

# Severe poverty and growth: a macro-micro analysis

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## Executive summary

The first section of this paper reviews the relationship of growth performance, by country and region, to various definitions of poverty and in particular to *severe* poverty. Results for the period since 1990 indicate:

- (i) a perverse (i.e. *positive*) relationship between growth and headcount poverty in some regions, notably Russia, much of eastern Europe and much of sub-Saharan Africa. For those regions, therefore, growth is not only not enough, but actually counter-productive: the orthodox Dollar-Kraay relationship does not hold even in relation to headcount poverty;
- (ii) a tendency for the poverty elasticity to be very variable between different definitions of poverty, and, somewhat counter-intuitively, to be higher (i.e. more responsive) in relation to measures of *severe* poverty than in relation to standard measures of poverty;
- (iii) a tendency for the responsiveness of several of these ‘poverties’ to growth to vary according to specific structural characteristics that can be influenced by policy. Hanmer and Naschold (2000) and others have emphasised *inequality* as such a characteristic, which prejudices the chances of growth being pro-poor. On the evidence of our work so far (under the DFID *Pro-poor growth* programme, etc) we would add to this list, in particular,
  - demand pressure and labour-intensity at the bottom end of the labour market, which provides a livelihood for the poorest people;
  - the sectoral composition of output, which influences the ability of growth to provide such livelihoods, through the labour market and otherwise, to poor people; and
  - social capital endowments, which like all forms of capital are needed by poor people to increase their productivity, but which for reasons explained in the text are needed first, before human and physical capital kick in.

Following from this, the poverty elasticity can be influenced by the mix of government (and of course other) expenditure, and other institutional incentives, which bear on these variables. In particular, we have devised a ‘pro-poor expenditure index’ which assesses the pro-poor content of government expenditure. We find that the impact of growth, and relevantly for DFID also overseas aid, in relation to poverty<sup>1</sup> is positively influenced by this variable, and also by measures of labour-intensity and social capital.

The second section examines the same question of the varying growth-elasticity of poverty through a micro, case-study lens. Initially it looks at the *outliers* – those country cases where growth was, and was not, associated with an improvement in the welfare of the poorest. Then it focuses more sharply on specific countries: at this stage, Uganda, where the macro-poverty elasticity was ‘orthodox’, and Bolivia, where it was perverse. Within these ‘focus countries’, the approach is two-part:

- (i) an examination of the relationship between chronic poverty and growth over the last five to seven years, and how institutions and policies have impinged on this; and
- (ii) within specific localities, depth interviews with people who have exited and failed to exit from chronic poverty, with a view to understanding what combination of policy, institutional and other factors, in their view and that of other key informants, are responsible for this difference in outcomes. This approach enables us to examine more thoroughly than at macro-level the attitudes and causal processes which are associated with escape and non-escape from poverty.

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<sup>1</sup> National and international headcount and mortality definitions.

Three themes from the macro-analysis resurface here:

- (i) the key importance of *deepening labour markets* in the process of exit from severe poverty – for many of the chronically poor, casual labour income is the only income they have. In Bolivia, ethnic discrimination is an important factor limiting the ability of labour markets to deliver pro-poor growth.
- (ii) The importance of reducing the risks to which the severely poor are exposed; including interpersonal risks, against which *social capital* is a defence. In the limit, if social capital breaks down completely, a vicious circle of collapsing trust and open conflict, within communities and between communities and the state, may destroy the possibilities for growth to become pro-poor, as occurred in Bolivia.
- (iii) the importance of *smallholder agricultural growth*, and services which facilitate this, in sustaining the poverty elasticity. Especially in Uganda, those exiting from poverty had significantly better access to extension than those remaining poor and entering into poverty.

However, we are also able to identify other ‘more micro’ factors which are associated with the probability of poverty transitions and thence with the poverty elasticity:

- (iv) At the micro-level, *resilience and perseverance in face of adversity* are key determinants of exit from poverty. By extension, the availability of facilities which will encourage those afflicted to persevere rather than give up and retreat into subsistence is highly relevant.
- (v) The importance of *complementarities* between policies and institutions as means of achieving sustainable exit from extreme poverty. Many of the Ugandan micro-farmers (especially women) who did this in our sample had received extension support and group savings at the same time as new seeds. In Bolivia, the only microfinance institutions which have been able to reach the extreme poor have also supplied training and a range of complementary services of which health, on the evidence of our interviews, is the most important. A programme of complementary actions intended to stimulate the expansion of rural labour markets – possibly the key constraint to poverty in Africa – is presented as Appendix 1.
- (vi) The potential political importance of ‘watching the right poverty indicators’. Headcount poverty in Bolivia was declining until 1999 (and growth very satisfactory), but core poverty, in particular that of the ethnic Aymara and Quechua, continued to increase. The causes of the political violence in Bolivia in February and October 2003, which killed more than 100 people, are complex but the marginalisation of ethnic Indian populations is in all probability very significant.

In short, in many regions and countries, ‘growth is not nearly enough’ to reduce severe poverty, and this fact has political significance, but we know something about the policy and institutional factors which may enable exit from such poverty. These include appropriate risk-reduction institutions, labour market deepening, agricultural intensification (particularly in Africa), the availability of support networks, and a pro-poor pattern of public expenditure.

## 1. Introduction

For many years, evidence has existed that high rates of growth might not, in some cases, translate into welfare gains for poor people. One of the first demonstrations of this was the paper by Fishlow (1972) which showed that in Brazil, over the fast-growth decade of the 1960s, inequality had increased and the living standards of the lowest income groups had deteriorated. This evidence was one of the main pressures behind the efforts of the World Bank and its president, Robert McNamara, to engineer *Redistribution with Growth* (Chenery et al 1974),<sup>2</sup> in particular through a wave of pro-poor aid policies which sought, later in the 1970s, to redistribute resources towards poorer countries and in particular towards small-farm agriculture.

During the second wave of pro-poor policies, from 1990 onward, the Bank's earlier scepticism about the distributional potential of growth has been less in evidence. In its most famous essay about the link between the two variables, Dollar and Kraay (2001, 2003) not only argue that, across low-income countries as a whole, there is a one-to-one positive relationship between growth and the welfare of the bottom quintile of the population, but also that attempts to improve this ratio (the 'poverty elasticity') by increases in social expenditures might be ineffective,<sup>3</sup> which has led many people inside and outside the Bank to see growth as the major highway to poverty reduction, and some if not most attempts to enhance its pro-poor impact as ineffective; we may call this approach the 'growth is (nearly) enough thesis'. This essay has given rise to a large literature, of which three strands are especially significant.

In the first place, there are critiques of Dollar and Kraay's *sample selection*, which pieces together three different datasets (from Deininger and Squire 1996, Ravallion and Chen 1997, and the WIDER World Income Inequality Database) and of their *econometric procedure* (e.g. Lubker et al, 2001). None of the critiques published so far, however, produces a (global) estimate of poverty elasticity which diverges very far from the central estimate of minus one produced by Dollar and Kraay; in particular, the review by Eastwood and Lipton (2001: table on page 12), considers thirteen estimates, all of which are within the range -0.79 to -1.23. On all of these estimates, in other words, growth always looks good for the poor, whatever else may influence their welfare.

Secondly, however, there has been a range of attempts to decompose global experience into studies of particular regions, and for each region to seek to discover how far the central estimate of poverty elasticity is sensitive to changes in the definition of poverty. For example, just as the study of macroeconomic policy has been transformed by considering whether different policies are needed for the long-term and the short-term unemployed, so development policy is now facing up in similar manner to the possibility that different therapies are required for transient and chronic poverty, for severe forms of poverty such as famine and for milder forms (Jalan and Ravallion 2001, *World Development* 2003). So far there has been relatively little assessment of the extent to which the Dollar-Kraay result is robust in face of different specifications, but even an elementary decomposition of this result

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<sup>2</sup> This book begins: 'It is now clear that more than a decade of rapid growth in underdeveloped countries has been of little or no benefit to perhaps a third of their population' (p xiii); it is unlikely that today's Bank would commit itself to such an uncompromising statement.

<sup>3</sup> 'In the regression with social spending, we also include overall government consumption in order to capture both the level and compositional effects of government spending. Overall government spending remains negatively associated with incomes of the poor, and the share of this spending devoted to health and education does not enter significantly. This may not be very surprising, since in many developing countries, these expenditures often benefit the middle class and rich primarily, and the simple share of public spending on the social sectors is not a good measure of whether government policy and spending is particularly pro-poor'. Dollar and Kraay 2001, p.31.

**Table 1 Growth and poverty reduction by region**

Regions	(1) Poverty reduction 1990- 99 (percentage points/year) (a)	(2) Growth GDP pc 1990-99 (percentage points/year) (b)	(3) = (1)/(2) Poverty reduction per unit of growth (national poverty line)	(4) Poverty reduction per unit of growth (international poverty line)
Sub-Sah. Africa	-1.02	0.47	-2.17	0.79
E. Asia/Pacific	1.05	7.18	0.15	0.86
M. East/N. Africa	0.23	0.66	0.35	
L. America/Car.	0.23	1.23	0.19	1.76
E. Europe/C. Asia	-0.68	0.13	-5.23	
S. Asia	2.50	3.33	0.75	0.86
<b>Developing World</b>	<b>0.92</b>	<b>3.81</b>	<b>0.24</b>	<b>0.97</b>

*Note:* Calculations are based on annualised reductions in country poverty headcount percentages (using as the poverty line either \$1/day or a national one, as specified) using population shares as weights.

*Data sources:* (a) World Bank Poverty Monitoring Database, (b) World Development Indicators 2003 (data arrays used here are presented in Table A2).

between continents and poverty definitions yields disturbing results. For example, for the period 1990-99, as shown in Table 1, poverty elasticities calculated using *international* poverty lines are less than a third what they are at *national* poverty lines, and for two regions of the world, sub-Saharan Africa and eastern Europe, they are *positive*, suggesting that poverty, over the period indicated, increases as growth increases.<sup>4</sup> For people in these regions, clearly, growth is not nearly enough to reduce poverty.

Thirdly, there has been an attempt to go beneath bare poverty elasticity data to understand what variables, and in particular what factors that are amenable to change by policy-makers, are capable of altering the poverty elasticity and producing a better deal for the poor from a given level and pattern of growth. The main consensus finding so far from this strand of the literature (Hanmer and Naschold, 2000; Ravallion 2001; Epaulard 2003) is that *inequality* has a tendency to depress the poverty elasticity because of the various links between inequality and poverty.<sup>5</sup> However, inequality may not be easy to influence directly, and the question therefore arises of what additional handles can be manipulated which will influence severe poverty. As one approach, we have argued (Mosley, Hudson and Verschoor, 2004) that *public expenditure patterns*, which are course are easily alterable by government, have an important impact on the pro-poor content of growth; and other instrument variables, for example population control and land distribution, have been suggested by Eastwood and Lipton (2001). However, one suspects that this is only the tip of the iceberg: because of the preoccupation of the earlier literature with establishing whether growth was or was not good for the poor, the various contributory processes by which it can be made better by policy have not been much explored with modern-day data, and there remains a lot to discover. In particular, policy impact may interact with the problem of poverty definition discussed above, and as suggested by Hulme and Shepherd (2003) the policies and policy combinations needed to pull people out of chronic and severe poverty may be very different from the

<sup>4</sup> The paper by Epaulard (2003) also finds that some episodes of growth and decline (in her sample, 11 episodes out of 99) were associated with a movement of poverty in a 'perverse' direction; and that high poverty elasticities, as in Table 1, were commoner among middle-income countries, and indeed had a tendency to rise with income.

<sup>5</sup> Several of these links were uncovered by the team which compiled the 2000 *World Development Report*; for example the proposition that inequality depresses demand and creates higher risks of civil conflict, which in turn depresses growth.

policies needed to pull them out of conjunctural poverty – as the 1990s literature on ‘mitigating the social costs of adjustment’ demonstrated.

The aim in this paper is to develop the second and third lines of inquiry in an integrated manner. We begin in Section 2, following Ravallion’s approach (2001) by ‘trying to get beyond averages’, and in particular by trying to look behind the superficial appearance of Table 1 which suggests, going back to Fishlow’s insight of thirty-five years ago, that for many large and significant regions and categories of poverty, growth is doing little or no good, which may in turn have severe political consequences. Any such evidence of past trends, however, begs the question of what can be done in practical terms to make growth more pro-poor and in particular to reduce the most severe and hard-to-access forms of poverty, and we therefore go on to correlate poverty dynamics with a range of policy variables. In Section 2 this exercise is initiated by attaching policy terms to aggregative regressions, and in Section 3 we combine this approach with a case-study methodology in which we examine the determinants of exit from poverty in specific countries. The concluding Section 4 examines the implications for policy and for the analysis of growth.

## 2. Determinants of the elasticity of ‘severe poverty’ : theory and evidence

Tautologically, growth will reduce poverty in a particular region if, on balance, it takes a positive number of individuals across an agreed threshold of deprivation. It does this by augmenting specified parts of their livelihood, some of which may be amenable to changes in policy. Formally, therefore, if  $P$  is the poverty indicator chosen,  $Y_1, \dots, Y_n$  are components of poor people’s income and  $X_1, \dots, X_n$  are policy variables which are capable of influencing these components, then the ‘poverty elasticity’,  $\frac{\partial \log P}{\partial \log Y}$ , can be reduced, either globally or in any specific country environment, to:

$$(1) \frac{\partial \log P}{\partial \log Y} = \sum \frac{\partial \log P}{\partial (\log) Y_1} \frac{\partial (\log) Y_1}{\partial X_1} + \dots + \frac{\partial \log P}{\partial (\log) Y_n} \frac{\partial (\log) Y_n}{\partial X_n}$$

Thus what we are trying to do is simply to assess which policy handles ( $X_i$ ) hold out the best hope of reducing specific indicators of poverty  $Y_j$ , within which indicators of severe /chronic poverty are a category on which we particularly wish to focus.

In principle there are a large number of independent variables which could be tried out in such a poverty-elasticity equation; some, such as inequality, have already been mentioned, and others have been proposed, for example, by the World Bank’s two *World Development Reports* on poverty (1990) (2000). Our own approach to the selection of right-hand side variables in (1) is empirical. We begin by asking what are the principal components of the livelihoods of the poor and the extreme poor, and then examine what are the main obstacles which they have had to confront in order to escape from that poverty (and what policy instruments have helped them do so).

*Components of the income of the poor: the labour market.* As shown by Table 2, in both of our country samples, the income of the poor is overwhelmingly made up of *labour income*, and hence the reduction of poverty is, in the short term, overwhelmingly an issue of the expansion of the labour market, because for most of the poorest people labour is almost the only thing they can sell: they have no assets, either material or human (or in many cases social) to enable them to secure an income by any other means. As Table 2 shows, this applies in terms of both normal and ‘extreme’ poverty concepts: the severely poor, if able to work at all, secure their living from intermittent casual labour and almost no other source, and

**Table 2 – Uganda and Bolivia samples:  
sources of income for the ‘poor’ and the ‘severely poor’**

	<i>Uganda (Mbale/Sironko)</i>			<i>Bolivia (El Alto and other urban locations)</i>		
Sample size	297			62		
	<i>Nonpoor</i>	<i>Poor</i>	<i>Extreme poor</i>	<i>Nonpoor</i>	<i>Poor</i>	<i>Extreme poor</i>
<b>Categories of income</b>						
Labour income:	3.0	6.6	29.6	14	34	61
Other source	97.0	93.4	80.4	86	66	39
<b>Categories of assets</b>						
Physical capital (asset index)	1.30	1.06	0.66	1.4	0.9	0.3
Education level (average score)	0.71	0.42	0.44	1.2	0.6	0.4
<b>Social capital:</b>						
- bonding only	0.90	1.05	1.13			
- overall score	2.63	2.71	2.84	2.2	1.5	1.3
- score in trust game	1574	1848	1971			

Source: Surveys, 2003 and 2004 (see Appendix).

Variable definitions:

*Education level:* Computed from a dummy variable 0=no education 1=primary education 2=secondary and higher level education.

*Bonding social capital:* Defined as the number of reciprocal links with other households.

*Overall social capital:* Defined as the sum of bonding social capital with bridging social capital (willingness of community to support waged work) and linking social capital (number of NGOs and government programmes from which the household benefits).

*Score in trust game:* Relates to an experiment in which individuals are given a sum of money and are invited to invest a part of that sum in an (unnamed) member of the same village community. For details of the trust game see Mosley and Verschoor (2003).

if not able to work secure it from transfers from those who can work.<sup>6</sup> (In the longer term, of course, strategies of ‘investing in the human capital of the poor’ (as the 1990 World Development Report put it), through public expenditure and other strategies, also have purchase).

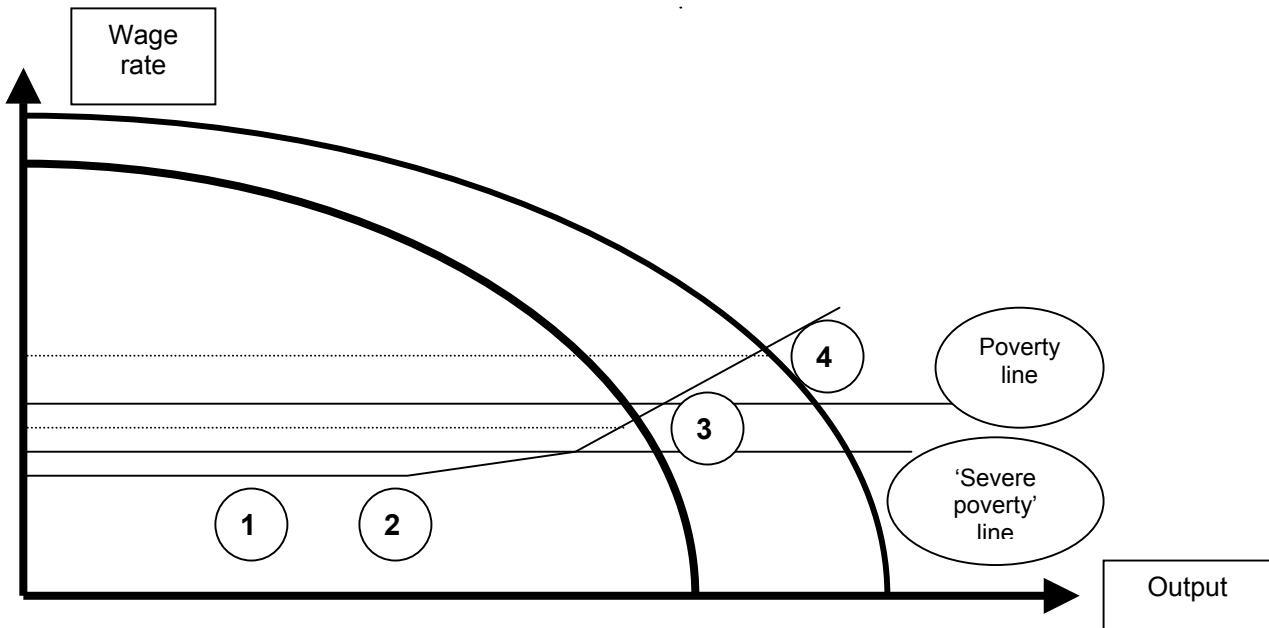
Thus in the short term, increasing the rate of transition across the poverty line requires the stimulation of the labour market, by increasing either the quantity of labour demanded, or the wage rate, or both. But the connection between expansion of labour demand and poverty reduction is not mechanical: as illustrated by Figure 1 (an adaptation of the fifty-years-old-this-year Lewis model) rapid growth may be compatible in particular country cases with no reduction in poverty. If the economy grows from position 1 to position 2, and the labour surplus is such that the labour supply curve is flat, then nobody moves up over the poverty line, and the poverty elasticity is zero. By contrast, if the economy grows from position 3 to

<sup>6</sup> It will be recalled from Sen’s historical studies of famine (1981, e.g. pages 141-145 ) that those who suffered most from the most severe form of poverty of all, which is famine, were unskilled, landless, casual labourers.



position 4, because the labour surplus has been exhausted, the poverty dividend from growth is considerable. For this reason real wage increases are a particularly important driver of reductions in poverty;<sup>7</sup> and patterns of expenditure which are intensive in the labour of the poor will contribute to a high poverty elasticity, the more so if they also reduce poverty by other routes, for example investment in the assets of the poor and reduction of the price of goods which the poor consume.

**Figure 1 Demand growth, demand structure and varieties of poverty**



*Non-labour strategies for escape from poverty.* As we have seen, a growth pattern which is concentrated on the stimulation of the labour market, even the bottom end of the labour market, is not a sufficient condition for growth to induce a sustainable exit from poverty. For many poor households, such an exit presupposes not only access to labour markets but a process of asset acquisition ( a strategy which *promotes*, and does not just *protect*, the household's livelihood) since without this they are trapped in a vicious circle of, low, uncertain wage income, low skill, low ability to take advantage of opportunities and high vulnerability to shocks.<sup>8</sup> The main barrier to that is of two kinds: chronic *risk* whose downside is larger the poorer and more exposed a household is,<sup>9</sup> and a lack of liquidity needed to provide a buffer against those risks. If low-income individuals are able to gain widespread access to such liquidity, and it is used to acquire assets which protect them effectively against risk, in spite of all the obstacles embedded in the power-structure, this puts them on a trajectory which gives them a reasonable chance of an escape from poverty.

Such a trajectory is illustrated in Figure 2. In this diagram, there is a standard trade-off between income and protection against risk: everyone would like more of both (a movement to the northwest), but the more intense the level of poverty (or vulnerability<sup>10</sup>), the greater the

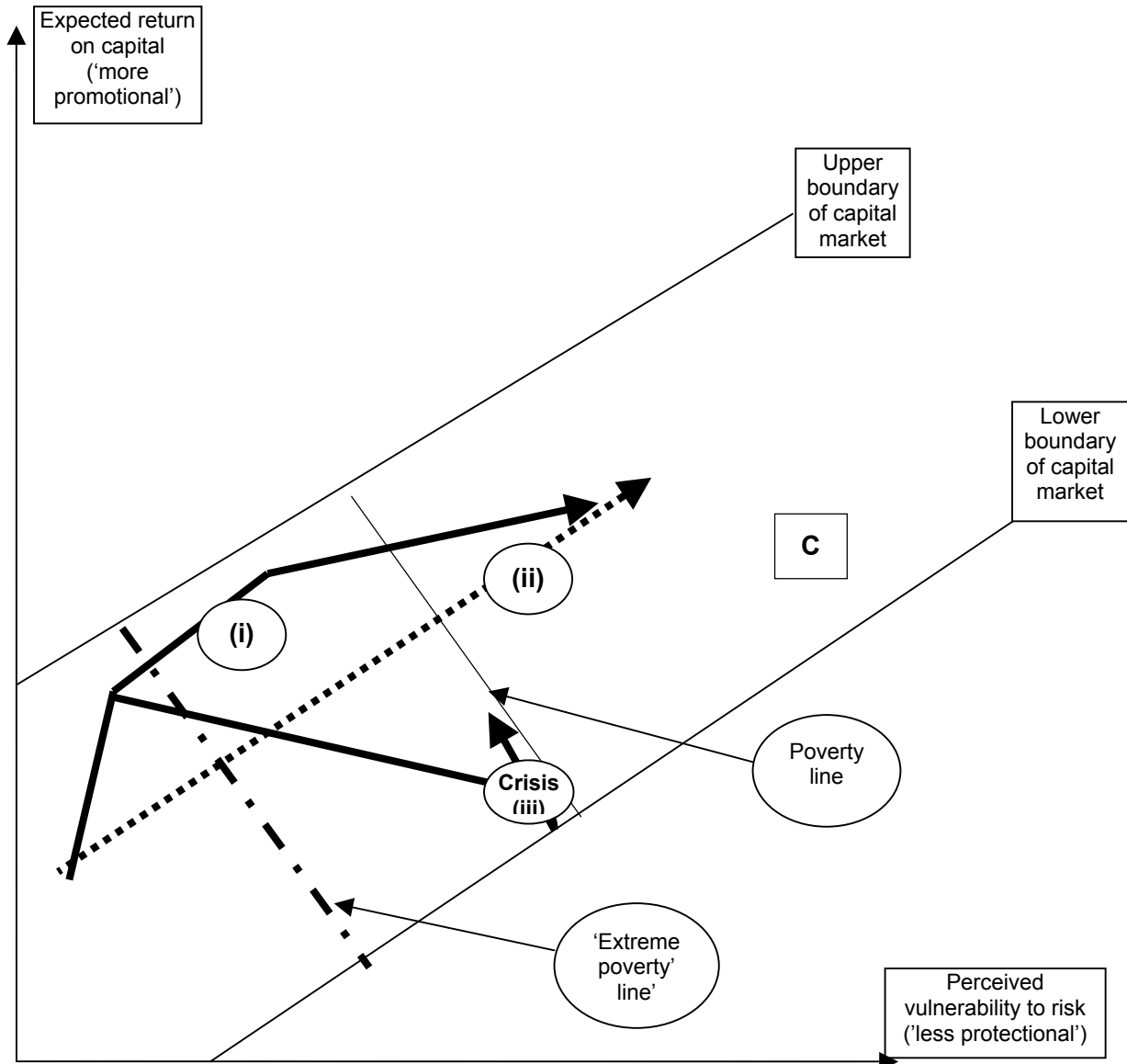
<sup>7</sup> For the Indian case see Singh (1990), chapters 2,3 and 5.

<sup>8</sup> Some categories of extreme poor, of course, are unable to accumulate assets because they are old, chronically sick or disabled, and for these other strategies are needed.

<sup>9</sup> Especially in developing countries, the livelihood risks which are relevant are not only business-related but also include the risk of conflict, which broadly is inversely proportional to per capita income. Wood (2003) shows that the adoption of risk-avoiding strategies may lock individuals and households into low-yield, exploitative relationships. See also Mosley et al (2003) chs. 1 and 2.

<sup>10</sup> Our experimental work in Uganda and elsewhere suggests that vulnerability is much more closely correlated with aversion to risk than income: Mosley et al (2003), chapter 2.

**Figure 2 Vulnerability, risk aversion, and escape from poverty**



**Key to symbols:**

**Levels of risk exposure and patterns of behaviour:**

- A:** *severe poverty*: low risk, low yield, very low income and asset levels. Heavy dependence on labour income. Social capital almost entirely 'bonding' (e.g. solidarity groups). Support services demanded as 'protectional' services, mainly in the form of savings and forms
- B:** *moderate poverty*: moderate risk, moderate yield, financial and other support services demanded mainly for working capital with very small fixed capital investment. Social capital mainly 'bonding', some 'linking' to groups in other activities and regions.
- C:** *nonpoor*: high risk (unless insurance available), high average yield, support services demanded for 'promotional purposes, skilling and labour hiring as well as fixed capital. Social capital 'linking', 'bonding' and 'bridging' to upper levels of administration.

**'Trajectories':**

- (i)** – biased towards avoidance of risk, as is to be expected at low levels of income
- (ii)** – 'the centre of the river' – a 50/50 balance between yield and vulnerability, more to be expected at higher levels of income.
- (iii)** An adverse shock, partly corrected in the diagram by recourse to risk-minimising institutions.

weight on protection against risk. The extreme poor are in zone A, and the risks associated with any decline in their income are such that the strategies which will be willingly chosen are almost entirely protectional – any promotional element carries too high a risk of being forced to part with such few assets as they have. They therefore aim ‘well to the left of the centre of the river’ which is the capital market, and only if successful in swimming against the current of established power-structures and increasing their asset endowments will they risk wandering into the centre and engaging with a richer mix of promotional strategies. At these low levels of income, such capital as they acquire will be *liquid* and *divisible* – a distinction which cuts across the different classifications of assets, but in general favours the acquisition of social capital and some forms of human capital, such as extension and secondary schooling for children at the bottom end of the market. As we saw in Table 2, a progression out of poverty is associated in both Uganda and Bolivia with improvements in education, and in Uganda especially with access to extension. Especially in Bolivia, it is associated also with improvements in social capital in the shape of reduction of ethnic discrimination against Aymaras and Quechuas. Thus, both at the village and the national level, pro-poor growth strategies are those which enable the labour market to expand rapidly, and at the same time assist poor households to hit the right balance between the protectional strategy of continuing to earn (and spend) income from labour and the promotional strategy of seeking other sources and acquiring assets thereby.<sup>11</sup> The working-out of this approach presented in the Appendix gives us the following functional form of (1):

(1') poverty elasticity ← labour market depth,  
institutions for protection against risk,  
indicators of pro-poor expenditure.

Thus the independent variables which we wish to use to explain poverty reduction at a given level of the growth rate – the X-variables, in the terminology of equation (1) – are of two kinds:

- (a) *protectional factors*: ‘labour market dynamism’ – i.e. the increase in the number of low-income people employed at a wage above the poverty line, and stimuli to types of expenditure which are intensive in the employment of (sometimes also in boosting the human capital of) those people – primary health and education, small-farm agricultural research and extension, rural infrastructure;<sup>12</sup> and
- (b) *promotional factors*: factors which enable poor households to devise asset-building strategies against the adverse tide of circumstance, in Figure 2, and at the same time protect them against the risks and shocks associated with those strategies.

In Table 3 we explain the proxy variables we have chosen to represent these factors and the manner in which their influence is tested. Beginning with the independent variables, our measure of the protectional effect provided by labour market dynamism is the rate of increase in agricultural wages; it would be desirable to complement this also with a measure of growth in informal and agricultural employment, but the data for this sector are notoriously bad and inconsistent. The effect of promotional measures is represented, very partially at this stage, by a couple of variables symbolising protection against *interpersonal* risk - the

<sup>11</sup> The proposition that escape from poverty depends on the maintenance of a proper balance between risk and return applies at the level of both individuals and national governments. For example, in Mosley(2004) we illustrate how the adoption of an unsustainable, high-risk smallholder agricultural strategy by the governments of Zimbabwe and South Africa in the 1980s and 90s led to the collapse of anti-poverty momentum (and a low poverty elasticity) by the middle 90s.

<sup>12</sup> For an extended empirical discussion of the idea of ‘pro-poor expenditure’ see the appendix to the paper by Mosley, Hudson and Verschoor(2004).

**Table 3 Methodology***(i) Guiding hypotheses*

	<b>Factors influencing the income of the poor</b> (potentially, the poverty elasticity of growth)	<b>Implied policies</b>
What is poor people's basic source of income at present?	<b>Labour</b>	Public expenditure etc. Sectoral balance? Labour market development policies – finance, infrastructure etc.
How could poor people's income base be expanded?	<b>Asset expansion</b> <i>Basic obstacles:</i> Risk and risk aversion (vicious circles) Power structures Conflict	Education etc. Social capital development etc.

*(ii) Testing procedure*

<b>Macro</b>	Regressions of type: $P = a + bY + cI + d\sum PV^*$ Where I=inequality PV = the 'policy variables' in the final column of previous table
<b>Micro</b>	Studies of 'poverty transitions': contrasts between those who moved into and out of poverty (t-tests plus qualitative data from interviews) Current case studies: Uganda and Bolivia

\*Note: this differs from the Dollar-Kraay specification in terms of :*(1) Poverty definition* – we use absolute poverty definitions e.g.  $P(\alpha)$  indicators, they use the relative indicator (share of bottom 20%). *(2) Estimation method*: their RHS contains country fixed effects and time dummies, ours does not.

*Observer* and World Values Survey social capital indicators. Finally, our measure of pro-poor expenditure contains both a protectional element (creating jobs) and a promotional element (in particular investment in human capital). It is our contention that these variables can explain much more in terms of the failure of growth to produce poverty reduction than inequality on its own. The dependent variable in what follows will at all times be a measure of *absolute* poverty. The measure used by Dollar and Kraay, the share of the bottom 20%, does not correspond to the variable which we wish to measure, which is the extent to which poor individuals however defined have managed to escape from a state of poverty, and does even worse as a proxy for extreme or chronic poverty.

The methodology used to test the influence of these variables is a dual one. In the first instance, in the remainder of this section, we run regressions of (1') against the independent variables listed above (Tables 4 and 5). Secondly, we examine poverty transitions in rather more detail in two countries, one with an 'orthodox' negative poverty elasticity and the other with a positive one. The latter approach, which takes us down to the case of individual people with varying experiences of seeking to escape from poverty, will be particularly useful in examining the policy *complementarities* which may be particularly important in explaining exit from *severe* poverty (Hulme and Shepherd 2003).

**Table 4 Regressions I: policy determinants of the poverty elasticity***Dependent variable: change in poverty headcount ( $P_0$ ) 1990-99*

	<i>Regression coefficients on independent variables as specified in left-hand column (Student's t-statistics in brackets):</i>			
<i>Estimation method</i>	OLS	OLS	OLS	2SLS
<i>Constant</i>	-0.145 (0.145)	2.77* (2.47)	2.77* (2.47)	17.34
<i>GDP Growth 1990-99</i>	-0.21 (1.20)	-0.13 (0.95)	-0.13 (0.95)	
<i>Education expenditure*</i>		-0.002 (0.90)	-0.003 (0.20)	
<i>Agricultural Expenditure*</i>	-0.02 (1.12)	-0.09** (4.11)	-0.009** (4.01)	-0.674** (4.52)
<i>'Pro-poor' expenditure*(1)</i>				
<i>Social capital indicator I(2)</i>	0.023 (0.91)	0.019 (0.57)		
<i>Social capital indicator II(3)</i>			-0.003* (2.34)	
<i>Rate of growth of agricultural wages</i>	-0.027* (1.98)	-0.009 (0.71)	-0.009 (0.71)	-0.325** (3.22)
<i>Gini coefficient of inequality</i>		-0.08** (3.89)	-0.08** (3.89)	-0.433* (2.25)
<i>Conflict dummy</i>			0.15 (0.163)	
<i>Number of observations</i>	58	45	45	45
$R^2$	0.393	0.730	0.733	0.09

Source: World Bank, *World Development Indicators 2003*, supplemented from ILO database and from national publications; for expenditure indicators marked\*, IMF *Government Expenditure Statistics*.

Notes: \* Rate of growth of expenditure share, 1990-99.

(1) Primary health and education, agricultural research and extension, rural water and sanitation.

For more detail see Mosley et al. (2004)

(2) Observer human rights indicator, as reproduced in Open University (2000 ),

(3) World Values Survey measure of trust, as reproduced from Whiteley (2000)

For sample membership see Appendix.

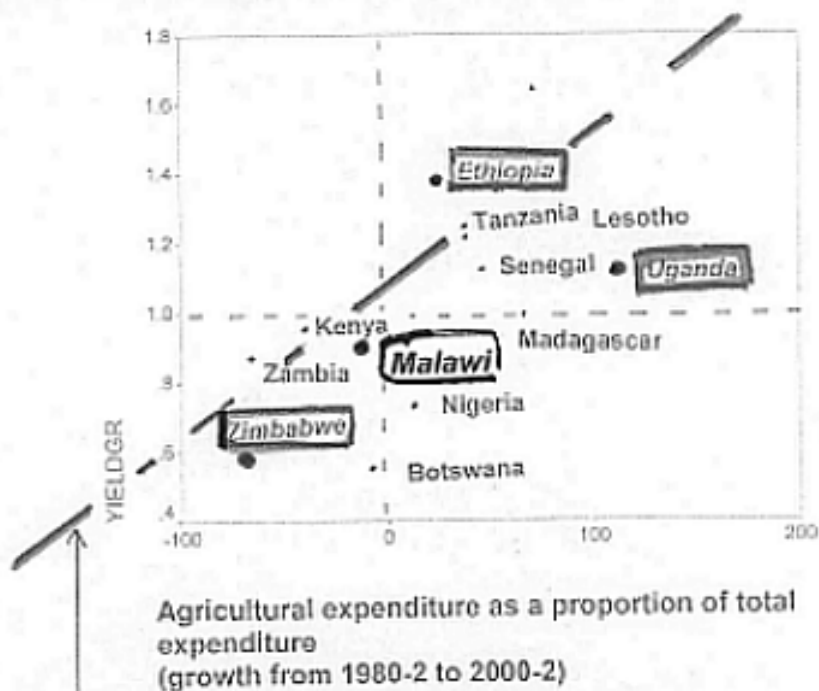
In Table 4 we present a range of estimates of equation (1'). in which the independent variable is always headcount poverty. In the first round of the model in which the Gini coefficient of inequality is excluded, all the included independent variables (agricultural expenditure, educational expenditure, the change in the agricultural wage rate, and the social capital indicators) have the 'right' signs, but the only one which is significant is our 'protectional' variable, the growth in the agricultural wage; even growth itself is insignificant, reinforcing the point that growth on its own is not sufficient to reduce poverty levels. (The scatter of observations on growth and poverty reduction, reproduced in Figure 4 below, suggests a general pattern in which the average poverty elasticity is orthodoxly negative – but less responsive, at –0.61, than that calculated by Dollar and Kraay – but in which there are many 'outliers' with perverse poverty elasticities, particularly in Africa and eastern Europe. Often these countries have high levels of inequality and/or low levels of social capital and pro-poor expenditure, and the possibility obviously exists of a vicious circle in which these variables increase the probability of conflict, which then further lowers social capital, which then further lowers the poverty elasticity and the ability of the economy to extract itself from chronic crisis. The specific case of Bolivia is examined in Section 3 below.) At this stage, what appears to be driving the process of poverty reduction, holding constant the level

of growth, is the rate of expansion of the labour market. However, once the Gini coefficient of inequality is factored in, the level of government *agricultural* expenditure (not other components) appears as significant, and the other variables, including the agricultural wage, lose significance. There is a risk that the various components of expenditure may be endogenous – in particular, that agricultural and other ‘politically weak’ components of expenditure, which tend to shrink during a recession, may be determined by the level of growth rather than being independent of it. However, as the final column of the table shows, the result is robust to estimation by two-stage least squares, using growth and conflict as instruments for agricultural expenditure.

The relationship between agricultural expenditure and poverty varies by region, being particularly strong in Eastern Europe (which generally, in the 90s, had rising levels of poverty and falling levels of agricultural expenditure) and in Africa (which had variable levels of both, but in general poverty levels were responsive to the trend of agricultural expenditure). The relationship for Africa is depicted in Figure 3. As will be seen from the diagram, countries such as Uganda and Ethiopia, as well as Ghana, Mauritania and Mozambique, which made big investments in agricultural research and extension in the 1990s tended to experience rising yields through the 1990s and thence to reap a poverty dividend (Mosley and Suleiman,

**Figure 3 Africa: scatter of cereal yields in relation to agricultural expenditure, 1980-2002**

Crop yields, all cereals  
(2000-2 as a percentage of 1980-82)



Two-variable relationship:

$$\text{Growth of total cereal yields} = 0.98^{**} + 0.003 \left[ \begin{array}{l} \text{growth of share} \\ \text{of ag. in total} \\ \text{expenditure} \end{array} \right]$$

(12.4)                      (2.21)

$$r^2 = 0.329$$

2004). The reasons for expecting such a dividend (and some empirical results on the global link between agricultural growth and poverty reduction) are reported in Irz et al (2001), Piesse and Thirtle (2001); Dorward et al (2004) have also emphasised the links between the pattern of agricultural development and a 'pro-poor' pattern of growth.

We now examine the sensitivity of the growth-poverty relationship to different definitions of poverty. In Table 5 we examine the responsiveness of different concepts of poverty – infant mortality and the  $P_1$  and  $P_2$  indices of poverty, as well as the headcount index – to growth and the different policy variables examined in Table 4. Agricultural expenditure retains its significance as an explanatory variable across all these measures, except for infant mortality; and when infant mortality is the dependent variable education and, as reported by Anand and Ravallion (1993), health expenditure, which are insignificant for the other poverty definitions, come into play. Somewhat counter-intuitively, the poverty elasticity proper increases and becomes more significant when the squared poverty gap and the under-5 mortality rate, which may be regarded as measures of 'relatively more intense' poverty, are used, suggesting that the elasticity of severe poverty to growth may be greater than the elasticity of headcount poverty.<sup>13</sup> The Gini coefficient continues to be significant, except where under-5 mortality is the dependent variable. Agricultural wages (which, we recall, were significant in the first, 'restricted' regression) continue to be insignificant except when the \$2/day headcount indicator is used.

**Table 5 Regressions II: sensitivity of poverty elasticity to poverty definition**

*Dependent variable: poverty indicator as specified*

	<i>Regression coefficients on independent variables as specified in left-hand column (Student's t-statistics in brackets):</i>				
<i>Poverty indicator</i>	Headcount ( $P_0$ ) (\$1/day)	Headcount ( $P_0$ ) (\$2/day)	Poverty gap $P_1$ (\$1/day)	Poverty gap squared $P_2$ (\$1/day)	U5 mortality
<i>Estimation method</i>	OLS	OLS	OLS	OLS	OLS
<i>Constant</i>	2.77** (2.47)	3.42 (1.97)	12.17 (0.92)	-2.72 (0.14)	-15.25 (1.48)
<i>GDP Growth 1990-99</i>	-0.13 (0.95)	-1.79* (2.26)	-1.35 (0.22)	-3.35** (2.60)	-2.74* (1.92)
<i>Education expenditure*</i>	-0.28** (3.08)	-0.26** (3.08)	0.28 (1.44)	-0.06 (0.20)	-0.27* (2.53)
<i>Agricultural Expenditure*</i>	-0.09** (4.11)	0.125 (0.57)	-0.23* (2.39)	-0.23** (3.04)	-0.19 (0.87)
<i>Social capital indicator I(2)</i>	-0.019 (0.57)	-0.196 (1.31)		-0.31 (0.35)	-0.034 (0.16)
<i>Social capital indicator II(3)</i>			-0.14* (2.23)		
<i>Rate of growth of agricultural wages</i>	-0.009 (0.71)	-0.347** (3.59)			-0.08 (0.79)
<i>Gini coefficient of inequality</i>	-0.08* (3.89)	0.09* (1.90)	-0.06 (0.17)	-0.05** (2.96)	0.15 (0.75)
<i>Number of observations</i>	45	44	45	41	50
$R^2$	0.73	0.95	0.80	0.892	0.449

Sources: as for Table 4.

### 3. Escape from, and descent into, severe poverty in relation to growth: country-level experience

<sup>13</sup> A similar result is reported for Uganda on page 23 below.

### *Outliers and poverty dynamics*

It is apparent from Figure 4 below that with absolute poverty data for the 1990s the growth-poverty data do not 'behave' as well as they do in the Dollar-Kraay regressions with 'share of the poorest 20%' as dependent variable: the calculated global elasticity of headcount poverty in relation to growth is well short of minus one, and in some runs of the model is not significant. An important manifestation of this, of course, is the 'perverse' poverty elasticities in some countries: those in the top right-hand corner of Figure 4, in which growth is associated with an increase in poverty. Will our tentative explanation of these perversities in terms of protectional and promotional factors hold up when we examine these perverse cases?

The perverse cases are examined in Figure 5, decomposed by time-period and with a tentative explanation attached in terms of the factors examined in the previous section. As may be surmised from Table 1, most of these perverse cases are in Latin America and eastern Europe, with a few in Africa: we have found no 'perverse' case in Asia. Common features which can be observed among all the outliers are high levels of inequality (except in Poland), low levels of social capital and a high level of vulnerability to political and social instability. One writer on Russia, one of the key outliers, elevates social capital during the *perestroika* period from an important correlate of poverty into a necessity: 'those who have access to social capital get ahead; those who do not get sick and die' (Kennedy et al 1998: 2039). In Poland and Russia, and also in the very different environment of Lesotho, these problems are aggravated by a pattern of high-tech labour demand and capital-intensive technology which does not match the low-tech supply of unemployed people.

Beyond this, in all of the countries in this sub-sample except for Mexico a process of hysteresis, or lock-in, is observable from the time-pattern of the elasticities reported. Examination of the time-pattern of poverty elasticities in the fifth and sixth columns of the table suggests that several countries within this sub-sample (Venezuela, Bolivia, Peru, Russia) have been, over the last five to seven years since the onset of the 'Asian financial crisis', locked into a vicious circle of deteriorating poverty elasticity and political instability. As a warning against over-facile policy prescription, it is also the case that the opportunity of offsetting the vicious circle through increasing levels of social expenditure was passed up in Russia and Bolivia in spite of the requirement of the World Bank and other donors that such an increase take place (Mosley, 2003). The dynamics are illustrated in the lower part of the figure: uncorrected inequalities<sup>14</sup> depreciate social capital and increase the risk of conflict, which deters investment and creates an unsustainable fiscal position, which then requires a programme of, usually IMF-overseen, expenditure cuts which governments operating under extreme stress usually do not have the imagination or the resources to render progressive. Thus, we would argue, *perverse and even low poverty elasticities are inherently unstable*: generating their own pressures towards becoming ever more perverse unless the process is cut short by an uprising, as occurred for example in Bolivia towards the end of 2003.

Illuminating though these data are they do not explain why, even in some countries where the poverty elasticity is 'orthodox', chronic poverty persists even in the presence of impressive levels of growth – the problem originally posed by Fishlow. We now examine this issue through two country case studies: one of Uganda, one of the global showpieces of poverty reduction, and one of Bolivia, one of the 'perverse' cases examined above.

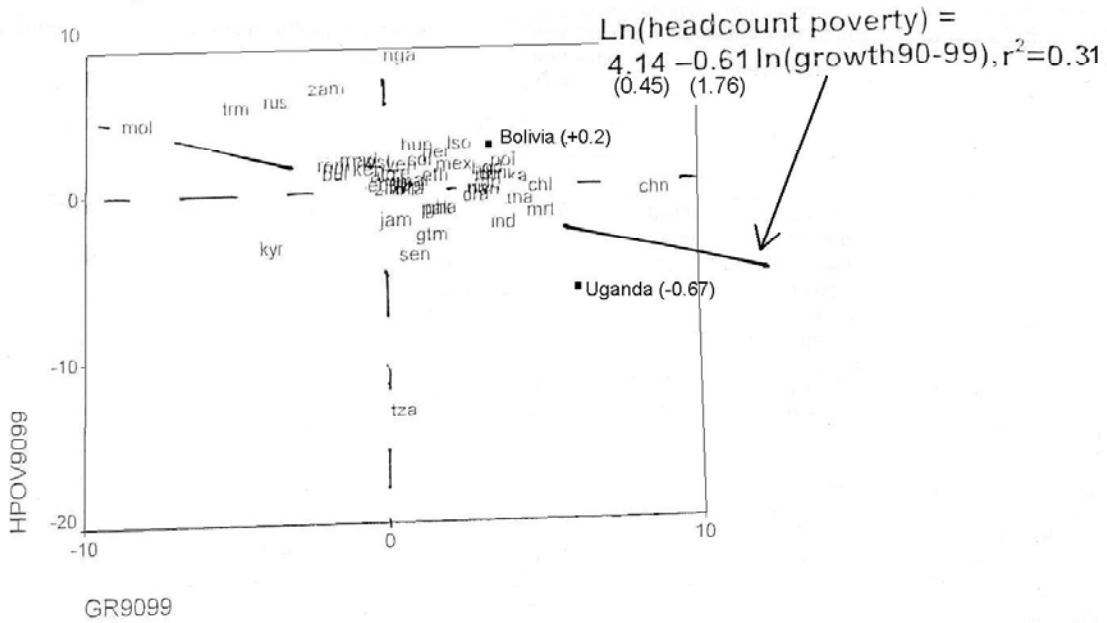
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<sup>14</sup> The level of inequality in Russia has gone, since the beginning of the 1990s, from one of the lowest in the world to a level higher than that of the United States.



Figure 4. Growth, poverty and agricultural expenditure: scatters

(a) Growth and poverty



(b) Poverty and agricultural expenditure

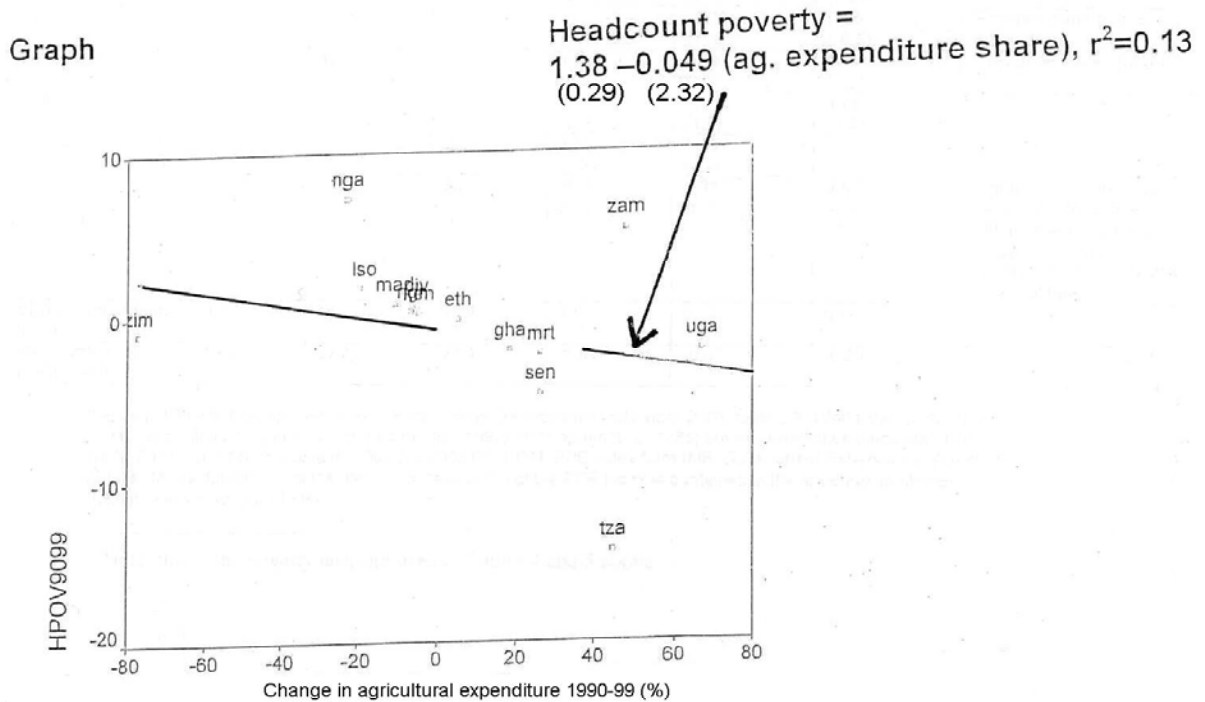


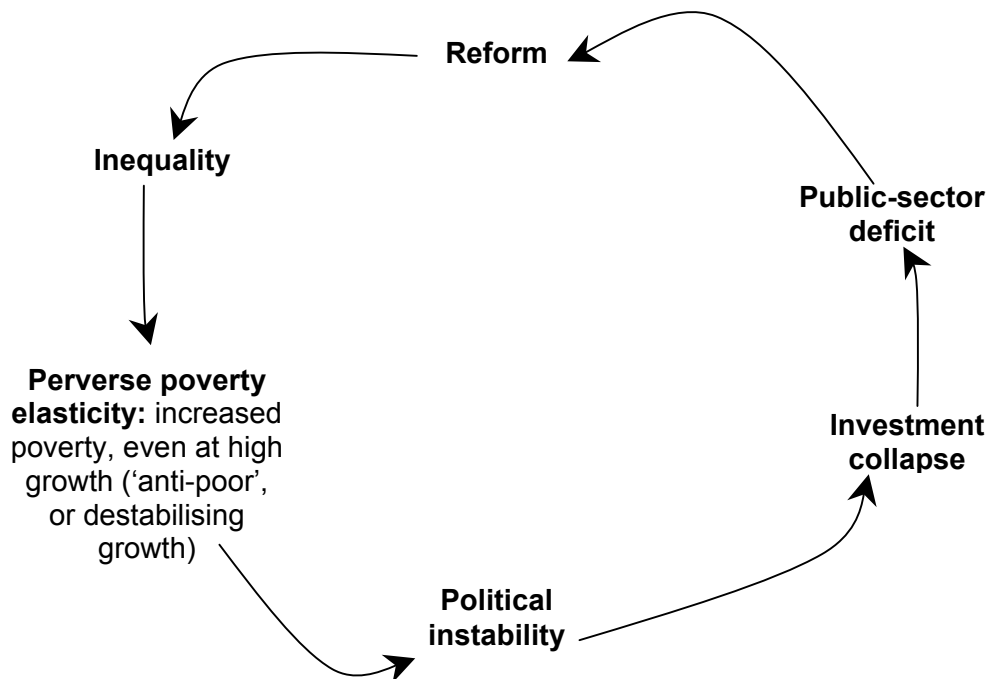
Figure 5(a) 'Outliers': poverty elasticity dynamics and tentative explanations

Country	Correlates of poverty elasticity from regression analysis			Poverty elasticity (growth rate) (NB 'perverse' poverty elasticities where figure is positive)			Policy patterns and possible explanation
	PPE index	Gini coefficient	Social capital (World Values Survey)	1990-2002 <sup>15</sup>	Earlier period (1990-5 unless otherwise specified)	Later period (1996-2002 unless otherwise specified)	
Russia	-3.6	45.6		<b>0.61</b> <b>(-3.7)</b>	-0.83 (-4.5)	<b>1.37</b> <b>(0.8)</b>	Numerous redundancies in former state sector, not much offset by growth of new high-tech private sector. Economic crisis, 1998. Declining ratio of social expenditures to GDP after 1996.
Poland		31.6		<b>0.19</b> <b>(3.6)</b>	<b>0.2</b> <b>(3.8)</b>	<b>0.2</b> <b>(3.1)</b>	Persistent structural underemployment in eastern and southern parts of country, not relieved by growth of (mainly skilled and professional) jobs in other areas.
Bolivia	2.0	61.0	6.7	<b>0.2</b> <b>( )</b>	-0.38 (4.9)	<b>0.28</b> <b>(0.8)</b>	Regressive fiscal policy aggravating inequality. Economic crisis, 1999-. Vicious circle of collapsing social capital, see diagram below.
Mexico	3.04	51.9	17.7	<b>0.3</b> <b>(2.0)</b>	<b>0.7</b> <b>(2.7)</b>	-0.45 <b>(2.3)</b>	
Peru	-2.87	46.2		+0.9 <b>(1.4)</b>	-1.04 <b>(7.1)</b>	<b>0.85</b> <b>(-0.5)</b>	Economic and political crisis, 1999-.
Venezuela	-1.5	49.1		+1.6 <b>(0.3)</b>	<b>0.49</b> <b>(4.9)</b>	<b>0.77</b> <b>(2.2)</b>	Economic crisis, 2000-.
Colombia		57.1		+0.9 <b>(0.9)</b>	<b>1.05</b> <b>(1.9)</b>	<b>1.85</b> <b>(2.2)</b>	
Nigeria	..	50.6	22.9	+24 <b>(0.3)</b>	<b>2.16</b> <b>(3.7)</b>	<b>3.6</b> <b>(1.2)</b>	
Lesotho	4.6	56.0	30.5	+0.8 <b>(2.1)</b>	<b>1.35</b> <b>(6.0)</b>	<b>0.8</b> <b>(4.5)</b>	Highly capital-intensive pattern of production within growth-inducing industries (power generation and associated infrastructure).
Sub-sample mean value	-0.7	48.0	19.4	3.6	0.39	1.01	
Mean value, all LDCs (n=135)	<b>2.4</b>	<b>39.2</b>	<b>23.3</b>	<b>-0.61</b>	<b>-0.57</b>	<b>-0.65</b>	

Sources: Gini coefficients from World Bank, *World Development Indicators 2003*, table 2.8; World Values Survey social capital indicators from Knack and Keefer (1997), data appendix p. 1285; poverty elasticities calculated from World Bank, *World Development Indicators 2003* CD-ROM; PPE index from IMF, *Government Expenditure Statistics*, various. (A full description of the method of calculation of the PPE index is contained in the appendix to Mosley, Hudson and Verschoor (2004).

Data: from *World Development Indicators 2003*. Country selection: countries with negative poverty elasticity over period 1990-2000 (see top right-hand quadrant of Figure 4a).

<sup>15</sup> Note: this is the poverty measure used in Tables 4 and 5 above.

**(b) The 'anti-poor growth vicious circle'****Case 1: Uganda**

Uganda is celebrated as one of the principal illustrations of pro-poor growth in Africa, and indeed the world. The economy has been growing since the mid 1980s, over the last twelve years at an average rate of 6.8%. Over those same years the central (headcount) poverty measure fell from 56 to 35%, with most of the reduction accruing to the central and western regions and most of the hard-core poverty being concentrated in the conflict-hit north (Appleton, 2002). Recent unpublished data suggest an increase in headcount poverty to 38% in 2003,<sup>16</sup> the best currently available explanation for which is an 'overshoot' in the 2000 data, coupled with the emergence of unemployment-induced poverty in the east of the country caused by migration from the north. But even allowing for this correction, the apparent national poverty elasticity over the years 1992-2003 is 0.67, which makes it a strong positive outlier in terms of the data presented in Figure 4.

Analysis of these poverty trends has so far focussed on the effects of education (Appleton 2002), which has been enormously expanded over the 1990s to the point of achieving universal primary education in 2001; agricultural spending especially on research and extension, whose expansion is portrayed in Figure 4 above (see also Mosley, Hudson and Verschoor 2004); and the cessation of conflict over much of the country, with consequent gains in social capital and trust. These are all factors featured in the macro-analysis of the previous section. One factor commonly associated with pro-poor growth, namely inequality, has however deteriorated over the course of the 1990s (Okidi and Mugambe, 2002: 12): the poverty reduction which has happened has been in spite of this adverse trend.

We now move down to the micro-level and examine poverty trends in a sample of households in the villages of Sironko and Bufumbo, northeast of Mbale. The characteristics and poverty dynamics of these villages, by contrast with what is going on at the macro-level, are described in Table 6.

<sup>16</sup> John Okidi, personal communication, January 2004.

**Table 6 Uganda: macro- and micro-level data****Macro**

	<b>1992</b>	<b>2000</b>
<b>Growth</b> (average 1990-2001)	6.8%	
<b>Gini coefficient of inequality</b>	37.4% (1996)	
<b>Poverty</b> (headcount, national poverty line)	56%	35%
<b>Severe poverty</b> (>50% below poverty line)	17%	6%
<b>Poverty elasticity</b> (national poverty line)	-0.67	
<b>Elasticity of severe poverty</b> (national poverty line)	-1.19	

**Micro:** Sample of 287 from Sironko and Bufumbo, near Mbale, eastern Uganda.

Sample characteristics:

	<b>Sironko</b>	<b>Bufumbo</b>
<b>Height above sea level</b>	1100m	1600m
<b>Type of agricultural land</b>	Lowlands at the foot of Mount Elgon, marshy plain in the South, savannah grassland in the North, few volcanic soils	Highlands on the slopes of Mount Elgon, volcanic soils
<b>Average rainfall</b>	1580mm/year	2168mm/year
<b>Main crops</b>	Bananas, maize, groundnuts, beans	Bananas, maize, beans, coffee, tomatoes, cabbages, onions
<b>Typical plot size</b>	2-3 acres	1-2 acres
<b>Average household income</b> (monthly per equivalent adult)	Sh 83039(\$43)	Sh 43492(\$22)
<b>Religion</b>	Predominantly Christian (Catholic, Protestant, Pentecostal)	Islam (80-90%)
<b>Roads</b>	Good quality tarred motor road south to Mbale and north to Kapchorwa, poor quality dirt roads otherwise	Dirt roads, often steep, four-wheel drive only in bad weather
<b>Electricity</b>	85%	0%

Poverty transitions 2001-2003:

<b>Never poor</b> 37%	<b>Emerged from Poverty</b> 10%
<b>Always poor</b> 31%	<b>Fell into poverty</b> 22%

These villages, as represented by our sample, are experiencing growth, but it was apparently not pro-poor growth over the period 2001-2003, in the sense that the number of individuals who fell into headcount poverty during the period (twenty-nine) is in excess of the number who escaped (fourteen). The dynamics of *extreme* poverty are actually more favourable, with

five households (numbers 35, 110, 172, 221 and 288) falling into severe poverty over the period, and the same number (numbers 91, 94, 229, 232 and 282) escaping.

We now convert these numbers into the lived experience of real people, and in the process seek to understand the extent to which the factors influencing the poverty-reducing capacity of growth at macro level also hold at the village level.

Table 7 compares the experience of three of the categories in Table 6: those who emerged from poverty over the period 2001-2003, those who remained poor and those who fell into poverty.

**Table 7 Uganda –  
contrasts between ‘emerged from poverty’ and ‘fell into poverty’ groups**

Poverty transition	Labour market		Agriculture received extension services	Social capital			Education Average score
	Dependence on labour market	Bargained wage with employer		Bonding only	Overall social capital score	Score in trust game	
Emerged from poverty	9.4%	30%	62%	1.66	3.33	1675	0.50
Fell into poverty	29.9%	0%	25%	1.22	2.25	1963	0.60
t-statistic for differences between sample means	2.54*	0.79	4.66**	2.17*	2.84**	0.77	1.14

\* Denotes t-statistic for difference between sample means significant at 5% level

\*\* Denotes significant at 1% level. For full data arrays and interview data see Appendix.

*Variable definitions:*

*Education level:* is computed from a dummy variable 0 = no education, 1 = primary education, 2 = secondary and higher level education.

*Bonding social capital* is defined as the number of reciprocal links with other households.

*Overall social capital* is defined as the sum of bonding social capital with bridging social capital (willingness of community to support waged work) and linking social capital (number of NGOs and government programmes that the household benefits from)

*Score in trust game* relates to an experiment in which individuals are given a sum of money and are invited to invest a part of that sum in an (unnamed) member of the same village community. For details of the trust game see Mosley and Verschoor (2003)

*Other contrasts:* slightly larger proportion of those who fell into poverty had been widowed in last three years; had sold assets in last three years; had overestimated their social defences against risk.

The following general conclusions emerge:

First, as we have seen earlier (Table 2), the poorest are more likely to be dependent on casual labour than the rest of the population.<sup>17</sup> They are also, as indicated by Lawson et al. (2003:8) more likely to be dependent on own-account agriculture. Access to extension is therefore a crucial element in raising yields and escaping from poverty, and in a majority of the exits from poverty in Sironko and Bufumbo (cases 59,90,91, 120, 229 and 282) there was access to extension services, one of whom, respondent 91, had been severely poor in 2001. (In six cases, which overlapped with the group of extension recipients, movement out of poverty was also associated with a sharp increase in agricultural productivity.<sup>18</sup>) By contrast,

<sup>17</sup> In general they see this as a last desperate resort if other strategies fail: see testimonies 6 and 10 in the appendix below.

<sup>18</sup> Most of these cases of increased productivity were female farmers, and 94 is female-headed. In most cases – much more than at higher levels of income – preference was for the relatively low-yield,

amongst the group who fell into poverty, only a quarter had had access to extension, and this difference between the two groups is statistically significant. This is the country-level analogue of the finding from our earlier cross-section analysis (Table 4 above) that a tendency for growth to be pro-poor was associated with the level of agricultural expenditure.

Second, the ability to exit from poverty was associated with relatively high levels of social capital.<sup>19</sup> The average of both the trust and the 'overall social capital indicators' is significantly higher as between the 'exit from poverty' and the 'entry into poverty/remained poor' group; but it is important to try and understand whether acquisition of social capital was the driver for exit from poverty, or vice versa (Narayan and Pritchett 1996). In the case of respondent 90, one of the former cases, a personal shock acted as the trigger for increased networking: 'I began looking for ways of increasing or controlling my income after my husband died (in 2002)' commented respondent 90, one of the poverty exits; before this, I did not use any informal support from within the community. Now I do. Very often, especially when I do not have some basics in the house and I go to the shops, they lend to me and they are always patient until I get money and pay them'.

In a number of cases, by contrast, descent into poverty was accompanied by increasing distrust caused by a *misperception of ability to protect against risk*, which is then compounded by a series of shocks and collapses in morale. Respondent 110 (who descended into severe poverty over the observation period) illustrates:

In 2002, when my late husband passed away, I had to find a way of earning to run the home. So I started a business brewing local gin (*waragi*). Sometimes it did not sell well, because owing to fluctuations in heat the gin did not come out of the desired quality; but we sold several jerrycans in Moroto district. But this source of income collapsed when government passed a law banning the distillation and sale of gin,<sup>20</sup> and my stocks were confiscated – I had just paid the molasses dealer, and made a large loss.

I went to my local rotating savings and credit association for an emergency loan *but they refused to help us*. I am now struggling to earn money, and have to resort to casual farmwork, as I await a way of getting start-up capital for buying molasses...

Thirdly, the ability to exit from poverty was (insignificantly) associated with the ability to increase one's security of job tenure and bargaining ability within the labour market. Thirty per cent of the group who exited from poverty had sought to bargain their wage rate; none of the group who had fallen into poverty had done so.

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low risk Longe 1, as is entirely rational for people operating at high levels of vulnerability, although the woman who achieved the most dramatic 'green revolution transition' –233 from Bufumbo – used Kenya Hybrid 614.

<sup>19</sup> There is some evidence that especially among people below the poverty line, women were more effectively able to draw on their social networks than men. The regression coefficients of overall social capital indicator on income were as follows (individuals below the poverty line only):

Men	990(0.89)
Women	2805**(3.64)
All respondents	1405*(2.40)

Source: Mosley et al (2003).

<sup>20</sup> In fact such a law, regulating and not banning *waragi* manufacture, had existed for some time. What happened was that the enforcement of the law was tightened up in Mbale district shortly after the respondent started her distillery.

All of these factors – agricultural extension, social capital and participation in the labour market – are correlates of exit from poverty which we have already encountered in the macro section 2. However, other contrasts between those who did and did not fall into poverty emerge from the Uganda comparison. One of the most interesting relates to the response to shocks: as it happens, almost all the interviewees had experienced a similar negative shock, which was the maize price shock of November/December 2003, when prices fell from 250 to 70 shillings per kilo. It is true that the difference in responses to this shock determined the poverty outcome for many people; but in our sample this did not occur through the conventional route (e.g. Baulch and Hoddinott, 2001) of those who disposed of assets being more likely to fall below the poverty threshold. In fact, as may be seen from the Appendix, approximately equal proportions of people sold assets in the ‘emerged from poverty’ and ‘fell into poverty’ groups. Rather, the households whose outcomes were favourable appeared to be those who:

- avoided over-investment and miscalculations of their ‘emergency reserves’, as in the case of the liquor-seller above;
- anticipated and insured against crisis; in particular by storing maize during the price collapse of December 2001 rather than selling at a distress price;
- persevered within the market, often in many diverse forms, rather than retreating into the subsistence economy. Respondent 90 described the sequence as follows:

I was not so economically active when my husband was still alive. Last year I began to look for ways of increasing my income: I tried selling pancakes, but that failed; I tried breeding exotic goats, but that failed; Once in a while, I chanced to be included in the team to work on feeder road maintenance. That yielded enough to enable me to start a new business.

Often the responsibility for specific promotional expenditures (e.g. school fees, as in the case of respondents 59,87 and 192) acted as a driver forcing respondents to stay within the cash economy, and as a stimulus to the creativity which enabled them to get above the poverty line. Respondents without school-age children appeared to not push themselves so hard, and hence more often retreated into subsistence.

- adopted multiple-input rather than single coping strategies. Many of the transitions out of poverty in our sample had received extension support and group savings at the same time as new seeds, and at the same time continue to work and operate a non-farm business. Exit from poverty, indeed, is in our sample associated with diversification of livelihood.<sup>21</sup>

An important question for policy aimed at increasing the poverty dividend from growth, therefore, is how to incentivise the perseverance and diversification illustrated by our last two respondents.

### **Case 2 Bolivia**

As shown by Table 8, Bolivia unlike Uganda presents a ‘perverse poverty elasticity’ at macro-economic level – in other words it is a country in which there has for more than fifteen years been economic growth (respectable until recently) but in which poverty has not fallen from its early 90s level and since 1999 has shown a very perceptible rise. Severe poverty (*indigencia*) has shown a similar trend (Landa, 2003). In 1999, Bolivia became caught in the

<sup>21</sup> For example respondent 87 explained that:

‘This year round I intend to cultivate on 2 acres of land compared to one acre of last year. To do this I will have to sell off my two goats. I feel poorer now than (three years ago). After the death of my husband I have to struggle single-handedly. Everything is harder. As a single parent now it’s rather hard but I have to keep trying... There are children studying. I have had to do a lot more i.e. bake bricks, burn them and sell them to send the children to school.

backwash from the global financial crisis which began in East Asia in 1997, and experienced a decline in foreign investment, growth, and tax revenue. Government measures to control the resultant deficit brought about not only political resistance but a gradual estrangement between the cabinet and other elements of the state, in particular the legislature and the police. This estrangement spilled over into two episodes of violence between army and civilians in March and October 2003 in which more than 100 people died.<sup>22</sup> When in October, for the second time in a year, the government fired on unarmed civilians, the result was a haemorrhage of public support and, within a few days, the resignation of the entire cabinet and the departure of President Sanchez de Lozada into exile. The link between conflict and poverty is intimate (Goodhand, 2003), but whereas in Uganda the conflict is on the periphery, in Bolivia it has increasingly forced itself into the centre of the country, and of government. The latest round of conflict has been associated with a vicious circle of declining investment and protectionist pressures, and hence in all probability with a further deepening of poverty levels.

**Table 8 Bolivia: summary data**

**Macro level**

	<b>1999</b>	<b>2002</b>
<b>Growth</b> (average 1990-2001)	3.8%	
<b>Gini coefficient of inequality</b>	61%	64%
<b>Poverty</b> (headcount, national poverty line)	62%	65%
<b>Severe poverty (&gt;50% below poverty line)</b>	36%	37%
<b>Poverty elasticity</b> (national poverty line)	0.20	
<b>Elasticity of severe poverty</b> (national poverty line)	NA	

Sources: Landa 2002a; Muller y Asociados 2003.

Whereas poverty in Uganda is not associated with ethnic cleavages, in Bolivia it is. Much of the poverty in Bolivia, and all the extreme poverty, is experienced by ethnic Aymaras and Quechuas living in the *altiplano* – the high mountain plateau in the west of the country –, who experience severe discrimination in access to education, legal rights and all services for which a command of Spanish is mandatory. The politics of the country has in recent years become fragmented along ethnic lines, with two of the main opposition parties<sup>23</sup> giving tacit support to violent extra-parliamentary action and promising to achieve the election for the first time of a native 'Indian' president (as has already happened next door in Peru). The ethnic Indians were not the main instigators of the October violence, only joining when others had lit the fuse, but they were its main victims: nearly all of those killed in the 2003 violence were ethnic Aymaras and Quechuas. It is a tempting but of course improvable speculation that a lesser focus during the mid-1990s on the headcount poverty index (which was more or less static through the decade) and a greater focus on the chronic poverty of the ethnic Aymaras might have foreseen, and conceivably headed off, some of the violence which actually occurred.

In seeking to explain perverse poverty elasticities we have already drawn attention to deficiencies of social capital, but in Bolivia they manifest themselves in a particularly dramatic form. Over and above the ethnic divide a breakdown of trust gradually built up within government between the executive and the legislature causing some parts of the legislature, from the mid-1990s onward, to advocate extra-parliamentary action in support of the demands of the socially excluded, and then to support such action when it materialised in violent form. These cleavages have been aggravated by trends in government expenditure and in the labour market. The trend of government expenditure, as illustrated in Figure 4, has not been pro-poor in Bolivia and has been particularly deficient in its support for the

<sup>22</sup> In the first of these incidents, many police were fighting on the side of the civilians against the government troops.

<sup>23</sup> The MIP and MAS.



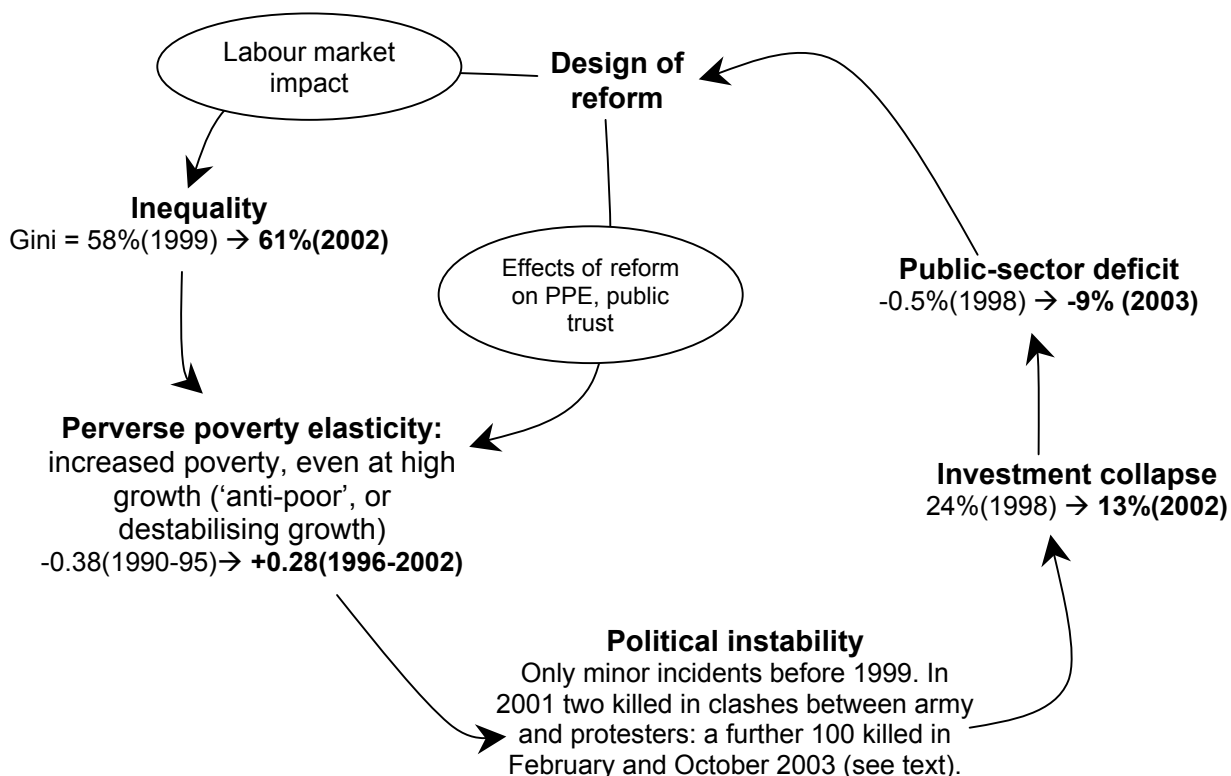
educational and health needs of the Aymara/Quechua ethnic groups of the *altiplano* (Figure 5). And the labour market, initially shattered in the mid-1980s by the closure of the all the country's large tin mines, was forced to shift towards self-employment and microenterprise which itself was badly damaged by the financial boom and bust of the late 1990s; late in the day, in December 2001, an Emergency Employment Creation Plan (*Plan Nacional de Empleo de Emergencia*) was put into action but with only minor impact (Landa 2002b).<sup>24</sup> By contrast with Uganda, agricultural production and employment have not recovered from the structural adjustment process, except in the production of soybeans and coca, much of it sold in the black market. Thus the three main macro-explanations of Table 4 - social capital, public expenditure patterns and the labour market – all have a role to play in explaining Bolivia's perverse poverty elasticity. Indeed, they also explain why the economy has been trapped in a process of hysteresis. The lower part of Figure 6 is simply the generic vicious circle of Figure 5, with Bolivian data written in.

**Figure 6 Bolivia – policy patterns and the 'poverty elasticity vicious circle'**

**(a) Policy profile (from Figure 4)**

	<b>PPE index (1990-2000)</b>	<b>Gini coefficient (2002)</b>	<b>Social capital (World Values Survey)</b>
<b>Bolivia</b>	-2.0	61.0	6.7
<b>Rest of developing world</b>	2.4	39.2	23.3

**(b) The 'anti-poor growth vicious circle' in Bolivia**



Sources: Landa 2003a,b; Muller+ Asociados, *Estadísticas socio-económicas 2002*, Santa Cruz: Banco Santa Cruz, 2003, tables 34.232,550; Instituto Nacional de Estadística

<sup>24</sup> The effect was insignificant for males, and slightly significant for females.

Does this diagnosis hold good at the level of interpersonal comparisons? Some tentative answers are provided by Table 9. As in Uganda, the 'transitions out of poverty' experienced better non-formal education and higher levels of trust *at the extended family level* (not the community level)<sup>25</sup> than those who remained poor; as in Uganda, the 'transitions out of poverty' showed higher levels of asset diversification. In Bolivia where ethnic discrimination is more of an issue, a sense of perceived discrimination was unfavourable to transition out of poverty. There is one additional important difference in the instruments which were effective

**Table 9 Bolivia: poverty transitions, 2002-2004**

Sample	Income 2002 (pre-crisis) (\$/month)	Income 2004 (post-crisis)	% transition out of poverty 2002-04	Correlates of poverty transition status:					Perceived discrimination (4)
				Education input		Trust scores in relation to:		Diversification indicator (3)	
				Some formal	Some non-formal (1)	Local community	Extended family		
Crecer clients (n=8)	23	46	75	25%	100%	1.2 (50% had used internal account)	3.8	2.0	50%
Crecer non-clients (n=9)	40	34	25	75%	15%	2.1	3.3	1.5	100%
Promujer clients (n=6)	26	29	33	100%	30%	2.2 (40% had used internal account)	3.4	1.8	60%
Promujer non-clients (n=6)	26	29	33	43%	100%	2.3	3.1	1.3	66%
All clients (n=17)	23	41	57	43%	100%	1.5	3.6	1.9	55%
All non-clients (n=15)	33	3	29	87%	22%	2.2	3.2	1.4	84%
All transitions out of poverty (n=12)	21	50	100	57%	71%	1.3	3.8	2.1	42%
All 'remained poor' or 'fell into poverty' (n=20)	26	31	0	60%	30%	2.1	3.0	1.1	70%
<i>t-stat</i>				0.16ns	4.65**	1.70ns	1.15ns	2.77**	

<sup>25</sup> Given that risks co-vary within the community, this is to be expected, since the extended family typically earn income outside the immediate community and are better positioned to provide insurance against shocks hitting the immediate community (personal communication, Valpy Fitzgerald)

against poverty. Microfinance, in Uganda as in many countries,<sup>26</sup> excludes the extreme poor. In Bolivia it does not: however it succeeds only in a specialised way. The only microfinance institutions in Bolivia which reach down to the poor and indeed the extreme poor, are the all-female ‘village banks’ PROMUJER and CRECER,<sup>27</sup> which offer education, legal advice, social intermediation and above all health services alongside microcredit (Marconi and Velasco 2004). Microfinancial services are a variety notoriously sensitive to clumsy transplantation, but the idea that organisations which provide protectional services to the poor are more likely to command their support in time of crisis (and thus be better able to combat their poverty during the recession) is one to which the Bolivian data give support.

#### 4. Policy and institutional options for exit from extreme poverty

In Table 10 we indicate those variables which, within the different methodologies that we have used, have shown promise in explaining the rate of poverty reduction, *given the level of growth*. That is, one may hope that if the levels of these variables are favourable, that will help to increase the rate at which poverty reduces of the level of growth is held constant. If (in the case studies) a particular variable is associated with exit from *severe* poverty that is indicated in bold type.

Our approach aims to be practical, and thus focuses not on inequality, whose linkage with pro-poor growth has already been demonstrated, but rather on three variables which we have shown to be correlated at the macro-level with a ‘strong’ (that is, negative) growth-elasticity of poverty – the pro-poor expenditure index, the rate of growth of the bottom end of the labour market, and a trust measure of social capital. Of these, the pro-poor expenditure index and the labour market can, we argue, be relatively easily influenced by policy, as shown in Table 10. Perhaps the most important message of this paper is that the *downward reach of public services* – especially in the fields of education, health and agriculture – is of key importance to poverty and the leverage of growth on it. In many cases aid donors have been able to exercise effective leverage on this variable, as shown in Mosley, Hudson and Verschoor (2004). In areas where downward reach has historically not been very impressive, such as extension in Africa, we have illustrated from our Ugandan case study that it is possible for such services to be made available to, and to work for, the poorest and that whether they are taken advantage of may make the difference between exit from and entry into poverty.

In relation to the second main correlate of poverty reduction, which is the growth of labour markets, the approach has to be much more indirect. Probably the single most important way of reducing poverty in Africa is to develop its labour markets, particularly for women, but that cannot be done by throwing money at them directly. Rather, as indicated in the table, it must be done indirectly, by development of infrastructure and by shifting the structure of demand towards goods which are labour-intensive: horticulture, herbs and spices, modern varieties of foodcrops, handicrafts, furniture, tourism, construction: all except the last, as it happens, goods and services which have export potential. Financial constraints may also limit the labour-absorptive capacity of an economy, which reopens the ‘can microfinance reach the very poor’ debate. Our own answer to this is ‘only if specially designed to do so’. Our evidence from Bolivia suggests that the only microfinance institutions which have reached

<sup>26</sup> See Hulme and Mosley(1996). The World Bank Operations Evaluation Department, in its millennium -year review of effective anti-poverty remedies, issued the following table, which conventionally relegated microfinance to a second-division role in tackling poverty:

<sup>27</sup> An impact survey of approximately 2000 clients of eight Bolivian microfinance institutions in 2002 produced 65 clients below the poverty line, 25 of them extremely poor (*indigentes*), and all but three clients of PROMUJER and CRECER. See FINRURAL(2003)

the poorest have followed an integrated rather than a minimalist model, and combined finance with the provision of social support. The model of sequenced microcredit practised in Bangladesh by BRAC and described by Hulme and Matin (2003) and Halder and Mosley (2004) is a relevant extension of this approach: not only, as Hulme and Shepherd have suggested (2003:404) is a 'package approach' needed in relation to countries with a high proportion of the chronically poor, but the components of the package need to be in the right order.

**Table 10 Summing-up: key variables associated with exit from poverty**

<b>Approaches Fields of enquiry</b>	<b>Macro regressions (tables 4 and 5)</b>	<b>Uganda case study (tables 6 and 7)</b>	<b>Bolivia case study (table 9 and figure 5)</b>	<b>Associated policy priorities</b>	<b>Prerequisites and corequisites</b>
<b>(Public) Expenditure</b>	'Pro-poor' ratio  Growth of agricultural share	Exposure to extension  Educational level	Expenditure in support of ethnic minority (Aymara and Quechua-speaking) groups	Public expenditure mix: priority to agricultural research and extension, primary health and education, rural water and sanitation	
<b>Labour markets:</b> Wage employment	Rate of wage increase	Willingness to negotiate own wage	Promote labour-intensive products especially for export (e.g. handicrafts, music)	End subsidies to capital  Encourage technical flexibility  Promote labour-intensive crops and other activities	
Self-employment		Avoidance of reckless gambles/asset disposal; true knowledge of value of defences against risk	'Credit plus' microfinance	Financial and physical infrastructure  Microcredit integrated with, especially, credit and training services	Savings/training as prerequisites for low-income microfinance  Emergency loan facilities
<b>Social capital</b>	World Values Survey measure of social capital	Trust within community	Ending of conflict  Inclusionary policies	Insurance against risks which are major livelihood threats (health, drought in foodcrop farming areas)  Other 'assurances' (especially greater openness in government)	Early-warning systems allowing the possibility of anticipatory actions against crisis

In terms of policy, our third key variable, social capital, presents even more of a problem. Trust, unlike physical and social capital, cannot be bought and sold through the market, and more broadly, as Glaeser (2002: F437) reports, 'there does not exist a commonly accepted framework for theorising about the determinants of investment in social processes that enhance trust, predictability and collaboration'. The issue is further clouded by the plurality of definitions in circulation: according to the influential Putnam definition, social capital is something which exists and is created outside of any influence of government. But, as a later literature demonstrates (e.g. Maloney et al, 2000; Lowndes and Wilson, 2001) national and local administrations can create social capital through anti-discriminatory legislation and expenditures, egalitarian language and participatory gestures; and, as our Bolivian case-study illustrates, they can even more quickly and easily destroy it. What is particularly relevant to the current study is that not only in Bolivia, but that in the majority of the other 'outliers' with positive growth and a negative poverty trend (Figures 3 and 4: Russia, Colombia, Peru, Venezuela, Lesotho) government has indeed embarked on social capital-damaging actions of this kind and appears trapped in a vicious circle in which they increase inequality and political instability, which reduces investment and growth, which reduces the scope for macro-economic manoeuvre, which sooner or later triggers emergency actions which further decumulate social capital (and deteriorate the poverty elasticity). One major challenge for development policy is to suggest ways in which it may be possible to break out of this loop.

Our answer to this is partial and tentative, which is to suggest that, over and above the factors previously discussed, improved *assurances* and improved *early-warning information* may be useful. Assurances are any device which reduces the costs associated with misplaced trust; we refer not only to formal insurance against the health and climatic risks which are faced by the poor, which has already shown its worth (Mosley et al 2003, Chapter 4), but to any action which provides an incentive to reduced mistrust: legislation which enforces greater openness is a good example.

*Early-warning information* does not just refer to information needed by government. Rather, we are reminded that, both in Bolivia and in Uganda, the 'survivors' who came out of poverty even during crisis were individuals who managed to anticipate and somewhat counteract it.

We have come quite a long way from Dollar and Kraay; but the explanation of why the reality we can see diverges from the one-to-one correspondence which they see is quite complex. Our own favoured programme to make growth more pro-poor rests on three bases: pro-poor expenditure; labour market development; and incentives to the creation of social capital. It is natural to ask for numbers to be put on this (in relation, for example, to the Millennium Development Goals). In relation to labour market development and social capital development, this is tricky, but in relation to the first plank in our argument (pro-poor expenditure), we have made an estimate, which is that it would, by 2015, reduce \$2/day poverty rates to 53% in Africa, 45% in South Asia and 22% in Latin America and the Caribbean (Mosley, Hudson and Verschoor 2003, table 5). The key component in this is a clear reduction in poverty in Africa,<sup>28</sup> achieved through the related measures of developing labour markets and smallholder agriculture, supported by the social capital measures above described.. The macro and micro evidence alike are eloquent that public expenditure, the labour market and the management of risk are the key battleground for moulding the development process so that it goes beyond what growth on its own can do.

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<sup>28</sup> Whereas the World Bank projections presuppose a virtual standstill in African poverty rates until 2005 (World Bank, *World Development Indicators 2003*, page 4).

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## Appendix 1 – Macro data

	<b>cname</b>	<b>ccode</b>	<b>hpov9099</b>	<b>gr9099</b>	<b>soccap</b>
1	cote d'i	civ	0.76	-0.80	16.10
2	ethiopia	eth	-0.11	1.42	12.20
3	ghana	gha	-2.04	1.60	21.00
4	kenya	ken	0.27	-0.67	54.10
5	lesotho	lso	1.83	2.18	25.50
6	madagasc	mad	0.85	-0.98	7.30
7	niger	ngr	0.38	-1.67	16.20
8	nigeria	nga	7.23	0.30	61.70
9	senegal	sen	-4.78	0.78	19.50
10	tanzania	tza	-14.30	0.43	22.40
11	uganda	uga	-2.12	3.29	20.00
12	zambia	zam	5.28	-1.99	29.80
13	zimbabwe	zim	-0.90	0.00	18.90
14	china	chn	-1.20	8.39	78.10
15	indonesi	idn	-0.16	3.09	96.10
16	philippi	ppi	-0.70	0.70	45.00
17	thailand	tha	-1.57	4.13	34.10
18	algeria	alg	-0.08	-0.21	110.50
19	jordan	jor	-0.55	0.43	35.70
20	morocco	mar	-0.38	0.74	35.00
21	tunisia	tun	-0.08	3.30	48.60
22	brazil	bra	-0.89	0.63	46.10
23	chile	chi	-0.86	4.78	34.70
24	colombia	col	0.82	0.92	83.90
25	costa ri	cra	-1.33	2.72	10.60
26	dom rep	rdo	-0.65	3.09	44.50
27	ecuador	ecu	-0.66	-0.20	31.70
28	guatemal	gtm	-3.61	1.32	60.00
29	honduras	hdu	-0.60	0.13	38.50
30	mexico	mex	0.53	2.00	60.50
31	panama	pan	-1.01	2.97	24.10
32	peru	per	1.30	1.44	53.00
33	venezuel	ven	0.56	0.35	59.40
34	bulgaria	bul	0.00	-1.73	37.40
35	czechrep	cze	0.00	0.17	19.40
36	estonia	est	0.69	-0.36	21.70
37	hungary	hun	1.75	0.84	21.80
38	kyrgyz	kyr	-4.33	-3.83	33.60
39	moldova	mol	3.20	-8.34	14.90
40	poland	pol	0.68	3.58	15.00
41	romania	rom	0.56	-1.76	18.70
42	turkmeni	trm	4.18	-5.06	42.20
43	banglade	bgd	0.24	3.08	30.50
44	india	ind	-2.95	3.60	41.00
45	pakistan	pak	-2.07	1.48	56.50
46	sri lank	lka	-0.28	3.98	68.20
47	bolivia	bol			21.20

*Variable codes*

Hpov9099 = change in headcount poverty 1990-9

GR9099 = growth rate 1990-9

Soccap = Observer human rights index (first social capital proxy)





	Initial conditions						Policy inputs			Experiences and responses			
	<i>Income 2001 (sh/month)</i>	<i>Income 2003</i>	<i>Assets</i>	<i>Personal circumstances</i>	<i>Social capital</i>	<i>Labour market</i>	<i>Formal education/ recent training</i>	<i>Extension</i>	<i>Microfinance</i>	<i>Agricultural yields (% change 2001-03)</i>	<i>Employment</i>	<i>Self-employment</i>	<i>Other coping strategies incl. asset sales</i>
120	24048			Death of 2 year old child, 2002	Heavily and successfully drawn on			Yes	No	+			Sold cattle
143						Casual weeding labour	Primary	No	No				
229	13917					See 17	Secondary	Yes: diversified, with a substantial payoff (see 7)	No	+			Had to sell land(see 7)
233	9189												
269													
282	13452					See 19	None						
<b>Sample mean</b>								62%	14%				

Source: interviews, March 2004.

Note:

Income (cols 1 and 2) defined as monthly mean income per equivalent adult per household.

Poverty line = Sh 29000(\$14) per adult equivalent per month.

*(ii) Households staying poor or falling into poverty between 2001 and 2003*

	Initial conditions						Policy inputs			Experiences and responses			
	Income 2001 (sh/month)	Income 2003	Assets	Personal circumstances	Social capital	Labour market	Formal education/ recent training	Extension	Microfinance	Agricultural yields (% change 2001-03)	Employment	Self-employment	Other coping strategies incl. asset sales
4				Two burglaries, uninsured accident			Secondary	Yes	No				Land sale
32				Widowed			None	No	No				One acre of land sold
35f				Widowed			Secondary	Yes	No	More than halved, to 500kg/ha.			Asset disposal (see 8)
110					Failed (see page 22 above)		Primary	No	No		Took on casual labour after all else failed (see 9)	Brewing business (see page 22 above)	
119				Intra-family exploitation (see 10)			None	No		Crop failed, 2002; now unable to rent land(see(10)			
120								No	No				
172							Secondary	Yes	No	Halved; harvest ruined by floods (see 11)			One acre of land sold off (see 11)

	Initial conditions						Policy inputs			Experiences and responses			
	Income 2001 (sh/month)	Income 2003	Assets	Personal circumstances	Social capital	Labour market	Formal education/ recent training	Extension	Microfinance	Agricultural yields (% change 2001-03)	Employment	Self-employment	Other coping strategies incl. asset sales
275							Primary	No	No			Attempted, but market wiped out by cut-throat competition;livelihood wrecked by burglary and uninsured accident (see 12)	
282						Casual labour taken on in desperation (see 13 below)	None						
Sample mean								28%	0%				

### Appendix 3 – Anecdotal material – Uganda

#### Persons moving out of poverty:

(1) #143: 'Government should prosecute doctors who hoard medicine, because government stocks hospitals with medicine and doctors steal it... To go to a government hospital is only to go for first aid.'

(2) #91: 'He has no land where he could plant vanilla. On how to make manure and use fertiliser he took the advice, began using the fertilisers and got positive results because the price of land became productive. The advice paid off because before applying the fertilisers I used to get 1.5 bags of maize (per acre) but now I get 3 bags'.

(3) #59: (nb no formal education): 'My strategy is to try and cultivate my land in the hope that when the yield is good I can sell part of it and buy essentials like books for my grandson'

(4) #59: 'We were advised to diversify by beginning to grow vegetables like cabbages, tomatoes through coming together as a group and accessing the inputs. We accepted the advice immediately because as a group you immediately get what you want'.

(5) #87: This year round I intend to cultivate on 2 acres of land compared to one acre of last year. To do this I will have to sell off my two goats. I feel poorer now than (three years ago). After the death of my husband I have to struggle single-handedly. Everything is harder. As a single parent now it's rather hard but I have to keep trying... There are children studying. I have had to do a lot more i.e. bake bricks, burn them and sell them to send the children to school.

(6) #90 (recently widowed): 'Yes, I have tried to bargain my wage rate, but not with any positive results because many people are willing to work and sometimes you have no choice but to work.

I was not so economically active when my husband was still alive. Last year I began to look for ways of increasing my income:

- I tried selling pancakes, but that failed;
- I tried breeding exotic goats, but that failed;
- Once in a while, I chanced to be included in the team to work on feeder road maintenance.'

(7) #229 (out of severe poverty) 'In 2001 I attempted to plant maize on a little larger scale and rented 3 acres. That year there were heavy rains which flooded the fields and soon the crops failed. A lot of capital was lost. Subsequently I had to sell off 2 goats which realised me some money.

Apart from planting maize and beans this year I plan to farm one whole acre of onions and another of cabbages. Hopefully this will increase my income... I accepted (extension) advice immediately on improved varieties, use of fertilisers and proper spacing of crops. I had not used fertilisers earlier but I once I tried to do what I had been told, the yield was very good. (an increase of up to 800kg of cabbages).

There is a problem of lack of waged work. In all cases if there was an opportunity to do waged work I would much rather rely on it rather than earn income (sc. from self-employment inside or outside agriculture)'

Persons moving into poverty:

(8) #35: Early last year (2003) the rains poured by February (before the beginning of the normal wet season) and we were forced to plant crops quite early. Soon there was scorching sunshine which killed off the young plants. In buying seed I have depleted the little resources I had. (To raise cash) I have felled a few trees that have been in my unused gardens. This I will sell as firewood... (After the disastrous harvest) I was forced to sell my livestock in the form of 5 chickens and one goat. This fetched me 30000/-(\$15)

(9) #110: 'In 2002, when my late husband passed away, I had to find a way of earning to run the home. So I started a business brewing local gin (waragi). Sometimes it did not sell well, because owing to fluctuations in heat the gin did not come out of the desired quality; but we sold several jerrycans in Moroto district. But this source of income collapsed when government passed a law banning the distillation and sale of gin,<sup>29</sup> and my stocks were confiscated – I had just paid the molasses dealer, and made a large loss.

I went to my local rotating savings and credit association for an emergency loan but they refused to help us. I am now struggling to earn money, and have to resort to casual farmwork, as I await a way of getting start-up capital for buying molasses...'

(10) #119: ' (A few years ago) I could afford to hire/rent enough land so that I could get a big harvest. But if you get a bad harvest while you are renting, that is a fatal loss. I cannot rent land now. My greatest hope (my brother) also got problems when his wife stole his money. I had lent him 500,000 shillings (\$250). The brother retained 200,000/- but that disappeared in buying livestock for the brideprice, so my own investment in him has disappeared. I had to resort to digging for the people as a means of survival.'

(11) #172: 'In the year 2002 I was compelled to sell off one acre of land in order to meet the school fees requirements of my two children in secondary schools. This has since affected me greatly as I have been left with only one acre to cultivate. In the last year I had to hire or rent an acre to supplement the one which is already remaining with me. Last year however I received a financial upset when my harvest in the rented garden all failed. There were heavy rains which flooded the garden, consequently damaging the crops.

(With school fees) you're likely to be unable to get help because very few persons who are in a position to help understand the value of education.

(12) #275: I used to sell bunches of sweet bananas but no longer do... because the supply of these bananas became scarce. Other traders from the city used to come to buy these bananas...This increased their price and I could no longer afford them. Government is at fault because it did not control this cut-throat competition.

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<sup>29</sup> In fact such a law, regulating and not banning *waragi* manufacture, had existed for some time. What happened was that the enforcement of the law was tightened up in Mbale district shortly after the respondent started her distillery.

In December 2002 thieves broke into our house with the intention of killing my husband. Fortunately he wasn't there but they robbed me of all my property. We were barely left with anything and had to start from scratch. To cope, we had to sell a plot of land. Also late last year thieves broke into my husband's shop and took away items in the shop. Roundabout the same time the truck owned by my husband had an accident, killing a few people and injuring many more. Since then my husband has had to meet treatment expenses for those injured.

(13) #282: 'Sometimes I am forced to go and dig for people so that I can get to buy some of the essentials like soap. Yet prior to this I could afford to buy seeds for planting and then household items. That was before I was retrenched. My hired land was taken away by my stepsons because customary land belongs to men and not women.'