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SYSTEMATIC REVIEW PROTOCOL

Does poor people's access to formal banking services raise their incomes? [1,2]

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[2] This document is intended to be a description of how we intend to go about conducting this systematic review. References to the literature and background information are provided only to the extent that they help explain the motivation for certain methodological decisions we have taken. This is not intended as an authoritative review of the literature, and should not be read as such.

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1. Background

1.1. Aim and Rationale for Review

Can access to and use of formal financial services raise the income of the poor? This question is of critical importance for policymakers, regulators, non-governmental organizations, and private entrepreneurs seeking to improve the lives of the poor around the world. This systematic review compiles and evaluates rigorous empirical research which examines whether and how access to formal financial services can raise the income of the poor. Economic theory identifies several channels by which access to formal financial services could affect income. Testing these theories and assessing the net effect of financial services on income is an important but challenging empirical task. In order to accurately examine the empirical evidence, this review will use rigorous standards to evaluate studies, closely examining interventions, methodologies, and processes of analysis. An important goal is to improve our knowledge base on what is known and what remains to be learned.

Some facts are clear. We know that access to financial services varies greatly both across and within countries. Demirgüç-Kunt, Beck, & Honohan (2008) provide a composite measure of access to financial services for various countries, showing access as low as 5% of the adult population in places like Nicaragua and Tanzania and 100% of the adult population in the Netherlands. Evidence also suggests that within countries, the level and type of access varies by factors such as demographics. Financial services can be offered by a range of institutions such as formal banks, non-banking financial institutions, semi-formal and informal institutions. In many countries, the poorest sections of society often only have access to informal financial service sources, such as moneylenders, if they have access at all.

Development theory has emphasized the importance of access to finance to overcome income inequality and achieve growth. In addition, many conjecture that an inability to access sufficient low-cost credit may also limit growth opportunities for the poor (see, for instance, Hoff and Stiglitz 1995).

The question of interest is whether formal financial services, by exploiting economies of scale and/or making judicious use of targeted subsidies, can reduce or remove this market imperfection and ensure financial inclusion of the poor, ultimately leading to higher incomes. On one hand, it is possible that opening a simple savings bank account may be a gateway to a complete set of financial products and services that enable greater financial inclusion, which in turn can facilitate risk mitigation, consumption smoothing, and investments in income-generating activities such as small businesses or education. However, it is also possible that the provision of access to financial services may not be sufficient to achieve growth if, for instance, informational and/or social constraints restrict demand, such that improved access does not translate into greater use of financial services. Finally, it may be the case that sustainable models of formal financial services do not provide credit at sufficiently low rates that the poor can profit from borrowing. In that case, the relevant question is what, if any, is the optimal subsidy.

1.2. Definitional and Conceptual Issues

In defining banking services, we take a functional approach, since formal banking typically offers three basic services: lending facilities, saving facilities and payment services. For the purposes of this review, we use an inclusive definition of formal banking services: services, which originate from private or public institutions that provide formal credit and savings facilities to customers.

Steel (2006) provides a typology of banking services in developing countries. We further define formal banking services as lending, savings and payments services provided by commercial and development banks as well as banking services from "specialized non-bank financial institutions" such as rural banks, like Rural Regional Banks in India, savings and loans institutions, and postal banks. However since there are other systematic reviews under way that cover microfinance, we exclude microfinance institutions from our analysis, even those that accept deposits. In Appendix 2.7 we provide a modified version of Table 1 from Steel (2006), which describes the institutions and services that will be within the scope of this review.

In our review, we restrict our examination to the impact of formal banking services on the income of the poor in low-income countries. In order to maximize flexibility we use both local and global definitions of poverty to define our target population. Moreover, since credit and savings facilities may affect income in several ways, and since income in poor countries can take different forms including in-kind receipts, we will use an inclusive definition of income. This will include measures of labour income, business income, asset accumulation, consumption and welfare.

Our functional definition of banking services allows us to examine the role and pathways through which each of the facilities banking services provided can impact the income of the poor. Lending services can increase income by reducing credit constraints and allowing more investment (Kaboski and Townsend 2009), and by facilitating entrepreneurship and new income generating businesses, especially when combined with business training (Karlan and Valdivia 2007). Moreover, formal credit may be particularly effective in raising incomes, as formal institutions may be in a good position to screen and monitor clients, and thus offer loans with more favourable conditions like lower interest rates (Aleem 1990). The use of savings services can increase income by allowing for consumption smoothing and inflation protection; savers may be able to use track-record of savings behaviours to transition to credit (Aportela 1999, Jayachandran 2006, Dupas and Robinson 2009). Finally, payment services, especially with regard to remittances, are of growing importance in helping the poor raise their incomes. Reliable payment channels with low transaction costs can substantially increase remittances and income (Ashraf, Aycinena, Martinez and Yang 2009).

On a macro level, the presence of established formal institutions is associated with higher average incomes (Acemoglu, Johnson and Robinson 2000). Research suggests that a well-functioning and inclusive financial system can help achieve faster and more equitable growth (Honohan, 2004). Theoretical models posit different mechanisms, including occupational choice and production efficiency, through which access to banking can increase incomes and reduce inequality (Aghion and Bolton 1997; Banerjee and Newman 1993). However, supply and demand constraints may affect the channels through which financial services can raise income. Finance is less available to the poor who lack pledge-able collateral and cannot be monitored easily. Moreover, even when provided with access, the poor may not use formal financial services if they lack information and adequate growth opportunities (Ramji 2009). Thus, in studying this literature, both supply-side constraints, measured by access, as well as demand-side constraints, measured by take-up and usage of financial services, will define the types of interventions we consider to help understand how policy interventions can effectively influence both these dimensions. A visual illustration of the program theory has been provided in Appendix 2.6.

1.3. Policy and Practice Background

Access to financial services has significant potential to help lift the poor out of the cycle of poverty. In practice, this has led to the widespread creation and establishment of programs and policies with the goal of increasing the poor's access to formal banking services. There are several current methods, discussed in this section, being used by various actors to try to achieve this goal: the development of unique governmental initiatives (oftentimes with only a secondary goal of increasing access to banking services), the development and expansion of microfinance programs and institutions (outside of the scope of this review), and the development of technologies that can ease the geographical and temporal constraints that the poor face when trying to access formal financial services.

In the post-war period, many developing countries initiated broad ranging economic policies with the goal of increasing the poor's access to and use of financial services. For instance, between 1969 and 1990, the Indian government attempted to target the poor, by requiring banks to open branches in unbanked areas. Specifically, banks were required to open four rural branches in areas without formal banking services for each urban bank branch they opened. The policy also required 40% of each bank's lending to go to small enterprises and agriculture, and 20% of lending to go to marginalized sections of the population. Burgess, Pande and Wong (2005) showed that these policies led to a higher take-up of formal financial services, especially among the lower castes and tribes, and showed that the rural areas with greater bank expansion were associated with lower poverty.

In many countries, governments have chosen to directly subsidize financial services initiatives to the poor. In Peru, the government subsidized housing loans for the poor through a program named *Techo Propio*. The poor are often excluded from mortgage loans because the administrative costs of mortgages are only covered if the loans are large, usually above 15,000 USD. This program targeted people interested in homes from 4,000 to 8,000 USD. In *Techo Propio*, the customer provides 10% of the home cost as down payment, and the government subsidizes the loan by immediately paying off nearly half of the principal. The interest rates are kept low, below 15% rather than the 30-40% interest rates of microloans in Peru, and loans are provided by large commercial banks, rather than smaller microfinance institutions. While the program attracted a lot of attention, in fact take-up was low, due mainly to the lack of availability of homes for purchase in the targeted price range. (Accion 2007)

One of the most promising recent developments for those seeking to expand the poor's access to financial services has been technological development. Technology can help in a number of ways: mobile phone or internet transactions allow banking services to reach into areas without a "bricks and mortar" presence, dramatically expanding access. Electronic money is easier to transport and less subject to physical security risks. Perhaps most importantly, the cost of enrolling and servicing customers drops dramatically when it can be done in an entirely automated manner. In Kenya, for example, DFID partnered with Vodafone and Commercial Bank of Africa in order to increase access and decrease barriers to financial services by creating secure mobile phone software that allows customers to do basic financial transactions on their mobiles. More directly, the technology allows for savings and also facilitates payments. By exploiting the high density of mobile phones in Kenya, this program allows Kenyans, who would not otherwise have access to banks and banking services due to geographic barriers, to access formal banking services. The program has proved to be dramatically successful with coverage reaching 9 million customers in just over 3 years – in fact, 1/5 of the Kenyan population now have 'e-mobile' bank accounts on their mobile phones.

1.4. Research Background

In answering the central review question, the main issues are whether access to finance is constrained among the poor, whether innovative products, policies or bank practices aimed at providing access reach the poor, whether the poor use these financial services when provided and if usage can be influenced by policy, and whether conditional on usage and/or access, banking services actually increase the incomes of the poor.

Efforts to expand banking services to the poor may come in a variety of forms: policies governing the banking sector, state-ownership and nationalization of banks and, more recently, through microfinance institutions and improvements in technology for provision of financial services or even through new innovative products, like mobile banking. These channels of financial inclusion differ in reach, take-up and impact. One set of literature that looks at the evidence from government-led schemes aimed at increasing access to banking services highlights the fact that, despite these schemes, these services do not always reach the poor. It argues that provision of formal credit in rural areas may have worsened existing informal lending systems, and hampered rural development (Adams et al 1984). Braverman and Guasch (1986) provide evidence that subsidized credit programs failed to increase agricultural output or rural income cost-effectively. They contend that theories that rely only on credit rationing and the inter-linkage of credit contracts with labour and land contracts without considering institutions and institutional environments cannot match the empirical evidence. In more recent work, Burgess, Pande and Wong (2005) consider the reach and take-up of services provided by a social banking program in India, and use household data to demonstrate that during the program bank borrowing among rural manual labour households was higher in states which saw more rapid rural branch expansion. Further, Burgess and Pande (2005) show that rural branch expansion significantly reduced rural poverty. Using another policy experiment, Cole (2009) studies the effect of nationalization of banks, and finds more lending to government-targeted borrowers and lower interest rates, but no evidence of improved agricultural outcomes despite substantial increases in agricultural credit. Jack and Suri (2009) investigate the role of innovative technology of banking services by looking at M-Pesa, a money transfer product developed by Vodafone and

DFID that allows customers to do basic financial transaction on their phones. A small household survey as well as the phone data suggests that take-up of the technology has been large and has eased payments, especially transfers in the form of remittances.

Evidence from household surveys in developed countries suggests that there is an association between financial literacy and participation in the formal financial system (Alessie, Lusardi and van Rooij 2007; Hogarth and O'Donnell 1999). Cole, Sampson and Zia (2010) apply this idea to the developing world and, using survey evidence from India and Indonesia, find that financial literacy is a good predictor of demand for financial services. More specifically, using a field experiment they find that financial literacy has modest effects on the likelihood of opening a savings account for uneducated and financially illiterate houses. Financial literacy may be particularly important in translating access to financial services into usage of financial services, thus providing the key link between supply and demand constraints.

To our knowledge no systematic review of the evidence of the effect of formal banking services on income of the poor has been conducted. There have been several books related to financial access. Beck, Demirgüç-Kunt and Honohan (2007) provide a detailed overview of access to finance, with careful attention to policy prescriptions and needs for future research in their book "Finance for All". Barr, Kumar and Litan (2007) provide a detailed coverage of commercial banking and the role of mobile banking in their book "Building Inclusive Financial Systems." Levine (2005) provides an excellent literature review of the macro evidence on financial deepening and growth. Additionally, there are two on-going systematic reviews of the impact of micro-credit on empowerment and other outcomes. In our systematic review, we will study the micro evidence on the provision of access to formal credit and savings facilities, its take-up and usage, and its impact on the incomes of poor people in developing countries.

1.5. Objectives

Some important points need to be kept in mind while laying out our objectives. Firstly, this will be one of the first systematic reviews to tackle the issue of formal banking services for the poor. Secondly, the causal relationship between access to such financial services and economic outcomes is not straightforward or well understood. Lastly, the experimental evidence available in this domain is scarce. In light of this, our intention is to create a sufficient context from which future academic work can be facilitated by compiling what is empirically known and theoretically accepted, and contrasting it with the areas where there is no empirical or theoretical agreement.

The objective of this review is to accomplish the following:

1. To develop a comprehensive collection of high quality studies that look at the impact of poor people's access to formal banking services on income.
2. To present statistical tables and use the techniques of realist review (described in Section 2.3 and Appendix 2.4) to analyze the findings, if applicable.
3. To synthesize the findings to provide evidence on the question: "Does poor people's access to formal banking services raise their incomes?"

2. Methods used in the review

2.1. User Involvement

The primary audience of this project will be individuals and organizations interested in seriously evaluating the evidence base. While we will produce a four-page "executive summary" accessible to a variety audiences, the review will not shy away from the evaluation of important technical details, such as the quality of the identification strategy. The primary user for this review will be DFID, however we also plan on disseminating the systematic review to the international development community through the Harvard Kennedy School (HKS), Harvard Business School (HBS), The Jameel Poverty Action Lab (JPAL) at MIT and the Center for International Development (CID) at Harvard University among other development policy institutions. We will also make an effort to make this review available to developing country policymakers through organizations such as the Centre for Micro Finance at the Institute for Financial Management and Research (Chennai, India) and Innovations for Poverty Action (New Haven).

The systematic review will also be disseminated through the International Initiative for Impact Evaluation (3ie), which is organizing an independent peer review of this protocol and the draft review. The draft version will be circulated to a select group of users, both academic and policy-oriented whose feedback and comments will be incorporated in the final published version.

2.2. Identifying and Describing Studies

2.2.1. Defining relevant studies: Inclusion and exclusion criteria

2.2.1.1. Inclusion Criteria: Methodology/Study Design

Policy interventions involving banking services have not been widely studied on the basis of experimental and quasi-experimental approaches. Therefore, we do not expect to find many randomized controlled trials. However, we expect to find many high-quality studies using quasi-experimental or econometric methods.

While we will use qualitative evidence and descriptive studies to provide background for our review, for analysis we will focus on studies that aim to find causal evidence using the following three research designs:

- Randomized controlled experiments
- Quasi-experimental designs (e.g. Regression Discontinuity, Instrumental Variables, Statistical matching including Propensity Score Matching)
- Regression-based approaches, with greater weight given to studies with well-understood sources of variation, stronger empirical bases, and those that control appropriately for selection bias.

We will use macro evidence to motivate our review, but for analysis we will only consider micro studies from low-income countries that use relevant outcome variables for appropriate samples.

2.2.1.2. Inclusion Criteria: Time & Place

We will include studies that are set in low-income and middle-income countries as defined by the World Bank at the time the data were collected (the complete list is provided in Appendix 2.2). We will restrict our review to studies conducted since 1980 in order include as many studies as possible while retaining a strong degree of relevance to contemporary policymaking. We are including studies conducted in the 1980s because that decade saw a strong backlash against social banking which we would like to cover in our review. Special attention will be made to identify studies produced by domestic research bodies in low-income countries, including but not limited to central banks of developing countries.

2.2.1.3. Inclusion Criteria: Intervention & Natural Experiments

Since we are interested in narrowing the scope of this study to ensure that our review objectives are met and there is a degree of comparability in the studies that are included, we plan to focus on and describe in our review interventions and natural experiments, which have sound experimental design with clear treatment and comparison groups, that fall in the following categories:

- The expansion of credit and savings services to low-income households and individuals
- The provision of technological innovations to make banking more accessible to the poor
- The introduction and expansion of financial education, to increase financial literacy, or other methods of improving the use of banking services amongst the poor

We will also focus our attention on the following:

- Government-led or aid-promoted programs
- Formal private and public banking services firms
- Formal private non-banking financial services companies as specified in Appendix 2.7

2.2.1.4. Inclusion Criteria: Study Participants

Our review will concentrate on low-income households in general, and we will not restrict ourselves to studies that focus on a specific gender, profession or location (subject to Section 2.2.1.2). We will, however, identify and categorize reported effects by gender, occupation, urban/rural, etc. where available.

2.2.1.5. Inclusion Criteria: Outcomes

We are most interested in whether formal financial services affect income; as income is a difficult concept to understand and measure, we are interested in synthesizing the results on multiple outcome measures as indicators of income from the studies that we review. Additionally, we will look out for the heterogeneous treatment effects where available, including the varying effects of banking based on gender, education and wealth. The outcome indicators which we will look for include:

1. Labor and household income
2. Small and micro-business income
3. Household and business assets
4. Household consumption
5. Small and micro-business investment
6. Measures of poverty
7. Quantitative measures of welfare

2.2.1.6. Exclusion Criteria

To emphasize our focus, we will explicitly exclude studies with the following characteristics from the review:

- Studies that are not published in the English language. Because of resource and time constraints we will be restricting our searches to English. We are not confident that we will be able to complete comprehensive database searches in other languages while being able to provide a thorough review in other languages. This is a limitation of our review. We will duly note this in our final review.
- Studies that do not attempt to measure the microeconomic impact of access and usage of banking services on low-income households in low and middle-income countries
- Studies that look at the impact of microfinance
- Studies that examine the impact of non-banking financial services such as insurance
- General discussion papers not presenting data on impacts

2.2.2. Identification of potential studies: Search strategy

We provide a partial but representative list of electronic and non-electronic sources in Appendix 2.3. We will use an iterative search strategy and search for evidence referenced by or those citing the studies that we identify. We will identify published peer-reviewed articles, reports, working papers and dissertations in our search. We will conduct database searches of published studies, online search engines for published and unpublished studies, and manual hand searching of books and journals. We will try to identify unpublished studies to the extent possible, especially through our expert contacts. We will also use the citations in the articles that we find through these methods and include them in our database.

We will also search other online resources, particularly the websites of federal, national and international development and policy institutions, both government and multi-lateral.

We will maintain a detailed search log, with details of the key words searched, the names of the databases consulted and search results to which the selection criteria (described in 2.2.3) will be applied.

Titles and abstracts of studies to be considered for retrieval will be recorded using the EPPI Reviewer Software, along with details of where the reference has been found. Inclusion/exclusion decisions will be recorded on that platform. Retrieved studies will be filed according to inclusion/exclusion decisions.

Finally, an informal panel of expert contacts will be formed from people with a specialist interest in banking and financial services for the poor. These experts will be asked to provide information on ongoing research to ensure that our search comprehensively covers all the studies that meet our criteria.

2.2.3. Screening Studies: Applying inclusion and exclusion criteria

We will follow a two-stage screening algorithm:

1. In the first stage, we will apply the inclusion and exclusion criteria to the title and abstracts.
    a. If the study fulfills our inclusion criteria and does not violate our exclusion criteria, it will be included in the review set.
    b. If the study fails to meet our inclusion criteria or violates our exclusion criteria, it will be excluded in the review set.
    c. If it is unclear from this basic information if the study should be included or excluded, we will include the study in the review set.
2. In the second stage, we will apply the inclusion criteria to the full report of studies screened from the first stage.
    a. If we identify keywords in studies at this stage that we may have missed in the first round of searches, we will conduct a second round using these keywords.

Studies that do not use rigorous methods will be excluded from the analysis, though they will be included in the comprehensive database of research made available to researchers. Included and excluded studies will be clearly marked.

2.2.4. Characterizing included studies

2.2.4.1. Example of study that would be included

Burgess & Pande (2005) is an example of a study that we would include in our review. This study uses a quasi-experimental design to evaluate a policy change in a low-income country and measures its impact on the poverty headcount ratio which is well within the scope of this review. Karlan & Zinman (2008) is another example of a study that we would include. It uses a randomized design to estimate the impact of expanding access to consumer credit on a wide range of outcomes including household income and consumption.

2.2.4.2. Example of study that would not be included

Honohan (2007) is an example of a study that we would not include because although this study meets most of our criteria, it relies on cross-country evidence, rather than micro-data. Additionally, a study like Goldin (2007), which is based on oral interviews about having microcredit loans and therefore does not meet our basic study design inclusion criteria also will be excluded. Another study that would not be included is Banerjee, Duflo, Glennerster and Kinnan (2009), which describes a randomized evaluation of the effect of expansion of microcredit in Hyderabad. While it meets our basic study design inclusion criteria, it deals with micro-credit which is beyond the scope of this review.

2.2.5. Division of Labour

Prof. Rohini Pande and Prof. Shawn Cole will guide this review, provide internal peer review and ensure the maintenance of academic standards, in addition to contributing directly to the writing of the review. Anitha Sivasankaran, Gautam Bastian and Katherine Durlacher will carry out the bulk of the activities associated with the review, including article search, coding, extraction, synthesis, analysis and writing. Additional research assistance may be provided by Fenella Carpena. Deanna Ford will be responsible for coordinating the review study and communication with involved institutions, in addition to offering administrative support and oversight. EPPI-Centre and 3ie will provide support for methodological issues including the software for the database and support for the search.

2.2.6. Identifying and Describing Studies: Quality assurance process

We will conduct quality assurance at two stages, in the process. First in the *screening stage*, an independently drawn sample of the citations (using EPPI-Reviewer 4.0) that could potentially be included in the review will be screened by two independent review team members, working independently. The decisions will then be compared and discussed with a third team member until a consensus is reached. Once 90% agreement has been reached, independent screening will begin.

Secondly, at the *descriptive coding stage*, two team members will independently code all the studies included in the review and compare decisions and discuss with a third team member as required.

2.3. Methods of Synthesis

2.3.1. Assessing Quality of Studies

A draft of the coding tool is provided in Appendix 2.4, this will be the basis of our quality assessment for each study we decide to include in the review. This tool is based on the inclusion and exclusion criterion principles outlined in section 2.1 above, and the screening criteria outlined in 2.2.3. We will use an electronic version of this coding tool on the EPPI-Reviewer platform.

We will assess quality and rigor of the studies taking into account the following:

1. Methodology, research design and sample selection
    a. Clarity of the description of methods and research design
    b. Rationale and appropriateness of methods used for sampling, data collection and analysis
    c. Relevance of the sample used to the question addressed

    d. Internal and external validity of the results
    e. Relevance of the findings to the research questions
    f. Who are the subjects that are tracked to determine the outcome?
    g. How does the evaluator estimate the counter factual?
    h. How does the evaluator estimate what the effects of the program would have been on those that participated in the program?
    i. Are there systematic differences between program participants and non-participants that would cloud this comparison?
2. Process
    a. What inputs does the intervention actually provide to participants?
    b. What resources are actually in place?
    c. How well do those resources function?
    d. How intensively do participants utilize the available resources?
3. Outcomes
    a. Which dimensions are identified for measuring the effect of the program?
    b. How are the effects along these dimensions measured?
    c. What is the estimated effect of the program?
4. Interpretation
    a. Where are the results of the evaluation situated in the context of other research and policy questions?
    b. What is the policy question under consideration? And what do these results suggest about the appropriate course of action?
    c. What do the results suggest about our understanding of the theoretical issues?

2.3.2. Overall approach to and process of synthesis

2.3.2.1. Selection of studies for synthesis

All studies we review will be included in the synthesis, except those, which are found, to violate our inclusion and exclusion criteria described in Section 2.1 or those that have poor identification strategies or other critical flaws identified through the process described in 2.3.1.

2.3.2.2. Selection of outcome data for synthesis

While we will include a discussion of other important results in studies considered for the synthesis in the review, for the purpose of the synthesis we will only consider the outcomes listed in Section 2.2.15.

2.3.3. Process used to combine/synthesize data

We will use EPPI reviewer to manage and document the systematic review.

If possible, we will analyze the findings using meta-analysis. The utility of meta-analysis, however, is limited because the there are very few true experimental or quasi-experimental studies.

That being said, the feasibility of meta-analysis depends on factors such as:

- Number of studies using experimental or quasi-experimental methods that study the outcomes we have defined. It may be the case that there are an insufficient number of studies with sufficiently credible designs to permit a meta-analysis.
- Homogeneity in outcome measure, i.e. the studies should report effects on comparable outcome measures. Measures of income and poverty vary across regions and this might affect the number of studies we can find with sufficiently similar outcomes. Moreover, since we consider income, assets, consumption, poverty and welfare as outcomes, we will have to analyze these separately.

If we cannot perform meta-analysis, we will provide a tabulation of the directionality and statistical significance of the results including an indicator for the heterogeneous treatment effects.

Overall, we will follow the *realist synthesis* methodology to conduct our systematic review; as our review process develops we may, however, slightly alter the defined approach or allow our review to be influenced by other *realist* systematic review methodologies. We will record and report our exact methodology in our final review.

As has been indicated throughout this protocol, we will focus most closely on quantitative studies; however, we will utilize qualitative studies to inform, enhance, extend and supplement the review especially in terms of developing a richer understanding of the context and mechanisms through which rural banking affects socio-economic outcomes. Pawson, Greenhalgh, Harvey and Walshe (2004) outline the theory and logistics of the *realist synthesis* approach which we will follow, while allowing space for alterations to the methodology as the review team deems necessary during the process. While standard meta-analysis is focused on the statistical synthesis of the outcomes, this process-oriented methodology also examines the context of the study and mechanisms through which it was implemented to evaluate the underlying theory of change (Greenhalgh, Kristjansson and Robinson 2007). In other words, using the *realist synthesis* methodology, we will seek to uncover the mechanisms which determine the outcomes of the studies we review; thus, focusing on the specific theories of change that motivate the programs or interventions.

The *realist synthesis* approach is of special interest to policymakers because of its focus on the mechanisms of change and the context of programs. Acknowledging the multiple factors that influence the outcomes of social interventions such as location, people and timing, and the often made changes in interventions during the study, this approach does not suggest a perfect program or intervention to a policy maker. Instead, it offers the policy maker the ability to see how and why a program works or does not work, influencing the policymaker's thinking and logical framework. Ideally, the policymaker will better understand how to use different mechanisms of change in different situations to build successful programs (Pawson et al 2004).

From a research perspective, the *realist synthesis* can give insights on the specific channels through which access to finance impacts income and where the mechanisms break down. This is particularly important because the empirical evidence is mixed and difficult to interpret.

While carefully following the protocol we lay out in previous sections, we will follow the design of a *realist review* established in the literature (Pawson et al 2004). Having narrowed the scope of our review, we will search for relevant literature as described in the sections above. We will then determine the context, mechanisms and outcomes of the studies and code them based on the factors outlined in Appendix 2.5.

We will synthesize the findings to determine the mechanisms which work to raise the income of the poor when they do have access to formal financial services. We also plan to examine the environmental factors which positively or negatively impact the effectiveness of financial services in affecting the poor's income.

In our final review we will report the mechanisms and environmental factors of the studies and synthesize a theory of change to explain how access to formal financial services raises the poor's incomes. Additionally, we will present summary statistical tables aggregating the relevant findings from each study.

2.4. Deriving conclusions and implications

We will present the evidence objectively and draw our own conclusions, allowing the readers the latitude to draw their own as well. In drawing our conclusions, we will discuss the findings within the review team and with other experts in the field. For the purpose of informing policy, we will identify areas and situations where policy intervention can address the market failures and facilitate greater benefits from financial inclusion. This discussion will also be useful for practitioners. For the purpose of informing research, we will highlight gaps in the current literature and identify areas that require more evidence.

2.5. Plans for updating

This protocol will be updated at the end of the review to reflect any changes that might arise in the practice of the review. While we have not budgeted for resources necessary to update the review in the future, the technical report we submit at the end of the review will describe the steps taken in the synthesis of the review carefully so as to give enough information to a research team interested in updating the review in the future.

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4. Appendices

APPENDIX 1.1 Lead Authors of the Review

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Prior to joining the Kennedy School, she was an Associate Professor of Economics at Yale University. She has taught at Yale University, MIT, and Columbia. A Rhodes Scholar, she is the recipient of several NSF and other research grants. She holds a Ph.D. and M.Sc. in Economics from the London School of Economics, an M.A. in Philosophy, Politics and Economics from Oxford, and a B.A. in Economics from St. Stephens College, Delhi University.

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His research examines corporate and household finance in emerging markets, with a focus on banking, microfinance, insurance, and the relationship between financial development and economic growth. He has worked in India, the Philippines, Indonesia, Vietnam, and South Africa. He is an affiliate of MIT’s Jameel Poverty Action Lab, and the Bureau for Research and Economic Analysis of Development.

Before joining the Harvard Business School, Professor Cole worked at the Federal Reserve Bank of New York in the economic research department. He has also served as chair of the endowment management committee of the Telluride Association, a non-profit educational organization. He received a Ph.D. in economics from the Massachusetts Institute of Technology in 2005, where he was an NSF and Javits Fellow, and an A.B. in Economics and German Literature from Cornell University.

APPENDIX 2.1 Timeline

Activity	Start date	End date
Registration of title with DFID	June 15, 2010	June 15, 2010
Preparation of protocol	June 15, 2010	July 15, 2010
DFID and External Review of protocol (if using peer review organized through 3ie, allow 3 weeks)	July 5, 2010	August 5, 2010
Study search	July 15, 2010	August 10, 2010
Assessment of study relevance	July 20, 2010	August 20, 2010
Extraction of data	August 20, 2010	August 27, 2010
Synthesis and/or statistical analysis	August 28, 2010	Sept 13, 2010
Preparation of draft report	August 25, 2010	Oct 11, 2010
DFID review of draft report (please allow 2 weeks)	Oct 11, 2010	Oct 25, 2010
Dissemination of draft report	Oct 25, 2010	Oct 25, 2010
Revision of draft report	Oct 25, 2010	Nov 3, 2010
External review of draft report (if using peer review organized through 3ie, allow 4 weeks for turnaround)	Nov 3, 2010	Dec 1, 2010
Revision	Dec 1, 2010	Dec 15, 2010

APPENDIX 2.2 Inclusion and Exclusion Criteria

The following list has been retrieved from the World Bank (http://data.worldbank.org/about/country-classifications).

Low-income economies ($995 or less)		Lower-middle-income economies ($996 to $3,945)	
1. Afghanistan	21. Tajikistan	**41.** Angola	69. Moldova
2. Guinea	22. Chad	**42.** India	70. Tunisia
3. Nepal	23. Liberia	**43.** São Tomé and Principe	71. Djibouti
4. Bangladesh	24. Tanzania	**44.** Armenia	72. Mongolia
5. Guinea-Bisau	25. Comoros	**45.** Iraq	73. Turkmenistan
6. Niger	26. Madagascar	**46.** Senegal	74. Ecuador
7. Benin	27. Togo	**47.** Belize	75. Morocco
8. Haiti	28. Congo, Dem. Rep	**48.** Jordan	76. Tuvalu
9. Rwanda	29. Malawi	**49.** Sri Lanka	77. Egypt, Arab Rep.
10. Burkina Faso	30. Uganda	**50.** Bhutan	78. Nicaragua
11. Kenya	31. Eritrea	**51.** Kiribati	79. Ukraine
12. Sierra Leone	32. Mali	**52.** Sudan	80. El Salvador
13. Burundi	33. Zambia	**53.** Bolivia	81. Nigeria
14. Korea, Dem Rep.	34. Ethiopia	**54.** Kosovo	82. Uzbekistan
15. Solomon Islands	35. Mauritania	**55.** Swaziland	83. Georgia
16. Cambodia	36. Zimbabwe	**56.** Cameroon	84. Pakistan
17. Kyrgyz Republic	37. Gambia, The	**57.** Lesotho	85. Vanuatu
18. Somalia	38. Mozambique	**58.** Syrian Arab Republic	86. Guatemala
19. Central African Republic	39. Ghana	**59.** Cape Verde	87. Papua New Guinea
20. Lao PDR	40. Myanmar	**60.** Maldives	88. Vietnam
		61. Thailand	89. Guyana
		62. China	90. Paraguay
		63. Marshall Islands	91. West Bank and Gaza
		64. Timor-Leste	92. Honduras
		65. Congo, Rep.	93. Philippines
		66. Micronesia, Fed. Sts.	94. Yemen, Rep.
		67. Tonga	95. Indonesia
		68. Côte d'Ivoire	96. Samoa

Upper-middle-income economies ($3,946 to $12,195)			
97. Albania	109. Argentina	121. Botswana	133. Colombia
98. Dominican Republic	110. Iran, Islamic Rep.	122. Libya	134. Mauritius
99. Namibia	111. Romania	123. South Africa	135. Suriname
100. Algeria	112. Azerbaijan	124. Brazil	136. Costa Rica
101. Fiji	113. Jamaica	125. Lithuania	137. Mayotte
102. Palau	114. Russian Federation	126. St. Kitts and Nevis	138. Turkey
103. American Samoa	115. Belarus	127. Bulgaria	139. Cuba
104. Gabon	116. Kazakhstan	128. Macedonia, FYR	140. Mexico
105. Panama	117. Serbia	129. St. Lucia	141. Uruguay
106. Antigua and Barbuda	118. Bosnia and Herzegovina	130. Chile	142. Dominica
107. Grenada	119. Lebanon	131. Malaysia	143. Montenegro
108. Peru	120. Seychelles	132. St. Vincent and the Grenadines	144. Venezuela, RB

APPENDIX 2.3: Keywords and search sources

Examples of keywords in the form of a sample search string

We will iteratively expand our list of keywords by examining the papers that we find and using terms and keywords we find therein. Below we provide the search string with which we plan to start the search. While we will begin our searches with this set of keywords, we will be willing to alter our search strategy, while noting our alterations, during the search keywords and process.

```
(bank*
      OR finance*
      OR financial*
      OR financial?inclusion
      OR financial?literacy
      OR financial?education
      OR credit*
      OR saving*
      OR investment*
      OR asset*
      OR consumption*)
AND (rural
      OR urban)

AND (poor
      OR low?income)
AND (*africa
      OR *asia
      OR *{or list of names of each country listed in Appendix 2.2, not
      rewritten here})
AND (1980…2010)
AND (journal*
      OR article*
      OR report*
      OR working?paper)
AND (evaluation*
      OR assessment*
      OR impact*
      OR effect*)
```

Partial List of Bibliographic Databases and Other Sources

1) Partial list of electronic databases

- AgEcon Search, University of Minnesota
- Bing.com
- British Library for Development Studies
- EBSCO Business Source Premier
- Econlit
- Econpapers
- Google, Google Books and Google Scholar
- Handbooks in Economics
- IDEAS (ideas.repec.org)
- JSTOR
- Kluwer Online or SpringerLink

- Other online resources and databases available through Harvard University and Harvard Business School
- Oxford Scholarship Online
- ProQuest
- Social Science Research Network (SSRN)
- Wiley Interscience
- World Bank and IMF's Joint Libraries Information System (JOLIS)
- World Bank e-Library

2) Partial list of journals and working papers series

- Agricultural Economics
- Agricultural Finance Review
- American Economic Review
- American Journal of Agricultural Economics
- Journal of Agricultural and Resource Economics
- Journal of Agricultural Economics
- Journal of Development Economics
- Journal of Development Studies
- Journal of Finance
- NBER Working Papers
- Oxford Review of Economic Policy
- Reserve Bank of India and other developing country Central Banks that have active research programs
- Review of Financial Studies
- United Nations Development Programme (UNDP)
- Various University Working Papers
- World Bank Economic Review
- World Bank Research Observer

3) Partial list of other resources

- African Development Bank (AfDB)
- Asian Development Bank (ADB)
- Australian Agricultural and Resource Economics Society
- Australian International Development Agency
- Bill & Melinda Gates Foundation
- Bureau for Research and Economic Analysis of Development (BREAD)
- Center of Evaluation for Global Action, University of California, Berkeley
- China Economic Network & CCER Finance Database
- Commodity Risk Management Group at Consultative Group to Assist the Poor (CGAP)
- European Association of Agricultural Economists
- Innovations for Poverty Action (IPA)
- Inter-American Development Bank (IADB)
- International Association of Agricultural Economists
- International Food Policy Research Institute (IFPRI)
- International Labour Organization's Micro insurance Innovation Facility
- Jameel Poverty Action Lab (JPAL)
- Micro-Insurance Centre
- Micro-Insurance Network
- Munich Climate Insurance Initiative (MCII)
- National Insurance Academy, Pune, India
- Organization for Economic Cooperation and Development (OECD)
- UKAID – Department for International Development
- USAID Microlinks

APPENDIX 2.4: DRAFT VERSION OF CODING INSTRUMENT

We provide a draft of the fields we will collect, since the data will be collected electronically on EPPI Reviewer, we do not plan to prepare a properly formatted paper version. This coding instrument draws from Petrosino et al (Undated).

SYSTEMATIC REVIEW OF FORMAL FINANCIAL SERVICES

SECTION A: IDENTIFICATION PROTOCOL

A1 Coder's Name:
- o Anitha Sivasankaran (AS)
- o Deanna Ford (DF)
- o Fenella Carpena (FC)
- o Gautam Bastian (GB)
- o Katherine Durlacher (KD)
- o Rohini Pande (RP)
- o Shawn Cole (SC)
- o Other (OTH) : ____________________________________

A2 Full Citation for Primary Document:

SECTION B: RESEARCHER AND STUDY CHARACTERISTICS

B1 What year was the primary document published?
B2 How many documents were considered in coding this study?
B3 What was the type of document?
- o Book
- o Book Chapter
- o Government Report
- o Journal (peer reviewed)
- o Dissertation
- o Unpublished (Technical Report, Conference Paper, Working Paper)

B4 In what country did the evaluation take place?
B5 World Bank country classification at time of study
- o Lower Income
- o Lower Middle Income
- o Upper Middle Income

B7 What was the occupational and academic background of the team conducting the evaluation?
B8 What type of banking or financial intervention does this study relate to?
- o Lending/Credit
- o Savings
- o Payment services

B9 What type of access variable is considered?
- o Expansion of services
- o Technological updates
- o Financial Literacy

B10 What other information was provided on the context of the evaluation?
B10 What other information was provided on the mechanism of the evaluation?
B12 What are the outcome variables used, particular what, if any, measures of income were used?
B13 Is the primary focus of study on an outcome variable we are not considering?

SECTION C: STUDY METHODS AND METHODOLOGICAL QUALITY

Type of Study

C0 What type of research method is utilised?

- o Randomization/RCT
- o Quasi-Experimental
- o Observational/Econometric

Random Assignment Study

C1.1 Was random assignment used to assign groups?

- o Yes
- o No

C1.2 At what level was randomization conducted?
C1.3 How was the randomization specifically done?
C1.4 Were there any randomization problems noted, including but not limited to issues such as balancing of the treatment and control groups?

- o Yes
- o No

C1.5 If yes, please detail those problems below:

Quasi Experimental Study

C2.1 Which quasi-experimental method was used to equate groups?

- o Regression Discontinuity
- o Propensity Score Matching
- o Interrupted Time Series
- o Instrumental Variables
- o Other:

C2.2 Where did comparison group come from? Describe the criteria for selecting the comparison group.
C2.3 At what level was non-random assignment made?
C2.4 Were any substantive differences in pretests of group equivalence noted?

- o Yes
- o No

C2.5 If yes, please detail those differences below:
C2.6 Were there any problems with the method or the sample?

- o Yes
- o No

C2.7 If yes, please detail those problems below:

Observational/Econometric

C3.1 Which Observational/Econometric method was used to equate groups?

- o Cross-section
- o Panel
- o Time-Series
- o Other:

C3.2 What identification strategy if any have the authors proposed to circumvent the observational nature of the data?

Generic Questions applicable to both Random and Quasi Experimental Studies.

C4.1 Were there any overall attrition problems noted?

- o Yes
- o No

C4.2 Was differential attrition noted?

- o Yes

- o No

C4.3 If yes, please detail those problems below (especially the magnitude of attrition, both from original sample and differentially between treatment and control groups):
C4.4 How were attrition problems dealt with by investigators?

SECTION D: INTERVENTION AND CONTROL CONDITIONS

D1 Number of groups in the study:
D2 Rationale for selecting intervention and control contrast if multiple groups:
D3 List excluded study groups with brief description:
D4 Describe the intervention below, with particular attention to the "dosage" of the treatment:
D5 How many participants were randomized to this group? ____________________
D6 Were program implementation problems described by investigators?

- o Yes
- o No

D7 Detail fidelity problems below:
D8 Please detail program theory (or mechanisms for why it should work):
D9 What is the control or comparison condition?

- o No Treatment Group
- o Treatment as Usual Group
- o Lesser but Innovative Treatment

D10 Describe the control or comparison condition (including "dosage" if applicable):
D11 How many participants were randomized to the control group?

SECTION E: PARTICIPANTS IN THE STUDY

E1 What is the economic profile of the participants in the study? Provide summary statistics where available.

SECTION F: OUTCOMES

F1 Include all data on treatment and control, including results, sample sizes used in analysis, the statistical technique, whether regression adjusted or not (and if so, what controls were used), statistical significance and probability level. Fill out the following table with details of the effect sizes:

	Treatment/Control			
Outcome	+/-/0	Effect Size	Unit	Stat. Sig.
Labor and household income				
Small and micro-business income				
Household or business assets				
Household consumption				
Small and micro-business investment				
Quantitative measures of welfare				
Measures of poverty (e.g. Poverty lines, poverty head count ratios and inequality)				

F2 Please detail all available subgroup effects below, particularly gender and insurable assets
F3 Please detail all cost/economic information below:

SECTION G: ADDITIONAL COMMENTS

G1 Please record any further comments or information about the primary study here

---

END OF CODING INSTRUMENT

APPENDIX 2.5: COMPONENTS OF THE REALIST REVIEW

I. Context

A. Social and economic characteristics of target group(s)
B. Social, economic, and policy environment of region where the study was conducted
C. Social systems and structures of the target group(s)

II. Mechanisms

A. The type of program
  1. Lending
  2. Savings
  3. Payment services
  4. Technological updates
  5. Financial Literacy
  6. Others

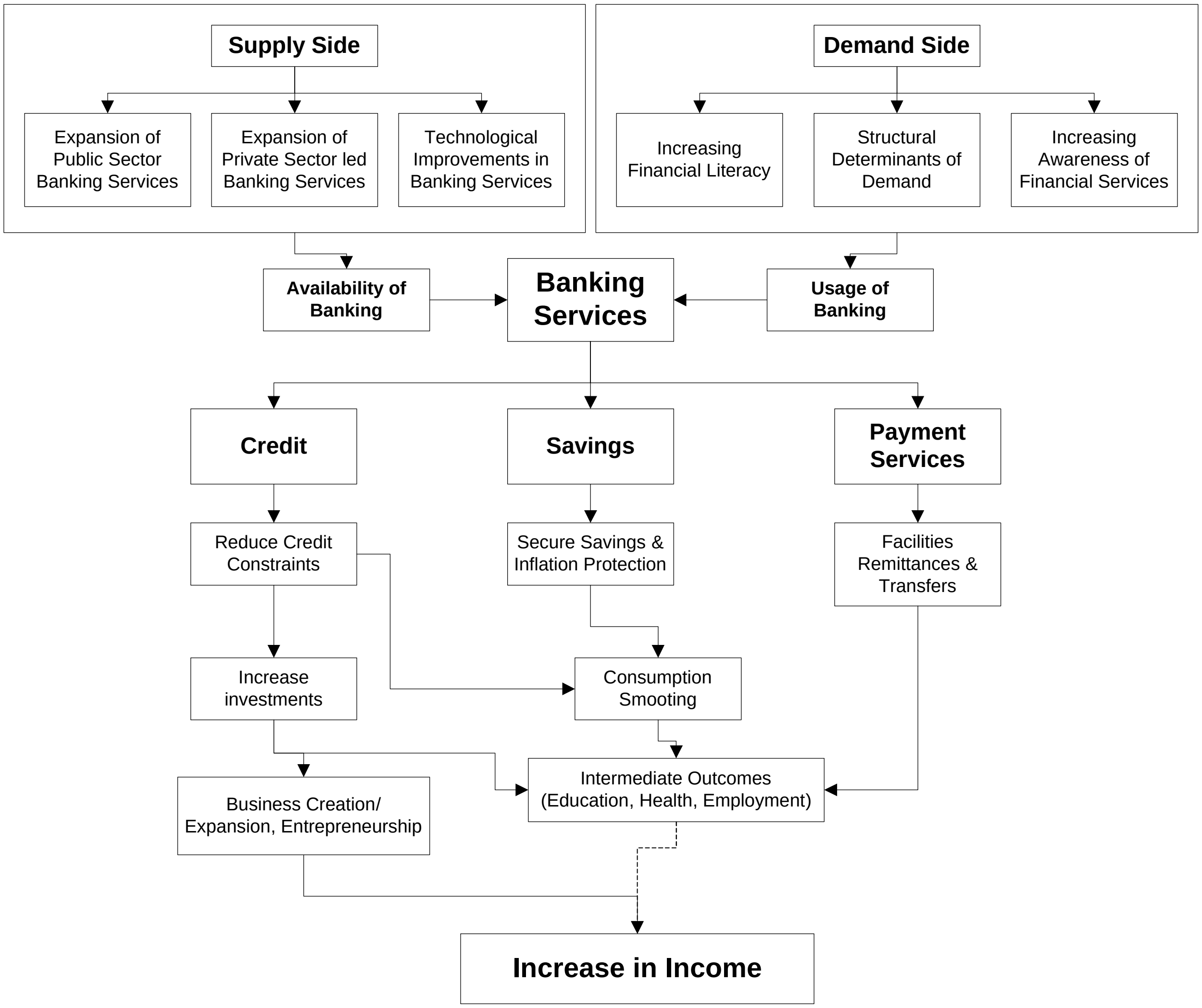
B. The logistics of the program
  1. Expected and actual actions of different actors
  2. The steps leading up to the program
  3. The steps involved in the conduct of the program
  4. The ‘on-the-ground’ workings of the program
  5. Rationale and consequences of any modifications to the intervention during the study period

C. A critical evaluation of the theory of change of the study
  1. How the program expected to change the income of the poor?
  2. Did it work as predicted? Are there reasons to believe that the theory of change is valid?
  3. What are the reasons for why it worked or did not work?

III. Outcomes

A. Income
  1. Labor and household income
     a) Recognizing that measures of income and poverty vary across regions
  2. Labor and household income
  3. Small and micro-business income
  4. Household and business assets
  5. Household consumption
  6. Small and micro-business Investment
  7. Measures of poverty
  8. Quantitative measures of welfare

APPENDIX 2.6: VISUAL DIAGRAM OF THE CAUSAL MECHANISM/PROGRAM THEORY



APPENDIX 2.7: SEGMENTS OF FINANCIAL SYSTEMS BY DEFREE OF FORMALITY

1	2	3	4
Inclusion/Exclusion from this Review	**Institutions**	**Definition**	**Tier**
Included	Commercial Banks	Licensed by central bank	Formal Banks
Included	Development Banks		
Included	Rural banks		Specialized non-bank financial institutions (NBFIs)
Included	Post Bank		
Included	Savings & Loan companies		
Excluded	Deposit-taking microfinance banks		
Excluded	Credit unions	Legally registered, but no licensed as financial institution by central bank	Semi-formal
Excluded	Microfinance NGOs		
Excluded	Savings collectors	Not legally registered at national level (though may belong to a registered association)	Informal
Excluded	Savings & credit associations		
Excluded	Moneylenders		

Note: Columns 2-4 are sourced from Steel (2006), Table 1