

Important theories and models of microfinance economics essay



**ASSIGN
BUSTER**

Unrelenting poverty, and apparent shifts in the modeling of the poverty problem have led to policy makers and developmental scholars diverting increasingly scarce resources to better, more effective means of extracting a billion of the worlds poor from the maws of destitution and its ridding effects (Morduch, 1999). The newfound approach focuses on allowing individuals with little in the name of physical possessions to instead collateralize their social ties and reputation to gain access to seemingly meager amounts of credit – some, according to Morduch (1999), as small as \$75 for use in establishing potentially sustainable, and sustaining, means of livelihood.

Such microfinance institutions (MFIs) affect poverty alleviation by not only providing access to lines of credit to borrowers but facilitating accumulation of savings, and in certain cases making available insurance products, all working in cohesion towards improving the ability of households to weather adversities better while offering opportunities for growth and prosperity (Dunn, 1996). The fungibility of credit lines also results in what Mosley (1998) and Hulme (1997) refer to as beneficial leakages, as oftentimes loans from microfinance institutions are used by households to make investments in their social/human capital in terms of either purchasing educational services for children or lending to those within their social networks on the basis of implied reciprocity – resulting in the widening of coping mechanisms available in times of future duress.

The social intermediation role of microfinance institutions is lauded for the affects it has on the apparent empowerment of women participants/borrowers. Chua, Gregorio, Miranda, Apostol, and Rosario (1999) stress how the contributions made by women to household incomes result in

<https://assignbuster.com/important-theories-and-models-of-microfinance-economics-essay/>

self-esteem building and improve both inter and intra household relations - situations that Moser (1998) and Mosley (1999) attribute towards culminating in providing the households with better, more potent contingency plans; positively affecting their credibility in reference to accessing further credit from other (in)formal market sources.

2. 2 Dominance of Informal Financial Structures

Mansuri (2007) details the continued success of informal credit markets in countries where the micro-lending model too has gained steam. This resilience is ascribed to the informational and enforcement advantage informal lenders have over formal credit institutions allowing them to better monitor the use of credit and its timely repayment (Mansuri, 2007). MFIs thus stand much to learn from indigenous lending mechanisms already in place in both rural and urban markets. Tsai (2004) cites the presence of informal markets as a reflection of the states incompetence and the inability of formal lenders to meet the poor's insatiable demand for credit, further stating that institutional weaknesses and complex delivery mechanisms have made provisioning of effective rural credit nothing short of a challenge. Microfinance providers seem to be out of touch with those who need help on the most immediate of basis, as Hammil, Matthew, and McCarter (2008) state: these services more often than not are unable to benefit the poorest strata and instead aid those teetering on the edge to stay above the poverty line.

2. 2. 1 Imperfect Substitutability Hypothesis

Given the apparent advantages informal lenders have over their formal counterparts, logic dictates for these lenders to have already made the shift <https://assignbuster.com/important-theories-and-models-of-microfinance-economics-essay/>

towards formalization to further consolidate their standing and assume leading positions. However, as explained by Straub (2005), instituting the process towards being formal carries costs; expenses comprised of higher taxes and those associated with overcoming bureaucratic hurdles (read: corruption) far outweigh the benefits assumed via increased access to infrastructural and capital goods provided for by the publicly funded, administrative machinery. Pakistan, like much of the developing world, has thriving informal markets that compensate for the lack of access to formal credit afforded to the poor. The National Human Development Report (as cited in Qadir, 2005) establishes a link between nutritional deficiencies in poor members of society and their inability to subscribe to loans for consumption smoothing purposes; as a result a majority of borrowers turn to their social circle for monetary support. Informal markets therefore instead of being perfectly substitutable by their formal counterparts are better viewed as complimentary entities, the adverse effects of which can be mitigated and eventually decimated by establishing linkages between formal and informal markets, instituting reforms, liberalizing markets, and reducing disincentives to formalization and thus facilitating the move towards such market structures (Qadri, 2005; Straub, 2005; Tsai, 2004).

2.3 Microfinance: The South Asian Experience

The South Asian experiment with microfinance was primarily stimulated by the rising poverty statistics in the region (World Bank, 2005). In Pakistan the microfinance market is dotted with an increasing number of local and international players who in addition to state sponsored rural support programs help furnish low cost, convenient, and effective credit to the

nations poor. Currently, as outlined in Rauf and Mahmood (2009), three different microfinance models are operative in the country, namely: Microfinance Banks (MFBs), NGO-MFIs, and Rural Support Programs (RSPs). These microfinance providers (MFPs) reached a total of 2 million borrowers in FY10 and managed to grow by 13% and 40% in credit and savings outreach, respectively (MicroWatch, 2010). The social and economic viability of microfinance operations have led conventional commercial financial intermediaries to scope out the scene and add small borrowers to their list of potential customers – ORIX leasing, and the National Bank of Pakistan's (NBP's) Rozgaar Scheme program both offer their services to meet the needs of these high-risk patrons, heretofore financial pariahs for some (PMN, 2010; Rauf & Mahmood, 2009).

MFPs in order to increase the quality and quantity of financial services offered need to achieve a certain level of financial sustainability ensuring continued, and effective operations. The World Bank's report on South Asian MFPs (2005) outlines the funding patterns of these intermediaries and also tabulates the degree of funding required from different sources for these institutions to evolve into commercially sustainable entities; as per their findings MFPs need to wean themselves off donor capital and generate higher (voluntary) deposits and attract additional financing from commercial investors to achieve the elusive status of commercially sustainable ventures. Afghanistan and Pakistan are seen to rely primarily on donor financing, with the Pakistani MFPs now moving to seek funds from apex organizations on a subsidized basis; whereas Indian MFPs tap into the pool of compulsory savings they initiate, and are now increasingly attracting funds from

commercial banks who have begun to view MFPs as a viable investment given continued incentives provided for by the Central Bank and its insistence that microfinance be labeled a priority sector (World Bank, 2005). Pakistan Microfinance Network (PMN) purports MFBs to have the most sustainable and balanced funding structure of all presently functioning organizational types – although, a hefty 90% of all deposits emanate from institutional depositors even though small depositors account for more than 90% of the total number of MFB depositors (PMN, 2010). The remaining NGO-MFIs and RSPs generate funds via donor reserves, and subsidized debt: which makes up 70% of the institutions' total debt profile; given the high prevailing rates of interest, in excess of 12% (KIBOR), and a lack of incentives for increased institutional investment – commercial debt is expected to be maintained at its current low levels (PMN, 2010). Given their considerable scope for growth it is essential that Pakistani MFPs raise additional financing to effectively leverage their equity and attract commercial funding via providing for improved transparency to ensure access to greater, cheaper financing which in turn would facilitate these institutions to become self-sufficient and profitable ventures (World Bank, 2005).

2. 4 Performance Evaluation: Outreach vs. Sustainability

Performance of microfinance institutions, like all intermediaries, is evaluated on the basis of them achieving their outlined objectives, which in the case of MFPs is keeping their clients at reasonably higher levels above internationally and/or nationally determined poverty lines. Agarwal and Sinha (2010) describe MFPs as facilitators and drivers of social change thus

underscoring the social dimension of the work these institutions do, and the life-altering effect these relatively small credit lines have on those who access them. Ejigu (2009) highlights the move of MFPs' goals from the traditional poverty reduction/elimination dimension to the present market-driven, sustainable enterprise objective that dominates the scene. Meyer (2002) stresses the role internal and external environments of MFPs play in helping these institutions achieve the dual and sometimes conflicting objectives of sustainability and outreach. The microfinance institutions' ability in meeting the poverty reduction objective is best seen through the respective organizations' breadth, depth, and scope of outreach. Outreach is generally seen in terms of the number of clients serviced however Navajas, et al. (as cited in Meyer, 2002) purport the concept to be multidimensional; Meyer (2002) classifies these measures of outreach into four types: number of clients served, number of women clients serviced, depth of outreach i. e. the extent to which the financial services reach the poor, and the poorest segments of society (World Bank, 2005), and the diversity in the services offered by the MFPs i. e. institutions truly geared towards providing microfinance and not just micro-credit - savings, remittances, insurance, etc all help in consolidating the poor's' position (Meyer, 2002).

2. 4. 1 Welfarists vs. Institutionists

The microfinance literature geared at assessing the performance of the said institutions seems to differ in as to what the actual objective of the given programs is. Two competing schools of thought dominate discussions: the Welfarists and the Institutionists (Brau and Woller, 2004). Sustainability, defined by Chaves and Gonzales-Vega (as cited in Nieto et al., 2004) as the

institutions' ability to generate sufficient funds so as to meet the opportunity costs of utilizing all inputs, is as explained by Meyer (2002) an important concept when seen through the perspective of MFPs since those excluded from formal financial markets require continued access to lines of credit and not one-off loans if they are to successfully hold poverty at bay. Welfarists argue that microfinance providers can achieve this said sustainability and remain liquid, solvent, operative, the works without having to become completely self-sufficient as seen through the prism of financial self-sufficiency (Brau & Woller, 2004; Ejigu, 2009). As documented by Meyer (2002) financial self-sufficiency is a difficult measure to achieve since it requires MFPs to generate additional revenues to build reserves to both sustain/drive growth, and help cushion against contingencies that may arise in the future. Also, becoming financially self-sufficient entails achieving a certain level of adeptness in the reporting and recording of company financials which itself is an arduous and ambitious task and is seen to be the product of improved institutional wide transparency (Meyer, 2002).

Institutionists believe that for MFPs to achieve their social objective of alleviating poverty it is necessary for them to self-sustain their activities and operate sans subsidies (Ejigu, 2009) - this viewpoint becomes more relevant with time as donor fatigue sets in and funds seem to be diminishing given the overwhelming number of tragedies, both man-made and naturally occurring, vying for a limited pool of donor resources. Provided that social investors unlike their counterparts in traditional, commercial markets, do not require higher financial returns and are instead motivated by mere philanthropic drive, however, it is the institutions/programs that exhibit their effectiveness and efficiency in achieving their mission and demonstrate little

<https://assignbuster.com/important-theories-and-models-of-microfinance-economics-essay/>

drift that attract the most coveted, costless, source of funding i. e. donor funds (Morduch, 1999).

Sustainability and outreach, as previously alluded, however are seen to be two conflicting objectives with the rift between the two driven by informational asymmetries and high transaction costs they entail (Mosley and Hulme, 1996). Welfarists empathize with the programs' social objectives concerning the economic upliftment, and development of its clients, and promote the use of subsidized debt and donors' funds to achieve this purpose by extending financial services to a large number of applicants, at low cost (Ejigu, 2009). Institutionists however, emphasize upon the unreliability of donor funds and thus promote extending services to clients at high cost i. e. at near market rates, prevailing in highly lucrative informal markets all over the developing world, so as to achieve the financial sustainability required to attract competitively priced commercial financing necessary for growth and perpetuity (Ejigu, 2009). Recently, more and more research is being conducted in an attempt to evaluate the ability of MFPs in utilizing their resources in a manner as to arrive at optimum levels of output – in other words, the textbook definition of, efficiency.

2. 5 Efficiency Analysis: Shift from Ratio Analysis to Frontier Approaches

Efficiency in its most rudimentary form is obtained via assessing the levels of output per unit of input produced by a particular firm – i. e. the productivity of inputs employed. Evolution of the microfinance industry has led to mounting interest in the financial performance of firms operating in this sector; this required information stakeholders glean from a ratio analysis

<https://assignbuster.com/important-theories-and-models-of-microfinance-economics-essay/>

detailing the profitability, efficiency, productivity, sustainability, portfolio quality, etc of a respective institution which is then assessed on a relative basis (Nieto et al., 2004). Charnes, Cooper, and Rhodes' (1978) seminal study concerning the measurement of efficiency of programs initiated with a not-for-profit intention outline both linear and nonlinear programming models developed for the abovementioned purpose. In the said study Charnes et al. (1978) refer to firms as decision making units (DMUs) underscoring how it is the unconventional, public oriented, entities whose efficiency scores are attempting to be tabulated.

The efficiency of financial institutions has long been a matter of concern for researchers and policy makers alike. Farrell argued that information regarding the productivity and efficient operations of a firm is necessary to ascertain how performance can be improved by optimizing output while making no additions to present input reserves (as cited in Cook and Seiford, 2009). Also, Ramanathan (2003) stresses how conventional productivity analysis is centered around measuring average factor productivity usually appropriate for single input-output firms, whereas what today's management decisions are concerned with is assessing total factor productivity consistent with multiple input-output firms. Consequently, a seemingly large number of studies have busied themselves with evaluating similar performance measures for intermediaries operating across regions rather than for specific countries; studies by Bassem (2008), Fiordelisi, Marques-Ibanez, and Molyneux (2010), Haq et al. (2009), Nieto et al. (2004) can be cited as reference points. Berger and Humphrey (1997) present an analysis of 130 studies using parametric and nonparametric techniques to evaluate different

financial institutions' efficiencies across 21 countries. Differences in efficiency scores obtained across studies are seen to be a product of a variation in measurement methods undertaken to calculate the said efficiency, a difference in the concepts used to model efficiency, and exogenous variables not accounted for by various studies i. e. the environmental effects at play (Berger and Mester, 1997). Among the various measures available for ascertaining institutional efficiency there has been a noted shift from traditional ratio analysis to more comprehensive approaches such as the data envelopment analysis (DEA) and the stochastic frontier analysis (SFA) approach. The two abovementioned approaches form a part of the frontier analysis techniques used to model relative efficiencies of entities with reference to the best practice or best performing unit(s) from among the sample being considered. The so-called best performing firm is then used as a benchmark against which others are continually assessed and thus the scores obtained help policy makers and/or managers identify areas of concern, and also quantify the effects of various developments such as mergers, and (de)regulations, on the performance of respective DMUs (Berger & Humphrey, 1997). Efficient firms are seen to lie on the said frontier whereas their inefficient counterparts are enveloped by the frontier and thus lie below it; efficient firms are resultantly given a score of 1 while others waver between 0 and 1 (Ramanathan, 2003). Schaffnit, Rosen, and Paradi (1997) hold performance evaluation to be at the heart of managerial activity. Frontier analysis excels at allowing individuals with little institutional insight to sift best practice DMUs from a given sample, and then further facilitates experts in quantifying the qualitative knowledge they already possess thus making it an essential, and informative policy tool - allowing users to <https://assignbuster.com/important-theories-and-models-of-microfinance-economics-essay/>

improve the workings of their respective institutions with regards to market leaders and yield higher productivity gains than they would otherwise achieve (Berger and Humphrey, 1997).

2. 5. 1 Parametric & Non-Parametric Approaches: Declassified

The ascendance of DEA can be ascribed to its apparent multi-faceted nature which makes it amenable for assessing performance scores of practices as varied as nursing homes, educational departments, railway service providers, and here: specialized financial intermediaries (Nieto et al., 2004; Ramanathan, 2003; Tyagi, Yadav, and Singh, 2009). DEA is one of two nonparametric approaches used to evaluate efficiency scores; the other being the Free Disposal Hull (FDH) approach, which in itself is a refined version of the DEA and differs from it primarily in its composition of the production possibilities set (Berger and Humphrey, 1997; Ramanathan, 2003).

The parametric and nonparametric approaches to efficiency analysis are differentiated in the restrictions they place upon the frontier by specifying a functional form, and the distribution they assume the random error and the inefficiencies to take (Berger & Humphrey, 1997). According to Berger and Humphrey (1997) the nonparametric approach although less restrictive in the sense that it does away with functional forms altogether but suffers from its assumption regarding there being no errors in measurement, even in accounting terms, during construction of the frontier, and a complete absence of uncontrollable environmental factors such as luck and chance also weaken its premise. Further, if the said errors surface the entire

<https://assignbuster.com/important-theories-and-models-of-microfinance-economics-essay/>

estimates become shrouded in doubt as DMUs are assessed in relation to one another and if one DMUs score is questionable, the entire study suffers (Berger & Humphrey, 1997). The parametric approaches: SFA, Thick Frontier Approach (TFA) and the Distribution Free Approach (DFA), run the trouble of being misspecified and thus yielding dubious efficiency results; TFA and DFA however assumed functional forms different from the one outlined under SFA (Berger & Humphrey, 1997). Studies by Berger & Mester (1997) and Cook & Seiford (2009) both conclude that no one measure and/or approach dominates the other and that efficiency scores vary across studies more as a result of contrasting concepts of efficiency used rather than the measures of efficiency employed to obtain results.

2. 5. 2 DEA Dissected: Models, Efficiency Types, and Advantages

The DEA linear-programming analysis is built from the relatively rudimentary model proposed by Charnes et al. (1978) and is operated under a Constant Returns to Scale (CRS) assumption. As outlined in Ramanathan (2003) the said CCR CRS model is run by specifying a given objective function and then consequently neutralizing either its numerator or denominator given depending on whether an input minimization (input-oriented) or an output maximization (output oriented) approach is being undertaken for the conduction of the given study. Ramanathan (2003) further ascribes this input-output orientation of models as being the primal or dual of the respective other.

Banker et al. as cited in Ramanathan (2003) by introducing a relatively simple convexity constraint to the CCR CRS model made the said model

<https://assignbuster.com/important-theories-and-models-of-microfinance-economics-essay/>

conducive for assessing efficiency scores for sub-optimal DMUs operating under a Variable Returns to Scale (VRS) assumption. VRS is described as being long-term phenomenon under which a change in the proportion of inputs yields a disproportionate change in the level of outputs (Ramanathan, 2003). This viewpoint is consistent with the concept of (dis)economies of scale, whereby a change in inputs results in a more (less) than proportionate change in output levels. Given Banker et al.'s incomparable contribution to the DEA literature the approach was able to overcome the supposedly restrictive, and off-putting CRS constraint imposed earlier and is partially responsible for the success this particular liner-programming approach has witnessed since (Ramanathan, 2003).

Ramanathan (2003) further differentiates between different types of efficiencies evaluated for by using the CCR and the BCC models described above. The CCR model is seen to provide estimates of gross efficiencies which itself is a composite of technical and scale efficiencies. Technical efficiency concerns itself with the DMUs ability to optimally utilize its input base to produce a given set of outputs; whereas scale efficiency is centered around identifying the most productive scale size (Ramanathan, 2003). BCC models in the meantime offer estimates for pure technical efficiency since they incorporate for scale changes with changes in a DMUs operations (Ramanathan, 2003).

The most cited advantage of using DEA approaches to efficiency analysis is the apparent objectivity of results that are obtained, and the relative ease with which experts and non-specialists alike can compute and subsequently interpret the said results (Berger & Humphrey, 1997; Ramanathan, 2003).
<https://assignbuster.com/important-theories-and-models-of-microfinance-economics-essay/>

Berger & Humphrey (1997) further stress upon the quantitative insight provided for by DEA to already prevalent qualitative information – insights which the management can then resultantly use and incorporate into its policy making to achieve more robust improvements and to help identify, and institute the change required. Further, DEA is said to be amenable towards processing scores for multiple input-output scenarios that are consistent with real-life operations of decision-making units and are not centered around mere textbook examples that prove to be restrictive and eventually counterproductive to the managements' cause (Ramanathan, 2003).

2. 6 Cost-Efficiency and its Potential Correlates

Among the various concepts used to model the efficiency problem Berger & Mester (1997) consider cost, standard profit, and alternative profit efficiencies to be of most relevance since they focus on the economics of the DMUs under question and are based on factors such as market prices, and market competition, and are not merely centered on matters of technology.

As explained, the efficiency of financial institutions has incited much interest over the last few years. Given the increasing integration of world financial markets, and the relative importance the financial sector carries in the workings of both developed and developing economies, the vast amount of studies available on the subject, and their equally diverse results, are not too surprising.

The cost-efficiency of financial institutions has mostly been assessed using a Stochastic-Frontier Approach, however DEA approaches are not completely

discounted for. Firoentino, Karmann, and Koetter (2006) present a comparative study analyzing the cost-efficiency of German banks using both the SFA and the DEA - their findings reveal that efficiency scores seem to stabilize over time and adversely affected by declining asset quality. Similar results are reported by Manalangit (2011) who assumes a given banks cost-inefficiency to reflected in its high operating costs due its consequent building up of loan loss reserves to provide for mounting problem loans.

Berger & Humphrey (1997) highlight how issues concerning mergers and banking sector reforms and their resultant effects on efficiency scores have traditionally concerned analysts. Such matters seem to have tickled the researchers' curiosities and become subjects of immense study since the primary intention of reforms and mergers is to improve operating efficiencies of respective players performing in sectors where the said reforms and (de)regulations are seen to have been instituted. Following similar thought processes Heffernan (2007), and Rizvi (2001) set out to evaluate impacts of time-series trends, namely reforms and privatizations, on the banking institutions operating in China and Pakistan respectively. However, there now seems to be an apparent shift in research interest from traditional correlates to more recently correlates and measures of associated risks and their consequent effect on the workings of financial institutions (Altunbas et al., 2000; Berger & DeYoung, 1997; Fiordelisi et al., 2010; Pasiouras, 2008).

2. 7 DEA Software: DEAP and DEA Excel Solver

Among the non-commercial software's reviewed for by Barr (2005) this present study makes use of the DEAP and the DEA Excel Solver. As explained

for by Barr (2005) the DEA software technology has seen to evolve

<https://assignbuster.com/important-theories-and-models-of-microfinance-economics-essay/>

consistently to match developments instituted in the analysis approach itself.

The DEA Solver, owing to the comprehensive nature of its computational procedures, has gained prominence with researchers and academics alike (Barr, 2005). The DEAP too has ascended the charts rather quickly. Its DOS program allows for easy access and betrays the complexities of a highly rigorous series of calculations behind three seemingly simplistic .txt files. DEAPs cheap, quick, and multidimensional processing of models is to be cited for its now almost universal appeal among students and policy analysts (Barr, 2005).

End Notes: The conclusion of the theoretical knowledge gleaned from reviewing the above-cited information now allows for the indigenous modeling of current study specific goals. The chapter that follows presents the analytical framework and detailed methodological explanation for the estimation procedure that is undertaken in the final chapter of this thesis document.