What policies and interventions have been strongly associated with the translation of growth into reductions in income poverty?

A Systematic Review Protocol

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PROTOCOL

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1. Background

1.1 Description of the problem

The eradication of poverty has been a central aim of international development efforts for a number of decades, dating back to the earliest years of the development era. Although there are various ways of defining and conceptualising poverty, at the heart lies the notion of poverty as the inability to fulfil a minimum set of requirements for a decent life, referred to as 'absolute poverty' (Foster 1998).

Absolute poverty is typically measured using a poverty line, designed to reflect the amount of income that a person (or household) needs to be able to afford the minimum requirements for a decent life, so that a person or household whose income is below this level is considered to be poor. This is generally referred to as 'income poverty'. Since the early 1990s, the World Bank has led efforts to measure the amount of absolute income poverty at the global level, using the "$1.25-a-day" and "$2-a-day" global poverty lines. The $1.25-a-day line reflects the average poverty line found in the world's poorest countries, while the $2-a-day figure reflects the average poverty line among all developing countries – in each case converted into their equivalent values in US dollars using purchasing power parity (PPP) exchange rates (see Chen and Ravallion 2010).[1] Measured by these yardsticks, the amount of absolute (income) poverty in the world has fallen substantially over the past three decades (see Table 1).

Table 1: Headcounts Indices of Poverty (% below each line)

	1981	1984	1987	1990	1993	1996	1999	2002	2005
(a) Aggregate for developing world									
$1.25	41.4	34.4	29.8	29.5	27.0	23.1	22.8	20.3	16.1
$2.00	69.2	67.4	64.2	63.2	61.5	58.2	57.1	53.3	47.0
(b) Excluding China									
$1.25	39.8	38.3	37.5	35.0	34.1	33.8	33.1	31.3	28.2
$2.00	58.6	58.1	57.2	55.6	55.6	55.9	55.6	54.0	50.3

Note: Table adapted from Chen and Ravallion (2010). The headcount index is the percentage of the relevant population living in households with total household income or expenditure per person below the poverty line.

Despite the undoubted progress achieved in recent decades, it is clear that much remains to be done. On the one hand, the absolute number of people living on less than $1-a-day and $2 a day remained largely unchanged between 1981 and 2005, due to population growth. On the other hand, the extent of poverty reduction has been much more marked for some regions than others. To give one illustration, the MDG target of halving the proportion of people living in poverty by 2015was achieved by 2002 in East Asia, but it is

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[1] National poverty lines tend to be higher (in real terms) in richer countries than in poorer countries, reflecting the tendency for perceptions of the minimum requirements for a decent life, and the real cost of those requirements, to rise with average income; on this point see Sen (1983). The $1.25-a-day line therefore provides a measure of extreme poverty, since by the standards of middle and high income countries, people with incomes above $1.25-a-day would also be considered poor.

highly unlikely that this target will be met in Sub-Saharan Africa, despite a recent improvement in progress.

In terms of the factors that drive reductions in absolute (income) poverty, a large body of evidence has by now shown that economic growth is a key factor. On the basis of a sample of 120 spells spanning 50 low and middle-income countries for example, Ravallion (2001) finds that on average, each percentage point of economic growth is associated with a reduction of around two per cent per year in poverty. Similar results have been reported by a range of other studies, including Besley and Burgess (2003), Bourguignon (2003) and World Bank (2005).

Nevertheless, while economic growth tends to be associated with reductions in income poverty on average, a given rate of economic growth can still have a very different impact on poverty. An interesting comparison here may be drawn between the progress made by India and Brazil in terms of poverty reduction over the past two decades. Between 1993 and 2005, India witnessed economic growth of 4.8 % per year while in Brazil, growth was slower at 1.3% per year. But despite slower rate of growth, the rate of poverty reduction was higher in Brazil – 4.2% per year compared to 1.4% per year for India – because the rate at which growth was translated into poverty was much higher (Ravallion 2010).[2] Had India been able to translate growth into poverty reduction at the same rate as Brazil (without affecting its growth rate), its rate of poverty reduction would have been considerably higher.

Understanding the factors that affect the translation of economic growth into reductions in income poverty is therefore a key question.

1.2 Description of the intervention

Many of the systematic reviews that have been carried out in the field of international development to date have focused on quite specific policies or interventions; examples include microcredit programmes, conditional cash transfers, school-feeding programmes, and farmer field schools (White and Waddington 2012, Table 1). Others have focused on fairly narrowly-defined sets of policies or interventions, defined by the sector of the intervention and/or by the specific purpose of the interventions; examples include land property rights interventions for increasing productivity, and water, Sanitation and Hygiene (WSH) interventions to combat childhood diarrhoea (ibid).

This systematic review, by contrast, does not focus on a specific policy or intervention, nor on a narrowly-defined set of policies and interventions. The broad nature of our review gives rise to two main dangers. The first is that the amount of literature relevant to the review will be too large, and not possible to review and synthesise adequately within the time available. The second is that the range of policies and interventions covered by the review will be too diverse, preventing meaningful and interesting comparisons of the effects of similar types of policies and interventions across different countries and contexts. We aim to respond to these dangers by mapping the relevant literature, prior to carrying out the synthesis. The mapping exercise will identify all of the

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[2] There is some uncertainty about the true rate of poverty reduction in India, due to complications with the data, but even under the higher estimates, the rate of poverty reduction is slower than in Brazil over the period 1993-2005 (ibid).

evidence relevant to the review question, but the synthesis will then be applied to a sub-group of the studies identified in the mapping stage. This is discussed further in Section 3 below.

1.3 How the interventions might work

We start with some definitions. Income poverty is measured via the comparison of an individual or household's actual income to a poverty line which is assumed to be fixed in real terms over time.[3] Economic growth is typically measured by the annual rate of increase in real Gross Domestic Product (GDP) per capita. The latter is a readily available measure of the average level of income in society, although other relevant measures of average income are available – for example, the rate of increase in mean household income per capita – and may also be used to calculate growth.

The extent to which economic growth over a given period is translated into income poverty can be expressed as the ratio of the rate of poverty reduction to the rate of economic growth, i.e.:

$$\frac{\text{rate of poverty reduction (\% per year)}}{\text{rate of economic growth (\% per year)}}$$

The higher this ratio, the greater is the rate or extent to which economic growth is translated into poverty reduction. Another term for this ratio is the 'growth elasticity of poverty'; i.e., the percentage reduction in poverty associated with each percentage point of economic growth.[4]

The two 'proximate' determinants of the growth elasticity of poverty are the initial distribution of incomes in society, and the way in which the distribution of income changes over time. This is demonstrated formally by Bourguignon (2003); it is also demonstrated empirically by Ravallion (2001), Bourguignon (2003), Besley and Burgess (2003) and Kalwij and Verschoor (2007). How then do government policies and interventions affect the translation of growth into poverty reduction?

From the perspective of the implementation of a new policy, the initial distribution of income in society is given – it may have been influenced by earlier policies, but is not something that the current government can do much about. In the short to medium-term therefore, the main way in which policies and interventions affect the translation of growth into poverty reduction is by affecting the *pattern* of growth – in particular, for a given rate of growth, the extent to which the incomes of the poor rise *more rapidly* or *less rapidly* than the incomes of the non-poor.[5]

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[3] This is a reasonable assumption to make in the short to medium-term; over the longer-term however, the poverty line may rise in real terms with average income, for reasons discussed in Section 1.1.

[4] More specifically, equation (1) gives the 'total' growth elasticity of poverty, which is distinguished from the partial elasticity of poverty (see Ravallion 2004).

[5] See for example Kraay (2006). Some authors (e.g. Kakwani 2000) have used the notion of 'pro-poor' growth to indicate a pattern of growth in which the incomes of the poor rise more rapidly than the non-poor. This definition of pro-poor growth is contested however: other authors (e.g. Ravallion and Chen 2003) argue that growth is 'pro-poor' if the poverty measure of interest falls – thus the extent of 'pro-poor' growth depends on

Government policies and interventions in turn affect the pattern of growth via four main channels, namely:

1) by affecting the rate of investment by the poor in the productive assets that generate income
2) by affecting the economy-wide returns to the productive assets that are particularly important for the poor, e.g. labour
3) by addressing the horizontal inequalities that restrict opportunities for poor households;
4) by redistributing income to poor households via taxes and transfers
5) by altering the prices of goods and services which are consumed relatively intensively by poor households.

These channels are discussed further below. The overall framework is illustrated graphically in Figure 1.

Figure 1: Conceptual framework

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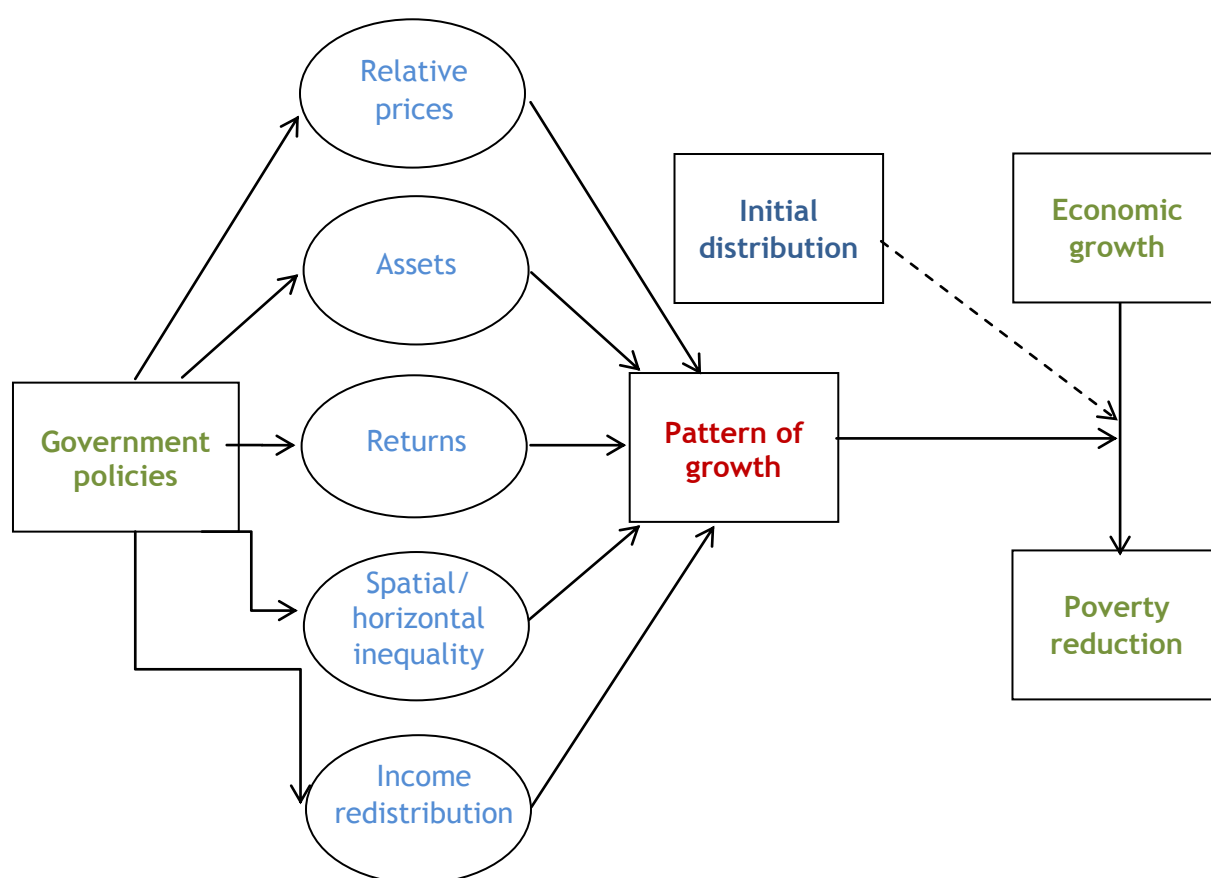
the pattern of growth and on the rate of growth itself. For this review, we do not adopt any one particular definition of pro-poor growth.

What policies and interventions have been strongly associated with the translation of growth into reductions in income poverty?

1. *Investment in assets by the poor*

For many poor households, low income is the result of a lack of the productive assets that generate income, e.g. labour, human and physical capital, and land; they face serious barriers in their attempts to invest in and build up such assets. One reason is market failure – informational asymmetries leading to a lack of access to credit or savings can limit a household's ability to establish and develop a small enterprise, to acquire a new plot of land, or to send children to school. Another reason relates to the existence of poverty traps – for example, when poverty is transmitted from one generation to the next via the influence of parental income on the likelihood that children attend school and receive good medical care.

A wide range of interventions in the areas of health, education and social policy have the aim of addressing the barriers that limit investment by the poor in the productive assets that generate income. One example is a conditional cash transfer programme, which aims to promote investment in education and human capital by poor households in which children might otherwise be prevented from going to school, for financial reasons. By overcoming the barriers that limit access by the poor to financial services (e.g. credit, savings), microfinance programmes can also promote investments in business and financial assets. Land reforms aimed at improving access to rental markets can also support investment in small-scale farming enterprises, while the strengthening of property rights can increase access to credit (although at the same time exposing households to new sources of risks that need also to be considered).

2. *Returns to assets owned by the poor*

It is widely accepted that a labour-intensive pattern of growth can be a key driver of the translation of growth into poverty reduction. This is often linked to the experience of countries in the East Asia region – as noted in Section 1.1, is the region with the most successful performance in recent decades – and their emphasis on export-led growth based on (at least initially) labour-intensive exports (e.g. clothing, textiles, toys and basic consumer electronics). Rapid growth in labour-intensive industries tends to raise the economy-wide demand for labour (low-skilled or unskilled), which is often the most important asset owned by the poor – leading to rapid reductions in income poverty. Thus government interventions in the areas of trade and industrial policy which promote the expansion of labour-intensive sectors of the economy can have a large positive impact on the translation of growth into poverty reduction.

For more resource-intensive patterns of growth, e.g. agricultural or non-agricultural commodities, fuels and minerals, there are various issues to consider. On the one hand, growth based on 'enclave' natural resource sectors (e.g. oil, natural gas, rare minerals) may have only limited impacts on the demand for assets owned by the poor (e.g. unskilled labour), and thus has very little direct impact on the incomes of poor households. The translation of growth into poverty reduction may therefore be quite weak in such cases, unless offset by the redistribution of resource revenues via government spending and transfers. However, growth in agricultural commodities which rely on small-holder production (e.g. coffee, cocoa) can raise the return to land owned by poor households. Similarly, growth in commodities which are relatively intensive in the use of unskilled

labour as well as land (e.g. rice cultivation) can raise the demand for labour and local wage rates in rural areas significantly.

Thus interventions in the areas of agricultural policy and rural development which promote the expansion of agricultural sectors in which small-holder farming plays an important role, and/or which use labour-intensive production methods, can also have a large positive impact on the translation of growth into poverty reduction. This includes policies which dismantle biases against the agricultural sector which may have emerged in previous decades (e.g. low producer prices set by state marketing boards, overvalued exchange rates). It also includes government investment in the public infrastructure (e.g. roads and railways, communications) that is required to promote agricultural growth.

Labour market policies (e.g. employment subsidies or public works programmes) can also increase the relative demand for less-skilled labour, in both urban or in rural areas, which therefore also has the potential to raise the translation of growth into income poverty reduction. Minimum wage legislation can also have this effect, although in this case the risk is that wage gains are offset by reductions employment.

3. Horizontal inequalities

For many poor households, low income is not the result of a lack of the productive assets that generate income, but barriers to the effective use of those assets. One example is barriers to internal (geographical) mobility. A combination of natural and government-imposed barriers may for example prevent poor households in rural, isolated areas from benefiting from employment opportunities arising other parts of the country. In China for instance, where the *houkou* system has long been regarded as a major disincentive to rural-urban labour migration, which in turn reduces the translation of growth (originating in the urban, coastal areas of the country) into poverty reduction. Government interventions which reduce barriers to the mobility of labour (and other factors of production) within countries can therefore raise the translation of growth into poverty reduction. This would include the liberalisation of existing legal or policy barriers to mobility (e.g. the *houkou* sytem), and public investment in domestic transport infrastructure.

Another very important barrier to the effective use of productive assets by poor households is discrimination. Governments can take various steps to tackle discrimination, and the horizontal inequalities in income, including measures to eliminate biases against women and other marginalised groups in terms of their access to land, employment and credit, anti-discrimination legislation and affirmative action.

4. Income redistribution via taxes and transfers

It has long been recognised in the development literature that market-led processes of economic growth do not always translate rapidly into poverty reduction, even when allowing for policies and interventions of the sort discussed above. Economic growth based on certain types of natural resources (e.g. oil, natural gas) is an obvious example here. In such cases, the main way in which governments affect the translation of growth into poverty reduction will be via government taxes and transfers.

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Government transfers – including both cash and in-kind, and both universal and targeted – have the potential to raise the net market, disposable, post-fiscal and/or final incomes of poor households, thereby raising the translation of growth into poverty reduction. Their effectiveness depends of course on their size and the accuracy of their targeting on poor households – in practice there is likely to be substantial leakage to non-poor households, even for targeted transfers. Transfers can also affect poverty more indirectly, over the longer-term, by overcoming some of the barriers to investment by the poor discussed above – one example being the effect of cash transfer programmes on school enrolment. Subsidies for goods and services consumed by poor households can also raise post-fiscal incomes of the poor, via their effect on consumer prices – although again there is likely to be substantial leakage in such cases to non-poor households.

5. *Relative price effects*

Indirect taxes and subsidies affect poor households by altering the real purchasing power of their disposable income (referred to here as post-fiscal income), rather than disposable income itself. Many other government policies may affect income in this way. More generally, any policy which reduces the prices of goods which are consumed more intensively by poor households (e.g. basic food items) will tend to reduce income poverty, and vice versa.

For example, Ravallion (1990) distinguishes two main channels by which government policies with respect to the price of rice are likely to affect poverty in rural Bangladesh. The first is the effect of rice prices on households as consumers. Since rice accounts for a large share of expenditure of poor households in Bangladesh, a rise in the price of rice will tend to raise poverty, all else being equal – since it lowers the real purchasing power of a given level of disposable income among poor households. Non-poor households are also affected, but to a much smaller extent since rice accounts for a much smaller share of total expenditure in this case. However, another effect of higher rice prices is likely to be a rise in the output of rice by rice farmers, leading to a rise in the demand for labour, an important asset for poor rural households. This will tend to reduce poverty, by raising the market income of poor households. Thus in overall terms a change in the price of rice affects poverty via two channels – a 'consumption effect' and an 'income effect' – and either one may prevail, depending in large part on the extent of the rise in labour demand and the rural wage rate in response to the rise in rice output.

1.4 The importance of the review

As argued above, economic growth is widely regarded as a key tool for poverty reduction. This is primarily true for income poverty, but the benefits of economic growth for the poor can spread to other areas such as health, housing, etc . However, this important social goal(s) will be achieved 'not by growth alone' (Kalwij and Verschoor 2007). Economic growth can have a large or only a minor effect on poverty, and governments can play an important role in steering growth towards being beneficial for the poor.

This review will identify and evaluate the existing evidence about which policies have been shown to be instrumental in translating economic growth in poverty reduction. Gaining knowledge of what type of policy has had a positive impact on poverty reduction will be useful for an array of development actors, ranging from international organisations

to policymakers, NGOs, consultants and academics. While what has worked in past should not be taken as an assurance of impact in the future context, and what has worked in a certain context may not work in another, the provision of carefully reviewed evidence will endow a wide audience with valuable guidance, and with an illustration of the mechanisms which may prevent apparently pro-poor policies from bringing about tangible benefits for the poor.

2. Objectives of the review

The objectives of our review are as follows:

1) to map the available evidence that seeks to evaluate or better understand the effects of government policies and interventions on the translation of economic growth into reductions in income poverty, in low and middle income countries;

2) to establish whether any particular types of policies or interventions tend to reduce or increase the translation of growth into income poverty reduction <u>on average</u> – in in other words, whether there are any consistent and generalisable findings or results across contexts and methods;

3) to explain heterogeneity in the estimated effect of such policies or interventions, across countries, regions or over time ('structural' heterogeneity) or research methods used ('method' heterogeneity);

4) to understand better the processes and mechanisms through which government policies and interventions affect the translation of growth into income poverty reduction.

The first aim is to map the research field. As noted in Section 1.2, mapping is an important component of this review, given the very broad nature of the underlying question. The mapping exercise will be used to identify all of the evidence relevant to the review question, and to categorise the evidence according to key descriptive information, namely:

- the country (or countries) of focus
- the type of policy or intervention
- the method(s) used to assess the impact of the policy or intervention.

Mapping the research field, as a prior stage to synthesis, is an important part of many systematic reviews. In the words of Gough et al. (2013: 16):

"The studies contained within a research field may be too numerous or heterogeneous for meaningful synthesis; it might be methodologically too difficult or just take too much time. The map provides an opportunity to select a sub-group of studies for synthesis. This can involve undertaking a single synthesis based on a narrowed review question and set of inclusion criteria; or undertaking a series of syntheses. … Syntheses can also be restricted to studies employing specific research methods."

Mapping is also a useful output in its own right:

"Systematic maps of research fields can also highlight gaps in research. [They] can be used to compare policy and practice on the ground with what has been studied in research; they may reveal that only a specific sub-set of policy and/or practice has been studied."(ibid).

The second and third aims both relate to the synthesis of the evidence. We aim to establish whether any specific types of policies have a consistent positive or negative effect on the translation of growth into poverty reduction, and to explain any heterogeneity in the estimated effects of particular policies. This will be done using a combination of meta-analysis and meta-regression, applied to studies which use an appropriate counterfactual. Of course, meta-analysis and meta-regression methods can only be applied if there is a sufficiently large body of comparable studies which all relate to a particular type of policy or intervention – which will only become fully clear once the mapping stage is complete. The results of the mapping, which are described in a separate document attached to this Protocol, indicate that there is a sufficiently large body of comparable studies on the effects on income poverty of fiscal policy interventions (i.e., government tax and spending policies), and possibly also trade policy interventions (e.g. import tariffs and quotas), which can be subjected to meaningful synthesis using meta-analysis and meta-regression methods.

The final aim of the review is to understand better the processes and mechanisms through which government policies and interventions affect the translation of economic growth into poverty reduction. This will involve synthesising the results of detailed case studies of the processes of growth and poverty reduction in particular low or middle income countries, or particular regions within such countries. These studies allow us to explore in detail the various assumptions in our conceptual framework about the ways in which government policies affect income poverty, and to identify and explore any unanticipated effects.

3. Methods

3.1 Criteria for including studies in the review

3.1.1 Types of studies

Study designs: We will include studies using any one of four main study designs:

a) ex-post quasi-experimental studies, e.g. econometric analysis
b) ex-ante simulation studies, e.g. CGE modelling
c) quantitative case studies using decomposition analysis, drawing on secondary data, e.g. government household surveys
d) qualitative case studies, which draw on primary data, e.g. focus group discussions, semi-structured interviews.

The vast majority of *ex-post observational studies* are econometric studies, in which a measure of income poverty is the dependent variable and the explanatory variables include economic growth, combined with one or more policy variable - either separately or as interaction terms. Some studies just use correlation analysis rather than regression analysis; we do not exclude these studies from the review although they are awarded a higher risk of bias in the meta-analysis.

Ex-ante simulation studies encompass a variety of methods and approaches. They all have in common that they analyse the impact of government policies or government spending on a measure of income poverty, alongside economic growth. This is done via a counterfactual, and a set of assumptions about whether and if so how economic agents respond to policies and/or spending –combined with actual empirical data for a particular country or economy. Ex-ante simulation studies include **fiscal incidence analysis** – this is the general term used for research that tries to understand or assess how government fiscal policies – in particular, those related to the revenue and expenditure sides of the budget – affect the distribution of income, including poverty as well as inequality (see Martinez-Vasquez 2004). This includes:

- **tax incidence analysis** – i.e. analysis of who ultimately bears the burden of government taxes. The burden (also called 'economic incidence') of a tax refers to who finally experiences a decrease in real income as a result of the tax, not necessarily who is required by law to pay the tax (referred to as 'statutory incidence')

- **benefit incidence analysis** is the analysis of who benefits from government spending, and by how much. This includes analysis of direct government transfers (e.g. cash transfers), as well as in-kind transfers (e.g. subsidised public education and health services).

Both forms of fiscal incidence analysis encompass a variety of methods, from the simple to the more complex, depending mainly on how the likely behavioural responses of economic agents are dealt with (Martinez-Vazquez 2004; van de Walle 1998). Standard fiscal incidence analysis assumes there are no behavioural responses to taxes and government spending. Households and individuals are assumed to have perfectly inelastic supplies of

the factors of production that they own (e.g. labour, human capital), and consumers are assumed to have perfectly inelastic demand for commodities (van de Walle 1998). It is often justified as a reasonable 'first approximation' to the real results that would be obtained if behavioural responses were included. General equilibrium analysis studies the incidence of taxes or spending in the context of a model of the whole economy, which allows for (some, not necessarily all) behavioural responses. In theory, GE analysis should provide more accurate estimates of incidence. However, they rely on the accuracy of the equations and parameters which are used to construct them; they are also computationally complex and the results are often sensitive to modelling choices.

The literature on fiscal incidence analysis is considered by experts to be vast (Martinez-Vasquez 2004). Not all fiscal incidence analysis is relevant to the current review however – only those studies which calculate impacts on one of the measures of poverty referred to in Section 3.1.5 below. Many incidence studies do not do this, and are therefore excluded from this review.

The first two approaches both attempt (in their different ways) to establish a counterfactual and can therefore be used to assess the impact of government policies and interventions on the translation of growth into income poverty. Examples of studies using econometric analysis include Fan et al. (2000), Besley and Burgess (2000), Easterly and Fischer (2001), Ravallion and Datt (2002), Kraay (2006) and Ravallion and Chen (2007). Examples of studies using ex-ante simulation approaches include Ravallion (1990) and Nicita (2009), and the studies reviewed by Hertel and Reimer (2005).[6]

Decomposition analysis is often used to analyse trends in income poverty over time. Typically, this involves decomposition of poverty changes into growth and redistribution components (e.g. Datt and Ravallion 1992), or into components explained by different sectors of the economy (e.g. Huppi and Ravallion 1991). Such analyses do not however shed light on the effects of government policies on poverty, and are therefore not included in the review. We only include decomposition analyses which provide more direct evidence of the impact of government policies on income poverty via economic growth.

Qualitative study designs do not attempt to establish a counterfactual and are not therefore used to assess impact; they are instead used to shed light on the processes and mechanisms through which government policies and interventions affect the translation of growth into income poverty.

Publication status: We will include published and unpublished studies, including refereed and non-refereed journal articles, working papers, conference proceedings, book chapters, government reports, NGOs reports and other technical reports. We will exclude comments and media briefings, review articles, and dissertations (PhD and MA). The exclusion of dissertations is mainly due to time and budgetary constraints: although our searches did identify a number of dissertations which are potentially relevant to the review, these are on the whole not available electronically. The financial and opportunity costs of obtaining

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[6] Note that several studies look at the effects of government policies and interventions on income inequality as well as income poverty. There is likely therefore to be a certain amount of overlap between the studies included in this review, and those included in the systematic review for Question 2 (Which policies and interventions have been strongly associated with changes in income inequality?)

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hard copies of each dissertation for full text screening would therefore be very high, and detract from the review and synthesis of the other publication types.

Timeframe: We will restrict the review to studies published since 1990. This is mainly on the grounds that reliable, cross-country data on income inequality have only been available since the early 1990s, so that any studies before this date would not meet basic requirements in terms of data quality. In addition, studies published before 1990s are generally not available electronically; this again drives up the financial and opportunity costs of the screening process.

Language: We will include studies published in English, Portuguese, and Spanish.

3.1.2 Types of participants (population)

The review will be restricted to studies of low income countries (LICs) and middle income countries (MICs) at the time of the government intervention; studies of high income countries will be excluded. The World Bank definitions of LICs and MICs will be used in applying this criterion.7 The World Bank classifications of low, middle and high income countries have been in operation since 1988. Appendix 1.2 lists three groups of countries:

a) those that have always been low or middle income since classifications began
b) those which have been low or middle income in some years but not all
c) those which have always been high income.

Studies of countries in group (a) are always included while studies of countries in group (c) are always excluded. Studies of countries in group (b) are included if the intervention being studied took place while the country was low or middle income.

Some studies relevant to our review question do not focus on specific countries but instead focus on groups of countries. In particular, many cross-country econometric studies of income inequality include countries from all income groups in the analysis, in the interests of sample size. We include such studies, on the grounds that they typically contain a significant proportion of low and/or middle income countries.[8] However, we exclude studies which focus on groups of countries which consist mainly of high income countries: in particular, "developed countries", "OECD countries", "advanced industrial countries", "Western Europe", "North America", or the European Union. Although some of these groups do sometimes contain one or two countries that are (or have at times been) middle income – for example, Mexico (an MIC) has been an OECD member since 1994 – they are overwhelmingly made up of high income countries.

3.1.3 Types of interventions

As discussed in Section 1.2, the review is not restricted to any one type of policy or intervention; all government policies and interventions are relevant to the review. We will also include policies and interventions by any level of government, including local, state

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[7] The official World Bank definitions of low and middle income countries are based on GNI per capita, and date back to 1989. Classification systems for earlier years are based on the Bank's operational lending categories; see http://data.worldbank.org/about/country-classifications/a-short-history for more details.

[8] Later, at the data extraction stage, we seek to assess precisely what proportion of the countries included in a cross-country study are low or middle income.

and national. We will however exclude any studies of interventions by non-government and private sector organisations.

However, it is important to be clear what we mean by government policies and interventions. For this review, we define an intervention or 'policy reform' as a change in a variable that is directly controlled by the government, which we call a 'policy variable'. By directly controlled, we mean that the variable is determined by parliamentary law, official (presidential) decree, bureaucratic decision, and so on; it is not determined by anything other than the government's own decision-making. Some examples are shown in Table 2.

Table 2: Policies and policy reforms: broad types and specific examples

Policy variables (broad types)	Policy variables (examples)	Policy reforms (examples)
Tax and subsidy rates	The rate of VAT	A reduction in VAT
Transfers	Government spending on transfers	A new cash transfer programme
The supply of publicly-provided goods and services	Government spending on roads	An expanded road building programme
The price charged for publicly-provided goods and services	School tuition fees	The removal of school tuition fees
Official price floors and price ceilings	Official minimum wage	An increase in the minimum wage
Quantity restrictions	Restrictions on the use of child labour	New legislation which bans the use of child labour

There is a lot of evidence on the effects of specific policy reforms of the type shown in Table 1 on income poverty. However, this evidence is made up mainly by ex-ante simulation approaches rather than ex-post quasi-experimental studies. The latter tend to focus on the effects of more aggregate indicators that are clearly influenced by policy, but are not in themselves policy variables. For the purposes of this review, this feature of the literature using ex-post analysis is a clear drawback. Nevertheless, to exclude such evidence altogether would also be problematic, since it would imply relying on one particular methodological approach. As a result, we seek to include econometric studies which look at the effect of indicators which are *clearly and closely* influenced by policy, and not just those that look at the effect of specific policy reforms. We will however exclude any econometric studies that only look at broader determinants of income poverty which are not clearly and closely influenced by policy. Similarly, we will exclude any ex-ante simulation studies which focus only on the effects of external or internal shocks on income poverty (e.g. a deterioration in a country's terms of trade, a collapse in demand for exports, or a decline in productivity caused by a natural event), as opposed to the effects of government policy changes.

3.1.4 Types of comparison groups

The control or comparison group for assessing the impact of government policies and interventions will be constructed using either an ex-post quasi-experimental approach or an ex-ante simulation-based approach. The former involves comparisons of the extent to

which growth is translated into poverty reduction across countries and over time, using panel data. The latter involves comparisons of the observed level of income poverty in a country before a particular intervention, and the simulated level of income poverty after the intervention.

We will also include studies focusing on income poverty in regions or states within a country, as well as those that focus at the national level. Thus the unit of analysis may be the country as a whole, or a region or state within the country.

3.1.5 Types of outcome measures

We will include studies using a comprehensive measure of income that includes income from all sources (e.g. wages and salaries, business profits, investment earnings, rental income, transfers), and an absolute poverty line which is fixed in real terms over the relevant period. We will include studies that focus on any one of the following five definitions of income:[9]

- *market* income refers to private income from all sources *before* government taxes and transfers. It is equal to the sum of their ownership of productive assets (e.g. land, labour and human capital) multiplied by the return to each asset, plus private net transfers (e.g. remittances);
- *net market income* is equal to market income minus personal income taxes and employee contributions to social security;
- *disposable income* is equal to net market income plus government direct transfers, e.g. pensions, unemployment insurance, and social cash transfers;
- *post-fiscal income* adjusts disposable income for the effects of indirect taxes (e.g. VAT) and indirect subsidies (e.g. subsidised food or fuel items);
- *full income* is equal to post-fiscal income plus the value of in-kind transfers and public services received by the household (e.g. health and education, water and sanitation), minus any payments made for the use of these services.

Most measures of poverty found in the literature are based either on disposable or post-fiscal income, which correspond most closely to a person's (household's) purchasing power over private goods and services. Final income, which should in theory include the value of public and publicly-provided goods and services, e.g. health and education, water and sanitation, law and order, environmental amenities, is much harder to calculate, and is therefore used much less often.

We require that data on income or expenditure be drawn from a representative household survey covering all of the relevant population. We will exclude any estimates which are derived from the National Accounts, or from household surveys that cover only a subset of the relevant population. Note however that the relevant population need not be the country as a whole; it may also be the state or locality within the country.

We will however include studies which use total expenditure rather than income to measure poverty, since expenditure is often considered to be a more reliable indicator when data on income are difficult to collect. In each case, income may be measured at

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[9] These definitions of income are based on Lustig (2011), and are the same definitions that are used in the Q2 systematic review.

the household or individual level; in the former case, average household income or expenditure may be expressed per capita or per adult equivalent.

We will also include any measure of aggregate income poverty. We anticipate however that most studies will use one of the class of measures proposed by Foster, Greer and Thorbecke (1984) – which include the poverty headcount, the poverty gap and the squared poverty gap – or the Watts index (Watts 1968).

3.2 Search methods

3.2.1 Electronic searches

In order to select appropriate databases for this review we followed the Campbell Collaboration guide on key online databases for systematic reviews in International Development (Campbell Collaboration 2012). This list was complemented with additional databases and websites used by other systematic reviews on questions relevant to this review. The electronic databases that will be searched for relevant studies are shown in Table 2.

Table 3: Electronic databases and search strings

GENERAL BIBLIOGRAPHIC DATABASES	SEARCH
EBSCO EJS	long version
Science Direct	long version
Scopus	long version
JSTOR	short version
SUBJECT SPECIFIC DATABASES & WEBSITES	
Social Sciences	
Web of Knowledge (Social Science Citation Index)	short version
IBSS (International Bibliography of the Social Sciences)	long version
ASSIA (Applied Social Sciences Index and Abstract)	long version
SSRN (Social Science Research Network)	short version
Economics	
IDEAS	short version
NBER	long version
Econlit (EBSCO)	long version
International Development	
3IE Impact Evaluation Database	short version
British Library of Development Studies	short version
Eldis	short version

Notes: Searches will be filtered to abstract, title and key words. Whenever possible search strings will be filtered to social sciences. Please see Appendix 3 for the detailed check-list on the search strategy.

Each database will be searched using a combination of the search terms indicated in Table 4. The search terms were identified by 1) reviewing the literature for relevant and appropriate terms and 2) extracting key words from a sample of relevant literature. Table 4 shows three sets of concepts (A, B and C), each of them containing a list of associated terms or synonyms that will be used in our search, derived from the conceptual framework of this systematic review. When using foreign language databases, each of these terms will be translated into the appropriate language, i.e., Portuguese or Spanish (see Appendix 2 for the search terms in these languages).

Note that we do not include in the search concepts the more precise terms 'economic growth' and 'income poverty'. The reason is that our initial searches revealed many

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relevant studies which do not – at least in the abstract and keywords - explicitly mention *economic* growth or *income* poverty, they refer only to 'growth' and 'poverty'. Our broader search terms ensure that we do capture such studies in our search. The drawback is that we capture a large number of irrelevant studies. To offset this problem we utilise the boolean operator "AND NOT" to exclude automatically literature using terms not relevant to our review, such as green growth, child growth, and health poverty.

Due to the fact that some search engines only allow a limited number of operators, two search query strings are used: a long version and a short version. The long version follows the equation:

A + B + C

Thus the terms within columns A, B or C will be combined with 'OR'; the columns A, B and C will be combined using the 'AND' command.

Table 4: Concepts for search strategy

| A
Policy | B
Growth | C
Poverty |
|---|---|---|
| Polic*
Intervention*
Program*
Instrument*
Tool*
Reform*
Legislation*
Govern* | Growth | Poverty
Deprivation
"Poor people"
"The poor"
"Pro-poor" |

Notes: * is included as a truncation symbol to capture automatically conjugated forms of each word; thus polic* captures "pro-poor" as well as "poor".

The short version uses only one term from each column at a time. Different short version strings will be used, including A+B+C, B+C, CB and A+CB. Table 5 shows examples of the short version search strings that will be used, depending on the database. Information on the specific search strings used for each database will be included in the final report. Note that to capture a concept such as 'pro-poor growth', quotation marks are used. Thus the search CB will give the same results as B+C; however the reverse does not apply.

Table 5: Search strings

LONG VERSION	STRING
A + B + C	(polic* OR intervention* OR program* OR instrument* OR tool* OR reform* OR legislation* OR govern*) AND (growth) AND (poverty OR *poor* OR deprivation)
SHORT VERSION	
A + B + C	polic* AND growth AND poverty
B+C	growth AND poverty
CB	"pro-poor growth"
A+BC	polic* AND "pro-poor growth"

3.2.2 Other searches

We will also review relevant institutional websites of key institutions, conference proceedings and PhD theses (see table 6).

Table 6: Other searches

DEVELOPMENT ORGANIZATIONS LIBRARIES & WEBSITES	
General	
World Bank Open Knowledge Repository	short version
OECD iLibrary	short version
International Labour Organization	short version
Chronic Poverty Research Center	short version
Overseas Development Institute	short version
Center for Global Development	short version
International Policy Center for Inclusive Growth	short version
JOLIS (IMF and World Bank databases)	short version
African Development Bank Evaluation Reports	short version
Asian Development Bank Evaluation Resources	short version
Inter-American Development Bank	short version
Impact Evaluation/ Effectiveness	
Millennium Challenge Corporation Independent Evaluations	short version
Research for Development (R4R)-DFID	short version
USAID Development Experience Clearing House	short version
OTHERS	
Grey Literature	
OpenGrey	short version
Foreign Language Databases	
CLASE (Citas Latioamericana en Ciencias Sociales y Humanidades)	short version
e-Revistas (Plataforma Open Access de Revistas Cientificas Electronicas Espanolas y Latinoamericanas)	short version
REDALyC (Red de Revistas Cientificas de America Latina et el Caribe, Espana e Portugal)	short version
Scielo	short version
Others	
Networked Digital Library of Theses and Dissertations Index to Theses	short version
PROQUEST Dissertations and thesis	long version
Google Scholar	short version

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Beyond searching the databases and websites listed in Tables 3 and 6 we will also search:

- reference lists of review articles and included articles adopting a snowballing approach,

- track citations of included studies

- contact key authors, experts and practitioners to enquire about unpublished, forthcoming and/or ongoing studies,

- draw on our advisory group to check for any studies we might have missed.

In addition to English language publications, we also search the Portuguese and Spanish literature to address any potential language bias. These other searches will use the search terms outlined above, translated into Portuguese and Spanish (see Appendix 2). Our completed search strategy checklist is contained in Appendix 3.

3.3 Data collection and analysis

3.3.1 Selection of studies

A PRISMA diagram will be produced in order to keep track of the search process (see Figure 2). Following the removal of duplicate studies, the results of the searches will initially be screened in terms of title and abstract by a research officer or assistant. This will be used to remove studies which clearly do not meet the inclusion criteria. This process will be checked and monitored by 2 lead reviewers. Any studies for which uncertainty exists about the criteria will be referred for a second opinion, or retained for full text analysis.

Once a certain number of studies have been excluded on the basis of abstract, the remaining studies will be obtained in full text. Each of these will then be assessed independently in duplicate by two lead reviewers using inclusion forms developed for this review. This same approach will be used for both quantitative as well as qualitative studies. Once an additional number of studies have been excluded on the basis of the full text, or due to unavailability of full text, the remaining studies will all be included in the mapping exercise.

Finally, a selection of the studies included in the mapping stage will be selected for inclusion in the synthesis stage. As discussed in Section 1, this is designed to avoid the problems stemming from the very broad question of this systematic review – namely a) that the amount of relevant literature will be too large, and b) that the policies and interventions will be too diverse, preventing meaningful and interesting comparisons of the effects of similar types of policies and interventions across different countries and contexts. In the words of Gough et al. (2013: 16):

> "The studies contained within a research field may be too numerous or heterogeneous for meaningful synthesis; it might be methodologically too difficult or just take too much time. The map provides an opportunity to select a sub-group of studies for synthesis."

The preliminary results of the mapping stage have now been completed and are provided in a separate document submitted with this updated Protocol. So far we have identified a total of 89 studies which meet our inclusion criteria. These studies cover a wide range of different policies and interventions, but by far the most common is fiscal policy (i.e. government tax and spending policies) which is covered by 60 studies out of the 89.
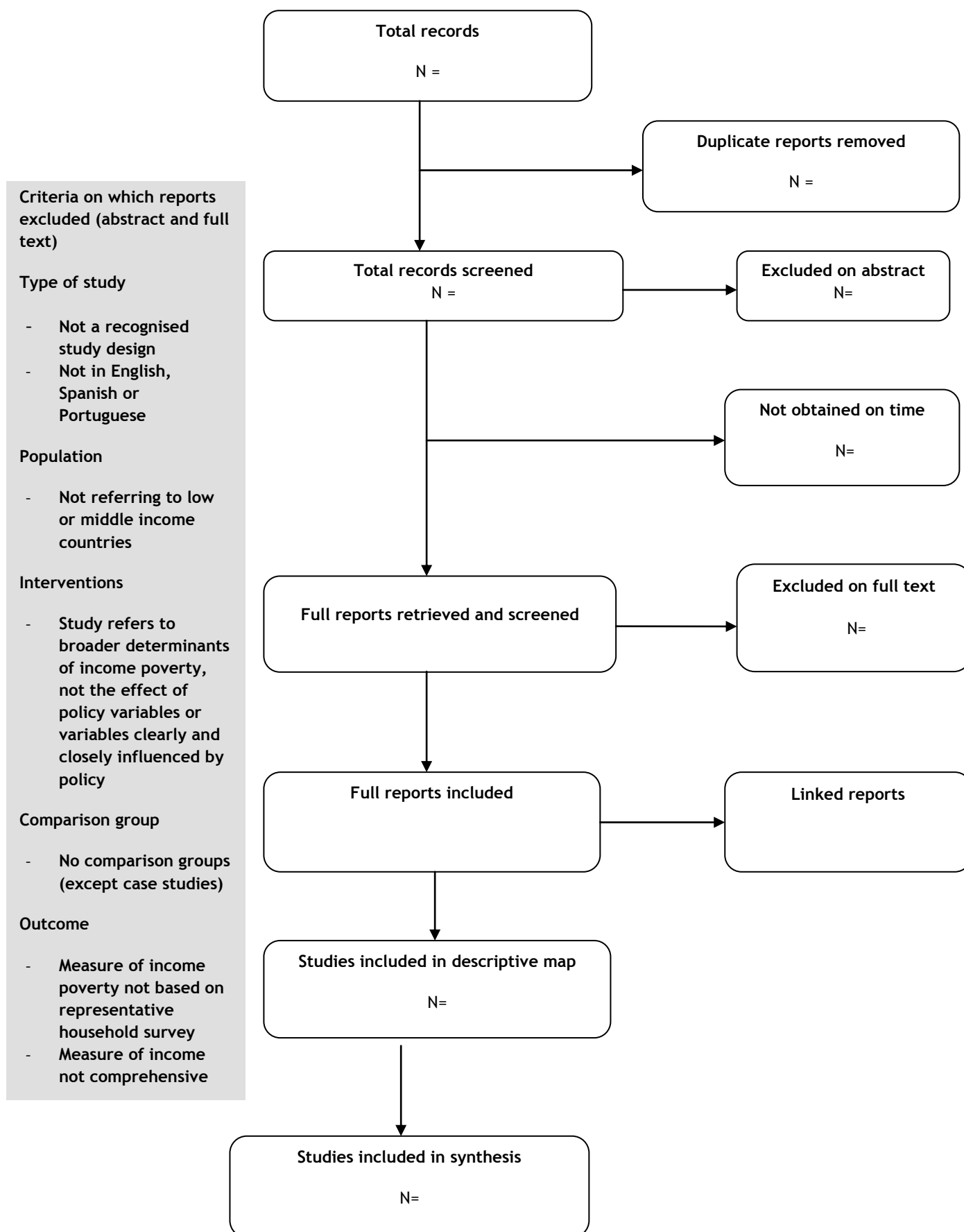
We will restrict the synthesis to studies which focus on the effects of a) fiscal policy interventions or b) trade policy interventions, and exclude from the synthesis studies of other intervention types. We believe that an analysis of the effects of fiscal and trade policy interventions on the translation of economic growth into poverty reduction would be a meaningful task for the synthesis, for which meta analysis is possible (see Section 3.4 below). Focusing on fiscal and trade policy interventions also allows us to compare the results of different study designs – for example, the results of econometric studies vs. CGE models –potentially with separate meta analysis for each study design.

By contrast, for most other intervention types (e.g. finance or labour market reforms), the number of studies would be too small to allow meta analysis, and the evidence is often restricted to one study design. Trade policy, which is covered by 21 studies, is perhaps an exception, but to synthesise the evidence on both trade policy and fiscal policy would not be feasible in our view, at least not if we wish to include different study designs. It is worth stressing however that studies of the other types of interventions would remain in the mapping, and we will comment briefly on these studies in the final report – so that they serve as a resource to other users, and an indication of the policy areas where evidence is relatively scare.

We also propose to restrict the synthesis to studies which focus on income poverty at the national level. The majority of studies do this, but some focus instead on poverty at the level of regions within a country (e.g. states or provinces), or in urban or rural areas only, or sometimes at a very localised level (e.g. village). Poverty at these sub-national levels is not directly comparable with poverty at the national level (nor are they comparable among themselves).

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Figure 2: Flow of literature through the review: the PRISMA diagram

Criteria on which reports excluded (abstract and full text)

Type of study

- Not a recognised study design
- Not in English, Spanish or Portuguese

Population

- Not referring to low or middle income countries

Interventions

- Study refers to broader determinants of income poverty, not the effect of policy variables or variables clearly and closely influenced by policy

Comparison group

- No comparison groups (except case studies)

Outcome

- Measure of income poverty not based on representative household survey
- Measure of income not comprehensive

Total records
N =

Duplicate reports removed
N =

Total records screened
N =

Excluded on abstract
N=

Not obtained on time
N=

Full reports retrieved and screened

Excluded on full text
N=

Full reports included

Linked reports

Studies included in descriptive map
N=

Studies included in synthesis
N=

3.3.2 Data extraction and management

Data extraction will take place in two main stages. The first stage will extract descriptive information about all studies meeting the inclusion criteria, in the following three main areas:

1. context and population
2. type of intervention
3. study design and methods used
4. outcome measures

Data extracted in this first stage will feed directly into the research mapping, allowing us to provide a descriptive survey of all the relevant evidence relating to the question, categorising and cross-tabulating the available evidence in interesting ways, e.g. the overall balance of studies between intervention types, outcome indicators, country groupings and study designs.

A further extraction stage will extract additional information required for the quality appraisal and synthesis, in particular:

5. study results and findings
6. quality of research methods

Table 7 lists examples of the type of information that will be extracted from each study under each of the above six headings.

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Table 7: Data extraction form (template)

Data extraction items	
1. Context and population	**4. Outcome measures**
Source	Measure of poverty (e.g. headcount, poverty gap)
Author	Type of poverty line (national, international)
Publication year	Unit of measurement (household, individual)
Single country or multi-country	Income or expenditure
Country or countries studied	Measure of income (market, disposable or net)
Country categories (region and income level)	Source of information
Unit of analysis (national, regional or local)	
2. Type of policy/intervention	**5. Study results and findings**
Broad category	*For each outcome of interest*
Detailed sub-category	Sample size
Indicators used to measure intervention	Effect sizes for meta-analysis if possible such as p-values, standard errors, t-values etc.
Year (period) of intervention(s)	
Level of government	**6. Quality of study**
Source of funding	Clarity of research question
3. Study design and methods	Description of population
Study design (main category)	Quality of research methods
Study design (sub-category)	Researcher bias
Control variables (ex-post studies)	Any other validity problems?
Modelling choices (ex-ante studies)	

3.3.3 Assessment of relevance and quality

Once studies have been judged as meeting the inclusion criteria and therefore included in the descriptive map, the next step will be to assess their relevance to the review question and their overall quality (Gough et al. 2013: 17).

As discussed above, following the mapping we will restrict the synthesis to studies which focus on the effects of fiscal or trade policy interventions on income poverty at the national level. This is not to say that the studies of other intervention types are not of interest, but instead that it would not be feasible to try to synthesise a wide variety of different intervention types simultaneously (given that we are also considering different study designs). In addition, there is typically much less evidence with which the impact of these other intervention types can be usefully compared or synthesised.

As a next step, following the assessment of relevance, relevant studies will now be assessed for their quality– otherwise referred to as 'risk of bias'. The risk of bias tools developed by Duvendack et al. (2011 and 2012) and IDCG[10] are based on criteria adapted from the Cochrane Handbook (Higgins and Green 2008 and 2011) and EPPI-Centre (Gough

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[10] See appendix 4 for details of the IDCG tool.

2007 and EPPI-Centre 2010). The Cochrane Collaboration suggests that the key components of bias in any study are selection bias, performance bias, attrition bias, detection bias, and reporting bias. The EPPI-Centre formulates the risk of bias as being composed of factors such as the trustworthiness of results (or methodological quality), including transparency, accuracy, accessibility and specificity of the methods; the appropriateness of focus for answering the review question (topic relevance, including relevant answers and legal and ethical propriety); and the overall weight of evidence.

We will begin the quality assessment by categorising each study by its proclaimed research resign and analytical method. Following Duvendack et al. (2011 and 2012), each study will be scored depending on its design and analytical approach. In a next step each of these scores will be combined into an index. An arbitrary threshold of 2 will be applied, i.e. a study with a score of less than 2 is classified as low risk of bias while a study with a score of 2 and above is classified as high risk of bias (Duvendack et al., 2011, 2012 and 2014).

We will adapt the table below to our particular situation and rank studies by research design and analytical method using scores 1 – 5, where 1 implies low risk of bias and 5 high risk of bias (3 in the case of analytical method).

Table 8: Distribution of studies by research design and analytical method

		Statistical Methods of Analysis		
		IV,PSM,2SLS/LIML,DID, RD	Multivariate	Tabulation
Research Design	Scores	1	2	3
RCT	1	🟥	🟥	🟥
Pipeline	2	🟥	🟥	🟥
Panel or before/after & with/without	3	🟥	🟧	🟨
Either before/after & with/without	4	🟥	🟨	🟨
Natural Experiment	5	🟥		

Legend	Low score	🟥	High score	🟨
	Medium score	🟧		

Source: Duvendack et al. (2011 & 2014, 2012 for an adaptation).

Based on the initial mapping exercise we expect that most of the study design A studies will be scored 3 for research design and 1 or 2 for analytical method. Many of these

studies adopted cross-country regression approaches which have been criticized widely (see for example Beck et al. 2000; Graff, 2001). Jalilian and Kirkpatrick (2002) summarise Beck et al.'s critique of cross-country approaches as follows:

> "(i) time series dimension of data is generally ignored; (ii) parameter estimates may be biased because of omission of cross country differences; and (iii) no control for endogeneity of regressors. An additional shortcoming of this approach is that it cannot be used for causal inference" (p.99).

This implies that many of our included studies are likely to be classified as medium to high risk of bias. However, Jalilian and Kirkpatrick (2002) further argue that advances in analytical approach such as dynamic panel estimations can correct for the drawbacks of cross-country approaches outlined earlier. This point further motivates the use of the Duvendack et al. tool as it assesses risk of bias by providing a combined score for research design as well as analytical technique. E.g. a study might get a score of 3 when using cross-country panel data but can considerably improve its score when using a sophisticated analytical approach. A combined score per study will reflect this and provide an overall risk of bias score.

Please note that ideally we should only be including low risk of bias studies in the synthesis stage but this might leave us with a rather small sample, hence we will include all study design A studies irrespective of their risk of bias score and then conduct sub-group analysis to tease out differential impacts by risk of bias classifications (see Duvendack et al. 2014 for an example).

We are aware that the Duvendack et al. tool is subjective (see Duvendack et al. 2014, footnote 7 for an explanation) and hence we complement this approach with the risk of bias tool developed by IDCG which also includes risks due selection bias and confounding, spill-overs/contamination, outcome and analysis reporting as well as other risk of biases. See Duvendack et al. (2014) for an example of how these 2 tools have been applied in combination. We will have to further adapt the IDCG tool for our particular context as some of its checklist items are not applicable to the studies we have included.

We proposed to include qualitative as well as mixed methods studies in this review but the mapping exercise indicated that only a very small number of such studies meet our inclusion criteria. In this particular case no studies have been identified using a purely qualitative approach. Hence we do not see the need to develop a separate risk of bias assessment tool to assess the quality of 'D' and 'E' studies.

3.4 Data synthesis

Systematic reviews in the social sciences are increasingly drawing on evidence from both quantitative and qualitative studies and thus a number of synthesis methods are available. Table 9 below provides a summary of the most commonly used synthesis methods. Given the limited number of qualitative studies we identified we anticipate to largely draw on quantitative synthesis methods.

Table 9: Synthesis methods

Quantitative evidence	*Meta-analysis*
	Meta-regression
Qualitative and/or mixed methods evidence	*Meta-ethnography*
	Narrative synthesis
	Meta-narrative mapping
	Realist synthesis
	Thematic synthesis
	Framework synthesis

3.4.1 Quantitative synthesis

Given the results of the mapping activity, we will attempt meta-analysis following the approach taken by Abdullah et al. (2013). Although their study focuses on income inequality as the outcome variable, a similar methodology can be applied to income poverty. From the results outlined in the mapping document we have seen that the majority of studies pursuing an ex-post quasi-experimental study design are multi-country regression-based approaches using poverty headcount as the main outcome variable and government spending as the main policy variable of interest. We should have at least 21 studies that meet these characteristics and could be synthesized using a quantitative approach.

It is argued that meta-analysis is only possible for studies that can be meaningfully compared, i.e. they need to be comparable on a conceptual level which means that similar constructs and relationships are used and they need to follow similar statistical approaches (Lipsey and Wilson, 2001). In other words, for studies to be included in our meta-analysis they should:

- have a common measure of income poverty (i.e. this can be poverty head count, poverty gap or similar – we will convert these different income poverty measures into a comparable measure using partial correlation measures) as the dependent variable and a relevant policy variable among the explanatory variables, such as government spending, taxation or average import tariff.

- pursue a regression-based approach which will allow us to convert the numerous measures for dependent and explanatory variables into a comparable measure. Estimation of effect sizes from regression results appears to be less well developed and more problematic than for mean based results (Fritz, Morris and Richler, 2011). However, recent literature proposes to use partial correlation measures which can be calculated from regression estimates. Aloe and Thompson (2013) provide guidance on how best to estimate and use partial correlation measures for synthesis and we will follow their advice.

- be published or unpublished. In the course of our meta-analysis we will account for publication bias using funnel plots to examine whether it potentially distorts the effects of government spending and tax on income poverty.

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Despite attempting to synthesize studies that are as similar as possible in terms of conceptual framing as well as analytical approach, we suspect that an element of diversity among our included studies will remain suggesting the so-called "apples and oranges" problem is likely to arise where studies which are distinctly different are pooled (Lipsey and Wilson, 2001: 2). As mentioned earlier, studies that are methodologically flawed or of low quality should not be included in the same meta-analysis as other studies, since this could adversely affect the overall results (Slavin, 1986). However, we argued above that we will explore the quality aspect among our studies with subgroup analysis to tease out differential effects by risk of bias grouping.

Given the "apples and oranges" problem might be an issue we will be exploring potential sources of heterogeneity across included studies and describe what this implies for meta-analysis. E.g. effect size estimates can be biased by non-normality and heteroscedasticity (Wilcox, 2008), which are generally not reported in our studies. Studies with low or negative effects may be under-reported, not find their way into the included studies, and hence meta-analysis would be upward biased. There might also be some sort of heterogeneity among the main explanatory variables (e.g. government spending and tax) which we will explore further.

An interesting component of the synthesis will be to compare the results from the ex-post quasi-experimental studies (e.g. cross-country econometrics) with ex-ante simulation studies (e.g. CGE models). While ex-post studies are often preferred since it represents external data validation, we aim to show how the results of studies using ex-ante simulation compare to those using ex-post quasi-experiments, and to discuss the likely reasons for any systematic differences between these two different research approaches. We anticipate however that meta-analysis will need to be done separately for each approach.[11]

3.4.2 *Qualitative synthesis*

The qualitative synthesis will be used to improve and develop understanding of the processes and mechanisms through which government policies and interventions affect the processes by which economic growth translates into income poverty reduction. This will involve synthesising the results of detailed case studies of particular low or middle income countries, or particular regions within such countries. The synthesis of these studies will allow us to explore in detail the various assumptions in our conceptual framework about the ways in which government policies affect income poverty, and to identify and explore any unanticipated effects. In the selection of the qualitative synthesis approach we will be guided by the precise nature of the available case study evidence. We anticipate however relying mainly on the range of narrative summary techniques suggested in Arai et al. (2007) and Rodgers et al. (2009).

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[11] Two recent systematic reviews which also compare evidence from ex-post and ex-ante studies are Cirera et al (2011) and McCorriston et al (2013). Both studies synthesise each approach separately.

4. Timeline

4.1 Estimates of the start and end dates for the following stages:

	Start date	End date
Registration of title with DFID	1st January 2014	31st January 2014
Preparation of protocol	1st January 2014	14th March 2014
DFID and External Review of protocol	17th March 2014	25th April 2014
Study search	28th April 2014	16th May 2014
Mapping and assessment of relevance	19th May 2014	31st July 2014
Synthesis and/or statistical analysis	1st August 2014	1st December 2014
Preparation of draft report	1st December 2014	13th February 2015
DFID and External review of draft report	16th February 2015	27th March 2015
Revision of draft report	30th March 2015	14th May 2015
Preparation of Evidence Brief for Policy	1st May 2015	14th May 2015
Publication of Final Report and Evidence	14th May 2015	12th June 2015

4.2 Deliverables (nature and due date):

	Due date
Title	31st January 2014
Protocol	14th March 2014
Mapping report*	31st July 2014
Draft report	13th February 2015
Final report and Evidence brief	14th May 2015

*A short report detailing the results of the research mapping exercise, including the updated protocol (see Section 3.3.1).

5. References

Abdullah, A., Doucouliagos, H. and Manning, E. (2013) Does education reduce income inequality? A meta-regression analysis. Journal of Economic Surveys, 00(0), 1-16.

Aloe, A. and Thompson, C. (2013) The Synthesis of Partial Effect Sizes. *Journal of the Society for Social Work and Research*, 4(4), 390-405.

Arai, L, Britten, N, Popay, J, Roberts, H, Petticrew, M, Rodgers, M and Sowden, A (2007) Testing methodological developments in the conduct of narrative synthesis: a demonstration review of research on the implementation of smoke alarm interventions. *Evidence & Policy: A Journal of Research, Debate and Practice*, 3(3), 361-383.

Beck, T., Levine, R. and Loayza, N. (2000) Finance and the sources of growth. *Journal of Financial Economics* 58, 261-300.

Besley, T. and Burgess, R. (2003) Halving global poverty. *Journal of Economic Perspectives*,17(3), 3-22.

Besley, T. and Burgess, R. (2000) Land reform, poverty reduction and growth: evidence from India. *Quarterly Journal of Economics,* 115(2), 389-430.

Bourguignon, F. (2003) The growth elasticity of poverty reduction: explaining heterogeneity across countries and time periods. *Inequality and growth: Theory and policy implications*, 1, 1.

Campbell Collaboration (2012) Systematic Reviews in International Development: Key Online Databases. Available at: http://www.campbellcollaboration.org./artman2/uploads/1/Database_Guide_for_SRs_in_ International_Development_1.pdf

Chen, S. and Ravallion, M. (2010) The developing world is poorer than we thought, but not less successful in the fight against poverty. *The Quarterly Journal of Economics*, 1557-1625.

Cirera, X., Willenbockel, D. and Lakshman, R. (2011) What is the evidence of the impact of tariff reductions on employment and fiscal revenue in developing countries? Technical report. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Critical Appraisal Skills Programme (CASP) (2006). Qualitative research: appraisal tool. 10 questions to help you make sense of qualitative research. In. Oxford: Public Health Resource Unit, p. 1-4.

Datt, G. and Ravallion, M. (1992) Growth and redistribution components of changes in poverty measures: a decomposition with applications to Brazil and India in the 1990s. *Journal of Development Economics* 38, 275-295.

Dixon-Woods M, Shaw, R.L, Agarwal, S and Smith, J.A. (2004) The problem of appraising qualitative research. *Quality and Safety in Health Care*, 13, 223-5.

Duvendack, M., Palmer-Jones, R., Copestake, J. G., Hooper, L., Loke, Y. and Rao, N. (2011) "What is the Evidence of the Impact of Microfinance on the Well-being of Poor People?" London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Duvendack, M., Hombrados, J., Palmer-Jones, R. and Waddington, H. (2012) Assessing 'What Works' in International Development: Meta-Analysis for Sophisticated Dummies. *Journal of Development Effectiveness*, 4(3), 456-471.

Duvendack, M., Palmer-Jones, R. and Vaessen, J. (2014) Meta-analysis of the Impact of Microcredit on Women's Control over Household Decisions: Methodological Issues and Substantive Findings. *Journal of Development Effectiveness,* 6(2), 73-96.

Easterly, W. and Fischer, S. (2001) Inflation and the poor. *Journal of Money, Credit and Banking,* 33(2), 160-178.

EPPI-Centre website: Quality and relevance appraisal, Available at: http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=177 (accessed July 2010).

Fan, S., Hazell, P. and Thorat, S. (2000) Government spending and poverty in rural India. *American Journal of Agricultural Economics,* 82(4),1038-1051.

Foster, J. E. (1998) Absolute versus Relative Poverty. *The American Economic Review*, 2, 335-341.

Foster, J. E., Greer, J. and Thorbecke, E. (1984) A Class of Decomposable Poverty Measures. *Econometrica*, 3, 761-766.

Fritz, C.O., Morris, P.E. and Richler, J.J. (2012) Effect size estimates: Current use, calculations, and interpretation. *Journal of Experimental Psychology General* ,141(1), 2-18.

Gough, D. (2007) Weight of Evidence: A Framework for the Appraisal of the Quality and Relevance of Evidence. In Furlong, J. & Oancea, A., eds. *Applied and Practice-based Research*. *Special Edition of Research Papers in Education,* 22, (2), 213-228.

Gough, D., Oliver, S. and Thomas, J. (2013) Learning from research: systematic review for informing policy decisions. A quick guide. A paper for the Alliance for Useful Evidence. London: Nesta.

Graff, M. (2001) Causal links between financial activity and economic growth: Empirical evidence from cross country analysis, 1970-1990. Mimeo

Grimm, M., Klasen, S. and McKay, A. (2007) *Determinants of pro-poor growth: analytical issues and findings from country cases*. Palgrave Macmillan.

Hertel, T. and Reimer, J. (2005) Predicting the poverty impacts of trade reform. *Journal of International Trade and Economic Development*, 14(4), 377-405.

Higgins, J.P.T. and Green, S. (2008) eds. Cochrane Handbook for Systematic Reviews of Interventions. Version 5.0.0 [updated February 2008]. Available at: www.cochrane-handbook.org.

What policies and interventions have been strongly associated with the translation of growth into reductions in income poverty?

Huppi, M. and Ravallion, M. (1991) The sectoral structure of poverty during an adjustment period: evidence for Indonesia in the mid-1990s. *World Development* 19(12): 1653-1678.

Jalilian, H. and Kirkpatrick, C. (2002) Financial Development and Poverty Reduction in Developing Countries. *International Journal of Finance and Economics*, 7, 97-108.

Kakwani, N. (2000) What is pro-poor growth? *Asian Development Review,* 18 (1), 1 –16.

Kraay, A. (2006) When is growth pro-poor? Evidence from a panel of countries. *Journal of Development Economics*, 80, 198-227.

Kalwij, A. and Verschoor, A. (2007) Not by growth alone: the role of the distribution of income in regional diversity in poverty reduction*, European Economic Review*, 51, 805-829.

Lipsey, M. P. and Wilson, D. (2001) Practical Meta-Analysis. Sage Publications.

Martinez-Vasquez, J. (2004) The impact of fiscal policy on the poor: fiscal incidence analysis. ISP Working Paper 01-10, Andrew Young School of Policy Studies, Georgia State University.

McCorriston, S., Hemming, D.J., Lamontagne-Godwin, J.D., Parr, M.J, Osborn, J. and Roberts, P.D. (2013) What is the evidence of the impact of agricultural trade liberalisation on food security in developing countries? A systematic review. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Nicita, A. (2009) The price effect of trade liberalisation: measuring the impact on household welfare. *Journal of Development Economics,* 89(1), 19-27.

Ravallion, M. (1990) Rural welfare effects of food price changes under induced wage responses: Theory and evidence for Bangladesh. *Oxford Economic Papers, 42*(3), 574-585.

Ravallion, M. (2001) Growth, inequality and poverty: Looking beyond averages. *World Development*, 29, 1803-1815.

Ravallion, M. (2004) Pro-poor growth: a premier. World Bank Policy Research Paper 3242. March 2004. Development Research Group. The World Bank.

Ravallion, M. (2010) A Comparative Perspective on Poverty Reduction in Brazil, China, and India. *The World Bank Research Observer*, 26, 71-104.

Ravallion, M. and Chen, S. (2007) China's (uneven) progress against poverty. *Journal of Development Economics,* 82, 1-42.

Ravallion, M. and Datt, G. (2002) Why has economic growth been more pro-poor in some states of India than others? *Journal of Development Economics,* 68, 381-400.

Ravallion, M. and Chen, S. (2003) Measuring pro-poor growth. *Economics Letters,* 78, 93–99.

Rodgers, M, Sowden, A, Petticrew, M, Arai, L, Roberts, H, Britten, N and Popay, J (2009) Testing methodological guidance on the conduct of narrative synthesis in systematic reviews: effectiveness of interventions to promote smoke alarm ownership and function. *Evaluation,* 15 (1), 49-73.

Sen, A. (1983) Poor relatively speaking, Oxford economic papers, 335.

Slavin, R.E. (1986) Best-Evidence Synthesis: An Alternative to Meta-Analytic and Traditional Reviews. *Educational Researcher* 15(9), 5-11.

Spencer, L., Ritchie, J., Lewis, J. and Dillon, L. (2003) Quality in qualitative evaluation: a framework for assessing research evidence [monograph online]. London: Cabinet Office. Available from: www.gsr.gov.uk/evaluating_policy/era_papers/qual_eval.asp

Van de Walle, D. (1998) Assessing the welfare impacts of public spending. *World Development* 26(3): 365-379.

Watts, H. W. (1968) An economic definition of poverty, in D. P. Moyniham (ed.) *On Understanding Poverty*, Basic Books, New York.

Wilcox, R.R. (2008) Sample Size and Statistical Power, in: A. M. Nezu and C. M. Nezu (eds.) *Evidence Based Outcome Research : A Practical guide to conducting randomized controlled Trials for Psychosocial Interventions*, Oxford University Press, Oxford.

World Bank (2005) Pro-poor growth in the 1990s: lessons and insights from 14 countries. World Bank, Washington D.C.

Appendices

Appendix 1.1: Authorship of this review

Andy McKay

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> Andy McKay researches on development economics, especially in relation to poverty/inequality and how these are impacted by policy (trade, fiscal etc.); on pro-poor growth; on agriculture; and on international trade. His geographic area of expertise is predominantly Africa, especially East and West Africa. He is main supervisor or co-supervisor of five DPhil students.In Sussex he co-organises the ESRC Development Economics conferences, and organised the first one on economic growth in Sussex in September 2008 (http://www.sussex.ac.uk/economics/1-4-4.html). Within Sussex he co-organises internal workshops on development economics with the Institute dor Development Studies (http://www.ids.ac.uk/). Andy is an associate director of the DFID-funded Chronic Poverty Research Centre (www.chronicpoverty.org), within which he is an active researcher. He acts as a resource person for the biannual workshops of the African Economic Research Consortium (www.aercafrica.org), a role he has played since 2005, and serves on the steering committee of a collaborative research project on growth-poverty reduction linkages in Africa. Andy has extensive experience of giving policy advice to bilateral donors including DFID, international organisations and governments of developing countries. He also has significant experience of giving short courses, especially for government employees, in the north and south. He has previously worked at the Universities of Nottingham (1992 to 2003) and Bath (2003 to 2006); as well as the Overseas Development Institute (2001 to 2005). He has also worked on many consultancy assignments.

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> Birte assists in coordinating and developing 3ie's Systematic Reviews Programme in London. She works with Hugh Waddington in coordinating the Reviews commissioned by 3ie and the Campbell Collaboration International Development Coordinating Group. She is a co-author for Reviews on "Water, sanitation and hygiene interventions to combat childhood diarrhoea in developing countries" and "Interventions to promote social cohesion in sub-Saharan Africa" as well as a scoping study on "Impact evaluation and interventions to address climate change". Birte started working for 3ie after completing her MA in Political Economy of Development from University of Birmingham, UK. She also holds a BSc in Politics with Sociology from Aston University.

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> Hugh is an Economist by training and manages 3ie's Systematic Reviews Programme and the Campbell Collaboration International Development Coordinating Group. Before joining 3ie, Hugh was employed as an Overseas Development Institute (ODI) Fellow in the Ministry of Finance of the Government of Rwanda, where he worked on the elaboration of Rwanda's

Economic Development and Poverty Reduction Strategy (PRSP2).He has previously worked with the Economist Intelligence Unit, UK National Audit Office, Save the Children UK and the World Bank's Operations Evaluation Department. Hugh holds an MA in Development Economics from the University of Sussex.

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Peter's main area of research looks at social protection, health and the wellbeing of older people in developing countries. He is also interested in the economic and social effects of non-communicable diseases, such as stroke, heart disease and Alzheimer's Disease. He has a more general interest in social policy, particularly in Latin America. Contrary to popular belief, more older people live in the developing world than in the rich north. Despite this, the condition of older people and the wider effects of population ageing are still seen as peripheral concerns in development policy. He has been involved in studies of older people's wellbeing and vulnerability in Argentina, Brazil, South Africa and Thailand. He is currently involved in two funded research projects examining the wellbeing of older people and their families in eight different countries. He works closely with a wide range of international development agencies. Between 2011 and 2012 he was a Senior Research Fellowship at the UK Government's Department for International Development, providing advice on social development and social protection. Between 2010 and 2011 he was seconded to the World Health Organisation's Ageing and Lifecourse Programme, as lead planner for a new WHO Programme on Primary Healthcare for Older People. He has also worked with the UN Secretary General's Office to promote national capacity for mainstreaming age into development policy. As part of this, he was primary author for a United Nations Report "Guide to the National Implementation of the Madrid International Plan of Action on Ageing" (February 2008).

Richard Morgan
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Richard Morgan was recently the Senior Advisor on the Post-2015 Development Agenda at the United Nations Children's Fund (UNICEF), responsible for promoting children's rights and equity through participating and engaging in the multi-stakeholder processes leading up to 2015 and the expiry of the current Millennium Development Goals (MDGs). Richard was appointed to this position on 1 March 2012 by UNICEF's Executive Director, Anthony Lake. Previous to this appointment, Richard was the Director of Policy and Practice at UNICEF Headquarters in New York from (2009-2012), responsible for organizational standards and practice in the areas of gender, children's human rights, child and youth participation and communication for development. Richard also led UNICEF's work on child statistics and advocacy for child-focused social and economic policies. Earlier, Richard worked in Africa for more than two decades as a development planner, rural development specialist, economic and social sector advisor and humanitarian programme manager. He was a civil servant for several years with the Government of Botswana at central and local government levels, before joining UNICEF. Richard is a national of the United Kingdom of Britain. He is a graduate of the University of Oxford, UK (BA in Economics, Politics and Philosophy) and obtained his Masters' Degree in Development Economics at the University of East Anglia. Most recently he has joined Save the Children UK as a Senior Advisor on social protection.

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Conflict of interest

There is no conflict of interest arising from financial sources.

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Appendix 1.2: Low, lower middle and upper middle income countries

<u>A1. Countries that have always been low or middle income</u>

Afghanistan	Guatemala	Panama
Albania	Guinea	Papua New Guinea
Algeria	Guinea-Bissau	Paraguay
Angola	Guyana	Peru
Argentina	Haiti	Philippines
Armenia	Honduras	Romania
Azerbaijan	India	Rwanda
Bangladesh	Indonesia	Samoa
Belarus	Iran, Islamic Rep.	São Tomé and Principe
Belize	Iraq	Senegal
Benin	Jamaica	Serbia
Bhutan	Jordan	Serbia and Montenegro (former)
Bolivia	Kazakhstan	Seychelles
Bosnia and Herzegovina	Kenya	Sierra Leone
Botswana	Kiribati	Solomon Islands
Brazil	Korea, Dem. Rep.	Somalia
Bulgaria	Kosovo	South Africa
Burkina Faso	Kyrgyz Republic	South Sudan
Burundi	Lao PDR	Sri Lanka
Cambodia	Lebanon	St. Lucia
Cameroon	Lesotho	St. Vincent and the Grenadines
Cape Verde	Liberia	Sudan
Central African Republic	Libya	Suriname
Chad	Macedonia, FYR	Swaziland
China	Madagascar	Syrian Arab Republic
Colombia	Malawi	Tajikistan
Comoros	Malaysia	Tanzania
Congo, Dem. Rep.	Maldives	Thailand
Congo, Rep.	Mali	Timor-Leste
Costa Rica	Marshall Islands	Togo
Côte d'Ivoire	Mauritania	Tonga
Cuba	Mauritius	Tunisia
Czechoslovakia (former)	Mexico	Turkey
Djibouti	Micronesia, Fed. Sts.	Turkmenistan
Dominica	Moldova	Tuvalu
Dominican Republic	Mongolia	Uganda
Ecuador	Montenegro	Ukraine
Egypt, Arab Rep.	Morocco	USSR (former)
El Salvador	Mozambique	Uzbekistan
Eritrea	Myanmar	Vanuatu
Ethiopia	Namibia	Venezuela, RB
Fiji	Nepal	Vietnam
Gabon	Nicaragua	West Bank and Gaza
Gambia, The	Niger	Yemen, Rep.
Georgia	Nigeria	Yugoslavia (former)
Ghana	Pakistan	Zambia
Grenada	Palau	Zimbabwe

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A2. Countries that have sometimes been high income

	High income during the following years
American Samoa	1987-89
Antigua and Barbuda	2002, 2005-8, 2012-
Aruba	1987-90, 1994-
Bahrain	1987-89, 2001-
Barbados	1989, 2000, 2002, 2006-
Chile	2012-
Croatia	2008-
Cyprus	1988-
Czech Republic	2006-
Equatorial Guinea	2007-
Estonia	2006-
Gibraltar	2009-
Greece	1996-
Guam	1987-89, 1995-
Hungary	2007-11
Isle of Man	1987-89, 2002-
Korea, Rep.	1995-97, 2001-
Latvia	2009, 2012-
Lithuania	2012-
Macao SAR, China	1994-
Malta	1989, 1998, 2000, 2002-
Mayotte	1990
Netherlands Antilles (former)	1994-
New Caledonia	1994-
Northern Mariana Islands	1995-2001, 2007-
Oman	2007-
Poland	2009-
Portugal	1994-
Puerto Rico	1989, 2002-
Russia	2012-
Saudi Arabia	1987-89, 2004-
Slovak Republic	2007-
Slovenia	1997-
St. Kitts and Nevis	2011-
Trinidad and Tobago	2006-
Uruguay	2012-

A3. Countries that have always been high income

Andorra	Italy
Australia	Japan
Austria	Kuwait
Bahamas, The	Liechtenstein
Belgium	Luxembourg
Bermuda	Monaco
Brunei Darussalam	Netherlands
Canada	New Zealand
Cayman Islands	Norway
Channel Islands	Qatar
Curaçao	Singapore
Denmark	Sint Maarten (Dutch part)
Faeroe Islands	Spain
Finland	St. Martin (French part)
France	Sweden
French Polynesia	Switzerland
Germany	Taiwan, China
Greenland	Turks and Caicos Islands
Hong Kong SAR, China	United Arab Emirates
Iceland	United Kingdom
Ireland	United States
Israel	Virgin Islands (U.S.)

Source: http://data.worldbank.org/about/country-classifications/country-and-lending-groups[12]

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[12] This list includes the group of LIMC countries as defined today by the World Bank. We will however take into account any country listed as part of the LMIC category at the time when specific interventions took place.

Appendix 2: Concepts for search strategy in English, Portuguese and Spanish

A Policy/ Política/ Política	B Growth	C Poverty
Polic*/ Política*/ Política*	Growth/ Crescimento/ Crecimiento	Poverty/Pobreza/Pobreza
Intervention* / Intervenç* / Intervenc*		*Poor*/*Pobre*/*Pobre*
Program*/ Programa* / Programa*		Deprivation/ Privação / Privación
Instrument*/ Instrumento* / Instrumento*		
Tool*/ Ferramenta* / Ferramenta*		
Reform* /Reforma* /Reforma*		
Legislation* / Legislaç* / Legislac*		
Govern* / Governo* / Gobiern*		

Note: The terms appear in the following order: English/Portuguese/Spanish. Other Portuguese and Spanish synonyms of the words presented in this table might be considered. However, after consulting a large number of studies, these are the terms that consistently come out of the literature.

Appendix 3: Search strategy checklist (provided by DFID)[13]

Aspect of search		Actions and notes
Section A Search Sources	Are the following used: - Bibliographic databases - Library catalogues - Specialised registers - Regional databases - Search engines - Websites	✔ (See Table 3) ✔ (See Table 3 & 6) Not applicable ✔ (See Table 6) ✔ (See Table 6) ✔ (See Table 6)
	What disciplines does the topic cover, and are these reflected in the search strategy?	Social Sciences in general. Specific disciplines: economics & international development. Yes, the search strategy reflects these.
	Does the choice of search sources reflect any geographical focus and/or study design?	Geographical focus reflected by using databases in Portuguese and Spanish. No choice based on study design.
	Are the types of publication sought reflected in the search strategy? (e.g. conference proceedings, government publications, dissertations, books)	✔ (See Table 3 & 6)
	List additional database search sources:	
	Are relevant websites, organisations, search engines to be searched?	✔ (See Table 6)
	List additional websites and organisations:	
	Are other search methods described? - handsearching - reference checking - forward citation searching - author and expert contact	(See 3.2.2/Other searches) ✔ ✔ ✔ ✔
Section B Search concepts	Does the search strategy match the research question?	✔
	Are the search concepts clear?	✔
	Are there too many search concepts?	Moderate (See Table 4 for a list of concepts)
	Are the search concepts too narrow or too broad?	Broad
	Does the search appear to retrieve too many or too few records?	Too many records (an initial search in SCOPUS using a long string version deliver over 6000 hits)
	Are the concepts combined with appropriate Boolean logic?	✔
	If NOT is used, are there likely to be any unintended consequences?	No. "AND NOT" words will be specified after an exhaustive reading through the literature and recognizing non-relevant searches.
	How will the search be adapted for each database?	2 search strings: long and short versions (See Table 6). Search strings tailored to each database according to the available boolean operators.
Section C Search Terms		Depends on the database. A

[13] Checklist prepared by: *C Stansfield,* EPPI-Centre (2011). Adapted from PRESS Sampson,M; McGowan,J; Lefebvre,C; Moher,D; Grimshaw,J (2008) *PRESS: Peer Review of Electronic Search Strategies.* Ottawa: Canadian Agency for Drugs and Technologies in Health.

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a) Controlled terms	Are relevant controlled vocabulary terms used for each concept?	few websites only allow for controlled index language.
	Are they appropriately exploded for narrower terms?	✔
	Are any headings too broad or too narrow?	Generally broad
	Any other suitable controlled terms?	Not aware of.
	Could sub-headings be used instead of subject headings or vice versa (not always applicable)	✔ This is applicable in development organizations websites where sub-headings/sub-topics might be considered.
	Do any terms appear irrelevant?	No
b) Natural language/ Free text terms	Are relevant free-text field terms used for each concept?	✔ (See Table 4) for a list of all free-text terms used
	Are there other suitable terms?	The terms presented in Table 4 pretend to cover a wide range of words for policy and poverty. Other terms could complement these, but after some initial searches they seem irrelevant.
	Are there any irrelevant or excessively broad terms?	Broad terms are limited by using proximity operators.
	Are Boolean terms nested within brackets correct?	✔
	If AND is used, could precision be improved by proximity searching (adjacent, near, within), or phrase searching?	✔ A proximity operator W/n with n=0 might be used for connecting defining the term "pro-poor growth". Tables 4 & 5.
	Are spellings correct?	✔
	Are there any variants of spellings (e.g. UK/US spellings) that need to be considered?	✔ e.g. program/programme. Program* will be used to capture both versions.
	Are there other synonyms?	A comprehensive list of synonyms is used (See Table 4)
	Is truncation used correctly?	✔
	Any language or technical jargon terms that are relevant (even where outdated, but within the timescale of the search)?	✔ (See Table 4) Terms will also be searched in Portuguese and Spanish (See Appendix 2)
	If there are any acronyms or abbreviations, are these also given in full format, and vice versa?	Not aware of.
	Are there some terms that are redundant?	No
c) Syntax	Are there any errors in the system syntax or line numbers?	No.
	Limits and filters	Yes. See below.
	Are there existing limits or filters that may be useful? E.g. (human, date Do any limits seem unwarranted? limits, publication type, study design)	Filtered for Social Sciences, when that option is available. Filter for studies after 1945. Filter for publication type on websites of development organizations. No filter based on country or study design.
Section D Special considerations	Is the time period for the literature search defined?	✔ Yes. After 1945.
	Is the search in line with the type of review? (e.g. scoping review, rapid review, full systematic review)	✔

Appendix 4: Data extraction tools

1. Mechanism of assignment: was the allocation or identification mechanism able to control for selection bias?

a)   For Randomized assignment (RCTs),
Score "YES" if:

•   a random component in the sequence generation process is described (e.g. referring to a random number table);
•   and if the unit of allocation was at group level (geographical/ social/ institutional unit) and allocation was performed on all units at the start of the study;
•   or if the unit of allocation was by beneficiary or group and there was some form of centralised allocation mechanism such as an on-site computer system;
•   and if the unit of allocation is based on a sufficiently large sample size to equate groups on average.

Score "UNCLEAR" if:

•   the paper does not provide details on the randomization process, or uses a quasi-randomization process for which it is not clear has generated allocations equivalent to true randomization.

Score "NO" if:

•   the sample size is not sufficient or any failure in the allocation mechanism could affect the randomization process.

b)   For discontinuity assignment (Regression Discontinuity Designs)
Score "YES" if:

•   allocation is made based on a pre-determined discontinuity on a continuous variable (regression discontinuity design) and blinded to participants or;
•   if not blinded, individuals reasonably cannot affect the assignment variable in response to knowledge of the participation decision rule;
•   and the sample size immediately at both sides of the cut-off point is sufficiently large to equate groups on average.

Score "UNCLEAR" if:

•   the assignment variable is either non-blinded or it is unclear whether participants can affect it in response to knowledge of the allocation mechanism.

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Score "NO" if:

- the sample size is not sufficient or;
- there is evidence that participants altered the assignment variable prior to assignment.

c) For assignment based non-randomized programme placement and self-selection (studies using a matching strategy or regression analysis, excluding IV),
Score "YES" if:

- participants and non-participants are either matched based on all relevant characteristics explaining participation and outcomes, or;
- all relevant characteristics are accounted for.

Score "UNCLEAR" if:

- it is not clear whether all relevant characteristics (only relevant time varying characteristics in the case of panel data regressions) are controlled.

Score "NO" if:

- relevant characteristics are omitted from the analysis.

d) For identification based on an instrumental variable (IV estimation),
Score "YES" if:
- an appropriate instrumental variable is used which is exogenously generated: e.g. due to a 'natural' experiment or random allocation.

Score "UNCLEAR" if:
- the exogeneity of the instrument is unclear (both externally as well as why the variable should not enter by itself in the outcome equation).

Score "NO" otherwise.

2. Group equivalence: was the method of analysis executed adequately to ensure comparability of groups throughout the study and prevent confounding?

a) For randomized control trials (RCTs) and quasi-RCTs,

Score "YES" if:

- baseline characteristics of the study and control/comparisons are reported and overall similar based on t-test or ANOVA for equality of means across groups;
- or covariate differences are controlled using multivariate analysis;
- and the attrition rates (losses to follow up) are sufficiently low and similar in treatment and control, or the study assesses that loss to follow up units are random draws from the sample (e.g. by examining correlation with determinants of outcomes, in both treatment and comparison groups);
- and problems with cross-overs and drop outs are dealt with using intention-to-treat analysis or in the case of drop outs, by assessing whether the drop outs are random draws from the population;
- and, for cluster-assignment, authors control for external cluster-level factors that might confound the impact of the programme (e.g. weather, infrastructure, community fixed effects, etc.) through multivariate analysis.

Score "UNCLEAR" if:

- insufficient details are provided on covariate differences or methods of adjustment;
- or insufficient details are provided on cluster controls.

Score "NO" otherwise.

b) For regression discontinuity designs (RDDs),

Score "YES" if:

- the interval for selection of treatment and control group is reasonably small;
- or authors have weighted the matches on their distance to the cut-off point;
- and the mean of the covariates of the individuals immediately at both sides of the cut-off point (selected sample of participants and non-participants) are overall not statistically different based on t-test or ANOVA for equality of means;
- or significant differences have been controlled in multivariate analysis;
- and, for cluster-assignment, authors control for external cluster-level factors that might confound the impact of the programme (e.g. weather, infrastructure, community fixed effects, etc.) through multivariate analysis.

Score "UNCLEAR" if:

- there are covariate differences across individuals at both sides of the discontinuity which have not been controlled for using multivariate analysis, or if insufficient details are provided on controls;
- or if insufficient details are provided on cluster controls.

Score "NO" otherwise.

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c) For non-randomized trials using difference-in-differences methods of analysis,

Score "YES" if:

• the authors use a difference-in-differences (or fixed effects) multivariate estimation method;

• the authors control for a comprehensive set of time-varying characteristics;

• and the attrition rate is sufficiently low and similar in treatment and control, or the study assesses that drop-outs are random draws from the sample (e.g. by examining correlation with determinants of outcomes, in both treatment and comparison groups);

• and, for cluster-assignment, authors control for external cluster-level factors that might confound the impact of the programme (e.g. weather, infrastructure, community fixed effects, etc.) through multivariate analysis.

Score "UNCLEAR" if:

• insufficient details are provided;

• or if insufficient details are provided on cluster controls.

Score "NO" otherwise.

d) For statistical matching studies including propensity scores (PSM) and covariate matching,

Score "YES" if:

• matching is either on baseline characteristics or time-invariant characteristics which cannot be affected by participation in the programme; and the variables used to match are relevant (e.g. demographic and socio-economic factors) to explain both participation and the outcome (so that there can be no evident differences across groups in variables that might explain outcomes);

• in addition, for PSM Rosenbaum's test suggests the results are not sensitive to the existence of hidden bias;

• and, with the exception of Kernel matching, the means of the individual covariates are equated for treatment and comparison groups after matching;

• and, for cluster-assignment, authors control for external cluster-level factors that might confound the impact of the programme (e.g. weather, infrastructure, community fixed effects, etc.) through multivariate or any appropriate analysis.

Score "UNCLEAR" if:

• relevant variables are not included in the matching equation, or if matching is based on characteristics collected at endline;

• or if insufficient details are provided on cluster controls.

Score "NO" otherwise.

e) For regression-based studies using cross sectional data (excluding IV)

Score "YES" if:

- the study controls for relevant confounders that may be correlated with both participation and explain outcomes (e.g. demographic and socio-economic factors at individual and community level) using multivariate methods with appropriate proxies for unobservable covariates;
- and a Hausman test with an appropriate instrument suggests there is no evidence of endogeneity;
- and none of the covariate controls can be affected by participation;
- and either, only those observations in the region of common support for participants and non-participants in terms of covariates are used, or the distributions of covariates are balanced for the entire sample population across groups;
- and, for cluster-assignment, authors control particularly for external cluster-level factors that might confound the impact of the programme (e.g. weather, infrastructure, community fixed effects, etc.) through multivariate analysis.

Score "UNCLEAR" if:

- relevant confounders are controlled but appropriate proxy variables or statistical tests are not reported;
- or if insufficient details are provided on cluster controls.

Score "NO" otherwise.

f) For instrumental variables approaches,

Score "YES" if:

- the instrumenting equation is significant at the level of $F \geq 10$ (or if an F test is not reported, the authors report and assess whether the R-squared (goodness of fit) of the participation equation is sufficient for appropriate identification);
- the identifying instruments are individually significant ($p \leq 0.01$); for Heckman models, the identifiers are reported and significant ($p \leq 0.05$);
- where at least two instruments are used, the authors report on an over-identifying test ($p \leq 0.05$ is required to reject the null hypothesis); and none of the covariate controls can be affected by participation and the study convincingly assesses qualitatively why the instrument only affects the outcome via participation;

- and, for cluster-assignment, authors particularly control for external cluster-level factors that might confound the impact of the programme (e.g. weather, infrastructure, community fixed effects, etc.) through multivariate analysis.

Score "UNCLEAR" if:

- relevant confounders are controlled but appropriate statistical tests are not reported or exogeneity of the instrument is not convincing;
- or if insufficient details are provided on cluster controls (see category f) below).

Score "NO" otherwise.

3. Hawthorne and John Henry effects: was the process of being observed causing motivation bias?

Score "YES" if either:

a) For data collected in the context of a particular intervention trial (randomized or non-randomized assignment), the authors state explicitly that the process of monitoring the intervention and outcome measurement is blinded, or argue convincingly why it is not likely that being monitored in ways that could affect the performance of participants in treatment and comparison groups in different ways.

b) The study is based on data collected in the context of a survey, and not associated with a particular intervention trial, or data are collected in the context of a retrospective (ex post) evaluation.

Score "UNCLEAR" if:

- it is not clear whether the authors use an appropriate method to prevent Hawthorne and John Henry Effects (e.g. blinding of outcomes and, or enumerators, other methods to ensure consistent monitoring across groups).

Score "NO" otherwise.

4. Spill-overs: was the study adequately protected against performance bias?

Score "YES" if:

- the intervention is unlikely to spill-over to comparisons (e.g. participants and non-participants are geographically and/or socially separated from one another and general equilibrium effects are unlikely).

Score "UNCLEAR" if:

- spill-overs are not addressed clearly.

Score "NO" if:

- allocation was at individual or household level and there are likely spill-overs within households and communities which are not controlled for in the analysis;
- or if allocation at cluster level and there are likely spill-overs to comparison clusters.

5. Selective outcome reporting: was the study free from outcome reporting bias?

Score "YES" if:

- there is no evidence that outcomes were selectively reported (e.g. all relevant outcomes in the methods section are reported in the results section).

Score "NO" if:

- some important outcomes are subsequently omitted from the results or the significance and magnitude of important outcomes was not assessed.

Score "UNCLEAR" otherwise.

6. Selective analysis reporting: was the study free from analysis reporting bias?

Score "YES" if:

- authors use 'common' methods of estimation and the study does not suggest the existence of biased exploratory research methods.

Score "NO" if:

- authors use uncommon or less rigorous estimation methods such as failure to conduct multivariate analysis for outcomes equations where it is has not been established that covariates are balanced.

See also the following for particular estimation methodologies.

For PSM and covariate matching, score "YES" if:

- where over 10% of participants fail to be matched, sensitivity analysis is used to re-estimate results using different matching methods (Kernel Matching techniques);
- for matching with replacement, no single observation in the control group is matched with a large number of observations in the treatment group.
Where not reported, score "UNCLEAR". Otherwise, score "NO".

What policies and interventions have been strongly associated with the translation of growth into reductions in income poverty?

For IV (including Heckman) models, score "YES" if:

• the authors test and report the results of a Hausman test for exogeneity ($p \leq 0.05$ is required to reject the null hypothesis of exogeneity);

• the coefficient of the selectivity correction term (Rho) is significantly different from zero ($P < 0.05$) (Heckman approach).
Where not reported, score "UNCLEAR". Otherwise, score "NO".

For studies using multivariate regression analysis, score "YES" if:

• authors conduct appropriate specification tests (e.g. reporting results of multicollinearity test, testing robustness of results to the inclusion of additional variables, etc).
Where not reported or not convincing, score "UNCLEAR". Otherwise, Score "NO".

7. Other: was the study free from other sources of bias?

Important additional sources of bias may include: concerns about blinding of outcome assessors or data analysts; concerns about blinding of beneficiaries so that expectations, rather than the intervention mechanisms, are driving results (detection bias or placebo effects); concerns about courtesy bias from outcomes collected through self-reporting; concerns about coherence of results; data on the baseline collected retrospectively; information is collected using an inappropriate instrument (or a different instrument/at different time/after different follow up period in the comparison and treatment groups).

Score "YES" if:

• the reported results do not suggest any other sources of bias.

Score "UNCLEAR" if:

• other important threats to validity may be present

Score "NO" if:

• it is clear that these threats to validity are present and not controlled for.

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