

Impact of Micro Finance on Profitability of Small Farmer's A Case of Agriculture Sector of Pakistan

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Abstract

The current study is planned to investigate the impact of micro finance on the profitability of small agriculture farmers that how does micro finance influence their profitability. The objective of the study was to investigate the function of micro finance in generating profits for the small agriculture farmers of Tehsil sadder Bahawalpur. The sample of the study includes 150 small agriculture farmers of Tehsil sadder Bahawalpur Results of the study explain that micro finance has significant impact on the profitability of small agriculture farmers and there is a positive relationship between micro finance and profitability of small agriculture farmers. Houseman test was conducted to decide the appropriate analysis techniques from fixed and random effect for this particular study which prove that random effect technique is appropriate for this particular panel data study.

Keywords: Micro finance, impact, profitability, small agriculture farmers,

1.Introduction

Agriculture sector is the backbone of the country and its contribution in the Gross Domestic Product (GDP) is about 21 percent. The agriculture sector is divided into four sub sectors like crop, livestock, forestry and fisheries. As agriculture is the major source of the bread and butter of the rural population and it is providing jobs to 43.7 % of the total population. Agriculture sector is contributing about 66 percent in the export of the country Survey (2013-14). This study is specifically focusing on the crop sector.

There are 8.26 million agriculture farms in the country agriculture census (2010) consisting of 52.91 million acres as cultivated area. Small agriculture farms are 5.35 million, which are 64 percent of the total agriculture farms in Pakistan. Small farms are cultivating just about 19 percent of total cultivated agriculture area which is about 10.18 million acres. The average farm size in the country is 6.4 acres out of which 5.2 acres are cultivated area

1.1Background

The micro finance in Pakistan was introduced on conventional basis such as in 1960s, agriculture credit for input was offered on subsidized credit basis. In 70s nationalized banks like Agriculture Development Bank of Pakistan (ADBP) was providing most of credit to small farmers. In 80s Aga Khan rural support program (AKRSP) was introduced. This program is popular among the poor's. In 1992 the National Rural Support Program (NRSP) introduced in the country. In 2000 the government of Pakistan recognizes micro finance as instrument for deficiency of resources reduction in the country (Bukhsh, 2011). Some of the micro finance banks which are operating in Bahawalpur are National Rural Support Bank (NRSP), Bank of Khyber, Kashf Bank, Khushhali Bank, First Micro Finance Bank, U micro finance Bank, Tameer micro finance Bank, waseela micro finance Bank, The first Women Bank is also offering the micro finance services to poor people. The farmers cultivating with small piece of land and whose farm earnings are small and family size are comparatively big are generally forced for need of funds to full fill their monetary requirements for purchasing of seed, fertilizer, pesticide, employing labor and for the watering requirements of the land (Ahmed, 2014).

Enhancing yield and profits of small farmers, who make up more than 64 percent of the farming society agriculture census (2010), suitable actions are the challenge for the policy makers and think tanks. The increase in profitability of the small agricultural crop farmers will impact positively. The positive influence of micro finance on profitability will create an excellent environment for the small farmers. This environment will involve the potential small farmers to come in farming that will lead to boost the economy as well as enhance the well-being of the small farmers.

In order to full fill the small farmers financing needs the launching of micro finance Banks in the country was introduced. These institutes offered the small amounts of credit without collateral. While the small farmers were unable to get the financial services likes micro credit without collateral, these banks operate like poor friendly. Micro credit also offered by the commercial banks to small farmers. The objective of the micro finance is to produce impacts on the profitability (Bukhsh, 2011).

1.2 Problem Statement:

Some comfortable discussion with the small farmers showed that they are a reasonable depending once upon the micro finance services for agricultural inputs and importantly for increasing their profits. A reasonable number of the small crop farmers opined that the farmer faced trouble of inadequate investment for cultivating crops and earning profits. Moreover on time availability of micro finance and demand of collateral for loan has impact on their profitability. The study has addressed the impact of micro finance on profitability of small farmers.

1.3 Objective of the study:

The objective of the study is to examine the impact of micro finance on the profitability and earning enhancement of the small farmers.

The specific objectives of the study is

- 1- To measure the impact of micro finance on profitability of small farmers of Tehsil sadder Bahawalpur.
- 2- To measure the importance of availability of micro finance when small farmers require it for the growth of crops.

1.4 Research Question:

- 1- What is the impact of micro finance on the profitability of the small farmers?
- 2- Is micro finance available when small farmers required it?

1.5 Significance:

The study will be useful for the small farmers in a way that how they can enhance their profitability by using micro finance services on economic interest rate. Study also provides insight that either the micro finance services are reducing their profit by charging high interest rates. The study will give wisdom to the readers in increasing the productivity and profits. The study will be beneficial for the policy makers for developing successful strategies to enhance the agriculture productivity while improving the profitability and well-being of the small farmers. The study will also open new ways for further research in this regard.

2. Literature Review

After 1950s an emphasis was made on providing credit for agriculture purposes to the marginal and small agriculture farmers. The target was to enhance the productivity and profits of the small farmers. This work enhances the access of credit to the targeting poor. Initially the success rate of these schemes was poor.

During 1970s Bangladesh introduced Grameen Bank to facilitate those poor people who had no collateral for loan. The meaning of the Grameen Bank is 'to prevent the poor'. Grameen Bank not only provides loans to the poor people but also offers the savings and insurance schemes to the less privileged society. It became instrument for economic and Social improvement. These loans were usually small in amount for small projects and termed as micro credit. Providing credit facilities to the women were the top priority of the Grameen Bank.

The micro finance progress strengthens its roots all over the world. The expansion of micro finance gives a light of hope to the poor that they will improve their standard of living. A promise made by the micro finance was that the objective of the micro finance is to alleviate poverty as well as improve profits and create a win-win situation. The progress of micro finance showed that even the transaction cost of micro finance is high and there is no collateral for these loans but in some cases lending was profitable concluded by (Morduch, 1999).

A study was conducted by Girabi and Mwakaje (2013) in Tanzania to check the impact of micro finance on the small agriculture farmer's farms productivity. The weather conditions of the Tanzania are similar to our country like in Tanzania the dry weather normally consists upon seven to eight months that starts from March end to early November. The rainfall is also unpredictable likewise in Pakistan. For data collection interview were conducted with the credit beneficiaries and also with non-credit beneficiaries with the help of close and open ended questionnaires. The conclusion of the study showed that there was a significant difference in the productivity of the agriculture farmers using micro finance and those who were not using the micro financed services. The small farmers with credit facilities produce about 32 bags while small farmers without credit facilities produce 18 bags of sunflower and maize per acres.

Saleem and Jan (2011) Concluded in his study that has been conducted in Pakistan district Dera Ismail Khan Province of Khyber Pakhtonkhawa to check impact of agriculture credit on the agriculture productivity. The dependent variable they take was gross domestic product and the explanatory variables were credit for seed, credit for fertilizer, credit for tractor, credit for pesticide, credit for tube well and credit for other purpose of the agriculture needs also how much total credit disbursed. Methodology they use was regression with Cobb-Dougllass. The conclusion of the study showed that credit disbursed for the seed, fertilizer and pesticides affect positively the agriculture productivity, but credit disbursed for tube well and tractor showed no impact on the production of agriculture. A unit of credit disbursed for agriculture productivity enhances the gross domestic

product up to 1.5 percent.

“While you contain a little, it is often simple to get more but the most complexity is to get the little.” (Adam Smith)

Saboor, Hussain, and Munir (2004) Investigated the impact of micro finance in poverty alleviation in Pakistan district Rawalpindi. In this study the variables taken were land holding, yield per acre and number of milk animal as independent while the income and agriculture productivity as dependent variables. The weather conditions and availability of water for the agriculture land is different from south Punjab agriculture cultivated area. The average production level is also different from pot hoar agriculture area and southern Punjab cultivated area. For selecting sample they used simple random sampling. They interviewed personally the farmers with credit and without credit from two villages of Tehsil Gujar khan district Rawalpindi. The proportionate analysis and regression statistics was used for data analysis and interpretation. The results of the study showed that the agriculture farmers with micro credit facilities get more production as compare to the production of the agriculture farmers without credit.

They also highlight the role of the government in putting emphasis on enhancing the use of micro credit for better production and also for applying modern technologies for agriculture production in order to compete with modern agriculture production techniques.

Tenaw and Islam (2009) Investigated that agriculture farmers who were accessing micro finance services without any difficulty, their agriculture production was comparatively better. The availability to micro finance services through micro finance institution and rural development service can create a distinction between the users and non-users of these services. This study was in line with the success of micro finance in Bangladesh and Ethiopia. This study covers different aspect of the micro finance as its relation with poverty alleviation, its impact on consumption pattern and income, its impact in increasing agriculture productivity and creating the job opportunities. The final conclusion made by the study was that micro finance contribution in civilizing and maintaining living standard of the resident of Ethiopia and Bengali people. The study finds that even local financing schemes played their role both in urban and rural areas in reducing the poverty. The causes of low agriculture production in Ethiopia and Bangladesh were obsolete equipment, deprived road and rail network, uncertain weather conditions, size of the market were small, small inflow of revenues of a large number of agriculture farmers. By overcoming these difficulties the agriculture productivity can be enhanced and a reduction can be made in poverty with the help of innovative and sound micro finance system.

The Government of Nigeria continuously works for reducing the poverty from its country. The poverty alleviation remains at the top of the agenda by the Nigerian government. To achieve this intention government put focus on enhancing the role of micro finance. About 65 percent of the people were unable to obtain micro finance services in order to fight with poverty and improve their well-being by indulging in some earning activities with the support of micro finance. Oluwasanya (2014) Concluded that micro finance has significant impact in poverty alleviation. As a large number of Nigerians are indulge in enterprise business. So buying things to support industry activities the role of micro fiancé is positive. He gives some suggestion to improve the micro finance mechanism that will lead to reduce the poverty in the country.

Working with panel data and providing some evidence for poverty alleviation with help of micro finance services in Bangladesh a work done by Khandker (2005). He applies different statistics for data analysis and concludes that micro finance was working progressively in reducing the poverty of the poor customer of micro finance. He concludes further that the role of micro finance in reducing poverty was more successful. His study also shows that a unit of micro finance disbursed for poor people impact positively in reducing poverty. It also contributes positively even for the non-user of the micro finance in improving the overall economy.

Investigation to measure the impact of micro credit on poverty alleviation by Muhammad Khalid Bashir (2010) a study was conducted in district Jhelum among its four Tehsil two Tehsil Jhelum and Dina were selected randomly for data collection. Respondents were interviewed personally at their farms. The study measures the impact of micro finance on income and poverty reduction. Both users of micro credit and non-user's small agriculture farmers were selected. The variables of the study was participant of agriculture loan and non-participant of agriculture loan, the education level of the small farmers, expenditure and size of cultivated area and also for poverty reduction measurement the variables were size of house hold, number of dependent, number of earners and income of participant. The result of the study showed that unit of micro credit disbursed for agriculture it increase the income by about 429 rupees. The study also showed that its impact was significance on poverty reduction.

In India our neighbor country a work done with regard to role of micro finance for poor people by a lady Arora (2014) she conclude in her study that there is no doubt that micro finance is changing the face of the poor people in India. She further said that even though the role of micro finance is positive in poverty reduction and also growing with a pace but there were some problem that she observes in her study regarding micro finance role in reducing poverty. The observation showed that the micro finance institutions were failing to meet the demand of the poor people for micro finance services. She suggested that the Government and reserve bank

of India should put emphasis on increasing micro finance institution capacity and their volume to meet the demand of the micro finance potential needy people.

Kudi, Odugbo, Banta, and Hassan (2009) Calculated the impact of united nation developmental program micro finance on poverty alleviation in Kaduna state Nigeria. The study was conducted in the three areas of Kaduna state under the local government. The study measures the impact on the beneficiaries of micro finance. The weather conditions of the Kaduna states remain dry and wet on the other hand. By using a simple random sampling a sample size of 54 small farmers were selected for study from the three villages. The sample size then divided into two equal numbers of small farmers with micro finance and without micro finance. The data was collected primarily from the respondent with the help of structured questionnaire and also with focus group discussion. The income of the participant was measured before and after the program. The descriptive statistics was used as analysis tool. The dependent variable was income of the participant and explanatory variables were house hold, age, education level of the small agriculture farmers, and participant of micro finance or not, size of the farm in hectors, hired labor, fertilizer and seedling. The results showed that farm size, labor hired, fertilizer and seedling affect positively to the income of the small farmers. The study concluded that micro finance had influence positively to the end beneficiaries.

Annan On July 29th 2008 a discussion was made on the United Nations general assembly. The agenda of the discussion was role of micro finance in poverty alleviation. All the possible aspects of micro finance were highlighted in discussion. It was discussed that before micro finance program introduced Muhammad Younas the micro credit was offered to the small agriculture farmers on the basis of collateral. That was very difficult to manage the collateral for the small agriculture farmers. Than Dr. Younas introduced micro finance without collateral, this lending was on group basis rather than collateral basis. This schemes leads to high repayment rate and that was very vital for the banks as well as economy. After discussion all the pros and cons of micro finance for small agriculture farmers some conclusive recommendation was given like. It was recommended that the micro finance program should be enhanced worldwide as it contributes for improving the wellbeing of over 100 million poor people worldwide. Another recommendation was that there should be some innovation in program to provide the financial services to the diverse poor locally and globally.

Micro finance as a poverty reduction instrument on this dimension linked with the existing literature a study was conducted by Sedegh (2006) with the help of some international evidence in this regard. His study takes into account the role of some international micro finance institute like the Grameen Bank of Bangladesh, the Thailand Bank for Agriculture and Agriculture Cooperatives (BACC), Society for Helping Awakening Rural Poor through Education (SHARE) Centre for Agriculture and Rural Development (CARD). The conclusions from the study were like micro finance services got credit as tool for improving economic conditions and poverty reduction. Micro finance proved itself to be way of light that could help to fight against poverty. With the help of small amount of micro finance the poor people exploit the opportunities around them and establish their personal businesses. Studies showed that the repayment rate by the poor people is high so they are trustable as compare to the conventional borrowers. Study finds that access to financial services for the poor people enable them to earn, build assets and save for future in case of any emergency need. Micro finance improves the living standard as well of the borrowers of the micro finance by enabling them to improve their education, nutrition and health facilities. The studies highlight some limitations like small number of micro finance institutions to serve the poor people. There is need to develop this sector as it proved to be an effective tool for the poverty alleviation. In continuation of micro finance impact on small farmers a study conducted by Ibrahim and Bauer (2013) The beneficiaries of micro credit and non-beneficiaries from the dry land of Sudan were taken under study. For analysis and interpretation purpose a Heck man two step estimates model was used. A relation was determined with the help of probit model between socio economic and house hold credit. The result showed from the analysis that although there were some positive impact of micro credit on agriculture activities. It was disclosed that amount of micro finance was too small for making the considerable effect on agriculture production. The study recommended that some developments were needed in the policy to increase the agriculture production by increasing the finance for the agriculture farmers. Another recommendation was that to enhance the income of low income people. There was need to eliminate the constraint in a way micro finance delivery to small agriculture farmers.

3.Theoretical frame work

Micro finance, increase in capital for investment, rationalism, expansion of operations, capacity to purchase better and timely inputs, yield, profitability.

Micro finance enhances capital for investment. Micro finance is hard cash available for the small farmers that enhance the investment funds. With the addition of more funds in the investment basket increases working capital to manage the crop in well manners. Higher the capital for investment enhances rationalism. With increased capital for investment may leads the small farmers to apply better means for productivity like laser leveling, applying new technology and getting better information regarding where to market their products.

Increase in capital for investment leads to expand operations like fixed asset utilization for example land. When there is sufficient capital availability for investment the small farmers may take the advantage of enhancing the fixed assets utilization by taking the idle land into productive use or by taking additional land on rent to enhance profitability.

Higher the capital for investment leads small farmers to purchase better inputs. The right kind of inputs like latest seeds, sufficient amount of fertilizers and consultancy from experts is very vital in farming; the sufficiency in capital for investment enables the small farmers to put all these inputs in effective manners. Increase in capital for investment can make sure to apply timely inputs. Application of inputs like watering, labor and pesticides in timely manner is very crucial for small agricultural farmers.

The increase in capital will produce ease in applying all these on time as the crop need. Increase in capital for investment may lead to enhance in yield. When there is good amount of capital attaining from micro finance may create a positive climate for the small farmers that could help to enhance the yield.

Increase in capital for investment can improve the profitability. It is more likely that increase in capital for investment for the small farmers will enable the small farmers to manage all activities in well manners that may improve the profitability of the small farmers.

Using micro finance the capital for investment for the small farmers will increase, with the increase in capital for investment will enhance the rationalism of small farmers, enhancement in rationalism will lead to expansion of operations like fixed asset utilization, expansion in resources leads the small farmers to purchase best inputs, buying best inputs leads to apply these on time as needed for the crops, application of input on time leads to enhance the crop yield and the enhancement in the yield will enable the small farmers to enhance their profits.

3.1 Conceptualization and Operationalization of constructs:

“Impact of Micro Finance on Profitability of small farmers of Tehsil sadder Bahawalpur”

Concepts: profitability, micro finance, small farmers

Variables: revenues, expenses, loan amount, agriculture production scale

Revenues: The sources of revenues proceed from sale of crops production and sale of crop residuals.

Expenses: Costs incurred to generate revenues consist of costs of seed, fertilizers. Pesticides, rent of the land, watering expenses, labor and plough expenses, some petty expenses, interest on loan and taxes paid to government.

Loan amount: Micro finance loan amount received by the farmers to produce crops from different financial institutes.

Small farmers: Agriculture farmers cultivating land from 5 acres to 12.5 acres of Tehsil sadder Bahawalpur.

3.2 Hypothesis development:

Ho = There is no impact of micro finance on the profitability of small farmers.

Ho2 = the availability of micro finance when small agriculture farmers required it has no impact on the profitability of small farmers.

H1 = There is a significant impact of micro finance on the profitability of the small farmers.

H2 = There is a positive impact of availability of micro finance when small farmers required it on the profitability of small farmers.

4. Methodology

Three years of cultivation are taken in this study and 150 farmers have been interviewed from different Mozas. So entity (farmer) and ‘no of years’ composed of cross sectional and time series data. Data used in study is panel data so panel data regression technique has been applied. Further Hausman test of specification is applied to confirm the suitable test between Fixed Effect and Random Effect regression.

This study has employed random effect panel regression technique to investigate the effect of microfinance on profitability of small farmers.

4.1 Data collection

A quantitative research has been conducted to get the desired information from the respondents of Tehsil sadder Bahawalpur. To get the desired information primary data has been collected from the respondents come under the sampling frame. For getting the primary data each respondent was visited personally at his farm. Primary data was collected from small crop farmers were of production years 2011-12, 2012-13, and 2013-14 of Tehsil sadder Bahawalpur.

There are seven kanoungoi circles in the Tehsil sadder Bahawalpur named Khan ka Sharif, Abbas Nagar, and Qasim Pur, Noor Pur, Kalanchwala, Hamati and Baghdad-ull-Jadeed. There are 78 mouzas and 37 chaks in Tehsil sadder Bahawalpur. Ten mouzas/chacks were selected randomly for study area. The total numbers of

small farmers in Tehsil sadder Bahawalpur are 3592 having cultivated land from 5 acres to 12.5 acres. For measuring the impact of micro finance on the profitability of the small farmers the sampling frame was designed for the small farmers who were cultivating land from 5 to 12.5 acres and using micro finance services from different financial institutes. A sample size of 144 was selected with the help of following sampling technique. But to overcome any problem of loss of data about any respondents a sample of 150 respondents were finalized for data collection.

For the validity of the concepts measurement a pilot study was conducted and information was collected from 10 small farmers.

The use Reliability tests mean to conclude the level to which each item taken into account the related hidden construct. The study of Diamantopoulos and Winklhofer (2001) conclude that influential constructs are not needed to associate with each other. Gefen and Straub (2005)) and Rossiter (2002) are of the view that no measurement and reliability test are execute on determining sign due to dynamic unity and internal continuity are not associated thus multiple reliability measures.

The contribution made by Andreev et al. (2012) examines that the construct reliability of influential pointer should be used to perform with the help of test of multicollinearity and the test of display validity (path coefficients significance). Discussing the validity testing, Diamantopoulos et al. (2008) consider validity of determining display most divisive and also suggest that single indicator validity may be certain before measuring the structural model.

5. Results and interpretation

The random effect analysis table shows that p value of the predictor is 0.0000 mean producing highly significant results. Meaning that micro finance services provision to the small agriculture farmers of Tehsil sadder Bahawalpur is positively influencing the profitability of the small agriculture farmers. It means that a unit increase in the value of micro finance to the small farmers enhances the per acre profitability up to 4.2455 times of the small agriculture farmers. These significant results of the independent variable (micro finance) show that the impact of micro finances on the profitability of small farmers of Tehsil Sadder Bahawalpur is significant and positive. The p value of the dummy variable as well as another independent variable is 0.0002. The result of the dummy variable is also significant. This also proves that availability of micro finance also has positive impact on the profitability of the small agriculture farmers of Tehsil sadder Bahawalpur. From our data table we can see that there is 4.2455 times increase is observed in per acre profits with 1 unit of micro finance and the small agriculture farmers those who are getting micro finance services on time when they need it are ahead in per acre profit with the amount of Rs.1629 compare to those farmers who are not getting micro finance on time when they need it for growth of crops.

The value of the adjusted R square is 0.792522 which proves that the model is good and the independent variables (micro finance, availability of micro finance when required by small agriculture farmers) are jointly influencing the dependent variable (profitability) of the small agriculture farmers of Tehsil sadder Bahawalpur in this study. The p value of the F statistics in this random effect model is 0.0000 that is also significant and supporting the goodness of the model fit. As the previous researcher interpret the fixed and random effects results consistent with this study like the study of Nazir and Nawaz (2010)

5.1 Heteroskedasticity test

A test of Heteroskedasticity is helping full to measure the validity and reliability of the data collected for sample study. The hypothesis for the Heteroskedasticity are developed in this study are

H_0 = there is no Heteroskedasticity in the data

H_1 = there is Heteroskedasticity in the data.

6. Conclusion

It can be concluded from the study that the role of micro finance is significant and positive for agriculture sectors. The agriculture farmers those who are facing financial difficulties during growth of crops the availability of micro finance especially timely availability when crops demanding some finance depending activities like provision of water, fertilizer, some labor related activities application of pesticides is a blessing for the agriculture farmers. These kinds of activities raised the needs of financial services from financial institutions, the financial institutions in the country are playing this role in good manners, but there is still a lot of work need to be done for the improvement of this system. There is positive and crucial role of micro finance for improvement of profits of the small agriculture farmers. This study also proves that the independent variable micro finance in this study has significant and positive impact on the dependent variable that is per acre profitability of small farmers. A dummy variable was also studied that was availability of micro finance also has significant influence on the profit ability of small agriculture farmers of Tehsil sadder Bahawalpur. The study conclude that as there is per acre increase in micro finance services for small agriculture farmers of Tehsil sadder

Bahawalpur an increase can also be observed in the per acre profitability of small farmers of Tehsil sadder Bahawalpur. Separately from credit services, financial institutes help farmers from side to side with the provision of fertilizers, farm technologies, superior seeds and other forms activities like consultation. These ways of prop up assist to strengthen the banker/farmers relation and financial transition within the small farmers. The maximum mean delaying period of micro finance funding is about one month as confirmed by the micro finance institutes. The reason behind the delaying funding is late repayment of loan by the group members.

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List of Tables:

Descriptive Statistics

Table 1

	Profitability per acre	Micro finance per acre	Availability of micro finance when required by farmers
Mean	40842.90	8833.556	0.733333
Median	39000.00	8150.000	1.000000
Maximum	74574.00	16500.00	1.000000
Minimum	10385.00	4000.000	0.000000
Std. Dev.	11963.17	2568.085	0.442709
Skewness	0.393440	0.564977	-1.055290
Kurtosis	2.745334	3.017716	2.113636
Sum	18379304	3975100.	330.0000
Observations	450	450	450

Table 2

Hausman Test of specification

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	2.800444	2	0.2465

Table 3
 Multiple regressions (random effect)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2151.352	994.7093	2.162795	0.0311
Micro finance per acre.	4.245574	0.103269	41.11192	0.0000
Availability of micro finance when required.	1629.917	428.1941	3.806491	0.0002
R-squared	0.793446	Mean dependent var	22897.77	
Adjusted R-squared	0.792522	S.D. dependent var	7524.712	
S.E. of regression	3427.490	Sum squared resid	5.25E+09	
F-statistic	858.5412	Durbin-Watson stat	2.009319	
Prob(F-statistic)	0.000000			

Heteroskedasticity white test

Table 4

F-statistic	1.426835	Prob. F(4,445)	0.2240
Obs*R-squared	5.698383	Prob. Chi-Square(4)	0.2228