) *Benefits of Social Business*

Social businesses have many advantages. It is lasting. It does not only create employment opportunities, but also create an enabling environment for unleashing the creative capacity and entrepreneurial skill of the youth. However, the financial institutions are designed for the rich in the capitalist society. Institutions designed for the rich will not do any good to the poor. Yunus (2014) hopes if people want creating a world without unemployment, micro credit and social business services to poor are essential. Jack, Mook, and Armstrong (2009) think social economy can address social problems in the capitalistic society.

d) *Social Business Cooperatives*

Many people are confused with a social business is a cooperative. A cooperative is owned by its members. It is run for profit to benefit the member-shareholders. D. et al. Owen (2000) had made clear cooperative social objectives: to empower the poor, to encourage self-sufficiency, and to promote economic development. Today, many co-ops still create social benefits. For example, in Canada, there are housing co-ops that make affordable homes available to working-class people, food co-ops that bring healthy nutrition within the reach of city dwellers, and banking co-ops that provide financial services to consumers who might otherwise be underserved.

In Canada Farmers Cooperatives organized for to lobby for their products, rights and to link their products to the local and the international markets. They co-operate each other. Mondragon is Spain's largest workers cooperative with a number of integrated functions including manufacturing, banking, and education. It is interesting to note that the evolution of Mondragon includes the formation of an educational institution, which is closely linked to the human resources needs of both manufacturing and service cooperatives within Mondragon (Greg McLeod (2012).

Cooperatives are organizations that are owned by the members who use their services or purchase their products (Lasby, Hall, Ventry & et al., 2010). They are working in different sectors in Canada like in housing, childcare centers, financial services (credit Unions and insurance) renewable energy, social

services, arts, and culture, retail sales and in agricultural goods and services. There were 5,753 non-financial co-operatives, with 5.6 million members, 85,073 employees, \$27.5 billion revenues and \$ 17.5 billion assets (Cooperative Secretariat 2007). 12 million Canadians are associated with cooperatives; there are 1,140 credit unions with 3,400 service locations, 10.5 million members, 64,600 employees and 248.8 billion in assets. Financial co-operatives transact 12.7% of the Canadian financial GDP for the financial sector (Mook, Quarter & Ryan, 2010). The co-operatives have tremendous contribution to the well-being and economic growth of Quebec. Desjardins, a credit union in Canada, is successful financial credit unions are working across Canada, which is absent in Bangladesh.

However, Comilla Cooperatives in Bangladesh were famous in the world in 1960s. Its model rapidly replicated in Bangladesh in 1970s and in early 1980s by the government become mission drift. In Bangladesh there are no private daycare centers, private sports centers, or public shelters. However, Arang, Karu Palli, Nari Prabatana Shops collect embroidery products, handmade toys, souvenirs from the rural poor women that create many employment in the rural poor, but they are running under the shadow of BRAC and BRDB and Nari Pakka respectively, but they are earning money selling their products in a market place.

Co-op by definition is a socially beneficial activity. An example is the Self-Employed Women Organization's (SEWA), a trade union that helps self-employed Indian women pursue the goals of 'full employment': work security, income security, food security, health care, child care and shelter. SEWA has now over 900,000 members throughout India. These women select their own leaders, and effectively run the organization for the benefit of the rank-and-file.

e) *Grameen Social Businesses*

Grameen social businesses have clear focus on eradicating extreme poverty combined with the condition of economic sustainability has created numerous models with incredible growth potential. The framework of the Grameen social business is based on 7 principles. Grameen Social Businesses seven principles are as follows:

1. Business objective will be to overcome poverty, or one or more problems (such as education, health, technology access, and environment) which threaten people and society; not profit maximization.
2. Financial and economic sustainability.
3. Investors get back their investment amount only. No dividend is given beyond investment money.
4. When investment amount is paid back, company profit stays with the company for expansion and improvement.
5. Environmentally conscious.

6. Workforce gets market wage with better working conditions.
7. ...do it with joy.

The Yunus Center Social Business Design Lab (YCSBDL) is promoting and supporting grameen social businesses. It facilitated many workshops on Grameen type social businesses. Currently Nabin Uddug social business projects are operated and invested through Grameen sister organizations-Grameen Shakti Samajik Babsha, Grameen Trust, Gramen telecom Trust, Grameen Shikka, Grameen Kallayan, Gramen Motsha Foundation, Gramee Krishi Foundation. Kazi A. Rouf, the author of the paper, visited many Nabin Uddug social businesses in Bangladesh. Moreover, Mr. Rouf has received many feedbacks from the Nabin Uddugkta entrepreneurs, local young entrepreneurs and university/college students. The Nabin Uddug social business campaigns by Professor Muhammed Yunus have revolutionized in Bangladesh.

Grameen social business targets business opportunities neglected by traditional profit maximizing companies in Bangladesh. The present economic system is not designed to have any moral responsibility. Discussion on moral responsibilities is an after-thought. According to Yunus (2014) moral issues were never included in the present economic system. He said that social business is a new kind of business which is based on selflessness, replacing selfishness, of human being. Conventional business is personal-profit seeking business (Grameen Dialogue 93, 2014). The social business is a non-dividend company to solve human problems. Owner can take back his investment money, but nothing beyond that. After getting the investment money back all profit is ploughed back into the business to make it better and bigger. It stands between charity and conventional business and carried out with the methodology of business, but delinked from personal profit-taking (Yunus, 2013).

Grameen Bank is inspiring the second generation of Grameen Bank borrowers' families to believe that they are not job seekers, they are job givers. Poor can be a business person by using loans. According to Yunus, there are two types of business (1) Traditional business- profit making and dividend distribute to business owners/shareholders; (2) Social business – everything for the benefit of others and nothing is for the owners-except the pleasure of serving humanity. The second kind of business built on the selfless part of human nature.

The social business might be described as a 'non-loss, non-dividend company' dedicated entirely to achieving a social goal. According to Yunus (2013) a social business is a selfless business whose purpose is to bring an end to a social problem. In this kind of business, the company makes a profit-but no one takes the profit.

V. TYPES OF GRAMEEN SOCIAL BUSINESSES

There are two kinds of social business. (1) One is a non-loss; Non-dividend Company devoted to solving a social problem and it is owned by investors who reinvest all profits in expanding and improving the business. The Grameen social businesses include Grameen Danone, Grameen Veolia Water, BASF, Grameen, and Grameen Intel has been of this type 1 social businesses. First Grameen Social Businesses Grameen Danone, a joint venture yogurt company is created in Bangladesh that produces, markets and distributes its products much the same as any for-profit yogurt company. Yogurt container is biodegradable-no plastic is allowed. Grameen Veolia, another joint venture type-1 Grameen social business, water treats surface water for contaminants and then pipes it to where it is needed. The examples mentioned above fit into this category. Yunus calls all these businesses as 'Type 1 social businesses'(Yunus, 2013).

The second kind is a profit-making company owned by poor people, either directly or through a trust that is dedicated to a predefined social cause. A social business owned by the poor benefits the poor by generating income for them directly. Yunus call it Type 11 social business. Grameen Bank, which is owned by the poor people who are depositors and customers, is an example of this kind of social business. The Otto Grameen textile factory owned by Otto Trust use the proceeds to benefit the people of the community where the factory is located. Unlike a non-profit organization, a social business has investors and owners. Moreover, in a Type 1 social business, the investors and owners don't earn a profit, a dividend or any other form of financial benefit. The investors in a social business can take back their original investment amount over a period of time they define. Personal financial benefit has no place in social business. They serve as a touchstone that is at the heart of social business idea.

Muhammad Yunus (2013) uses the term 'Impact investing', means for an investment strategy whereby an investor proactively seeks to place capital in businesses that can generate financial returns as well as an intentional social and/or environmental goal. This concept of combined financial and other benefits is known as Triple-bottom line or blended value. Impact investing is differentiated from socially responsible investing in that an investor will proactively seek investments that generate both financial as well as specific social and/or environmental returns. Grameen social business aims to create economic opportunities for the Children of Grameen Bank's members through the Nabin Udyokta (NU) program. Grameen Babsha Bikas (GBB), is a key partner of implementing Grameen social businesses in Bangladesh. GBB (Grameen Byabosa Bikash), establish in 2001, provides technical assistance and training support along with monetary

support to the new entrepreneurs in Bangladesh. GBB is working towards poverty eradication by creating New Entrepreneurs. GBB has started implementing social business such as fishing farm, duck farm, nursery, toy factory, bamboo mat works in Bangladesh since 2001.

a) *Corporate Social Responsibility (CSR)*

The concept of Corporate Social Responsibility (CSR) was an earlier and still quite prevalent approach to generating societal benefits through business. CSR arose when companies began to notice that an increasing number of customers cared about more than just price and quality; they cared about a company's demonstrated commitment to social and environmental issues as well. However CSR is a concept that is working in capitalism.

Companies became more involved in charitable activities and started reporting on their efforts to improve conditions for their employees and other stakeholders. The idea of sustainable business practices broadened this concept with a stronger focus on environmental impact and specific metrics, such as an organization's carbon footprint. However, the suspicion persisted that there were some companies who treated CSR and sustainability primarily as a marketing tool that was not well integrated with the operations of the company. This often resulted in accusations of "green washing" and impacts on society were questioned. At the same time, executives in many companies struggled to justify investments in CSR and sustainability when the link to increased profits was difficult to establish.

b) *Community Interest Corporation (CIC), an emerging Alternative Social Enterprises Structure*

One of the alternative legal structures now emerging is the community interest company (CIC) in UK. This is a new legal vehicle for business available since 2005; the British government refers it as 'social enterprise'. According to UK authorities, 'CIC' will be organizations pursuing social objectives, such as environmental improvement, community transport, fair trade etc. Social enterprises are playing an increasing role in empowering local communities and delivering new, innovative services at local level.

A CIC is a new type of company introduced by the United Kingdom government in 2005 under the Companies (Audit, Investigations and Community Enterprise) Act 2004, designed for social enterprises that want to use their profits and assets for the public good. CICs are working for the benefit of the community. The CICs businesses surpluses are principally reinvested for that purpose in the business or in the community, rather than being driven by the need to maximise profit for shareholders and owners. CICs tackle a wide range of social and environmental issues and operate in all parts of the economy. By using business solutions to achieve public good, it is believed that social enterprises have a distinct and valuable role

to play in helping create a strong, sustainable and socially inclusive economy. CICs are diverse. They include community enterprises, social firms, mutual organisations such as co-operatives, and large-scale organisations operating locally, regionally, nationally or internationally.

c) *Legal Forms and Social Objectives of CIC*

CICs must be limited companies of one form or another. A CIC cannot be a charity, an incorporated profit organization (IPO) or an unincorporated organisation. A charity can convert to a CIC with the consent of the Charity Commission. In so doing it will lose its charitable status including tax advantages. A charity may own a CIC, in which case the CIC would be permitted to pass assets to the charity. CICs are more lightly regulated than charities but do not have the benefit of charitable status, even if their objects are entirely charitable in nature.

Those who may want to set up a CIC are expected to be philanthropic entrepreneurs who want to do good in a form other than charity. This may be because CICs are specifically identified with social enterprise. They are looking to work for community benefit with the relative freedom of the non-charitable company form to identify and adapt to circumstances, but with a clear assurance of not-for-profit distribution status. The definition of community interest that applies to CICs is wider than the public interest test for charity.

A Government regulator is responsible for examining each proposed CIC to make sure it passes what's called the Community Interest Test (CIT). This means satisfying the regular that the purposes of the CIC 'could be regarded by a reasonable person as being in the community or wider public interest.' The community interest test (CIT) that a CIC must pass is less strict than the rules a charity must meet in the UK. However, the CIC also does not enjoy the tax benefits that a charity gets. A CIC pays taxes on its revenues in much the same way as any ordinary business gets. A CIC pays taxes on its revenues in much the same way as any ordinary business. Also, the assets held or generated by the CIC, including any surplus of revenues over expenses, are subject to what is called an asset lock. This is a legal requirement that the assets of the CIC be used solely for community benefits. Like a profit-maximizing company, a CIC has one or more owners. A charity can own a CIC; so an individual, a group, or another company. A political party, however; is not permitted to own a CIC.

A CIC can solicit funds from investors and it can even issue shares of stock, just like a traditional corporation. In this respect, a CIC is similar to Yunus concept of a social business. Grameen Danone and Grameen Veolia Water, for example, are both owned jointly by the Grameen companies and their parent corporations-Danone and Velia Water, respectively.

However, unlike a social business, a CIC may pay dividends to shareholders (this is the exception to the asset lock rule), through these dividends are limited by law. Currently, the maximum dividend per share is 5 percent above the Bank of England base lending rate, and the total dividend declared in any given year is limited to 35 percent of the company profits. The CIC is a restricted profit company, but it does not qualify to be the kind of social business that Yunus has been promoting. However, a CIC could become a social business; CIC owners and shareholders explicitly and clearly renounced the acceptance of dividends or any other form of profit distribution beyond the amount of investment. As of end of 2009, there were over 3000 CICs registered in the UK. Some have become quite successful and well-known-for example, Firely Solar, which uses sustainable technologies in producing events for organizations ranging from the Glastonbury Music Festival to Greenpeace etc. There is also considerable discuss about creating a similar legal structure in Canada. Paul Martin, ex-Prime Minister described the potential for good of businesses organized for social purposes (Yunus, 2014).

d) *Low-Profit Limited Liability Company (L3C)*

L3C is another type of social enterprise concept developed in USA. The first law establishing the L3C structure was enacted by the state of Vermont in 2008. As of end of 2009, the concept had also been recognized by Michigan, Utah, Wyoming, and Illinois, and considered in North Carolina, Georgia Oregon, South Dakota, Tennessee, and Montana. The Crow Indian Nation and Oglala Sioux Tribe also recognize the L3C structure. CIC has been enacted in eight other states—Illinois, Michigan, North Carolina, Maine, Utah, Wyoming, Louisiana, Rhode Island—and two Native American nations—the Crow and the Oglala Sioux since 2009 (Americans for Community Development 2011).

An L3C is a business entity formed to finance socially minded projects and organizations, and may include funds from non-profit or for-profit entities (Witkin 2009). Its purpose is to attract a range of investment sources for socially beneficial, limited-profit ventures, and thereby improve the viability of such ventures. As L3C structures are very new, there are no known examples of an L3C structure to support the financing of the renewable energy (RE project).

The L3C is a variant form of the limited liability Company (LLC), but specifically enables a divergent mix of corporations, individuals, non-profits, and government agencies to organize under one "umbrella" for a charitable or socially beneficial purpose. Like all LLCs, the L3C is essentially a partnership with corporate protection. An L3C can include for-profit or non-profit entities, but has no definitive structure or required participation of any entity type. The L3C can also serve to attract the right foundation with a compatible mission

to become a member and use this investment vehicle alternative.

The L3C is a for-profit venture that, under its state charter, must have a primary goal of furthering an exempt purpose. It fits within the definitions in the federal regulations for PRIs (Program Related Investments). Project investments made under an L3C can be used to lower the risk profile or reduce the cost of capital for a particular project. The model essentially turns the venture capital model on its head. L3Cs can develop social and economic purpose missions, making it easier for socially motivated investors to locate the branded L3C that satisfies their needs and investment objectives.

e) *The L3C and Alternative Energy Funding*

As per internal revenue service (IRS) regulations, foundations are required to spend 5% of their net assets on charitable giving every year (Lakamp et al., 2010). The strategy, using primary rate interfaces (PRIs), allows private foundations to make equity investments in for-profit entities. The renewable energy projects rely heavily on various tax benefits to improve the cost of the associated power and induce investment. However, renewable energy projects and the developers utilize the tax benefits to their full value. Accordingly, a separate "tax equity investor" is sought to invest in the project. Because non-profits have no use for tax credits or depreciation, they cannot take direct advantage of the tax benefits. With the L3C structure in place, the tax benefits can be concentrated and absorbed by a tax equity investor that has the "tax appetite" from other businesses to utilize. The ideal project will be able to take advantage of both tax benefits and the low cost of capital provided by the foundation participation. The L3C allows the tax benefits to be fully utilized and thus lowering the cost of energy to the end user by accessing a wider base through foundations and non-profits (Ibid, 2010).

The L3C like the CIC is fundamentally a for-profit company that pursues a social business. like other business. An L3C has one or more owners, which can include individuals, charities, or for-profit companies. And like a CIC, an L3C can pay dividends on any financial surplus it generates. However, there are no written guidelines limiting the size of profits and no public regulator is designed to pass judgement on whether a particular L3C is paying profits that are 'excessive'.

Like other limited liability companies, the L3C has a pass-through status in regard to U.S. federal income taxes. That is, the corporation itself pays no income tax. Instead, all items of income, expense, gain, and losses are 'passed through' to the members (owners) of the L3C in proportion to their ownership shares. However, the Internal Revenue Service (IRS)

rules defining PRIs are complicated and difficult to follow (Yunus, 2013).

The legal and financial structure of the L3C makes it possible for an organization like a foundation to invest money in a business with social purposes and recover its initial investment. However, the difference between the L3C and the social business is the same as with the CIC-the creation of profits to benefit owners and the payment of dividends from those profits are part of the agenda of the L3C, while they are deliberately excluded from the concept of the social business.

L3Cs have been established for a wide array of economic sectors including (Capriccioso et al, 2010): Farming and agriculture, real estate/housing, socially responsible consulting, environmental services, education, healthcare, low-income assistance, construction services, journalism and publishing, financial and legal services and entertainment industry. The L3C structure allows the L3C Missouri Mission Center to provide a wide range of services and incentivize employees to reduce costs. The Mission Center L3C serves a wide range of non-profit and L3C customers. The services offered include accounting and human resources. The Mission Center started with a loan from wealthy supporters and is doing business while securing equity from foundations and individuals.

The 'L3C' is a legal form intended to bridge the gap between for-profit and non-profit functions...[it] combines the financial advantages and governance flexibility of the traditional limited liability company with the social advantages of a non-profit entity. The primary focus of the L3C is not on earning revenue or capital appreciation, but on achieving socially beneficial goals and objectives, with profit as a secondary goal (Capriccioso et al, 2010, p. 33).

f) *B Corporation*

There is another new concept in structuring a social business is the so-called *B Corporation*.

In the United States, a benefit corporation or B-corporation is a type of for-profit corporate entity, legislated in 28 U.S. states, that includes positive impact on society and the environment in addition to profit as its legally defined goals. B corps differs from traditional corporations in purpose, accountability, and transparency, but not in taxation.

The purpose of a benefit corporation includes creating general public benefit, which is defined as a material positive impact on society and the environment. A benefit corporation's directors and officers operate the business with the same authority as in a traditional corporation but are required to consider the impact of their decisions not only on shareholders but also on society and the environment. In a traditional corporation shareholders judge the company's financial performance; however, with a B-corporation shareholders judge performance based on how a

corporation's goals benefit society and the environment. Shareholders determine whether the corporation has made a material positive impact. Transparency provisions require benefit corporations to publish annual benefit reports of their social and environmental performance using a comprehensive, credible, independent, and transparent third-party standard. In some states the corporation must also submit the reports to the Secretary of State, although the Secretary of State has no governance over the report's content. Shareholders have a private right of action, called a benefit enforcement proceeding, to enforce the company's mission when the business has failed to pursue or create general public benefit. Disputes about the material positive impact are decided by the courts.

There are around 12 third-party standards that meet the requirements of the legislation. Benefit corporations need not be certified or audited by the third-party standard. Instead, they use third-party standards similarly to how the Generally Accepted Accounting Principles (GAAP) are applied during financial reporting, solely as a rubric a company uses to measure its own performance. In April 2010, Maryland became the first U.S. state to pass benefit corporation legislation. As of October 2014, 28 states have passed legislation allowing for the creation of benefit corporations.

VI. DIFFERENCES OF SOCIAL BUSINESS FROM TRADITIONAL CORPORATIONS

Historically, United States corporate law has not been structured or tailored to address the situation of for-profit companies who wish to pursue a social or environmental mission. While corporations generally have the ability to pursue a broad range of activities, corporate decision-making is usually justified in terms of creating long-term shareholder value. A commitment to pursuing a goal other than profit as an end for itself may be viewed in many states as inconsistent with the traditional perspective that a corporation's purpose is to maximize profits for the benefit of its shareholders.

The idea that a corporation has its purpose to maximize financial gain for its shareholders was first articulated in *Dodge v. Ford Motor Company* in 1919. Over time, through both law and custom, the concept of "shareholder primacy" has come to be widely accepted. This point was recently reaffirmed by the case *eBay Domestic Holdings, Inc. v. Newmark*, in which the Delaware Chancery Court stated that a non-financial mission that "seeks not to maximize the economic value of a for-profit Delaware corporation for the benefit of its stockholders" is inconsistent with directors' fiduciary duties.

In the ordinary course of business, decisions made by a corporation's directors are generally protected by the business judgment rule, under which

courts are reluctant to second-guess operating decisions made by directors. In a takeover or change of control situation; however, courts give less deference to directors' decisions and require that directors obtain the highest price in order to maximize shareholder value in the transaction. Thus a corporation may be unable to maintain its focus on social and environmental factors in a change of control situation because of the pressure to maximize shareholder value. Of course, if a company does change ownership and the result is no longer in adherence to its initially described benefit goals, the sale could be challenged in court.

Mission-driven businesses, impact investors, and social entrepreneurs are constrained by this legal framework, which is not equipped to accommodate for-profit entities whose mission is central to their existence.

Even in states that have passed "constituency" statutes, which permit directors and officers of ordinary corporations to consider non-financial interests when making decisions, legal uncertainties make it difficult for mission-driven businesses to know when they are allowed to consider additional interests. Without clear case law, directors may still fear civil claims if they stray from their fiduciary duties to the owners of the business to maximize profit.

By contrast, benefit corporations expand the fiduciary duty of directors to require them to consider non-financial stakeholders as well as the financial interests of shareholders (Lane, 2014). This gives directors and officers of mission-driven businesses the legal protection to pursue an additional mission and consider additional stakeholders besides profit (Lane, 2012, 2013). The enacting state's benefit corporation statutes are placed within existing state corporation codes so that it applies to benefit corporations in every respect except those explicit provisions unique to the benefit corporation form.

However, in reality, 'B Corporation' carries no special legal status, there is no law defining the B Corporation or specifying any special regulations that apply to it. The idea of the B Corporation was created by an organization called B-Lab, which was founded in June 2006 by a young social entrepreneur named Coen Gilbert. However the B Corporation has no real legal status. Gilbert and his associates at B lab are trying to carve out a place in the economic system for a company that dictates all or part of its profits to social causes. The idea is to formally acknowledge the company's responsibilities to society alongside its economic responsibility to make a profit for investors that benefit society while possibly diminishing profits. Moreover, B-Lab offers a rating system that allows companies to measure their own environmental and social performance by answering a series of survey questions. The results yield a point score, and only companies that achieve a 'passing' score (currently set at 80 out of a possible 200) are eligible to be designed

as B Corporations (CSRWire USA, 2010). Unfortunately, California doesn't have laws explicitly addressing that.

Despite this uncertainty, some entrepreneurs have embraced the B corporation idea. As of the end of 2009, there were over two hundred B corporations in the United States. However, a B corporation is not the same as a social business because each B Corporation makes its own decisions about the role of profit. So a B corporation are free to pay dividends to shareholders and to claim a share of the company profits for themselves. It seems this weaken the power of the B corporation concept-perhaps fatally (Yunus 2013).

The existence of the new, alternative forms of business structure -the CIC, the L3C and the B Corporation-reflects the same global situation that social enterprises/social economy organizations are trying to solve humanitarian problems. These new alternative have been devised indicates that many people around the world desire to solve these problems. However, a new regulatory structure essential that could be tailored to the needs of social business should be created-sooner the batter (Rouf, 2012; Yunus, 2013).

In response to the negative impacts of traditional corporations, a new type of corporation with a formalized purpose that includes generating positive impact for society in its core was needed. The corresponding legislation; however, takes time to develop and be adopted. Independent of the legislative process, a new business certification system was introduced to recognize impact-driven companies: "B Corporations" ("B Corps"). In 2007, a non-profit organization called B Lab was founded to establish and manage the B Corporation certification system which has helped to build a constituency of businesses that is attracting lawmakers' attention. It is a new form of corporations is mobilizing companies toward a sustainable future. Under the banner of 'profitable sustainability' these pioneering companies are actually recovering the 'corporate charter' as a social invention which was originally conceived to bring together the power of private enterprise with the public good." (Karl Ostrom, 2014).

a) *B Lab*

B Lab is a non-profit organization with the mission of using the power of business to address the world's most pressing challenges. In its goal of using business as a force for good, B Lab focuses on three initiatives: Building a community of Certified B Corporations so one can tell the difference between "good companies" and just good marketing; accelerating the growth of the impact investing asset class through use of B Lab's Global Investing Impact Rating System (GIIRS) Ratings & Analytics by institutional investors; and promoting legislation creating a new corporate form that meets higher standards of purpose, accountability and transparency.

B Lab certifies companies in a similar way that Fair Trade USA certifies Fair Trade Coffee or the U.S Green Building Council certifies leadership in energy and environmental design (LEED) buildings. In this role, B Lab established a standard for responsible and impact-driven business. In addition, B Lab attempts to solve the issue with existing corporate law where shareholder value maximization is the sole fiduciary responsibility of the corporation. Two independent Standards Advisory Councils oversee B Lab's certification standards, including the global impact investing rating system (GIIRS) for impact investors. B Lab is backed by a diverse set of funders, including the Rockefeller Foundation, USAID, and a variety of corporations, private foundations and individuals. There are currently about 20 employees across four different locations in the US. B Lab's website is www.bcorporation.net.

b) *Grameen Social Business Initiatives*

Muhammed Yunus considered Grameen as the seed of social business in Bangladesh that established in 1970s. Grameen bank and its other sister organizations are following the principles of social business for solving the problems of employment and income, hunger, malnutrition, healthcare, agriculture, housing, hygiene, education, environment, energy, communication, transportation etc. Grameen sister organizations are running as social businesses in Bangladesh (Yunus, 2014).

Grameen social business can play a very important role in solving the financial crisis, the food crisis, and the environment crisis. Furthermore, it can provide the most effective institutional mechanism for resolving poverty, homelessness, hunger and ill health (Grameen Dialogue, 2014). Social business can address all the problems left behind by the profit-making businesses and at the same time it can reduce the excesses of the profit-making businesses. Muhammad Yunus (2013) asserts that social business must be an essential part of the growth formula because it benefits the mass of people who would otherwise be disengaged. And when people are energized, so is the economy. Through access to credit, improved health services, better nutrition, high-quality education, and modern information technology, poor people will become more productive. They will earn more, send more, and save more- to the benefit of everyone, rich and poor alike (Ibid, 2013).

c) *Grameen Youth Entrepreneur Loan*

Grameen Bank has introduced entrepreneurial loan for those who have got higher education loan, and who are enterprising, industrious, enthusiastic and hardworking. It was introduced in Grameen Bank in 2008. This is an opportunity created for the children of GB families who want to be self-employed for income earning. This is to encourage them to deviate from the

conventional way of seeking job after completion of higher education but going for creating job for themselves as well as for others. Those who chose this path and took loans from Grameen Bank for business were called Nobin Udyokta (NU) or New Entrepreneurs.

d) *Nobin Udyokta (New Entrepreneur)*

For educated second generation of GB borrowers and for other young people, GB sister organizations have started campaigning to redirect their mind from traditional path to hunting for jobs to creating jobs for themselves and others (Yunus, 2013) through entrepreneurship. GB called those who chose that path and took loans from Grameen Bank or Grameen sister organizations as Nobin Udyokta (NU) or "New Entrepreneurs". It is targeted to the youth in Bangladesh who wants to use their creative power to become entrepreneur not only to generate their own employment but also to create employment opportunities for others. The social business idea started getting root in Bangladesh.

By Mid October 2014, 380 NU projects have already been approved by the participating grameen sister organizations for equity investment of TK. 8, 45, 57000 (US\$1, 09 million). Among the NUs about 7% are female and 93% are male entrepreneurs. Their age varies from 18-35 years with most of them coming from 20-30 years of age (Grameen Dialogue 93, pp. 6). The NUs are engaged in different kinds of business activities including telecom, IT, repairing, manufacturing engineering, handicrafts, Livestock, Live Stock feed production, drug store, fish and agro-farming, trading, nursery, whole sale and retail business. Their (NUs) business insight, continuous thinking, information gathering, networking, skill development, keeping commitments and risk taking attitude are all important for them to become successful entrepreneurs. There are funds also available for social business from Yunus Social Business Fund (YSBF) in Haiti, Colombia, Albania, Tunisia, Uganda, India, Mexico, Brazil and Grameen Credit Agrocole Social Business Fund in France (Grameen Dialogue, 93).

e) *Grameen Social Business Design Lab*

Grameen Social Business Design Lab Workshop is a daylong program organized by the Yunus Centre for the people who are interested in social business since 2013. This design lab is structured in a way to train, brainstorm, and involve its participants in social business as well as develop new ideas. People from different backgrounds join in this workshop program to learn about social business and brainstorm on potential social business ideas. Prospective participants of the Design Lab are business persons, social business practitioners, potential investors/entrepreneurs/donor communities, academics, innovators, social workers, NGO personnel, philanthropist, young entrepreneurs and others

(Grameen Dialogue, 89, pp. 7). Project proposals including the business plan are presented in Labs for approval. Grameen Social Business Design Lab has developed well designed forms and formats for preparing and presenting project proposals and guidelines on how to do it for NUs.

Muhammad Yunus mobilizes Grameen sister organizations to be involved in implementing Nobin Udyoktas Loans. Grameen Social Business Design Lab is a platform for Nabin Udyokta and Grameen sister organizations to bring the entrepreneurs to present their social business designs in front of a group of experienced business executives and social activists, to seek their advice. This platform encourages people to two things, it encourages people to come up with social business ideas and develop this platform as a sounding board for getting the concept of social business more business-ready through its application in concrete situation. Yunus Centre organized the first Design Lab in January, 2013. Now Grameen Design Lab conduct workshop in every month. Nobin Udyoktas present their business plans at the Grameen Design Lab Workshop with the help of Grameen sister organizations, social business angel investors. Nobin Udyoktas receive loans from Grameen sister organizations after approval the loan in the Grameen Design Lab workshop house.

Now implementation structure of Grameen social business lab has built, the speed of expansion spread quickly across Bangladesh. For example, by the end of March, 2015, 780 NUs presented their business plans in the design labs and 512 loans were disbursed. Many internees from across the world, social business academicians, researchers, executives, philanthropies are attending the Design lab workshops. The author attended many Grameen Design Lab workshops in 2014-2015 and has learned about the practical process of the preparing Nabin Udyoktas loan proposals, business plans, review of the business plans, and approval of the business plans and loan disbursements. In the business plan, NUs need to address the following social objective questions:

- What is my social objective e: Whom do I expect to help with my social business?
- What social benefits do I intend to provide?
- How will the intended beneficiaries of my business participate in planning and shaping the business?
- How will the impact of my social business be measured?
- What social goals do hope to achieve in my six months? In my first year? In my first three years?
- If my social business is successful, how can it be replicated or expanded?
- Are there additional social benefits that can be added to the package of offerings I will create?

f) *From Grammen Micro-credit to Grameen Equity*

Grameen sister organization investors provided equity investments with the Nabin Udyokta individually.

Nabin Udokta receives percentage of business investments equity from Grameen with 20 percent business transfer fee through the years of the agreed agreement. Grameen investors monitor the business and collect the investments equity instalment. Grameen Investors does not take any profit from their investments, except for getting their investments money back. The NU is responsible for paying back whatever money they

received as equity within an agreed period. Grameen offers this exciting opportunity for any entrepreneur in Banglaedsh. The entrepreneur may have some or no shares in his business. He can be the managing partner or a paid manager of the business he owned (Yunus 2013).

Grameen Social Business concept uses some terminologies that are different from Grameen classical loan program.

GB uses Terms	GB Social Business uses Terms
Loans, borrowers,	Investment, /business innovator/entrepreneur/job provider, Owner of the business/manager of the business
Loan, loan Interest	Equity, Investment fee, transfer ownership fee,
Loan provider	Investor, equity provider (100%, or 40%-60% equity provider/sharer
Borrowers no age limit	Age limit > 14 - 35 age,
GB loan size <\$500-\$1000	Entrepreneur needs any amount of % of money as share for the business
Fully repaid the loan	Transfer ownership of the business
20% interest fee per year with diminishing method	20% fixed investment fee for the whole period of investment
Target groups are poor women and it is group based operating system	GB second generation and educated unemployed young entrepreneurs and individual investment
Self-employment	Slogan is 'Not job seekers, Job providers'

Grameen investors shall be monitoring the performance of the managers/managing partners, but Grameen investors shall not get involved in the actual running of the business. As the business makes profit, the Grameen investors receive their dividend. When Grammen investors have received enough dividends to equal to the amount of equity Grammen investors have invested, Grameen investors stop taking further dividend. It is time for investors to move to on to the next investment with the money they got back. But grameen investors' objectives shall not be achieved until Grameen establishes the entrepreneurs as the owner, because their intentions were to transform a job-seeker into a job-giver (Yunus, 2013).

Grameen social business items in Bangladesh are setup dental clinic, nursing center, community information center, compost/worm production, door mate produce from garment wastage, fruits plant nursery, setup KG school and community school, community adult learning center, irrigation project, fish culture, poultry and dairy farming, mini garments industries, fashion design and tailoring, bee keeping culture, installing solar home system, biogas plant, buying rice husking machine, IT center, computer training center, manufacturing paper products from recycling papers, pottery business, hide and leather business, old clothing business, winter clothing business, electronics business, repairing shoes, electronic products TV, Cell Phone, Radio, Computer, iPod, repairing auto mobile engines, house repairing, manufacturing bamboo products, toys, makings mosquito nets, oil processing plant, cottage industries, handmade bags, manufacturing pads, carom board,

poultry feed, Ayabade medicine, milk processing plant, cult making, rings making, restaurant, etc.

According to social business guidelines, investor can sell his shares at the market value, but he has to reinvest the additional money he receives beyond the face value, into another social business, or in the same social business. Investor can not enjoy additional value created by his investment (Yunus, 2013). In the NU programme, Grameen made an easy rule. In selling the shares of a NU business, the investor will take an amount equivalent to the original fixed sum of 20% over it. Grameen call the additional amount "share transfer fee". This fixed amount of 20% is only a small fee for covering all these services over a period of several years.

By September, 2013, Yunus Center developed basic methodology, reporting formats, identification and assessment procedures, etc. Grameen sister organizations brought the NU projects to the Design Lab for getting critical assessment from a group of experienced professionals. Now more Grameen companies (Grameen Telecom Trust, Grameen Bybosha Bikash, Grameen Shakti) have in initiated their own NU programs. Common facilities, like computerized MIS, and accounting software, common training facilities, are being developed. Grameen Communications Innovations are added by each Grameen company to make the programme more effective. A rigorous implementation structure is emerging by Grameen sister implementing organizations to make sure NUs get thorough orientation, training in business management, accounting, reporting and have access to support services.

g) *Grameen Screening Process of Selecting NUs in Bangladesh*

Grameen sister organizations have village staff to work with the Nabin Udyoktas (new entrepreneurs), is responsible for identification, screenings of the potential entrepreneurs to help them develop their business plans, and prepare the NUs to make presentation of their plans to the participants of the Gramen Design Lab workshops. The whole process starts with the home visit of the potential entrepreneur and getting to know him and his family in all details, capture his dreams and fears, and try to build confidence in him (Grameen Dialogue 91-92).

Social Entrepreneurship formal discussion in small groups of 4 or 5 takes place to let them get to know each other. Once a sizable number (say 30-50) of young men or women have been contacted the village staff will organize an orientation and identification camp in a village (Yunus, 2014). Experienced camp leaders will attend the camp to carry out the identification and confidence building process. Participants learn the rules and procedures of NU programme, ask questions to get a clear picture of the programme. They assess each other's business plans, strength of their business will. At the end of an intensive get-to know-your-entrepreneur exercise, camp leaders make a short list of the participants who have impressed them as entrepreneurs likely (Grameen Dialogue 90).

Entrepreneurs selected are invited to Dhaka where they'll give final shape to their business plans and give them a professional appearance with the help of trained staff of the investors. Project summaries are prepared in English for a five minute presentations at the Design Lab where the entrepreneur has to defend his project. Participants give some good advice and flag some issues to help better implementation (Yunus, 2013). In rare cases an entrepreneur is asked to modify his plan to make further improvement and present it to the next Lab. Once the project is approved, handholding process for implementation begins. Investor and the entrepreneur now go through a process of bonding together for a successful journey ahead. All regulatory issues are threshed out, necessary documentation is completed. Once monitoring and accounting training are completed, disbursement day (D-day) funds are released and business starts running Grameen Dialogue 93. Grameen Communication, a Grameen software company, has developed an accounting and monitoring software to collect MIS and accounting information from every NU business on a daily, weekly and monthly basis. Daily figures are sent via text messages. All information accumulates at the central server, which produces reports for each investor on daily, weekly, monthly or for any other period as the investor would like to have.

VII. URGENTLY NEED LEGAL STRUCTURES OF SOCIAL BUSINESS

Legal and regulatory systems do not currently provide a place for social business. Profit-maximizing companies and traditional non-profit organizations (foundations, charities, and NGOs) are recognized institutions covered by specific rules regarding organizational structure, governance and decision making principles, tax treatment, information disclosure and transparency, and so on. But social business is not yet a recognized business category. This needs to change. The sooner there is a defined legal and regulatory structure for social business-preferably one with consistent rules in countries around the world-the easier it will be for entrepreneurs and corporations to create a multitude of social businesses to tackle the human problems that are plaguing society (Yunus 2014). Muhammad Yunus thinks (2013) the best option today is to organize one's social business under the traditional structure of a for-profit business. The for-profit legal framework/structure is used for all of Grameen's social business. The legal system gives the for-profit company great freedom and flexibility to experiment with its business model. Thus, a social business organized as a for-profit company must be just as financially efficient as any other for-profit company, since it doesn't benefit from any tax breaks (Yunus, 2014).

In the future, governments can and should create a separate law for social business, defining it adequately for regulatory purposes, and indicating the responsibilities and obligations of the stakeholders. The law should lay down the rules and procedures a social business must follow in order to switch to a profit-maximizing company. At the same time, Lawyers should amend the existing company law to include the rules and procedures under which a profit-maximizing company can switch to a social business company. Under US law, foundations can invest in for-profit companies only if the investment qualifies as a 'program-related investment' (PRI). Unfortunately, the rules defining PRIs are complicated, and violating them can lead to serious tax problems for the foundation. As a result, many foundations shy away from such investments(Grameen Dialogue 93).

According to M. Yunus (2014) there are serious limitations to using the non-profit structure for social business. Perhaps the most significant is the strict legal and regulatory scrutiny that non-profits often experience. Robert A. Wexler (2009 in Yunus 2013), an American attorney in his article 'Effective Social-Enterprise-A menu of Legal Structures' comments about the difficulty of winning tax-exempt, non-profit status for such organizations in the United States. However, Yunus definition of social business, there's no good fit with the non-profit structure. The most important reason for not using the non-profit legal structure for creating a social

business is that a non-profit is not owned by anyone; it can't issue shares. A social business has one or more owners, can issue shares, and can buy and sell shares, just like any for-profit company.

For all these reasons, the concept of social business that Yunus has in mind does not match into a non-for-profit legal format at all. The non-profit linked to a for-profit company. It's not unusual for non-profit organizations to create for-profit subsidiaries that sell goods and services, and thereby produce income that goes to support the works of the non-profit organization. A charity hospital that owns and operates a shopping mall might be an example of this kind of relationship (Yunus, 2013).

However, M. Yunus urges it's important to create social business funds to provide credit and equity to social business.

Yunus (2013) alerts people that social business might be misused and perverted. A few powerful people will look for ways to distort the concept and twist it for their own benefit—just as some misguided people have applied the term 'microcredit' to describe companies that are really just loan sharks in disguise. Well-intentioned people need to be guard against those who would abuse the good name of social business.

Rouf, K. A. (2012) and Yunus, M. (2013) suggest that social business could be set up in such a way as to encourage social entrepreneurship. The social business investors could create a center in which entrepreneurs are brought together with other people who have the knowledge, skills, experience, or technology needed to start successful social business. Investors could set up an investment fund, a training program, or a marketing agency. The agency (investing organization) could create a mentorship program for aspiring entrepreneurs or sponsor contest to select and promote the best new business concepts (Grameen Dialogue 91-92). Canada could open-up and encourage dialogue and collaboration among social economy organizations, but they have to adopt flexible governance (Amin & Hausner, 1997). However, all over the world, governments need new mechanisms to seed and grow social innovations (Mendell & Neamtan, 2010).

REFERENCES RÉFÉRENCES REFERENCIAS

- Amin, A., & Hausner, J. 1997). Beyond market and hierarchy: Interactive governance and social complexity. Cheltenham: Edward Elgar.
- Austin, J., Stevenson, H., & Wei-Skillern, J. (2006). Social and commercial entrepreneurship: Same, different, or both? *Entrepreneurship Theory and Practice*, 30(1), pp. 1-22.
- Belal, A. R. (2008). *Corporate Social Responsibility Reporting in Developing Countries-A case of Bangladesh*. England: Ashgate Publishing limited.
- Bornstein, D. (2004). How to change the world: Social entrepreneurs and the power of new ideas. Oxford, UK: Oxford University Press.
- Bornstein, David and Davis, Susan (2010). *Social Entrepreneurship: What everyone needs to know*: New York, Oxford University Press.
- Boschee, J. (1995) *Social Entrepreneurship*. *Across the Board*, 32(3), pp. 20-23.
- Bouchard, M.J., Ferraton, C., and Michaud, V. (2006). *Database on Social Economy Organizations: The Qualification Criteria*. Chaire de recherche du Canada en économie sociale, collection recherche no R-2006-3, Université of Montréal.
- Chantier (Leo de l'économie sociale (2005). *Social economy and community economic development in Canada: Next steps for public policy*. Montreal: Author.
- Cooperative Secretariat (2007). *Cooperatives in Canada (2004)*.
- Capriccioso et al. (2010). Who is the L3C Entrepreneur? The Pioneers of Social Enterprise's Revolutionary New Suffix, interSector Partners, L3C, May 2010
- Cnaan, Ram, Femida Handy & Margaret Wadsworth (1996). Defining who is a volunteer: Conceptual and empirical considerations. *Nonprofit and Voluntary Sector Quarter* 25 (3), 364-383.
- Cone, C. L., Feldman, M. A. and DaSilva, A. T. (2003b) Causes and Effects. *Harvard Business Review*, 81(7), pp. 95-103.
- CSRWire USA (2010). Maryland First State in Union to Pass Benefit Corporation Legislation. CSRWire USA.
- D'Amours, M. (2007). L' économie sociale au Québec: Cadre théorique, histoire, réalités et défis. Anjou: Editions Saint Martin.
- Dart, R. (2004). Being Business-Like in a Nonprofit Organization: A Grounded and Inductive Typology. *Nonprofit and Voluntary Sector Quarterly* 33 (2), 290-310.
- Davis, T. (1997). *The NGO Business Hybrid: Is the Private Sector the Answer?* Baltimore, MD: Johns Hopkins University.
- Dees, J. G. (2001). *The meaning of social entrepreneurship revisited*. Working Paper.
- Stanford: Stanford University Graduate School of Business. [Online]. Available at:
- http://www.fuqua.duke.edu/centers/case/document/s/dees_SE.pdf
- Dees, J. G. (2003). *Social entrepreneurship is about innovation and impact, not income*. Skoll Foundation. [Online]. Available at: <http://www.fuqua.duke.edu/centers/case/articles/1004/corner.htm>
- Dees, J. G. (1998). The Meaning of "Social Entrepreneurship". Stanford University: Draft Report

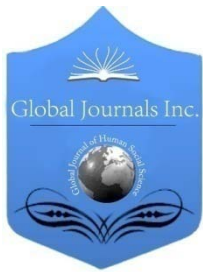
- for the Kauffman Center for Entrepreneurial Leadership.
22. Dees, J. G., Emerson, J. and Economy, P., Eds. (2002). *Strategic Tools for Social Entrepreneurs: Enhancing the Performance of Your Enterprising Non-profit*. New York: John Wiley & Sons, Inc.
 23. Elson Peter, Andres Gouldsbrough & Robert Jones (2009). *Building Capital, Building Community: A Comparative Analysis of Access to Capital for Social Enterprises and Nonprofits in Ontario and Quebec*. Toronto: Social Economy Centre.
 24. Favreau, L. (2006). Social Economy and Public Policy: The Quebec Experience. *Horizons* 8(2): 7-15.
 25. Fowler, A. (2000) NGOs as a moment in history: beyond aid to social entrepreneurship or civic innovation? *Third World Quarterly*, 21(4), pp. 37-654.
 26. Gartner, W. B. (1988). Who is an entrepreneur? is the wrong question. *American Journal of Small Business*, 12(4), pp. 11-32.
 27. Grameen Communications (1998, 1 January 2004). Grameen: Banking for the Poor. Retrieved 19 January, 2004, from <http://www.grameen-info.org/>
 28. Grameen Dialogue (2014). Grameen Dialogue -93. Dhaka: Grameen Trust. October 2014.
 29. Grameen Dialogue (2014). Grameen Dialogue -91-92. Dhaka: Grameen Trust. July 2014.
 30. Grameen Dialogue (2014). Grameen Dialogue -90. Dhaka: Grameen Trust. January 2014.
 31. Grameen Dialogue (2013). Grameen Dialogue -89. Dhaka: Grameen Trust. October 2013.
 32. Halseth, G., and Ryser, L. (2006). *Innovative Services and Voluntary Organizations*. Prince George: University of Northern British Columbia.
 33. Hall, John. (1998). Genealogies of Civility. In Hefner (Ed.), *Democratic civility* (pp. 53-78). New Brunswick, NJ: Transaction.
 34. Hall, Michael et al. (2005). The Canadian Nonprofit Sector and Voluntary Sector in Comparative Perspective.
 35. Herbst, K. (2003). Business-social ventures: Reaching for major impact. *Ashoka Journal*.
 36. Hebb, T., Wortsman, A., Mendell, M., Neamtam, N., and Rouzier, R. (2006). *Financing Social Economy Enterprises*. Ottawa: Carleton University.
 37. Hines, Ruth (1988). Financial accounting: In communicating reality, we construct reality. *Accounting, Organizations and Society* 13 (3), 251-261.
 38. Human Resource and Skills Development Canada (HRSDC). (2005). *What is the social economy?*
 39. Ilana DeBare (2008). 'B Corporation' Plan Helps Philanthropic Firms. *San Francisco Chronicle*.
 40. Johnson, S. (2000). Literature Review on Social Entrepreneurship: Canadian Centre for Social Entrepreneurship, p. 16.
 41. Karl Ostrom (2014) Go Green. Network for Business Innovation and Stainability (NBIS). Paper presented at the 2014 Go Green Seattle Conference, Seattle, USA.
 42. Lane, Marc (2014b). "Social Enterprises: A New Business Form Driving Social Change". *The Young Lawyer*. Retrieved 18 November 2014.
 43. Lane, Marc (2014a). "Emerging Legal Forms Allow Social Entrepreneurs to Blend Mission And Profits". *Triple Pundit*.
 44. Lane, Marc (2012). "Representing Corporate Officers and Directors". Aspen Publishers: Wolters Kluwer Law & Business.
 45. Lang, Marc (2011). Phone conversations with Robert Lang, January-August 2011
 46. Lasby, D.M., Halli, M.H., & Ventry, R.M et al. (2010). A Portrait of the Ontario Social Economy. In (eds.) *Researching the Social Economy*. Toronto: University of Toronto Press Incorporated.
 47. Leadbetter, C. (1997). *The Rise of the Social Entrepreneur*. London: Demos.
 48. MacLeod, G. (1997). *From Mondragon to America : Experiments in community economic* Pateman, C. (1970). *Participation and democratic theory*. Cambridge [Eng.]: University Press. *Development*. Sydney, N.S.: University College of Cape Breton Press.
 49. McFarlan, F. Warren (1999). Working on Nonprofit Boards: Don't Assume the Shoe Fits, *Harvard Business Review* 77.6, November-December, 2-11.
 50. Mook, Laurie & Jennifer Sumner (2010). Social accounting for sustainability in the social economy. In J.J. McMurtry (Ed.), *Living Economics*. Toronto: Edmond Montgomery.
 51. Mook, Quarter and Ryan (2010). What's in a Name in (eds.) Laurie Mook, Jack Quarter and Sherida Ryan (2010). *Researching the Social Economy*. Toronto: University of Toronto Press Incorporated.
 52. McMartin, A. (2007). *Cooperatives in Canada (2004 data)*. Ottawa: Co-operatives Secretary.
 53. Mendall, M. & Neamtan, N. (2010). The Social economy in Quebec: Towards a New Political Economy Quebec.
 54. Mintzberg, H. (1991) The Effective Organisation: Forces and Forms. *Sloan Management Journal*, 32 (2), pp. 54-67.
 55. Mort, G. S., Weerawardena, J. and Carnegie, K. (2003). Social entrepreneurship: Towards conceptualisation. *International Journal of Non-profit and Voluntary Sector Marketing*, 8(1), pp. 76-89.
 56. Nelson, G., Janzen, R., Trainor, J., & Ochocka, J. (2008). Putting Values into Practice: Public Policy and the Future of Mental Health Consumer-run Organizations. *American Journal of Community Psychology* 42, 192-201.
 57. Network for Business Innovations and Sustainability (NBIS, 2012). B Corporations, Benefit Corporations and Social Purpose Corporations: Launching a New

- Era of Impact-Driven Companies. A white paper presented by NBIS. (www.NBIS.org)
58. Newman's Own (2005). The Common Good. Retrieved 4 June 2005, from http://www.newman.sown.com/5_good.html
 59. Owen, D. L., Swift, T. A., Humphrey, C. and Bowerman, M. (2000). The new social audits: accountability, managerial capture or the agenda of social champions? *European Accounting Review*, 9 (1): 81-90.
 60. Peredo, A.M., and MacLean, M. (2006). Social Entrepreneurship: A Critical Review of the Concept. *Journal of World Business* 41: 56–65.
 61. Peredo, A. M. & McLean, M. (2006). Social entrepreneurship: A critical review of the concept. *Journal of World Business* 41 (pp. 56–65) retrieved from www.socscinet.com/bam/jwb Dated January 09, 2011.
 62. Peredo, A. and McLean M. (2005). Social entrepreneurship: A critical review of the Americans for Community Development (2011) "What is the L3C?" available at <http://www.americansforcommunitydevelopment.org/downloads/What%20is%20the%20L3C%20080711-1.pdf>
 63. Peredo, A.M., and Chrisman, J. (2006). Toward a Theory of Community-Based Enterprise. *Academy of Management Review*, 31 (2), 309-28.
 64. Pomerantz, M. (2003). The business of social entrepreneurship in a "down economy". In *Business*, 25(3), pp. 25-30.
 65. Polany, K. (1957). The economy as instituted process. In K. Polany, C. Arensberg, and H. Pearson (Eds.), *Trade and Market in the Early Empires*, 243-70. New York: Free Press.
 66. Prashad, S. (2007). Good green goals. *Toronto Star* A12
 67. Putnam, R. (1996). *The Decline of Civil Society: How Come? So What?* Ottawa: John L. Manion Lecture.
 68. Quarter, J. (2000). *Beyond the Bottom Line: Socially Innovative Business Owners*. Westport: Greenwood/Quorum, pp. 1-13; 15-31.
 69. Jack, Q. Mook, L. & Armastrong, A. (2009). *Understanding the Social Economy-A Canadian Perspective*. Toronto: University of Toronto Press.
 70. Quarter, J., Mook, L., & Hann, J. (2011), forthcoming). *Non-financial Co-operatives in Canada: 1955 to 2005*. In L. Mook, J. Quarter, & S. Ryan (Eds.), *Businesses with a difference: Balancing the social and economic*. Under review. Pp. 1-15
 71. Reis, T. (1999). *Unleashing the New Resources and Entrepreneurship for the Common Good: a Scan, Synthesis and Scenario for Action*. Battle Creek, MI: W. K. Kellogg Foundation, p.27.
 72. Rothschild, J. & Russell, R. (1986). Alternatives to bureaucracy: Democratic participation in the economy. *12*, 307-328.
 73. Rouf, K. A. (2013). Incorporation Act Issues for Revenue Generating Green Social Enterprises and NGOs Transforming into Green Social Enterprise Microfinance Institutions (MFIs) in Ontario, Canada. *Journal of Business Administration and Education, Infinity Press*. Vol. 2(1), pp. 1-20.
 74. Salamon, L. (1999). *Partners in Public Service: Government –Nonprofit Relations in the Modern Welfare State*. Baltimore: John Hopkins University Press.
 75. Salamon, L., and Anheier, H. K. (1997). *Defining the Nonprofit Sector: A Cross National Analysis*. Manchester: Manchester University Press.
 76. Schugurrensky, D. & McCollum, E. (2010). Notes in the Margins: The Social Economy in Economics and Business Textbooks. in (eds) Laurie Mook, Jack Quarter and Sherida Ryan (2010). *Researching the Social Economy*. Toronto: University of Toronto Press Incorporated.
 77. Shrage, E., & Fontan, J. M. (2000). Introduction. In E. Shrage & J. M. Fontan (Eds.). *Social Economy: International Debates and perspectives (pp 1-21)*. Montreal: Black Rose.
 78. Scott, K. (2003). *Funding Matters: The Impact of Canada's New Funding Regime on Nonprofit and Voluntary Organizations*. Ottawa: Canadian Council on Social Development.
 79. Spear, R. (2006). Social Entrepreneurship: A Different Model? *International Journal of Social Economics* 33 (5/6), 399-410.
 80. Social Enterprise Council of Canada (2015). Definition of social enterprise. Retrieved from <http://www.socialenterprise.ca/learn/nav/whatisasocialenterprise.html#sthash.UlBeqi01.dpuf> dated April 12, 2015.
 81. Social Enterprise Typology (2015). Virtue Ventures. Retrieved from – www.virtueventures.com dated April 15, 2015.
 82. Stephens, A. (2003). Ice Cream with a Mission. *New Statesman*. 132:17-18.
 83. Stevenson, H. H. and Jarillo, C. J. (1990) A Paradigm of Entrepreneurship: Entrepreneurial Management. *Strategic Management Journal*, 11 (Special Summer Issue), pp.17-28.
 84. Stevenson, H. H., Roberts, M. J. and Grousbeck, H. I. (1989). *New business ventures and the entrepreneur*. Homewood, IL: Irwin.
 85. Stevenson, H. H., Roberts, M. J. and Grousbeck, H. I. (1989). *New business ventures and the entrepreneur*. Homewood, IL: Irwin.
 86. Stewart, A. (1989). *Team entrepreneurship*. Newbury Park: Sage Publications.
 87. Students for Informed Career Decisions. (2000, 21 July 2000). Ben and Jerry's. Retrieved 3 February, 2004, from http://www.stanford.edu/group/SICD/BenJerry/be_njerry.htm

88. Taylor, N., Hobbs, R., Nilsson, F., et. al. (2000). The Rise of the Term Social Entrepreneurship in Print Publications. *Frontiers of Entrepreneurship Research*.
89. The Northland Institute. (2001). What is "Social Enterprise". Retrieved 19 January, 2004, from <http://northlandinst.org/SocialEnt.cfm>
90. The Social Enterprise Program News. (2003). Mission Branding: Hirschberg on Using Business to Change the World. Retrieved 3 March, 2004, from http://www1.gsb.columbia.edu/socialenterprise/news/031112_hirshberg.html
91. Wexler, Robert, A. (2009). Effective Social Enterprise-A menu of Legal Structures,' *Exempt Organization Tax Review* 63(6), pp. 565-576.
92. Witkin (2009). *The L3C: A More Creative Capitalism*.
93. Yunus. M. (2013). *Building Social Business*. Dhaka: The University Press Limited.
94. Yunus, Muhammad (2003). Commonwealth Lecture. http://www.grameen-info.org/index.php?option=com_content&task=view&id=220&Itemid=172
95. Yunus, Muhammad. (n.d.) Social Business Entrepreneurs are the Solution. http://www.grameen-info.org/index.php?option=com_content&task=view&id=217&Itemid=172&limit=1&limitstart=0



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Superiority of Islamic Banking in Comparison with Conventional Banking in Bangladesh - a Comparative Study

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Abstract- This paper investigates the financial performance of interest-based conventional commercial banks and interestfree Islamic banks in Bangladesh using descriptive statistics, ttest and test of hypotheses. Data has been processed through 'Statistical Package for Social Science' (SPSS) software. The data consist of accounting figures of 4 interests based conventional commercial banks and 4 interest free Islamic banks from 2009 to 2013. The study revealed mixed results. The study found that conventional commercial banks are superior in terms of performance regarding in commitment to economy and community development, productivity and efficiency where performance of Islamic banks in terms of business development, profitability, liquidity and solvency is superior to that of conventional banks.

Keywords: performance, superiority, conventional banks, Islamic banks.

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Superiority of Islamic Banking in Comparison with Conventional Banking in Bangladesh - a Comparative Study

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Abstract- This paper investigates the financial performance of interest-based conventional commercial banks and interest-free Islamic banks in Bangladesh using descriptive statistics, t-test and test of hypotheses. Data has been processed through 'Statistical Package for Social Science' (SPSS) software. The data consist of accounting figures of 4 interests based conventional commercial banks and 4 interest free Islamic banks from 2009 to 2013. The study revealed mixed results. The study found that conventional commercial banks are superior in terms of performance regarding in commitment to economy and community development, productivity and efficiency where performance of Islamic banks in terms of business development, profitability, liquidity and solvency is superior to that of conventional banks.

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I. INTRODUCTION

Improving the efficiency of the banking sector has been considered an important issue in Bangladesh. In 1986, the government formed the national commission on money banking and credit to find solutions for efficient operation and management of the banking system. In addition, in 1991 a task force was formed to formulate strategies to promote the development the banking and financial sector. In the same period the World Bank has assisted conducting several studies on banking sector reforms in Bangladesh (Shameem, 1995). Based on the expertise during the 1986-1991 periods and suggestions from World's bank studies, the central bank of Bangladesh (CBB) has adopted further reforms such as strengthening the role of the Central Bank in supervision and regulation. The banking sector in Bangladesh comprises four types of Banks, including nationalized commercial banks (NCBs), government-owned specialized banks (DFIs), private commercial banks (PCBs), and foreign commercial banks (FCBs). The Bangladesh banking sector is dominated by NCBs in terms of asset value. However, since 2013 market share of NCBs on the asset sides declined substantially while that of PCBs increased remarkably.

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a) Islamic Banking

Islamic banking is essentially a normative concept and could be defined as conduct of banking in consonance with the ethos of values system of Islam (Ali & Sarker, 1995). This is a banking system whose operation is based on Islamic principles of transactions of which profit and loss (PLS) is a major feature, ensuring justice and equity in the economy. Two basic principles behind Islamic banking are the sharing of profit and loss and the prohibition of the collection and payment of interest. Collecting interest is not permitted under Islamic law. Islamic banking system uses methods of profit/loss sharing to facilitate financial transactions.

b) Conventional Banking

Conventional banking is essentially based on the debtor-creditor relationship between the depositors and the bank in one hand, and between the borrowers and the bank on the other. Interest is considered to be the price of credit, reflecting the opportunity cost of money. Conventional banks allow for a variety of deposit accounts, such as checking, savings, and time deposit. These institutions are run to make a profit and owned by a group of individuals.

A conventional bank is a financial intermediary which collects credit from lenders in the form of deposits and lends in the form of loans. A conventional bank holds deposits for individuals and businesses in the form of checking and savings accounts and certificates of deposit of varying maturities while a conventional bank issues loans in the form of personal and business loans as well as mortgages.

II. OBJECTIVE OF THE STUDY

The specific objective of the study is to enlighten on financial performance of interest-based conventional banks and interest-free Islamic banks through business development ratios, profitability ratios, liquidity and solvency ratios, commitment to economy and community, productivity and efficiency ratios comparatively.

III. RATIONALE OF THE STUDY

Banks and financial institutions are contributing in the economic development of Bangladesh through exploring different lucrative economic segments in the form of investment and lending. Banks of our country play roles from conventional and Islamic perspective. Islamic Banks are operating based on Islamic Shariah that does not support interest based banking whereas conventional banks are in favor of interest and conventional rules & regulation. So, a comparative performance analysis of interest-based conventional banks and interest-free Islamic banks of Bangladesh is very rational. From that ground the extensive data based study has been undertaken to make out the comparisons.

IV. LITERATURE REVIEW

The volume of literature on Islamic banking profitability is rapidly expanding and a handsome research work has been done by Islamic researchers during last two decades. As Islamic banking is a new industry and as such sometimes researchers face problem of the scarcity of relevant data. In this section, we have intended to review some of the leading research studies on Islamic and conventional banking. Let us see what previous studies say about the profitability of Islamic banking.

Sudin Haron (1996) discussed the external determinants of the profitability of Islamic banks. He argued that conventional banking theory postulates that the biggest market try to earn more profit. This theory is not absolutely true for Islamic banks. Islamic banks perform well due to efficient use of capital in short-term financing. Similarly, Islamic banks in a competitive market are better managed than those in the monopolistic markets.

Bashir (2000) assessed the performance of Islamic banks in eight Middle Eastern countries. He analyzed important bank characteristics that affect the performance of Islamic banks by controlling economic and financial structure. To examine profitability, the paper used non interest margin (NIM), profit before tax (PBT), return on assets (ROA), and return on equity (ROE) as performance indicators.

Bashir and Hassan (2004) studied the determinants of Islamic banking profitability between 1994 and 2001 for 21 countries. Their study reported that those Islamic banks have a better capital asset ratio as compared to conventional commercial banks which means that Islamic banks are well capitalized. Net-non interest margin (NIM) is interest free income to the Islamic bank such as, bank fees, service charges and foreign exchange that identify the indicators of profitability. Other profitability indicators such as ratio of before tax

profit and total assets (BTP/TA), return on assets (ROA), and return on equity (ROE).

Munawar Iqbal (2001 & 2004) studied the growth of Islamic banking industry during 1990-98 by measuring annual growth rates of total equity, total deposits, total investment, total assets and total revenue. Then he used ratio analysis like capital assets ratio, liquidity ratio, cost/income ratio, profitability ratio, return on asset and return on equity ratio and concluded that both return on assets (ROA) and return on equity (ROE) for the Islamic banks are substantially higher than the conventional banks and the two ratios are respectively 2.3 and 22.6 percent for the Islamic banks as against 1.35 and 15 percent for conventional banks.

V. METHODOLOGY

Interest-based conventional and interest-free Islamic banks are accounting for the economic development of Bangladesh. For this study four conventional banks (South East bank, Prime bank, Jamuna bank & City bank) and four Islamic banks (Social Islami bank, Al-Arafah Islami bank, EXIM bank & Islami Bank Bangladesh Ltd.) have been selected. The period of study is 5 years from 2005 to 2009. These banks have been selected on the basis of their year of establishment and regular data availability to ensure comparability and comprehend the performance of both type of banks established with the same objective. This study also covers international journals and also some books written by renowned writer on banking system and management. Data has been processed through "Statistical Package for Social Science" software or SPSS version 11.5, Microsoft Excel and other version and analysis has been conducted on the basis of secondary data, descriptive statistics, T- test, and test of hypothesis.

VI. TOOLS OF ANALYZING FINANCIAL PERFORMANCE

a) Profitability Ratios

Profitability is the ultimate test of managements operating effectiveness and success of a company. Profitability can be judged by the following criteria. Return on asset (ROA), return on equity (ROE), profit expense ratio (PER), are the indicators of measuring managerial efficiency. ROA is net earning per unit of a given asset. It shows how a bank can convert its asset into net earnings. The higher ratio indicates higher ability and therefore is an indicator of better performance.

Similarly, ROE is net earnings per unit equity capital. The higher ratio is an indicator of higher managerial performance. A high PER indicates that a bank is cost efficient and makes higher profit with a given expense. However, profitability is only part of bank performance story.

b) *Liquidity and Solvency Ratios*

Liquidity ratios measure the short-term ability of the company to pay its maturing obligations and to meet unexpected needs for cash. A higher liquidity ratio for the sample bank would indicate a less risky and less profitable bank. Cash deposit ratio, advance deposit ratio, current asset ratio and equity multiplier are the indicators of liquidity and solvency position of banks.

c) *Business Development Ratios*

Business development ratios are the indicators of financial progress and development which is measured by different indicators such as total assets growth, deposits growth, advances growth and investment growth.

d) *Efficiency and Productivity Ratio*

Total operating expenses to deposit ratio is the measurement of efficiency and productivity of banks. It indicates economies of scale in banking operation.

e) *Commitment to Economy and Community*

Commitment to economy and community can be measured by long term loan ratio (LTL), and government bond investment (GBD) ratio. A high LTL indicates a bank commitment for supporting long term development project and higher GBD indicates commitment to the community through investment in government securities also measures high liquidity and less risk.

VII. STATISTICAL HYPOTHESIS

In order to assess and draw the comparison of the financial performance of interest-based conventional

banks and interest-free Islamic banks, the assumed null hypothesis is: **“The performance of interest-based conventional banks is superior to that of interest-free Islamic banks”**. The hypothesis has been rejected or accepted for each performance ratio separately between conventional and Islamic banks.

a) *Analysis & Discussion*

The financial performance ratios have been calculated from the annual financial statements of these banks. Ratios of the period 2009-2013 have been calculated for evaluation. The statistical method of t-test has been used at 0.05 % level of significance to identify the significant difference of indicators between interest-based conventional banks and interest-free Islamic banks.

b) *City Bank Ltd & Islami Bank Bangladesh Limited*

i. *Profitability*

In case of profitability, the null hypothesis has been rejected with respect to the ratios of return on total assets, profit expense ratio, growth of profit and earning per share but accepted only for return on equity (ROE). That means, performance of Islamic bank Bangladesh limited is superior to that of city bank limited. But ROE of City bank limited is superior to that of IBBL. ROE ratio is 2.546.

Table 1 : Statistical result of Profitability

	CITYBL		IBBL		Statistical test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
ROA	.0098	.00474	.0254	.03278	-1.009	Rejected
ROE	.4692	.27777	.1482	.02487	2.546	Accepted
Profit Expense Ratio	.3773	.20142	.5724	.08178	-2.449	Rejected
Profit Growth	.1141	.46438	.3119	.38589	-.610	Rejected
EPS	46.9240	27.792	317.1880	247.151	-2.614	Rejected

ii. *Liquidity and Solvency*

In case of liquidity and solvency ratios, the null hypothesis is rejected at 0.05 % level of significance because the statistical t-value is not within accepted region for cash deposit ratio, advance deposit ratio, and equity multiplier ratio. That means liquidity & solvency statement are in favor of IBBL to that of City bank ltd. The calculated value reported that IBBL takes less financial stress and has borrowed fewer funds to convert into asset with the share capital but higher govt. bond investment of CITYBL indicates high liquidity and less

risk to that of IBBL. Current ratio is 2.802 & Govt. bond investment ratio is 6.396.

Table 2 : Statistical result of Liquidity and Solvency

	CITYBL		IBBL		Statistical Test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
Total Assets Growth	.2204	.15141	.2265	.03253	-0.069	Rejected
Deposits Growth	.2012	.16211	.2295	.02106	-0.335	Rejected
Advances Growth	.2112	.23009	.2568	.05058	-0.361	Rejected
Investment Growth	.3245	.28837	1.0250	2.48399	-0.543	Rejected

iii. *Business development*

Based on the calculated value the null hypothesis is rejected at 0.05% level of significance as the statistical t-value is not within accepted region for all

of the ratios. It indicates the performance of IBBL is superior to that of City bank ltd. and making significant contribution in the economic development of Bangladesh.

Table 3 : Statistical result of Business development

	CITYBL		IBBL		Statistical Test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
Cash deposit ratio	.0741	.00781	.1565	.03118	-4.885	Rejected
Advanced deposit ratio	.7460	.04807	.8856	.03909	-5.460	Rejected
Current asset ratio	.9723	.00993	.0229	.00278	2.802	Accepted
Equity multiplier	46.1532	5.8226	46.2322	3.03245	-0.022	Rejected
Govt.bond investment	.3084	.18671	.0512	.03996	6.396	Accepted

iv. *Efficiency and Productivity*

In case of efficiency & productivity, Islamic bank ltd. is more efficient than City bank ltd. because total operating expenses to deposits ratio of IBBL is less than

City bank limited. It means, economies of scale are in favor of Islamic bank Bangladesh ltd to that of City bank ltd.

Table 4 : Statistical result of Efficiency and Productivity

	CITYBL		IBBL	
	2009-2013		2009-2013	
	Mean	SD	Mean	SD
Total operating expenses to deposits	.0318	.00431	.0191	.00147

v. *Commitment to Economy and Community*

Long-term loan ratio is calculated to measure superiority in economic commitment where the null hypothesis is accepted at 0.05% level of significance it means City bank ltd. is superior to that of IBBL. Long term loan ratio is 2.88.

Table 5 : Statistical result of Efficiency and Productivity Statistical output summary (EXIMBL vs. JAMUNABL)

	CITYBL		IBBL		Statistical test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
Long term Loan ratio	.4995	.17823	.1458	.02865	2.888	Accepted

c) Jamuna Bank Limited & EXIM Bank Limited

i. Profitability

From the statistical result of profitability it is clear that, the null hypothesis has been rejected with respect to the ratios of return on total assets, return on equity, profit expense ratio and earning per share but

accepted only for profit growth. That is performance of EXIM bank ltd. is superior and indicates higher ability and therefore is an indicator of better managerial performance to that of Jamuna Bank ltd. But profit growth of Jamuna bank ltd. is superior to that of EXIM bank ltd. Profit growth ratio is 0.649.

Table 6 : Statistical result of Profitability

	JAMUNABL		EXIMBL		Statistical test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
ROA	.0105	.00446	.0164	.00102	-2.470	Rejected
ROE	.3007	.15125	.4926	.11807	-3.613	Rejected
Profit Expense Ratio	.5905	.24441	1.0797	.11040	-4.964	Rejected
Profit Growth	1.0704	2.2491	.3088	.155530	0.649	Accepted
EPS	28.1940	27.313	50.3780	10.69	-1.776	Rejected

ii. Liquidity and Solvency

The null hypothesis is rejected at 0.05 % level of significance because the statistical t-value is not within accepted region for cash deposit ratio, advance deposit ratio, current asset ratio and equity multiplier ratio. That means, liquidity & solvency statement is in favor of EXIM Bank Ltd. to that of Jamuna bank ltd. The calculated

value reports that, EXIM bank ltd. takes less financial stress and has borrowed fewer funds to convert into asset with the share capital but higher investment of Jamuna bank ltd. in government bond indicates high liquidity and less risk. Government bond investment ratio is 20.310.

Table 7 : Statistical result of Liquidity and Solvency

	JAMUNABL		EXIMBL		Statistical test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
Cash deposit ratio	.0590	.01282	.0966	.02025	-8.366	Rejected
Advance deposit ratio	.7443	.05356	.9527	.03831	-5.492	Rejected
Current Asset Ratio	.9910	.00574	.9953	.00091	-1.568	Rejected
Equity Multiplier	28.3906	9.66	30.22	7.64	-1.672	Rejected
Govt. bond investment	.2820	.01949	.0564	.01426	20.310	Accepted

iii. Business Development

Based on the calculated value the null hypothesis is accepted at 0.05% level of significance as the statistical t-value is within accepted region for advances growth and investment growth that indicates performance of Jamuna bank ltd. is superior to that of EXIM bank ltd and making significant contribution in the economic development of Bangladesh. But null hypothesis is rejected for total assets growth and deposits growth that is performance of EXIM bank ltd is superior in capital formation and asset development.

Advances growth ratio is 0.565 & investment growth ratio is 1.616.

Table 8 : Statistical result of Business development

	JAMUNABL		EXIMBL		Statistical Test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
Total Assets Growth	.1831	.11597	.2963	.07329	-1.238	Rejected
Deposits Growth	.2799	.09822	.3234	.13685	-1.785	Rejected
Advances Growth	.3411	.20625	.2916	.05780	0.565	Accepted
Investment Growth	.4839	.25883	.1760	.13681	1.616	Accepted

iv. Commitment to Economy and Community

In measuring superiority in community development and economic commitment calculated output states that the null hypothesis is accepted at 0.05% level of significance as the statistical t-value is

within accepted region. It means, Jamuna bank Ltd. is superior to that of EXIM bank Ltd. Jamuna bank Ltd. contributes significantly in the long-term development of different economic segments. Long term loan ratio is 2.763.

Table 9 : Statistical result of Commitment to Economy and Community

	JAMUNABL		EXIMBL		Statistical test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
Long term Loan ratio	.2459	.09169	.1476	.06486	2.763	Accepted

v. Efficiency and Productivity

In case of efficiency & productivity, Jamuna bank Ltd. is more efficient than EXIM bank Ltd. because

the null hypothesis is accepted. It means, economies of scale is in favor of Jamuna bank Ltd to that of EXIM bank Ltd. Total operating expenses to deposits ratio is 2.637.

Table 10 : Statistical result of Commitment to Economy and Community Statistical output summary (ALARAFBL vs. PRIMEBL)

	JAMUNABL		EXIMBL		Statistical test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
Total operating expenses to deposits	.0227	.00356	.0186	0.00242	2.637	Accepted

d) Prime Bank Limited & Al-Arafah Islami Bank Limited

i. Profitability

For profitability, the null hypothesis has been rejected with respect to the ratios of return on total assets, growth of profit and earning per share but accepted for return on equity and profit expense ratio. That means performance of Prime bank Ltd and Al-

Arafah Islamic bank Ltd. is mixed. Prime bank Ltd is superior in the case of cost management and maximizing shareholders' wealth where as Al-Arafah Islamic bank Ltd shows better performance in asset return and return to the shareholder through higher growth in profit. ROE ratio is 1.583 & Profit expense ratio is 2.123.

Table 11 : Statistical result of Profitability

	PRIMEBL		ALARAFBL		Statistical test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
ROA	.0181	.00369	.0183	0.0482	-0.082	Rejected
ROE	.2715	.05179	.2146	.04956	1.583	Accepted
Profit Expense Ratio	2.0115	1.7554	.2942	.09468	2.123	Accepted
Profit Growth	.2478	.45099	.5374	.54031	-0.768	Rejected
EPS	53.4600	10.309	256.0240	222.582	-2.038	Rejected

ii. *Liquidity and Solvency*

In case of liquidity and solvency ratios the null hypothesis is rejected at 0.05 level of significance because the statistical t-value is not within accepted region for cash deposit ratio, advance deposit ratio but accepted for current asset ratio and equity multiplier ratio. The calculated value reports that prime bank ltd

takes less financial stress and has borrowed fewer funds to convert into asset with the share capital with efficiency in liquidity management as well as high liquidity and less risk because of higher investment in government bond. Current asset ratio is 2.020, Equity multiplier is 2.575 & Govt. bond investment is 6.336.

Table 12 : Statistical result of Liquidity and Solvency

	PRIMEBL 2009-2013		ALARAFBL 2009-2013		Statistical test	Hypothesis
	Mean	SD	Mean	SD	t-value	
Cash deposit ratio	.0814	.00700	.0992	.01683	-2.341	Rejected
Advance deposit ratio	.8594	.06627	.9220	.09884	-1.472	Rejected
Current asset ratio	.9907	.00213	.9880	.00227	2.020	Accepted
Equity multiplier	49.1262	23.464	24.8007	2.61529	2.575	Accepted
Govt. bond investment	.1682	.06160	.0133	.01825	6.336	Accepted

iii. *Business development*

Based on the calculated value, the null hypothesis is accepted at 0.05% level of significance for deposits growth and investment growth but rejected for

total assets growth and advances growth that indicates mixed performance of Prime bank ltd. and Al-Arafah Islamic bank ltd. Deposits growth is 0.030 & investment growth is 4.365.

Table 13 : Statistical result of Business development

	PRIMEBL 2009-2013		ALARAFBL 2009-2013		Statistical Test	Hypothesis
	Mean	SD	Mean	SD	t-value	
Total Assets Growth	.3611	.08382	.9248	1.2035	-0.912	Rejected
Deposits Growth	.3348	.12419	.3330	.12525	0.030	Accepted
Advances Growth	.3447	.11269	.3940	.20321	-0.443	Rejected
Investment Growth	.6773	.31073	.0029	.00575	4.365	Accepted

iv. *Efficiency and Productivity*

In case of efficiency & productivity, Prime bank ltd. is more efficient than Al-Arafah bank ltd. because total operating expenses to deposits ratio of Prime bank

ltd. is less than that of Al-Arafah bank ltd. It means from the perspective of economies of scale that Prime bank is more efficient and productive.

Table 14 : Statistical result of Efficiency and Productivity

	PRIMEBL 2009-2013		ALARAFBL 2009-2013	
	Mean	SD	Mean	SD
Total operating expenses to deposits	.0132	.0070	.0709	.00785

v. *Commitment to Economy and Community*

Long-term loan ratio is calculated to measure superiority in community development and economic commitment where in long term loan ratio the null hypothesis is rejected it means AL-Arafah bank ltd. has higher contribution in the economic development through long term lending in different economic sectors to that of prime bank ltd. Long term loan ratio is -2.315.

Table 15 : Statistical result of Commitment to Economy and Community Statistical output summary (SIBL vs. SEBL)

	PRIMEBL		ALARAFBL		Statistical Test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
Long Term Loan Ratio	.3616	.05439	.4811	.11890	-2.315	Rejected

e) South East Bank Limited & Social Islami Bank Limited

i. Profitability

Profitability is one of the most important indicators of financial performance. Based on calculation it is vibrant that, the null hypothesis has been accepted with respect to the ratios of return on total assets and return on equity but rejected for profit

expense ratio, profit growth and earning per share. That means performance of SEBL and SIBL are mixed. South East bank ltd. is superior in case of better managerial performance but performance of Social Islamic bank ltd. is noteworthy in cost management and profit growth with higher earning per share. ROA is 5.560 & ROE is 1.131.

Table 16 : Statistical result of profitability

	SEBL		SIBL		Statistical test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
ROA	.0130	.00452	.0036	.00315	5.560	Accepted
ROE	.1790	.02954	.1163	.10214	1.131	Accepted
Profit Expense ratio	.1554	.04435	.2034	.16911	-0.679	Rejected
Profit growth	.4427	.71457	1.3015	1.38722	-2.125	Rejected
EPS	47.5800	13.58	60.1340	57.79	-.513	Rejected

ii. Liquidity and Solvency

The null hypothesis is rejected at 0.05% level of significance because the statistical t-value is not within accepted region for cash deposit ratio, current asset ratio and equity multiplier ratio. That is, liquidity & solvency statement is in favor of Social Islamic Bank Ltd. The calculated value reports a significantly higher cash deposit ratio, current asset ratio and equity multiplier ratio that indicates that the bank has borrowed less

funds to convert into asset with the share capital to that of SEBL. But null hypothesis is accepted in case of advance deposit ratio that is Southeast Bank Ltd. takes more financial stress by making too much loan but lower advance deposit ratio is always encouraging to higher advance deposit ratio. But higher investment of SEBL in government bond indicates high liquidity and less risk. Advance deposit ratio is 0.477 & Govt. bond investment is 2.556.

Table 17 : Statistical result of liquidity and Solvency

	SEBL		SIBL		Statistical test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
Cash deposit ratio	.0563	.00764	.0733	.01740	-3.188	Rejected
Advance deposit ratio	.8555	.04089	.8389	.11221	0.477	Accepted
Current Asset ratio	.9777	.00900	.9916	.00380	-4.336	Rejected
Equity Multiplier	32.28	6.90	33.78	4.53	0.489	Rejected
Govt.bond investment	.1281	.01840	.0273	.00702	2.556	Accepted

iii. Business development

Based on the calculated value the null hypothesis is accepted at 0.05% level of significance as the statistical t-value is within accepted region. It indicates the performance of South East bank ltd. is superior to that of Social Islamic bank ltd and it makes

significant contribution in the economic development of Bangladesh through higher growth in total assets, deposits and advances but null hypothesis is rejected for investment growth that means investment growth is in favor of SIBL. Investment growth ratio is -1.00.

Table 18 : Statistical result of Business development

	SEBL		SIBL		Statistical test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
Total assets growth	.2458	.03596	.0900	.17951	1.667	Accepted
Deposits growth	.2542	.07876	.0468	.17391	1.804	Accepted
Advances growth	.2914	.13207	.1005	.08735	3.553	Accepted
Investment growth	.4081	.15988	2020.1214	4039.68	-1.00	Rejected

iv. Commitment to Economy and Community

In order to measure superiority in community development and economic commitment, long term loan ratio is calculated where the null hypothesis is accepted at 0.05% level of significance as the statistical

t-value is within accepted region. It means South East bank ltd. has superior commitment to economy and community to that of Social Islami bank ltd. Long term loan ratio is 2.442.

Table 19 : Statistical result of Commitment to Economy and Community

	SEBL		SIBL		Statistical test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
Long term loan ratio	.4488	.07231	.1823	.17602	2.442	Accepted

v. Efficiency and Productivity

In case of efficiency & productivity, South East bank ltd. is less efficient than Social Islami bank

ltd. because the null hypothesis is rejected it means total operating expenses to deposits ratio of SEBL is higher SIBL. This ratio is 18.933. Insert table-20 here.

Table 20 : Statistical result of Efficiency and Productivity

	SEBL		SIBL		Statistical test	Hypothesis
	2009-2013		2009-2013		t-value	
	Mean	SD	Mean	SD		
Total operating expense to deposits	.0951	.01202	.0199	.00341	18.933	Rejected

VIII. SUMMERY OF FINDINGS

City Bank Limited versus Islami Bank Bangladesh Limited

- Islamic bank Bangladesh ltd. is superior in case of higher ability and better managerial performance to that of City bank ltd.
- IBBL takes less financial stress and has borrowed fewer funds to convert into asset with the share capital but higher govt. bond investment of City bank limited indicates high liquidity and less risk to that of IBBL.
- IBBL is superior to that of City bank ltd. and making significant contribution in the economic development of Bangladesh.
- Long-term loan ratio is superior in economic commitment where the null hypothesis is accepted at 0.05% level of significance. It means City bank ltd. is superior to that of IBBL.

Jamuna Bank Limited versus EXIM Bank Limited

- Profit growth of Jamuna bank ltd. Is higher than EXIM bank ltd.

share capital but higher investment of Jamuna bank ltd. in government bond indicates high liquidity and less risk.

- The performance of EXIM bank ltd is superior in capital formation and asset development.
- Jamuna bank ltd. is superior to that of EXIM bank ltd. Because Jamuna bank ltd. contributes significantly in the long-term development of different economic segments.

Prime Bank Ltd & Al-Arafah Islami Bank Ltd

- Prime bank ltd is superior in cost management and maximizing shareholders wealth where as Al-Arafah Islami bank ltd shows better performance in asset return and return to the shareholder through higher growth in profit.
- Prime bank ltd takes less financial stress and has borrowed fewer funds to convert into asset with the share capital with efficiency in liquidity management as well as high liquidity and less risk because of higher investment in government bond.

- Deposits growth and investment growth but rejected for total assets growth and advances growth that indicates mixed performance of Prime bank Ltd. and Al-Arafah Islami bank Ltd.
- AL-Arafah bank Ltd. has higher contribution in the economic development through long term lending in different economic sectors to that of prime bank Ltd.

South East Bank Ltd & Social Islamic Bank Ltd

- South East bank Ltd. is superior in better managerial performance but performance of Social Islamic bank Ltd. is noteworthy in cost management and profit growth with higher earning per share.
- Southeast Bank Ltd. takes more financial stress by making too much loan but lower advance deposit ratio is always encouraging to higher advance deposit ratio.
- South East bank Ltd. is superior to that of Social Islamic bank Ltd and making significant contribution in the economic development of Bangladesh through higher growth in total assets, deposits and advances.
- South East bank Ltd. has superior commitment to economy and community to that of Social Islamic bank Ltd.
- South East bank Ltd. is less efficient than Social Islamic bank limited. It means total operating expenses to deposits ratio of SEBL is higher SIBL.

In brief, on the basis of comparative study between conventional banks and Islamic banks, we found,

- Profitability ratio of Islamic banking is higher than conventional banking.
- Liquidity & solvency ratio of conventional banking is higher than Islamic banking.
- Business development ratio is greater in Islamic banks than that of conventional banks.
- Productivity & efficiency ratio indicate economies of scale are in favor of Islamic banking to that of conventional banking.

*Conventional banking is superior to that of Islamic banking in the case of commitment to economy and community development.

IX. CONCLUSION

This study has investigated the financial performance of conventional commercial banks and Islamic commercial banks in Bangladesh using descriptive statistics, t-test and test of hypotheses. The results show that both conventional & Islamic banks are making significant contribution in the economic development of Bangladesh. The performance study concludes that Islamic banks are superior to conventional banks. But it is not likely that solely Islamic

banks are better performing organizations rather conventional banks. Despite some limitations in operational procedures, financial instruments, adequate training & research, motivated employee, Islamic banks deserve the credit of superiority of financial performance. Participatory process in every financing & investment is the root cause of Islamic banks' success. But they should emphasis on the welfare being of the poor and destitute people rather than only profit oriented sectoral development. Islamic banks have to go a long way. Though conventional banks are fully converting or opening windows of Islamic banking but their main focus should be given on both social & economic development of Bangladesh. Alongside conventional banks should come forward in order to enhance rural financial market rather than only urban development through their superior performance in different area.

REFERENCES RÉFÉRENCES REFERENCIAS

1. Hassan, M. & Ghani, A. (2005). Financial performance of commercial banks: a study of Bahrain banking, *Middle East Business and Economic Review*, Vol.17, No.1, pp.20-28.
2. Rashid, S. & Samad, A. (1996). Portfolio management of the free banks of Illinois: an examination of historical allegations, *Review of Austrian Economics*, Vol. 9, No.1, pp 55-76.
3. Hassan, M. Kabir. (1999). Islamic banking in theory and practice: the experience of Bangladesh, *Managerial Finance*, Vol.25, and Vol.5: 60-113.
4. Samad, Abdus.(2004). Performance of interest free Islamic banks vis-à-vis interest based conventional banks of Bahrain, *IJUM Journal of Economics and Management*, Vol.12, No.2, pp 115-129.
5. Chowdhury, et.al. (1997). Impact of new loan regulations on loan portfolio management in banks, *Bank Parikrama*, Vol.XX11, No.1, March 1999, pp.31-74
6. Khan, M. Fahim.(2006). Financial modernization in 21st century and challenges for Islamic banking, *International journal of Islamic Financial Services*, Vol.1, No.3, pp-35-48
7. Ahmad, Ausaf. (1987). *Development and Problems of Islamic Banks*, Jeddah: Islamic Research and Training Institute, Islamic Development Bank
8. Haron, S. & Shanmugam, B. (1977). *Islamic Banking System: Concepts and Applications*, Singapore: Pelanduk publication.
9. Hassan, M. K., Al-Sharkas, A., & Samad, A. (2004), An empirical study of relative efficiency of the banking industry in Bahrain. *Studies in Economics and Finance*, Vol. 22, No. 2, pp. 40-69.
10. Bashir, A. (1996). Profit-sharing contracts and investment under asymmetric information, *Research in Middle East Economics*, Vol. I, pp. 173-186.

11. Samad, Abdus. (1999), Comparative Efficiency of the Islamic bank Malaysia vis-à-vis Conventional banks. *Journal of Economics and Management*, Vol.7, No.1, pp-112-126.
12. Ministry of Finance. (2008-2012): *Activities of Banks and Financial Institutions*, Government of the People's Republic of Bangladesh, Retrieved from <http://www.mof.gov.bd>
13. Prime Bank Limited: Annual Report (2009-2013), retrieved from <http://www.prime-bank.com>.
14. Jamuna Bank Limited: Annual Report (2009-2013), retrieved from <http://www.jamunabanbd.com>.
15. South East Bank Limited: Annual Report (2009-2013), retrieved from <http://www.seblbd.com>.
16. The City Bank Limited: Annual Report (2009-2013), retrieved from <http://www.thecitybank.com>.
17. Al-Arafah Islami Bank Limited: Annual Report (2009-2013), retrieved from <http://www.al-arafahbank.com>.
18. Export Import Bank Limited: Annual Report (2009-2013), retrieved from <http://www.eximbankbd.com>.
19. Islami Bank Bangladesh Limited: Annual Report (2009-2013), retrieved from <http://www.Islamibanbd.com>.
20. Social Islami Bank Limited: Annual Report (2009-2013), retrieved from <http://www.siblbd.com>.
21. Dhaka Stock Exchange: Prospectus of sleeted banks, Retrieved from <http://www.dsebd.org>.
22. Khan, A. R. (2008) *Bank Management (A Fund Emphasis)*, Dhaka: Decent Book House.
23. Shameem, A.K.M. (1995), "Impact of Flexible Interest Rate on Savings and Investments", *Bangladesh journal of political Economy*, Vol.13, No. 2, pp.62-78.

APPENDIX-1:

Statistical output summary (IBBL vs. CITYBL)

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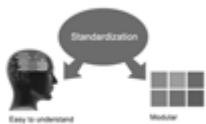
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16. Use proper verb tense: Use proper verb tenses in your paper. Use past tense, to present those events that happened. Use present tense to indicate events that are going on. Use future tense to indicate future happening events. Use of improper and wrong tenses will confuse the evaluator. Avoid the sentences that are incomplete.

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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.

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

22. Never start in last minute: Always start at right time and give enough time to research work. Leaving everything to the last minute will degrade your paper and spoil your work.

23. Multitasking in research is not good: Doing several things at the same time proves bad habit in case of research activity. Research is an area, where everything has a particular time slot. Divide your research work in parts and do particular part in particular time slot.

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

25. Take proper rest and food: No matter how many hours you spend for your research activity, if you are not taking care of your health then all your efforts will be in vain. For a quality research, study is must, and this can be done by taking proper rest and food.

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



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

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

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

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

31. Adding unnecessary information: Do not add unnecessary information, like, I have used MS Excel to draw graph. Do not add irrelevant and inappropriate material. These all will create superfluous. Foreign terminology and phrases are not apropos. One should NEVER take a broad view. Analogy in script is like feathers on a snake. Not at all use a large word when a very small one would be sufficient. Use words properly, regardless of how others use them. Remove quotations. Puns are for kids, not grunt readers. Amplification is a billion times of inferior quality than sarcasm.

32. Never oversimplify everything: To add material in your research paper, never go for oversimplification. This will definitely irritate the evaluator. Be more or less specific. Also too, by no means, ever use rhythmic redundancies. Contractions aren't essential and shouldn't be there used. Comparisons are as terrible as clichés. Give up ampersands and abbreviations, and so on. Remove commas, that are, not necessary. Parenthetical words however should be together with this in commas. Understatement is all the time the complete best way to put onward earth-shaking thoughts. Give a detailed literary review.

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

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

INFORMAL GUIDELINES OF RESEARCH PAPER WRITING

Key points to remember:

- Submit all work in its final form.
- Write your paper in the form, which is presented in the guidelines using the template.
- Please note the criterion for grading the final paper by peer-reviewers.

Final Points:

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.



Writing a research paper is not an easy job no matter how trouble-free the actual research or concept. Practice, excellent preparation, and controlled record keeping are the only means to make straightforward the progression.

General style:

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To make a paper clear

- Adhere to recommended page limits

Mistakes to evade

- Insertion a title at the foot of a page with the subsequent text on the next page
- Separating a table/chart or figure - impound each figure/table to a single page
- Submitting a manuscript with pages out of sequence

In every sections of your document

- Use standard writing style including articles ("a", "the," etc.)
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- Align the primary line of each section
- Present your points in sound order
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- Use past tense to describe specific results
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- Shun use of extra pictures - include only those figures essential to presenting results

Title Page:

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Abstract:

The summary should be two hundred words or less. It should briefly and clearly explain the key findings reported in the manuscript-- must have precise statistics. It should not have abnormal acronyms or abbreviations. It should be logical in itself. Shun citing references at this point.

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

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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:

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- 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.
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Materials:

- Explain materials individually only if the study is so complex that it saves liberty this way.
- Embrace particular materials, and any tools or provisions that are not frequently found in laboratories.
- 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.

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- 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.



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.
- Manuscript should complement any figures or tables, not duplicate the identical information.
- 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.

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- If you put figures and tables at the end of the details, make certain that they are visibly distinguished from any attach appendix materials, such as raw facts
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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:

- When you refer to information, differentiate data generated by your own studies from available information
- Submit to work done by specific persons (including you) in past tense.
- Submit to generally acknowledged facts and main beliefs in present tense.



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<i>Methods and Procedures</i>	Clear and to the point with well arranged paragraph, precision and accuracy of facts and figures, well organized subheads	Difficult to comprehend with embarrassed text, too much explanation but completed	Incorrect and unorganized structure with hazy meaning
<i>Result</i>	Well organized, Clear and specific, Correct units with precision, correct data, well structuring of paragraph, no grammar and spelling mistake	Complete and embarrassed text, difficult to comprehend	Irregular format with wrong facts and figures
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<i>References</i>	Complete and correct format, well organized	Beside the point, Incomplete	Wrong format and structuring



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