Appearance of Inefficiency in National Banking

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This study investigates evidence on appearance of inefficiency in National Bank of Pakistan test hypothesis on distortions. State Bank of Pakistan's statistical journals provide rich source of data on bank's operating cost, assets and liabilities to have closer look in the cost structure, data is collected from annual statements, sample from 1980-2014 to gain degree of freedom we benefit from data of Ahmed. We investigate three models with inclusion of distortion i.e., inflation interest rate and debt to GDP ratio. Our results strongly support appearance of inefficiency in National Bank of Pakistan. On arguments *firstly,* interest rate is not only prohibited in Islam but in many other religions it deteriorates banking system. Islamic banking has been profitable even in non-believers to invest *secondly*, in empiricism inflation is a shift factor as real output differ from actual level cause inefficiency *thirdly*, external debt sustainability is another source of inefficiency in public banking. For policy-makers there is vast scope to look at efficiency and how it play role in market to capture better internal resources and more toward foreign markets. On governance it comprise strategic policies for establishment of more branches, credit expansion accumulation of assets and deposits such as employment in market strategies to add people in work market for the country as a whole and on the other hand input market for better allocation of resources in divine economy out of inefficiency. It matter little how much information we possess about efficiency if we do not grasp its inner meaning.

Keywords: Public Banking, Inefficiency, Distortion Arguments, Cost Structure

1. INTRODUCTION

Cost efficiency means existence of the fittest, best practices of learning lesson from the past. Following Leibenstein (1966) it term as x-inefficiency or technical inefficiency. A technology used interchangeably. Although similarities in both terminologies exist primarily they differ. Technical efficiency is more toward neo classical such as profit maximisation, training of human capital and level of managers. One reason could be inferior technology or it may come though wrong technology adopted and brought by governance, x-inefficiency do not appear with volatility but through organisation and skills for how it use. On evidence Berger, Hunter and Timme (1993) argue in x-inefficiency it constitutes 20 percent or more in bank costs. Underutilisation and poor manufacturing may be one reason. However, Leibenstien (1975) argue entropy of organisation, x-inefficiency appears though low pressure on

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performance such as governing bodies and their influence. Another x-inefficiency is through alternative source declaration such as rent seeking in the process of production Tullock (1967, 1980) and Buchnan (1980). Rent seeking in process of production or exchange governance adds ties, barrier to entry, evil such as bribe and corruption. Moreover, bureaucracies and mechanism though greater budget collection on disposal of every governing needs in turn reward for management Tullock (1967, 1980). It further deteriorates due to prestige on workplace. Bogetoft and Hougard (2003) pointed out reason of x-inefficiency cause low performance through rational decision making of managers, such as on job compensation, x-inefficiency considered as Leibenstein (1975) a non-maximising behaviour. Stigler (1971) viewed a symptom maximising individual behaviour. A targeted level of mix comprise, output and input. The bureaucrat minimise subject to unity such as Willamson (1964, 1970) function. In other words, for ith bank for k inputs, bureaucrat minimise cost get unity function having j outputs and in a subset of n factor inputs. To find evidences on efficiency are straight forward. If we know inputs and outputs of the firms Leibenstein (1966), Lau and Yotopoulos (1971), Cameron (1972), Leibenstein (1975), Buchanan (1980), Atkinson and Halvorsen (1980), Naqvi (1982), Jarrett and Selody (1982), Cukierman (1983), El-Bdour and Radi (1984), Atkinson and Halvorsen (1984), Sickles and Johnson (1986), Benoit and Pierre (1986), Buck and Fitzroy (1988), Eakin and Kniesner (1988), Darrat (1988), Khan and Mirakhor (1990), Jafry (1991), Berger, *et al.* (1993), Oum and Zhang (1995), Smyth (1995), Battese and Coelli (1995), Demirguc-Kunt and Detragiache (1997), Burki, *et al.* (1997), Freeman and Yerger (1998), Nisar (1999), Isik and Hassan (2002), Bogetoft and Hougaard (2003), Saaid, *et al.* (2003), Efthymios and Christopoulos (2004), Burki and Khan (2004), Ataullah, Cockrell and Le (2004), Claessens and Laeven (2005), Patti and Hardy (2005), Karim and Jhantasana (2005), Zafar and Ahmed (2005), Kwan (2006), Burki and Niazi (2006), Zafar (2008), Mustafa, *et al.* (2009), Vallascas and Keasey (2012), Roghaniana, *et al.* (2012), Niazi and Burki (2014), Zafar and Iqbal (2015).

2. BANK EFFICIENCY IN EMERGING MARKETS

To find evidences on efficiency it generally creates the matter in two ways. Intermediate approach and production approach. Through intermediation, it approaches that of deposits transformed into loans and other earning assets. Cost in this approach appears from operational expenditures. These services are creation of deposits holders and borrowers. Other financial services Naqvi (1982), Mustafa and Younas (2009) have evidences in services charged on non interest income. In this technology, financial transactions, loan accounts and number of deposits are taken as output. In neo classical production theory production cost only cover Ferrier et al. (1993) excluding interest cost from operational costs. Due to readily available data mostly people use intermediate approach that it requires or production approach. Burger and Humphrey (1997) indeed had frontier analyses in survey data for 21 countries. Studies for US are more common and shedding light on performance. Conscious and unconscious decisions are integral part of inefficiency. In the statements of compliance the best practices contained in code of conduct and corporate governing. National Bank of Pakistan governing takes g-1 for prudential regulations corporate and commercial considered by State Bank of Pakistan. Objectivity there is comprehensive code of qualification of companies for weather the

statement reflect the true picture of the bank. The responsibility has been disaggregated on governance to get true reflection of bank. The reviews contain several documents pertaining to the settlement of issues and legislating coming through several sources. This does not carry out in special reviews or in internal control system. Nothing has taken for decision making which cause us to believe Roghaniana, *et al.* (2012) statement does not reflect bank. The best practice and more shedding light is Nota and Coles (2014) higher level of negative thinking associated with less timing of sleep. The study has strong evidence through clinical practices. This pertain light on hidden area of the life of directors likes and dislikes sin and evil. Flesh selling woman and their role in working employment, need for god gift beauty.

Do directors get off an extra budget in international visits reservation with the hotels with in family compliance? This also applies to middle management and people of excessive work load in National Bank of Pakistan. Fee money for middle management with schemes to strengthen their family matters. Schemes of working welfare and accountability tests with check and balance, for an example in policies it matter, compulsory car lease scheme and no old car lease. No organisational monogram registration for old car bought in middle management. The study explains repetitive negative thinking are due to less sleep complement past trans diagnostic measures. This brings in through tests cohabitation marital and in logic, working reports enclosed in routinely working developed as well as in developing countries. For evidence personal reports as a part of normal financial reports is a matter of culture in developed countries this would be a normal matter however for Pakistan this could enhance banking efficiency. Trust play a counterpart in distortion to make a trust worthy front stage performance it is necessary for the researcher have a clear understanding about the dynamics of impression management. Communication is essential in presenting trust worthy impressions and to defining the situation. Communication can be divided into intentional giving and unintentional giving off. While the international communication is straight forward and easy to manage and involves language the unintentional transpires through nonverbal communication and is difficult to control Pery (2012). In relation to this thesis, this means the attitude towards the young men with minority ethnic backgrounds in Europe and ways of framing them over time have become Pery (2012) accepted normal daily practice a gift, however this attitude could change over time.

Distortions in Arguments

Inflation: In this aspect we shed light on allocative efficiency in inflationary economy and a relationship between inflation effecting banking activity in cost structure of National Bank of Pakistan. In literature we find proponents of the hypothesis that the information Hayek (1945), Friedman (1977) and Tsionas and Christopoulos (2004), content of the prices are scattered around, a white noise resulting from inflation that is in a counterpart distorting the economic activity. In Lucas critique, formulations of the real theory Lucas (1973) bring in evidence for rational expectation that differ from one individual to another in decision making in aggregate it find out different results such speculative demand and how it cause relative prices. Normally it impede general price movements. Whereas uncertainty about future prices in Keynesian economy lead to price stickiness. That is because of neo classical terminologies. In empiricism structural

equations treated to decline degree of uncertainty, either in Lucas or afterword analysis approaches. It turns out uncertainty govern economy. In view of Friedman (1977) and Lucas (1973) firms need optimality, Cukierman (1983), Temple (2000) produce less. There are number of surveys in my box at length from Pakistan Institute of Development Economics about inflationary impact on economy. In our analysis an intercept will serve all other factors as follows and then inclusion of specified effect, in this chapter we shed light on inflation in the following chapter some more arguments. In empirical production Buck and Fitzroy (1988) studies of inflation in Cobb Douglas production technology used inflation as shift factor as real output differ from actual level. It is due to inflation it cause inefficiency. However how explicitly inflation effect prices is not clear. Lucas and Friedman suggest inflation stipulate Lucas (1973), Friedman (1977), Temple (2000), efficient allocation of resource. In our case in banking costs in literature Buck and Fitzroy (1988) shed light on inflation in production function modelling how inflation affects real variables through relativity. Austrian Theory of business cycle Hayek (1945) and Buck and Fitzroy (1988) further argued for having inflation a source of misspecifications. It enter differently as one sided inefficiency depending on inflation Battese and Coelli (1995). Of course there cost minimisation does not encounter inflation that is doing affect efficiency standards through price distortions. In terms of prices not out of inflationary distortions. Cost do not approach to the true nature of allocation of resources Jerrett and Selody (1982), Buck and Fitzroys (1988), Freeman and Yerger (1988), Smyth (1995), Cameron, *et al.* (1996), Demirguc-Kunt and Detragiache (1997), Palokangas (1997), Tsionas and Christopoulos (2004), Karim and Jhantasana (2005), efficiency and producivity could not be separated. It turns out in gray area it remain, unclear how deteriorate productivity. One problem that arise assessing squeeze, it penetrate enters in production side of banking such as interest income, noninterest income, shareholders equity Naqvi (1982), Mustafa and Younus (2009), investments and deposits. In this study we incorporate inflation in a microeconomic choices i.e., price of capital, price of labor, administrative prices nonetheless fluctuate because of divergence from price effected by inflation. It hinders banking decisions of allocation and deterioration of economic efficiency in scale for the banking. Price is taken as not true reflection of production does not minimise cost or shadow cost. The shadow costs differ optimal cost due to production side of relative prices determined in monetary and real economy. Shadow cost functions Lau and Yotopoulos (1971), Atkinson and Halvorsen (1980, 1984), Sickles, *et al.* (1986), Eakin and Kniesner (1988), Oum and Zhang (1995), Burki, *et al.* (1997), Nisar (1999), Isik and Hassan (2002), Burki and Khan (2004), Tsionas and Christopoulos (2004), Zafar and Ahmed (2005), Burki and Kasuri (2007), Zafar (2008), Naizi and Burki (2014), Zafar and Iqbal (2015), have been used globally. It used to find evidence on allocative efficiency given decision in uncertainty. Inflationary distortions in relative shadow prices, that is in turn effect decision under conditions of allocative inefficiency in National Bank of Pakistan. Modelling inflation in our case will let us find firstly, inflation distortion from actual to shadow prices. It raises cost similar to Cobb Douglas analysis by Buck and Fitzroy (1988). Inflation enters through shadow markets and cause distortion which determine inputs and outputs in factor markets. This has effect for under and over utilisation of inputs and outputs. It enters in grey area of uncertainty and sin that make our soul uneasy actually a source of distortion for having a religion. Then there is

everything on, should one suppose a check list of categories in canteen drinks offered for bankers a proportion of and recognition of x category official and there availability in Europe. Another parameter could be data of hotel reservations of directors and x categories hotels. This area of research is still in grey area not having any research in Europe however well recognised for having another parameter of bars in the area and interviews by cleaning boys for how frequent condom necks, perturbation is still another variable, masturbate, men of having woman flesh, women on price in directors portfolio, still another variable that is porn stars in banking is there stars in soldiers? Deposits of punsters a separate clear clause banking packages and offers to porn business, mostly could be easily found in developed economies, but not in Muslim economies, it is extremely difficult to collect data on porn. Does porn business (shop) welcome every tenth street in Europe? Then why silence literature on banking. Absence from the church is another variable of course it's a developed country well measured. Is there any shop without a camera recognition, similarly for having data attending church mosque prayer is possible depends on wake of humanity in Europe, such a nice atmosphere every single lad men or women well recognised, still another parameter of efficiency. People enter with a check card in buildings, do we, why it does not in churches? is not it so cold, one never forgive oneself forget, why it do not for the church? This will bring in a revolution in research on efficiency on availability of data, for example settling camera and check in cards in churches of Europe. Selection of banking staff, their religious activities, attendance discourse and effect To continue with the discussion very similar is to Muslim economies for example after one having lunch on interest based earning get fast to get in queue in mosque. On identification Muslims on interest earning. Registers of porn business, on remarks of banking staff and officials. Banking staff and their register on evidence this is a post doc research and it is out of the scope of this research.

Interest Rate: x-religious distortion means when one get away from religion. There will be many diseases enter the social system and cause turn around for all efficient allocation of resources. God fearing people remain out of these evil. There is a huge list of blur but we have some of them. Eroticism, woman flesh money, a bank note having woman flesh in mirror image and its velocity (measured by issued coupons and electronic tickets through developed banking) measurement in this area of banking cause sickness which is yet an area of research to be explored even in developed economies, remains beyond the scope of this study. Bribe is used to get the ends which are not possible through normal rules and regulations. In philosophy it's a manipulation of people buy influence. Bribery in its true since defined in Black's Law Dictionary as offering, giving, receiving or soliciting of something of value that is influencing the action of officials in their governed duties. This might comprise direct money notes, woman flesh (body) or property. It may also be in the form of a kick back on evidence suppose a (blind) date, after a bank deal. Velasquez (1992) do not know this but somehow telling, it could be referral of a person suppose porn to buy an otherwise. Bribes in pure sense take birth when there is conflict of interest among parties. That is prevailing in organisations it get in through private interest or ease to private interest this could let in use of flesh sellers employed in offices. This might be not in the interest of organisation but to seek standards of course the best beautiful an online selection in open completion why not local hire. Such as emergence of new markets and recognition, this might include change

or implementation of new policy setting aside God means for this reason, we could say all evil will turn in banking. What efficiency where allocation all in shadows Peil and Stavern (2009) in developed countries then all in vain in literature on efficiency. Islam is not unique in prohibiting or condemning the use of interest rate. Plato and Aristotle maintained that money is barren and therefore, it cannot breed money. They denounced birth of money from money Mohsin and Abbas (1990). Even Judaism which permitted charging interest on loans from Nochri (foreigners) maintained that it was unlawful to charge interest from brothers in religion. Their teachings went as far as to suggest that when loans were advanced to other Jews they may be forgiven at the end of every sabbatical year. However, foreigners Benoit and Pierrie (1986) were excluded from the cancellation of debt. During the region of Charlemagne and the beginning of the Middle Ages. The Church as well as the state prohibited usury (interest rate). According to the Church, charging interest Benoit and Pierrie (1986) amounted to disobeying the seventh commandment. Thus, it may be stated that the three principal monotheistic religions with roots in the Middle East, as well as the Hellenic philosophers, condemned charging interest in varying degrees. However, since the rise of capitalism, interest rates have played a central role in the development of the modern banking system. Yet, Gurley has observed "that banking system as intermediaries are not highly essential to the growth process" Gurley (1967). Cameron (1972) pointed out that the contributions of the modern banking system have been positive, negative, and neutral in the early stages of economic development in various European countries. The degree of success depended on the support to the banking industry received from the government. Thus, historically the role of the modern banking system in economic development or economic stability has produced mixed results. In recent years some Muslim countries Naqvi (1982), Mustafa and Younus (2009) have initiated non-interest based banking. Foremost among the countries that subscribe to this philosophy are Pakistan and Iran. Since Islam forbids the payment of interest, what alternative mechanism will be needed to mobilise resources? Muslim economists have suggested that the operations of the banking industry Naqvi (1982), Mustafa and Younus (2009) should not be viewed differently than the operation of any other active business, by sharing profit or loss, then the return accruing to the lender of money is acceptable. The lender's sharing in profit or loss is similar to venture capital. In theory interest free banking Mohsin Khan (1986) contrast consistent with Keynesian or classical macroeconomic models. These argue that fixed interest rates prevent adjustments to shocks resulting from profit or loss. It is this rigidity in sum that could lead to financial instability. For an evidence in National Bank of Pakistan had a substantial increase in interest rate as in 2008 for having Islamic evidence it's a magnitude of financial meltdown and *grasp* of heavens to stop activities. That is National Bank of Pakistan net interest income grasp increase by 10.2 percent to Rs 37.1 billion compared to last year. In Pakistan economy several issues get birth regarding law and order, liquidity, power of shortage, rise in interest rate, arise. This could be the reason of fiscal deficit. It is through globalisation effecting internal financial markets for on evidence a slowdown due to grasp. It pose in domestic economy many challenges to volume growth. Naqvi (1982) has argued that on ethical grounds it is easy to reject the interest rate, however, "in the realm of economics, the issue is not so clear-cut". He analyses interest rates within the framework of a dynamic economic system (in real

terms). This concludes that Islamisation can be completed only over a period of time. Hence during this period, the institution of interest can be gradually replaced by what is known as the profit and loss sharing (or Musharika) since the institution of interest "cannot be abolished arbitrarily through an administrative fiat". In describing the development of Islamic banking in Iran and Pakistan have Khan and Mirakhor (1990) observed that in both countries private sector deposits increased. Hence, the Islamic banking system can effectively mobilise resources. The authors also point in terms of mobilising of resources. State in two countries played an important role. They are uncertain. In performance of Islamic banks in the absence Rosly, *et al.* (2003) of government intervention. Much of the literature on interest free banking is of a theoretical nature. Primarily because such banks have appeared on the scene only in recent years during modern times, Darrat (1988) empirically examined the effect of interest free banking on the stability of financial system in Tunisia. The findings include a demand of stable financial system and a monetary stability in circulation of economy. On evidence non-interest banking do not cause more to velocity of money. In 1973, Pakistan adopted a new constitution. According to Article 37 of the constitution the country was obligated to abolish riba as soon as possible, What a country? In subsequent years the Council of Islamic Ideology recommended that gradually western style Naqvi (1982), Mustafa and Younus (2009) banking system should be replaced by an interest free Islamic Banking System. Well will roots remain for sustainable development? In an Islamic society both hoarding of goods (ihtikar) and hoarding of cash (jktinaz) are thoroughly discouraged El-Bdour, *et al.* (1984) and condemned while the circulation of wealth is strongly emphasised. Since the hoarding of cash is virtually prohibited members of the household are expected to make their savings available for investment. Interest free banking however, does not imply access to capital without cost of risk. What mechanism will facilitate the process of making? Household savings available to borrowers will depend upon the type of financial institutions. A society already has or it develops. About the forms of these institutions such that there are no specific requirements. Existing financial institutions with appropriate modifications can serve an Islamic society. In existing banking system interest payments have three components: administrative expenses, basic interest and risk premiums. Under Islamic banking system only El-Bdour and Radi (1984) administrative expenses will be permitted. Profit and loss relationship between the borrowers and lenders are in two specific terms that define, Musharikah and Mudarabah. Musharikah, is equity participation or limited partnership. It refers to a financial system in which losses and profits are shared by the lenders and borrowers. It is "a partnership based on the joint contribution of a bank and an entrepreneur, a customer, who mutually agrees to form capital for business exploration with a prior agreement of the ratio of profit and loss" Jafry (1991). Mudarabah is a silent partnership or short term commercial credit arrangement. Do Islamic interpretation an alien interpretation? Other religions are also prohibiting interest rate returning to get efficiency standards National Bank of Pakistan is experiencing substantial competitive pressure domestically and internationally. As a result of specialisation in input utilisation, a way towards Islamisation and liberalising financial services, increasing use of advanced technologies it cope with both standards together and in response to these competitive pressures, the bank has attempted to adopt alternative strategies to reduce their production costs by

exploiting economies of scale eos. In theory, the presence of eos means bank have a cost advantage. A large amount of research has estimated the production economies of the banking sector in past. However, most of these studies are in banking sector of developed economies, little or no attention has been paid individually to banks in emerging markets such as Pakistan, National Bank of Pakistan. Scale inefficiency emerges due to distortion in effective competition in banking. Such inefficiencies are common due to distortion in banking sector, in factor markets leading to the use of inappropriate factor proportions Burki, *et al.* (1997), Nisar (1999), Isik and Hassan (2002), Burki and Khan (2004), Ataullah, *et al.* (2004), Claessens and Laeven (2005), Zafar and Ahmed (2005), Patti and Hardy (2005), Kwan (2006), Havrylchyk (2006), Burki and Kasuri (2007), Naizi and Burki (2014), Zafar and Iqbal (2015). NBP also compete in marketing finance. However distortions in the factor markets in the banking produce inefficiencies leading to biased economies to privatise services of public banks, vice versa.

The relationship between growth and inflation is well documented statistics of economy around the world. Inflation either having peaks or downturns cause distortions in economy. People believe in low inflation for low growth. In developing countries inflation is always kept under check and balance for it produce more a hindrance in wellbeing then growth. Governance is always vigilant on inflation many of the policies either borrowed from abroad or taken internally to care economy have been initiated. Price stability through removal of every reason boosts investments. In addition state bank of Pakistan control inflation in monetary policy. One of the reason could be to accommodate or tightening a staggering policy. During first half of current fiscal year State Bank of Pakistan in policy of 17th may 2014 maintained policy rate at 10 percent. To flesh out, in Pakistan high Inflation owe fiscal and monetary policies. The country's commitment to cope with rising trends large deviation every effort to bring it to single digit. Exchange rate and interest inviting foreign investors in Pakistan to cope to the challenge of unemployment at one hand and reduction of inflation to stop every possible activity of dual inflationary impact in Pakistan. Introduction of ATMs in Pakistan brought a mega event for printing new currency and enrage although brought in flushing sectorial strategies but it hinder working in an active shadow multiplier counter effecting to wave out growth. It turns out NBP is victim which cause in equalities work though investments and employment. There are no studies about stability and projections through internal policies that NBP carry out for economic growth. Temple (2000) quantifies effect of inflation on cost of production. We estimate do bank have cost advantage. Lastly, managing events of external debts and risk associated with them pose policy makers with different set of challenges that bring in efficiency. External debt sustainability is another important factor. High exchange rate distortions and current account deficit increase external debt. In crisis for National Bank of Pakistan actions might not be common stabilising the economy. Thus a positive taking system in the form of debt sustainability analysis in macroeconomic stabilisers prevents debt problems.

3. DATA AND VARIABLE CONSTRUCTION

c_t is total cost of transformation of physical and financial resources that is the sum of five items, using output y_t for total assets p_{1t} price of capital advances and investments through total deposits. p_{2t} price of labor salaries of employees determined through total

deposits. p_{3t} price of rent, taxes, insurance, electricity, etc. p_{4t} other expenditure determined in terms of total deposits. Correspondingly, we compute share and sum of all expenditure as total cost. Deposits are measured as the total of all types of deposits i.e. current, saving and time deposits of the banks. Labor measured per full time employees on the payroll at the beginning of the each year. Rent, taxes, insurance, electricity, etc., and for other expenditures State Bank of Pakistan's statistical journals provide a rich source of data on bank's operating cost, assets and liabilities to have closer look in the cost structure, collected from consolidated annual statements our sample comprise from 1980-2014 of the bank, to gain degree of freedom we benefit from collected data of Ahmed.

Measurement on Arguments

This section complements the existing studies on production economies by evaluating performance. National Bank of Pakistan in public banking and sheds light on enhancing the performance of public bank through operational specialisation in diversification divergence due to inflation. We estimate cost together with share equations as an exercise to find out evidence on inflation following Lau and Yotopoulas (1971), Atkenson and Halverson (1980), Atkenson and Halverson (1984), Burki, *et al.* (1997), Zafar and Ahmed (2005), Zafar (2008), Zafar and Iqbal (2015) this deteriorate shadow prices other added variables explain variations Model I then assuming other variables contributed adding to inefficiency we make more models such as Model II in addition to Model I it include changes in interest rate in Model III effect of debt to GDP ratio shedding more light on presence of inefficiencies. We estimate does our result bench mark and are robust in non-linear estimation. A cost share system of equation treated separately one by one to find out influence and magnitude that produce inefficiencies in National Bank of Pakistan. In estimating parameters appear in the model in SUR technology there are some parameters of intense importance among them is inflation. *Firstly,* It turns out inflation have roots distort economy. *Secondly, i*nterest Free Banking, in Islamic society both hoarding of goods and hoarding of cash are thoroughly discouraged and condemned whereas every circulation of wealth is strongly emphasised. As the hoarding of cash is strictly prohibited, every member of the household motivated without gender to take part in savings and investment. Interest free banking, however, does not imply Mustafa, *et al.* (2009) access to capital without cost of risk. The process emerge through defined lines of action without an alteration amendment making through lenders and borrowers on the basis in the light of religiosity a mechanism will facilitate the process of making household savings available to borrowers. It will depend upon the type of financial institutions that a society already has or develops. There are specific requirements about the form it deal with and definition of institutions. Existing financial institutions with appropriate modifications can serve an Islamic banking system. The relationship between borrowers and lenders, Musharikah and Mudarabah is effective as a public bank competing in financial market purr to interest rate distortions, remains a solid question besides religion. *Thirdly,* Managing events of external debts and risk associated with them pose policy makers with different set of challenges that bring in efficiency. External debt sustainability is another important

factor. High exchange rate detrition and current account deficit increase external debt. In crisis for National Bank of Pakistan actions might not be common stabilising the economy. Thus a positive tracking system in the form of debt sustainability in macroeconomic stabilisers prevents debt problems.

Evidence on Arguments

We begin with translog cost function following axioms, perfect competition in input market that is no allocative inefficiencies. Translog cost function is obtained as second order tailor series approximation for modelling see Burki, *et al.* (1997), Zafar and Ahmed (2005), Burki and Naizi (2006), Zafar (2008, 2012), Shabbir and Barki (2014) and Zafar and Khan (2015). The function is highly flexible it allows scale economies and input proportions to vary with level of output. For cost function we denote factor price by p their respective quantities with x output by y and total cost by c. That is $c = \sum p_i x_i$. The effects of price distortions on output and inputs can be estimated by comparing the fitted quantities obtained Burki, *et al.* (1997) Burki and Naizi (2006), Naizi and Barki (2014) using our estimates of the parameters and price distortions to those obtained if shadow prices did not diverge from observed prices. As a bank may not be able to have the optimal combination of inputs due to imperfections in decision making suppose sin or imposition of distortionary government regulations inflation, interest rate and debt to GDP ratio affect cost structure of actual and showdown cost discussions and details that follow in chapter. This include another term appear z_i in globally known translog cost function. Monotonicity of behavioural shares, confirms through fitted values, positive and convexity is checked by determining the estimated principal minors. National bank act as price taker in the output market if and only if $\lambda_1 = \lambda_2 = 0$, whereas the bank reflect actual cost once k's =1. Regulation through debt to gdp ratio does not distort variable input prices if and only if the significance of variable is tested in Wald test. Those behavioural and equally observed prices are performed by appending a classical additive disturbance term and estimating equations in a system, importantly with and without imposing restrictions for analysis. The significance of all restrictions is Atkinson and Halvorsen (1984) evaluated using likelihood ratio tests. Only in arbitrarily chosen k-values can be simultaneously estimated, since sample of cost function eliminates problem of degree of freedom.

In our empirical investigation we perform several independent hypothesis tests about input and output with distortions of input prices. Conditional on the accepted hypotheses, we estimate the final form of the model and measure the effect of price distortions on the quantities of both inputs and outputs. The results of all tests of output and input price, taking in banking, price distortion are reported in Table 2 beta's and t-value. Estimates for increasingly restrictive versions of the model are provided in chi square tests. Whereas the parameter estimates and t-statistics are reported in Table 3, for these models, the evidence is strongly supportive for every hypothesis in Tables 2-3, the estimates further proves evidence in favour of arguments.

Table 1

External Debt Sustainability

In Percent	2008	2009	2010	2011	2012	2013	2014
Non Interest Current Account/GDP	6.9	4.4	1.4	0.8	1.3	0.5	0.5
Growth in Exports	18.2	6.4	2.9	28.9	2.6	0.4	3.2
Growth in Imports	31.2	10.3	1.7	14.9	12.8	0.6	3.7
Growth in EDL	14.9	13.4	17.6	7.8	1.3	8.7	0.9
Growth in FEE	12.8	5.1	7.9	25.1	1.1	4.1	0.2
Growth in Non Interest Foreign Currency Payment	27.2	12.8	4.9	13.3	11.4	0.4	2.4
EDL/ FEE	1.2	1.5	1.6	1.4	1.4	1.2	1.6
EDL/ FER	4	4.2	3.7	3.6	4.3	5.4	6
EDL/ GDP	27.1	31.1	34.7	31	29.2	26.1	25.2
EDL Servicing/ FEE	11.8	18	16.6	11.4	12.5	14.3	14.2

a: end march 2014.

b: Growth compared to equivalent period in 2013.

c: Abbreviations FEE, foreign exchange earnings, EDL, external debt and liabilities, LER, foreign exchange.

d: Source, debt policy co-ordination office staff calculations, finance division, published in economic survey 2013-14.

Table 2

Test of Hypothesis

	Noughts and Appearance (of in-efficiency)	Restriction	χ^2 Critical Value at (0.05 level)	Test Statistic
Distortions	H_0 : No Inflation, Interest and Debt to GDP ratio. H_I : On the surface inefficiencies.	$\beta_1 = \beta_2 = \beta_3 = 0$	7.88	31.204[a]
	H_o : No Inflation and Debt to GDP ratio. H_I : On the surface inefficiencies.	$\beta_1 = \beta_2 = 0$	5.99	28.472[a]
	H_o : No inflation. H_I : On the surface inefficiencies.	$\beta_3 = 0$	3.88	12.422[a]
In Shadows	H_o : No Inflation, Debt, Interest Distortions. H_I : Shadow prices of NBP.	$\lambda_1 = \lambda_2 = \lambda_3 = 0$	7.88	8.376[a]
	H_o : No interest in Distortions. H_I : Blur in NBP.	$\lambda_3 = 0$	3.88	21.112[a]
	H_o : Taking Equal Price in Cost Structure. H_I : Actual Cost structure in NBP.	$k_1 = k_2 = k_3 = k_4 = 1$	14.86	37.132[a]

a: Indicates that the null hypothesis is rejected at 0.05 level of significance.

Table 3

Parameter Estimate on Hypothesis and Asymptotic t-ratios on Level

Parameters	Model I		Model II		Model III	
	Estimates	t-statistics	Estimates	t-statistics	Estimates	t-statistics
$\alpha_0, \alpha_0, \alpha_0$	17.605	76.765[b]	16.826	35.345[b]	17.239	34.318[b]
$\alpha_k, \alpha_k, \alpha_k$	0.763	151.074[b]	0.763	151.387[b]	0.762	152.068[b]
$\alpha_l, \alpha_l, \alpha_l$	0.013	7.030[b]	0.013	7.068[b]	0.137	7.461[b]
$\alpha_r, \alpha_r, \alpha_r$	0.219	48,495[b]	0.220	48.473[b]	0.220	48.000[b]
$\alpha_o, \alpha_o, \alpha_o$	0.418e-03	23.665[b]	0.423E-02	23.746[b]	0.424E-02	23.951[b]
$\beta_{ll}, \beta_{ll}, \beta_{ll}$	0.047	22.973[b]	0.048	22.786[b]	0.049	23.871[b]
$\beta_{kk}, \beta_{kk}, \beta_{kk}$	0.090	28.437[b]	0.089	28.541[b]	0.089	29.609[b]
$\beta_{rr}, \beta_{rr}, \beta_{rr}$	0.053	23.518[b]	0.052	23.236[b]	0.053	22.910[b]
$\beta_{oo}, \beta_{oo}, \beta_{oo}$	0.900e-03	8.229[b]	0.902E-03	8.290[b]	0.932E03	9.123[b]
$\beta_{lk}, \beta_{lk}, \beta_{lk}$	-0.0418	-22.816[b]	-0.043	-22.720[b]	-0.043	-23.786[b]
$\beta_{lr}, \beta_{lr}, \beta_{lr}$	0.762e-04	0.402	-0.559e-02	-5.306[b]	0.177E-03	1.027
$\beta_{lo}, \beta_{lo}, \beta_{lo}$	-0.538e-03	-5.178[b]	0.826	0.437	-0.667E-02	-6.365[b]
$\beta_{rk}, \beta_{rk}, \beta_{rk}$	-0.047	-19.320[b]	-0.047	-19.136[b]	-0.905	-4.929[b]
$\beta_{ro}, \beta_{ro}, \beta_{ro}$	-0.102e-03	-0.995	-0.135e-03	-1.338	-0.204E-03	-2.194[b]
$\beta_{ko}, \beta_{ko}, \beta_{ko}$	-0.047	-19.320[b]	-0.849e-03	-4.351[b]	-0.046	-19.086[b]
$\alpha_y, \alpha_y, \alpha_y$	1.641	9.363[b]	1.583	9.528[b]	1.252	7.883[b]
$\beta_{yy}, \beta_{yy}, \beta_{yy}$	-0.393	-5.839[b]	-0.350	-5.491[b]	-0.232	-3.835[b]
$\beta_{yl}, \beta_{yl}, \beta_{yl}$	0.799e-03	0.628	0.614e-03	0.479	-0.393E-03	-0.310
$\beta_{yk}, \beta_{yk}, \beta_{yk}$	-0.139e-02	0.416	-0.394e-03	-0.119	0.384E-03	0.117
$\beta_{yr}, \beta_{yr}, \beta_{yr}$	0.969e-03	0.319	0.193e-03	0.064	0.476E-03	0.154
$\beta_{yo}, \beta_{yo}, \beta_{yo}$	-0.374e-03	-2.978[b]	-0.413e-03	-3.302[b]	-0.467	-3.893[b]
$\beta_{inf}, \beta_{inf}, \beta_{inf}$	-1.064	-6.326[b]	-0.900	-5.067[b]	-0.621	-3.255[b]
$\beta_{int}, \beta_{int}, \beta_{int}$	-	-	0.299	1.971[b]	0.357	2.478[b]
$\beta_{dg}, \beta_{dg}, \beta_{dg}$	-	-	-	-	-0.376	-2.102[b]
Log of Likelihood	425.203(412.58)		426.816(412.58)		428.182(412.58)	

b: Significant at 5 percent level of significance.

We first test for impact of interest in shadow cast by imposing the restriction $\lambda_3 = 0$. It reject this restriction see Table 2 since the chi-square statistic is 21.112 meaning that interest rate cause distortion in National Bank of Pakistan in functional market, one reason for this could be presence of god and no god. If no god then what, every evil is normal, what else? If that is the case then all is in vain at least for having religion.

If no religion then there are inefficiencies. Liberals are efficient of course for purity of deontology, will one follow Peil and Staveren (2009) yes it does norms and universal values in transparent drinks, of course not, where efficiency? In National Bank of Pakistan input price distortion is tested by imposing the restriction $\beta_3 = 0$ with a chi-square statistic of 12.422. In reject of this hypothesis it turns out severe implication of inflation in economy. We test the hypothesis that National Bank operate at actual cost in market $k_1 = k_2 = k_3 = 1$. The test statistic is 37.132 reparability occurs since generating capacity constraints and we reject this hypothesis at p-value about 0.05 parameter estimates with the restrictions for distortion in National Banking imposed are presented in Table 2 all k's equal to one ever since the estimated values of k_1, k_2 do differ substantially. The knots and tests of cause in shadow inefficiencies, prove over or under

utilisation of the inputs of National Bank of Pakistan that appear in each argument, of course it operate, either small inequalities of factor proportions leading to inappropriate factor utilisation in essence break through from marginality principle of allocation. This proves, already morning, after noughts, beautiful blue sky coffee cup, follow details in allocation of resources in future research.

4. CONCLUSION

Appearance of inefficiency cause low performance poor input substitution and wastage of resources in terms of over or underutilisation of inputs and outputs, one reason could be distortions through concision and unconscious decision making of managers, x-inefficiency considered as non maximising behaviour an inverse of the symptom maximising individual behaviour. The bureaucrat minimise subject to unity function. x-religious distortion means when one get away from religion in banking system it get through roots of working. There is a huge list of blur but we have some of them suppose eroticism, an example of woman flesh money, a bank note with woman flesh in mirror image and interest rate associated with it. Its velocity acceptance in financial working, such as porno issued coupons and electronic tickets through developed banking of course banners and what is that? Efficiency measurement in this area of banking cause sickness remain on page of her story i.e., in shadows even in developed nations, remain beyond the scope of this study. We have arguments *firstly,* interest rate is not only prohibited in Islam but many other religions have its prohibition as it deteriorate banking system. In 1973, Pakistan adopted a new constitution, according to article 37 of the constitution the country was obligated to abolish riba as soon as possible. Islamic banking has been found out profitable even in non-believers to invest. *Secondly,* in empiricism inflation is a shift factor as real output differ from actual level. It is due to inflation cause inefficiency. However how explicitly inflation effect prices needs empiricism a direction. *Thirdly,* external debt sustainability is another source of inefficiency in public banking high exchange rate and current account deficit increase external debt. For policy makers there is vast scope to look at efficiency and how play larger role in market to capture better internal resources and more toward foreign markets. It comprise strategic policies for establishment of more branches, credit expansion with accumulation of assets though more deposits, employment in market, strategies to add people in work market for the country as a whole and on the other hand deeply looking at input market for better allocation of resources out of inefficiency. On evidence further research could shed light on arguments in scale.

REFERENCES

Ataullah, A., T. Cockrell, and H. Le (2004) Financial Liberalisation and Bank Efficiency: A Comparative Analysis of India and Pakistan. *Applied Economics* 36, 1915–1924.

Atkinson, S. E. and R. Halvorsen (1980) A Test of Relative and Absolute Price Efficiency in Regulated Utilities. *Review of Economics and Statistics* 62, 81–88.

Atkinson, S. E. and R. Halvorsen (1984) Parametric Efficiency Tests, Economics of Scale, and Input Demand in US Electric Power Generation. *International Economic Review* 25:3, 647–662.

Battese, G. E. and T. J. Coelli (1995) A Model for Technical Inefficiency Effects in a Stochastic Frontier Production Function for Panel Data. *Empirical Economics* 20:2, 325–332.

Benoit, J. and V. Pierre (1986) United States Interest Rates and the Interest Rate Dilemma for Developing Countries. Westport, Connecticut: *Quorum Books.*

Berger, A. N. and D. B. Humphrey (1997) Efficiency of Financial Institutions: International Survey and Directions for Future Research. *European Journal of Operational Research* 98, 175–212.

Berger, A. N., W. C. Hunter, and S. G. Timme (1993) The Efficiency of Financial Institutions: A Review and Preview of Research Past, Present and Future. *Journal of Banking and Finance* 17, 221–249.

Bogetoft, P. and J. L. Hougaard (2003) Rational Efficiencies. *Journal of Productivity Analysis* 20, 243–291.

Buchanan, J. (1980) *Efficient Rent Seeking in: Toward a Theory of the Rent Seeking Society.* In J. Buchanan, R. Tollison, and G. Tullock (eds.) College Station: Texas A&M University Press.

Buck, A. J. and F. Fitzroy (1988) Inflation and Productivity Growth in the Federal Republic of Germany. *Journal of Post Keynesian Economics* 10, 428–44.

Burki, Abid A. and Shabbir K. Niazi (2006) Impact of Financial Reforms on Efficiency of State-Owned, Private and Foreign Banks in Pakistan. Lahore: Lahore University of Management Sciences. (CMER Working Paper No. 06-49).

Burki, Abid A. and Mehmood-ul-Hassan Khan (2004) Effect of Allocative Inefficiency on Resource Allocation and Energy Substitution in Pakistan's Manufacturing. *Journal of Energy Economics* 26, 371–388.

Burki, Abid A. and Shabir Kasuri (2007) Corporate Governance Chances in Pakistan's Banking Sector: Is there a Performance Effect. Lahore University of Management Sciences. (CMER, Working Paper, 07-58).

Burki, Abid A., Mushtaq A. Khan, and B. Bratsberg (1997) Parametric Test of Allocative Efficiency in the Manufacturing Sector of India and Pakistan. *Journal of Applied Economics* 29:1, 11–22.

Cameron, R. (1972) *Banking and Economic Development*. New York: Oxford University Press.

Christopoulos, D. and E. Tsionas (2004) Financial Development and Economic Growth: Evidence from Panel Unit Root and Cointegration Tests. *Journal of Development Economics* 73:1, 55–74.

Claessens, Stijn, and L. Laeven (2005) Financial Dependence, Banking Sector Competition, and Economic Growth. *Journal of the European Economic Association* 3:1, 179–207.

Cukierman, A. (1983) Relative Price Variability and Inflation: A Survey and Further Results. *Carnegie Rochester Conference Series on Public Policy* 19, 103–57.

Darrat, A. (1988) The Islamic Interest Free Banking System: Some Empirical Evidence. *Applied Economics* 20, 417–425.

Demirguc-Kunt, A. and E. Detragiache (1997) The Determinants of Banking Crises: Evidence from Developed and Developing Countries. World Bank Development Research Group. (Working Paper*,* No. 1828).

Eakin, B. K. and T. J Kniesner (1988) Estimating a Non-Minimum Cost Function for Hospitals. *Southern Economic Journal* 54, 583–97.

Efthymios, G. T. and K. C Dimitris (2004) Inflation, Shadow Price and the EMU Evidence from Greece. *Bulletin of Economic Research* 56:3, 0307–3378.

El-Bdour, and I. Radi (1984) Islamic Economic System: A Theoretical and Empirical Analysis of Money and Banking in the Islamic Economic Framework. Un- published, Ph.D. Dissertation, Economics Department, Utah State University.

Freeman, D. G. and D. B. Yerger (1998) Inflation and Multifactor Productivity Growth: A Response *Applied Economics Letters* 5, 271–74.

Friedman, M. (1977) Nobel Lecture: Inflation and Unemployment. *Journal of Political Economy* 85, 451–72.

Gary, Ferrier, Shawna Grosskopf, Kathy J. Hayes and Suthathip Yaisawarng (1993) Economies of Diversification in the Banking Industry: A Frontier Approach. *Journal of Monetary Economics* 31:2, 229–249.

Gurley, John G. H. (1967) Money, Credit, and Banking, Monetary Policy, Consumer Finance, Mortgage Credit. *American Economic Review* 57:4, 950–953.

Hayek, F. A (1945) The Use of Knowledge in Society. *American Economic Review* 35, 519–30.

Isik, I. and M. K. Hassan (2002) Technical Scale and Allocative Efficiency of Turkish Banking Industry. *Journal of Banking and Finance* 26, 719–766.

Jafry, M. A. (1991) Islamic Banking in Pakistan. Unpublished MA. Thesis, Economics Department, Central Michigan University.

Jarrett, J. P. and J. G. Selody (1982) The Productivity Inflation Nexus in Canada, 1963–1979. *Review of Economics and Statistics* 64, 361–67.

Karim, M. and C. Jhantasana (2005) Cost Efficiency and Profitability in Thailand's Life Insurance Industry: A Stochastic Cost Frontier Approach. *International Journal of Applied Econometrics and Quantitative Studies* 2:4, 19–36.

Khan, M. S. (1986) Islamic Interest-free Banking: A Theoretical Analysis. *International Monetary Fund Staff Papers* 33:1.

Khan, Mohsin S. and Abbas Mirakhor (1990) Islamic Banking: Experience in the Islamic Republic of Iran and Pakistan. *Economic Development and Cultural Change* 38:3, 353–380.

Kwan, Simon H. (2006) The X-Efficiency of Commercial Banks in Hong Kong. *Journal of Banking and Finance* 30, 11217–1147.

Lau, L. J. and P. A. Yotopoulos (1971) A Test of Relative Efficiency and Application to Indian Agriculture. *American Economic Review* 61, 94–109.

Leibenstein, H. (1966) Allocative Efficiency vs. X-Efficiency. *American Economic Review* 56:3, 392–415.

Leibenstein, H. (1975) Aspects of the x-efficiency Theory of the Firm. *The Bell Journal of Economics*, 6(2), 580-606.

Lucas, R. E (1973) Some International Evidence on Output Inflation Trade-offs, *American Economic Review* 63, 326–34.

Mustafa, K. M. and Y. Sayera (2009) An Analysis of Interest Rate Spread in the Banking Sector in Bangladesh. *The Bangladesh Development Studies* 32:4, 1-33.

Naqvi, S. Nawab Haider (1982) Interest Rate and Intertemporal Allocative Efficiency in an Islamic Society. In Mohammad Arif (ed.) *Monetary and Fiscal Economics of Islam.* Saudi Arabia. International Centre for Research in Islamic Economies. 75–95.

Niazi, Shabbir K. and Abid A. Burki (2014) Banking deregulation and Allocative Efficiency in Pakistan. Lahore: Lahore University of Management Sciences. (CMER Working Paper No. 14-11).

Nisar, A. (1999) Evidence on Allocative Efficiency in Banking Sector of Pakistan. Un Published MPhil Thesis. Department of Economics, Quaid-i-Azam University Islamabad.

Nota, Jacob A. and Meredith E. Coles (2014) Duration and Timing of Sleep are Associated with Repetitive Negative Thinking, Springer Science, Business Media New York, Department of Psychology, Binghamton University. Binghamton, NY, USA.

Oum, T. H. and Y. Zhang (1995) Competition and Allocative Efficiency: The Case of the U.S. Telephone Industry. *Review of Economics and Statistics* 77, 82–96.

Palokangas, T. (1997) Inflation and Growth in an Open Economy. *Economica* 64, 509–518.

Patti, Emilia B. and Daniel C. Hardy (2005) Financial Sector Liberalisation Bank Privatisation and Efficiency Evidence from Pakistan. *Journal of Banking and Finance* 29, 2381–2406.

Peil and Staveren (2009) *A Hand Book of Economics and Ethics.* Published by Edward Elgar Publishing Limited. UK.

Perry Mehrling (2012) The Inherent Hierarchy of Money. In Lance Taylor, Armon Rezai and Thomas Michl (eds.) *Social Fairness and Economics. Economic Essays in the Spirit of Duncan Foley*. London/New York, NY: Routledge, 394–404.

Roghaniana, P., A. Raslia, and H. Gheysaria (2012) Productivity Through Effectiveness and Efficiency in the Banking Industry. The 2012 International Conference on Asia Pacific Business Innovation and Technology Management. *Procedia Social and Behavioural Sciences* 40, 550–556.

Saaid, E., S. A. Rosly, M. H. Ibrahim, and N. Abdullah (2003) The X-Efficiency of the Sudanese Islamic Banks. IIUM. *Journal of Economics and Management* 11:2, 1– 20.

Sickles, R. C., D. Good, and R. L. Johnson (1986) Allocative Distortions and the Regulatory Transition of the U.S. Airline Industry. *Journal of Econometrics* 33, 143–63.

Smyth, D. J. (1995) Inflation and Total Factor Productivity in Germany. *Weltwirtschaftliches Archiv* 131, 403–05.

Stigler, George J. (1971) The Theory of Economic Regulation. *Bell Journal of Economics and Management Science* 2.

Temple, J. (2000) Inflation and Growth: Stories Short and Tall. *Journal of Economic Surveys* 14, 395–426.

Tullock, G. (1967) The Welfare Costs of Tariffs, Monopolies, and Theft. *Western Economic Journal* 5, 224–232.

Tullock, G. (1980) *Efficient Rent Seeking in: Toward a Theory of the Rent Seeking Society*. In J. Buchanan, R. Tollison, and G. Tullock, (eds.) College Station: Texas A&M University Press.

Vallascas, F. and K. Keasey (2012) Bank Resilience to Systemic Shocks and the Stability of Banking Systems: Small is Beautiful. *Journal of International Money and Finance* 31, 1745–1776.

Williamson, O. E. (1964) *The Economics of Discretionary Behaviour: Managerial Objectives in a Theory of the Firm*. Prentice-Hall, Englewood Cliffs, NJ.

Williamson, O. E. (1970) *Corporate Control and Business Behaviour*. Prentice-Hall, Englewood Cliffs, NJ.

Zafar, S. (2008) Modelling Distortion Effect in Scale Economies. *Proceeding of Applied International Business Conference*, Malaysia, 692–697.

Zafar, S. (2012) Evidence on Scale Economies at Disaggregates, ZENITH. *International Journal of Multidisciplinary Research* 2:2, 92–111.

Zafar, S. and E. Ahmed (2005) Evidence on Allocative Efficiency and Elasticity of Substitution in the Manufacturing Sector of Pakistan. *The Pakistan Development Review* 44:4, 795–803.

Zafar, S. and J. Iqbal (2015) Evidence on Scale Economies in National Bank of Pakistan, out for Publication, Athens. Kashmir Institute of Economics, University of Azad Jammu and Kashmir Muzaffarabad. (Working Paper No. 1).