Making the investment case

for social protection

Methodological challenges with lessons learnt from a recent study in Cambodia

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MAKING THE INVESTMENT CASE FOR SOCIAL PROTECTION: METHODOLOGICAL CHALLENGES WITH LESSONS LEARNT FROM A RECENT STUDY IN CAMBODIA

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Abstract. The focus in this paper is on non-contributory social transfers which are considered to be the main social protection instruments targeted specifically at poor and vulnerable households, and which are financed from general government revenues. Eligibility for non-contributory transfers does not depend on employment records and contributions made in the past. The aim of the paper is to take stock of the main experiences and unpack some of the common questions raised in relation to the use of ex-ante cost-benefit analyses for the promotion and design of non-contributory social protection policies and programmes in developing countries. We conclude by highlighting a number of important questions, suggesting critical conditions for carrying out and using such analyses successfully, and proposing directions for future research.

Keywords: social protection, social transfers, poverty, cost-benefit analyses, vulnerable households

TABLE OF CONTENTS

List of Tables

ACRONYMS

ADePT	Automated Development Economics Poverty Tables
CARD	Cambodian Council for Agricultural and Rural Development
CCT	Conditional Cash Transfer
CEE/CIS	Central and Eastern Europe and the Commonwealth of Independent States
CSES	Cambodian Socio-Economic Survey
CTR	Cost-Transfer Ratio
DALY	Disability Adjusted Life Year
DFID	Department for International Development of the British Government
ECD	Early Childhood Development
FAO	Food and Agriculture Organization of the United Nations
GEM	General Equilibrium Model
ILO	International Labour Office
IMF	International Monetary Fund
LEWIE	Local economy-wide impact evaluation
LGE	Local General Equilibrium
MBB	Marginal Budgeting for Bottlenecks
MDG	Millennium Development Goals
MGSoG	Maastricht Graduate School of Governance
MoRES	Monitoring Results for Equity
NPV	Net Present Value
NSPS	Cambodian National Social Protection Strategy for the Poor and Vulnerable
ODA	Official Development Assistance
ODI	Overseas Development Institute
OPM	Oxford Policy Management
PMT	Proxy Means Test
RAP	Rapid Assessment Protocol
RGC	Royal Government of Cambodia
RoR	Rate of Return
SAM	Social Accounting Matrix
SPER	Social Protection Expenditure Reviews
SPF	Social Protection Floor
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNICEF	United Nations Children's Fund
VfM	Value for Money
WFP	United Nations World Food Programme

1. INTRODUCTION

Social protection can be defined as the 'set of public and private policies and programmes aimed at preventing, reducing and eliminating economic and social vulnerabilities to poverty and deprivation' (UNICEF 2012, p. 14). It comprises various types of instruments, and includes social insurance systems, labour market policies, and other social transfers. The focus in this paper is on non-contributory social transfers which are considered to be the main social protection instruments targeted specifically at poor and vulnerable households, and which are financed from general government revenues. Eligibility for non-contributory transfers does not depend on employment records and contributions made in the past.[1] Social protection represents a strategy for reducing income poverty and inequality. It is essentially a demand-side approach that can complement and increase the effectiveness of supply-side investments in sectors such as health, education, and water and sanitation, towards reducing disparities and gaps and fostering equitable socioeconomic development.

Social protection is gaining momentum in the development discourse. Recent commitments by the United Nations and the G20 to support the expansion of social protection in developing countries marked a new turning point in efforts to ensure a minimum level of protection to all citizens of the world (CEB 2009; G20 2011; ILO 2011). But while new forms of social protection have developed quickly in Latin America, progress in other parts of the developing world remains slow (ILO 2010). Many governments are yet to be convinced that non-contributory social protection can be a worthwhile public investment generating positive economic returns. In a context of global recession, resources are (even) more limited and policymakers are under additional scrutiny to present convincing investment cases and demonstrate best value for money.

Recent years saw an increased use of cost analysis approaches in the area of social protection. Ex-ante analyses are conducted with the aim of indicating which types of non-contributory social protection intervention are affordable (cost-feasibility analysis), which option delivers a given level of benefit for the lowest cost (cost-efficiency analysis), or which design option yields the highest level of effectiveness for a given cost (cost-effectiveness analysis). Determining whether benefits of a given intervention can be expected to be larger than its costs, or estimating rates of return of public investments in social protection is much more complex. Cost-benefit analyses raise numerous methodological challenges, as for example: social protection interventions have multidimensional impacts; empirical evidence on the long-term impacts of social protection remains limited; impacts may be difficult to quantify in monetary terms. There is still a gap in terms of linking costing studies and outcome assessments of social protection programmes.

A recent study, commissioned by UNICEF Cambodia and carried out by the Maastricht Graduate School of Governance, represents a unique attempt to carry out an ex-ante return on investment analysis in the social protection sector. In that study, Mideros et al. (2012) provide an ex-ante estimate of the rate of return to investment in social transfers in Cambodia. The study provides important lessons on viable approaches for making the investment case for non-contributory social protection. It also raises a number of methodological questions that justify careful assessment and discussion.

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[1]   Note that transfers can be in cash or in kind.

The purpose of this discussion paper is to take stock of the main experiences and unpack some of the common questions raised in relation to the use of ex-ante cost-benefit analyses for the promotion and design of non-contributory social protection policies and programmes in developing countries. It considers the following questions: What is the rationale for the increased interest in cost-benefit analyses? What are the main methodological issues associated to cost-benefit analyses and how have they been tackled? What is the scope to go beyond short-term cost-benefit analyses focused on immediate effects, and estimate rates of return of public investments in social transfers in the medium and long terms? Are there any risks associated with an increased reliance on cost-benefit analyses? Are there any alternatives to the traditional approach to cost-benefit studies?

The paper is organised as follows. We first briefly discuss approaches for making the case for non-contributory social protection, and present the rationale for using ex-ante cost analyses (Section 0). Turning to methodological issues, we review some of the main approaches currently used for estimating ex-ante costs and benefits of social transfer schemes in developing countries (Section 0). These first two sections aim at providing a common language and understanding of cost-benefit analysis-related issues, making the discussion accessible to all social protection professionals, even those unfamiliar with socio-economic modelling. We then zoom in on the study recently conducted in Cambodia, presenting its methodology and key findings, and discussing methodological breakthroughs and limitations (Section 0). Subsequently, we engage in a discussion on the possible way forward, looking both at the methodological options to take these types of studies to the next level, and at the potential for rate-of-return analyses to influence policy decision-making (Section 0). We conclude by highlighting a number of important questions, suggesting critical conditions for carrying out and using such analyses successfully, and proposing directions for future research.

2. MAKING THE CASE FOR NON-CONTRIBUTORY SOCIAL PROTECTION

Extending social protection can prove extremely challenging in developing countries where needs are widespread but resources scarce. The frequent predominance of the informal sector coupled with high rates of poverty and inequality requires alternatives to formal social insurance systems that rely on withholding taxes and contributions on employment income. It calls for the introduction of non-contributory forms of social protection in order to protect the livelihoods of the poor and vulnerable and mitigate the effects of uninsured risks for those outside the formal labour markets. But, confronted with limited fiscal space and lack of familiarity with non-contributory social protection instruments, many governments have made little progress in the extension of social protection. Investments in social assistance remain far behind in the developing world, and by and large have not contributed to systematically building a system of social protection provision, interventions remaining ad-hoc and often temporary (ILO 2010). In reaction to this situation, many development partners have engaged in various strategies to promote the use of non-contributory social protection instruments in developing countries. In this section, we briefly review the limits of some traditional strategies that social protection advocates have used in national fiscal and economic debates. We then discuss the increased interest among development partners in cost analysis approaches to promote and inform social protection policy, and we examine frameworks for conceptualising non-contributory social protection as an economic investment.

2.1 Usual advocacy strategies and their limits

Making the case for non-contributory social protection is needed for advocating the introduction of social transfer schemes in countries where there are none or only sporadic ones, or advocating for a reform of existing schemes – for instance regressive general subsidies in Senegal and many other countries, or institution-based social protection in CEE/CIS. A whole range of arguments may be advanced. They include: social justice and human rights; poverty reduction and risk management; economic growth and capital-based production; political stability and state-building (see for instance Freeland and Cherrier 2012, Chapter 3).

The human rights argument is at the core of the Social Protection Floor initiative, conceptual catalyst for the international community to advocate and support the development of a 'set of basic social rights, services and facilities that the global citizen should enjoy' (ILO and WHO 2009b, p. 4). Social protection is a human right, as stated in articles 22 and 25 of the Universal Declaration of Human Rights (UN 1948) and article 9 of the International Covenant on Economic, Social and Cultural Rights (UN 1966). The rights-based justification for non-contributory social protection implies seeing social assistance as an entitlement eligible citizens can claim, and no longer as hand-outs provided on a discretionary basis (Devereux 2011). In this perspective, social protection is no longer a political *option*, but rather an *obligation* for the States and the international governance structures. In this sense, the case for social protection can be made from the responsibility of states to provide social protection (Cichon et al. 2011). But human rights arguments alone have rarely been sufficient to influence policymakers in countries. Limited domestic resources do not allow ensuring all basic human rights at once, and priorities necessarily need to be set. Often, additional arguments would be needed to move social protection higher up the national development agenda.

Another strategy for making the case for social protection has been to present theoretical arguments and empirical evidence on the impact of social transfers on poverty reduction and human development. The international evidence base on the multidimensional impacts of social transfers is growing quickly, in particular for social cash transfers – see for instance EPRI (2010), Barrientos and Niño-Zarazúa (2010) and Arnold et al. (2011). But while such generic advocacy messages may be useful to raise awareness on the potential of non-contributory social protection, they present obvious limits. Because social protection remains fairly new in many parts of the developing world, empirical evidence often has to be drawn from experiences in other countries. To date, most of the high quality studies on social transfers come from Latin America, a quite specific context. Although social transfers have proven to be an effective mechanism to reduce income deprivation, inequality and access to basic social services, their effects largely depend on programme design features – transfer form, benefit level, targeting strategy, etc. – as well as implementation arrangements, administrative capacity and complementary policies. For instance, reviewing studies linking nutritional status to interventions involving cash transfers in Latin American, Asian and African developing countries, Manley et al. (2012) found mixed evidence: the weighted average of all impact estimates was very close to zero.

Responding to the lack of national empirical evidence, many international aid actors have launched social transfer pilot projects in an attempt to demonstrate that innovative forms of social transfers can be implemented and can generate very positive results, and eventually influence national policies. Experience in Eastern and Southern Africa suggests that this pilot project approach has limitations in promoting the institutionalisation of social transfers (Devereux et al. 2010; Niño-Zarazúa et al. 2010). Misalignment with national policy priorities, weak impact evaluation methods, disconnection with the national policymaking process, are among the factors that may explain this disappointing situation. Furthermore, even confronted with a very efficient pilot project, policymakers would often argue that they need more information on the scalability and financial sustainability of the piloted model. Demonstrating efficacy (whether it works or not) or even efficiency (how well it works) alone cannot be enough.

In a context of global recession, policymakers (either in developing countries or donor agencies) are required to present ever stronger and more convincing arguments to justify public spending. They need to demonstrate value for money to taxpayers (either donor country or national taxpayers). Furthermore, securing sustainable financing for social protection has become a critical area of concern, given the recent fiscal consolidation that many countries are undergoing following a period of fiscal expansion and stimulus in response to the economic crisis (IMF 2011). The prospects of making initial commitments that cannot be sustained over time raise social, economic and political risks. This situation pushes social protection advocates to engage more actively in national fiscal and economic debates and develop the ability to analyse the fiscal sustainability and comparative cost-effectiveness of non-contributory social protection.

2.2 Increased interest in ex-ante cost analyses to inform social protection policy

In a context characterised by huge needs and limited resources, policymakers are concerned with obtaining the most 'bang' for any 'bucks' that are spent. This is the purpose of cost analysis approaches: 'to provide a method for choosing among alternatives in order to select those that are able to accomplish a given result most parsimoniously.'(Levin and McEwan 2001, p. 1) Recent years

saw a growing attention paid to ensuring 'best value for money', in particular among development partners. As a result, terms such as cost-effectiveness, cost-efficiency and return on investment have become buzzwords. These related yet different terms are often mistakenly used interchangeably, and to avoid any confusion, we offer in Table 1 an overview of this terminology.

In the social protection field in particular, a number of cost analysis approaches have been increasingly applied, namely:

- *Cost-feasibility analyses to assess levels of affordability*. Cost feasibility analysis is the most basic form of cost analysis. It aims at providing estimates of costs alone, and determining on a Yes or No basis whether something can be afforded. If the cost of any option exceeds the resources that are available, there is no point in doing any further analysis. When considering several options, it allows a pre-selection excluding the ones that appear beyond reach. To apprehend the level of affordability, the total cost of the option (in monetary terms) when the programme is at scale – i.e. the initial *and* the continuing costs– is estimated. This is usually then expressed as a share of the Gross Domestic Product (GDP). It may also be helpful to express the total annual cost of a policy option as a share of the national budget, taxable base or Official Development Aid (ODA). Analysing the evolution of the fiscal burden (usually expressed as a percentage of GDP) over time is useful to apprehend financial sustainability – see for instance ILO (2008).

- *Cost-efficiency analyses to improve process.* For a given objective, several social protection policy options can be envisioned. For instance, to improve access to food, various policy options can be considered, such as targeted food rations, food vouchers, cash transfers, or mixed transfers. A comparative cost-efficiency analysis can help define which policy option to opt for, estimating costs to deliver a given output for alternative options. Such analyses can be useful to fine-tune an existing scheme, for instance comparing alternative delivery mechanisms – see for instance Cherrier (2009).

- *Comparative cost-effectiveness analyses to select policy options.* Cost-effectiveness analyses are used to inform the choice between two or more policy options to achieve a given objective—for instance, to achieve school enrolment, improve access to health care, etc. Most ex-ante studies on social transfers focus on quantifying what could be expected in terms of poverty reduction or Millennium Development Goals (MDG). This type of simulation forms the basis for advocacy efforts aimed at convincing national governments to invest in social protection– see for instance Gassmann and Behrendt (2006), or to reform the current system – see for instance Gassmann (2011, 2012).

- *Cost-benefit analyses to assess whether benefits can exceed costs.* Cost-benefit analysis combines all the different benefits of a programme onto one scale (usually a monetary scale) and shows the ratio of the combined benefits to cost. Cost-benefit analysis will, where feasible, provide an answer to the question: Is the programme worth its cost? A comparative cost-benefit analysis would answer the question: Which of the options has the highest benefit/cost ratio? Of course, this is only possible when all values involved can be converted into monetary terms, which is challenging in the case of ethical, psychological or social benefits of social protection – see for instance Gassmann *et al.* (2009).

- *Return-on-investment analyses to make an economic investment case.* Such analyses are intended to go even one step further and consider the aggregated benefits of a package of measures over time (Levin and McEwan 2001).

Table 1: Different types of cost analysis for different purposes

Main policy question	Type of cost analysis required	Useful outputs
▪ Is a single option affordable?	Cost Feasibility Analysis	⇨ **Fiscal Burden** Total cost of the programme (over time) expressed as a percentage of GDP, government budget, taxable base, or ODA
▪ Which option delivers the highest level of transfer for a given cost (or a given level of transfer for the lowest cost)?	Cost-Efficiency Analysis	⇨ **Efficiency Ratio** Total budget required to deliver 1 unit (e.g. US$ 1 worth) of transfer ⇨ **Cost-Transfer Ratio** (CTR) Ratio of administrative costs to transfer costs
▪ Which option yields a given level of effectiveness for the lowest cost (or the highest level of effectiveness for a given cost)?	Cost-Effectiveness Analysis	⇨ **Cost-Effectiveness Ratio** (CER) Outcomes in natural units (e.g. 'cases prevented' or 'number of lives saved') for 1 unit of transfer
▪ Which option yields a given level of benefits for the lowest cost (or the highest level of benefits for a given cost)? ▪ Are the benefits of a single option larger than its costs?	Cost-Benefit Analysis	⇨ **Benefit-Cost Ratio** (CBR) Number of monetary units of benefit for each unit of costs ⇨ **Net Benefits** Benefits minus costs ⇨ **Internal Rate of Return** (IRR) Discount rate that causes the net benefits to equal zero

Source: Adapted from Cherrier (2012) based on Levin and McEwan (2001).

Recent advocacy efforts in the social protection field have largely focused on fiscal space issues. This resulted in an increased use of cost feasibility analyses over the past few years, as part of efforts, globally and in many developing countries, to demonstrate that the provision of a basic non-contributory social protection package is affordable (ILO 2008). However, cost feasibility analyses alone do not allow judging the overall worth of an option because they do not account for output, outcome or impact measures.[2]

Cost-effectiveness studies have been used to present national policymakers with country-specific evidence of the potential of social transfers as a powerful mechanism to reduce income

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[2] These performance indicators are used to assess to what extent a programme achieves its objectives. Output indicators measure the quantity of transfers provided, or the number of beneficiaries served; outcome indicators measure the effects of the transfer (how they are used); and impacts measure the overall effects on living standards or poverty.

deprivation and inequality, and to promote human development. Such studies would look at one outcome at a time: poverty headcount, school attendance etc. But social transfers are praised because they can help achieve multiple objectives. The attempt of capturing this multidimensional effect in one measure may be helpful to make the case for social transfers.

Because social transfers are paid by taxpayer contributions (either in the developing country or in a donor country), the return on investment question is particularly sensitive, even more so when countries face the double challenge of having to extend social protection measures and improve social services and basic infrastructure. Finding the right balance between demand- and supply-side investments is a difficult task. Alternative investments need to be discounted against each other as different government sectors are competing with one another. Developing an economic argument for social transfers requires looking both at cost-effectiveness in the short term, to assess whether costs can be justified by the expected impacts for human and economic development, as well as cost-effectiveness – and when appropriate cost-benefit– in the long term.

Cost-benefit analyses may provide robust estimations about the different benefits of social transfers and clarify the linkages with economic performance. They may help convince policymakers that social transfers are not only 'social' but can also be a worthwhile economic investment. Some development partners have even promoted the idea of a development planning matrix (or big 'development calculator') to model the impact of a set of strategies (cash transfers, health insurance, education, livelihoods, etc.) on a set of objectives (poverty reduction, risk management, literacy, health, productivity growth, economic growth, etc.) – thus modeling intra- as well as inter-sectoral linkages (Miller and Samson 2012).

Having a closer look at the links between government spending, social protection, human development, poverty and inequality, and economic growth can help make a stronger case for non-contributory social protection investments. It may help move beyond the current state of debate where the 'productive' nature of certain types of social protection investments is questioned.

2.3 Non-contributory social protection as an economic investment

Social protection has a direct objective in terms of social outcomes and human development, but it is also linked with economic development, and, hence, can be regarded as an economic investment. Several authors have articulated an economic justification for non-contributory social protection on the basis of theoretical mechanisms and international evidence linking non-contributory social transfers and pro-poor economic growth (see for instance ILO 2005; DFID 2006; Barrientos and Scott 2008; OECD 2009; Samson and Cherrier 2009, Annexe 5; Barrientos and Niño-Zarazúa 2010; Barrientos et al. 2010; Arnold et al. 2011; Barrientos 2012). Alderman and Yemtsov (2012) actually argue that there is a shift in the economists' view on social protection, which is now increasingly seen as an instrument that can contribute towards economic growth. In line with this statement, it is interesting to see that the World Economic Forum (2012) has recently made the case for a new approach to growth, emphasising the importance of employment and social protection. Social protection is no longer seen as a cost to the economy but as a source of resilience in tough times, as a support for growth and productivity in good times, and as a general mechanism for socioeconomic inclusion.

Alderman and Yemtsov (2012) identify three main pathways through which social transfers can support economic growth, namely: '(i) individual level (building and protecting human capital, and other productive assets, empowering poor individuals to invest or to adopt higher return strategies), (ii) local economy effects (enhancing community assets and infrastructure, positive spillovers from beneficiaries to non-beneficiaries), (iii) overall economy level (acting as stabilizers of aggregate demand, improving social cohesion and making growth-enhancing reforms more politically feasible).' Barrientos (2012) examines a framework to analyse the links between social transfers and economic growth at the micro-level, based on international evidence from impact evaluation studies.

From an analytical perspective of socioeconomic development, proposed by Szirmai (2012), it is possible to identify the links between social protection, economic performance and socioeconomic outcomes. Proximate sources of economic growth are those directly related with economic output and include disembodied technological change (i.e. advances in technological knowledge that are not incorporated in any specific production factor), capital accumulation and labour productivity. Social transfers have proved to generate positive effects on both human and physical capital accumulations. Intermediate sources of development include trends in national and international demand, economic, social and technological policies, and changes in the terms of trade. Social protection as a social and economic policy is also a stabilizer of internal demand. Lastly, ultimate sources of development are related with geographic conditions, demographic trends, social attitudes and capabilities, political and social institutions and class and power relations, among others. In this sense, social protection fosters social cohesion and socio-economic inclusion. Finally, it is important to note that the relations among these levels are neither linear nor unidirectional (Szirmai 2012).

Building on this literature, we offer an analytical framework of the links between non-contributory social transfers and socioeconomic development (Figure 1). Economic returns of non-contributory social protection investments can be measured by the effect on economic growth, while the costs include both the resources directly invested in the transfers and those indirectly included in the distortionary effects of taxes and/or social security contributions. Non-contributory social transfers directly affect household disposable income (i.e. distributional effects), and as such household consumption. However, social transfers also affect household behaviour through income and non-income effects. Additional and/or secure income encourages households to invest in health, education, livelihoods and productive activities. Moreover, the transfer design may further encourage certain decisions (e.g. by conditionality and transfers mechanisms).

*Figure 1: Non-contributory social protection and socioeconomic development:
a framework of analysis*
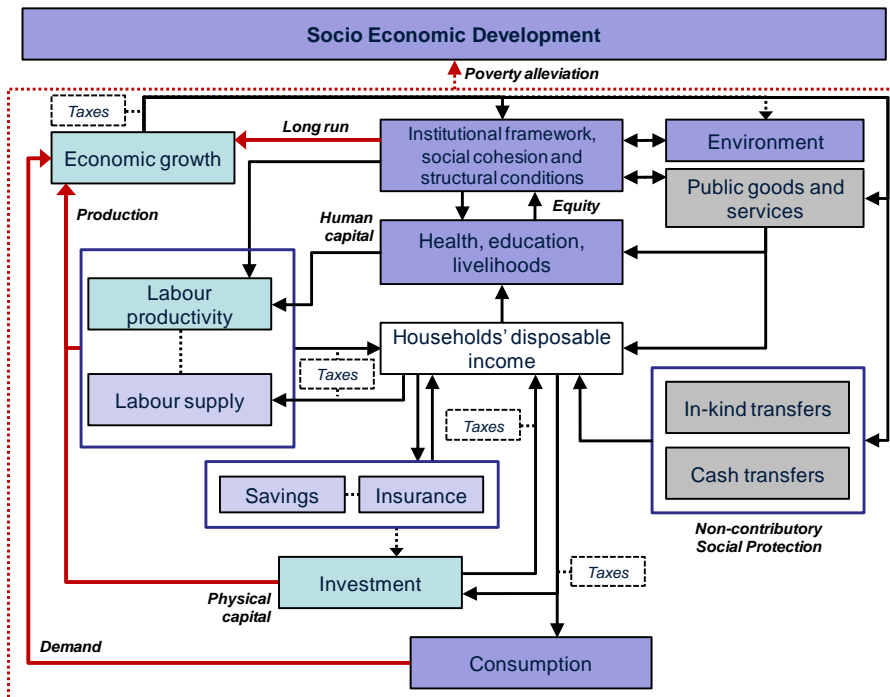
Note: Grey indicates a policy decision; light blue a household decision; green refers to economic performance; dark blue represents outcomes. Note that most relations are neither linear nor unidirectional.
Source: Authors' elaboration based on Mideros *et al* (2012).

Improving health status and education level increases human capital, and subsequently labour productivity, depending on the coverage and quality of these public services. Furthermore, productive investments increase physical capital by fostering and protecting productive assets. In addition, social transfers affect labour supply in different ways. First, they may reduce labour due to a higher level of income for any level of labour. This effect is likely to happen if the transfer amount is higher than the income generated before. However, a transfer received by poor individuals may help to solve credit constraints and to afford transportation costs, and in this way increases labour opportunities. Finally, social protection may enhance social cohesion and promote institutional changes.

On the other hand, non-contributory social protection is financed by general public revenues, and costs include the effects of taxation and/or alternative sources (i.e. budget reallocation). Social transfers have the potential to enhance effective demand and then to generate local multipliers, but also to increase productive capacity and to promote institutional changes, thereby contributing to economic performance. Hence, in order to estimate the economic returns of investments in social transfers, it is necessary to develop a multidimensional perspective including complementary effects (i.e. the effects of different policies being implemented together) and linking micro and macro level effects. Besides, economic effects may not happen overnight and as such the analysis would have to take time into account.

For policymakers increasingly concerned with questions of cost, affordability, financing, sustainability, and returns to investment, such a conceptual framework can be attractive. However, the empirical evidence on the links between non-contributory social protection and economic

growth is inconclusive, and many knowledge gaps remain. Because non-contributory social transfer schemes are relatively new in developing countries, there is little empirical evidence on their long-term effects, let alone cost-benefit ratio. Hence, there is an increasing demand for ex-ante assessments of the returns to investments in non-contributory social protection, in order to generate evidence for the policymaking process.

<p style="text-align: center;">***</p>

Concluding remarks: Arguments in favour of non-contributory social protection have evolved from hand-outs (discretionary) to human rights (obligation) to pro-poor economic growth (essential investment). There is a growing tendency to see social protection as economic investment but this is not yet supported by strong empirical evidence. There is a growing interest for ex-ante assessment of economic returns.

3. CONDUCTING EX-ANTE COST ANALYSES FOR SOCIAL TRANSFERS IN DEVELOPING COUNTRIES: AN ANALYTICAL REVIEW OF METHODOLOGICAL APPROACHES

Different approaches have been used in different parts of the world to assess ex-ante costs and effects of non-contributory social protection. These range from back-of-the-envelope calculations to advanced expert modelling – see Appendix 1 for an overview of the main models developed to date. Here, we focus on one specific instrument of non-contributory social protection. Social transfers include measures providing in-kind or in-cash transfers with the objectives of reducing poverty, inequality and vulnerability by enhancing consumption smoothing, helping people to manage risks, and redistributing income between groups and over the life cycle (Gassmann 2011). This form of social protection is still rather new in the developing world, and remains a matter of tense debate. Despite strong positive evidence on their impact, national policymakers may be reluctant to introduce social transfers because they normally imply a long-term commitment (i.e. financial sustainability); they are seen as a 'non-productive' form of assistance; they are feared to create dependency; they are feared to be unpopular because they are dependent on the support of (better-off) taxpayers. This explains why, to date, most ex-ante cost analyses have focused on social transfer policy options. In this section, we review in turn the four main steps for carrying out a (comparative) cost analysis: defining the (range of) policy option(s) to be analysed; quantifying costs; quantifying impacts; and comparing impacts and costs. We stress some key methodological issues arising in each step, and review how different authors have approached them.

3.1 Defining the range of policy options to be analysed

We adopt here the perspective of development partners operating at the national level and assisting national governments in their decision whether to mobilise (further) domestic resources in social protection and which social protection instrument(s) to use given their specific priorities. Most developing countries are yet to engage national resources in large-scale social transfer programmes. Their main question is whether to invest in this type of social protection programmes, and which social transfer instrument(s) to use given their specific priorities. In these countries, development partners are often in a position where they have to advocate for non-contributory social protection programmes, and assist in defining which option to opt for. They need to lift national governments' reluctance, in terms of fiscal sustainability and dependency.

Defining the set of alternative policy options to be analysed requires: setting the objective(s); generating options; identifying feasible options; and establishing the counterfactual. Many studies implicitly or explicitly consider the main objective to be the reduction of monetary poverty and inequality. Some studies, particularly those advocating for child-sensitive social protection, would also consider the improvement of child outcomes (for instance education, health, nutrition and child labour) or progress towards socioeconomic development goals.

In their global study aimed at demonstrating the feasibility of a basic social protection package in low-income countries, the ILO (2008) used the Basic Social Protection Tool to estimate the cost and impact of a standard set of policies in terms of poverty gap reduction: old-age pensions; child benefits; health care; social assistance/employment scheme. The first ILO models were generic with pre-defined scenarios and a pre-defined poverty impact module. Increasingly, studies tend to be country-specific, and assess policy against objectives set in the country's national social protection strategy. For instance, the construction of the ILO's new model (Rapid Assessment

Protocol) goes hand in hand with a dialogue process involving national authorities and other actors dealing with social protection.

Alternative options may be generated based on an articulated theory of change,[3] international empirical evidence, national experiments, etc. It is useful to set clear criteria beforehand for reviewing and pre-selecting alternative options. For instance, DFID Pakistan used the following criteria to assess the feasibility of each cash transfer option considered to reduce poverty and increase school attendance and retention: ensure that the bottom two quintiles living in poverty are reached (exclusion errors); ensure non-eligible households do not benefit (inclusion errors); fiscal sustainability; political buy-in (provincial level as well as federal); and scalability (DFID 2012c).

Depending on the specific question the analysis aims to answer, the counterfactual would be the absence of social transfers (a 'do nothing' scenario), the current policy in place, or an alternative policy option such as food subsidies. Establishing a counterfactual is essential as it is the benchmark against which all costs and benefits of other policy options are articulated and compared.

Involving policymakers at an early stage in the study appears essential to ensure all possible alternatives are considered. Ideally, non-contributory social protection policy options should be compared with other types of interventions expected to reach the defined objective. However, many studies, due to methodological and data constraints, solely consider cash transfer policy options. Also, some studies aimed at making the case for child-sensitive social protection would only consider child-targeted options. However in southern Africa for instance, old age pensions have proven to have a positive impact on children (due to the existence of a missing generation caused by the HIV pandemic), be more affordable, and sometimes more politically acceptable.

3.2 Quantifying costs

An ex-ante cost analysis of social transfer policy options needs to estimate the total incremental costs at scale. Estimates would usually be based on the following basic ingredients: number of eligible persons/households; benefit level; administrative costs (including costs of targeting, transfer delivery, monitoring, etc.); costs of any attached activity (e.g. complementary counselling, public works, etc.). However, the actual drivers of costs for social cash transfers would typically be: selection of beneficiaries (targeting costs); delivery costs (overheads, service provision, cost of transfer, grievance mechanism, monitoring and information system, evaluation); in case of conditionality, additional costs on the supply side (health, education, nutrition); monitoring conditionality costs (e.g. if children in school to approve payments, spot checks); transaction costs to the family (opportunity costs, transport costs, other); and actual transfer amount received by the beneficiary.

Different approaches have been used to produce ex-ante estimates of social transfer programme/policy costs, ranging from back-of-the-envelope calculations to simple mathematical modelling to static and dynamic microsimulation. The Pensions Calculator (HelpAge 2010), the Social Protection Financing Model (DFID et al. 2011), the Basic Social Protection Costing Tool (ILO 2007), and the Social Protection Floor Costing Tool (UNICEF and ILO 2010) are examples of very

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[3] For more information see http://www.theoryofchange.org/about/what-is-theory-of-change/

easy-to-use tools aimed at providing policymakers with rough estimates of costs very rapidly, based on national statistics. The Social Protection Floor Costing Tool was used for instance in Argentina, Madagascar and Senegal. It remains obviously very limited and the ILO subsequently developed the Rapid Assessment Protocol (RAP), a more time-demanding but flexible and more robust model. The construction of the model goes hand in hand with a dialogue process involving national stakeholders. The model can be used in early and intermediate stages of the national dialogue process to test different tailor-made benefit designs and policy options, and analyse fiscal space. The ILO Rapid Assessment Protocol Plus (RAP+) uses household-level data to provide users with a more refined estimate of the number of beneficiaries targeted and the cost of the benefits proposed. It also allows the user to assess the hypothetical impact of alternative benefit packages on the poverty headcount and the poverty gap. The RAP+ has now been used in a number of countries including El Salvador, Indonesia and Burkina Faso (Behrendt 2011; Bonnet and Behrendt 2011; ILO and IMF 2012).

The estimation of administrative costs is a critical point. Usual assumptions are 5% of transfer costs for simple design (e.g. old age pension) and 10% for more complex design (e.g. poverty-targeted cash transfers). However, there is little ex-post evidence on this percentage. Some well-established programmes have low administrative costs: only 2% for the Lesotho old age pension, although this is thought to underestimate central administrative costs (Ellis et al. 2009); 5% for Mexico's PROGRESA programme in 2000, four years after it was launched (Caldés et al. 2004). Evidence from CEE/CIS indicates that the administrative costs for targeting alone range between 0.6 and 6.3% of total programme costs (Grosh et al. 2008, p. 94). Hodges et al. (2011) note that programmes of this type in low-income Africa tend to have much higher administrative costs, because they are more recent, they still have large fixed start-up costs, and have not yet achieved economies of scale. Another factor is that the African programmes often provide lower transfer levels than in the middle-income Latin American countries. There are now efforts to collect this information more systematically (ODI 2012).

Another important point needs to be made around the distribution of costs. A cost analysis would usually require calculating net costs to each constituency. For instance, in the case of social transfer schemes, costs could be split between: government; donor; local administration; private sector; beneficiaries; and non-beneficiaries (Levin and McEwan 2001; Dhaliwal et al. 2012). Most studies would only look at costs incurred by the implementing agency. It is thus often assumed that there are no transaction costs (opportunity costs, transport costs, etc.) for the beneficiary households. However, these transaction costs determine how much the benefit of the cash is incremental to the family, i.e. how much net additional money it will have to buy goods and invest with. In Pakistan, DFID factored in about 4% of costs to families (to account for transport and other transaction costs) noting that these should fall moderately as payment systems become more efficient and families are better able to plan ahead (DFID 2012c). Cherrier (2009) also factored in transaction costs when assessing the cost-efficiency of alternative food-based and cash-based social transfer policy options.

Overall, there tends to be an 'optimism bias' when estimating costs, a commonly observed phenomenon whereby 'appraisers tend to overstate benefits, and understate timings and costs, both capital and operational' (Treasury Green Book cited in DFID 2009). A way to deal with this bias

is to use empirical observations of past optimism bias to make adjustments. However, in the case of social transfer policy, the body of evidence on programme costs is still limited.

The issue of social protection costing (and financing) has received a lot of attention over the recent years (McCord and Hagen-Zanker 2011). In particular, key development partners involved in this issue recently agreed to further work on cost modelling and microsimulation towards the preparation of a review that provides insight into the models currently available, outlining technical specifications and intended uses, as well as guidance on appropriate model selection. They also recognised the need to agree on 'common definitions for key terms used for the assessment of the cost of social protection provision to facilitate analytical research coherence (e.g. leakage, inclusion and exclusion errors, administrative cost) […] including agreement regarding inclusion of indirect costs, e.g. cost of adhering to conditions and compliance monitoring.' (ODI 2012, p. 5) In this aspect, Oxford Policy Management is about to finish a 'Social Budget' for South Africa using a static tax-benefit micro-simulation tool to forecast social expenditures and combine this tool with some rudimentary poverty/inequality measures of the impact of these social expenditures (Powel et al. 2011).

In general, costs are expected to decrease over time, as social protection instruments are there not only to reduce seasonal poverty, but also to generate mechanisms to alleviate structural poverty through human capital accumulation and economic security. However, the cost of old-age benefits may increase because population is ageing, and new investments in complementary services such as healthcare and education may be necessary given an increasing demand as a result of changes in social protection programmes. Models would often not account for these costs and they would not consider what impacts social protection programmes might have that may reduce overall costs (for example, better household nutrition may lead to a reduced demand for healthcare). Finally, social protection investments are complementary with other policies such as basic infrastructure, economic inclusion and general productivity, which may be taken into account for a comprehensive costing study.

3.3 Quantifying impacts

Ideally, we would want an analysis to estimate the total incremental impacts of a policy, considering both positive and negative impacts, and looking at both short-term and long-term impacts. Impacts that can be expected from a social transfer programme are numerous, diverse and spread over time. The most relevant are: direct consumption effect on beneficiaries; indirect behavioural effects on beneficiaries (e.g. increased school attendance, reduced child labour, etc.); indirect effects on the local economy (economic multiplier effects). Usually, studies would focus only on a specific type of impact or set of impacts, dictated by the specific objective of the policy, but first and foremost by data availability and level of modelling skills.

Using mathematical modelling with national statistics and international evidence

The Social Protection Floor Costing Tool only accounts for the basic income effect of cash transfers to provide a rough estimate of a programme's impact on income poverty (UNICEF and ILO 2010). The model is informed by socioeconomic and programme parameters. It provides quick but rough and limited results.

When developing a business case for the support of social transfer programmes, DFID aimed at considering other types of impacts using simple mathematical modelling (DFID 2011b, a). This is done on the basis of various assumptions on the size of the beneficiary population, benefit level, international ex-post evidence on impact, etc. In Nigeria, DFID considered the following monetised benefits: consumption distributional dividend; welfare (health and nutrition); productivity gains (households/adults; children aged 2-15; children aged under 2) – as well as the following non-monetised benefits and risks: financial inclusion; social cohesion and gender; fiduciary risk and clientelism. The estimate of the likely reduction in infant and child mortality is drawn from estimates produced by Bhutta *et al.* (2008) according to which full coverage of nutrition interventions can reduce mortality by up to 25% between birth and 36 months, and promoting breastfeeding can reduce under-five mortality by up to 8% (DFID 2012a).

In Pakistan, DFID used a family model to capture benefits based on: the global evidence base; statistics from the national household survey on the allocation of expenditure of families; the standard use of funds, as articulated in a rapid baseline appraisal of beneficiaries (DFID 2012c). In Gaza, DFID quantified immediate consumption benefits as well as welfare (quality of life) benefits due to improved nutrition using disability-adjusted life years (DALYs)[4] – secondary monetary benefits in the form of avoided future medical costs were not modelled (Shah 2011).

The Marginal Budgeting for Bottlenecks (MBB) tool is a much more complex mathematical model. It was jointly developed by the World Bank and UNICEF to design and test development strategies in international public health research. In particular, the MBB model was recently applied to a total of 15 countries, ranging from low- to middle-income countries, to model an equity-focused strategy and compare its predicted outcomes against those of the current mainstream strategies for achieving the health MDGs for children (Carrera *et al.* 2012). The study arrived at a 'surprising and significant conclusion: An equity-based strategy can move us more quickly and cost-effectively towards meeting Millennium Development Goals 4 and 5 – reduce child mortality and improve maternal health – than our current path, with the potential of averting millions of maternal and child deaths by the 2015 deadline.' (UNICEF 2010, p. 1)

UNICEF has been trying to adapt the MBB approach to other sectors. For example, UNICEF Ghana attempted to adapt the MBB model to the education sector and develop a tool, which would look at both supply and demand sides (including financial access to education) and include a costing/budgeting model (Hattori 2011). The underlying idea was to estimate the contribution of social protection to improved education outcomes. UNICEF also envisioned simulating the contribution of social protection to improve health outcomes using MBB Health in urban areas of Lagos, Nigeria. This proved extremely challenging, and overall unsuccessful. The model needs to be fed with data on efficiency and effectiveness of standard interventions, which requires robust empirical evidence. As mentioned earlier, the evidence base around social transfers remains

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[4] A DALY is a country-specific economic measure that allows to monetise the negative impact of ill health, malnutrition or death on a person. It is the sum of years of potential life lost due to premature mortality and the years of productive life lost due to disability. A DALY of 0 represents a year of perfect health, while a DALY of 1 represents death. Other health states are attributed values between 0 and 1 as assessed by experts on the basis of literature and other evidence of the quality of life in relative health states. For example, the disability weight of 0.18 for a broken wrist can be interpreted as losing 18% of a person's quality of life relative to perfect health, because of the inflicted injury. Total DALYs lost from a condition are the sum of the mortality and morbidity components – the Year(s) of Life Lost due to premature death (YLLs) and the Year(s) of healthy life Lost due to Disability (YLDs).

limited, especially concerning their indirect and long-term effects (Arnold et al. 2011). Evidence of the impact of social protection on economic growth is particularly thin.

Efforts are multiplying to extend the evidence base on social transfers. For instance, AusAID has supported evaluations that aim to understand better the economic pathways out of poverty that result from social protection programmes in Bangladesh, Cambodia and Pacific Island Countries (reported in Miller and Samson 2012). Nevertheless, the use of international evidence to estimate effects of social transfers in a given country appears risky. While the ways that human bodys react are largely universal, a country's reactions to the introduction of social protection measures can obviously not be generalized. There can be considerable differences in results from one programme to the next depending on implementation capacity, socio-economic context, and cultural sensitivities.

Hagen-Zanker et al. (2011) conducted a systematic review to identify and synthesise the current evidence on employment guarantee schemes and cash transfers in order to assess the effectiveness of these interventions in terms of poverty outcomes for the poor in low- and middle-income countries. It was not possible to draw robust conclusions regarding the relative performance of the two instruments, since meta-analysis of evidence on programme impacts was not feasible given the diversity of intervention design, populations and impacts, the range and inconsistency of methodological approaches adopted, and the limited data on statistical significance and incidence.

Hodges (2012) attempted to conduct a cost-benefit analysis of cash transfer options from a nutritional perspective for Mauritania. His analysis is inspired by the study on the rationale for economic investments for nutrition improvement Hoddinott *et al.* (2012) conducted for the Copenhagen Consensus. In line with that study, Hodges limited the benefit analysis to the reduction of chronic malnutrition among children under three, and then to the indirect economic benefits of this reduction in the long term. This is justified by the importance of Height-for-Age in early childhood as a predictable variable of health status, productivity and consumption level of individuals in the long term. The lack of Mauritanian empirical data on the impact of nutrition interventions, either on the nutritional status of children or long-term socio-economic benefits, made the analysis particularly challenging. The analysis rests heavily on the use of evidence from other countries. To hypothesise on the link between cash transfers and child nutritional status, Hodges referred to data from Mexico, Nicaragua and Colombia. This data is not consistent, showing statistically significant effects from 0.16 to 0.41 SD of Height-for-Age Z score depending on transfer size and child age. Any cost-benefit analysis can only be indicative, but this particular analysis is thus to be taken with extra caution. Its findings are very sensitive to the hypotheses taken, which are based on data from contexts very different to the Mauritanian one. The analysis also takes account only of the impacts on Height-for-Age (rather than other nutritional and broader impacts). For instance, the impact on mortality is not captured in monetary terms, nor is the impact on poverty reduction and its indirect effects on education, child labour, healthcare taken into account. As a result, the benefit-cost ratio is most likely underestimated.

Table 2: Summary of estimates for economic growth impact of social protection (micro, meso and macro levels)

Country/ Level	Program/Type	Method	Results	Study
Cross-country/ macro-	All SP spending	Regression	Moving from 0 to 2% of GDP spending on SP increases growth by 0.1-0.4 pp	Zaman and Tiwari (forthcoming)
South Africa/ macro-	*Gundo Lashu and EPWP*/PW	SAM	Labor intensive PW on the scale of 0.2% of GDP increases GDP by 0.34%	Mc Cord and Van Sventer (2004)
US/macro-	2009 Stimulus package	Modeling	Multiplier for expansion of the food stamp program is 1.7, larger than for infrastructure spending (1.6)	Zandi (2009)
Representative econ./ macro-	Fully Funded (FF) Pensions	Simulations	Moving from PAYG to FF pensions increases GDP by 3-5% in 110 years	Corsetti and Schmidt-Hebbel (1995)
Bangladesh/ macro-	*BRAC*/Ruraldevelopment-Micro-credit	SAM	BRAC was boosting GDP by 1.15% in 1998 while its cost was 0.2% of GDP	Alamgir (1996); Mallick (2000)
Brazil/ meso	*Bolsa familia*/ CCT	Regressions	10% increase in the program increases municipal GDP by 0.6%, B/C=3.5	Landim (2009)
India/ meso	*NREGA*/ PW	Simulations/ SAM	Public works in a village increase HH incomes with a multiplier of 1.77	Hirway et al. (2009)
Malawi/meso	Dowa Emergency Cash Transfer (DECT) /CT	Simplified SAM	Total multiplier effects of the DECT between 2.02 and 2.79	Davies and Davey (2007)
Lesotho/meso	Child Grants (CGP)/CT	Full village SAM	Total multiplier effects of the CGP between 1.17 and 2.43	Davies (2012)
China/micro	Southwest China Poverty Reduction/CT	ERR	ERR = 8.6-9.8% (lower bound)	Ravallion and Chen (2005)
Bangladesh/ micro	Food for Education (FFE)/ SF	ERR	ERR = 15-24%	Ryan and Meng (2004)
Colombia/ Micro	*Familias en Accion*/CCT	B/C	Benefit-cost ratio = 1.59	IFS, Econometrica, SEI (2006)
Mexico/ micro	*PROCAPMO*/CT	B/C	Benefit-cost ratio = 2.5	Sadoulet, De Janvry, and Davis (2001)
Mexico/ micro	*Oportunidades*/CCT	ERR	ERR = 8%/year (lower bound); 17% (higher bound)	Coady and Parker (2004); Gertler et al. (2006)
Ethiopia/ micro	Productive Safety Net Program/PW	B/C	Benefit-cost ratio = 1.8-3.7 (depending on the subproject)	Wiseman et al. (2010)
South Africa/ micro	Child Support Grant/ CT	B/C	Benefit-cost ratio = 3.3-4.5	Agüero et al. (2007)
Chile/ micro	Progressive Housing Program/Subsidy	ERR	ERR = 18%, much higher than country's official cut off rate of 12%	Marcano and Ruprah (2008)

Source: IEG 2011 for micro impacts of SSN, Hodge et al 201; authors compilation for all other programs based on Annex. Notes: pp- percentage points, PAYG-pay as you go pension, CT- cash transfer, CCT- conditional cash transfer, ERR- economic rate of return, B/C- benefits to cost ratio, SAM –social accounting matrices, SF-School feeding, PW-public works.
Alderman and Yemtsov (2012, p. 8)

Running microsimulation models using household survey data

Microsimulation is a technique for the study of public policies at the micro level when the objective is to analyse distributional, rather than aggregate, effects (Merz 1993, 1994). This technique is promising for the analysis of the effects of social transfers at the micro level and their aggregation at the macro level (Barrientos and Scott 2008). Models would usually be run using national household survey data. Using baseline micro-level data collected for an impact evaluation Seidenfeld and Handa (2011) developed a simple microsimulation model to simulate ex-ante possible effects of a cash transfer intervention in Zambia. Social transfers have been studied in different countries using microsimulation models (Bezerra de Siqueira *et al.* 2000; Cogneau and

Robilliard 2000; Atkinson *et al.* 2002; Cogneau *et al.* 2003; Creedy *et al.* 2003; Annabi *et al.* 2005; Gassmann and Behrendt 2006; Wong *et al.* 2008; de Souza Ferreira *et al.* 2010; Llambi *et al.* 2011; Vandeninden 2012). However, most of these studies use static microsimulation and they concentrate on distributional effects (i.e. poverty reduction and inequality decline) or on specific static effects such as labour participation and schooling (Bourguignon *et al* 2003).

The World Bank developed the ADePT software to automate and standardise the production of analytical reports. ADePT uses micro-level data from various types of surveys, such as Household Budget Surveys, Demographic and Health Surveys and Labour Force Surveys to produce rich sets of tables and graphs for a particular area of economic research. It is a toolkit for calculating indicators of coverage, generosity and incidence of programmes. ADePT, now in its version 5.3, contains seven modules for the analysis of Poverty, Inequality, Social Protection, Labour, Gender, Health, and Education. Although requiring statistical knowledge, the tool remains relatively easy to use. UNICEF Senegal used the Social Protection module (ADePT SP) to simulate costs and impacts of a set of targeting options for a national social cash transfer programme (Schnitzer 2011). The study was carried out by an international consultant, but a national research consortium was able to complete an analysis using the same ADePT SP tool to simulate the impact of the crisis and public policy responses on children (Daffé et al. 2011). The tool proved very useful to produce robust analysis and show credibility in front of national partners as well as World Bank colleagues.

Many of these models assume perfect targeting, a questionable assumption in most contexts. Recent ex-ante simulations of the targeting efficiency, impacts, cost, cost-effectiveness and affordability of different types of cash transfers in the Republic of Congo and Côte d'Ivoire found that poverty-targeted cash transfers would have positive impacts, although more in terms of monetary poverty reduction than human development (Hodges et al. 2012a; Hodges et al. 2012b). However, Hodges et al. (forthcoming) stress that a major practical challenge for such prediction to be realised would be to target efficiently in an environment of mass poverty.

Dynamic microsimulation models have been used to generate projections about socioeconomic developments (O'Donoghue 2001; Li and O'Donoghue 2012). They provide a useful technique to analyse the effects of social protection over time. The main difference between static and dynamic microsimulation is that the latter allows individuals to change over time due to endogenous factors. Dynamic microsimulation is largely used in OECD countries to study pension reforms.

In a study commissioned by UNICEF, Cockburn et al. (2010) developed a predictive model that anticipates the impacts of the economic and financial crisis, and compares the cost-effectiveness of food consumption subsidies (in the form of VAT or import tariff exemptions) and cash transfers targeted to households below the national poverty line using a proxy means test (PMT), taking into account the inclusion and exclusion errors predicted by the PMT formula. The study was conducted for three West African countries (Burkina Faso, Cameroon and Ghana). The methodology is quite complex, linking a computable general equilibrium model (CGE) to simulate the effects of the global crisis on the economy of each country to a micro-level household model, using national household survey data, to simulate both the impacts of the crisis and the impacts of alternative policy measures on child welfare variables. Impacts were simulated with respect to monetary poverty, caloric poverty (hunger), school participation, child labour and access to health services.

A similar model was applied in Côte d'Ivoire (Hodges et al. 2012b) and Burkina Faso (Cockburn et al. 2012).

In most cases, the models employed do not take into account second-round effects and thus are not appropriate for predicting the long-term impacts of programmes. As soon as a household receives a cash transfer, it usually spends it. This transmits the transfer's impacts from the beneficiary household to others inside and outside the local economy, including households not eligible for the transfer. Understanding the full range of impacts that social transfers may have on income-generating activities and local markets may help address concerns about dependency traps and medium-term fiscal sustainability, and increase political buy-in. The 'From Protection to Production Project'[5] has been supporting attempts for modelling economic multiplier effects of cash transfers (Filipski and Taylor 2012; Taylor 2012). Filipski and Taylor (2012) modelled local general equilibrium (LGE) effects in addition to the direct impact of the programme on the beneficiary households. Local economy-wide impact evaluation (LEWIE) is designed to capture the full impact of government programmes (as well as other exogenous shocks) on local economies.

Davies and Davey (2008) analysed the impact of an emergency cash transfer programme on the local economy in rural Malawi. The results are of interest given the growing use of cash transfers as development aid and the increasing popularity of such transfers as a form of social protection across sub-Saharan Africa. Using a (local) form of social accounting matrix (SAM), they found that there are widespread benefits for the regional economy as a whole (with multiplier estimates of 2.02 to 2.45) and for certain groups in particular. Small farmers and small businesses gain particular advantage as this is where poorer households' purchases are focused; education and health also benefit. Such payments can also help to support the regional economy during the most 'lean' periods of the year.

Using macro models

Macro-level analysis can be used to test the effect of social protection expenditure on economic growth and other social outcomes at the cross-country level, using regression analysis (see for instance Atkinson 1999; Arjona et al 2003). However, results are not conclusive, in part because of the lack of sufficiently large and comprehensive data sets. Furthermore, intermediate effects cannot be studied using aggregate data without losing important information about people's circumstances. A second alternative is to use computable general equilibrium models (CGE) to analyse the economic effect of social transfers (see for instance Vos et al 2008). This technique is strong to study consistencies with taxation, public expenditure and economic growth, while it is weak to analyse the impact of specific programmes and social transfers at the individual and household levels (Barrientos and Scott 2008). Moreover, CGE models assume a fixed economic structure over time limiting the interpretation of effects during economic transitions (Cockburn et al. 2012). However, they allow modelling changes over time and including synergy effects of introducing policies for complementary objectives at the same time (see for instance Behrman

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(2000)). Finally, macro models can be used to generate certain parameters as for example economic growth and productivity, to align microsimulation models.

## 3.4 Comparing impacts and costs

Cost of inaction

Social protection can generate several economic benefits and costs, which should be properly estimated to analyse its return. However, the alternative of doing nothing may be costly as well. Holzer et al. (2008) attempted to assess the aggregate annual costs of child poverty to the United States economy. They reviewed research studies that estimate the statistical association between children growing up in poverty and their earnings, propensity to commit crime, and quality of health later in life, and estimates of the costs that crime and poor health impose on the economy. Their results suggest that childhood poverty each year: i) reduces productivity and economic output by an amount equal to 1.3% of GDP; ii) raises the costs of crime by 1.3% of GDP; and iii) raises health expenditures and reduces the value of health by 1.2% of GDP.

Hirsch (2008) brings together three strands of evidence on the impact and costs of child poverty in Britain: review of research evidence to describe some of the consequences of child poverty that are likely to have repercussions for society; estimates of the effects of the consequences of child poverty on social spending– a cost to taxpayers – based on the observation of different levels of social spending in small areas with different levels of child poverty; and estimates of the costs to the economy of the lower productive capacity and earnings of adults who faced poverty as children. This creates both a cost to the public purse through foregone tax revenues and extra spending on benefits and tax credits, and also a wider economic cost in terms of reduced economic activity associated with reduced production and private earnings. The conclusion is that child poverty costs the country at least £ST 25 billion a year. Moreover, the World Bank (2006) estimates the GDP lost to malnutrition to run as high as 2-3% in China and India for instance.

Cost-efficiency

Cost-efficiency analysis focuses on the relationship between (discounted) programme administrative costs and (discounted) programme outputs, in the case of cash transfer programmes taken to be the amount of cash transfers delivered to beneficiaries. Cost efficiency is to be used with caution: high administrative cost-efficiency may in practice mask shortcomings in the transfer programme that negatively affect performance. Grosh et al. (2008, p. 391) suggest that 'anything beyond about 12 to 15% of total costs bears close examination to see why administrative costs are relatively high.'

Figure 2: Cash transfers, 'Value for Money' and results chain
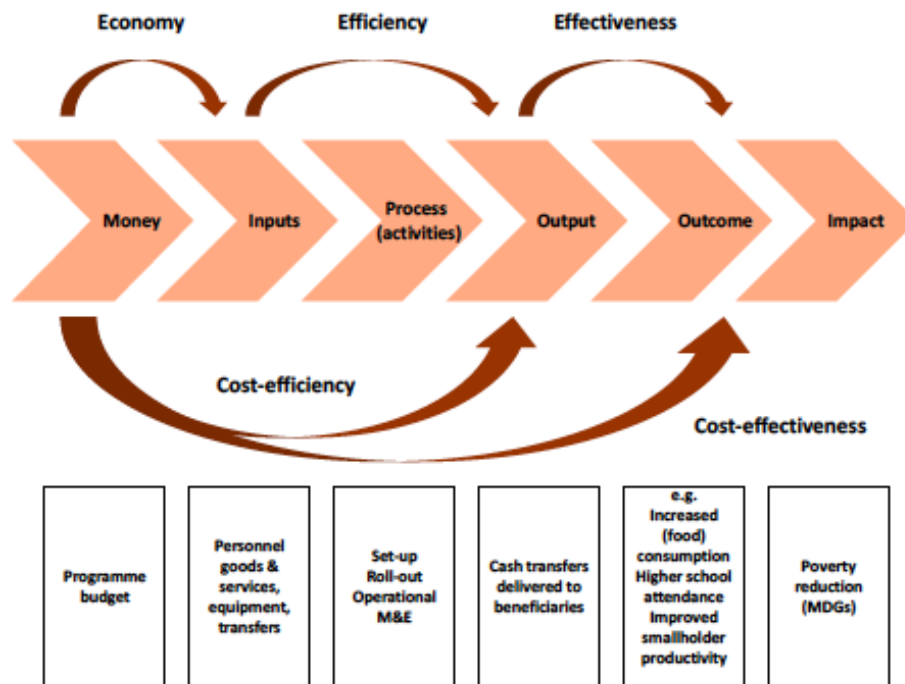
Source: Hodges *et al.* (2011, p. 5).

Cost-effectiveness

All proposals for DFID funding must be accompanied by a Business Case which sets out the need, justification and affordability of the intervention – making a sound case for the commitment of public funds (DFID 2011b). This fits into the broader DFID's Value for Money Framework (DFID 2011a). A framework is also proposed to conduct systematic assessments of the cost-efficiency and cost-effectiveness of design options in DFID-supported cash transfer programmes, clarifying key concepts and guiding the review of costs and impacts (Hodges et al. 2011) (Figure 2). It focuses on cost-economy, cost-efficiency and cost-effectiveness, but also touches on cost-benefit analysis where main costs and benefits can be credibly monetised. Business cases have now been developed for DFID-supported social transfer programmes in several countries, including Nigeria (DFID 2012a), Ghana (DFID 2012b) and Pakistan (DFID 2012c). The Business Case for the Child Development Grant Programme in Nigeria articulates programme theory, presents empirical evidence supporting it, discusses cost feasibility of alternative options, and compares pre-selected options on the basis of their cost-efficiency, captured by the total cost-transfer ratio (TCTR);[6] net present value (NPV);[7] Benefit-Cost Ratio (BCR); as well as any non-monetised benefits and risks.

Cost-benefit ratio

Cost-benefit analysis can handle multiple outcomes and provides measures that can be compared with those estimated for investments in other sectors. It is thus particularly interesting to estimate

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[6] The TCTR refers to the overall cost per unit of cash transferred, including the cost of the transfer itself. Set-up and M&E costs are excluded to reflect likely cost-efficiency in a post-project scale-up.
[7] The NPV is the discounted benefits minus discounted costs. Costs and benefits arising in the future have a lower value than the same nominal amounts arising now. The more distant in time the costs and benefits occur, the less they are valued. Discounting is the process of adjusting future costs and benefits to arrive at their present value.

economic returns to investments. Interestingly, however, DFID's Investment Committee decided against introducing a standard hurdle rate of return for DFID interventions. It was judged that the diversity in the DFID portfolio makes it difficult to produce comparable measures of what constitutes good value for money for many interventions (DFID 2011a).

Several studies estimated the cost of achieving a certain objective, as for example reducing the poverty gap by one percentage point – see for instance Schnitzer (2011) for such an analysis using the ADePT model. However, this is actually just a special form of cost-effectiveness analysis, and it only captures the immediate effects of social transfers. The greatest challenge for cost-benefit analysis is the task of assigning monetary values to all possible effects of an investment (see for instance Fujiwara and Campbell (2011)). One way that this problem has been handled in the literature is to evaluate benefits in terms of their impact on economic growth.

Assessing economic returns to investing in youth, Knowles and Behrman (2003, p. xvi) rejected this approach because of 'its inability to address all issues related to efficiency (including efficiency issues related to economic growth) and its complete neglect of distributional issues (including across generations in the form of how much current consumption should be reduced in order to increase consumption by future generations). Instead, the review opts for a definition of benefits that is based on direct productivity effects, whenever possible, but that falls back, when necessary, on an alternative indirect method of valuing benefits that is based on the cost of the least-cost alternative investment that secures the same effect.' Instead, Knowles and Behrman (2003) developed a life-cycle approach using cost-benefit analysis to calculate the economic returns to investments in youth.

In order to estimate mid- and long-term effects of social transfers, Mideros *et al.* (2012) estimated the economic rate of return on investments in social transfers as the relation between the incremental benefit (difference between policy and baseline scenario) on total household consumption and the cost of the proposed social transfer package. They approximate benefits on total household consumption by the sum of direct distributional effects and behavioural income effects. Using a dynamic microsimulation model, they estimate the effects of cash transfers on household consumption and human capital accumulation, and then aggregate the effects to estimate long-term economic impacts. This study opens a new door for the evaluation of social protection and their effects on socioeconomic development. Results and methodological issues are discussed in the next section.

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Concluding remarks: A lot of work has been done in the past, which generated a large evidence base. It mainly focused on static, immediate effects and on costs and affordability, since benefits are often perceived as 'immaterial'. Still, there is a general understanding that the arguments in favour of social protection are not yet convincing enough for national policy makers of developing countries. There is a need to establish a compelling link between costs and benefits, taking into account the time needed to earn the investments back, hence, to treat social protection as a business case.

4. ESTIMATING RATES OF RETURN OF SOCIAL TRANSFERS: LESSONS LEARNT FROM CAMBODIA

The Maastricht Graduate School of Governance, with financial support from UNICEF Cambodia, recently conducted a research project aimed at estimating rates of return of social protection. In the final project report, Mideros et al. (2012) present estimates of the potential effects, benefits and costs of the implementation of different policy scenarios, which are in line with the newly adopted Cambodian national social protection strategy.[8] The study builds on an ex-ante costing study conducted by the ILO, and focuses on non-contributory social protection instruments targeted at poor persons in rural areas covering various life-cycle risks. It uses country-specific information to generate evidence on the potential effects of social transfers on human capital investments and labour market participation. It further combines static and dynamic microsimulation models to calculate effects on poverty and inequality, human capital accumulation and household disposable income, over time. Furthermore, it estimates rates of return on economic development in terms of total household consumption. To our knowledge, this study represents the first attempt to estimate economic rates of return of public investments in social protection. In this section, we present a summary of this research project, and discuss methodological aspects as well as lessons to be drawn.

4.1 Overview: policy context, methodological approach and key findings

Following a national policy exercise started in the wake of the 2008 food, fuel and financial crisis, the Royal Government of Cambodia (RGC) adopted in 2011 its National Social Protection Strategy for the Poor and Vulnerable (NSPS). The document outlines a long-term vision and strategic framework for the development and extension of social protection in Cambodia, taking into consideration the different dimensions of social protection and risk profiles of the poor and vulnerable. The NSPS aims to 'contribute not only to the rehabilitation and stability of the economy in the near future, but also to the enhancement of human capital indicators, including those on education, health and livelihoods development, towards the longer-term achievement of the Cambodian Millennium Development Goals in 2015' (RGC 2011). The RGC considers it to be an important complement to its overall vision of achieving growth with equity.

The design of a consolidated and extended social protection system along the strategic framework defined by the NSPS will require further planning, policy formulation and resource mobilisation to lead from strategy towards implementation. As part of this planning process, a preliminary financial assessment of alternative policy options that are likely to be considered was conducted. It aimed to determine resource requirements and to develop, together with development partners, a financing plan for the medium- and long-term implementation of the NSPS. A first task consisted in selecting the range of policy options to be considered in this assessment. To limit the scope of the exercise, it was decided to relate the assessment exclusively to social protection benefits provided in the form of cash transfers, including pensions and wages (for public works programmes). On the basis of consultations with stakeholders in Cambodia, a series of policy options was selected for each strategic objective of the NSPS. A preliminary financial assessment of the NSPS ranges the expected costs between 3.7% and 6.7% of GDP, covering cash transfers for the poor, pregnant

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women, children (0-2 and 6-11), public works for the poor, social pensions for the poor and pensions for disabled persons (Hennicot 2012). In the likely perspective of new fiscal space emerging, NSPS building blocks can thus be expected to be affordable in the long run. But since funding will remain constrained in the near future, it was recommended to adopt a step-by-step approach where selected programmes are given priority.

Mideros et al. (2012) focus on the expected benefits of the NSPS. Their study aims to identify affordable and cost-effective policy options within the framework of the NSPS, and estimate social and economic benefits and economic rates of return over time. It is intended to contribute to efforts to make a case for budgetary allocations to social protection instruments, presenting them as an investment rather than a cost. The study focuses on four non-contributory social protection policy options selected on the basis of their priority under the NSPS, data availability, modelling feasibility and policy relevance: cash transfers, social pensions, scholarships, and public works. It uses micro data at the individual and household level from the Cambodian Socio-Economic Survey (CSES) 2004 and 2009. The analysis is conducted in three main steps. First, a static microsimulation model is used to estimate the direct (distributional) effects of social transfers on poverty and inequality, measured by changes in household consumption. Second, empirical regression models are used to estimate the behavioural (income) effects of social transfers on education (school attendance), health (nutrition) and labour decisions (labour participation and labour supply), as well as the returns of school achievement (years of schooling) on household disposable income (approximated by household consumption). Third, a dynamic microsimulation model is used to estimate the economic rates of return of a basic social transfer package over 20 periods based on the effects on household consumption.

Step 1 – Estimating the direct effects of social transfers on poverty and inequality

For each of the four selected policy options, different scenarios are considered based on current design proposals and costing studies. Scenarios differ on two variables: targeting strategy based on poverty conditions, location and age; and benefit level defined as a percentage of the poverty line for rural areas. Administrative costs are fixed at 10% of total transfer costs for cash transfers, social pensions and scholarships, and 50% of non-wage costs for public works.

A static microsimulation model, using CSES 2009 data, is used to estimate the effects of each scenario on poverty headcount, poverty gap, poverty severity and inequality (using the Gini coefficient) in terms of household consumption. Among the four policy options considered, cash transfers for poor children appear to be the most effective with respect to all four indicators. Social pensions are the second most effective option to reduce the poverty headcount and inequality. The poverty headcount is reduced by between 12.1% and 13.7% for cash transfers for poor children, and by between 5.3% and 5.6% for social pensions, depending on the respective scenario. Scholarships for primary education are the second most effective policy option to reduce the poverty gap (by 4.9%) and poverty severity (by 8.3%).

When effects are compared to costs, scholarships for lower secondary education appear to be the most cost-effective option to reduce the poverty headcount (15.5% per GDP percentage point invested), followed by social pensions in rural areas (14.8% per GDP percentage point invested). Cash transfers to poor children are the most cost-effective option to reduce the poverty gap (by

11.3-11.6% per GDP percentage point invested) and poverty severity (by 19.3-19.7% per GDP percentage point invested).[9]

The comparative cost-effectiveness analysis is used together with budget considerations, and in some cases the results of the behavioural models, to define a joint policy option composed of the most cost-effective scenario under each type of transfer considered. This basic social transfer package includes: i) cash transfers for poor children in rural areas, between 0 and 6 years old, up to two per household; ii) social pensions for poor persons, 65 years old and older, in rural areas; iii) scholarships for poor children in rural areas attending lower secondary education; and iv) public works for poor persons in rural areas at working age (between 18 and 64 years old) up to one per household (Table 3). This set of social protection instruments appears appropriate, affordable and effective. It covers major vulnerabilities throughout the life cycle. It accounts for 1.6% of GDP at 2009 level. It would reduce the poverty headcount by 5.9 percentage points and inequality by 4.9%.

Table 3: Basic social transfer package selected from the NSPS

Instrument	NSPS objectives	Target population	Benefit level
Cash transfer	Food security and emergency assistance; Food security, poverty reduction and human capital accumulation; Financial protection in case of illness; Protection of vulnerable groups	Poor children 0-6 years old in rural areas, up to two per household	USD 12.25 per month (60% of rural food poverty line)
Social pensions	Protection of vulnerable groups	Poor persons aged 65+ in rural areas	USD 20.42 per month (100% of rural food poverty line)
Scholarship	Food security, poverty reduction and human capital accumulation	Poor children in lower secondary school in rural areas	USD 50 per year (20% of rural food poverty line)
Public works	Work opportunities and income security	Poor persons 18-64 years old in rural areas, up to one per household (80 days per year)	USD 2.30 per day

Source: Mideros et al (2012).

Step 2 – Estimating the behavioural income effects of social transfers

In a second step, several regression models, using CSES 2004 and 2009 data, are applied to calculate the expected impact of an increase in household income (cash transfer) on various human capital and labour indicators. The results are as follows:

- *School attendance*. It is estimated that cash transfers to children attending school (scholarships) have a higher effect on school attendance in the case of lower secondary education (effect of 5.6 percentage points for a 10% increase in household

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[9] Although scholarships for primary and upper secondary education appeared to be the most cost-effective options, they were not selected for further inclusion in the analysis due to their low effect on promoting school attendance compared to scholarships for lower secondary education.

consumption), followed by primary education (2.2 percentage points), while it is not significant for tertiary education.

- *Nutrition*. A 10% increase in household consumption is related with a 0.4 percentage point lower probability of being underweight (for children under 5 years old) on average. However, the effect is not significant for poor children, while improving sanitation conditions (approximated by toilet facility) reduces the probability of being underweight by between 6 (national) and 8 (rural) percentage points.

- *Labour participation and labour supply*. On average, a 10% increase in household consumption reduces the probability of unpaid work by between 9 and 10 percentage points, but it is positive in the case of paid work for poor rural individuals (5.9 percentage points higher probability). In this sense, it is likely that social transfers may facilitate labour mobility from unpaid to paid work in the case of poor rural persons. Further estimations show that labour supply (working hours) is not significantly affected, but it does have a positive effect for individuals with low disposable income. Moreover, it is estimated that social transfers may generate the resources needed to move from informal to formal activities.

Regression models are also used to estimate the return of an increase in human capital (approximated by years of schooling) on household disposable income (approximated by household consumption). It shows that on average, an additional year of education (maximum level within the household) is associated with a level of household consumption per capita between 1.6% (urban) and 1.8% (rural) higher for poor households. These coefficients, along with all the other coefficients drawn from the empirical regression models (Table 4), are used in the subsequent microsimulation of long-term benefits.

Step 3 – Estimating the economic rates of return on social transfers

In order to estimate mid- and long-term effects of social transfers, a dynamic microsimulation is conducted over 20 discrete periods, using the joint policy scenario (basic social transfer package of Table 3) and the effects previously calculated. Benefits are estimated as the difference between the policy and baseline (without social transfers) scenarios, in order to avoid possible bias generated by unobservable changes over time. Demographic simulations are based on official projections by the National Institute of Statistics, and results are aligned for each period.

Results show that introducing the basic social transfer package may generate positive social and economic returns in Cambodia (Table 5). Under the policy scenario, the national average education level (years of schooling) is 0.02 years higher after 5 periods, and 0.14 years higher after 20 periods. In addition, both poverty (headcount) and inequality (Gini coefficient) are lower if the package is implemented. Poverty headcount decreases by 6 percentage points after the introduction of the proposed social transfer package. Furthermore, over 20 periods, total household consumption has an average growth rate of 0.04 percentage points per year higher under the policy scenario. It means that social transfer investments have the potential to increase economic growth, as long as the supply-side can react to higher effective demand, which is likely to happen if resources are not being fully utilised, as in the case of Cambodia.

Table 4: Main results of regression models using CSES 2004 and 2009 for Cambodia

Dependent variable (independent variable)	Model	Observations	Men		Women		Urban		Rural	
log of wages (schooling)	Heckman selection model [average marginal effects]	All individuals receiving a monthly wage	0.045 (0.004)	*	0.039 (0.005)	*	0.063 (0.005)	*	0.033 (0.004)	***

Dependent variable (independent variable)	Model	Observations	Urban (non-poor)		Urban (poor)		Rural (non-poor)		Rural (poor)	
log of household consumption per capita (maximum level of education within the household)	2SLS [average marginal effects]	All households	0.042 (0.005)	***	0.016 (0.007)	**	0.026 (0.003)	***	0.018 (0.002)	***

Dependent variable (independent variable)	Model	Observations	Education level (rural-poor)		
			Primary	Lower secondary	Upper secondary
School attendance (log of household consumption per capita)	Probit model [average marginal effects]	All individuals between 6 and 25 years old	0.226 ** (0.089)	0.560 ** (0.262)	0.373 (0.516)

Dependent variable (independent variable)	Model	Observations	National		National (poor)		Rural (poor)	
Underweight (log of household consumption per capita)	Probit model [average marginal effects]	All children under 5 years old	-0.043 (0.015)	***	-0.048 (0.038)		-0.038 (0.041)	
Underweight (no toilet facility in the house = 1)			0.026 (0.016)		0.062 (0.029)	**	0.081 (0.029)	***

Dependent variable (independent variable)	Model	Observations	Urban (poor)		Rural (poor)	
Unpaid work (log of household consumption per capita)	Multinomial Probit model [average marginal effects]	All individuals between 18 and 64 years old	-1.002 (0.516)	*	-0.887 (0.247)	***
Paid work (log of household consumption per capita)			0.211 (0.504)		0.593 (0.261)	**

Note: Standard errors in brackets. *** Significance at 1%, ** significance at 5%, * significance at 10%

Source: Mideros et al (2012).

Educational benefits increase over time with an additional 1.5% of average years of education. In the case of poverty and inequality, benefits decrease over time showing that it is more difficult to reduce extreme poverty (diminishing marginal returns), which also explains why the benefit on total household consumption decreases. Besides, less people receive the transfer as they get out of poverty.

These results show that non-contributory social protection transfers may generate positive effects on economic performance. A rate of return (RoR) of social transfer investments is estimated as the relation between the benefit (difference between policy and baseline scenario) on total household consumption and the cost of the proposed social transfer package. Results show that 12 periods are needed for the RoR to become positive. In period 20, the RoR reaches a value between 12% and 15% depending on the discount rate used. In other words, after 12 periods, the cost of the investment is more than fully recovered, including administrative costs.

Table 5: Dynamic microsimulation of a basic social transfer package in Cambodia: benefits, costs and returns

Benefit	Scenario	Period 1	Period 5	Period 10	Period 15	Period 20
Average years of education (18-64 years old)	With social protection	6,52	7,67	9,00	10,40	11,62
	Without social protection	6,52	7,65	8,89	10,22	11,41
	Benefit (difference)	0,00	0,02	0,11	0,19	0,21
Total household consumption average annual growth rate (%)	With social protection	1,55	2,54	2,77	2,82	2,71
	Without social protection	0,00	2,29	2,65	2,74	2,67
	Benefit (difference)	1,55	0,26	0,12	0,07	0,04
Poverty headcount (%)	With social protection	23,74	20,7	15,6	10,9	7,8
	Without social protection	29,71	26,7	19,8	14,7	10,4
	Benefit (difference)	-6,0	-6,0	-4,2	-3,8	-2,6
Inequality (Gini of consumption)	With social protection	0,313	0,314	0,314	0,308	0,302
	Without social protection	0,329	0,328	0,327	0,320	0,312
	Benefit (difference)	-0,016	-0,014	-0,013	-0,012	-0,010
Cost	**Policy**	**Period 1**	**Period 5**	**Period 10**	**Period 15**	**Period 20**
Cost (% of GDP)	Social protection package	1,6	1,4	1,2	0,9	0,8
RoR	**Discount rate**	**Period 1**	**Period 5**	**Period 10**	**Period 15**	**Period 20**
Rate of Return (Absolute benefit on total household consumption / absolute cost) (%)	2%	-11,6	-10,0	-4,1	5,8	14,7
	3%	-11,6	-10,1	-4,3	5,0	13,3
	4%	-11,6	-10,1	-4,6	4,3	11,9
Internal rate of return		**Period 1**	**Period 5**	**Period 10**	**Period 15**	**Period 20**
IRR (%)					10,9	16,1

Source: Mideros et al. (2012).

Overall, the study makes the case for non-contributory social protection in Cambodia. It shows that, on top of their social benefits, social transfers may be seen as an economic investment with a positive return in the mid-term. As such, social transfers may represent a valuable policy option to foster socioeconomic development in low- and middle-income countries.

4.2 Methodological advances and limitations

The overall microsimulation model adopted by Mideros et al. to generate quantitative estimates of the potential rates of return on non-contributory social protection investments is presented in Figure 3. It is based on the analytical framework presented in the previous section (Figure 1, p. 16); however, it is limited to selected links based on policy objectives and data availability. It focuses on direct (distributional) effects on poverty and inequality, and behavioural (income) effects on education, health and labour decisions. Human capital is approximated by education

achievements, and changes in level of education are used to estimate the return on household disposable income. Returns are aggregated based on human capital accumulation and total household consumption over 20 periods in order to estimate economic rates of return.

Figure 3: Basic microsimulation model of social protection rates of return
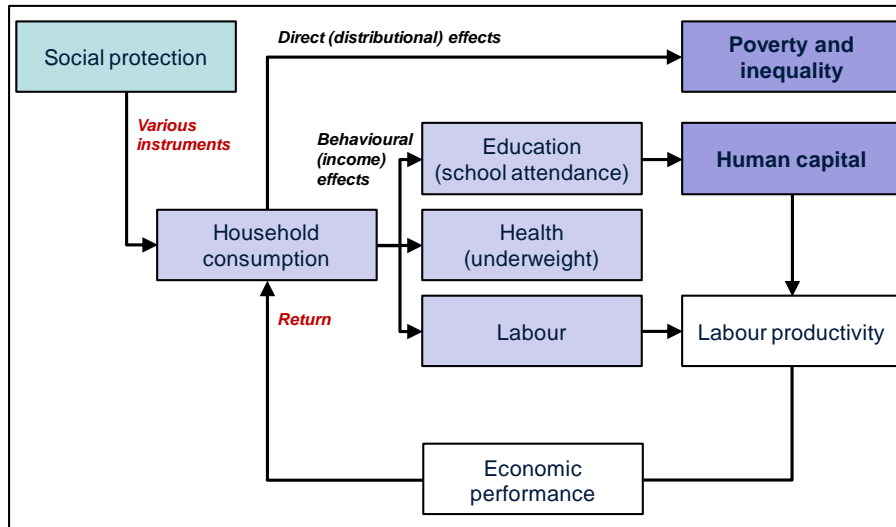
Source: Mideros et al (2012).

The model is divided into three stages: i) static microsimulation model to analyse and select different policy options; ii) microeconometric models in order to calculate the potential effects of household disposable income on household decisions, and the return of human capital on household disposable income; and iii) dynamic microsimulation to estimate the return of social transfer investments over time, through human capital accumulation. Household consumption plays a triple role in the modelling framework. First, it is estimated as a function of households' human capital level. Second, it is used as explanatory variable to analyse behavioural (income) effects due to changes in disposable income (using household consumption as a proxy) through social transfers. Third, returns of human capital investments on household consumption are included in the dynamic microsimulation to approximate micro level economic effects of social transfers over time. The model includes different assumptions which are discussed in this section and summarized in Box 1.

In the first stage, the use of static microsimulation to capture the effects at the micro level is justified because the objective is to calculate the distributional effect using households as the level of analysis. However, there are some limitations given the available data. First, CSES 2004 and 2009 do not contain data about incomes and therefore household consumption is used as a proxy. Given this limitation the transfer is assumed to go directly to consumption (i.e. a marginal propensity to consume equal to one). Second, there is no data about the intra-household distribution and as such the transfer is assumed to have the same effect for any member. Third, due to the absence of relevant information, the model assumes perfect targeting and implementation, which is a rather unlikely scenario. As a result, the direct effects on poverty reduction and inequality may be overestimated. Fourth, social transfers are assumed to be externally funded and have no effect on non-beneficiary households. Overall, the impact on poverty and inequality is most likely

overestimated. These limitations can be solved if more detailed micro data is available at the household level, and when social transfers have been implemented over a certain period of time in order to generate empirical results about targeting and design effects.

The second stage includes several microeconometric models. Regressions are estimated differentiating between urban and rural, and poor and non-poor individuals, in order to obtain specific coefficients to include in the dynamic microsimulation model. Data from different CSES waves are pooled in order to increase the number of observations and to obtain average effects over time in Cambodia. In all cases, also in the case of probit models, average marginal effects are estimated. The following models are estimated.

First, returns of human capital on household consumption (as a proxy for disposable income) are estimated at the household level, because CSES does not include individual income nor consumption data. In this sense, a classical Mincer equation is adjusted following Jolliffe (2002), using household maximum level of education as the explanatory variable. In order to avoid endogeneity, the model is estimated by two stages least squares (2SLS) using different instruments.

Second, the effect of higher disposable income on the likelihood of attending school is estimated using a probit model, while household consumption (the explanatory variable) follows from the previous model in order to deal with endogeneity. The effect of higher disposable income on the probability to attend school is estimated differentiating between urban and rural, and poor and non-poor households, as well as between education levels. However, the model is probabilistic rather than behavioural because of data limitations. This problem may be solved with individual data about income, in order to generate a more sophisticated reduced form, including the opportunity cost of going to school – see for instance, Bourguignon et al. (2003). Furthermore, non-income behavioural effects (e.g. conditionality and other design conditions) are not studied.

Third, a similar model is estimated for children under five years old, in order to calculate the relation between higher disposable income and the probability of being malnourished. Here disposable income is assumed to be exogenous but a different set of control variables is included. As in the previous case the model is probabilistic, but the effect of increasing household consumption is not significant for poor rural children.

Fourth, the effect on labour participation and labour supply is estimated using different multinomial, Heckman and tobit models. The objective is to analyse the potential effect of social transfers on labour decisions. All models deal as best as possible with endogeneity and selectivity and include the available control variables. All the models could be improved using behavioural equations to analyse opportunity costs, but as mentioned previously more specific individual data is needed to include opportunity costs. Besides, using empirical effects derived from impact evaluations from nation-wide programmes could improve the robustness of the coefficients to be included in the microsimulation models.

The third stage is a dynamic microsimulation model including three modules: demography, human capital accumulation and household consumption based on the effects estimated in the previous stage. First, a demographic simulation model is developed using age-specific mortality rates and differentiating between men and women and urban and rural individuals in order to obtain

demographic projections over time. Weights are aligned with official demographic projections from the last population census. Second, in the first period social transfers are introduced as exogenous shocks affecting household disposable income, and then the probability to attend school is estimated given the transfer. Third, starting from period 2, household disposable income (approximated by consumption) is estimated given the achieved level of human capital within the household, and then social transfers are introduced. In this sense beneficiaries of social transfers are identified at each period, independently of the previous periods. Finally, total household consumption is aggregated in order to estimate the effect of social transfers on the economy at the macro level. Benefits and returns are estimated as the difference between policy and baseline scenarios in order to cancel out potential structural changes and exogenous shocks.

Box 1. Assumptions

The microsimulation model used to estimate Rates of Return (RoR) in Cambodia, is based on the following assumptions:

Assumptions based on data limitations:
- Household consumption per capita is used as a proxy for disposable income.
- Transfers are assumed to have a marginal propensity to consume equal to one (i.e. households do not substitute foregone transfer income with other income).
- Disposable income is equally distributed within the household.
- A 10% administrative cost is assumed for cash transfers, scholarships and social pensions. Public works include 50% non-wage costs.
- Transfers are externally funded with no additional effects on the public budget.
- Transfers are perfectly targeted (inclusion and exclusion errors are assumed to be equal to zero).
- The supply side in the education sector responds immediately to an increasing demand (higher school attendance).

Assumptions based on the analytical and modelling framework:
- The model relies on the returns of human capital to income. At the household level the "allocation effect", measured by the maximum level of education defines the capacity for income generation activities.
- Structural changes affect the policy and base line scenarios in the same way (i.e. the net benefits are not affected).

Source: Mideros et al (2012).

The main limitations stem from the absence of financing aspects such as taxation, which should be included for a more realistic estimation of rates of return. The dynamic model is also limited to the return from human capital accumulation (approximated to education achievement) on household disposable income. RoR are most probably underestimated due to the exclusion of possible institutional, health improvements (e.g. nutrition), spillovers, and behavioural (non-income) effects. Moreover, the model does not include the effects of public works in terms of new infrastructure creation and livelihoods generation. In addition, regional multipliers could be studied using detailed consumption data, however the CSES does not provide economic information at the commune level and, therefore, spillovers and regional multipliers are not studied. Further extensions could include effects on total factor productivity and productive investments if data about firms and productive activities were available by sector and region.

Despite the aforementioned limitations, this study provides an analytical and methodological framework to move forward to make the business case for social protection. Nevertheless, it is important to note that the study does not attempt to analyse a specific effect, nor to study a detailed policy design which can be done using different methodologies, but to estimate potential economic returns in the medium and long term. In this sense the study deals with multiple effects, which are commonly analysed independently, while at the same time it provides information about costs and benefits. Of course, the model uses coefficients calculated from specific country data. It would have to be estimated for other countries, controlling as much as possible for their specific framework conditions. Moreover, the model estimates effects on human development variables but also economic returns which are normally not analysed due to methodological restrictions.

Three main limitations should be tackled in future studies. First, it is necessary to include financing aspects and their repercussions on costs and benefits. Second, it is important to account for supply side effects. This could be done by linking a microsimulation model at the firm level or aligning the model with a macro model. Finally, results should be compared with alternative economic investments in order to support informed policy decisions. However, while it is necessary to improve the model it is important to be careful with methodological complexities and to keep the model understandable for a general public and in order to have real influence on the policy making process.

4.3 Research process and research uptake

The study was executed in close cooperation with the Social Protection Coordination Unit (SPCU) of the Council for Agricultural and Rural Development (CARD) and UNICEF Cambodia. It is part of a country initiative to foster research on social protection and is guided by RGC's NSPS. As stated by the authors, the study 'provides evidence to support the design and implementation of the NSPS by estimating potential rates of return using ex-ante microsimulation techniques.' (Mideros et al. 2012, p. 83). The first step, coordinated by UNICEF, was to meet different partners to collect data and understand the different views and perceptions of various stakeholders regarding social protection in Cambodia. Furthermore, most of the research was done in-situ allowing for the regular involvement of stakeholders in the discussion of assumptions and policy options. A peer review process at various stages of the analysis ensured critical feedback by academic scholars and experts from international organisations. The report was validated in three different workshops with several development partners and ministries, including a final meeting with line cabinet members in September 2012. Next steps were established by the government to use the report together with the ILO costing studies to define specific actions for the implementation of the NSPS.

Furthermore the report was commented by UNICEF, the World Bank and the Asian Development Bank (ADB), which are potential donors for the NSPS. They consider this study as an important step to make the investment case for social protection in Cambodia. The study proposes an affordable (1.6% to 0.85 of GDP in period 1 and 20, respectively) basic package of social protection covering main life-cycle risks. It includes cash transfers for poor children, scholarships and public works – options already prioritized by the government –and promotes social pensions in order to approach a social protection floor.

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Concluding remarks: Overall, the study makes the case for non-contributory social protection in Cambodia, as well as in other developing countries. It shows that, on top of their social benefits, social transfers may be seen as an economic investment with a positive return in the mid-term. As such, social transfers may represent a valuable policy option to foster socioeconomic development in low- and middle-income countries. Modelling social transfers in a comprehensive way is data demanding, but there is a possibility to move forward to the estimation of rates of return using microsimulation models which can be designed to include different effects which are normally excluded in other methodological approaches. In the following section, we present and discuss possible policy implications for UNICEF and its partners.

5. DISCUSSING POLICY IMPLICATIONS AND FUTURE RESEARCH

This discussion paper is focused on the use of ex-ante cost-benefit analyses to make the investment case for non-contributory social protection. More specifically, this type of exercise can be approached from three different angles: i) as a method to help fill the global knowledge gap about the linkages of social protection with economic performance (the academic's perspective); ii) as an instrument to inform an evidence-based policy process (the policymaker's perspective); and iii) as a tool to mobilise extra resources for social protection – or possibly, to promote a certain approach to social protection (the advocate's perspective). Of course, these perspectives and objectives would often be convergent. However, it is important to keep these different perspectives in mind when assessing the appropriateness and usefulness of the exercise.

In the previous section we have illustrated the usefulness and the richness of a cost-benefit analysis that takes various sorts of impacts into account and evaluates the direct and indirect costs and benefits of particular policy measures. It helps understanding the effects of social protection policies, evaluating their effectiveness and efficiency and hopefully convincing decision makers of the opportunity of their interventions. In this section, we proceed to take a reality check in recognition of the fact that economic analysis is just one component of decision making, that cost-benefit analyses have their limitations, and that more work needs to be done. First, we examine the role cost-benefit analyses may actually play in national policymaking processes. Secondly, we reflect on a number of possible risks attached to an overuse of (or overreliance on) ex-ante cost-benefit analyses to inform public policy, and third, we point to some potentially interesting complementary research areas.

5.1 Informing national social protection policies

As interest for cost-benefit analyses seems to be growing, there is a need to better understand the role such analyses may actually play in national policymaking processes, and clarify the conditions for such analyses to be truly useful to decision-makers. To our knowledge, there has not been any specific study looking at the role of cost-benefit analysis findings in the shaping of national social protection policy in developing countries. Nor has there been any thorough assessment of the needs and demand for such studies.

Here, we present and discuss a few cases that help touch on and illustrate some of these issues. We discuss the potential for cost analyses in general, of which cost-benefit analysis is a particular case, to provide useful inputs to decision-making processes in regard to the implementation of non-contributory social protection in developing countries. Also, considering in particular the methodological challenges, cost implications and skills required to conduct such analyses, we confront such an approach to some other potential ways of influencing policymakers and support the extension of social protection policies.

Box 2. Cost analyses in efforts to shape social protection policies in Mozambique

Following violent riots brought on by rising costs of living, the Government of Mozambique introduced in 2008 expensive (1.3% of GDP in 2010) yet inefficient fuel and wheat subsidies. In contrast, only 0.5% of GDP was allocated to other forms of social protection, which include the national cash transfer programme 'Programa Subsidio de Alimentos' (PSA), covering only 8.3% of poor households. In response, UNICEF has been working towards the development of strategic social protection policies. Approval of the Regulation for Basic Social Security in December 2009 and the National Strategy for Basic Social Security (ENBSS) in April 2010 are essential milestones. However, negative attitudes regarding social cash transfers persisted among higher levels of Government, particularly within the Ministry of Finance. Social protection seemed to survive only within the limited sphere of the Ministry of Women and Social Action (MMAS). In this context, UNICEF embarked with other UN agencies and donors on reviewing and supporting the implementation of the ENBSS. This included joint technical support to the MMAS to undertake economic modelling on the costs of various social policy options.

Initial costing exercise. UNICEF commissioned Oxford Policy Management (OPM) to produce a paper grounded in evidence-based research to re-ignite advocacy efforts with the Government for expansion of social protection. OPM undertook a pre-feasibility study and costing analyses of three social protection reform options, using MICS data: a) scale-up of the PSA cash transfer amount to account for inflation; b) expansion of potential PSA beneficiaries such as child-headed households; and c) a conditional cash transfer (CCT) or public works programme (Pellerano 2010). The paper provided useful information to the Government through concrete costing of different social protection policy options that link any suggested programmatic response to required resources. The pre-feasibility and costing analysis report, coupled with a policy brief on CCT, gave UNICEF an opportunity to brief the new IMF Mozambique Country Director on the corresponding social protection options in Mozambique.

Social protection expenditure review. As part of joint efforts under the Social Protection Floor (SPF) initiative, UNICEF together with the ILO and the World Bank, undertook the review of the Basic Social Security programmes and the Social Protection Expenditure Review. The exercise contributed to improving decision-making around social protection by informing of (a) specific risks and vulnerabilities of the population by age group and gender; (b) gaps and overlaps within the social safety nets relative to such risks and vulnerabilities; (c) benefit incidence of selected programmes; and (d) inputs for the prioritization of Government action regarding basic social security.

Expanded set of costing tools. Further, with the ILO and the IMF, UNICEF developed an expanded set of costing tools to support ministries in determining the cost of implementing the basic elements of social protection under the SPF. In undertaking this exercise, UNICEF and its partners combined three sources of evidence: a) household-level data on demographic composition and wealth from the 2009 household survey; b) population projections by age and sex constructed by the National Institute of Statistics on the basis of the 2008 Census; c) projections of the macroeconomic scenario and fiscal aggregates, produced by the IMF. By combining these three sources, the costing model simulated the cost of a series of alternative policy options for 2012-2015. The model provides flexibility to compare alternative scenarios for eligibility, targeting, value, periodicity of the transfer and so on. The costing tool has two versions: a flexible version in data analysis software for internal background use and a simpler user-friendly Excel version to facilitate future planning and analysis.

The costing tool has supported the Government, and particularly the MMAS, in the design and costing of a holistic social protection system in line with ENSSB 2010. It deterred the potential scale-up of unsustainable and regressive Cesta Basica measures around fuel and food subsidies that were proposed early 2011. The costing tool was highly valued by the Government as it provided the Ministry of Planning and Development with evidence to substantiate arguments, including easy comparisons with the costs of other potential social protection interventions. By July 2011, the Government announced the Cesta Basica would not be implemented, bringing social protection into the political mainstream and opening up a political space for constructive debate and policy engagement. The costing tool also strengthened MMAS's position to petition for an expansion of the PSA, a proposal the Council of Ministers approved in September 2011. This resulted in the scaling-up of the monthly transfer amount as well as inclusion of additional vulnerable groups in the cash transfer programme, including child-headed households and orphans and vulnerable children.

Source: UNICEF (2011).

Box 3. Cost analyses in efforts to shape social protection policies in Senegal

Senegal is yet to adopt a large-scale national social transfer programme. Yet, discussions about this type of poverty reduction instrument can be tracked back to the development of the first Poverty Reduction Strategy Paper, when a civil society organisation suggested to provide transfers to people living with disabilities, as a way to prevent begging and support their children's education. A few years later, a member of the Ministry of Economy and Finance's Poverty Reduction Unit, freshly back from a World Bank conference on social transfers, developed a concept note for a conditional cash transfer programme (Dia 2006). The same year, an ILO-commissioned microsimulation study brought evidence on the cost-effectiveness of child grants and social pensions in Senegal (Gassmann and Behrendt 2006). But because none of these initiatives were followed up with sustained dialogue with the Government of Senegal, nothing materialised.

The issue came back in the national policy debate following the 2008 food, fuel and financial crisis. The IMF produced two interesting reviews: one revealing that the national food and energy subsidies were very expensive yet inefficient in reaching the poorest; and another showing that the amount of fiscal space had increased considerably since 2000 (IMF 2008b). This pushed the IMF to recommend the introduction of a well-targeted conditional cash transfer system as a much more cost-effective option to address both cyclical and structural threats to the well-being of poor households, and reduce poverty over time (IMF 2008a).

Subsequently, UNICEF Senegal commissioned a feasibility study which indicated that the fiscal burden of a national cash transfer programme would reduce from 1.7% of GDP in 2010 to 0.69% in 2050 (Samson and Cherrier 2009). That same year, the UNICEF West and Central Africa Regional Office published studies on fiscal space issues, conducted by ODI (Handley 2009) and OPM (Schoch *et al.* 2009). While also bringing country-specific evidence, it is felt that these later studies, carried out outside a national consultation framework, have not been very influential in Senegal. In contrast, the appointment of a social and economic policy specialist in the UNICEF Senegal office in early 2009 appears to have been very instrumental for moving the social protection agenda.

These efforts coincided with renewed interest for non-contributory social protection at the global level, with the announcement of the Social Protection Floor initiative as well as many donor-supported social transfer programmes in response to the food, fuel and financial crisis. In Senegal, the World Bank supported a nutrition-focused emergency cash transfer programme (NETS) implemented by a national agency (CLM), while the World Food Programme piloted food vouchers in urban areas. Dialogue for the introduction of a long-term national social transfer scheme continued between national policymakers and development partners. Targeting has been a major point of discussion, UNICEF advocating for (universal) child grants and the World Bank for poverty-based cash transfers.

In an attempt to bring new evidence in the debate, UNICEF Senegal commissioned an analysis of the cost feasibility and impact of several categorically-targeted options, using the ADePT-SP tool (Schnitzer 2011). This was complemented by a study of the implementation arrangements of the proposed targeting approach (Fall 2011). The use of the ADePT model generated robust evidence, which enabled UNICEF to engage a high level dialogue with the Ministry of Finance and other donors (the World Bank in particular) on targeting options. This strategy proved successful as it was eventually agreed to incorporate categorical indicators (household size, number of children under 15, presence of children under 5) in the envisioned Proxy-Means Test (PMT) formula. Later, the World Bank carried out a similar exercise, using 2012 household survey data and simulating different PMT-targeted options.

A national programme 'Bourses de Sécurité Familiales' (Family Security Grants) is expected to start in 2013 reaching 50,000 households in its first year, and 250,000 households by 2016-17. The new Directorate General for Social Protection was created under the Presidency, and endowed with 10 billion FCFA on the 2013 budget. It will be interesting to monitor how past experiences and studies contribute to inform the final design of the programme.

Source: Samson and Cherrier (2009); UNICEF (2011); personal communication with Rémy Pigois (UNICEF Senegal) on 21 December 2012.

Cost analyses may be very useful to support national policymaking processes. Essentially, it helps package an advocacy discourse for social protection into the language of people in charge of budget allocation, primarily concerned with value for money and financial sustainability. In Mozambique, the development of a costing tool by UNICEF enhanced the capacity of the ministry in charge of social affairs to engage with the Council of Ministers, and particularly with the Ministry of Finance, and make the financial case for an extension of the scope for implementation of the national social protection strategy (Box 2). In Senegal, the use of the ADePT model enabled UNICEF to produce robust evidence and engage a high-level dialogue with the Ministry of Finance and the World Bank (Box 3). In Ukraine, conducting cost analyses may be the required next step to bring UNICEF's policy and advocacy efforts to the next level. So far, UNICEF has been quite successful in promoting an integrated approach to social protection. These efforts, including a study by Baskott et al. (2011), contributed to the adoption of a reform plan for the national social protection system. But, even though law and standards were adopted, no budget was allocated, in part due to the significant cost implications attached to the reform plan. In this context, it may be appropriate for UNICEF to engage in cost analyses to provide a basis for further policy dialogue with national decision-makers.

A number of initial lessons emerge from these recent experiences in regard to the necessary conditions for cost analyses to be useful in supporting the extension of efficient, effective and sustainable social protection systems. First, the analysis needs to be part of a whole policy dialogue process, and follow-up with sustained in-country support. Second, timing is important. In Mozambique and Senegal, the strong partnerships built over time in the process with key ministries and development partners have proved invaluable as opportunities for high-level advocacy emerged as a result of the economic crisis. Third, the alternative policy options considered should be defined in close consultation with national stakeholders. An early involvement of decision-makers in the research process tends to increase research uptake. Fourth, the methodology used needs to be robust and transparent. An over-simplistic model, or a very partial approach (for instance, using inappropriate assumptions to favour a preferred result), would not be credible enough to provide a solid basis for discussion. Also, studies would need to be not only valid but such that their intended audiences believe that they are valid. This may require extra care about avoiding (apparent) conflict of interest (Scriven 1991).

In Egypt, Jordan and Morocco, UNICEF has recently engaged in an ambitious partnership with the PEP network to prepare investment cases for social protection. This is part of efforts to ensure that, as governments undergo subsidy reforms, the impacts on children are understood and anticipated, and the planned compensation packages are pro-children. The studies are expected to consider different pro-children social protection policy options and assess, on one hand, costs alone, on the other hand, impacts on social returns and cost-effectiveness but only in terms of poverty and inequality reduction.[10]

In South Africa, the Department of Social Development only recently started to develop different types of micro-simulation tools aimed at estimating the cost of the programmes. Many of these models are static rather than dynamic micro-simulation tools. This situation prevails in much of the

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[10] Personal communication with Roberto Benes (UNICEF MENARO) on 31 January 2013.

Southern Africa Development Community. Oxford Policy Management, supported by the Centre for the Analysis of South African Social Policy at the University of Oxford, is just about to finish a Social Budget for South Africa. They use a static tax-benefit micro-simulation tool to forecast social expenditures, combined with some rudimentary poverty/inequality measures of the impact of these social expenditures.[11] This lack of cost-benefit analysis tool did not stop the country from gradually expanding a now well-established social protection system. Political will in the first place, financial feasibility, and subsequent positive evidence of impact (as documented by Samson et al. (2004) for instance) might have been the key ingredients for policymakers to invest in social protection.

In Latin America, the evidence of positive impacts of social transfers on food consumption, school enrolment, healthcare, stunting, child labour, and illness rates, which has been widely circulated, has been crucial to building political support and ultimately led to the programme's expansion (Miller and Samson 2012). Generating robust context-specific empirical evidence of impact appears crucial to build political support for schemes and secure government and donor commitment to sustain and expand social protection programmes. This suggests that another promising strategy to promote social protection would be for development partners to further help develop an evaluation culture among national policymakers, as well as in-country know-how and capacities to use robust research methods to investigate both impacts and processes of social protection programmes, and generate local evidence.

But before evidence of impact, leaders' ideology and charisma may actually be key factors supporting the expansion of social protection. In Brazil, the momentum of the 2003 elections and President Lula da Silva's strong political will to eradicate hunger throughout the country was at the origin of the establishment and progressive consolidation of the integrated 'Fome Zero' strategy, within which the influential 'Bolsa Família' scheme was developed. Interestingly, this strategy was built on existing programmes, rather than from scratch. This suggests that acknowledging and capitalising on what exists might be more successful than trying to transplant innovative solutions from elsewhere.

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[11] Personal communication with Fidelis Hove (OPM) on 20 December 2012.

Box 4. The origins of Lesotho's Old Age Pension scheme

Lesotho, a small country in southern Africa, is an example of a least developed country that introduced a kind of social protection for its older citizens. The Old Age Pension scheme was introduced in November 2004. It was almost entirely an initiative from the Government of Lesotho, implemented without any pressure or support from international financial institutions or donor organisations.

The first steps towards a pension scheme in Lesotho were taken by the left-wing LCD Government on the restoration of democracy in 1993, when a plan for a universal pension appeared on the Manifesto of the ruling party. Chiefs were asked to register all people over 60 in order to calculate the costs of a universal pension scheme for older people, providing them with M450 per month. But this idea never came to practice. Some Chiefs had used the registration for their unqualified relatives and friends instead of the elderly, tempted by the amount of money from bribes that they could cash when 'helping' friends. This contributed to suspension of further development plans for a universal pension scheme. The pension was not officially mentioned anymore by the Government or political party until the General Elections of 2002 when the idea for a pension reappeared on some political programmes.

The demand-side of politics. In 2002 the plan for a pension reappeared most clearly on the Manifesto of the LCD, but all parties backed the plan. The LCD promised a pension, but with the condition that the financial resources of the government were sufficient to implement a universal scheme. During the first two years of the renewed LCD Government, following the elections, a pension scheme did not seem feasible. But after the elections, the first signs of pressure from the public arose. Since the registration in 1993, many older people saw a pension as something they were entitled to; as their right; as something promised to them. This feeling arose also because of the means-tested Pension Grant most older people in neighbouring South Africa receive. This belief was strengthened in 1998, when it was known that the Government had commissioned a consultancy study on the costs of granting a pension to all those aged 70 and over. The only organization advocating the rights of the elderly (MWSCA) started to put pressure on the Prime Minister for the implementation of a pension scheme. Finally in 2004 a pension scheme was included in the Budget Speech for 2004-5. Still today, however, it is unclear what the influence of the MWSCA was in the process towards the pension scheme, but is assumed to have been minimal.

The supply-side of politics. The lack of significant and articulated pressure from the demand side of politics suggests that the pension scheme was completely supply-driven. Supply-driven social policies can be used by governments for different reasons. They can be used to win votes during elections, to consolidate power or to realize ideological goals aspired by the government.

In the first place the pension policy in Lesotho seemed to be the latter. First of all, the pension was mentioned several times as a 'helping hand' for older people, because without them Lesotho would not have been what it is today. A second argument during the debate was the thirst to alleviate poverty through the pension cash transfer. A third recurring subject with regard to the pension was reducing the marginalization of older people from their right to social protection. These three points are in line with the Millennium Development Goals, and it could be argued that the implementation of the pension was a tool to persuade the international community of the Government of Lesotho's commitment to reduce poverty and to meet the MDG's. But the expected exposure to the international community clearly never occurred. That the pension was used by the Government to get a good name in the international community or to attract more donors to invest in Lesotho seems therefore rather far-fetched. It seems more likely that, although the LCD Government of Lesotho used the policy as a tool to consolidate power, the choice for the pension was a sincere attempt to improve the quality of life of older people and their relatives.

In contrast, the increase of the pension amount in 2007 can be seen as a tool to keep the society of Lesotho stable and to consolidate power. During the 2002 elections, the pension promise was not of major influence on the people's voting behaviour. In addition, all the opposition parties backed the plan of a universal pension scheme. This also diminished the use of the new policy as a pivotal vote-winning tool. During the 2007 elections, the situation was different. The establishment of the All Basotho Convention (ABC) party in 2006, a powerful opposition party, made the country's stability wobble. A review of the pension amount was announced just before the 2007 elections, and the actual increase realised right after the LCD was confirmed in power.

Source; Hagen (2008).

Lesotho is another case where leadership, in this case Prime Minister Mosisili's headship, was decisive for the expansion of social protection. Furthermore, it is the interesting case of a country faced with limited resources, which nevertheless introduced, without donor support, a national social transfer programme. The political environment played a major role during the formulation and implementation process of the pension policy (Hagen 2008) (Box 4).

These cases are reminders, if needed, that policymaking is a very complex matter and that evidence on the rates of return on investment is only one element among many that may help trigger the expansion of a social protection system. Cost-benefit analyses may be an influencing factor. But other considerations, such as path dependency, local preferences and acceptability, and local capacities will also affect the choice of an approach and specific social protection instruments. And we could legitimately suspect that most decisions around social protection are based on political considerations much more than on (allegedly dispassionate) investment analyses. Ultimately the sustainability of social protection programmes is an issue of political economy.[12] A review of successful experiences where research results did inform policy suggests that a research strategy needs to be informed by the policy/political context (and respond to specific policymakers' needs) for evidence to inform policy (Carden 2009). Adopting a 'demand-driven' approach to building and analysing the evidence base would be more likely to support evidence-informed policy (Miller and Samson 2012). This suggests that carrying out a proper political economy analysis might be a useful exercise to develop a capacity to read and work with the environment (who are the supporters and what is their agenda, who needs to be influenced and how, what evidence may be needed, etc.) and define research agenda and advocacy (research uptake) strategy accordingly. For instance, considerations about long-term economic impacts may be valuable to high-level civil servants, civil society and social lobbyists, but less so to politicians (who work on short political cycles). Further, it highlights the need to research more the social (social cohesion) and political (support from the electorate) returns of social protection, in addition to economic (pro-poor growth) ones, if the ultimate objective is to generate political will for the expansion of social protection.[13]

5.2 Final considerations on the use of cost-benefit analyses

Cost-benefit analyses can help better understand how social protection investments may generate economic returns in the mid- and long-term. This may influence policymakers all around the world to promote social protection floors for the poor and vulnerable. But the rising interest for cost-benefit analyses demands to take into account different aspects. Here, we briefly review a few of them:

- *Risk of a narrow focus on poverty reduction*. Some authors challenge what they see as the emerging social protection paradigm: a strong focus on poverty reduction and on providing support to the poorest; a focus on risk and vulnerability; cash transfer as the policy instrument of choice; a preference for means-testing; and a disconnection between the

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[12] For a discussion of the political economy aspects of social protection, see, e.g., Graham (2002), Tabor (2002), Andrews et al. (2012).
[13] Interestingly, UNRISD recently launched a research project on the 'politics of domestic resource mobilization for social development'. The project seeks to contribute to global debates on the political and institutional contexts that enable poor countries to mobilize domestic resources for social development. It will examine the processes and mechanisms that connect the politics of resource mobilization and demands for social provision; changes in state-citizen and donor-recipient relations associated with resource mobilization and allocation; and governance reforms that can lead to improved and sustainable revenue yields and services. For more information, visit: http://www.unrisd.org/80256B3C005BB128/(httpProjects)/D8BC0D08FA1BD10BC125795F004C812F?OpenDocument.

social and the broader economic aspects of development policy-making (Adésínà 2010; Barrientos 2010; Deacon 2010). Therefore, it is important to estimate economic benefits (rates of return) in the mid- and long-term and to analyse their implications at the macro level.

- *Risk of promoting a fragmented approach to social protection*. The case has been argued from a conceptual level for the need to move towards integrated social protection system approaches (UNICEF 2012; World Bank 2012). Simple cost-benefit analyses might push users to consider and discuss social transfer policy options on their own, without considering any synergies with social services for instance. However, the multiple effects of social transfers may be estimated considering that if implemented together with other complementary policies benefits and returns may be higher.

- *Risk of distracting attention from implementation research*. The operationalisation of a systems-approach to social protection remains unclear and requires further research. Deaton (2010) argues that learning about development requires investigating mechanisms: 'Finding out about how people in low-income countries can and do escape from poverty is unlikely to come from the empirical evaluation of actual projects or programs, whether through randomized trials or econometric methods that are designed to extract defensible causal inferences, unless such analysis tries to discover why projects work rather than whether they work – however important the latter might be for purposes of auditing.' In this perspective comparative analyses may be useful to identify under what conditions different social protection investments should be chosen.

- *Risk of distracting attention from political economy*. Linked to the above, and as already mentioned, more attention needs to be paid to political economy issues. The use of cost-benefit analyses to inform policies should not distract development partners from policy processes. Cost-benefit analyses and the estimation of rates of return should be utilized to answer specific questions raised during the policy process. Several agencies are developing work on the political economy of social protection, exploring the importance of factors other than cost, on programme performance, and financing.

Furthermore, the use of cost-benefit analysis as part of efforts to convince national decision-makers to allocate (more) resources to non-contributory social protection should avoid a linear perspective of policymaking processes. The intervention strategy promoted in the Social Protection Floor manual as a whole tends to reflect a linear approach to policy (ILO and WHO 2009a). Such an approach 'assumes that policymakers approach the issues rationally, going through each logical stage of the process, and carefully considering all relevant information. […] There is much evidence to suggest that this model is far from reality.' (Sutton 1999, p. 9) Several studies already suggest serious limitations in the capacity of development partners to promote local ownership around social transfers, and recommend paying more attention to political dimensions (Hickey *et al.* 2009; Holmqvist 2010; Niño-Zarazúa *et al.* 2010; Schüring and Lawson-McDowall 2011).

Structural models, like the RoR analysis for Cambodia, have the potential to incorporate other social and economic effects. They extend the analysis from a pure focus on costs to the potential benefits to be gained, though mainly in economic terms. Research could also be launched to assess the possibility of adopting alternative approaches and methods for an analysis of perceived 'costs'

and 'impacts' as experienced by citizens. Furthermore, the consideration of marginal social welfare weights attributed to redistribution would allow the reflection of a society's view for justice (Saez and Stantcheva, 2013). Additional income for poor individuals (receiving a social transfer) may more than compensate the loss of non-poor individuals (paying for social transfers) in terms of social welfare. As mentioned, there are other aspects that could justify a social protection policy, including social and political impacts (community cohesion, citizens' happiness, etc.). The use of complex modelling for cost-benefit analyses might also present the risk of over-relying on expert knowledge to inform policy, at the expense of citizens' engagement in policymaking processes. A cost-utility analysis approach, including participatory research methods could be investigated as a complementary way to generate greater local buy-in, more innovative context-specific thinking, and better attention to political returns (citizens' satisfaction).

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Concluding remarks: Making the investment case of non-contributory social protection may help to fill a global knowledge gap, and to mobilize resources. However, the effects on social outcomes and a human rights perspective should not be neglected as arguments to push in favour of social protection. Different methodologies can be used for ex-ante analyses of social protection interventions, the choice depending on the objectives of the study. There is no one methodology to answer all questions, and any model is eventually just a simplification of real life. Ex-ante cost analyses can indeed influence policy makers but early involvement and follow up is needed to guarantee implementation. In the end, investing in social protection remains a matter of political economy. Without political will, social protection will not be advanced irrespective of the available evidence.

6. FINAL REMARKS

Social protection includes different sets of public and private interventions to prevent, reduce and eliminate economic risks and social vulnerabilities. Social protection is a human right as stated in articles 22 and 25 of the Universal Declaration of Human Rights. Currently, social protection is getting increasing support for implementation and scaling up in developing countries. However, the presence of informal labour markets and low coverage rates calls for the introduction of non-contributory schemes to guarantee a basic protection level for everybody.

Despite the large literature about positive effects on social outcomes, many governments are yet to be convinced. In this sense it is especially important to discuss different methodological approaches that can help to provide information for the policy decisions. Ex-ante cost analysis is being increasingly used, but there is still a gap with respect to the economic returns of social protection investments. Social protection may help protect human capital and other productive assets, generate local economy effects, stabilize aggregate demand, and improve social cohesion and institutional changes.

A lot of analytical work has been done over the past contributing to a large evidence base. It mainly focused on static, immediate effects, which is not per se a shortcoming. It mainly focused on costs and affordability, since benefits are often perceived as 'immaterial'. Still, there is a general understanding that the arguments in favour of social protection are not yet convincing enough for national policy makers of developing countries. There is a need to establish a compelling link between costs and benefits, taking into account the time needed to earn the investments back. Hence, to treat social protection as a business case.

A recent study estimates rates of return for non-contributory social protection in Cambodia. It shows that, on top of their social benefits, social transfers may be seen as an economic investment with a positive return in the mid-term. As such, social transfers may represent a valuable policy option to foster socioeconomic development in low- and middle-income countries. Modelling social transfers in a comprehensive way is data demanding, but there is a possibility to move forward to the estimation of rates of return using microsimulation models which can be designed to include different effects which are normally excluded in other methodological approaches. The study provides a useful analytical and methodological framework which can be expanded and replicated in different countries. However, modelling economic returns of social protection is highly data demanding, while at the same time it needs a balance between robustness and simplicity to influence policy decisions.

Making the investment case of non-contributory social protection may help fill a global knowledge gap and mobilize resources. However, the effects on social outcomes and a human rights perspective should not be neglected as an argument to push in favour of social protection. Different methodologies can be used for ex-ante analysis of social protection interventions, the choice depending on the objectives of the study. There is no one methodology to answer any questions, and any model is just a simplification of real life. Ex-ante cost analysis can indeed influence policy makers but early involvement and follow up is needed to guarantee implementation. In the end, investing in social protection remains a matter of political will.

APPENDIX 1. OVERVIEW OF MAIN MODELS USED FOR EX-ANTE COST ANALYSES IN NON-CONTRIBUTORY SOCIAL PROTECTION POLICY

Model	Organisation	Description	Input Data	Measure of Cost	Measure of Outcomes	Ratio
Pensions Calculator[i]	HelpAge (2010)	Easy-to-use online calculator returning the annual cost of a universal pension scheme in a given country, on the basis of variable age of eligibility and benefit level and fixed admin costs (5% of total transfer costs).	Policy parameters (eligible age, benefit level)	Annual cost of a hypothetic universal pension scheme at scale, expressed in currency and percentage of GDP.	None	None
Social Protection Financing Model	DFID, ODI and EPRI (2010)	Simple Excel spreadsheet providing a rough idea on the impact in terms of poverty gap reduction that can be expected from a national cash transfer scheme (or conversely on the benefit size required to reach a given poverty gap reduction).	Policy parameters (target group, benefit level, administrative cost, etc.)	Annual cost of a hypothetic cash transfer scheme at scale, expressed in currency and percentage of GNI.	Poverty gap	None
Basic Social Protection Tool[ii]	ILO (2007)	User-friendly tool allowing users to make 30-year projections of the fiscal cost of implementing a basic set of social protection programmes, as well as the external funds required to achieve SPF objectives given certain fiscal and macroeconomic data; an additional distribution module estimates the extent of poverty reduction through the selected package.	Demographic parameters, macro-economic parameters and policy parameters	Annual cost of a hypothetic social protection package at scale, expressed in local currency, percentage of GDP, percentage of government revenue, and percentage of government expenditure.	Poverty gap	None
Social Protection Floor Costing Tool[iii]	UNICEF and ILO (2010)	Interactive Excel spreadsheet allowing users to compare different social protection policy options (old-age pensions, child benefits, disability benefits, orphan benefits, education stipends, birth lump-sum benefits, youth labour market programmes, and unemployment programmes) according to their cost and, to a lesser extent, to their impact on income poverty.	Both historical and projected national statistics on population, labour market, economy Policy parameters (target group, benefit level, administrative costs, etc.)	Annual cost of a hypothetic social protection package at scale, expressed in local currency, percentage of GDP, percentage of government revenue, and percentage of government expenditure.	Poverty gap	None

Model	Organisation	Description	Input Data	Measure of Cost	Measure of Outcomes	Ratio
Rapid Assessment Protocol (RAP)[iii]	ILO (2010)	Excel workbook aimed at providing a basis for discussing and simulating alternative financing options and fiscal space – the construction of the model goes hand-in-hand with a national dialogue process involving national authorities and other actors in social protection.	Macro-level data for economic and government statistics Administrative and national household survey data for labour market and social security programmes data	Annual costs of alternative social protection packages at scale, expressed in local currency, percentage of GDP, percentage of government revenue, and percentage of government expenditure.	None	None
Rapid Assessment Protocol Plus (RAP+)[iii]	ILO (2011)	Excel workbook aimed to provide users with a more refined estimate of the number of beneficiaries targeted and the cost of the benefits proposed, as well as with estimates of the hypothetical impact of alternative benefit packages on poverty.	Micro-level, household-level data	Annual costs of alternative social protection packages at scale, expressed in local currency, percentage of GDP, percentage of government revenue, and percentage of government expenditure.	Poverty headcount Poverty gap	None
Social Protection Expenditure and Performance Review (SPER)[iv] and Social Budget Model	ILO (2000)	Methodology for conducting an analysis of existing contributory and non-contributory social protection schemes, social protection coverage gaps, and extension strategies over a 5-20 year period (contributing to internationally comparable statistics on social protection).	National statistics, national administrative data, household survey data	Past, current and projected costs of existing social protection programmes, expressed in local currency, percentage of GDP, percentage of government revenue, and percentage of government expenditure.	Indicators of system performance (e.g. on effectiveness, efficiency, coverage and adequacy)	None
EPRI microsimulation model	EPRI (2004)	Static microsimulation model developed to assess the social and economic impacts of a social transfer programme or package.	Household survey data	Annual cost of hypothetic cash transfer schemes at scale, expressed in currency and percentage of GNI.	Poverty headcount Poverty gap	Poverty gap reduction per monetary unit invested

Model	Organisation	Description	Input Data	Measure of Cost	Measure of Outcomes	Ratio
Automated Development Economics Poverty Tables software Social Protection module (ADePT-SP)[v]	World Bank (2008)	Statistical software allowing users to: easily generate reports using household survey data (all presented in print-ready, standardised tables and charts); simulate the impact of economic shocks, farm subsidies, cash transfers, and other policy instruments on poverty, inequality and labour; examine how beneficiaries/benefits of social protection programmes are distributed across quintiles, deciles or other population groups; simulate the distributional impact of new/restructured programmes (performing sensitivity analysis with different consumption counterfactuals; generating estimates with correct standard errors; and producing statistics that allow comparisons between survey and administrative data).	Micro-level data from various types of household surveys	None	Poverty Inequality Labour	None
Marginal Budgeting for Bottlenecks (MBB) model, Health tool, version 5.6[vi]	World Bank, UNICEF, AfDB (2011)	Mathematical results-based planning and budgeting method to simulate varying configurations of service delivery modes to expand access and measures to encourage usage (mainstream and equity-focus approach) considering high-impact intervention packages.	Disaggregated data on population profile, epidemiological profile, intervention coverage. Macroeconomic parameters International evidence on intervention impact (e.g. LiST).	Estimated cost of intervention strategy in US$	Reductions of deaths and stunting in children under 5 years of age	Number of under-5 deaths and stunting cases averted per US$1 million invested

Model	Organisation	Description	Input Data	Measure of Cost	Measure of Outcomes	Ratio
Business Case Economic Appraisal section	DFID (2011)	Approach to mathematical modelling for estimating costs and benefits over time and assessing value for money for alternative programme design options.	Various incl. national indicators, international evidence	Ingredient method, project budget lines	Depending on programme and context (poverty, DALYs, etc.)	Cost-Transfer Ratio Net Present Value Benefit-Cost Ratio
OPM econometric model (used in Côte d'Ivoire)	OPM (2011)	Econometric model to estimate cost, impact, cost-effectiveness, targeting efficiency, and administrative and budgetary feasibility of policy options for developing a system of social transfers.	Household survey data	Annual cost of cash transfer alternatives at scale, expressed in currency and percentage of GDP.	Monetary poverty School attendance Child labour Use of health services	Cost in local currency of reducing the monetary poverty gap by one percentage point
PEP-1-t model[vii]	PEP (2010)	Complex methodology, linking a CGE model to simulate the effects of the global crisis on a country's national economy to a micro-level household model, using national household survey data to simulate both the impacts of the crisis and the impacts of alternative policy measures on child welfare variables.	Household survey data	None	Monetary poverty Caloric poverty School participation Child labour Access to health service	None
Rate of Return	MGSoG (2012)	Model combining i) a static microsimulation model to estimate the direct (distributional) effects of social transfers on poverty and inequality; ii) empirical regression models to estimate the behavioural (income) effects of social transfers as well as the returns of school achievement on household disposable income; iii) a dynamic microsimulation model to estimate the economic rates of return of a basic social transfer package over 20 periods based on the effects on household consumption.	Household survey data	Annual costs of alternative policy options and a proposed social protection package at scale, expressed in local currency and percentage of GDP.	Monetary poverty Monetary inequality School achievement Nutrition Labour participation Labour supply Household income	Economic Rate of Return

i   For more information on the Pensions Calculator, visit: http://www.pension-watch.net/about-social-pensions/about-social-pensions/social-pensions-database/

ii   For more information on the Basic Social Protection Tool, visit: http://www.socialsecurityextension.org/gimi/gess/ShowTheme.do?tid=447

iii   For more information on the ILO Costing and Assessment Tools, visit: http://www.socialprotectionfloor-gateway.org/24.htm

iv   For more information on the SPER, visit: http://www.ilo.org/public/english/protection/secsoc/areas/stat/spers.htm

v   For more information on ADePT, visit: http://www.worldbank.org/adept

vi   For more information on the MBB tool, visit: http://www.devinfolive.info/mbb/mbbsupport/

vii   For more information on the PEP-1-t model, visit: http://www.pep-net.org/programs/mpia/pep-standard-cge-models/pep-1-t-single-country-recursive-dynamic-version/

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