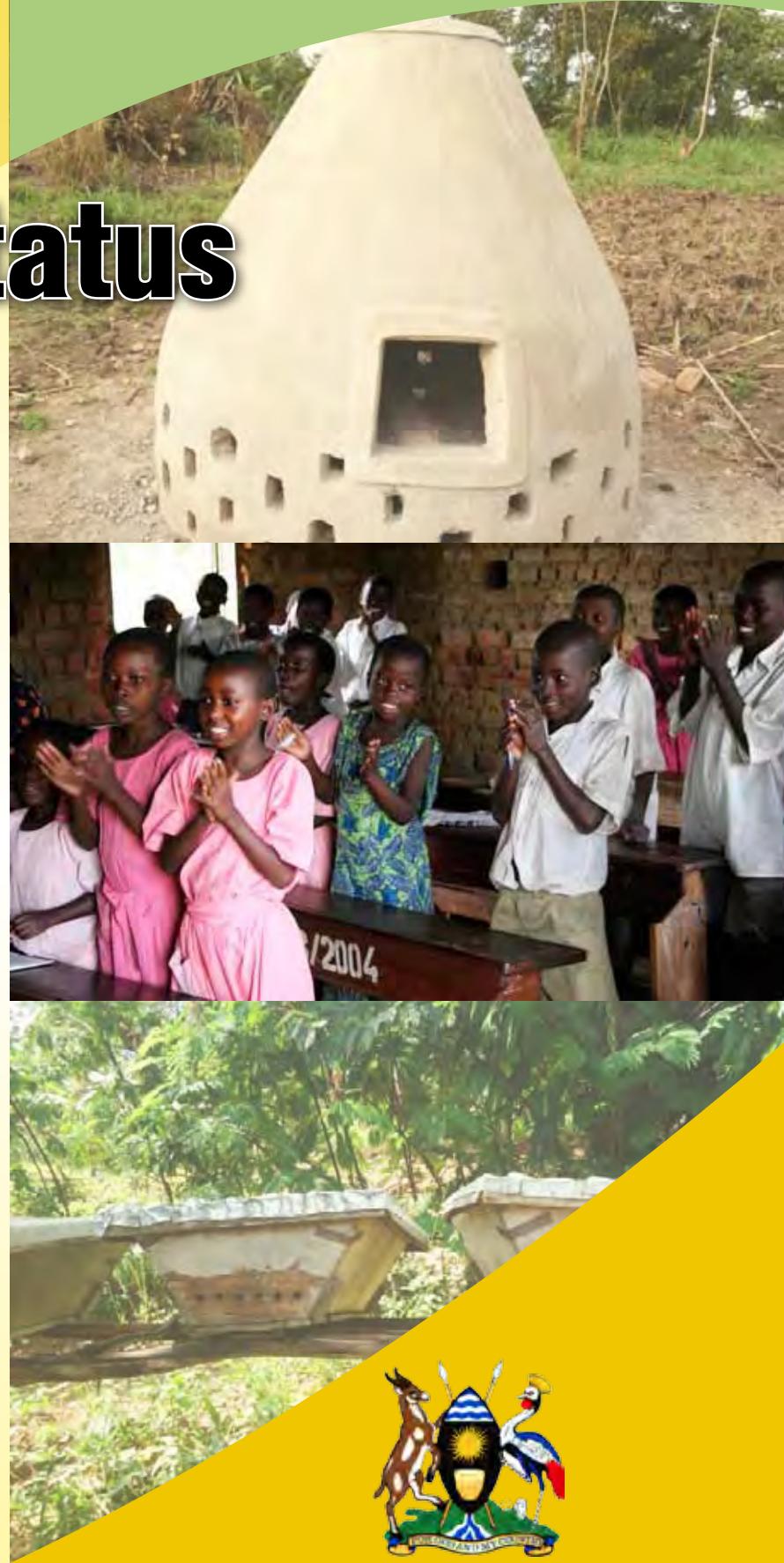


# Poverty Status Report

Poverty Reduction  
and the National  
Development  
Process

Reducing vulnerability,  
equalising opportunities and  
transforming livelihoods



THE REPUBLIC OF UGANDA

**Economic Development Policy and Research Department**  
Ministry of Finance, Planning and Economic Development  
**MAY 2012**



# Foreword

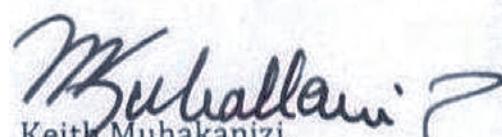
The economic and policy context has changed in many ways since the publication of the last Poverty Status Report in 2005. The release of the 2009/10 household survey brought good news of an acceleration in the reduction of consumption poverty. But more recently, dramatic swings in prices – including of the staple food crops on which the poor depend – have undoubtedly led to corresponding changes in household purchasing power, threatening the progress made. Against this backdrop, there has been a fundamental shift in Government's overarching development strategy. The National Development Plan emphasises economic growth and structural transformation, but this requires that we pay more attention to the distribution of income and of economic opportunities. The report provides a timely and comprehensive overview of the implications of these changes for the poverty reduction agenda.

Significant progress has been made. But it is also clear that many of those who have escaped absolute poverty remain highly vulnerable: the report classifies 43 percent of the population as non poor but insecure. The large price risks that households face have been laid bare. Perhaps the most important contribution is made by illustrating the links between this vulnerability and economic transformation. Convincing evidence is presented that the transformation process is well underway – there has been dramatic growth and diversification of the non-agricultural economy. But households commonly straddle the farm and non-farm sectors, reluctant to specialise in either activity. This is due to the vulnerabilities they face. We all know that uncertainty deters investment – this has underpinned Government's emphasis on ensuring macroeconomic stability over the last 20 years. The new evidence in this report (both quantitative and qualitative) illustrates the importance of microeconomic stability – the volatility at the level of the household. Sources of this uncertainty include unpredictable weather, crop and livestock diseases, ill health, price fluctuations, insecure access to land and many other factors. Just as foreign investors are reluctant to enter the Ugandan market when price or exchange rate uncertainty clouds the expected return, a peasant farmer is unlikely to invest in fertiliser, or adopt a new crop or technology when their risks are so large. As a country, we needed to ensure macroeconomic stability before we were able to scale up public investment under the NDP. This report demonstrates how the same logic applies at the micro level: poor households will not invest in their own productive capabilities until they have sufficient economic stability.

As policy makers we must remember that the uncertainty households face always influences the choices they make. This has implications for almost all policy interventions. Another theme of the report is the equality of opportunity, and the most important opportunity is education. The inequality in primary school completion is revealed to be extremely high. On the whole this does not reflect the supply of

education services – which UPE has made much more equal – but the demand from parents. Children born into more vulnerable environments are much less likely to complete primary school. Vulnerable households find it difficult to make the long-term tradeoffs required to keep their children in school. Primary school dropouts will earn less as adults and their children will be less likely to receive a good education. This vulnerability trap is inequitable, and also undermines economic growth. The less fortunate have talents and capabilities to contribute to Uganda's transformation that are often squandered.

This understanding sets the stage for more constructive debate and better policies to reduce poverty. I hope that we can move beyond discussions over the poverty line to directly address the vulnerability that households face. We must recognise the profound social and economic transformation that has already occurred – the Ugandan middle class has grown from 1.8 million people in 1992 to over 10 million today. The implications of this change are further-reaching than the purchasing power of an expanded market. This new class of Ugandans are relatively secure, with the ability to invest in the country's brighter future. In assisting those who remain vulnerable, it is my hope that we can learn from the experience of Latin America. Deliberate policy measures there – particularly large cash transfer programmes and efforts to expand education opportunities to the most disadvantaged – have successfully addressed deep inequality, with a significant dividend in terms of economic growth. We should not choose between these types of policies and infrastructure investment – both are necessary components of our development strategy. We require a more secure, forward-looking population to help fund the investment required; while an expanded public works programme could generate significant employment, reducing vulnerability and addressing the infrastructure gap simultaneously.



Keith Muhakanizi  
For: Permanent Secretary / Secretary to the Treasury

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# List of Acronyms and Abbreviations

ACF	Agricultural Credit Facility
ADAP	Ankole Diary Products Cooperative Union
AgriFin	Agriculture Finance Support Facility
COD	Cash on Delivery
DANIDA	Danish International Development Agency
DfID	Department for International Development
DDA	Diary Development Authority
FGD	Focus Group Discussion
HFB	Housing Finance Bank
HIPC	Heavily Indebted Poor Country
IHS	Integrated Household Survey
ISSB	Interlocking Stabilised Soil Block
KIDDP	Karamoja Integrated Disarmament and Development Plan
KII	Key Informant Interview
MAAIF	Ministry of Agriculture, Animal Industries and Fisheries
MLGSD	Ministry of Labour, Gender and Social Development
MFPED	Ministry of Finance, Planning and Economic Development
MDG	Millennium Development Goal
MFI	Microfinance Institution
NAADS	National Agricultural Advisory Services
NDP	National Development Plan
NGO	Non Government Organisation
NUSAFC	Northern Uganda Social Action Fund
NWSC	National Water and Sewerage Corporation.
PEAP	Poverty Eradication Action Plan
PMA	Plan for Modernisation of Agriculture
PPA	Participatory Poverty Assessment
PFA	Prosperity for All
PTA	Parent Teacher Association
REPO	Repurchase Option
ROSCA	Rotating Savings and Credit Association
RFSS	Rural Financial Services Strategy
SACCO	Savings and Credit Cooperative
SAGE	Social Assistance Grants for Empowerment
UBOS	Uganda Bureau of Statistics
UCE	Uganda Commodity Exchange
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Programme

UNHS	The Uganda National Household Survey
UNPS	Uganda National Panel Survey
UPE	Universal Primary Education
USE	Universal Secondary Education
USAID	United States Agency for International Development
VSLA	Village Saving and Loan Association
WRS	Warehouse Receipt System

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The drafting of the report was undertaken by a team within the Economic Development Policy and Research Department (EDPR) of the Ministry of Finance, Planning and Economic Development. The team included Dr. Albert Musisi, Dr. Frederick Mugisha, Chris Opesen, Marion Mbabazi and Peter Richens.

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# POVERTY STATUS AT A GLANCE

**Number and percent of Ugandans that are absolutely poor, insecure non-poor and middle class**

Year	1992/93	1999/00	2002/03	2005/06	2009/10
Absolutely Poor (millions)	9.9	7.4	9.3	8.5	7.5
Percent below the poverty line	56.4%	33.8%	38.8%	31.1%	24.5%
Non-poor but insecure (millions)	5.8	9.6	9.6	11.0	13.2
Percent non-poor but insecure	33.4%	43.9%	39.9%	40.2%	42.9%
Middle Class (millions)	1.8	4.9	5.1	7.8	10.0
Percent in the middle class	10.2%	22.4%	21.2%	28.7%	32.6%

Source: UNHS various years

## Inequality based on the Gini coefficient

	1992/93	2002/03	2005/06	2009/10
Uganda	0.365	0.428	0.408	0.426
Rural	0.328	0.363	0.363	0.375
Urban	0.396	0.483	0.432	0.447

Source: UNHS various years and IHS 1992/3. Zero expresses perfect equality and one expresses maximal inequality.

## Selected Millennium Development Goals

	2001	2004	2007	2010
2.1 Net enrolment ratio in primary education	87%	90%	93%	96%
2.2 Completion rate to primary 7	63%	62%	47%	54%
	1995	2000/01	2005/06	2011*
4.1 Under-five mortality rate (per 1,000 live births)	156	152	137	90
4.2 Infant mortality rate (per 1,000 live births)	81	88	76	54
5.1 Maternal mortality ratio (per 100,000 births)	506	505	435	352 <sup>\$</sup>
5.2 Proportion of births attended to by skilled personnel	38%	39%	42%	59%
5.3 Contraceptive prevalence rate	15%	23%	24%	30%

Sources: Education & Sports Sector Annual Performance Report 2007/08; UDHS various years; Uganda MDG Report 2010; \*UDHS2011 Draft Report; \$indicative estimate – Institute of Health Metrics.

## Other welfare indicators

	2005/06	2009/10
Children under 18 years with possession of a blanket	35.3%	43.1%
Households with iron-roofed house	60.6%	61.8%
Households with at least one mobile phone	16.7%	46.3%
Proportion of population using mosquito nets	16.8%	41.1%

Source: UNHS various years

# Executive Summary

The reduction of poverty and vulnerability is an integral part of Uganda's national development. This report considers the national development process from the point of view of an individual household. From this perspective, socioeconomic transformation means that all households are made more secure and hence forward-looking with a strong incentive to invest. This requires that individuals have faith in a brighter future. The necessary sense of optimism can be provided in a number of ways. Three of the most important are an effective insurance mechanism or social safety net, a quality education for one's child, and secure employment with a steady income. This motivates the three interrelated themes of the report – the extent to which Ugandans are vulnerable and unsure of their economic environment, inequality in the access to education opportunities, and household livelihoods.

The report is structured into four parts. Part I reviews recent changes in the policy context and the debates surrounding poverty in Uganda, and introduces the conceptual and methodological approaches taken by the report. Part II analyses the progress made over the last two decades and the key challenges that remain. Part III draws out the policy and practical implementation lessons from this analysis, global evidence, and a number of illustrative case studies. The key policy recommendations are summarised in Part IV.

## 1 The current poverty status

The share of Ugandans living in poverty decreased from 56.4 to 24.5 percent between 1992/3 and 2009/10. This success means that there were over 23 million Ugandans above the poverty line in 2010. But of this group around 13 million are classified as 'insecure non poor'. These households had consumption below twice the poverty line, they are able to meet their basic needs but remain insecure and vulnerable to falling into absolute poverty.

The 10 million Ugandans above twice the poverty line – classified here as the middle class – are distinct in a number of respects. They are much less vulnerable. They face lower risks because their incomes are higher and more stable, and they are better able to cope with risk because they have more assets and better access to savings instruments and insurance mechanisms. This middle class devotes a higher proportion of total consumption to expenditure on education, and has fewer and more-educated children. Middle-class households are marginally more likely to run a business but much more likely to benefit from a non-agricultural wage income and much less likely to rely on subsistence agriculture. In contrast, the distinctions between the poor and those just above the poverty line are less pronounced.

There has been progress across all the regions of the country. Between 2005/6 and 2009/10 the largest improvements in welfare were experienced in the central and eastern regions and West Nile. But there remains very large variation across the country. In Kampala, 77 percent of the population are middle class. In the North East, 76 percent are poor.

The findings of a Participatory Poverty Assessment (PPA) confirm that there has been significant progress. In 1990, lack of a hand hoe or of an animal hide were perceived as key indicators of poverty. The same communities in 2011 reported the lack of an ox plough or mattress as the corresponding characteristics of poverty. Likewise, those perceived to be poor in 1990 lacked access to education and healthcare, but today the quality of these services is the key issue. Of the 1,344 households in the sampled PPA villages, 22 percent were perceived to be extremely poor. This roughly corresponds to the 24.5 percent of Ugandans living below the national poverty line, which should be interpreted as a measure of absolute poverty. 56 percent of households were perceived to be poor but not extremely poor, reflecting the increasing importance of relative poverty.

## 2 Reducing vulnerability

The sources of vulnerability are mainly inherent to rain-fed smallholder agriculture – unpredictable weather, pest attacks, livestock epidemics and poor seed quality. Half of all households had suffered from extreme weather over the previous five years (mainly drought), while 17 percent experienced other agriculture-related shocks. Access to risk-coping mechanisms is inadequate. Of those affected by extreme weather, over half were forced to lower their consumption. Poor and insecure households are consistently more likely to report reduced consumption following a negative shock – reflecting a lack of access to other coping mechanisms such as use of savings, borrowing or support from friends or family.

Two new sources of evidence reveal more about the extent and nature of vulnerability in Uganda. The Uganda National Panel Survey (UNPS) is a nationally representative household survey that tracks the same individuals over time. Having data on the same individuals at more than one point in time makes it possible to observe fluctuations in wellbeing and social mobility at the individual level. The picture that emerges from this dataset is of relative stability among the middle class, but extreme volatility among the poor and those just above the poverty line. Using econometric techniques, it is possible to predict consumption based on household characteristics. The correlation between actual and predicted consumption is 0.62 for the middle class but only 0.37 for the poor. Compared with international evidence, the extent of volatility appears extremely high; consumption in Uganda is as volatile

as income in some other developing countries.<sup>1</sup> After taking these fluctuations into account, the poor have high persistence in the level of underlying income. This suggests that some households are trapped by their vulnerability. The returns to education are the highest among the poor, but these households devote a lower share of their total consumption to investment in human capital. This to some extent prohibits wage employment as an escape route out of poverty. The opportunities that remain are inherently insecure.

The results of the Participatory Poverty Assessment (PPA) provide a more in-depth understanding of the vulnerability faced. The attraction of non-farm activities – be it petty trade or boda boda riding – was consistently explained in terms of the stability of the income earned. A formal-sector salaried job is a near-universal aspiration due to the security provided, while those employed on a short-term casual basis reported that the uncertainty regarding their next job made it almost impossible to think ahead and plan for the future. The poor tend to value their assets in terms of their insurance function rather than the potential economic return. In rural areas, land is the most valued asset since it acts as a safety net – selling or renting out land is widely perceived to indicate extreme hardship. This is the root cause of pervasive underemployment in the agricultural sector.

Insecurity resulting from fluctuations in the price of food is examined in more detail. Most households both buy and sell food items, and their net positions differ by crop. Few households are self-sufficient and the rural poor tend to rely on food purchased on the market to cover some of their basic needs. The short-run impact on household purchasing power of the price changes observed over recent years was estimated assuming households do not adapt to the changing prices. The average short-term impact of the recent price changes was a reduction in purchasing power between 5 and 20 percent. The relative impact was even larger for the poor, at up to 36 percent of initial consumption. Many households only just above the poverty line have been hurt by the price changes – if households did not adopt any strategy to cope with this shock, the poverty rate would have increased to between 27 and 32 percent. This exercise illustrates the magnitude of the price risks faced. It is unlikely that households – particularly the poor – have strategies to cope with these risks that could have averted a significant reduction in living standards. Price volatility is more important for welfare than the level of prices, particularly when considering the longer-term effects. With price uncertainty as extreme as experienced over the last few years it is unsurprising that so many agricultural households remain reluctant to invest in new technologies such as fertiliser.

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<sup>1</sup> The comparison used in Indonesia during the mid 1990s. See appendix I for details. In general, one would expect income to be significantly more volatile due to consumption smoothing.

It is important to stabilise the price of agricultural commodities, particularly those most important for poor households such as maize. Improvements in the food market information systems for monitoring and disseminating accurate and timely price data, and forecasting weather and crop production are a pressing priority. There is a need for better storage and post-harvest handling facilities, but not direct Government provision. Low-cost private solutions can be supported to serve small farmers, while expanding the number of private warehouses participating in the warehouse receipt system is also important. Financial instruments to manage price risks should be considered. One approach could be a repurchase option (REPO) deal between Government and private traders or financial institutions, which has the potential to avert major price spikes and support the price floor during the harvest season.

III health is another major risk that requires renewed attention. Implementation bottlenecks in key health interventions including malaria prevention and de-worming must be addressed.

Government can find ways to expand access to savings instruments – particularly through mobile money – and support the emergence of a market in weather insurance. The focus of SACCOs should shift from credit to savings.

The long-term economic benefits of the cash transfers currently being piloted could be large, but expanding the programme must be fiscally sustainable. Given scarce public resources and other pressing priorities such as infrastructure investment, there must be renewed focus on improving the efficiency of public expenditure and revenue collection. To compliment the cash transfer programme, an expanded public works or employment guarantee scheme could effectively target the most vulnerable individuals among those able to work, and also address the infrastructure gap.

### **3 Equalising opportunities: access to education**

The additional emphasis that the National Development Plan places on economic growth and structural transformation requires that more attention be paid to inequality. While objective measures of outcome inequality have not increased (Uganda's Gini coefficient was 0.426 in 2009/10 compared to 0.428 in 2002/3), perceived inequality is rising. This is partly because rising incomes have been matched by higher aspirations, but also reflects resentment regarding unequal access to economic opportunities.

The most important economic opportunity is education. Children that fail to complete primary school will be disadvantaged as adults, and their children will in turn be less likely to complete their education. It is revealed that only 28 percent of 13 to 18 year-olds in 2009/10 had completed primary school. This average masks very large inequalities. Less than 11 percent of the 13 to 18 year-olds living in the north in households with a head who is a subsistence farmer with no formal education have completed primary school. This corresponds to 68 percent of those in the central

region with a household head who has completed secondary school and is not a subsistence farmer. 33 percent of the opportunities currently available would need to be reallocated in order to achieve equality in primary school completion. The corresponding average figure for Latin American and Caribbean countries is 12 percent. The unequal likelihood of completing primary education does not reflect the talent or effort of the children, only circumstances beyond their control. Addressing this inequality would have large benefits in terms of efficiency and ultimately economic growth.

The factors that determine the likelihood of primary school completion are analysed quantitatively. Holding other factors constant, both the level of household consumption and the education of the household head are strongly correlated with completion, suggesting that demand-side factors are particularly important. Economic vulnerability plays a central role in withdrawal from primary school. Parents that are insecure in their ability to provide their family's most pressing needs are unlikely to bear present costs to keep their children in school in the anticipation of returns only in the distant future.

UPE has successfully brought the necessary schooling hardware within the reach of the vast majority, but outcomes remain inadequate for vulnerable households. Maintaining the current focus on physical infrastructure – building new classrooms, latrines and teacher accommodation – will not be sufficient.

To assist the pupils most at risk of dropping out, it is necessary to correct a number of misperceptions that currently bias attention towards the top end of the distribution – the most-talented students and best-performing schools. Education is widely viewed only as a route into salaried employment. If the likelihood of this outcome is judged to be low, there is little inclination to invest in education. But this perception is contradicted by the evidence – the returns to education in Uganda do not depend on accessing a formal-sector job, and are in fact highest for poor households. Even basic literacy and numeracy skills can significantly improve management of farming activities, micro-businesses and household finances, and have many noneconomic benefits.

To redress the balance, a number of specific interventions are required to target the disadvantaged pupils most at risk of dropping out. Potential interventions known to be highly effective include remedial education, preschooling and school meals. But to be effective in Uganda these interventions must be adapted to take account of local conditions. This can be achieved through a new financing mechanism that gives schools greater flexibility to allocate their resources and stronger incentives to improve outcomes. Some elements of school funding could be made directly dependent on their performance relative to their geographic neighbours. Performance should be judged on both the number of test takers and their average score such that schools are rewarded for each additional student scoring above zero. Rewarding relative rather than absolute performance would avoid technical

difficulties in measuring progress over time and ensure that resources are not allocated to more advantaged regions.

## 4 Transforming livelihoods

Dramatic changes are occurring in how Ugandan households generate income. Between 2005/6 and 2009/10, the proportion of rural households relying primarily on subsistence agriculture declined from 64 to 54 percent, reflecting significant diversification into non-farm activities. In 1992, only 24 percent of rural households operated a non-farm enterprise. This had increased to 38 percent by 2005/06. Since then the growth has been most pronounced in terms of non-agricultural wage employment – now the primary source of income for 17 and 45 percent of rural and urban households respectively.

There is strong evidence that this shift away from agriculture has been welfare-enhancing. Individuals that moved from agricultural to non-agricultural employment enjoyed significant increases in consumption, for themselves and their families. Non-farm enterprises and wage employment are associated with equally large welfare improvements, but non-farm enterprises appear to serve as an intermediate step between agriculture and non-agricultural wage employment. Few individuals transition directly from subsistence agriculture into non-farm wage jobs. But many do begin to operate a non-farm household enterprise, and a significant number of non-farm own-account workers move into wage employment.

Informal household enterprises are a necessary and positive stage between the peasant-dominated economy of the 1990s and the modern and prosperous society envisaged in the NDP. They reduce underemployment and provide some much-needed stability that encourages forward-looking investment. Different parts of the country are at different stages of this transition. Informal enterprises are distributed relatively evenly across the country, but have greatest potential for growth in poorer regions such as the north.

Farmers associations are increasingly important in integrating smallholder farmers into agricultural supply chains, enabling greater bargaining power, access to credit and other inputs, productive knowledge and market information. But these groups must be viewed as economic structures for the producers rather than instruments for rural development controlled by Government. Instead of creating new structures, Government, through NAADS, should facilitate the emergence of commercially oriented farmers associations and provide technical assistance to those that have already emerged.

Contract farming arrangements are improving market integration, reducing price uncertainty and facilitating access to training, credit and other inputs. But imperfect contract enforcement and the market power of large traders and processors often limit the benefits for small farmers. Government must avoid the temptation to support

individual firms engaged in contract farming. Support should instead be provided at the industry-level through interventions targeting the most binding constraints afflicting a particular sector.

There is a growing group of small but progressive farmers who are increasingly credit constrained. The Agricultural Credit Facility should be refocused with greater emphasis on partially guaranteeing the credit extended to the agricultural sector, particularly longer-term loans financing equipment and productivity-boosting investments. It must be made easier for farmers to use alternative forms of collateral.

A fluid market in secure rights to land is required to boost agricultural growth and facilitate urbanisation as a driver of growth. Land is one of the most important assets in Uganda, particularly for poor farmers, but the dominant mailo and customary land tenure systems are plagued by overlapping claims and restrictions to land use. Conservative estimates suggest that the investment disincentives resulting from tenure insecurity reduce agricultural productivity by 25 percent. Restrictions to the land market inhibit the movement away from agriculture and make it more difficult to reuse the same piece of land for higher value activities over time.

Property rights could be strengthened in a decentralised manner by exploiting the private demand for greater security. ‘Land banks’ could be established that would both rent in land from landowners and lease it out to farmers and developers. Their profits would depend on the greater security of the land rights provided, creating a strong incentive to build and maintain a reputation for reliability.

Policy makers must allow Uganda’s towns and cities to respond flexibly to the changing needs of households and private firms. It is particularly important to strengthen the physical planning departments in municipal authorities to improve the management of the smaller urban centres that are the key link between the farm and non-farm economies.

# PART 1: SETTING THE CONTEXT

The report is structured into four parts. Part I reviews recent policy debates surrounding poverty in Uganda and introduces the approach taken by the report. To help set poverty reduction within the new national development context, non-poor households are disaggregated into those who remain insecure and those belonging to the ‘middle class’.<sup>2</sup> The analysis throughout revolves around three interrelated themes – the extent to which Ugandans are vulnerable and unsure of their economic livelihood; inequality in the access to opportunities; and changing patterns in the production and allocation of resources. Part II aims to deepen understanding of the progress made over the last two decades as well as the key challenges that remain. Despite the large reduction in the share of Ugandans living in absolute poverty, many remain vulnerable and are unable to access the opportunities created by national development, which in turn undermines the transformation process. Part III draws out key lessons on how these challenges can be addressed from a number of illustrative case studies and international evidence. Based on these lessons, specific policy recommendations are proposed in Part IV.

## 1 Sources of evidence

The report represents a synthesis of several background research papers and has benefited from the contributions of numerous stakeholders. The Uganda National Household Survey (UNHS), which has been conducted every three to four years since 1992, is the key instrument used to monitor changes in socioeconomic welfare. The latest household survey, completed in 2009/10, is the most important source of information on the current status of poverty in Uganda as a whole. The 2010/11 census of business establishments is used to provide additional evidence on wage employment opportunities.

This is complimented by the Uganda National Panel Survey (UNPS), a nationally representative household survey that tracks the same individuals over time.<sup>3</sup> Having data on the same individuals at more than one point in time has several important advantages. It becomes possible to observe dynamic concepts such as chronic poverty and social mobility at the individual level. It also allows for more rigorous analysis of causal relationships in general, and the drivers of poverty reduction in particular. Much of the existing debate on poverty is informed by correlations between the level of consumption and household characteristics. For example, higher-consumption households tend to have fewer members, are better-educated,

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<sup>2</sup> Section 4 of Part I details what is meant by ‘middle class’ in the Ugandan context.

<sup>3</sup> A sub sample of the UNHS 2005/6 was selected for follow up in 2009/10.

have more assets, live in urban areas, and are more likely to rely on non-farm enterprises or wage employment. But it may be wrong to conclude that these factors all cause higher consumption. Observing that the *same* individuals have higher income as wage workers than as subsistence farmers, for example, is much stronger evidence of a causal effect. This newly available dataset makes it possible to appreciate the extent and nature of vulnerability that Ugandans face, one of the core themes of the report. The econometric analysis performed is summarised in Appendix I, and described in more detail in a separate background paper.

This quantitative evidence is complimented by the findings of a Participatory Poverty Assessment (PPA) which covered five rural districts – Kiruhura, Soroti, Kirandongo, Arua and Gulu – and Kampala. The choice of sample villages was partly guided by the location of case-study development initiatives such as the Ankole Dairy Products Cooperative Union in Kiruhura, bee-keeping associations in Arua and the Citrus Fruits Scheme in Soroti. Focus Group Discussions (FGDs) with the communities were supplemented by Key Informant Interviews (KIIs) with participants of the case-study initiatives, prominent community members, and Local Government officials. The detailed findings of the PPA are presented separately, but key insights are incorporated throughout this report and several of the case studies described at more length in Part III.

Separate research projects that have informed the report include studies on the inequality of opportunity and the impact of volatile food prices. Other sources of secondary evidence are cited throughout the text.

## 2 An overview of the policy context

Poverty reduction has been and continues to be at the centre of Government's development strategy.<sup>4</sup> The Poverty Eradication Action Plan (PEAP) prioritised the provision of social services such as education, health and sanitation. Government's new policy framework, the National Development Plan (NDP), is a response to the economic success of the PEAP era; the gains made revealed a number of structural bottlenecks which began to undermine further development. The NDP maintains the vision of poverty eradication, but with additional emphasis on economic transformation and wealth creation. The sustained reduction and eventual eradication of poverty will only be possible with the structural transformation of the Ugandan economy; the NDP therefore prioritises the removal of key binding constraints such as inadequate physical infrastructure.

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<sup>4</sup> Selected Government poverty-reduction programmes over the last two decades are detailed in appendix IV.

There is a growing number of Ugandans who no longer live in absolute poverty but are still striving to better their lives. The NDP seeks to generate the economic opportunities that this group demands. But the 24.5 percent who remain in poverty have not been overlooked; by ensuring equal access to these opportunities, the objectives of poverty reduction and national development can be pursued simultaneously.

### **3 Absolute, relative and perceived poverty**

The PEAP focused on the eradication of absolute poverty, but economic progress requires that more attention be paid to relative poverty. While objective measures of outcome inequality have not increased (Uganda's Gini coefficient was 0.426 in 2009/10 compared to 0.428 in 2002/3), perceptions of inequality are becoming more prominent on the policy landscape. This is in part because rising incomes have been matched by higher aspirations, and individuals now attach greater weight to their position relative to others.

This is clearly evidenced by the changing perceptions of poverty observed in the PPA. In 1990, lack of a hand hoe or an animal hide was perceived as key indicators of poverty. The same communities in 2011 reported the lack of an ox plough or mattress as the corresponding characteristics of poverty. Likewise, those perceived to be poor in 1990 lacked access to education and healthcare, but today the quality of these services is the key issue. When no community members had a mattress, this was irrelevant for understanding what it meant to be poor. The PPA helps us to understand poverty in a specific context, but an important part of this context is the position of other community members; perceived poverty is inherently relative.

Of the 1,344 households in the sampled PPA villages, 78 percent were perceived by the community leadership to be poor. This clearly does not measure the same thing as the national poverty headcount – which stands at 24.5 percent. The poverty line is based on the cost of meeting basic needs; it is a measure of absolute poverty. The 78 percent of households perceived to be poor are poor relative to others. This high figure is at least in part a reflection of the progress made. Many households now use ox ploughs, which raises the perceived poverty of those who still use hand hoes. The PPA found that 22 percent of households were perceived to be extremely poor. This roughly corresponds to the 24.5 percent of Ugandans living below the national poverty line. The remaining 56 percent of households perceived to be poor but not extremely poor are thus likely able to meet their most basic needs – they are relatively but not absolutely poor.

There may be another important explanation for the discrepancy between the perceived and objective measures of poverty. Welfare is an inherently dynamic concept; those with reason to worry about the future are worse off than those who are secure.<sup>5</sup> The household surveys measure welfare based on consumption over one week or month. When individuals consider their subjective wellbeing, it is likely that they use a longer time frame. There may be only 24.5 percent below the poverty line at one point in time, but a higher proportion remains vulnerable. The 56 percent of households who are relatively but not absolutely poor may be able to meet their basic needs today, but they do not necessarily feel secure in their ability to do so in the future. The risks faced by the poor are a recurrent theme throughout the report – they are not just a symptom of low incomes, but have important implications for the national development process. Vulnerability affects household decisions regarding savings and investment, employment, school attendance, agricultural technology and perhaps fertility.

### 3.1 The poverty line

Uganda's poverty line – the minimum consumption below which individuals are considered poor – was developed in the 1990s. It reflects the cost of consuming 3,000 calories per day based on the food basket of the poorest 50 percent of the population at the time of a Monitoring Survey conducted between August 1993 and February 1994. An allowance for non-food requirements was made, also based on the consumption behaviour at the time. By adjusting for inflation using the consumer price index, the poverty line based on the 1993/4 survey has been held constant in real terms ever since.

The results of the recent PPA provide support for the poverty line's continued relevance – 22 percent of households were perceived to be living in absolute poverty, against the national estimate of 24.5 percent. The food basket consumed by today's poor is remarkably similar to that consumed by poor households in the 1990s.

In order to evaluate the effects of policies and programmes, it is necessary to make valid comparisons across time. It is therefore important not to change the way absolute poverty is measured; changing the poverty line is akin to shifting the goal posts. Whatever methodology<sup>6</sup> is followed does not affect the key trend: the level of poverty has declined dramatically since the early 1990s. The national poverty line remains the best measure of absolute poverty. But as discussed above, the progress

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<sup>5</sup> Evidence from Ghana suggests that vulnerability is three to 10 times more important for subjective wellbeing than the level of income (Caria and Falco, 2010).

<sup>6</sup> For example, the World Bank's or any of the revisions suggested by Appleton (2009).

made since the early 1990s – in particular the emergence of a middle class – mean that both absolute and relative poverty must be considered.

#### 4 Who are the middle class?

This report aims to improve the understanding of relative poverty in Uganda by dividing non-poor households into two groups based on whether their consumption is higher or lower than twice the poverty line. Households above two times the poverty line are termed the middle class. Those below twice the poverty line are not living in absolute poverty but are poor relative to the middle class and they are more vulnerable to falling back into poverty.

In Ugandan common usage, the ‘middle class’ may refer to those in managerial positions, who own a house and a car and who send their children to the top private schools in the country.<sup>7</sup> This group is more often associated with conspicuous consumption than with an industrious work ethic or conserving income for future investments. Our definition is closer to those commonly used in other developing countries.<sup>8</sup> Banerjee and Duflo (2008) ask ‘what is middle about the middle classes around the world?’ They find that the most important characteristic of the middle class is that they are more likely to hold a steady job, and – perhaps as a result – have fewer, better-educated, and healthier children.

The group above twice the poverty line includes Uganda’s richest households, but Uganda’s ‘upper class’ remains very small. Only 5 percent of households covered by the PPA were perceived as ‘prosperous’ by their communities. Even fewer have consumption above the Prosperity for All target of 20 million shillings per year. Household surveys struggle to adequately capture the extreme tails of the income distribution so this group is not considered explicitly by the quantitative analysis in this report.

The analysis throughout the report confirms that these three groups – the poor, the insecure non poor, and the middle class – are very different. They face different constraints, are able to exploit different types of opportunities and are likely to respond to Government interventions and changes in the economic environment in different ways. By definition, those below the poverty line struggle to meet their basic needs and therefore have limited scope for discretionary expenditure. As incomes rise, the demand for non-food increases relatively more (this is known as Engel’s law). The middle class devotes 54 percent of total consumption to non-food items,

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<sup>7</sup> Abimanyi (2011).

<sup>8</sup> For example, The African Development Bank (2011), Banerjee and Duflo (2008) and Ravallion (2009) all use the cut off point of US\$2 per day in purchasing power parity – approximately equivalent to two times Uganda’s poverty line.

compared for 40 percent for the poor (Table 1.1). The middle class are better able to cover their basic needs, some of their wants, and still save for the future. They own more household assets, are much more educated and invest more in education, in absolute terms and as a share of total expenditure. This is true even though better-off households have significantly fewer children; education spending per child increases much faster than total consumption. Sources of income also differ significantly. The middle class are much less likely to rely primarily on subsistence agriculture and much more likely to have a non-agricultural wage income.<sup>9</sup>

**Table 1.1: The characteristics of poor, insecure non-poor and middle-class households**

	Poor households	Insecure non-poor households	Middle-class households
Proportion located in urban areas	6%	9%	30%
Average household size	7.3	6.7	5.7
Median value of household assets (2005/6 shillings)	355,000	730,000	2,015,000
Proportion which take two or more meals a day	78%	94%	97%
Proportion with an iron-roofed house	35%	61%	77%
Proportion in which all children have a blanket	16%	32%	54%
Proportion owning a mobile phone	19%	41%	74%
Proportion using a mosquito net	57%	60%	67%
Mean years of education of adult members	3.2	4.8	6.7
Mean share of food in total consumption	60%	59%	46%
Mean share of education expenditure in total consumption	5%	5%	8%
Proportion with subsistence agriculture as primary income source	57%	56%	28%
Proportion with a non-agricultural wage income	9%	18%	40%
Proportion operating at least one non-farm household enterprise	37%	35%	50%

Source: UNHS 2009/10

<sup>9</sup> This is not just because the middle class are more urbanised. The same pattern is observed among only rural households.

The evidence presented in Part II of the report reveals that the relative stability of their economic lives is perhaps the defining characteristic of middle-class households. Their consumption is much more predictable and their likelihood of falling back into poverty low. The poor are much more insecure. The incomes of the poor tend to be more volatile, and a given absolute change in real welfare – perhaps due to changing prices, illness or unpredictable weather – matters relatively more for the poor. As well as facing lower risks, the middle class are better able to cope with income fluctuations – they have higher savings and better access to insurance mechanisms to smooth consumption. This helps to explain some of the outcomes that differ between the middle-class and poorer households – with greater security in the present, the middle class are more likely to forgo some current consumption in order to take a risk or invest for the future. It is not until consumption reaches a level roughly twice the poverty line that vulnerability reduces substantially. Those just above the poverty line have similar income portfolios as the poor and therefore face similar levels of risk. Shifting away from subsistence agriculture and investing in human or physical capital may have high returns, but these are not guaranteed. The middle class are more likely to take on these risks.

## 5 Poverty reduction and national development

Economic growth in Uganda has been remarkably inclusive.<sup>10</sup> Between 1992 and 2010, Uganda's growth elasticity of poverty was -1.4, meaning that a 1 percent increase in aggregate income was associated with a 1.4 percent decrease in the poverty rate. This compares to -0.4 for Rwanda between 2000 and 2005. Many of the poor in Uganda have benefited more from economic growth because they are direct contributors to the national development process. The objectives of reducing poverty and stimulating growth can be achieved simultaneously by ensuring that all Ugandans are included in the development process. This requires addressing the cycle of insecurity that traps some households in chronic vulnerability.

### 5.1 Escaping the vulnerability trap

Set in the context of national transformation, the insecurity of the poorest households may seem unimportant. But to sustain the progress made, reducing vulnerability must be viewed as an integral part of Uganda's development strategy. Many households have become more secure and hence forward-looking by moving from poverty into the middle class. As more make this transition, even more rapid growth can be sustained. National development requires that all Ugandans escape the vulnerability trap.

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<sup>10</sup> The IMF (2011) highlights growth in Uganda as the most inclusive of six African case studies (the other countries are Cameroon, Ghana, Mozambique, Tanzania and Zambia).

As many prosper, it can be challenging for others to remain motivated as the gap between their material circumstances and their aspirations inevitably widens. It is important to set achievable targets. “Moving the goalposts closer may be just what the poor need to start running toward them.”<sup>11</sup> This is important for policy makers, and the poor themselves:

All that I have done has been as a result of what I call mind mapping to set my goals. Before I do anything I set my goals and write them down. I tick each of them that I have accomplished and strive to achieve all of them. The more money I made the more I save. I could feed on cassava and tea during the day so that I could have enough money saved for my business.

PPA key informant, perceived as ‘prosperous’, Kampala

A little optimism and faith in a better future can go a long way, providing a longer-term outlook and a strong incentive to save and accumulate. Once this process has begun, the transformation of individual livelihoods is able to proceed in small steps:

To tell you the truth the way some of us started is not the way we are now. Some used to carry milk on the head and this used to be like five litres. We acquired more money because of ADAP’s prices and we started acquiring more cows, land and good breeds. I got money from Kashongi SACCO to invest in another business and the milk has paid for it. I started from delivering on foot, and then bought a bicycle and now I have a car. Don’t you think I have developed?

PPA key informant, ADAP beneficiary

In this case the higher and more stable milk prices that resulted from the Ankole Dairy Products Cooperative Union (ADAP) provided sufficient security for these farmers to sense a more prosperous future for themselves and their families. Access to credit accelerated the transformation, but this was only possible once the initial barrier had been overcome.

<sup>11</sup> Banerjee and Duflo (2011; 204).

The sense of control over the future that people get from knowing there will be an income coming in every month – and not just the income itself – is what allows [individuals] to focus on building their own careers and those of their children. Perhaps this idea that there is a future is what makes the difference between the poor and the middle class

Banerjee and Duflo (2011; 229).

The necessary sense of security and belief in a brighter future can be provided in many potential ways – a guaranteed source of income perhaps from a steady and secure job, an effective insurance mechanism or social safety net, or a quality education for one's child. With this security there will be greater assurance that individual effort will be justly rewarded, and more Ugandans will be able to exploit the opportunities available. Entrepreneurial talent will be allowed to emerge, expanding the opportunities for stable employment. This will reinforce the virtuous cycle of security, faith in the future and progress, and will ensure that future generations inherit a transformed, prosperous society free from absolute poverty.

## PART II: PROGRESS AND CHALLENGES

There has been a large reduction in the share of Ugandans living in absolute poverty and significant changes in the structure of household livelihoods. But too many remain vulnerable and struggle to access the opportunities created by national development, which in turn undermines the transformation process. This part presents an overview of the past trends and present status of poverty and socioeconomic welfare in Uganda, making use of the three socioeconomic categories introduced in Part I. The analysis then proceeds in three sections focused on each of the report's key themes – vulnerability, access to opportunities and the transformation of household livelihoods.

### 1 Past trends and the present poverty status in Uganda

Uganda has made significant progress not only in reducing the share of people in absolute poverty but also the absolute number (see Table 2.1). The number of Ugandans in poverty has reduced by one quarter from 9.9 million in 1992 to 7.5 million in 2009. The share has reduced from 56.4 percent to 24.5 percent over the same period. The reduction in the number of people is less than that in the share because of population growth.

**Table 2.1: The poor, insecure non poor and the middle class, 1992-2009**

Year	Population (millions)	Absolutely Poor		Insecure Non-Poor		Middle Class	
		Millions	% of population	Millions	% of population	Millions	% of population
1992/3	17.5	9.9	56.4	5.8	33.4	1.8	10.2
1999/00	21.9	7.4	33.8	9.6	43.9	4.9	22.4
2002/3	24.1	9.3	38.8	9.6	39.9	5.1	21.2
2005/6	27.4	8.5	31.1	11.0	40.2	7.8	28.7
2009/10	30.7	7.5	24.5	13.2	42.9	10.0	32.6

Source: UNHS, 1999/2000-2009/10 and IHS, 1992/3.

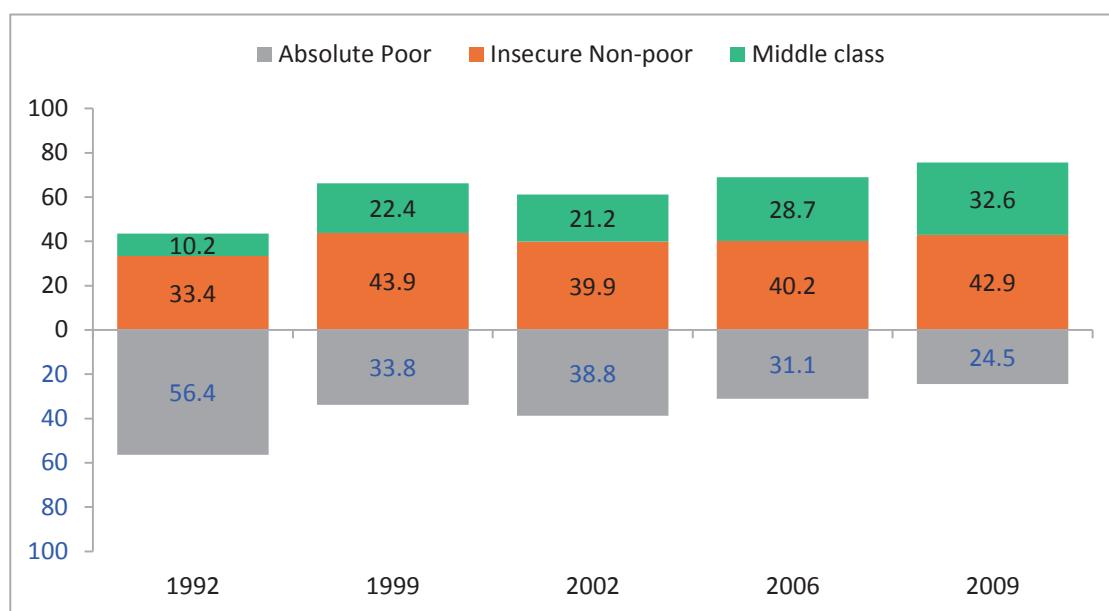
Over the same period, the number of Ugandans in the middle class increased from just 1.8 million to 10.0 million. As of 2009/10, there were more Ugandans in the middle class than in poverty. This is a sharp contrast to 17 years earlier when there were almost six poor Ugandans for every member of the middle class. Rather than constantly struggling to meet their most-basic needs, many more Ugandans are now striving for new opportunities to improve their lives. The economic, social and political implications of this transformation are profound.

On the other hand, many Ugandans have moved out of poverty but have not moved to the middle class; the size of this insecure group has more than doubled since the early 1990s. When surveyed these Ugandans were able to meet their basic needs,

but – like the poor – their income remains highly volatile. They are therefore vulnerable to falling back into poverty, but also have a very realistic chance (as we shall show later) of moving up into the relative security of the middle class. These Ugandans, who we term here the ‘insecure non poor’, numbered 13.2 million in 2009/10 – 42.9 percent of the population.

Figure 2.1 illustrates the progress made. The poverty line is drawn at zero; those above are out of poverty and those below are in poverty. The rapid reduction in poverty is reflected in the expansion of the middle class, but a large group of insecure individuals has persisted throughout the period.

**Figure 2.1: The poor, insecure non poor and the middle class, 1992-2009**



The emergence of the middle class (32.6 percent of the population) with greater spending power and, more importantly, the ability to invest in the future represents an opportunity to accelerate the socioeconomic transformation process. However, the insecure non poor (42.9 percent) are another group requiring specific attention, while the fight against absolute poverty continues for 24.5 percent of Ugandans.

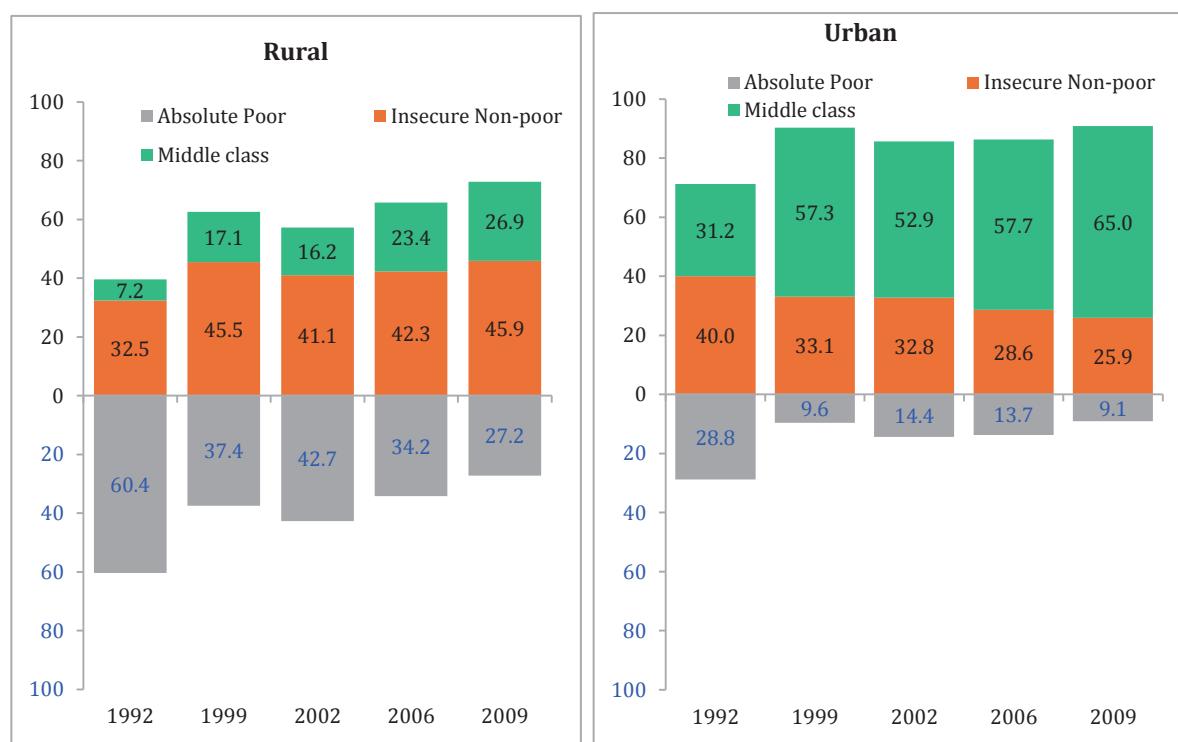
## 1.1 Breaking down the national picture

### 1.1.1 Urban and rural communities

Currently 15 percent of Ugandans live in urban areas, but the UN projects that this will increase to 34 percent by 2050. Towns and cities have long been considered engines of growth but they present both opportunities and challenges in terms of poverty reduction; effective planning and management of the urbanisation process is vital.

In 1992, a higher share of rural (60.4 percent) than urban (28.8 percent) people were poor. Seventeen years later, this had reduced to 27.2 percent in rural communities and to 9.1 percent in urban communities – (see Figure 2.2). The share of Ugandans considered to be in the middle class is higher in urban communities, but has grown faster in rural communities. The emergence of the middle class has therefore occurred across the rural-urban divide.

**Figure 2.2: The poor, insecure non poor and middle class in rural and urban areas, 1992-2009**

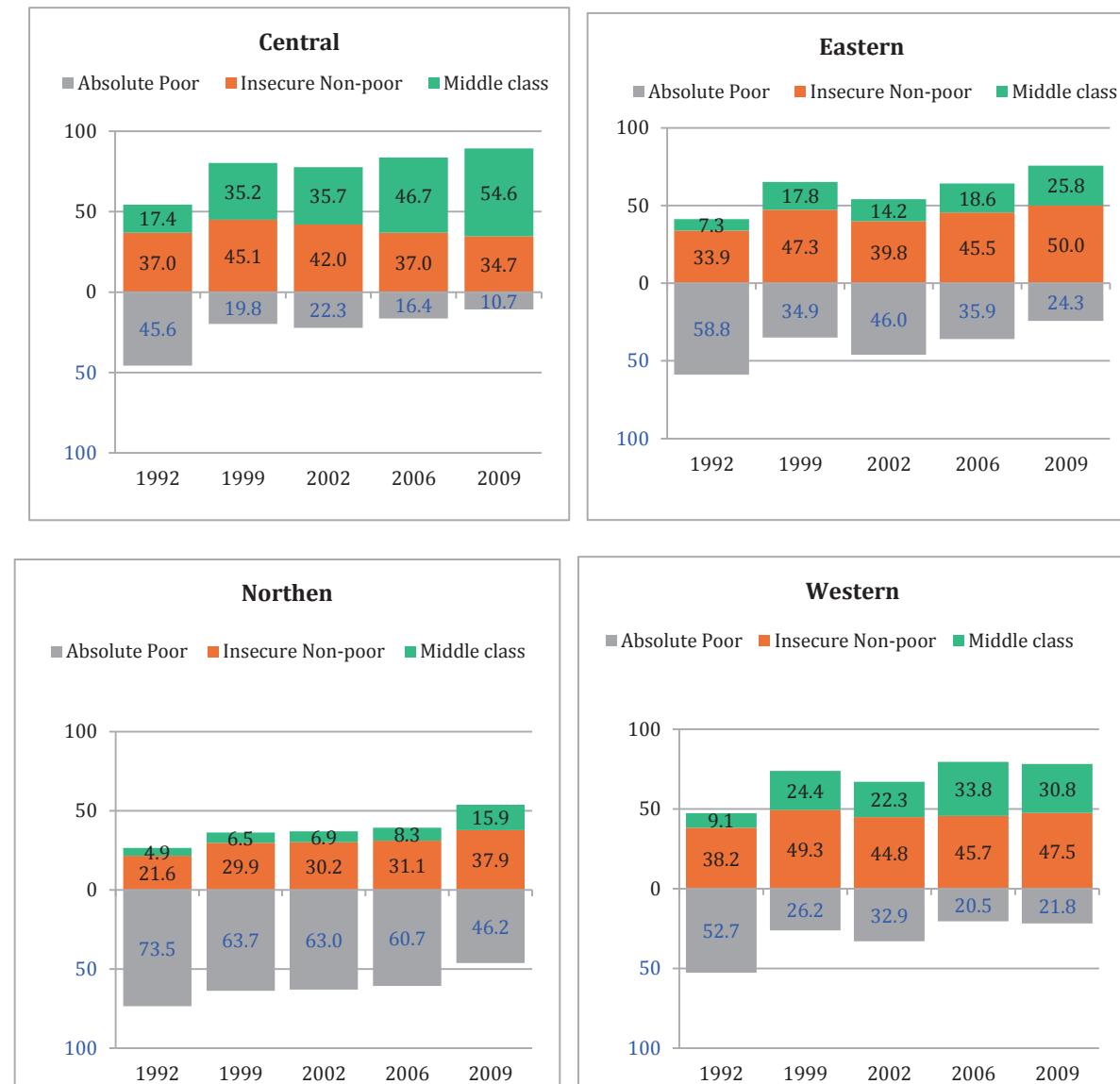


The insecure non-poor have increased in rural areas from 32.5 percent in 1992 to 45.9 percent in 2009. This is in contrast to urban areas, where the insecure non poor declined from 40.0 percent to 25.9 percent. While rural households have seen significant improvements, too many remain insecure and at the risk of falling into absolute poverty. 73.1 percent of those in rural areas are not yet secure, compared to 35.0 percent in urban areas.

### 1.1.2 Progress across regions

Poverty reduced universally, with the central, eastern and western regions individually surpassing the first MDG to halve the proportion of people living in poverty. The northern region has been rapidly catching up since 2005/6, following the restoration of peace. While all are progressing, the different regions are at different stages of the development process. The central is dominated by the middle class; the east and west by the insecure; the north by the poor.

**Figure 2.3: The poor, non-poor and middle class in each region 1992-2009**

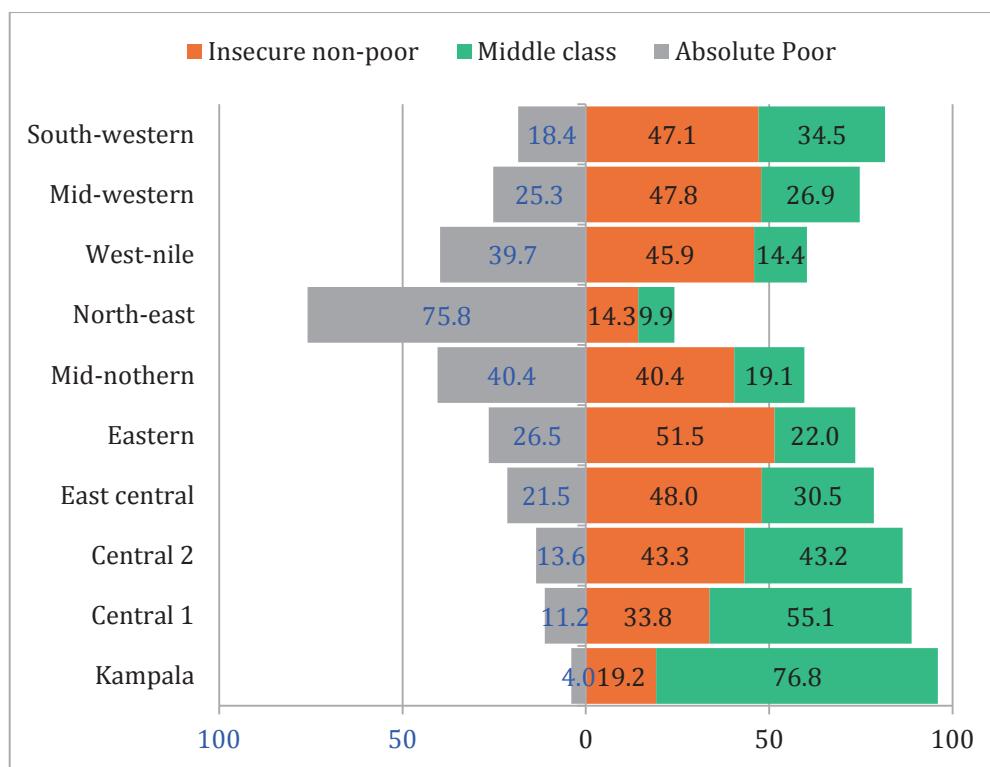


### 1.1.3 The sub-regional picture

The performance of sub regions provides a more disaggregated socioeconomic profile of the country (see Figure 2.4 and Map 1).<sup>12</sup> There is huge variation in poverty rates across the sub regions – from 4 percent in Kampala to 76 percent in the North East. More than three quarters (77 percent) of those in Kampala are in the middle class, compared to just 10 percent in the North East.

<sup>12</sup> Only the 2009/2010 UNHS was designed to produce estimates at the sub-regional level, so trend analysis at this level is not possible.

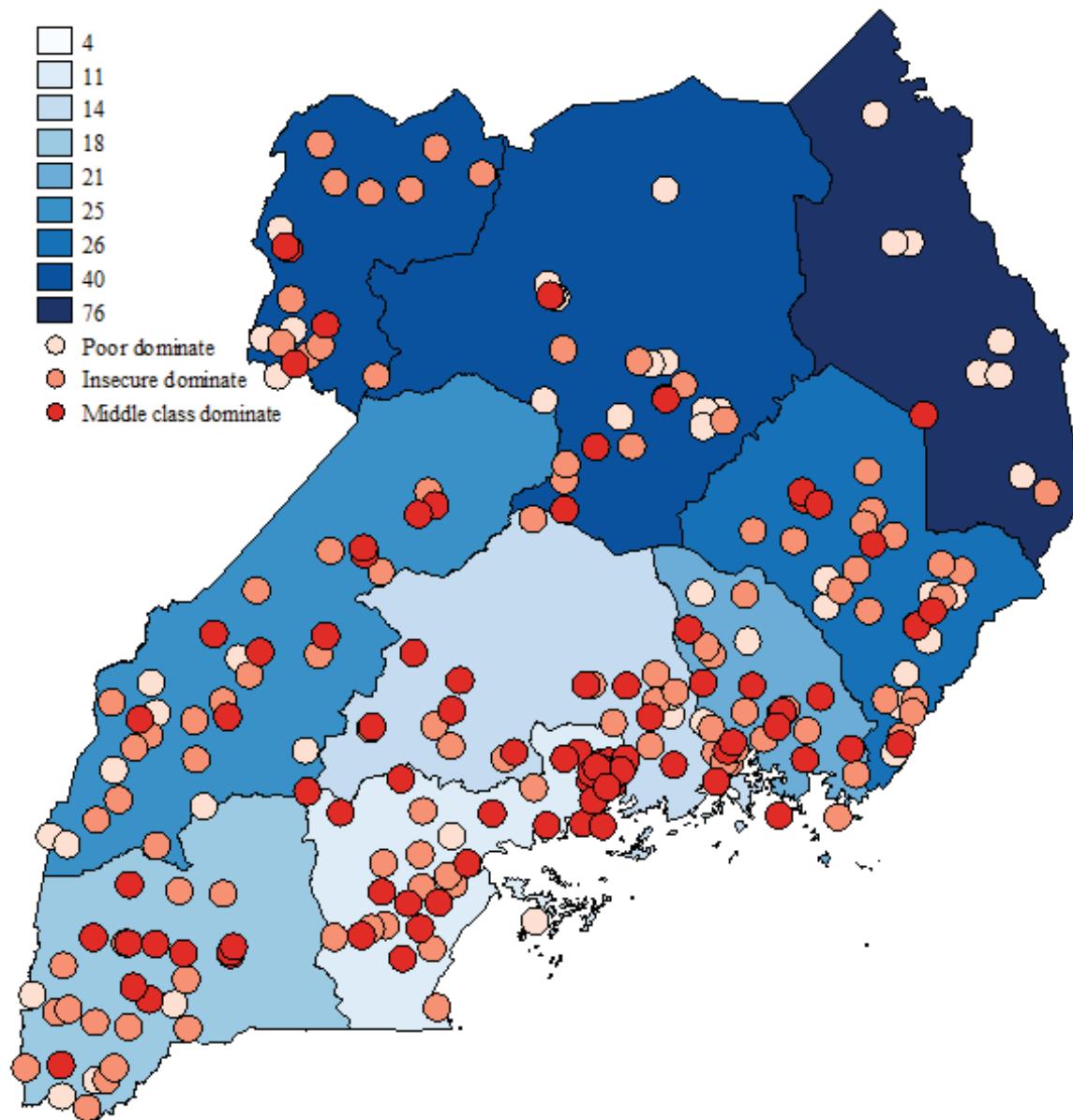
**Figure 2.4: Sub-national picture in 2009/2010**



Notes: Sub-region of North East includes the districts of Kotido, Abim, Moroto, Kaabong, Nakapiripiriti, Katwaki, Amuria, Bukedea, Soroti, Kumi and Kaberamaido; Mid-Northern includes Gulu, Amuru, Kitgum, Pader, Apac, Oyam, Lira, Amolatar and Dokolo; West Nile includes Moyo, Adjumani, Yumbe, Arua, Koboko, Nyadri, and Nebbi; Mid-Western includes Masindi, Bullisa, Hoima, Kibaale, Bundibugyo, Kabarole, Kasese, Kyenjojo and Kamwenge; South Western includes Bushenyi, Rukungiri, Kanungu, Kabale, Kisoro, Mbarara, Ibanda, Isingiro, Kiruhura and Ntungamo; Mid-Eastern includes Kapchorwa, Bukwa, Mbale, Bududa, Manafwa, Tororo, Butaleja, Sironko, Paliisa, Budaka and Busia; Central 1 includes Kalangala, Masaka, Mpigi, Rakai, Lyantonde, Sembabule and Wakiso; Central 2 includes Kayunga, Kiboga, Luwero, Nakaseke, Mubende, Mityana, Mukono and Nakasongola; East Central includes Jinja, Iganga, Namutumba, Kamuli, Kaliro, Bugiri and Mayuge; and Kampala.

While the central region has the highest concentration of middle-class households, there are pockets of relative prosperity in all regions across the country (see Map 1).

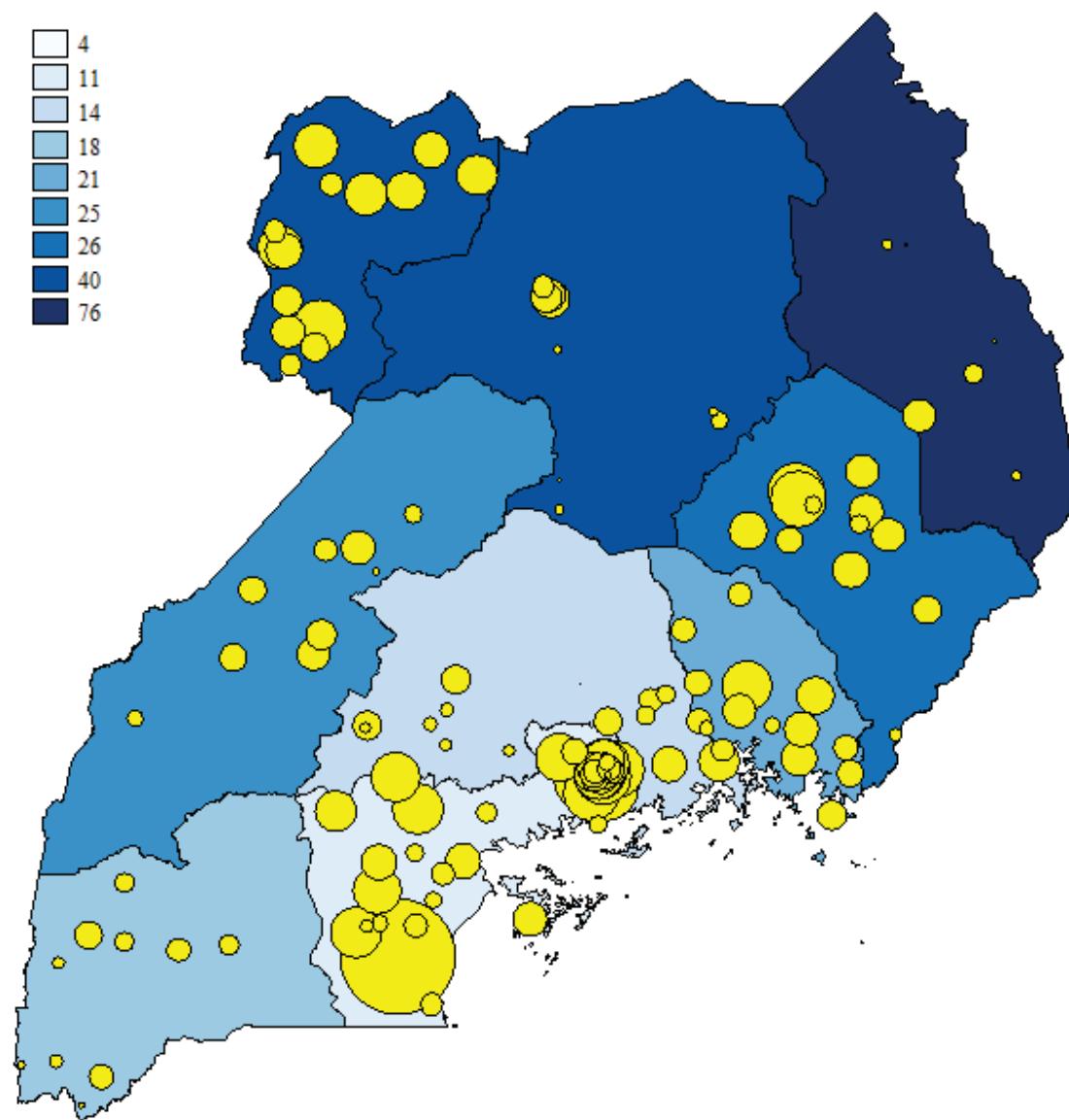
**Map 1: Poverty rates of the sub regions and welfare profiles of survey enumeration areas**



Notes: The colour of each dot corresponds to the dominant category of household in each enumeration area of the UNPS. The enumeration areas are sampled communities from which 10 households were randomly selected for survey. The location of enumeration areas reflects the UNPS survey design and the population distribution. The background colour represents the sub-regional poverty level based on the UNHS 2009/10.

Map 2 shows significant regional inequality but also demonstrates that poorer areas in the east and West Nile have had strong growth. In contrast, the relatively rich South West has experienced slower growth.

**Map 2: The geographical distribution of welfare improvements, 2005/6 – 2009/10**



Notes: The size of the yellow dots is proportional to the enumeration-area average improvement in real consumption, based on the UNPS. The enumeration areas are sampled communities from which 10 households were randomly selected for survey. The location of enumeration areas reflects the UNPS survey design and the population distribution. The background colour represents the sub-regional poverty level based on the UNHS 2009/10.

## 2 Vulnerability

An overarching concern of Government is to maintain and consolidate the poverty reduction gains made over the past two decades. A significant number of the non-poor in Uganda earn incomes only slightly above the poverty line, and their poverty status is therefore sensitive to a variety of external and household-level shocks – the vagaries of the weather, price fluctuations or ill health. Income is likely to fluctuate from one month to the next; such uncertainty acts to reduce wellbeing in itself and influences the choices households make.

New evidence allows more in-depth exploration of these welfare dynamics. The Uganda National Panel Survey (UNPS) is a nationally representative household survey that tracks the same individuals over time. Having data on the same individuals at more than one point in time has makes it possible to observe dynamic concepts such as fluctuations in wellbeing and social mobility at the individual level.

The picture that emerges from this new dataset is of relative stability among the middle class, but significant volatility among the poor and those just above the poverty line. Table 2.2 shows the movement across the three welfare categories defined in Part I. Each row reports the 2009/10 status of a particular category of household in 2005/6. For example the first row shows that 40 percent of poor households in 2005/6 remained poor in 2009/10, while 60 percent escaped – with 15 percent reaching the middle class. In other words, there is reasonable chance of escaping poverty.

**Table 2.2: Changes in poverty status, 2005/6 – 2009/10**

		Status in 2009/10		
		Poor	Insecure non poor	Middle class
Status in 2005/06	Poor	40%	45%	15%
	Insecure non poor	24%	44%	33%
	Middle class	8%	25%	67%

Middle-class Ugandans are most secure – their likelihood of falling back into poverty is low (just 8 percent of those households in the middle class in 2005/6 had fallen back into poverty by 2009/10).<sup>13</sup> Those just above the poverty line aspire to join the middle class, but are also vulnerable to falling back. There was significant mobility in both directions, but fortunately the former was dominant – 33 percent joined the middle class while 24 percent fell into poverty.

<sup>13</sup> Econometric estimates suggest that households with consumption exactly twice the poverty line (so those just classified as middle class) have a 15 percent chance of falling into poverty.

Table 2.3 shows how the poverty exit and entry rates differ by location. The proportion of the poor who successfully escaped poverty is remarkably high, particularly in the central region. All of the poor households surveyed in 2005/6 in Kampala had escaped poverty when resurveyed in 2009/10. Urban areas have seen larger reductions in poverty, Table 2.3 reveals that this is due to less non-poor urban households falling back; the risks of urban life appear to be less. But among the initially poor, more of those in rural areas have managed to escape.

**Table 2.3: Entry into and exit out of poverty, 2005/6 - 2009/10**

	Initially poor	Proportion of poor who escaped	Proportion of non poor who fell back
Central	16%	76%	10%
Eastern	36%	57%	19%
Northern	61%	45%	26%
Western	21%	57%	19%
Kampala	4%	100%	1%
Rural	34%	58%	19%
Urban	14%	54%	4%
Uganda	31%	60%	15%

Poor households are much less sure of their future consumption. Not only are the incomes of the poor much more volatile than the incomes of the middle class, middle-class households are better able to insulate themselves against this volatility by smoothing their consumption over time. Using econometric techniques, it is possible to predict consumption based on household characteristics. The correlation between actual and predicted consumption is 0.62 for the middle class but only 0.37 for the poor. Compared with international evidence, the extent of volatility appears extremely high; consumption in Uganda is as volatile as income in some other developing countries.<sup>14</sup>

## 2.1 The vulnerability trap: perspectives from the PPA and quantitative analysis

Evidence from the PPA underlines how pervasive risk shapes the economic lives of the poor. Households and even individuals engage in multiple income-generating activities, particularly in rural areas. A shift away from agriculture to non-farm activities has been particularly pronounced over recent years, and is at least in part a

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<sup>14</sup> In general, one would expect income to be significantly more volatile due to consumption smoothing. See appendix I for detailed econometric results.

response to the risks inherent in rain-fed subsistence agriculture. A male youth from Arua explains the attraction of riding a boda boda:

A motorcycle is a source of income in the public commercial transport sector. It is a business where you can never go wrong, since at the end of the month there is a monetary return. It is like you are employed and earning a monthly salary.

Focus-group discussant, perceived as 'relatively poor', Arua

The attraction of petty trade – another activity that has expanded rapidly – was often explained as the insulation from price fluctuations, which vendors can pass on to their customers but farmers are forced to bear. A large majority aspire to formal-sector salaried jobs, which are considered 'strategic' due to the security and peace of mind provided. Stability is valued in itself. A youth explained that he would not consider himself 'fully employed' unless he "gets money from a bank account every month" (Focus-group discussant, perceived as 'relatively poor', Soroti). But the majority of the poor are excluded from permanent wage-earning opportunities, and are more likely to be employed on a short-term casual basis. Those in this situation reported the uncertainty regarding their next job made it almost impossible to think ahead and plan for the future.

Insecurity regarding the future is also evident in people's attitudes towards their assets. While the potential economic returns to assets such as farm tools, a motorcycle, or sewing machine were mentioned, the insurance function that assets can serve was more often emphasised:

Keeping assets like animals is the same as keeping money in the bank, when you have problems you can sell the animals to get money.

Focus-group discussant, perceived as 'non poor', Gulu

A television can be sold and you get money when you are stuck and need quick money. Chairs, radios can also be sold for money. They can help you at all times.

Focus-group discussant, perceived as 'non poor', Kampala

In rural areas, land is seen as the most important asset due to its role as a safety net. Selling or renting out land was widely perceived to indicate poverty – households will not resort to doing so unless they face exceptional hardships. Similarly, among the most disadvantaged households selling labour was believed to indicate poverty.<sup>15</sup> The risks associated with subsistence agriculture act to tie poor households to their land and unproductive technologies. This is the root cause of pervasive underemployment in the agricultural sector – understood as “households having enough land to dig but not cultivating it all... due to laziness, drunkenness or ill health” (Female focus-group discussant, perceived as ‘non poor’, Gulu) – that is undermining the transformation process.

The vulnerability that appears to trap some households in poverty can be analysed further using the UNPS data. In the absence of social mobility, current consumption will depend to a great extent on past consumption. The poor remain poor in the future because of their poverty today. Econometric analysis suggests that among the middle class, welfare today does not strongly influence welfare tomorrow – a reflection of high mobility. In other words, there is convergence among non-poor households with the relatively less well off catching up with the rich. But this pattern does not hold among the poor. When their large income fluctuations are taken into account, there is high persistence of the initial (low) level of underlying income, suggesting that some households are indeed trapped in poverty.<sup>16</sup>

Quantitative analysis also illuminates the nature of these poverty traps. The returns to education are the highest among the poor, but these households devote a lower share of their total consumption to investment in human capital. This to some extent prohibits wage employment as an escape route out of poverty. The opportunities that remain are inherently insecure. The poor benefit least from opening a household enterprise, even though those already operating a business are much better off.

The analysis confirms the evidence from the PPA that the poor use their assets to protect themselves against transitory shocks, and as a result are less able to reap returns on their capital. Assets are an important determinant of welfare for the poor, the non-poor insecure and the middle class alike; any improvement over the four-year period in the value of their assets is strongly associated with higher consumption. However, there are important differences in the way that households are able to benefit from their assets. When the ability of households to smooth income shocks is taken into account, the level of assets is unimportant for poor but not non-poor households. While the poor benefit from greater wealth, this is mainly

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<sup>15</sup> This contrasts to more secure middle-class households who perceived unemployment – the inability to sell their labour – as a key characteristic of poverty.

<sup>16</sup> See appendix I.

because it acts as an insurance mechanism not because they are able to enjoy returns on their physical capital – reiterating the attitude of poor households towards assets observed in the PPA. The econometric analysis suggests that this insurance effect is very important and must not be overlooked.

This suggests the fundamental nature of the poverty traps at work. A poor household's ability to cope with risk is the most important determinant of growth in long-term welfare; insecurity resulting from a volatile environment is not just a symptom of poverty but one of its most important causes. Even if a negative shock is avoided, the fear that something bad might occur can still have a debilitating effect. Pervasive uncertainty discourages the adoption of new technologies, and lowers investment in human and physical capital. This then prevents the poor from increasing their productivity or exploiting the opportunities presented by wage employment or non-farm enterprises. Importantly, this implies that interventions that reduce vulnerability today can have large persistent benefits in the future.

## 2.2 Sources of vulnerability

The 2005/6 household survey included a section on major shocks and household coping strategies. The most prevalent shocks reflect the inherent insecurity of smallholder agriculture – half of all households had suffered from extreme weather over the previous five years (mainly drought), while 17 percent experienced other agriculture-related shocks (pest attacks, livestock epidemics or poor seed quality). These shocks are also the most severe. Of the households affected by extreme weather, 53 percent were forced to lower their consumption. Existing risk-coping mechanisms appear to provide greater insurance against idiosyncratic events, such as death of a family member, than shocks affecting a whole community, such as drought. The poorest households are also the most vulnerable. For every type of shock, poor and insecure households are more likely to report reduced consumption – reflecting a lack of access to other coping mechanisms such as use of savings, borrowing or support from friends or family.

It is also evident that risk affects the economic choices households make. 38 percent reported changing their crop choice after an agriculture-related shock, while 18 percent changed crops in response to a drought or flood. In an uncertain environment, farmers are often wise to avoid risky crops, investments or technology, even if the returns are potentially high.

**Table 2.4: Major shocks experienced by households and the likelihood of reduced consumption**

	Drought or flood		Agricultural shock*		Death of family member		Other major shock**	
	Affected	Reduced consumption	Affected	Reduced consumption	Affected	Reduced consumption	Affected	Reduced consumption
Poor	55%	54%	18%	30%	16%	5%	33%	25%
Insecure non poor	51%	55%	18%	27%	19%	2%	23%	14%
Middle class	40%	47%	15%	19%	19%	4%	24%	11%
All	49%	53%	17%	26%	18%	4%	26%	17%

\* Includes pest attacks, livestock epidemics and poor quality seeds. \*\* Includes theft, civil strife, fire and injury from accidents. Note: reduced consumption refers to the proportion of households affected by the shock that cited lowering their consumption as one of their top three coping strategies. Source: UNHS 2005/6.

### 2.3 The impact of volatile food prices

Fluctuations in the price of food – which most Ugandan households both buy and sell – are one of the most important sources of insecurity. In the PPA, the most vulnerable groups frequently highlighted both high and low agricultural prices as key drivers of their poverty, suggesting a complex relationship between food prices and household welfare.

Price increases are likely to hurt those in urban areas who are net buyers of food. But higher prices are sometimes argued to benefit rural households, who consume what they produce and sell part of their surplus. An urban dweller with no land will have to turn to the market to buy matoke. A price increase means that for the same quantity of matoke, she will now spend more money (or for the same money, she will be able to buy less matoke). Clearly, this individual will be worse off than before the price change. On the other hand, consider a farmer who produces matoke for the market in addition to what he will consume. If the price of matoke rises, this would translate to higher income. This is complicated further as households are often net purchasers of some commodities and net sellers of others.

This section assesses the potential immediate effects of recent price changes on welfare and poverty.<sup>17</sup> Changing prices may affect the choices households make

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<sup>17</sup> The short-run effect is different to the long-run effect in that people are not assumed to change their behaviour in the light of the price changes. In the medium to long run, we can expect that commodities that become more expensive will be bought less by consumers, possibly substituted by

regarding the commodities to produce, consume, buy and sell. But food prices are constantly changing and impossible to predict, and adjustment (particularly in production) takes time. The analysis therefore assumes households do not adjust their production, consumption or marketing decisions.<sup>18</sup>

### 2.3.1 Recent price trends

World prices for staple foods were on the rise between 2006 and 2008, and accelerated sharply in the beginning of 2008. Prices reduced slightly in the second half of 2008 but, remained at roughly twice the pre-2008 level. On top of already historically high prices, Uganda experienced a second spike in 2011. High prices have been accompanied by an apparent increase in price volatility. Moreover, there is a discrepancy in the trends followed by wholesale and retail prices; both increased sharply at the beginning of 2011 but since May that year wholesale prices have fallen back while retail prices have remained high (panel (a) of Figure 2.5).

There are important differences across location (panel (b) of Figure 2.5 presents the average price level in 2011 for five different markets across the country). Nakasero market in Kampala registers the highest prices and Masaka the lowest. The difference between retail and wholesale prices are particularly high in Arua (retail prices are 30 percent higher than wholesale prices), suggesting substantial transaction costs. Although there is co-movement of prices over the long run, there are often large temporary deviations in the price of the same commodities across different markets, particularly for unprocessed staples. This suggests that market integration is far from perfect.<sup>19</sup>

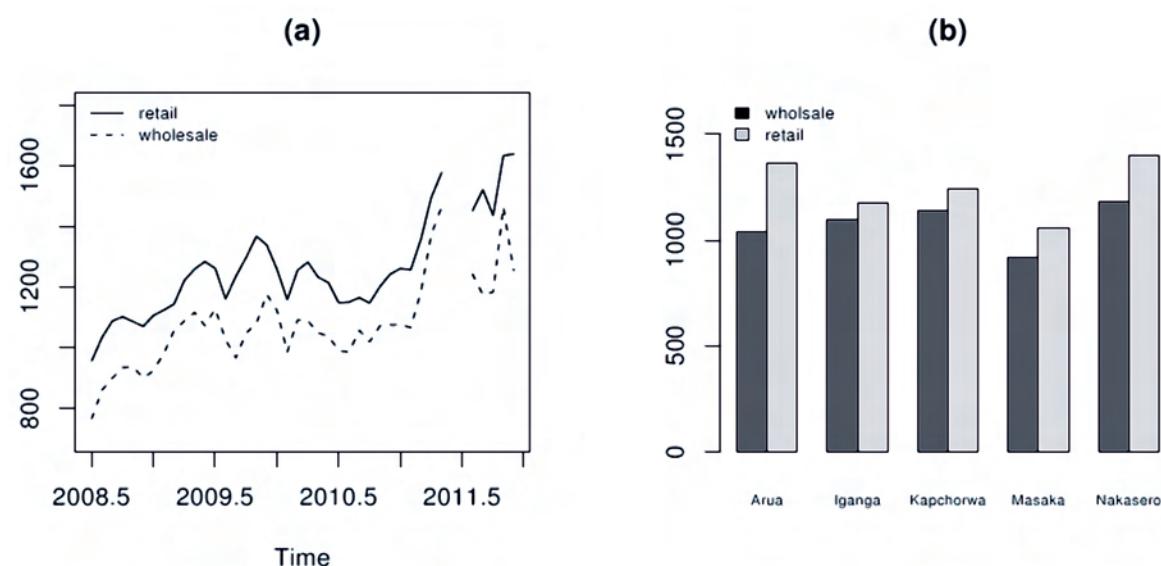
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commodities that have become cheaper over time. Similarly, producers will start to supply more over time if they notice the price of their product has increased.

<sup>18</sup> These adjustments are likely to mitigate the adverse effects of price volatility – the estimates presented here are probably therefore upper bounds for the true welfare impact. On the other hand, it is assumed that the change in the price level does not affect the gap between what food consumers pay and what producers receive. If some of the price increases are captured by the middle men, the costs to poor farmers may be even larger.

<sup>19</sup> The analysis explicitly accounts for price difference over space. All households in a district are linked to one of the 19 markets for which we have price information, depending on the distance by road from the centre of the district.

**Figure 2.5: Prices over time and by location**



Prices of different commodities also sometimes move in different directions. For example in the second half of 2009, maize became significantly cheaper while cassava became more expensive. This affects the ‘terms of trade’ of households and is particularly bad news for those who buy cassava with income from selling maize. The discrepancy between these prices suggests that households find it difficult to substitute more expensive staples with cheaper alternatives.

### 2.3.2 The welfare impact of price changes

Households in Uganda are typically both producers and consumers of a range of commodities. For instance, a farm household may produce maize, consume some and sell some, but not produce tomatoes, instead purchasing them on the market.

How are changes in the prices likely to affect such a household? A price change in a commodity, for example maize, will only affect the welfare of a household in monetary terms if the household buys or sells this commodity. The effect on welfare due to a price change on a commodity is computed as the price change multiplied by the net quantity sold. In effect, for each commodity we determine the net position of the household (net buyer or net seller by a certain quantity). This is then multiplied by a vector of price changes. For example, a household that is a net seller of 5 kgs of cassava and a net buyer of 10 kgs of maize will gain 2,500 if the price of maize increased by 500 and the price of cassava increased by 1,500, that is,  $(5 \times 1,500) - (10 \times 500)$ .

$(10 \times 500) = 2,500$ . This gain (or loss) is expressed as a percentage of total welfare before the price change.<sup>20</sup>

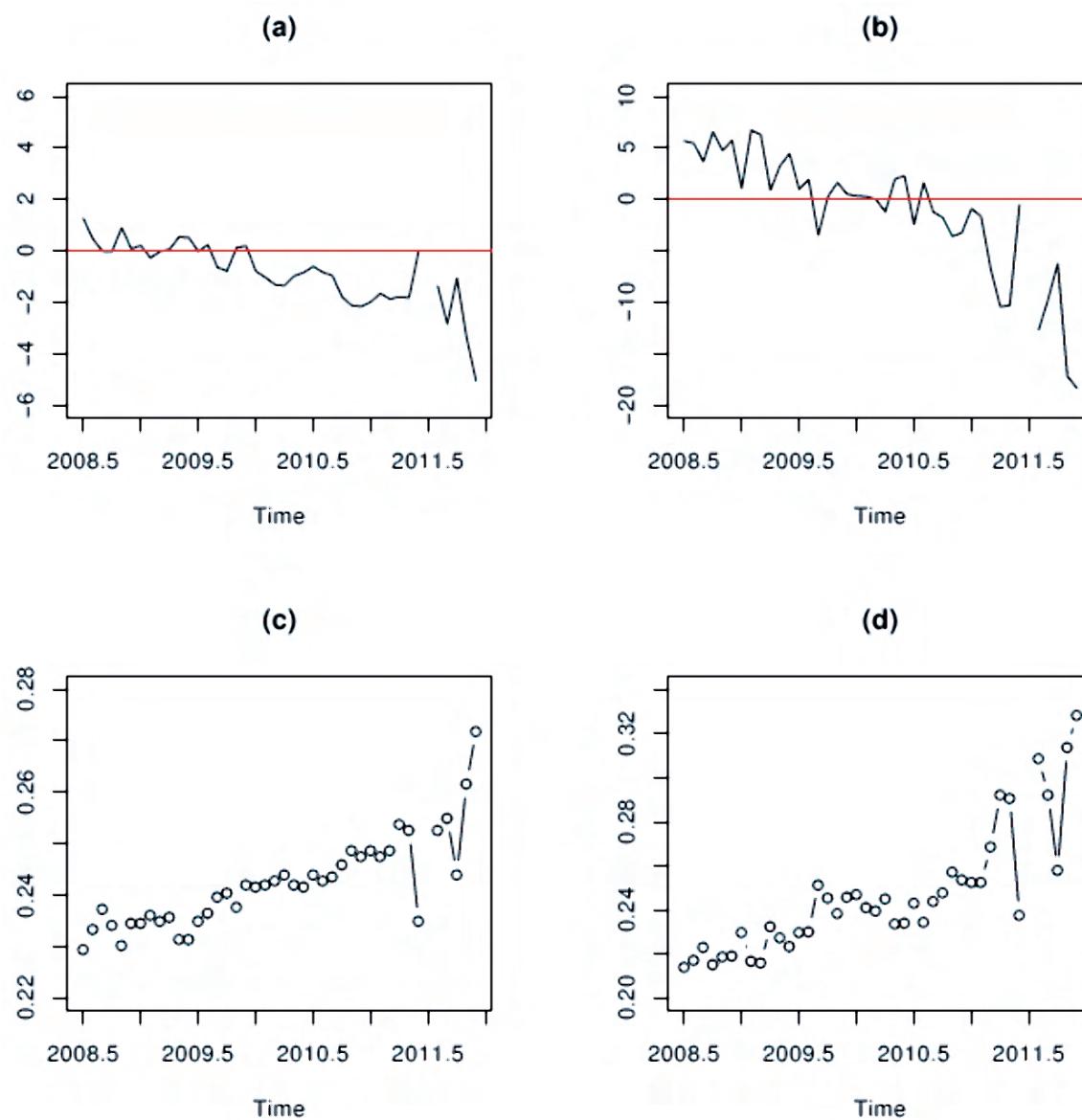
Figure 2.6 presents the main results of the analysis. The left-hand panels assume that other prices do not change while the right-hand panels assume that the missing prices change in line with the average of the commodities for which data is available.<sup>21</sup> The estimated impact of the price changes is large and negative, ranging from a 5 to a 20 percent fall in welfare depending on the assumptions regarding missing prices. This translates potentially into a very large increase in poverty (panels (c) and (d)), suggesting that many households only just above the poverty line have been hurt by the price changes. In the short run, the price changes significantly reduced purchasing power. If households did not adopt any strategy to cope with this shock, the poverty rate (which was 24.5 percent in 2009/10) would have increased to between 27 and 32 percent.

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<sup>20</sup> Price data is available for several commodities on a monthly basis between 2008 and 2012, allowing the computation of welfare losses or gains for each month relative to a baseline price level (the average price level in 2009, when the household survey used to estimate the quantities bought and sold was conducted). An index of the aggregate change in welfare is then calculated by averaging the gain or loss of each household for each month.

<sup>21</sup> The commodities included were determined by data availability. They are apple bananas, cow peas, fresh cassava, groundnuts, irish potatoes, kayiso rice, maize grain, matoke, nambale beans, pineapple, simsim, sorghum grain, soya beans, sunflower, unprocessed vanilla for sales; and beef, cassava flour, cow peas, fresh cassava, groundnuts, irish potatoes, local chicken, local eggs, maize flour, maize grain matoke, milk, millet flour, nambale beans, nile perch, pork, simsim, sorghum flour, super rice for purchases.

**Figure 2.6: The welfare and poverty impacts of food price changes**

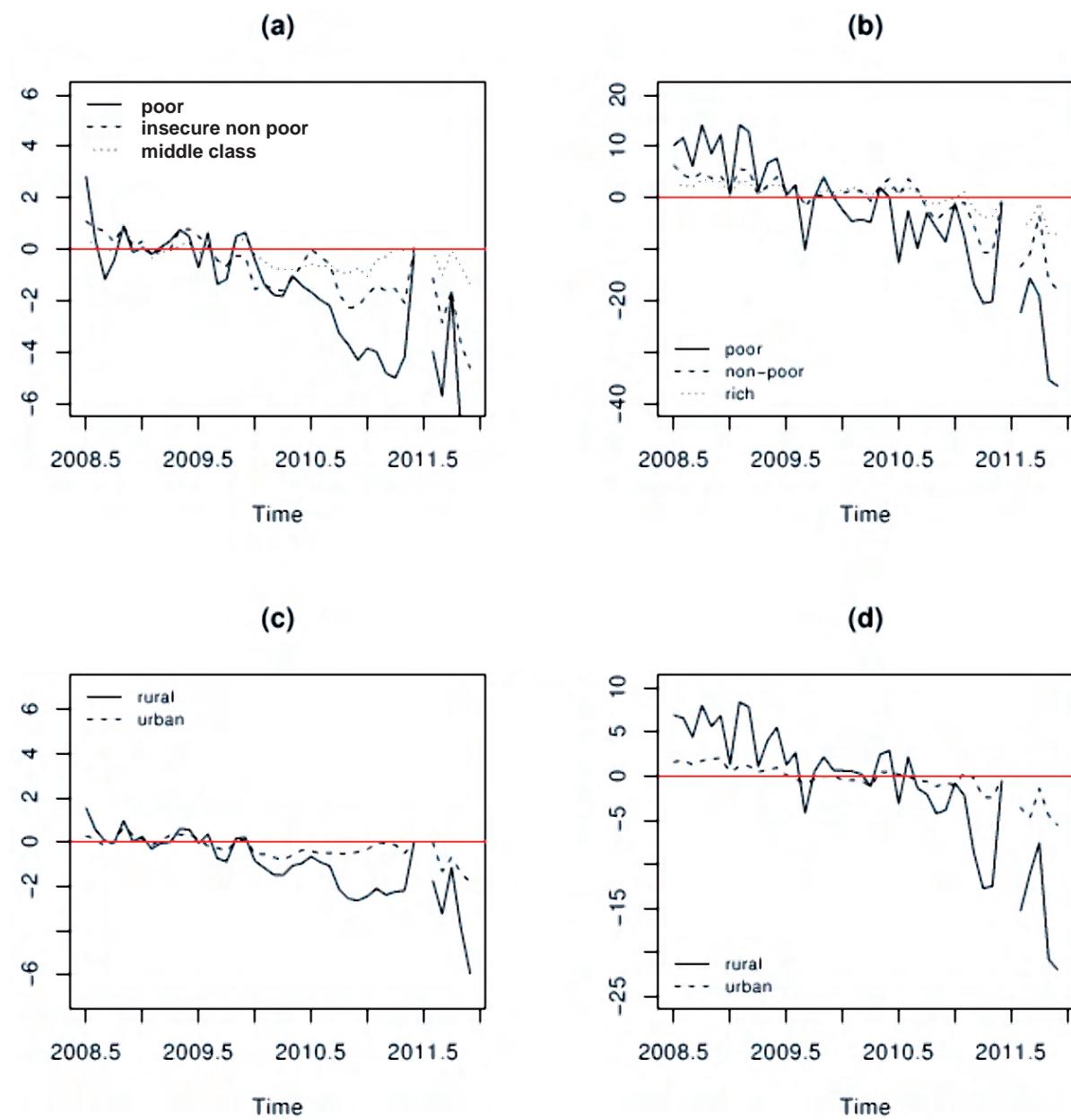


This analysis dramatically illustrates the risks that many Ugandans are facing. When the welfare analysis is repeated for different groups (Figure 2.7), it is apparent that price risks are most important for poor households – their purchasing power may have reduced by up to 36 percent of initial consumption. The effect on the middle class is a comparatively modest 1 to 6 percent. Overall, rural households have been worst affected – because the vast majority of the poor live in rural areas.<sup>22</sup>

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<sup>22</sup> There is no significant difference between the impact on the rural and urban poor (not shown).

**Figure 2.7: The welfare impact of food price changes for different groups**



A comparison of Figures 2.5 and 2.6 illustrates that there is no clear relationship between the level of prices and household welfare. The high prices at the end of 2011 reduced overall welfare, but so did the lower prices at the end of 2010. It is important to remember that the prices of different commodities have evolved differently and impact household welfare in different ways. Maize is unusual in that the poor are often net sellers – the lower price of maize throughout most of 2010 and the second half of 2011 was therefore detrimental overall, even if some consumers benefited. One of Uganda's most important food items – matoke – was not a major driver of the changes in welfare; matoke tends to be consumed by better-off households and its price was much more stable than other staple foods.

Both high and low prices can increase poverty; price volatility seems to be more important for welfare than the level of prices. This is likely to be particularly true when the longer-term effects are considered – uncertainty makes it difficult for farmers to exploit higher prices. With price fluctuations as extreme as experienced over the last few years it is unsurprising that so many agricultural households remain reluctant to adopt technologies such as fertiliser.

### 3 The equality of opportunity

Policy debate is increasingly focused on the issue of inequality. Although inequality is widely perceived to be increasing, objective measures of outcome inequality such as the Gini coefficient show that national inequality is no higher today than in 2002/3. But inequality has increased since the early 1990s, driven by inequality between regions, and inequality within the central and western regions. The level of inequality within the eastern and northern regions has remained relatively low. At 0.426, the overall level of inequality is comparable to Kenya (0.425 in 2008) and significantly lower than in China (0.48 in 2010). Uganda's outcome inequality is significantly higher than in Tanzania however (0.376 in 2007).

**Table 2.5: National and regional Gini coefficients, 1992/93 – 2009/10**

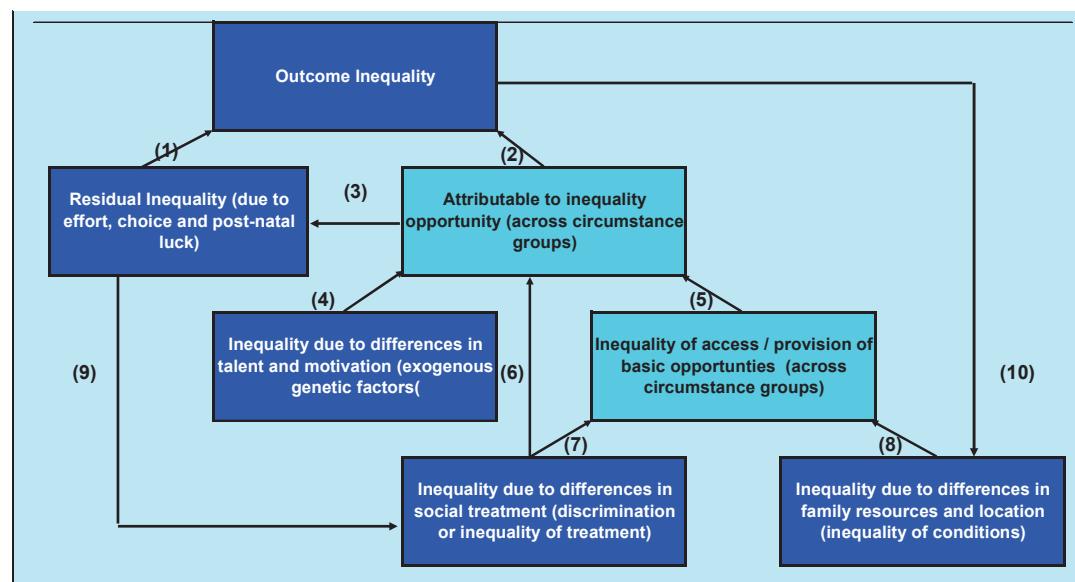
	1992/93	2002/03	2005/06	2009/10
<b>Uganda</b>	<b>0.365</b>	<b>0.428</b>	<b>0.408</b>	<b>0.426</b>
Central	0.395	0.460	0.417	0.451
Eastern	0.327	0.365	0.354	0.319
Northern	0.345	0.350	0.331	0.367
Western	0.319	0.359	0.342	0.375

But not all forms of inequality are alike. Inequality related to different levels of effort – for example where two otherwise identical workers earn different amounts because one worked hard to gain an additional qualification and one did not – are not generally seen as being unfair, nor would such an outcome be inefficient. But inequality in the access to opportunities – for example if the additional qualification was only available to individuals from wealthy backgrounds – is generally perceived as being unfair, and such inequality of opportunity can lead to economically inefficient outcomes.<sup>23</sup>

From a policy perspective, it is necessary to distinguish between inequality related to circumstance and inequality related to effort. The standard measure of inequality used in Uganda is the Gini coefficient, but this only provides an indication of total inequality. In order to understand how much of the inequality in outcomes (such as earnings, income, or consumption) is caused by circumstance, inequality of opportunity can be ‘decomposed’ into its constituent parts as illustrated by Figure 2.8.

<sup>23</sup> Roemer (1998).

**Figure 2.8: Outcome inequality decomposition**



Source: World Bank (2008: 13)

Inequalities of household resources or location (arrow 8) and in social treatment such as discrimination (arrow 7) contribute to inequality in access to basic opportunities, for example education, health or sanitation. This inequality in the uptake of basic services contributes to inequality of opportunity (arrow 5), and this in turn leads to outcome inequality directly (arrow 2) and indirectly (arrow 3), in the sense that inequality of opportunity may impact the choices people make (for example if disadvantaged groups have lower career aspirations because they do not believe they would be able to get a desirable job even if they invested greater effort in their education).

Evidence from the PPA suggests access to opportunities depends on both household resources and unequal social treatment. Individuals often expressed their frustration that effort or talent were unlikely to be rewarded justly:

The recruitment of community facilitators was being carried on in the community but if you go and ask for a job whether within the sub-county or district, people tell you that 'there is something for something and nothing for nothing'.

Female focus-group discussant, perceived as relatively poor, Arua

You go looking for a job and the first question you are asked is which part of the country do you come from or what is your tribe? You are told to come back the next day until you get tired.

Male focus-group discussant, perceived as relatively poor, Kampala

### 3.1 The access to education

The focus of the present analysis is on the equality of access to a full cycle of primary education, that is, primary school completion. While enrolment increased dramatically following the introduction of Universal Primary Education (UPE), only 28 percent of 13 to 18 year-olds in 2009/10 had completed primary school.<sup>24</sup> These children are not responsible for this failure – access to the full cycle of primary education depends on factors they cannot control; there are very large differences in completion rates across children in different circumstances.

Econometric analysis of the UNPS revealed that even small improvements in human capital can lead to large gains for the poor and therefore increase the likelihood of escaping poverty.<sup>25</sup> In fact, the returns to education are highest among the poor. Access to education in childhood has a major bearing on one's earning potential as an adult, and is perhaps the most important way in which poverty is passed from one generation to the next:

A rich man's children study ... but for us we are left out which has accelerated poverty in a poor man's home because education is the key to wellbeing and getting rich.

Focus-group discussant, Kiruhura

Disadvantaged groups often appreciate the value of education but are unable to make the necessary investment, leaving themselves and their children uneducated despite the potentially high returns. The PPA highlighted low education as a key driver of social, economic and political exclusion, which were identified as the primary sources of conflict within all six of the communities studied in the PPA.<sup>26</sup>

We focus on inequality from the 'bottom up' – in terms of Figure 2.8 above, essentially trying to understand arrows 5-8 – the inequalities in the access to the basic opportunity of primary education. Given the importance of education for social mobility and lifetime earnings, this approach provides an important window into overall inequality in outcomes.

The equality in the access to education is measured in two steps. First, the impacts of each circumstance on primary school completion are estimated. This reveals the

<sup>24</sup> Some of the 72% who had not completed primary school were still enrolled. This measure therefore reflects both school dropout and delayed completion.

<sup>25</sup> See appendix I.

<sup>26</sup> MFPED, PPA Report (forthcoming).

relative impact of different circumstance characteristics, controlling for other variables. Secondly, a measure known as the dissimilarity index is calculated. This provides a summary measure of the overall extent to which circumstances affect access. This index can be interpreted as the minimum proportion of all available opportunities that must be reallocated to ensure equal access to all circumstance groups. Under perfect equality, the dissimilarity index is equal to zero.<sup>27</sup>

### 3.1.1 The determinants of primary school completion

The analysis reveals that many circumstances beyond the student's control influence the probability of completing primary school.<sup>28</sup> Holding everything else constant, increasing the education of the household head by one standard deviation increases the probability of completing primary school by 7 percent. Living in an urban household increases the probability by 15 percent, while living in the Eastern region decreases the probability by 11 percent, living in the Northern region by 12 percent and in the Western region by 9 percent (compared to living in the Central region). A child residing with both parents is 8 percent more likely to complete than one that is not.<sup>29</sup> The level of household consumption is also strongly correlated with completion. Increasing consumption by one standard deviation at the mean is associated with 8 percent higher probability of completion.

Boys appear less likely to complete primary than girls. This relationship is not statistically significant, but does appear to be consistent across all levels of education of the household head and stronger at higher levels of consumption (Figure 2.9). Children in female-headed households are significantly more likely to complete primary school, and this holds true across all levels of consumption and years of schooling of the head (Figure 2.10). Also somewhat surprising is the fact that children in households with three or more children are more likely to complete primary school than households with 2 or less.

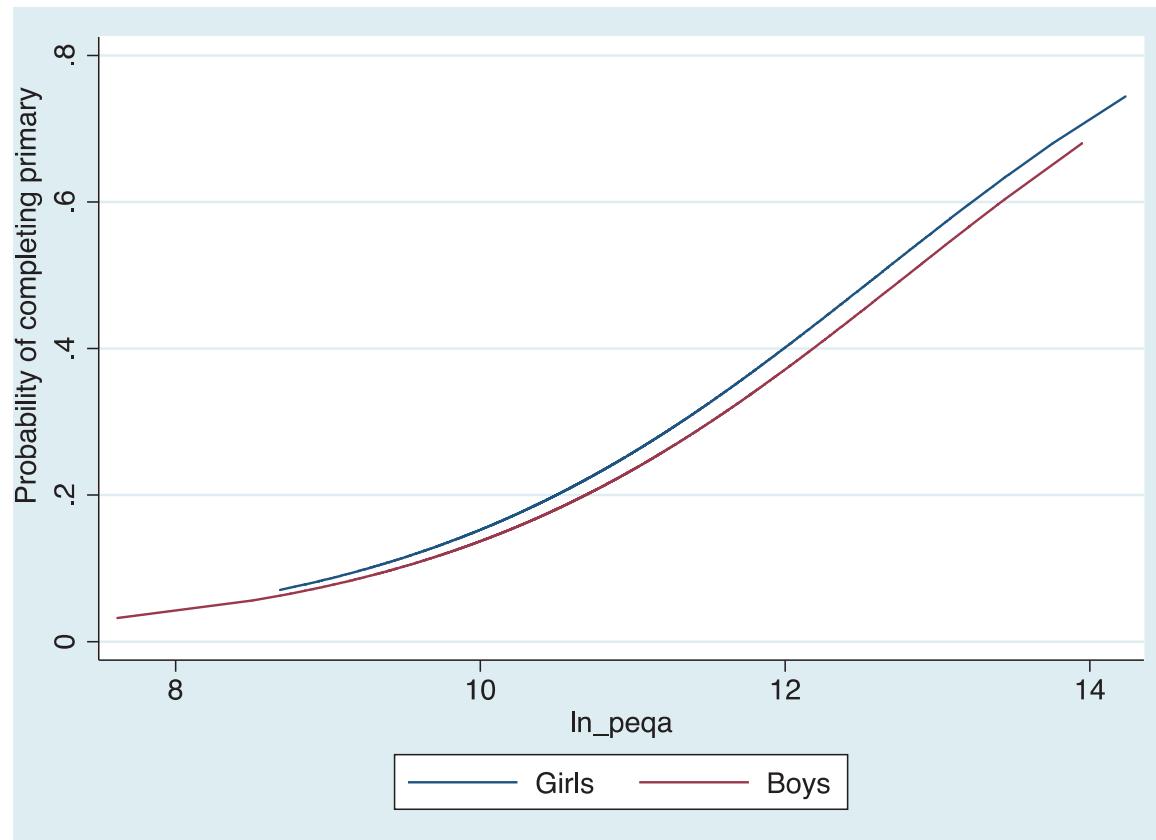
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<sup>27</sup> de Barros, et al (2008).

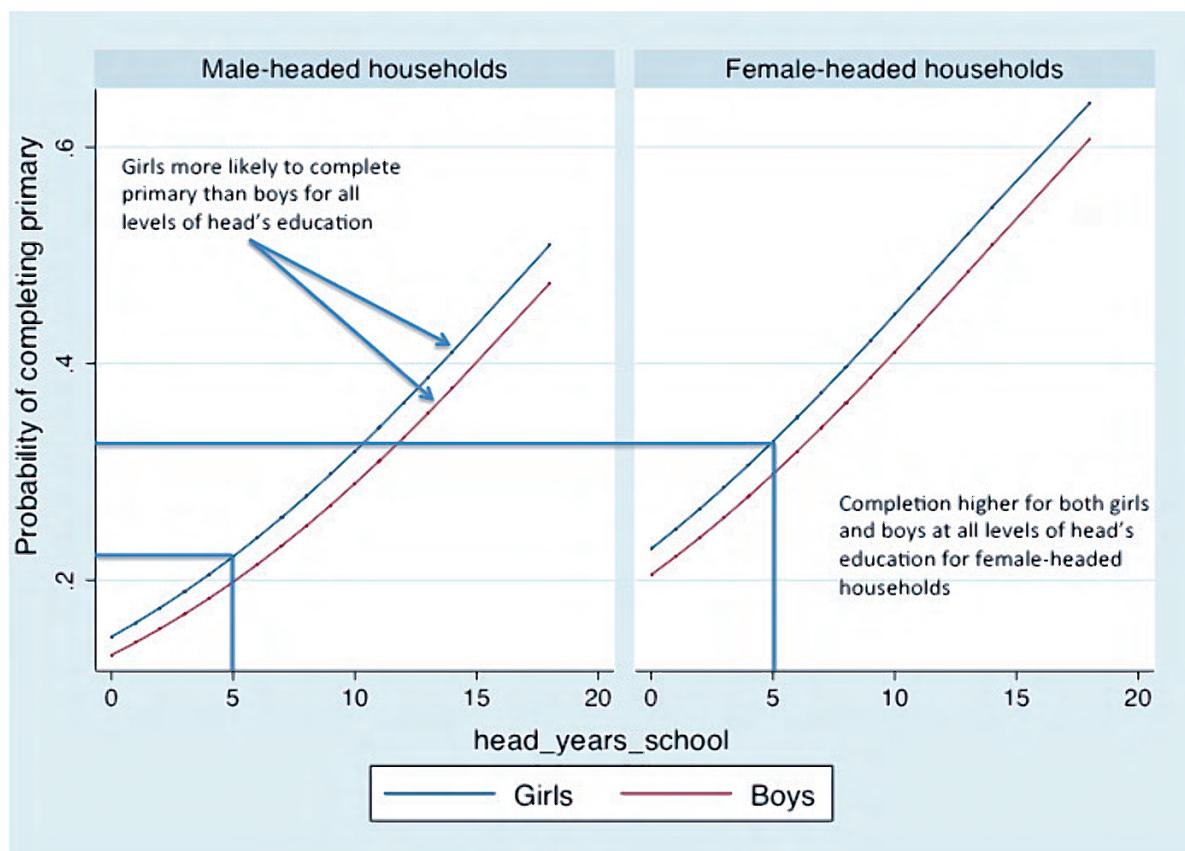
<sup>28</sup> Full estimation results are provided in appendix II.

<sup>29</sup> Only 60% of all children live with both parents; some are orphaned or live in households with one parent absent, but a large number are also fostered out to other households (often sent to live with other relatives).

**Figure 2.9: Probability of completing primary by household consumption for girls and boys**



**Figure 2.10: Probability of completion by head's education in male- and female-headed households**



We can also view the results in terms of the probability of completing primary school across ‘types’ of children. These types are groups of children with a unique combination of circumstances, in this case the education of household head; whether the household head works in subsistence agriculture; the region; and the number of children in the household.<sup>30</sup> The probability of completing primary ranges widely – from 11% for the most-disadvantaged types to 69% in the most-advantaged types.

Looking at the characteristics of the most-disadvantaged types (Table 2.6), we see that the Northern Region dominates, but there are also one type from the Western Region and three from the Eastern. Six have household heads in subsistence agriculture, and all but one have household heads with no education. We can compare these to the characteristics of the most-advantaged types (Table 2.7). Here

<sup>30</sup>There are other circumstances of interest, such as whether the child resides with both parents, and whether the child lives in urban or rural areas. The number of circumstances has been limited here for tractability; otherwise the number of children falling into each group would be very small in some instances.

the Central and Western regions dominate; only one has a household head working in subsistence agriculture; and all have heads who at least completed primary school.

**Table 2.6: Characteristics of 10 most-disadvantaged types**

<b>Head's education</b>	<b>Head's occupation</b>	<b>Children in household</b>	<b>Region</b>	<b>Probability of completion</b>
None	Subsistence	2 or less	North	10.7%
None	Subsistence	5 or more	North	10.8%
None	Subsistence	2 or less	Western	11.2%
None	Other	2 or less	North	11.3%
None	Subsistence	3 or 4	North	11.4%
None	Other	2 or less	Eastern	12.2%
None	Other	5 or more	North	12.9%
Some primary	Subsistence	5 or more	North	13.4%
None	Other	3 or 4	North	13.7%
None	Other	3 or 4	Eastern	14.5%

**Table 2.7: Characteristics of the 10 most-advantaged types**

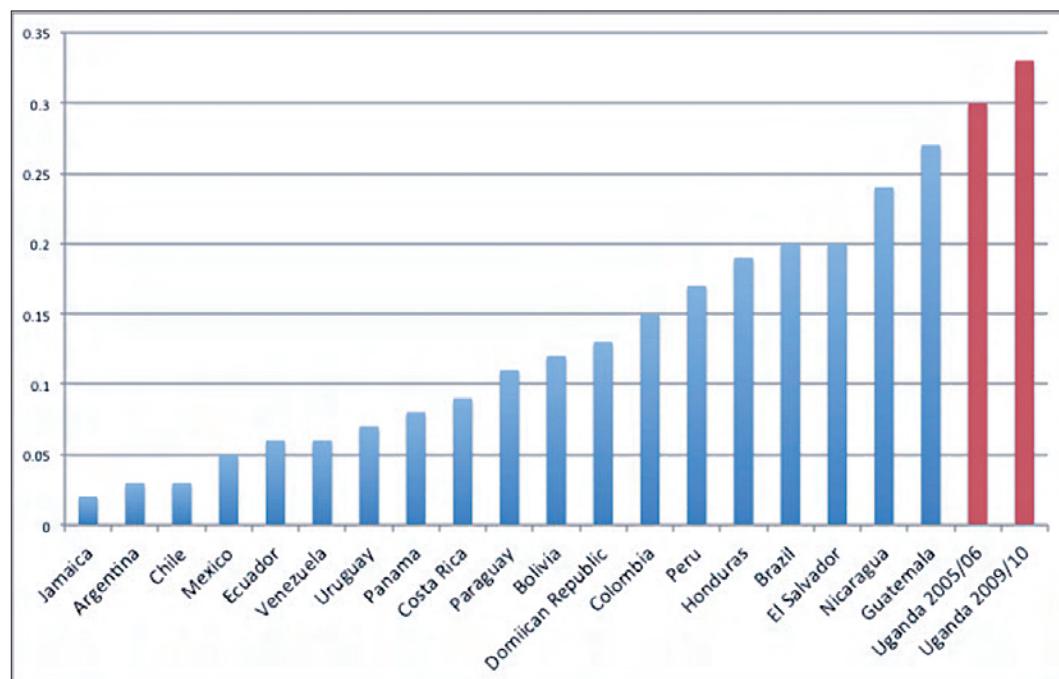
<b>Head's education</b>	<b>Head's occupation</b>	<b>Children in household</b>	<b>Region</b>	<b>Probability of completion</b>
Secondary or more	Subsistence farmer	3 or 4	Central	42.2%
Secondary or more	Other	2 or less	Western	42.4%
Some primary	Other	3 or 4	Central	43.1%
Completed primary	Other	5 or more	Central	44.7%
Secondary or more	Other	3 or 4	Western	54.4%
Completed primary	Other	2 or less	Central	57.3%
Completed primary	Other	3 or 4	Central	57.4%
Secondary or more	Other	2 or less	Central	63.8%
Secondary or more	Other	5 or more	Central	67.6%
Secondary or more	Other	3 or 4	Central	68.9%

### 3.1.2 The overall inequality of opportunity

Pulling all of these findings together into the aggregate index of dissimilarity, we find that 33% of current opportunities would need to be reallocated in order to achieve equality of access to the completion of primary. There has been an increase in inequality of opportunities since 2005/06, when the dissimilarity index was 0.30.

This reflects a high degree of inequality of access to basic opportunities, even compared to some of the most unequal regions in the world. Barros et al (2008) employed the same methodology in a study of Latin America – Uganda's comparative position is shown Figure 2.11. The average for Latin America is 0.12, and only Nicaragua and Guatemala have values over 0.20.

**Figure 2.11: Index of Inequality of Opportunity for Uganda and Latin America**



Source: Barros et al (2008) and calculations for Uganda based on UNHS 2005/6 and 2009/10.

As well as being unfair, the current situation is clearly inefficient. The returns to education are highest among the poor and those with less education to begin with; poor households would benefit the most from improved access to basic education. The returns to education appear to be lower for the middle class, and this group tends to complain more about the lack of employment opportunities rather than access to education. Yet it is these households that are able to devote a higher proportion of expenditure to education and ensure that their children stay in school.

Improving access to education for the most-disadvantaged groups is necessary for both poverty reduction and growth. While UPE has been successful in increasing

gross and net enrolment, it is important to ensure that there is equal access to the full cycle of primary education. This will require improvements in the supply and quality of public education, but the importance of household income and the education and occupation of the head of the household suggests that vulnerability plays a central role in the decision of parents to withdraw their children from primary school, potentially creating a trap that persist across generations. The international comparison suggests that insecurity in Uganda may be even more important in undermining the equality of opportunity than the structural factors prevalent in South America.

More generally, this analysis illustrates that national development requires more than the creation of new economic opportunities; access to the available opportunities must be more equal. While the focus here has been on education, it is likely that inequality relating other basic opportunities – such as credit, infrastructure and information – also creates inefficiencies. Government efforts that equalise opportunities by favouring the poor can spur growth, and ultimately benefit all Ugandans. This not only requires the universal provision of public services. To enable the poorest households to exploit these opportunities, it is necessary to address the insecurity that pervades their economic lives. This will not only improve the lives of today's poor; it will ensure their children benefit from and help to build tomorrow's transformed society.

## 4 The transformation of livelihoods

This section considers changes in the production and allocation of resources that have affected household incomes. The expansion of the non-farm economy – often through informal household enterprises – has been dramatic. In contrast to the early 1990s, there is now a large, relatively secure and forward-looking middle class that relies on new sources of income and livelihood strategies. The evidence suggests that diversification – including productive informality – has played a central role in raising incomes, savings, investment in human capital, productivity and the inclusiveness of the development process. It is as a necessary and positive stage between the peasant-dominated economy of the 1990s and the modern and prosperous society envisaged in the NDP.<sup>31</sup>

Table 2.8 illustrates the extent of recent changes. In just four years, the proportion of rural households relying on subsistence agriculture as their primary source of income has fallen by 10 percentage points. In its place, both wage employment and non-farm enterprises have risen in prominence. Urban areas are much more dependent on these income sources, and have experienced particularly rapid growth in wage employment.

**Table 2.8: Household primary sources of income in 2005/6 and 2009/10**

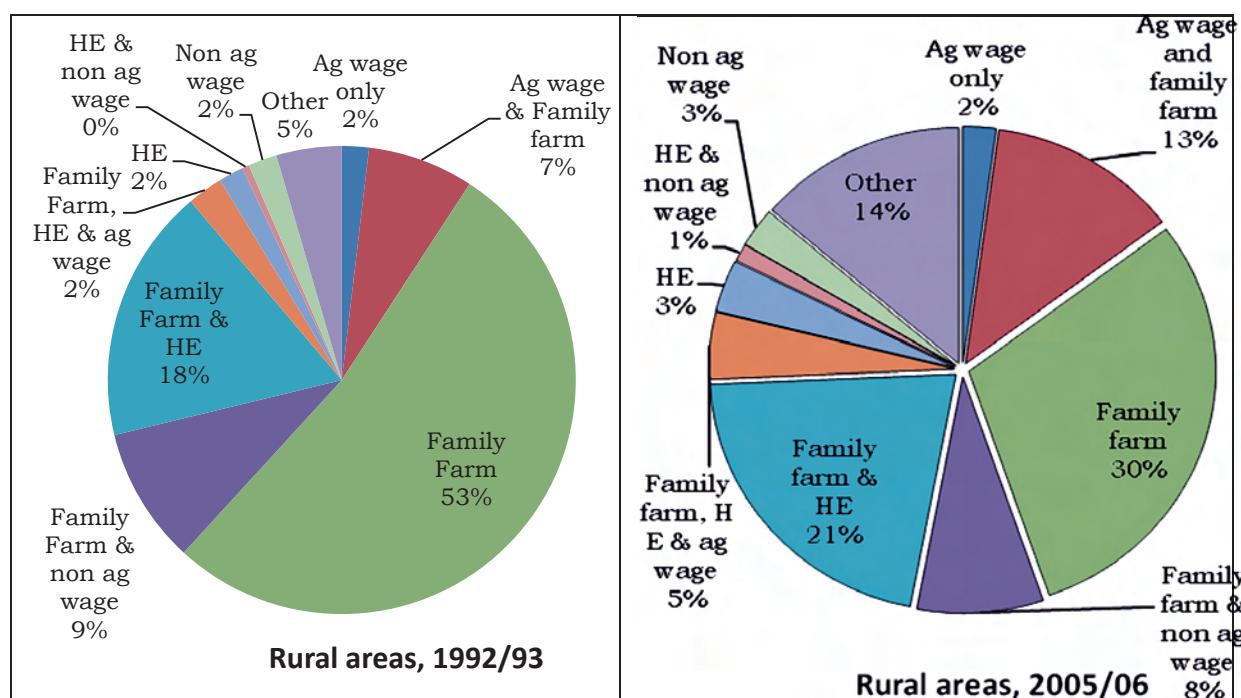
	Rural		Urban	
	2005/6	2009/10	2005/6	2009/10
Subsistence agriculture	64%	54%	15%	6%
Commercial agriculture	4%	5%	2%	2%
Wage employment	12%	17%	36%	45%
Non-farm enterprises	13%	18%	36%	37%
Other	7%	6%	11%	10%

Source: UNHS 2005/6 and UNHS 2009/10.

A similar picture of diversification emerges when considering households' entire income portfolios. In 1992, 53 percent of rural households relied exclusively on a family farm. This was only 30 percent in 2005/6 (Figure 2.12). Since 2005/6, the growth of non-farm enterprises has slowed, while the growth of non-agricultural wage employment has accelerated. In 1992, only 24 percent of rural households operated a non-farm enterprise. This had increased to 38 percent by 2005/06 but has since remained unchanged, while those relying primarily on wage employment increased from 12 to 17 percent.

<sup>31</sup> Fox and Pimhidzai (2011).

**Figure 2.12: Comparison of rural household livelihood portfolios in Uganda, 1992/93 – 2005/06**



Source: Fox and Pimhidzai (2011).

#### 4.1 Employment and welfare

Significant changes are also evident at the individual level. Table 2.9 illustrates the sectoral transitions that individuals made between 2005/6 and 2009/10. The rows correspond to primary employment in 2005/6 and the columns to primary employment in 2009/10; each cell therefore reports on a group of individuals who made a particular transition – for example, from predominantly relying on agricultural work to engaging primarily in a non-farm activity. The first number in each cell is the average consumption of this group in 2005/6, and the second average consumption in 2009/10. The final percentage is the proportion of the 2005/6 group that transitioned to this 2009/10 category – for example, 13 percent of those working in agriculture in 2005/6 had moved into non-agricultural employment in 2009/10.

The evidence strongly suggests that the shift away from agriculture has been welfare-enhancing. By comparing average consumption in the two years, it is possible to get an idea of the impact of a particular transition. Statistically significant differences are highlighted in green (for positive changes) and red (for negative).<sup>32</sup>

<sup>32</sup> Whether a change is statistically significant depends on the variation within each group and the number of individuals that experienced a particular transition, as well as the average change in

Individuals that moved from agricultural to non-agricultural employment enjoyed significantly higher consumption – for themselves and their families – when engaged in the non-agricultural employment than when farming. Those that went in the other direction experienced a significant fall in welfare, suggesting that they may have been pushed into such a transition by adverse circumstances. Non-agricultural workers who remained in the sector saw significant welfare improvements.

**Table 2.9: Individual employment transitions**

Consumption in 2005/6		Sector of primary employment in 2009/10		
Consumption in 2009/10		Agriculture	Non-agriculture	Out of labour force
Row percentage				
Sector of primary employment in 2005/6	Agriculture	45,606	53,642	57,028
		46,581	62,300	59,886
		83%	13%	4%
	Non-agriculture	70,348	112,093	108,721
		57,330	124,409	102,915
		27%	68%	5%
	Out of labour force	50,547	89,403	92,587
		48,630	93,925	84,434
		61%	15%	24%

#### Key

- Significant decrease in consumption (5% level)
- Significant increase in consumption (5% level)
- Change in consumption not statistically significant

Notes: Includes all individuals surveyed in the UNPS who were 65 or younger in 2005/6 and 14 or older in 2009/10. See text for further explanation.

It is also possible to observe which types of individuals, in terms of initial welfare, made a particular transition. The farmers that moved into the non-agricultural sector were initially marginally better off than those who remained – although the gap between these two groups had substantially widened after four years. The non-agricultural workers that moved into agriculture were initially much poorer than

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consumption. This explains why some apparently minor changes in consumption are significant, while some larger average changes are not. A paired t-test was used to calculate statistical significance.

average. Of those initially out of the labour force, those who entered the non-agricultural sector were on average much better off than those who entered agriculture.

Both the agricultural and non-agricultural sectors are clearly very diverse. Similar analysis was therefore conducted but disaggregated by sector and employment status – wage employee, own-account or family worker. This is presented in Appendix III. The overall picture does not change – suggesting that it is not really changes in employment status that matter, only changes that go together with a change in the sector of employment. Most of the positive changes observed correspond to individuals moving from farming to non-farming jobs. The differences between self, family and wage employment appear to be of secondary importance. Suggestive evidence of a hierarchy between the different categories does emerge however. Family farm workers are among the least well off and also the least mobile – with only 36% moving into another type of primary employment after four years. Very few individuals are able to transition directly from subsistence agriculture into non-farm wage jobs. But non-farm enterprises may serve as a valuable intermediate step between agriculture and non-agricultural wage employment. A significant number of farmers begin to operate a non-farm household enterprise, and a significant number of non-farm own-account workers move into wage employment – and both of these transitions are associated with significant welfare improvements. On the other hand, 19 percent of non-farm enterprise owners moved into agricultural self-employment and this was associated with a very large fall in consumption. This attests to both the valuable contribution of non-farm household enterprises, but also their vulnerability.

## 4.2 Non-farm opportunities

### 4.2.1 Household enterprises

Informal enterprises have often been characterised as small, unproductive, with limited growth potential and high risk of failure, and hence overlooked as a component of the Uganda's development strategy. Moreover, household diversification may be a response to the risks inherent in rain-fed agriculture that limits the extent to which households can benefit from specialisation.

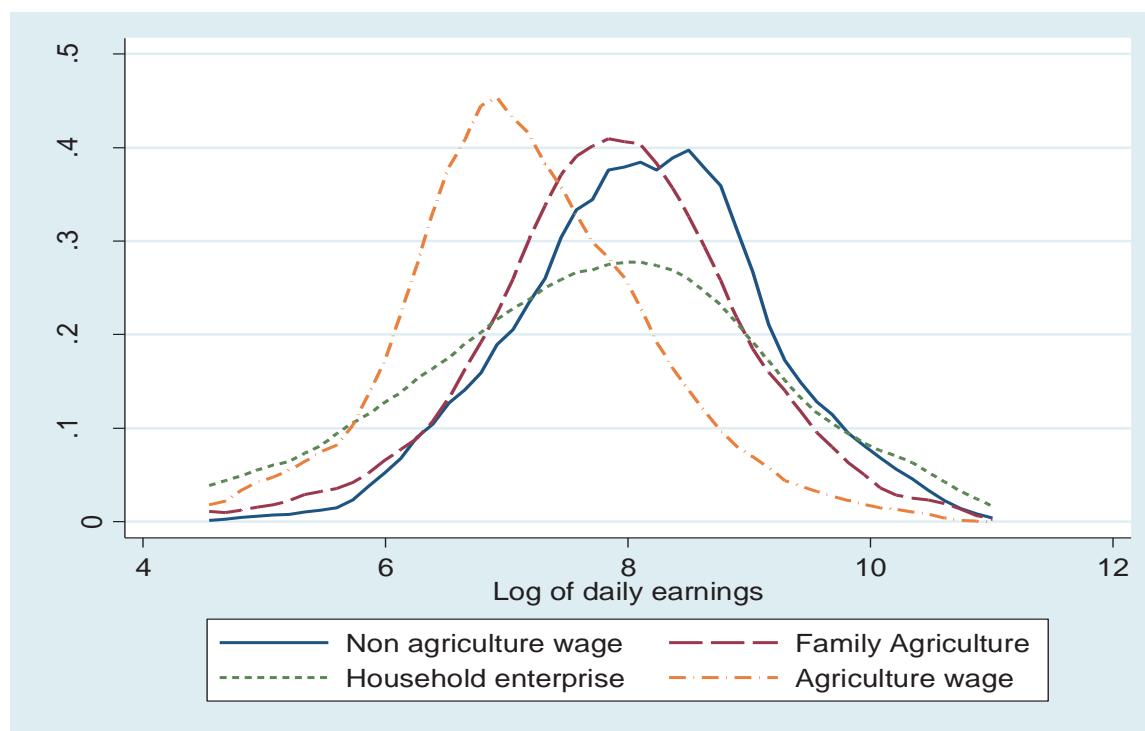
But perhaps surprisingly, the consumption premium associated with operating a non-farm enterprise is equal or even greater than the impact of an additional non-agricultural wage employee.<sup>33</sup> All types of enterprise – be it small-scale trade or cottage industries – were found to have a similar positive impact.

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<sup>33</sup> See econometric analysis in appendix I.

Figures 2.13 and 2.14 help to reconcile these two ideas of informality. Figure 2.13 shows that those primarily working in non-farm enterprises do not earn more on average *per day* than those working in subsistence agriculture.<sup>34</sup> Moreover, the spread of enterprise earnings is much wider suggesting that it may be a riskier activity. However, agricultural households with a non-farm enterprise earn significantly more *per month* than those who rely on agriculture alone (Figure 2.14). This is driven by the fact that enterprise owners work far more hours than workers in subsistence agriculture.<sup>35</sup> Informal enterprises serve as a vent for surplus labour.

**Figure 2.13: Distribution of daily earnings by primary employment**

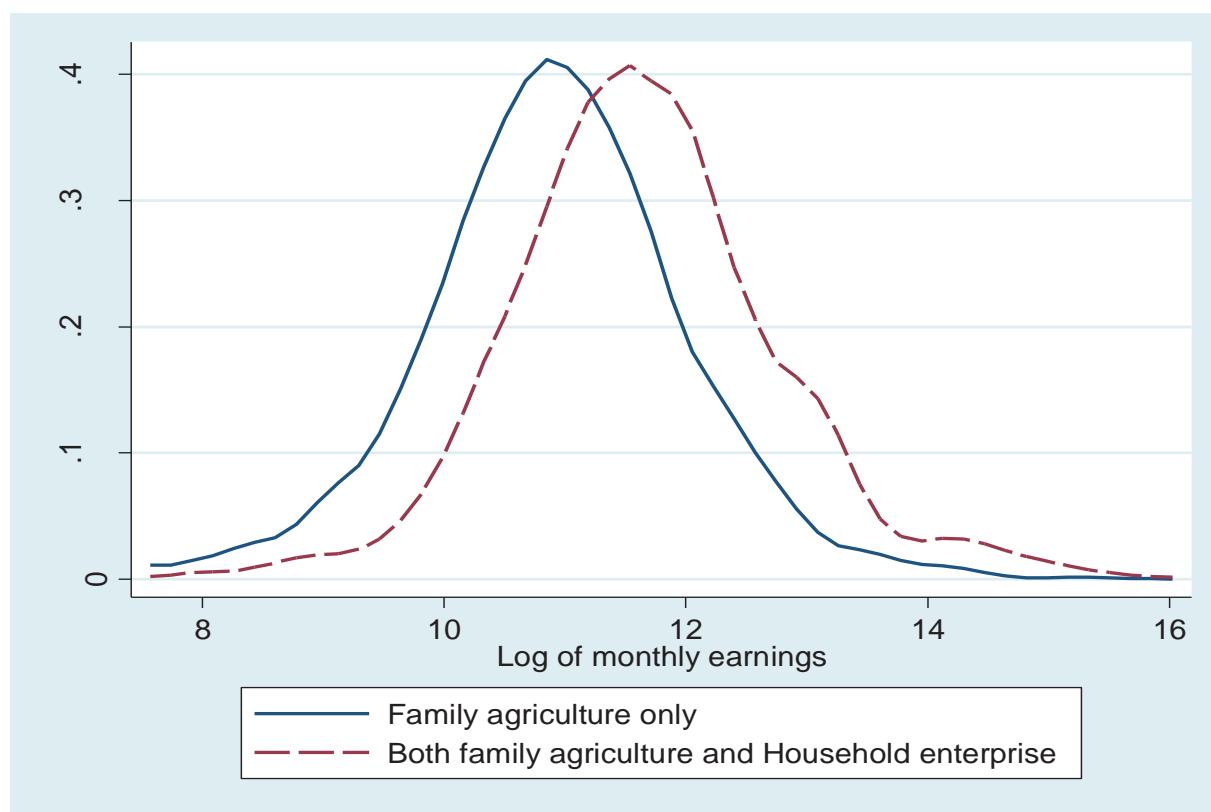


Source: Fox and Pimhidzai (2011).

<sup>34</sup> ‘Earnings’ in subsistence agriculture includes the estimated value of food that is produced but not sold.

<sup>35</sup> In 2005/06, those primarily engaged in running a household enterprise reported working more than twice as many hours per month as those whose main activity is self-employment in agriculture (Fox and Pimhidzai, 2011).

**Figure 2.14: Distribution of monthly earnings**



Source: Fox and Pimhidzai (2011).

The increased income earned from these activities may have far-reaching implications. Evidence from Northern Uganda suggests that poor households who receive a windfall invest the large majority in productive assets or human capital,<sup>36</sup> which we have seen have high returns among the poor. A better-diversified income portfolio reduces vulnerability to transitory shocks and therefore has even larger benefits in terms of long-term welfare. Sooner or later this process is also likely to have significant macroeconomic consequences. As individual's incomes rise, their share of expenditure on non-food items increases. Increased demand will stimulate growth of the non-agricultural sector and therefore structural economic change.<sup>37</sup>

<sup>36</sup> Blattman, Fiala and Martinez (2011).

<sup>37</sup> This process is not necessarily automatic – if higher incomes are spent on imports for instance. But most evidence from Africa suggests that this demand channel is the most important linkage between the agricultural and non-agricultural sectors, for example IFPRI (1998).

**Table 2.10: Wage employment and household enterprises, entry and exit rates  
2005/06 to 2009/10**

	Non-agricultural wage employment			Non-farm household enterprises		
	Initial prevalence	Entry rate	Exit rate	Initial prevalence	Entry rate	Exit rate
Rural	16%	11%	51%	37%	30%	32%
Urban	55%	38%	25%	56%	42%	25%
Central	27%	18%	41%	49%	31%	25%
Eastern	15%	12%	33%	35%	31%	31%
Northern	16%	8%	52%	46%	48%	27%
Western	19%	13%	51%	30%	24%	41%
Kampala	63%	42%	23%	54%	46%	27%
Poor	9%	9%	62%	37%	28%	31%
Insecure non-poor	17%	10%	42%	35%	32%	36%
Middle class	43%	18%	35%	50%	37%	25%
Uganda	24%	15%	39%	41%	32%	30%

Source: UNPS

Inadequate education often prohibits non-agricultural wage employment as a route directly out of poverty, but household enterprises have lower barriers to entry. They are found to increase welfare for the poor and the middle class alike. 37 percent of poor households operate a non-farm enterprise – not far behind the 50 percent of the middle class (Table 2.10). Entry into the informal sector does not significantly differ by location or welfare level. In contrast, just 9 percent of poor households have a non-agricultural wage income, compared to 43 percent of the middle class. The wage opportunities that are available to poor households are rarely permanent. Of the poor households with a non-agricultural wage income in 2005/6, 62 percent no longer had such an income in 2009/10.

Socioeconomic transformation is necessarily an inter-generational process – many older individuals will only benefit from the creation of high-productivity jobs indirectly through their children. There is a gap that household enterprises can usefully fill, as illustrated by evidence from the PPA:

I am not educated, I know I cannot do office work but I dig, sometimes have surplus that I can sell for running my home; I also brew alcohol. If I am not brewing, I buy simsim that I resell, so I consider myself fully employed.

Female focus-group discussant, perceived as relatively poor, Kiruhura

Diversification into a non-farm enterprise can provide some much-needed stability that is likely to encourage forward-looking investment. Informal household enterprises are therefore a necessary and positive step in the development process, but they should be viewed as a means rather than an end in themselves – the transformation of Ugandan society will require the creation of many more formal wage jobs. As the NDP recognises, the creation of formal employment must now become a central component of Uganda's poverty reduction strategy.

#### 4.2.2 Formal wage jobs

The PPA revealed that formal-sector salaried jobs are almost universally viewed as the most desirable route out of the vulnerability trap. The large majority of the poor are reluctant entrepreneurs, who under other circumstances would prefer a decent and stable salary. This reflects strong international evidence for the importance of formal wage employment in the poverty reduction process. The growth of factory employment in India raised rural wages more than the famous green revolution. Moreover, these non-farm opportunities were more pro-poor than agricultural productivity growth; factories were more likely to open in poorer villages and then were likely to disproportionately benefit the poorest households.<sup>38</sup> The predictability of a formal wage income – more than just the income itself – allows individuals to plan ahead for themselves and their children. In Mexico, women able to exploit factory employment opportunities later had children over one standard deviation taller than those who had no such opportunity.<sup>39</sup>

Not all wage jobs are alike however. In Uganda, movement into agricultural wage employment is not associated with a welfare improvement – if anything the reverse is true, suggesting that individuals tend to be pushed rather than pulled into these jobs. Non-agricultural wage work does significantly increase welfare, but this appears to be largely confined to urban areas and better-off households.<sup>40</sup> Together with the evidence from the PPA, this suggests that the wage jobs available to the rural poor are typically not good quality, but casual and short-term. The key characteristic of a formal non-agricultural job is a relatively stable and secure income.

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<sup>38</sup> Foster and Rosenzweig (2004).

<sup>39</sup> Atkin (2009).

<sup>40</sup> See appendix I.

**Table 2.11: Employment and formal business establishments**

Sector	Number of firms	Average number of employees	5 or more employees	10 or more employees	Share of total employment	Revenue above 5m	Revenue above 10m	Average age in years
Agriculture	4,985	6.28	34.8%	10.9%	2.9%	52.6%	22.4%	10.71
Forestry	54	12.65	57.4%	27.8%	0.1%	79.6%	48.1%	13.45
Fishing	3,146	4.41	20.4%	7.7%	1.3%	58.7%	13.3%	11.00
Mining & Quarrying	713	4.48	16.4%	9.0%	0.3%	38.7%	9.5%	10.20
Food Processing	5,966	8.51	20.3%	10.4%	4.7%	41.2%	18.5%	8.57
Other Manufacturing	25,791	3.43	12.1%	4.0%	8.2%	34.9%	9.7%	8.81
Utilities	134	16.13	73.1%	49.3%	0.2%	100.0%	88.1%	10.89
Construction	653	22.05	78.6%	65.2%	1.3%	98.9%	88.2%	9.21
Trade	279,715	1.60	2.7%	0.8%	41.5%	29.2%	8.5%	7.84
Transport & Storage	1,594	8.46	40.4%	21.6%	1.3%	90.3%	77.5%	9.50
Hospitality	64,602	2.39	7.7%	2.2%	14.3%	21.4%	6.7%	7.42
ICT	4,109	3.50	10.0%	5.1%	1.3%	34.2%	14.0%	7.53
Financial service	3,340	8.12	41.6%	21.5%	2.5%	100.0%	76.5%	7.99
Real Estate & Business Services	10,945	4.85	16.4%	6.1%	4.9%	49.0%	24.6%	7.79
Education, Health & Social Work	10,593	7.70	38.6%	18.7%	7.6%	63.1%	28.1%	10.82
Recreation & Personal Services	41,766	1.94	3.8%	1.0%	7.5%	14.6%	3.0%	7.22
All	458,106	2.35	6.6%	2.4%	100%	29.9%	9.9%	7.91

Source: Census of business establishments, 20010/11.

In 2011, the Uganda Bureau of Statistics conducted a census of all business establishments with a fixed address. This dataset provides an opportunity to examine the nature and extent of employment in formal business establishments and its role in poverty reduction. Altogether, the firms surveyed employed 1,076,535 people (around 9% of the total labour force). The picture is dominated by many very small firms, with just 2.35 employees on average (Table 2.11). The differences between formal business establishments and household enterprises may sometimes be overestimated. Overall, less than 10 percent of firms have annual turnover above 10 million shillings. The majority (61 percent) of businesses are involved in trade. The majority of these are very small – only 2.7 percent have 5 or more employees – and yet the sector still accounts for 41.5 percent of total employment. It has sometimes been argued that this dominance of small-scale trade limits the potential for further employment growth, but international evidence suggests that large

industrial firms often originate in trade, and are able to successfully invest in manufacturing by exploiting their knowledge of local and international markets.<sup>41</sup>

The majority of businesses were established recently. The mean age is 7.9 years, but 50 percent of the establishments are less than 4 years old, 72 percent less than 10 years, and 98 percent less than 23 years. New businesses start with very few employees, but are still the most important source of employment growth.

Uganda's impressive gains in reducing poverty and expanding the middle class have coincided with very high wage employment creation (see Table 2.8). Yet the dominance of young firms also reflects a high failure rate. The poverty reduction agenda must recognise the vital role of these small firms and shift focus onto securing their survival and expansion.

#### 4.2.3 The economic geography of non-farm opportunities

Different parts of the country have distinct socioeconomic profiles. There is also an important spatial dimension to income-earning activities, which public policy must not overlook. Informal enterprises are distributed relatively evenly across the country, but in some regions informal-sector growth is perhaps approaching a limit. Non-agricultural wage opportunities are much more clustered. This is a feature common to almost every successful developing and developed country, and illustrates the importance of labour and capital mobility.

Maps 3 and 4 illustrate the respective geographical distributions of non-agricultural wage workers and employment in non-farm household enterprises. Each circle represents one enumeration area of the UNPS – a randomly selected community from which 10 households were surveyed.<sup>42</sup> The colours correspond to the deciles of each variable, increasing with the shade of red. For example, in Map 3 the dark red spots indicate a relatively higher concentration of non-agricultural wage employees and the light red spots a low concentration.

While non-farm wage jobs are highly concentrated, employment within informal enterprises is much more evenly distributed across the country. While the prevalence of household enterprises is very high in the North, Map 4 illustrates that they employ relatively few – suggesting they have greater scope for further growth. Map 5 plots the geographical distribution of household enterprise profits, and also reveals an inclusive picture. The most-profitable enterprises are clustered in urban areas, but the North – even including Karamoja – is not left out. The Mid West

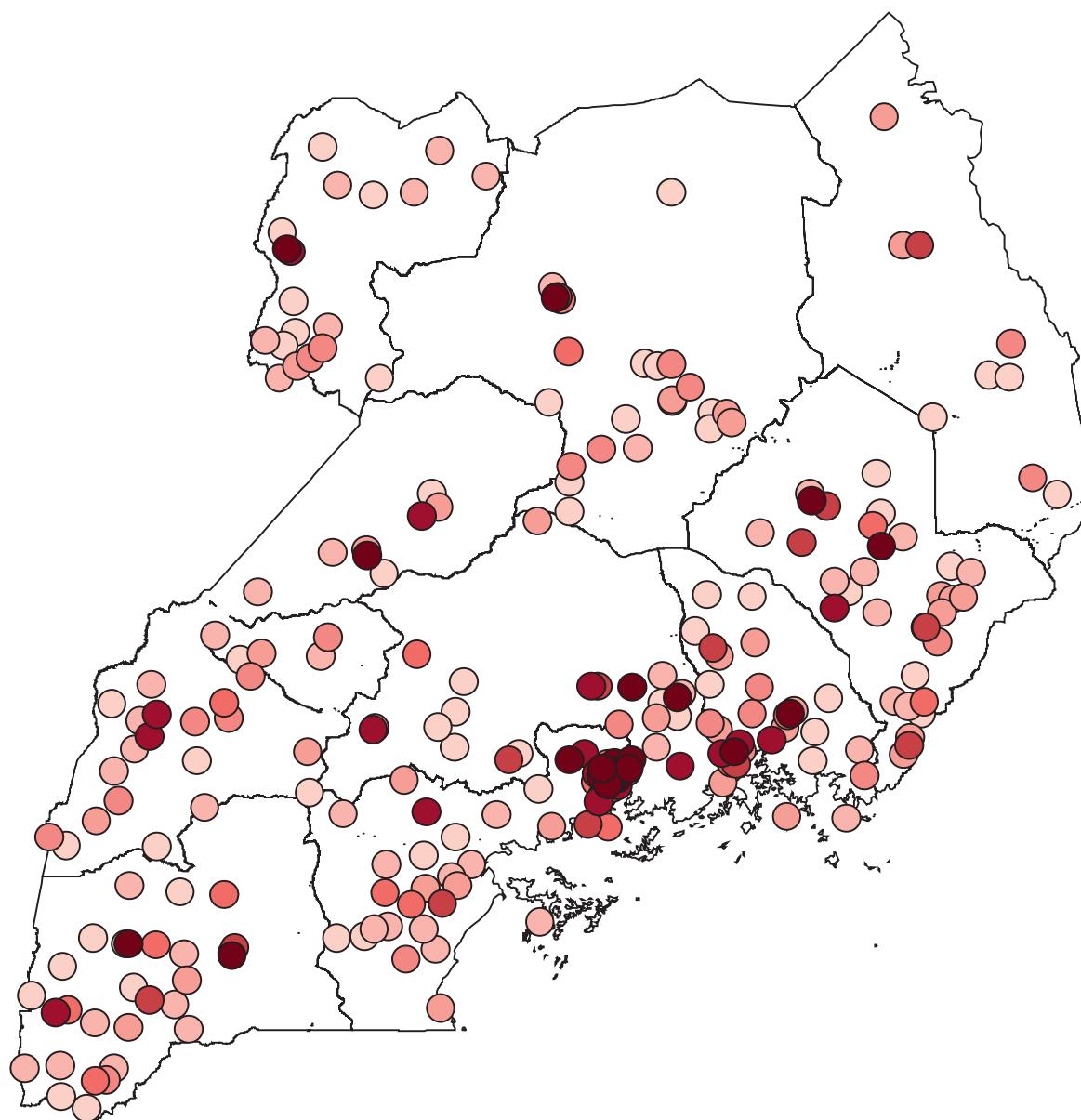
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<sup>41</sup> Sutton and Kellow (2010).

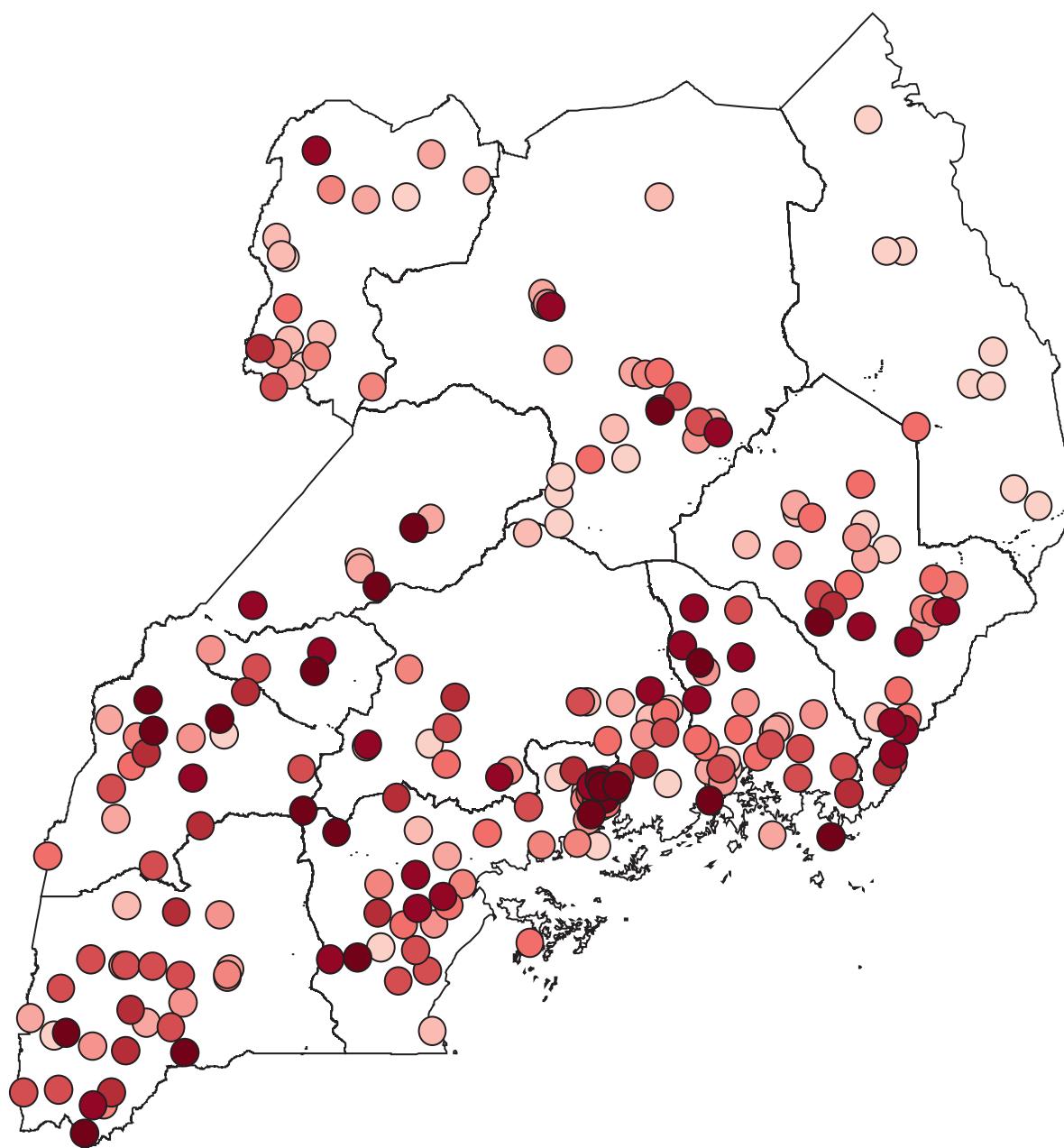
<sup>42</sup> The location of enumeration areas reflects the UNPS survey design and the population distribution.

appears to be an exception, perhaps helping to explain its relatively poor recent record in reducing poverty.

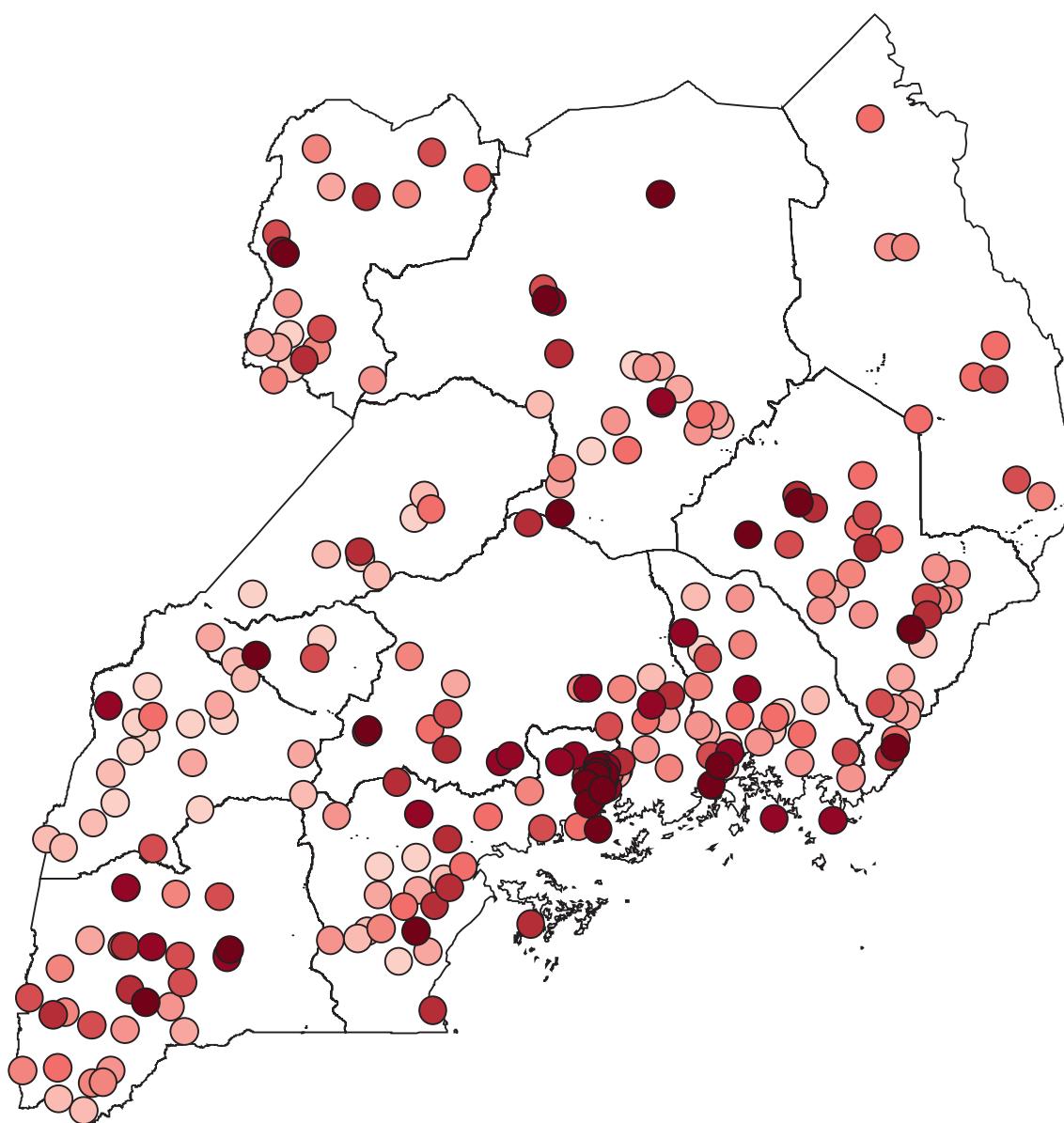
**Map 3: The geographical distribution of non-agricultural wage employees**



**Map 4: The geographical distribution of employment in non-farm household enterprises**



**Map 5: The geographical distribution of non-farm household enterprise profits**



# PART III: LESSONS FROM PUBLIC AND PRIVATE INITIATIVES

This part draws out key lessons from public and private initiatives that have attempted to address the challenges highlighted in Part II. It is not possible to provide a comprehensive picture of everything that has and should be done to reduce vulnerability, equalise opportunities and transform livelihoods. Instead, the Ugandan experience and a number of illustrative case studies are complemented with international evidence to guide policy makers and provide lessons for more effective implementation.

## 1 Reducing vulnerability

Half of all Ugandans have suffered from extreme weather events; volatile food prices constantly threaten dramatic shifts in purchasing power; ill health frequently impairs income-earning capacity; and access to one of a household's most important assets – land – is often insecure, subject to competing claims of ownership. Volatile income streams, combined with inadequate coping mechanisms, lead to extremely large swings in household consumption – particularly among the poor. Pervasive uncertainty influences household decision making, discouraging forward-looking investments and undermining long-term transformation. Policy must alleviate this vulnerability through two channels – reducing the risks that households face, and strengthening appropriate mechanisms that protect against these risks.

### 1.1 Reducing risk

#### 1.1.1 Stabilising food prices

The evidence in Part II laid bare the extent of price risks that Ugandans face, with the poor in both urban and rural areas particularly affected. The commodities most important for poor households, such as maize, were found to be the most volatile, reflecting thin and poorly integrated markets. The most important issue is to stabilise the price of these crops, rather than target high or low prices on average.

A number of factors will help to reduce price volatility over the long term. Government's efforts to improve connective infrastructure and remove the constraints to agro-processing and exports will deepen and diversify the demand for Ugandan agricultural products. Investments in drought-resistant crop varieties will significantly increase yields in adverse conditions.

Market integration can also be improved in the short term. Both public and private providers of food market information have an important role to play in monitoring and disseminating accurate and timely price data. The widespread use of mobile phones represents an important opportunity for price signals reach more producers and

traders, inducing a greater supply response and helping to stabilise prices over space and time.

The growth of farmers associations and contract farming arrangements represents another opportunity for better market integration and price stabilisation. These structures can serve as important conduits for market information and reduce the distance between producer and customer. Producer associations also give smallholder farmers greater bargaining power, while contracts explicitly assure farmers a fixed price for their produce. This reduced uncertainty often allows farmers to take a longer-term outlook and facilitates access to production inputs and credit. But they are not sufficient in themselves – the PPA found that weak contract enforcement and the market power of large traders and processors often limits the benefits for small farmers (these issues are discussed further in section 3.1).

#### **Box 1: Low-cost domestic maize granaries**

A new low-cost domestic granary to store maize has been developed by Dr. Moses Kiiza Musaazi, with the support of the Bill and Melinda Gates Foundation.

After experimenting, Musaazi found that storing maize with the leaves on preserves the aroma and prevents the need for pesticides. His granary has a perforated bottom to let in fresh air, which passes through the maize and out through the top of the granary whose cap is partially open. It is designed to keep out mice and rats, in addition to human intruders (thieves). Interlocking Stabilised Soil Blocks (ISSB), made out of cement (5%) and soil (95%), are used for the construction. One granary costs between USh. 200,000 and USh. 350,000 depending on the capacity (from one to three tonnes of maize), including labour.

Immediately following the harvest maize prices may be USh. 300 per kg. But prices may rise to around USh. 700 per kg within just a couple of months. A farmer producing 3,000 kg of maize and selling after two months could therefore earn an additional USh. 1,200,000. The return on the USh. 350,000 granary is therefore potentially very attractive.

Construction of the granaries also has potential to generate employment for young entrepreneurs. A small and easily transportable manual press to construct the blocks currently costs USh. 4,500,000.

Food stores can help to reduce price volatility, provided the purchases and releases are well managed. But they are also expensive – due to implicit interest foregone and physical and quality losses during storage, as well as the cost of constructing and maintaining the stores. Perhaps more importantly, public provision would likely crowd out private storage facilities, which are likely to be operated more efficiently.

There is therefore little justification for greater direct government involvement in food storage, beyond holding small emergency reserves. Large commercial warehouses are already privately provided. There is greater need for smaller domestic food stores, for which low-cost designs have already been developed (see Box 1).

Expanding the Warehouse Receipt System (WRS) will be important to reduce post-harvest losses, facilitate the grain trade and extend agricultural financing (this is discussed further in section 3.1.2). But as a formal price hedging instrument, it is only likely to benefit large traders and commercial farmers, and perhaps larger farmers associations. For smallholder farmers, access to credit (see section 3.1.2), savings instruments (section 1.2.1) and other insurance mechanisms (section 1.2.2), are likely to be more important.

Trade policy should not be overlooked as a means to stabilise prices – particularly for crops such as maize, of which many poor farmers are net sellers and Uganda is a net exporter. Government has avoided short-term export restrictions since these are likely to distort long-term investment incentives. Openness to trade is the best way to dissipate supply shocks over a wider area – increasing regional integration will therefore help to stabilise prices over the longer term. But there are alternative mechanisms that would enable Government to directly manage price and supply risks.

One such instrument would be a repurchase option (REPO) deal. A REPO would involve Government paying a premium for private sector players (financial institutions and/or grain traders) to hold a physical stock of grain in the country for a stipulated period. At the end of this period, Government would have the option to buy the stock at a pre-determined price or else allow it to be exported. Over the last few years the price of maize has been around 50 percent lower following the harvest than during the lean season. Government could agree a REPO deal following a surplus harvest. If after the specified number of months, the market price is significantly above the pre-determined option price, Government could exercise its right to buy the grain. This would extend the supply when it is most needed, resolve any localised shortages and stabilise the market price. The additional demand during the harvest period would support a price floor, assisting the poor farmers who are net sellers. The details of the deal would be public so that private traders have an incentive to buy and stock grain at price levels up to the designated strike price.

To properly assess the risks involved in entering such a deal, and the fiscal implications, it is necessary to improve crop production forecasting systems. This would serve as a foundation to both reduce price risks and transfer them from poor farmers to those better placed to manage them. This is vital to address the deleterious consequences of volatile food prices – both in terms of short-term welfare and long-term productive potential.

### **1.1.2 Preventing ill health**

Health-related shocks are one of the most important sources of vulnerability. Ill health can have a debilitating and often long-term impact on income-earning capacity, and poor households often devote a significant share of their income to treatment of ailments that could have been prevented.

It is perhaps surprising that families do not invest more in preventing their own ill health – the savings in terms of reduced treatment costs could easily make this affordable. Yet when asked about healthcare in the PPA, poor households almost always focused on access to treatment and neglected the role of prevention. A recent study conducted in Uganda and three other countries found that price is by far the most important obstacle.<sup>43</sup> Where preventative health products are subsidised or provided free of charge, take up is high. In contrast, information campaigns by themselves have had a very limited impact. Liquidity is key: when parents (and particularly mothers) have cash on hand, they purchase preventative health products for their families. Access to informal savings instruments such as ROSCAs has been shown to significantly increase investment in preventative health.<sup>44</sup> Cash transfers to vulnerable households can have similar benefits. There are therefore important complementarities between different interventions to address vulnerability, which Government must coordinate in its expanded social protection programme.

The provision of certain health care interventions is known to have extremely high social returns. In Kenya, the benefits of de-worming school children have been shown to outweigh the costs by around 30 to one.<sup>45</sup> Access to clean water has a large impact on diarrhoea morbidity, reducing health treatment costs, and an even larger impact on infant mortality. These rates of return likely far exceed any other type of intervention. The benefits also persist in the long term – children de-wormed regularly will grow into healthier, better-educated and higher-earning adults, and all for just \$0.50 per child per year.

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<sup>43</sup> Meredith et al (2012).

<sup>44</sup> Dupas and Robinson (2012).

<sup>45</sup> Baird et al (2010).

**Table 3.1: The benefits of selected health interventions**

Intervention	Cost	Impact
Clean water in rural areas	\$10 per person per year	35 to 50% reduction in infant mortality <sup>46</sup>
De-worming children	\$0.50 per child per year	School absenteeism reduced 25%. <sup>47</sup> Earnings as adults increased 21 to 29%. <sup>48</sup>
Treated bed nets	\$5 to \$10 per net	Malaria instances reduced 50% and mortality reduced 20%. <sup>49</sup>

The main bottlenecks in improving preventative healthcare relate to financing, service delivery and service utilisation, rather than policy. De-worming stands out as a particularly effective intervention, which is cheap and potentially straightforward to implement. A dose of mebendazole costs just 3 US cents, it is safe and can easily be administered by teachers. While the Ministry of Health has put the policy framework in place, there have been a number of difficulties implementing the programme together with schools. Many Ugandan school children are not currently receiving de-worming medication. Other interventions such as rural sanitation and malaria prevention have also faced implementation difficulties.

Government efforts to promote insecticide-treated mosquito nets have been a success in part. Net use increased dramatically from 17 percent in 2005/06 to 41 percent in 2009/10. But the Uganda National Household Survey shows no evidence of a corresponding decline in the prevalence of malaria symptoms. This may in part be due to the complementarities between the different types of malaria prevention – no one approach is sufficient alone. The second approach promoted by Government is indoor residual spraying, which has been instrumental in eliminating malaria in many countries across the world. Yet only 6 percent of households in 2009/10 reported using the spray in the previous 12 months, the same percentage as in 2005/06. Residual spraying faces significant implementation challenges, including public ignorance or opposition. A new approach to address the bottlenecks preventing the effective implementation of these vital interventions is required.

The root cause of ineffective implementation is often poor coordination between different Government sectors and other stakeholders. The effective implementation of preventative health policies requires the health sector to work together with

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<sup>46</sup> Esrey, Feachem and Hughes (1985).

<sup>47</sup> Miguel and Kremer (2003).

<sup>48</sup> Baird et al (2010).

<sup>49</sup> Morel, Lauer and Evans (2005).

education, water, works and transport, and others. For each priority intervention – be it de-worming or maintenance of boreholes – it is necessary to systematically identify the implementation gaps and the bottlenecks responsible. Appropriate solutions to these bottlenecks must then be identified and developed into an action plan to consolidate the commitments of different Government agencies and other stakeholders. This joint action plan must explicitly outline the division of labour and ensure that commitments and actions of the different sectors converge towards accelerated progress. Government is already following this approach to address the implementation bottlenecks in key maternal health interventions, but the general framework should be applied more widely.

## 1.2 Risk-coping mechanisms

Traditional risk-sharing mechanisms are inadequate – particularly in the face of community-level shocks – and the private sector is currently unable to supply poor households with the insurance instruments they demand. This leads to large swings in consumption and the depletion of productive assets in bad times, significantly reducing welfare and undermining long-term income-earning potential. Other risk-coping strategies (such as excessive diversification into multiple economic activities and perhaps even high fertility rates), may threaten the transformation process. Government must step in with a significantly expanded social protection programme, but not ignore ways to enhance private or community-based solutions.

### 1.2.1 Savings

One simple risk-coping strategy households can adopt is saving a proportion of their income to provide a buffer against a bad harvest, ill health or other negative shocks. Since the risks the poor face are potentially very severe, they have a strong incentive to save to smooth their consumption over time. This desire is evidenced in the number of informal institutions that have emerged to help poor households save for the future. The importance of Rotating Savings and Credit Associations (ROSCAs) and Village Savings and Loans Associations (VSLAs) was encountered repeatedly in the course of the PPA. But there are limitations to these types of saving instruments. There is a significant risk that a ROSCA will collapse before each member has received their turn, for example.

There is strong evidence that the poor would save significantly more if they had access to the more secure savings accounts provided by formal banks.<sup>50</sup> But only 4.8 percent of communities had a bank branch in 2009/10. Even in banked locations,

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<sup>50</sup> Dupas and Robinson (2009). Access to a formal savings account for woman in Kenya also increased business investments and the permanent level of household food consumption.

the poor are unlikely to be able to afford the opening, withdrawal and other fees. Administrative costs are too high for traditional banks to provide the small accounts the poor require. Fortunately, there has been significant progress. There has been very rapid expansion in the geographic reach of formal financial institutions. The proportion of communities with a bank branch increased tenfold between 2005/6 and 2009/10, albeit from a very low base.

### **Microfinance and SACCOs**

The share of communities with access to microfinance institutions increased from 4 to 14 percent between 2005/6 and 2009/10. There are now 180 microfinance companies and NGOs serving the poor, and around 2,800 Savings and Credit Cooperatives (SACCOs). The total assets of microfinance institutions under the supervision of Bank of Uganda have doubled since 2007. The microcredit model has been successful in extending access due to its low-cost model focused on achieving near-zero default rates. But this strength also limits its potential to extend credit to high-potential entrepreneurs, who necessarily need to take risks.<sup>51</sup> The most important role of the microfinance industry should be extending secure savings instruments to the poorest and most vulnerable households. The network of SACCOs has large potential, but the emphasis must shift from credit to savings. Rather than channelling wholesale lending through the SACCOs, Government must focus on providing a sound regulatory framework that will guarantee the safety of the deposits. Given the number of unsupervised SACCOs, providing further support for the formation of new SACCOs may be counterproductive.

### **Mobile money**

The revolutionary expansion of mobile payments systems has huge potential to extend financial access. As of 2011, there were over 2.4 million mobile money customers and an additional 4,000 new users each day. This technology in effect means a local shopkeeper can fulfil the role previously only performed by highly paid bank employees. This represents the most viable foundation to enable the unbanked to save. But to be secure, the system must be effectively regulated. To exploit this opportunity, the Government must prioritise the development a comprehensive framework for non-bank correspondent networks.

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<sup>51</sup> Alternative ways to channel credit to these high-growth-potential entrepreneurs are discussed (in the context of agriculture) in section 3.1.2.

### **1.2.2 Weather insurance**

The unpredictability of the weather is one of the most important sources of risk for the majority of poor households that rely on rain-fed agriculture. Extreme weather events are all-too-common, affecting half of all households within a five-year period. Traditional risk-coping mechanisms are unable to protect against these severe community-level shocks – the majority of households have no choice but to reduce their consumption. The evidence from the PPA suggests that vulnerability to these fluctuations is one of the factors most detrimental to the wellbeing of the poor. The potential demand among the poor for insurance against weather risks is therefore large, and likely to increase as climate change leads to even more unpredictable weather patterns.

Despite rapid growth of financial services, no such products have emerged in Uganda. This in part reflects fundamental difficulties the private sector has in providing insurance. Insurance companies struggle to screen and monitor their customers, which increases their costs. Weak enforcement means that the risk of fraud is high – farmers have an incentive to make bogus claims and might not trust that the insurance company will pay out as promised. These factors currently make it unviable for the private sector to provide the ‘microinsurance’ that the poor require. Weather risk might be relatively easy to insure however. Farmers do not control the weather, so there is no danger of ‘moral hazard’ – taking more risks once they are insured. Weather outcomes – such as rainfall – are relatively straightforward to monitor, limiting the potential for fraudulent claims. Yet the private sector in Uganda has so far proven unable to serve this potentially large market.

International evidence reveals why this might be the case. Where such products have been marketed, for example in India, sign up rates have been disappointingly low. Only around 20 percent of farmers bought any insurance, and those that did typically bought only a small amount – to cover just a small fraction of their potential losses.<sup>52</sup> The main problem is credibility – farmers do not believe they will receive a payout in the event of extreme weather. In part, this may be well-founded. If a weather station serves a wide area – with significant variation in rainfall – and records rainfall just above the predetermined cut-off, many farmers in the area will experience insufficient rainfall but will not qualify for a payout.

Insurance companies cannot begin to develop commercial products without accurate data. A functional market in weather-indexed insurance therefore requires investment in weather stations and rainfall and yield data collection. Given demand for weather information from a number of sources (farmers, financial institutions,

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<sup>52</sup> Cole et al (2009).

media companies, and private companies along the length of the agricultural supply chain), these investments could be provided through the private sector or Public Private Partnerships. It would also likely be necessary for Government to pay part of the insurance premiums for poor farmers. Such a subsidy is justified by the extent of market failures and the potential benefits. In Ghana, when weather insurance was offered to farmers at a subsidised rate, the take-up rate was close to 100 percent. The impact was measured using a randomised control trial – the insured farmers cultivated more land, were more likely to use fertiliser and were made significantly better off.<sup>53</sup> Facilitating a market in weather-indexed insurance may prove to be a cost-effective approach to encouraging fertiliser use and other improvements in agricultural technology, particularly when compared to a direct fertiliser subsidy.<sup>54</sup> As farmers begin to appreciate the benefits of insurance, the problem of credibility can be overcome and the subsidies phased out.

Where weather insurance products have emerged, Government, donors or NGOs were usually the first to offer the service. Private insurance companies face a coordination problem, but have adopted the concept where there were regulatory incentives (in India), were an association of insurance companies acted collectively (in Malawi), or when working with contract farmers and input suppliers (in Kenya).<sup>55</sup> Mobile technology has the potential to reduce transaction costs and extend microinsurance products to even the poorest farmers. In Kenya and Rwanda, the Syngenta Foundation works with UAP to provide Kilimo Salama – an insurance policy that automatically pays out using mobile money. Over one million farmers are expected to be served by 2015.

Weather index-based insurance contracts are relatively transparent and standardised, facilitating their sale onto international reinsurance markets. This would reduce the capacity requirements of local insurers in managing large covariate risks, but Government might still need to play a role as re-insurer of last resort for catastrophic risks.

### 1.2.3 Social protection

Public social protection in Uganda has traditionally been associated with specific vulnerable groups, covering care for the elderly, orphans and other vulnerable children, special-needs education, and rehabilitation services for persons with disabilities and similar interventions. But the evidence in Part II demonstrates that all

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<sup>53</sup> Karlan et al (2010).

<sup>54</sup> The programme of fertiliser subsidies in Malawi is phenomenally expensive. In 2008/9, the programme cost over US\$250 million – 16% of the national budget or 5.6% of the county's GDP. This is equivalent to 147% of total health spending and 175% of education expenditure.

<sup>55</sup> Hess and Hazell (2009).

poor households and many above the poverty line remain insecure. This vulnerability means some households are unable to benefit from other public services such as infrastructure or even education. This has been recognised by Government, and is reflected in recent efforts to redefine and expand the social protection sector.

The almost-universal aspiration among the poor for salaried employment reflects the far-reaching benefits of a steady income; security and peace of mind. This is the basic rationale for Government's most important new social protection initiative – a cash transfer programme known as Social Assistance Grants for Empowerment (SAGE). The programme is currently being piloted in 14 districts, where a regular monthly payment of 23,000 shillings is made to individuals over 65 years (Senior Citizens Grants) or to households with labour capacity constraints and high dependency ratios (Vulnerable Family Grants).

Similar cash transfer programmes have been established in many African countries. Garcia and Moore (2012) identify over 120 cash transfer programmes that were implemented in Africa between 2000 and 2009. Several of these programmes were subjected to rigorous evaluation, and found to have significant impacts on a broad range of development outcomes – for example, child nutrition and education in South Africa;<sup>56</sup> business investment in Zambia;<sup>57</sup> school attendance, test scores, early marriage and pregnancy in Malawi;<sup>58</sup> and the likelihood of contracting STIs in Tanzania.<sup>59</sup>

The exact form such a programme could take in Uganda is yet to be determined. Some have argued that Government should attach conditions to the grants, such as school attendance. This was how the first large-scale cash transfer programme in a developing country – PROGRESA in Mexico – was designed. The programme was undoubtedly a success, substantially increasing school attendance.<sup>60</sup> But subsequent programmes have been implemented without the conditions – for example in Malawi – and the impact in reducing school dropout has also proven to be large.<sup>61</sup> This supports the evidence presented in Part II – poor parents in Uganda struggle to educate their children because of economic vulnerability, even when they appreciate the value of doing so. Individuals do not necessarily have to be forced into making forward-looking decisions, just enabled to do so. Imposing conditions may even be detrimental. In Malawi, the teenage girls who received the unconditional transfer were 38 percent less likely to suffer from psychological

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<sup>56</sup> Agüero et al (2007).

<sup>57</sup> Regional Hunger and Vulnerability Programme (2007).

<sup>58</sup> Baird et al (2011).

<sup>59</sup> De Walque et al (2011).

<sup>60</sup> Schultz (2004).

<sup>61</sup> Baird et al (2009).

distress than the control group, compared to 17 percent for those who received a conditional transfer.<sup>62</sup> The risks that the poor face cause significant worry and stress that can impede decision making – a policy that imposes an additional constraint may be counterproductive. Given this, and the administrative challenges in monitoring the conditions, it may be preferable for any conditions attached to the transfers to be 'soft', without penalties for noncompliance.

Another important issue is how to target the most vulnerable. The 14 districts chosen to pilot the cash transfers were selected since they are among the poorest in the country. Differentiated targeting is likely to be desirable given the large variation in the socioeconomic profiles of different regions. The pilot experiments with two different approaches. Individuals over 65 are perhaps the easiest group to target, and a logical first step in the expanded social protection programme. If this grant is scaled-up to cover the whole country, 1.8 million children that reside with a senior citizen stand to benefit. Both the Senior Citizens Grants and Vulnerable Family Grants target those who find it difficult to work, but the evidence presented in this report illustrates that many individuals who are able to work are also extremely vulnerable, particularly those relying on subsistence agriculture or the informal sector. Cash transfers may be the best option for some of these households, but other types of social protection must also be considered. An expanded public works or employment guarantee programme could effectively target the most vulnerable individuals among those able to work, and also address the infrastructure gap.

The cost of providing Senior Citizens Grants for all Ugandans over 65 has been estimated at 2.8 percent of the 2010/11 budget. The financing strategy for an expanded but fiscally sustainable programme of cash transfers requires careful consideration. In this regard, attention must not be diverted from improving the efficiency of public expenditure and revenue collection. An expanded social protection programme will directly contribute to the national development process, as those currently caught in a vulnerability trap will be provided a stake and an incentive to invest in Uganda's brighter future. There is not a straightforward choice between physical infrastructure and social protection – both are necessary and complimentary components of Uganda's national development strategy.

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<sup>62</sup> Baird et al (2011).

## **2 Equalising opportunities: access to education**

Government's renewed focus on economic growth and wealth creation has been accompanied by increasing interest in the distribution of wealth. Economic activity will inevitably be unbalanced due to the benefits of growth poles. Public services such as health and education are vital in ensuring all Ugandans benefit from growth. But more important than the equality of outcomes is ensuring an equitable social infrastructure of opportunity; are all Ugandans able to flourish, to fulfil their potential? Part II addressed this question with respect to education – the most important opportunity, at the heart of the intergenerational cycle of poverty. Many children are unable to complete primary school due to circumstances beyond their control, and their capabilities to contribute to Uganda's transformation are largely squandered.

The key issue undermining access is not the supply of public education facilities. UPE has successfully brought education within the reach of the vast majority. Outcomes remain inadequate despite access to the necessary schooling hardware. Household income and parent's occupations remain significant determinants of school completion, pointing to the importance of economic vulnerability. The poor can potentially benefit from high returns to education but are the least likely to keep their children in school. Ensuring their children complete school requires parents to bear costs in the present in the anticipation of returns only in the distant future. Those insecure in their ability to meet their basic needs are poorly placed to navigate long-term tradeoffs.

The recommendations to reduce vulnerability discussed above will therefore go a long way to equalising opportunities in general and access to education in particular. On the supply side, it has become clear that the current focus on physical infrastructure – building new classrooms, latrines and teacher accommodation – is not sufficient to assist the most vulnerable pupils.

### **2.1 Assisting the pupils most at risk**

All children in Uganda are able to benefit from schooling, especially those with limited education to begin with. The returns to education do not depend on accessing a formal-sector job – literacy and numeracy skills significantly improve management of farming activities, micro-businesses and household finances. There are also many noneconomic benefits, especially for girls.<sup>63</sup>

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<sup>63</sup> For example, education makes women less likely to accept domestic violence (Freidman et al, 2011).

But the benefits of education are often misunderstood, in Uganda and in many other countries. The PPA found that many parents see education as a lottery – with a small chance of a high payoff (a salaried job) but otherwise low returns. This corresponds to the results of a study in Madagascar that found large discrepancies between the perceived and actual returns to education, with parents overestimating the returns to higher levels of education but underestimating the benefits of basic education. Simply providing parents with information on the actual returns significantly increased school attendance and test scores.<sup>64</sup>

These misperceptions can lead parents to prioritise the education of their most promising child, often at the expense of his less-talented siblings. A study conducted in Burkina Faso found children with higher cognitive abilities were more likely to be in school, but those with higher ability siblings were significantly less likely to attend.<sup>65</sup> These preferences are reflected in education systems across many African countries, which disproportionately reward progress at the top of the distribution.<sup>66</sup> In Uganda, the media tends to publicise and celebrate the top-performing students and schools. The majority of children are given insufficient attention by both their teachers and parents.

### 2.1.1 Streaming

One solution, already adopted in some schools, is streaming on ability. This may allow teachers to teach at the appropriate level. On the other hand, weaker students may benefit from sharing a classroom with high-ability peers. Evidence from Kenya suggests that both effects are present, but the former dominates.<sup>67</sup> Streaming may therefore help to prevent lower-ability pupils from needlessly dropping out, but is likely to be most successful were there are additional resources for teaching lower ability pupils.

### 2.1.2 Remedial education

Remedial education has proven to be one of the most cost-effective ways of improving learning outcomes in developing countries, and has the advantage of specifically targeting underperforming pupils who would otherwise be most at risk of dropping out. A low-cost model developed by the Indian NGO Pratham, which relies on training volunteer or contract teachers – often only secondary school graduates – to deliver remedial classes or summer camps, has been proven effective in numerous contexts, particularly in improving basic literacy. In India, this type of

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<sup>64</sup> Nguyen (2008).

<sup>65</sup> Akresh et al (2010).

<sup>66</sup> Duflo et al (2011).

<sup>67</sup> Duflo et al (2011).

remedial education (costing only US\$2.25 per child per year) was significantly more effective in raising test scores than a 50 percent reduction in class size.<sup>68</sup> In response to this evidence, the Government of Ghana is currently rolling out a nationwide remedial education programme based on the Pratham model, where youth searching for their job are trained to teach the remedial classes. Replicating a similar scheme in Uganda could address two pressing problems simultaneously: low primary school completion and youth unemployment. Using contract teachers could have other benefits – novice teachers hired on short-term contracts by Parent-Teacher Associations in Kenya (and paid one quarter of the civil-service salary) were on average absent from school one day a week less than regular teachers and their students learnt more.<sup>69</sup> Selecting permanent civil-service teachers from the best-performing contract teachers could have long-term benefits.

### 2.1.3 Preschooling

Preschools are another potentially cost-effective intervention. A community-based preschooling project initiated by Save the Children in Mozambique proved so successful the ministry of education is now scaling it up across the country. After two years, the children who attended the preschools, relative to a control group, spent 50 percent more time in school or on homework, and saw an 87 percent improvement in cognitive development.<sup>70</sup> Freed from the responsibility of child care, their older siblings were also significantly more likely to be in school. The cost of the scheme was US\$2.5 per child per month.

A similar programme could significantly improve education outcomes in Uganda. Currently, only 23 percent of three to five year-olds attend preschools. Less than half of six-year-olds are enrolled in primary school. Delayed enrolment is particularly problematic for children from poorer households, and tends to reduce the total amount of education received.<sup>71</sup> Children with poorly educated, often illiterate parents are least likely to be prepared for the classroom learning environment. Preschools have the potential to ease the transition into school for these children and therefore help to break the intergenerational poverty and vulnerability trap.

### 2.1.4 School meals

Another potential intervention that will encourage school attendance is the provision of free meals. There is strong evidence that this can be effective. An experimental study in northern Uganda found that school meals provided by the World Food

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<sup>68</sup> Banerjee, et al (2005).

<sup>69</sup> Duflo, Dupas and Kremer (2012).

<sup>70</sup> Martinez et al (2012).

<sup>71</sup> MLGSD (2012).

Programme increased primary school attendance by 10 to 30 percentage points, and reduced the chances of grade repetition and delayed enrolment.<sup>72</sup> The benefits of free school meals are likely to be particularly great for children from households that struggle to provide basic nutrition.

But uniform public provision may not be the best option. The most appropriate programme design is likely to depend on the context. In northern Uganda, in-school feeding programmes were found to be more effective for grades 1-2, but take-home rations were more effective for grades 6-7.<sup>73</sup> There were also important differences in the effectiveness of the different types of programme in terms of gender. Currently, many Parent-Teacher Associations (PTAs) already provide school meals without Government intervention. Such initiatives should be encouraged since the PTAs are better-placed to implement the most appropriate type of programme. Additional public funds may not be required in all locations – economies of scale mean that community provision is a cheaper alternative to each family packing lunch for their children individually.

## 2.2 Incentivising outcomes: cash on delivery

The detailed design and implementation of the interventions discussed above should incorporate knowledge of the local constraints. This can be achieved by giving schools greater flexibility to allocate their resources whilst strengthening their incentives to improve outcomes.

Financial resources are not the most binding constraint to improvements in Uganda's public education system. Spending the available funds more effectively requires changing the incentives of all actors involved – government officials, teachers, and parents. The large majority of the education budget is transferred through the Ministry of Finance, Planning and Economic Development and the Ministry of Education and Sports to Local Governments and schools themselves. The amount of funding that each district or school receives is on-the-whole fixed, and does not depend on outcomes or performance. This is a key difference between public schools and the flourishing private education sector. Despite some progress in implementing output-orientated budgeting, funding is still largely tied to inputs (such as infrastructure, teaching materials, or salaries). There is what economists term a principal-agent problem – the interests of Central Government, Districts and schools are not fully aligned, yet those on the ground have more information than their funders. Local Governments argue that they are too constrained by the conditions imposed by the centre, yet resources without such conditions (such as local

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<sup>72</sup> Alderman, Gilligan and Lehrer (2008).

<sup>73</sup> Alderman, Gilligan and Lehrer (2008).

revenue) are not allocated to the areas claimed to be priorities.<sup>74</sup> It is too easy for the current system to be manipulated for private gain, as evidenced by the large number of ghost pupils, teachers and even schools.<sup>75</sup> Rather than working together to improve learning outcomes, Central and Local Government, schools and parents often compete to claim credit for successes or shift the blame for failures.

Cash on Delivery (COD) has been proposed as one way to address this type of problem. By linking payments directly to a specific outcome (for example primary school completion or test scores), the approach aims to ensure strong incentives to perform while giving the recipient increased authority and flexibility in the manner that progress can be achieved, and making the process more transparent and visible to the public. While initially developed by the Centre for Global Development in the context of foreign aid, “a similar mechanism could also be useful where central governments make financial transfers to state, provincial, and other subnational levels of government.”<sup>76</sup>

This proposal could be adapted to Uganda’s education sector, building upon recent attempts to shift the focus of budgeting from inputs to outcomes. By making public education funding directly dependent on performance, the incentives of all the actors can be better aligned to improve learning outcomes. With these incentives in place, schools and Local Governments can be allowed more discretion in the use of funds, allowing public education to be more responsive to the local context. The process can be transparent and easily understood by the public and civil society, who can help to verify the results reported. Such an arrangement would clarify the accountability of each level of Government – with the centre responsible for funding and verifying the predefined objectives and the districts and schools responsible for the actual progress made. Success in achieving the shared goal would increase the credibility of Government as a whole.

The details of such an arrangement are likely to matter. Risks that must be avoided include the direct manipulation of outcomes, distorting efforts towards the incentivised area at the expense of other objectives, and the redistribution of resources away from disadvantaged areas. The precise outcome to target requires careful consideration. Focusing narrowly on school completion for example runs the risk of cheapening its meaning (schools may have an incentive to avoid grade repetition, graduate pupils with low attendance records and allow more pupils to skip grades).<sup>77</sup> This means test scores will likely need to be considered. But funding should not depend on average scores alone, as this would create an incentive to

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<sup>74</sup> MFPED (2011a).

<sup>75</sup> MFPED (2011b).

<sup>76</sup> Birdsall, Savedoff, Mahgoub and Vyborny (2011; 87).

<sup>77</sup> Crouch and Mitchell (2008).

exclude weaker pupils. An aggregate measure incorporating both the number of test takers and the average score that rewards each additional student scoring above zero is preferable. Verifying the outcomes will likely require both independent auditing firms and scrutiny from communities, civil society organisations and the media.

Similar reforms have been introduced in other countries. For example, the 2001 No Child Left Behind Act in the US made federal funding conditional on the progress made by individual states. While the same underlying principle could be applied, the details will need to differ in the Ugandan context. Assessing the challenge of measuring education outcomes in order to implement COD, Lockheed (2008) concludes that the “existing national learning assessments are poorly suited for measuring annual educational *progress* in developing countries, for both technical and administrative reasons. These tests could, however, be used in combination with other indicators of education quality to measure educational *status* and to identify within-country variations in student learning.”<sup>78</sup> Linking a district’s or school’s funding to its performance relative to its geographic neighbours, rather than its absolute progress over time may be the most feasible approach. The *Generasi* programme of community grants in Indonesia may yield some valuable lessons for Uganda (see Box 2).

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<sup>78</sup> Lockheed (2008; 19), emphasis in original. Regarding the other indicators, Lockheed suggests combining “testing and assessment with other, observable, indicators that are uncomplicated by the technical dimensions of testing. Tests are an important part of this package of indicators, since they can help focus attention on what learning objectives are important and what signals student accomplishment in attaining these objectives. But relying on tests alone places too much importance on an indicator that is easily corruptible.”

### **Box 2: Rewarding relative performance – the Generasi programme in Indonesia**

In what is perhaps the largest randomised social experiment ever conducted, block grants of around \$10,000 dollars were disbursed on an annual basis to over 2,000 Indonesian villages. In some cases the grants were linked to performance over the previous year, measured relative to a small set of close geographical neighbours. Among the subdistricts (approximately 12 villages) with the performance incentives, 20 percent of the grant was allocated according to the village rankings in a number of predefined health and education indicators (the remaining 80 percent was allocated in proportion to the population). The grants were found to have significant benefits, with 50 to 75 percent of the total impact attributed to the performance incentives. This relatively simple and inexpensive tweak in the design made the overall programme significantly more effective.

The evaluation also revealed the channels through which the performance incentives improved outcomes. The most important was more efficient budget allocations – the design of the programme allowed the communities flexibility to take account of their unique circumstances when deciding how to spend their grants. The improvements registered are unlikely to have occurred under a more centralised budgeting system unable to respond to the local context. The flexibility was not sufficient however, and may even have been detrimental had the strong incentives to improve outcomes not been in place.

Measuring performance relative to neighbouring communities was a key feature of the programme design that ensured unobserved differences and shocks across subdistricts did not affect the allocation of resources. Importantly, this prevented funds migrating from poorer to wealthier subdistricts. In fact, the benefits of the performance incentives were greatest in areas with initially low levels of service delivery. The evaluation found no evidence that the performance incentives increased manipulation of school attendance records, or other outcome indicators.

The largest impacts were in health outcomes. The performance incentives increased the efficiency of education spending but caused a shift of money from education to health, with no overall impact on education outcomes. This was in part because the baseline education indicators were relatively high, which meant villages felt it more likely their effort to improve health outcomes would be rewarded. The education indicators used were school enrolment and attendance, while there were eight health indicators including number of prenatal visits, deliveries by trained midwives, childhood immunisations, and growth monitoring.

Source: Olken et al (2012)

### **3 Transforming livelihoods**

Uganda has experienced a social and economic transformation over the last 20 years. The size of the middle class has increased from 1.8 million to over 10 million and the growth and diversification into non-farm activities has been dramatic. This progress will continue, particularly in poorer areas of the country, as more households escape the vulnerability trap and take advantage of opportunities such as education. But economic activity is becoming more geographically concentrated and a large share of new opportunities will be created along the industrial corridor stretching between Mbarara, Masaka, Kampala, Jinja and Mbale. The challenge is to benefit from these growth poles while ensuring more even improvements in welfare.

Past progress has mostly been achieved by harnessing the capabilities of the Ugandan population. Future development will rely more on the way these capabilities are combined with other inputs, including capital and land. Greater movement of labour is necessary to help ensure improvements in welfare are more balanced across regions and sectors, but poor farmers are not all able to uproot in search of economic opportunities. Large inefficiencies in the markets for land, credit and other production inputs are restricting both the rate and inclusiveness of the transformation process.

#### **3.1 Transforming agriculture**

The majority of households continue to straddle the agricultural and non-agricultural sectors. But the new middle class is more likely to specialise in one activity, and is a rural as well as urban phenomenon. There is a group of small but progressive farmers that see farming as a business opportunity rather than a survival strategy, and this group will continue to expand as vulnerabilities are reduced. Yet agricultural growth has recently slowed, and the adoption of new technologies and modern inputs remains low. This section highlights how some farmers have transformed their livelihoods, and discusses what needs to be done for more inclusive transformation.

##### **3.1.1 Contract farming and farmers associations**

Contract farming or out-grower arrangements – where agricultural traders or processors agree to purchase a set quantity of produce at a pre-determined price – are becoming more common in an increasing number of crops. The PPA Report covers several of these arrangements – including Maganjo Grain Millers (maize), Mukwano (sunflower), Bee Natural Uganda (honey), Britania (fruits), and Kayonja tea factory (tea). The farmers involved in these arrangements were usually found to have enjoyed significant benefits stemming from assured (and often higher) returns.

In some cases, this reduced uncertainty was all that was required for farmers – either individually or collectively – to invest in modern inputs such as fertilisers, or storage facilities such as milk coolers. The buyer and the farmers often have a

mutual interest in increasing the quantity, quality and consistency of the product supplied. Agro-processing companies are better able to ensure a consistent supply and therefore higher utilisation of their plant processing capacity. In many cases, agro-processors support the farmers with training, credit and other inputs.

Good African Coffee and SAMEER Agriculture and Livestock Limited provide two illustrative case studies. Both private firms have entered agreements with farmers to purchase their products, but there are important differences between the two arrangements. SAMEER negotiated with an existing farmers association, the Ankole Dairy Products Cooperative Union (ADAP), while Good African Coffee brought together a group of coffee farmers that were not previously organised.

### **Box 3: Good African Coffee**

Good African Coffee began in 2003 as brain child of Andrew Rugasira. The company now spans the entire coffee supply chain from production, processing, packaging and marketing.

Good African Coffee encourages coffee farmers to voluntarily form groups of up to 50 farmers in close proximity of one another. They elect an executive from among themselves. It now becomes a partnership between the company and these groups with expectations and responsibilities. Over 280 such farmer groups with their own leadership exist with over 14,000 farmers in the Rwenzori region.

Farmers are expected to supply quality coffee beans to Good African Coffee, and in turn Good African Coffee provides training, technical backstopping and credit for capital equipments and inputs.

Good African Coffee takes on roasting, packaging, and marketing. The roasted and packaged coffee is sold in Uganda, within the East African Community, South Africa, the United Kingdom, and the United States of America.

Source: <http://www.goodafrican.com>

Good African Coffee is able to pay 70 percent more than other buyers, in part because the farmers were educated about methods for culling and drying their coffee beans that improved the quality of the final product. The potential benefits are large, as the experience of Katabukenene reveals:

In Katabukenene, a village perched on a ridge above Kasese that is among the most productive in Rugasira's network, growers showed me that since his arrival they have been able to replace their mud huts with ample brick and zinc houses. They are raising pigs, adding meat to their diet. One man has bought a blue motorcycle, a well-polished machine on a hill with no other vehicle in sight. Lately the villagers have sent two of their young women to train as nurses. A teenage son of one prolific grower — a grower whose earnings have gone from around \$250 a year in 2004 to \$3,500 now — said that he had no intention of becoming a farmer himself. He plans to be an engineer.

Bergner (2012).

#### **Box 4: SAMEER Agriculture and Livestock Limited**

SAMEER works with organised milk farmers. SAMEER took advantage of an existing arrangement where farmers were organised under the Ankole Dairy Products Cooperative Union, which is a much larger union than the farmer groups involved with Good African Coffee. The union was formed in 1998 through an amalgamation of a number of small milk co-operatives in Nyabushozi and Kazo counties in Kiruhura district.

Because the farmers are organised, they receive training on better farm management, breeding and other advanced methods in cattle rearing through ADAP, rather than from SAMEER.

SAMEER Agriculture and Livestock Limited came into play when government privatised Diary Corporation. SAMEER have reached an agreement with the farmers to buy all the milk produced.

ADAP and SAMEER have separately acquired milk coolers to reduce losses due to poor storage.

Source: Participatory Poverty Assessment Report 2012

The arrangement between SAMEER and ADAP differs in a number of respects. While the dairy farmers benefit from a guaranteed source of demand, their relationship with SAMEER is more acrimonious than the relationship between Rugasira and his network of coffee farmers:

Sometimes SAMEER cuts prices without informing us. We get to know this at the time of payment yet when we were supplying we knew it was the usual known price.

Key Informant, ADAP Beneficiary

We agreed with Dairy Development Authority (DDA) and SAMEER that when SAMEER changes prices, they should first consult the farmers. But this seems not to be followed because SAMEER is the only buyer and buys at the price they want.

Key Informant, ADAP Resource Person – Vice Chairperson

As an organised collective, ADAP has greater bargaining power than the scattered coffee farmers. Yet SAMEER remains the only large buyer of milk in western Uganda, giving it significant market power, which combined with imperfect contract enforcement has limited the benefits for the dairy farmers. But ADAP itself (with external assistance from the Swedish Cooperative Union) has invested its own milk coolers, provided members with training in modern breeding techniques and farm management. The ADAP farmers are now aiming to move up the value chain and directly compete with SAMEER by building their own milk factory in Mbarara, the Uganda Crane Creameries Cooperative Union.

Agreements between smallholder farmers and private agro-processors have emerged without direct Government intervention. But the arrangements that have been most beneficial to poor farmers, such as Good African Coffee, are not exclusively motivated by profit. It is not until 2012 – and only after Rugasira's tireless efforts to strike deals with retailers in the UK and US – that Good African Coffee will turn a profit. Good African was able to make it this far in part due to financial support from the United States Agency for International Development (USAID). Rugasira aims to devote half the profits he will earn into providing training and equipment for his farmers.

Given these success stories, it is tempting for Government to support private companies involved in similar initiatives. But policy makers must avoid picking the winners. Value addition projects such as the Soroti Fruit Factory have experienced a number of implementation difficulties and low absorption rates.<sup>79</sup> Support should be provided at the industry-level, rather than for individual projects or private firms. Such

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<sup>79</sup> MFPED (2012).

interventions must target the most binding constraints afflicting a particular sector. Maize is perhaps the most important crop grown by poor farmers, and prices are very volatile. The development of upstream industries such as the processing of maize flour and animal feed will deepen and diversify demand and reduce price uncertainty. Electricity accounts for 73 percent of maize milling costs.<sup>80</sup> Government's investments in energy production and rural electrification strategy are therefore crucial in improving the productivity and competitiveness of the sector.

Another promising option is to support farmer and producer associations directly. When producers are scattered – as in the case of maize – there are high costs of collecting and consolidating surpluses. This leads to a large number of middlemen, and a large wedge between farm-gate and retail prices. But the farmers groups must be viewed as economic structures for the producers rather than instruments for rural development controlled by Government. The mismanagement of the old agricultural cooperatives suggests that it is preferable for Government to assist farmers associations that have emerged organically than to create new organisations. These associations are more likely to take account of local conditions, respond to the needs of their members, and to build the organisational cohesion and management capacity in financial and business planning required to successfully integrate into agricultural supply chains. The success of ADAP, which received assistance from the Swedish Cooperative Union, illustrates that external assistance can be effective in expanding these benefits. The associations best-placed to benefit from such support are likely to be those focusing on a single crop, with clear rights and responsibilities assigned to a loyal membership.

By connecting the farmers to their ultimate customers, Good African Coffee was able to advise them how to increase the value of their product (through different drying techniques for example). Farmers may harvest and store their crop inappropriately – heaping maize on dirty or wet surfaces for example. This reduces the quality and value of the product when it comes to processing. But this information does not flow easily from processor to farmer when the supply chain involves multiple middlemen. To overcome this constraint Government should seek greater involvement of large companies higher up the supply chain in programmes such as NAADS. Since these companies stand to benefit from improvements in the quality of the product supplied, they can help provide training to the farmers groups. Rather than the provision of inputs, NAADS should strengthen its focus on training and knowledge more generally. Knowledge of basic farm economics, financial literacy, organisation governance and business management will facilitate the development of commercially oriented farmer associations.

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<sup>80</sup> Private Sector Foundation (2004).

### **3.1.2 Agricultural credit**

For smallholder farmers to expand into viable businesses will require significant investment in fertilisers, irrigation, mechanisation, storage facilities or processing equipment. But there is a large agricultural financing gap – the sector accounts for less than 8 percent of private sector lending, well below its contribution to national GDP. Neither commercial banks nor the microfinance industry are willing or able to adequately meet the financial needs of farmers and the enterprises along agricultural value chains. This section discusses what has and what can be done to address this gap.

Government in partnership with commercial financial institutions has established the Agricultural Credit Facility (ACF) to provide medium and long-term financing for the expansion of commercial agriculture, mechanisation and agro-processing. The fund is capitalised jointly by Government and the participating financial institutions, and the lending rate fixed at 10 percent.

Not all of the participating financial institutions are actively lending under the scheme. Some lack experience and expertise in the agricultural sector, while others would rather lend their own funds at a higher interest rate. The large commercial farmers and agro-processors that the ACF targets may not be the most credit constrained, but rather are better able to finance their investment needs from retained earnings compared to smallholder farmers.

In contrast to the ACF, Centenary Bank has successfully extended credit to many smallholder farmers. This was possible because of the Bank's extensive network of rural branches and experienced credit officers, often with agricultural academic qualifications. The bank maintains an extensive network of working relationships with farmers associations, co-operatives, agro-processors and exporters, as well as informal financial institutions such as MFIs, SACCOs and VLSAs. This has enabled the bank to offer well-designed agricultural loans with grace periods depending on the client's cash flows, and to properly manage a diversified agricultural portfolio. Their lending has had the biggest impact on transforming the livelihoods of small farmers when channelled through farmers associations or contract farming arrangements – such as the sugarcane out growers in Kakira who have used credit to purchase mechanisation and agro-processing equipment.

### **Box 5: Centenary Bank's experience lending to small farmers**

Centenary bank is the largest Ugandan-owned commercial bank operating in the country, founded in 1983 with an objective to serve the economically disadvantaged especially in rural areas. The largest shareholders are the Uganda Catholic Secretariat (31%) and the Catholic Dioceses in Uganda (39%).

The bank offers multiple lending products to the agricultural sector, which are insured with Chartis. There are 42 branches across the country, each equipped with experienced agricultural Loan Officers. The bank's agricultural loan portfolio has grown rapidly, and now exceeds USh. 90 billion.

Centenary targets commercially orientated smallholder farmers through tailor made loan products with less stringent collateral requirements. Borrowers generally use the credit for working capital or to start a new business, expand a farm (buy land), or hire a tractor or other equipment. Loans made to farmers association are more often used to buy agro-processing machinery.

Centenary's agricultural lending has been supported by USAID, DANIDA, Kilimo Trust and Rock Feller Foundation, who guarantee 50 percent of the risk. In June 2011 a partnership was launched with the World Bank's Agriculture Finance Support Facility (AgriFin). This project will enable the creation of five new rural service centres, and upgrade staff skills and the bank's systems for agricultural risk management. The agricultural portfolio is expected to double and the number of agricultural finance clients are projected to increase by approximately 30,000 over four years.

Source: Participatory Poverty Assessment Report 2012

Despite this success, Centenary Bank only targets commercially oriented smallholders, likely part of the emerging middle class. Lending to poorer farmers was described as "committing suicide." Extending credit to those caught in a vulnerability trap will never be a viable business model, illustrating the importance of basic economic security. Reducing vulnerability, including through access to savings instruments and the wider social protection interventions discussed in section 1, is therefore a prerequisites for more inclusive agricultural financing. But even extending credit to progressive farmers in the middle class is constrained by the pervasive risks inherent to the agricultural sector. Investments in irrigation, storage facilities and weather insurance will help lower these risks, but this is unlikely to be sufficient. Centenary's lending is assisted by USAID, DANIDA, Kilimo Trust and Rock Feller Foundation, who guarantee 50 percent of the default risk.

Partial credit guarantees and other risk sharing facilities can be an effective mechanism to stimulate agricultural loans, and are preferable to direct intervention in credit markets. The ACF could be refocused on the provision of credit guarantees for longer-term loans financing equipment and productivity-boosting investments. Imposing an interest rate ceiling overlooks the difficulties and cost of evaluating credit risk, and that not all financial intermediaries have the expertise to serve the agricultural sector. Removing the current 10 percent cap would allow banks greater flexibility to screen potential clients and segment the market through tailor-made loan products, which is how Centenary has successfully extended financial access. A portion of the default risk must remain with the financial institutions, and the guarantees gradually phased out to ensure sustainability.

Institutional innovations to reduce operating costs and lower lender risk are also necessary. Financial cards have already proven effective. Mobile technology and other non-bank agent models have significant potential as already discussed in relation to savings and weather insurance. Given problems surrounding land tenure rights, it must be made easier for smallholder farmers to use alternative forms of collateral. A movable collateral registry – allowing borrowers to pledge assets as collateral and lenders to register their charge over these assets – could be particularly effective in boosting investment in agricultural machinery and equipment.<sup>81</sup> Such a registry could be extended to cover pledges on warehouse receipts and sales contracts, which would increase lending through contract farming structures. Effective contract enforcement and efficient out-of-court insolvency procedures are important for increasing the value of such collateral and therefore access to financing.

The Warehouse Receipt System (WRS) has potential to significantly increase the flow of credit through agricultural supply chains, as well as having wider benefits such as reducing post-harvest losses, stabilising prices, better quality control, and supporting the development of the Uganda Commodity Exchange (UCE). Farmers and traders depositing produce in a licensed warehouse are issued a receipt that can be used as collateral to access credit. The necessary regulatory oversight has already been established in the WRS Act (2006). But the impact in terms of actual lending has so far been limited. Only four financial institutions have introduced warehouse receipt products. The Housing Finance Bank's (HFB) service was launched in March 2010, but only USh. 1 billion was lent out to around 70 clients within the first year. Financing has since dropped following poor harvests across the region. The main beneficiaries have been large commercial farmers and traders, since the minimum deposit in the licensed warehouses is three metric tonnes.

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<sup>81</sup> The Chattels Securities Bill was tabled before Parliament in 2009 but remains pending.

Smaller farmers are only connected to the system through farmers associations or contract farming arrangements.

To help realise the potential of the WRS, it will be necessary to significantly expand the number of licensed warehouses (from the current eight). The barriers to existing private warehouses participating in the scheme must be identified and addressed. Support should also be provided to farmers associations in bulking their produce into the acceptable quantities.

## 3.2 Transforming land use

Recent growth in Uganda has been driven by the increasing density of economic activity. The benefits of scale and agglomeration mean that 'growth poles' have been a fundamental feature of every successful economic transformation. Industries require a minimum population catchment to ensure profitability, and stand to benefit from complementary services, proximity to other inputs, information and marketing spillovers. Maintaining this growth in economic density requires reusing the same piece of land for higher value activities over time. A more fluid market in secure rights to land will boost agricultural productivity and facilitate the urbanisation process.

### 3.2.1 Strengthening tenure security

Land tenure insecurity illustrates the direct linkage between vulnerability and the transformation process. Land is one of the most important assets in Uganda, particularly for poor farmers. But insecure access to land is an important dimension of vulnerability that must be addressed. As well as directly reducing welfare, insecure property rights lower the incentive to invest, make it more difficult to pledge land as collateral, reduce gains from trade for individuals and the overall allocative efficiency of land use, and wastes scarce resources in private protection that could be more efficiently provided publicly.

The majority of land owned by rural households is not purchased on the market. In the north, only 9 percent of the land used by households was purchased. The mailo and customary land tenure systems dominate, but are plagued by overlapping claims and restrictions to land use. When asked about their land, 37 percent of households stated it could not be sold, 34 percent could not be rented, and 44 percent could not be used as collateral.<sup>82</sup> Conservative estimates suggest that the investment

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<sup>82</sup>World Bank (2012), based on UNHS 2009/10.

disincentives stemming from overlapping land rights reduce agricultural productivity in Uganda by 25 percent, significantly more than in other developing countries.<sup>83</sup>

Government has addressed the issue through legal reforms such as the 1998 Land Act and the Land Amendment (2010). The objective was to strengthen land rights by providing certificates of customary tenure and occupancy, which can then be upgraded to freehold title. A decentralised system of land administration was established and a Land Fund set up to compensate landowners whose tenants gained stronger rights of occupancy. Implementation of the reforms has been beset with challenges however. The Land Fund has had limited impact, reflecting its level of funding. Where new land certificates have been issued, they often simply add to the number of overlapping claims.

The systems of land tenure in Uganda reflect the country's unique historical development. There is therefore only limited scope to learn from international experiences in land reform. Given the importance of tenure security for agricultural development and the overall transformation process, it is necessary to rethink the land reform strategy. In particular, there is a need for innovative new solutions and institutional mechanisms tailored to the Ugandan context.

The current situation reflects a coordination failure. Strengthened land rights will clearly benefit smallholder farmers and other land users. The market value of land held securely is significantly greater than in the presence of overlapping claims – so large landowners also stand to benefit from successful reform. Of those with land use rights surveyed in the 2005/6 UNHS, 40 percent stated they would be willing to pay for the increased security of full ownership rights. The amount households were willing to pay (the median value was over US\$200 per acre) is surprisingly large, both relative to the self-assessed value of the land (on average US\$400 per acre) and the ground rent under freehold or mailo tenure systems.

Aryeetey and Udry (2010) propose an institutional innovation that exploits this private demand for greater security to create property rights in a decentralised manner. 'Land banks' could be established that would both rent in land from landowners and lease it out to farmers and developers. If these land banks gradually built up a reputation for honest dealing in the land market, land leased from them would be seen as more secure and therefore command a premium over land that comes with greater risk. Eventually, this would allow the banks to generate a surplus for their shareholders – who could be community members and local government. The ability of the banks to profit from the security they provide is important in ensuring a strong incentive to build and maintain a reputation for reliability. Despite the inducement of

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<sup>83</sup> Deininger and Ayalew Ali (2008).

long-term profit, there is a need for Government intervention since the land banks are likely to operate at a loss until this reputation is sufficiently strong.

Such reform could simultaneously increase security for smallholder farmers and encourage an active land market that will facilitate the transformation process – for example by ensuring an adequate supply of affordable housing and other vital urban infrastructure. There does not have to be a tradeoff between the rights of tenants and the incentives for landowners to use their land efficiently. Removing insecurity from the land market will greatly increase the value of one the country's most important assets; all Ugandans stand to benefit.

### **3.2.2 Planning for urbanisation**

The pace of change in Uganda's urban landscape represents a big opportunity to reduce poverty – urban dwellers are more secure and have access to many more economic opportunities. But growth has outpaced urban management capacity. Housing shortages, inadequate infrastructure, congestion and pollution are undermining the benefits of urbanisation. Urban planners must allow Uganda's towns and cities to respond flexibly to the changing needs of households and private firms.

Urban planners should avoid creating master plans that stand little chance of being implemented. They should instead focus on developing a spatial strategy that will assist other government agencies – with the necessary sector expertise – in developing their own plans. It is necessary, particularly in large urban centres such as Kampala, to analyse patterns of land use and real estate prices to ensure public regulations and investments are responsive to market dynamics.

An adequate supply of housing must be a key objective of the urbanisation strategy. Estimates suggest that four millions housing units will need to be built before 2035.<sup>84</sup> This represents a big opportunity for the construction sector – and important employer of both skilled and unskilled labour. But direct public provision of housing is unlikely to be the best option. Instead, urban planners must segment the housing market to analyse the supply and demand constraints for all income groups. Regulations regarding land use and development must take account of the spatial distribution and mobility of the population. Barriers to entry must be addressed, for example the procedures for registering property, obtaining a construction permit and approving building plans. Financial and pension sector reforms are also important in ensuring the availability of long-term capital to finance the housing gap.

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<sup>84</sup> World Bank (2012).

Although there has been a significant increase in the percentage of households that have access to improved water sources, particularly in the urban areas (from 86.9 percent in 2005/6 to 92.3 percent in 2009/10), a key challenge as regards to urban water supply remains. Only 64 percent of the urban population has access to piped water. While those supplied by the National Water and Sewerage Corporation (NWSC) pay around sh40 for 20 litres of water, those in informal settlements may pay more than sh100 – three times as much as residents of Nakasero or Kololo. Since the alternative sources of water may be less safe, there are significant health implications, as well as the labour demands associated with collecting water. The financial cost is only one barrier to connection – NWSC have a number of other conditions that may be overly restrictive, such as “*proof of ownership of the property or a letter of consent from the land lord*”. These conditions should be reviewed, and management of the water network better integrated within wider urban planning processes.

While there have been some recent improvements in Kampala, the management of smaller urban centres remains poor. These small towns have the greatest potential to increase the density of economic activity and are the key link between the farm and non-farm economies – their growth will directly boost the agricultural sector. But only 3 percent of total transfers to Local Governments currently go to the urban authorities. The physical planning departments in the Municipal Councils are particularly under-resourced. Municipalities that have increased the resources available for physical planning have seen significant improvements in overall performance,<sup>85</sup> but Central Government provides no funding for this purpose and the incentives to use scarce local revenue are weak. To operationalise the Physical Planning Act (2010) it is necessary to strengthen the physical planning departments. As well as adequate financing, urban planners need greater powers to influence land use – urban land should be registered under the urban authorities rather than the district land board for example.

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<sup>85</sup> MFPED (2011a).

# PART IV: POLICY RECOMMENDATIONS

Based on the lessons discussed in Part III, this section summarises the report's specific policy recommendations to reduce vulnerability, equalise education opportunities and transform livelihoods.

## 1 Policy recommendations to reduce vulnerability

### 1.1 Price stabilisation

More stable prices of agricultural commodities must become a key policy objective, particularly of the crops most important for the poor such as maize. Government must plan for price shocks and treat food price risks as a contingent liability with fiscal implications.

**Improvements in the food market information systems for monitoring and disseminating accurate and timely price data, and forecasting weather and crop production are a pressing priority.** Better information will reduce price variation, and serve as a foundation for more sophisticated risk-sharing instruments between the public and private sectors. Given demand from a number of sources (farmers, financial institutions, media companies, and private companies along the length of agricultural supply chains), these information services could be provided via the private sector or Public Private Partnerships.

**There is a need for better storage and post-harvest handling facilities, but not direct Government provision.** Both small domestic food stores and large commercial warehouses are required. Low-cost private solutions can be supported to serve small farmers. Expanding the number of private warehouses participating in the warehouse receipt system is important to facilitate the flow of credit through agricultural supply chains.

**Financial instruments to manage price risks, such as a repurchase option (REPO) deal, should be considered.** Government could pay a premium to private traders or financial institutions for the future option to buy their grain stocks. This has the potential to avert major price spikes and support the price floor during the harvest season.

### 1.2 Weather insurance

**Government should facilitate the emergence of a private market in weather-indexed insurance.** This will require strengthening the country's capacity in weather measurement and forecasting, including the construction of more weather stations and rainfall and yield data collection. This can likely be provided via the private sector or Public Private Partnerships.

It will likely be necessary to temporarily pay part of the insurance premiums for poor farmers. Government might need to play a role as re-insurer of last resort for catastrophic risks.

Despite these fiscal implications, this is likely to be a far more cost-effective approach to encouraging fertiliser use and other improvements in agricultural technology than a direct fertiliser subsidy. This is because of the reduction in uncertainty of possible returns from the farmer's investment in fertiliser use.

### **1.3 Preventative healthcare**

The public health insurance will face a number of implementation constraints. In the short term, it is most important – and cost-effective – to prioritise reducing health risks through the effective provision of preventative healthcare. The key policies are already in place but pressing implementation bottlenecks must be addressed, particularly for key interventions such as access to clean water, malaria prevention and de-worming. This cannot be achieved by the health sector alone, and requires better coordination between sectors and with Local Governments.

The strategic framework currently being applied to accelerate progress in maternal health should be expanded to other intervention areas.

An acceleration fund should be established to support Local Governments in solving the most pressing implementation bottlenecks.

### **1.4 Financial access**

A secure way to save is a simple and effective way to cope with risk even for the poorest households. Expanded access to secure savings instruments must be a key policy priority.

The focus of SACCOs should shift from credit to savings. A sound regulatory framework to guarantee the safety of the deposits should be a higher priority than the creation of new SACCOs or the channelling of wholesale lending through the SACCO network.

Mobile money has the potential to dramatically expand financial access, and enable the unbanked to save securely. Government must prioritise the development of a comprehensive regulatory framework for non-bank correspondent networks.

### **1.5 Social Protection**

Expansion of the social protection programme, consisting of social assistance, labour market interventions and/or social insurance needs to be given serious consideration by Government given the objective to reduce poverty and vulnerability.

In this regard, Government approved the Expanding Social Protection Programme with one of its core components the Social Assistance Grants for Empowerment (SAGE) being implemented in 14 districts on a pilot basis for three years. The long-term economic benefits of cash transfers could be large. To ensure that benefits are maximised, the expanded cash transfer programme could be conditioned on other government programmes like Universal Primary Education (UPE) to ensure school attendance.

A major challenge in the implementation of the social protection programmes is to ensure their fiscal sustainability. Given scarce public resources and other pressing priorities such as infrastructure investment, the financing strategy for a larger programme of cash transfers will require careful consideration.

To compliment the cash transfer programme, an expanded public works or employment guarantee scheme could effectively target the most vulnerable individuals among those able to work, and also address the infrastructure gap.

## **2 Policy recommendations to equalise education opportunities**

### **2.1 Interventions to assist vulnerable pupils**

The current focus on schooling infrastructure – such as new classrooms, latrines and teacher accommodation – does not give enough attention to the pressing demand-side constraints for poor families. Addressing the inequalities in education outcomes requires specific interventions targeting the pupils at risk of dropping out from primary school.

**Hiring contract teachers to provide remedial classes** is a proven way to improve basic literacy and numeracy skills and reduce dropout rates, and would also provide employment opportunities for youth seeking their first job.

**Community-based preschools** could address delayed enrolment and ease the transition into the classroom environment for disadvantaged children.

**Providing public funding for school meals** would increase school attendance, particularly for the most vulnerable children.

**Systematic streaming on ability** would better allow teachers to teach at the appropriate level.

### **2.2 Rewarding schools for results**

A new financing mechanism that rewards schools for their relative performance in a transparent manner would strengthen incentives to improve learning outcomes, and allow greater flexibility to adopt the solutions most appropriate for the local context.

Some elements of school funding could be made directly dependent on their performance relative to their close geographic neighbours.

Rewarding relative rather than absolute performance would avoid technical difficulties in measuring progress over time and ensure that resources are not allocated to more advantaged regions.

Performance should be judged on both the number pupils taking the primary leaving exam and their average score such that schools benefit for each additional student scoring above zero.

Security around the examination system must be increased and independent auditing firms to verify the outcomes would be required.

### **3 Policy recommendations to transform livelihoods**

#### **3.1 Farmers associations**

Farmers associations are increasingly important in integrating smallholder farmers into agricultural supply chains, enabling greater bargaining power, access to credit and other inputs, productive knowledge and market information. But these groups must be viewed as economic structures for the producers rather than instruments for rural development controlled by Government. Government through NAADS should facilitate the emergence of commercially oriented farmers associations and provide technical assistance to those that have already emerged.

NAADS should strengthen its focus on training and knowledge, rather than the provision of physical inputs. Training should cover basic farm economics, financial literacy, organisation governance and business management.

The associations best-placed to benefit from Government support are likely to be those focusing on a single crop, with clear rights and responsibilities assigned to a loyal membership. Such groups should be encouraged to exploit existing opportunities such as the Warehouse Receipt System and the Agricultural Credit Facility.

#### **3.2 Contract farming**

Contract farming arrangements are improving market integration, reducing price uncertainty and facilitating access to training, credit and other inputs. But imperfect contract enforcement and the market power of large traders and processors often limit the benefits for small farmers.

Government should avoid the temptation to support individual firms engaged in contract farming. Support should instead be provided at the industry-level through interventions targeting the most binding constraints afflicting a particular sector.

NAADS should seek greater involvement of large companies higher up the supply chain. Since these companies stand to benefit from improvements in the quality of the product supplied, they can help provide training to the farmers groups.

#### **3.3 Agricultural credit**

Government's highest priority should be the growing group of small but progressive farmers who are increasingly credit constrained. Large commercial farmers are largely able to finance their investment needs, while subsistence farmers remain too vulnerable to be viable loan clients. Efforts to reduce the risks associated with the agricultural sector, such as weather insurance and price stabilisation, will help to extend financial access but are unlikely to be sufficient.

The Agricultural Credit Facility should be refocused with greater emphasis on partially guaranteeing the credit extended to the agricultural sector, particularly longer-term loans financing equipment and productivity-boosting investments. A portion of the default risk must remain with the financial institutions, and the guarantees gradually phased out to ensure sustainability. Removing the interest rate cap would allow banks greater flexibility in screening potential clients and responding to the changing macroeconomic environment.

It must be made easier for farmers to use alternative forms of collateral. The Chattels Securities Bill should be expedited to facilitate borrowers in pledging agricultural equipment, warehouse receipts and sales contracts as collateral and lenders in registering their charge over these assets.

### **3.4 Land tenure**

Land tenure insecurity could be reduced by supporting privately managed land banks that will lease out secure rights to land. Further research is required to assess the practical implementation of such a policy, but this should be prioritised given the importance of this pressing problem.

### **3.5 Managing the urbanisation process**

Improved management of the urbanisation process must be a priority, particularly in smaller towns with high growth potential.

The physical planning departments in the municipal authorities should be strengthened with greater financial resources and powers to influence land use.

Regular spatial strategies should be produced by urban planners to ensure sector planning and regulations regarding land use and development are responsive to the distribution and mobility of the population.

Barriers to entry in the construction sector, including the necessary permits and procedures for approving building plans, must be addressed to ensure greater private provision of housing for all market segments.

## Appendix I: The determinants of household consumption growth

A fixed-effects model analyses the correlation between household consumption and potential explanatory variables based only on variation within the same households over time. With only two rounds of the panel survey available, this is equivalent to considering the change in a household's consumption associated with a particular change in its characteristics. This removes any time-invariant unobserved differences between households that may otherwise bias the estimates. Based on the UNPS data for 2005/6 and 2009/10, Table A1 presents fixed-effects estimates for the impact on consumption of education, assets, household size, dependency ratio, number of wage workers and non-farm enterprises.<sup>86</sup>

**Table A1: Fixed-effects regressions of log consumption per adult equivalent**

	Poverty status in 2005/6			
	All	Absolute Poor	Insecure non-poor	Middle class
	(1)	(2)	(3)	(4)
Average years of education	0.0353 0.77	0.0936 1.29	0.0605 0.89	0.0013 0.01
Log value of assets	0.0631 4.57***	0.2497 12.15***	0.0753 4.41***	-0.0145 -0.89
Number of agricultural wage workers	-0.0673 -1.45	-0.0158 -0.18	-0.0359 -0.58	-0.1009 -1.11
Number of non-agricultural wage workers	0.0526 2.12*	0.1747 1.75	-0.0125 -0.26	0.0479 1.66
Number of non-farm household enterprises	0.0576 2.58**	0.0906 1.63	0.0543 1.88	0.0527 1.61
Household size	-0.0621 -7.40***	-0.0688 -4.23***	-0.0567 -4.18***	-0.059 -4.56***
Dependency ratio	-0.0708 -0.77	0.2783 1.29	-0.0939 -0.59	-0.1032 -0.82
N	3,794	894	1,441	1,459
R <sup>2</sup>	0.084	0.384	0.107	0.06

T-statistics based on panel-robust standard errors are presented below the coefficient estimates. \*, \*\*, and \*\*\* indicate significance at the 5, 1 and 0.1% levels. The regressions used attrition-adjustment panel weights and included a constant term, not reported. The education variable is defined as the average completed years of education among household members above 15 and not currently in school. The asset variable is the value of household assets excluding land and livestock. Dependency ratio is the proportion of household members aged below 15 or above 64.

<sup>86</sup> A Hausman test rejects the validity of a random effects model.

There is a striking discrepancy between agricultural and non-agricultural employment. Whereas an additional non-agricultural wage worker is associated with 5% higher consumption per adult equivalent, agricultural wage labourers appear to have no or even a negative effect. The consumption premium associated with operating a non-farm enterprise is also striking – equal or perhaps even greater than the impact of an additional non-agricultural wage employee.

The fixed-effects model has a number of limitations. Only variation across time within households is considered, while important variation across households is discarded. This is particularly problematic for variables that change little over time, and probably explains why the impacts of education and the dependency ratio are imprecisely estimated. Moreover, if transitory shocks are pervasive and consumption smoothing imperfect, much of this intra-household variation will be unrelated to changes in permanent income. On average poorer households have seen larger improvements in welfare than better-off households, but this may simply be due to mean reversion – initially poor households had experienced a negative shock which they were likely to have recovered from when next surveyed. It is also not possible to rule out bias arising from omitted time-varying factors. For example, a negative shock may temporarily reduce consumption and also force the closure of a household enterprise. In this case, there is a correlation between consumption and the number of household enterprises but the lack of a household enterprise is not the cause of lower consumption.

These limitations are addressed through a more flexible model specification. To take account of the mean-reversion effect, the change in consumption is regressed on household characteristics while controlling for the initial level of consumption.<sup>87</sup> Such a specification also allows for the level of and changes in the explanatory variables to be investigated separately, which is important given the concern over potential poverty traps. A challenge is that the first-period consumption is a lagged endogenous variable; its inclusion may bias the estimates. This is addressed by instrumenting for initial consumption through a two-stage least squares procedure. The instruments selected – the number of rooms, the education levels of the head's parents, a dummy for whether the head's father was a subsistence farmer, and district-level average consumption – strongly predict initial consumption ( $R^2=0.37$ ), with all the coefficients the expected sign. As well as overcoming the problem of endogeneity, the predicted value of consumption based on these variables provides a closer approximation of permanent income.

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<sup>87</sup> With a straightforward transformation of the coefficient on initial consumption, this is equivalent to using the level of second-period consumption as the dependent variable.

**Table A2: Two-stage least squares regression estimates for change in log consumption**

	All	Rural	Urban	Initial poverty status		
				Absolute Poor	Insecure non-poor	Middle class
	(1)	(2)	(3)	(4)	(5)	(6)
Predicted	-0.881 -5.61***	-0.905 -7.36***	-0.490 -2.57*	-0.040 -0.09	-1.947 -2.21*	-0.955 -3.74***
Average years of	0.023 2.82**	0.022 3.00**	0.002 0.17	0.040 2.84**	0.023 2.14*	0.012 1.46
Change in average	0.017 2.63**	0.027 3.34***	-0.006 -0.62	0.055 3.37***	0.011 0.96	0.008 0.86
Ln(value of assets)	0.114 3.33***	0.116 3.71***	0.063 1.51	0.021 0.57	0.114 3.91***	0.118 3.15**
Change in Ln(assets)	0.095 8.95***	0.103 8.50***	0.070 4.58***	0.087 5.05***	0.098 6.50***	0.097 5.26***
Number of non- workers in 2005/6	0.099 2.89**	0.142 2.80**	0.077 1.74	0.149 1.67	-0.008 -0.11	0.138 3.27**
Number of non- workers gained	0.040 1.53	0.014 0.36	0.074 2.04*	0.012 0.16	0.085 1.47	0.025 0.73
Number of non- workers lost	-0.132 -2.93**	-0.164 -2.23*	-0.103 -2.04*	-0.306 -2.92**	0.161 1.86	-0.218 -3.60***
Number of non-farm 2005/6	0.110 4.33***	0.101 3.47***	0.122 2.59**	0.179 3.46***	0.070 1.33	0.126 3.35***
Number of non-farm in 2005/6	0.060 2.63**	0.066 2.43*	0.064 1.63	0.040 0.77	0.090 2.18*	0.054 1.39
Number of non-farm opened	-0.137 -4.30***	-0.109 -3.05**	-0.170 -2.66**	-0.199 -2.58**	-0.132 -2.22*	-0.120 -2.73**
Community had 2005/6	0.301 4.88***	0.285 2.77**	0.116 1.49	0.164 0.53	0.322 2.91**	0.239 3.33***
Gained access to	0.293 4.45***	0.399 4.48***	0.108 1.28	-0.097 -0.53	0.409 2.57*	0.252 3.63***
Urban dummy	0.120 2.46*			-0.079 -0.77	0.113 1.36	0.181 2.69**
R2	0.44	0.45	0.49	0.24	0.15	0.41
N	2,311	1,699	612	594	863	854

T-statistics based on panel-robust standard errors are presented below the coefficient estimates. \*, \*\*, and \*\*\* indicate significance at the 5, 1 and 0.1% levels. The education and assets variables are defined as in the fixed-effects model. The following variables were included in the regressions but not reported: the initial level and changes in the household size and age composition, the age and sex of the head, and number and change in agricultural wage workers, and a constant term. The dividing line between those just above poverty and the middle class is twice the poverty line.

Table A2 presents the second-stage results. Column (1) makes use of the whole sample, while columns (2) – (6) disaggregate by urban/rural location and initial

poverty status. Many of the results of the fixed-effects model are confirmed. The returns to education are on the whole low, at least for the non poor and especially in urban areas. Agricultural wage jobs again appear to have no effect on consumption (not reported). Non-farm household enterprises emerge as a key driver of poverty reduction; the 6% growth premium associated with the opening of a household enterprise exactly matches the fixed-effects estimate. This effect now appears much more significant than the number of non-agricultural wage workers. The effect of gaining/losing a wage worker or household enterprise is clearly asymmetric, probably reflecting a high frequency of transient shocks.<sup>88</sup> The effect of access to electricity is strikingly large: around 30-40% higher growth in consumption, although this is likely to be in part capturing the effect of other infrastructure that is correlated with connection to the electricity grid. On the whole, urban households have experienced higher growth but this appears to be driven by non-poor households.

One of the most striking findings is that the coefficient on initial consumption is not significant for poor households, suggesting no convergence or high persistence of initial income. Table A3 compares the instrumental variables and OLS estimates for the poor and non-poor samples. The coefficients on initial consumption, and the level and change in assets are reported.<sup>89</sup> In an OLS regression, there appears to be strong convergence among the poor. That this effect disappears when predicted consumption is used in column (2) suggests that it is entirely driven by the transitory component of income.<sup>90</sup> Transitory fluctuations are more important for the poor; the correlation between actual and predicted consumption is 0.62 for the middle class but only 0.37 for the poor. The convergence observed among the poor is simply a statistical artefact of the volatile environment these households inhabit.

Comparing this with international evidence, the extent of volatility in Uganda appears extremely high. In a straightforward OLS regression of change in consumption on initial consumption using the UNPS, the coefficient on initial consumption is -0.40. Fields et al (2003) report a comparable coefficient using Indonesian *income* data from the 1990s: -0.53. These estimates likely capture both genuine convergence and reversion to the mean resulting from volatility. Since we have shown that in the Ugandan case it almost entirely reflects mean reversion, it appears that consumption of the poor in Uganda is as volatile as income in other developing countries. In

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<sup>88</sup> The estimated effect of gaining a wage worker or opening a household enterprise is therefore likely to be closer to the true causal impact than the effect of losing an employee/enterprise.

<sup>89</sup> The choice of estimation technique does not significantly affect any of the other coefficients.

<sup>90</sup> The 2SLS approach not only helps to remove transitory shocks from the measure of initial consumption, but also overcomes the endogeneity of this lagged dependent variable. These two separate advantages make interpreting a difference between the OLS and IV estimates difficult. But since there is found to be little difference between the two for the non-poor sample it appears that endogeneity is not a significant source of bias.

general, one would expect income to be significantly more volatile due to consumption smoothing.

**Table A3: OLS and 2SLS regression estimates for change in ln(consumption)**

	Poor in 2005/6		Non poor in 2005/6	
	OLS (1)	2SLS (2)	OLS (3)	2SLS (4)
Ln(consumption) in	-0.773 -9.76***	-0.040 -0.09	-0.733 -21.54***	-0.663 -3.42***
Ln(assets) in 2005/6	0.068 2.66**	0.021 0.57	0.092 6.49***	0.081 2.43**
Change in ln(assets)	0.082 5.00***	0.087 5.05***	0.093 8.36***	0.092 7.85***
R <sup>2</sup>	0.35	0.24	0.40	0.40
N	620	594	1,765	1,717

T-statistics based on panel-robust standard errors are presented below the coefficient estimates. \*, \*\*, and \*\*\* indicate significance at the 5, 1 and 0.1% levels. The regression specification is the same as in table A2, with only selected coefficients reported.

The predicted consumption used in the two-stage-least-squares (2SLS) regressions better captures the ability of households to smooth income shocks. When this is taken into account, the level of assets loses significance for poor but not non-poor households. While the poor benefit from greater wealth, it appears this is because it acts as an insurance mechanism against transitory shocks not because they are able to reap returns on their physical capital. This insurance function is very important however, as the fixed-effects estimates in Table A1 attest. Together, these results suggest the fundamental nature of the poverty traps observed. A poor household's ability to cope with transitory shocks is the most important determinant of growth in long-term welfare; insecurity resulting from a volatile environment is not just a symptom of poverty but one of its most important causes. It is likely that pervasive uncertainty discourages investment in human and physical capital and that this then prevents the poor from exploiting the opportunities presented by wage employment or non-farm enterprises.

The clear differences between columns (4) and (5) of Table A2 shows that the poverty line is not an arbitrary distinction, but it is also clear that insecurity does not cease once a household escapes poverty. The R<sup>2</sup> for those just above the poverty line in Table A2 is by far the lowest of the three welfare categories, suggesting that this group has the most unpredictable income. The extent of mobility in both directions across the poverty line suggests that the traps observed may be better understood as chronic vulnerability rather than chronic poverty. It is not until households move into the 'middle class' – above twice the poverty line – that they become relatively secure.

## Appendix II: Estimation of probability of primary school completion

The logit model uses the binary variable of completion of primary school among 13 to 18 year olds (children should start primary school at age 7 and finish at 13, however many start late and continue primary school into their teens). In order to control for these differential patterns by age, the age of the student is included, as is a dummy for whether the child is male. The model employed here is consistent with the literature.<sup>91</sup>

The circumstance variables included are the years of schooling of the household head, whether the child resides with both parents, the log of household (per-adult equivalent) consumption, the number of children in the household (included as a categorical variable), whether the child lives in an urban area, and the region in which the child lives. The estimation results are provided in the table below. All of the variables aside from the gender of the child are significant.

**Table A4: Logit estimates for primary school completion among 13-18 year olds**

	Beta Coefficient	Z statistic	P value	Odds ratio	Odds ratio for 1 sd change in x
Age	0.65***	15.99	0	1.92	2.59
Male child	-0.13	-1.27	0.203	0.88	0.94
Female head	0.55***	4.74	0	1.74	1.30
Head years of schooling	0.09***	6.61	0	1.09	1.47
Resides with both parents	0.49***	4.14	0	1.62	1.26
Ln(consumption)	0.66***	8.56	0	1.93	1.64
Three/four children in hh	0.37**	2.41	0.016	1.44	1.18
Five/six children in hh	0.50***	2.77	0.006	1.51	1.22
Urban	0.80***	4.67	0	2.22	1.33
Eastern	-0.59***	-4.38	0	0.56	0.77
Northern	-0.70***	-4.55	0	0.50	0.75
Western	-0.49***	-3.47	0.001	0.61	0.81

N = 4,199; Psuedo R-squared = .2318

\*\*\* = significant at the 1% level; \*\* = significant at the 5% level

Another way to interpret the data is to examine the predicted change in probability for each variable. Given that there are many categorical and binary variables, these probabilities provide a more readily interpretable result than estimates of marginal

<sup>91</sup> See for example Al Samarrai and Peasgood (1998).

effects. The table below shows that a one standard deviation change (around the mean) in the age of the child increases the probability of completion by 15.8 percentage points, reflecting the fact that children are more likely to complete as they get older as a result of late entry into school and often repetition of grades. A one standard deviation change in the log of consumption increases the probability by 8.4 percentage points, while a similar increase in the head's years of schooling increases it by 6.5 percentage points.

For the binary variables, a more relevant change is from 0-1, where we see the importance of urban versus rural (where going from rural to urban increases the probability of completion by 15.3 points). Interestingly, once the other variables are controlled for the impact of the Northern region is not much larger than the other two regions (all are compared against the central region).

Being a male child decreases the probability by 2.1 percent, holding everything else constant.

**Table A5: Estimated changes in probability of primary school completion**

	Min to max	0 to 1	One sd at mean
Age	0.4409		0.1583
Male child		-0.0211	
Female head		0.0923	
Head years of schooling	0.31		0.065
Resides with both parents		0.084	
Ln(consumption)			0.0843
Three/four children in hh		0.0557	
Five/six children in hh		0.0632	
Urban		0.1531	
Eastern		-0.1072	
Northern		-0.1241	
Western		-0.0925	

We can also estimate the changes in probability while holding the categorical variables constant. In doing this we see that there is a greater difference between girls and boys in the Central region and when there are 3 or more children in the household. Similarly, the gender of the head of the household makes more of a difference in the Central region, and it increases with the number of children. By contrast, the level of household consumption makes less of a difference in the Central region, while it has the greatest impact in the Western region.

### Appendix III: Transitions in employment status

	Status in 2005/6					Status in 2009/10				
	Agricultural wage	Private non-agricultural wage	Public wage	Own account (nonfarm)	Own account (farm)	Non-farm family worker	Family farm worker	Unemployed	Out of labour force	
Average consumption in 2005/6										
Average consumption in 2009/10										
Row percentage										
Agricultural wage	44,047 43,344 24%	76,752 70,061 14%		51,193 61,758 24%		65,165 51,008 23%			61,246 75,209 8%	56,046 58,911 100%
Private non-agricultural wage	43,579 41,999 2%	104,045 113,237 45%	135,270 118,515 3%	104,347 106,426 17%	52,161 53,740 10%	59,034 63,801 10%			141,631 108,245 11%	98,450 99,907 100%
Public wage		197,083 149,228 18%	124,512 106,238 41%	115,133 110,684 12%	93,738 85,067 14%					128,578 106,792 100%
Own account (nonfarm)		95,650 111,440 9%		105,694 105,485 50%	73,979 49,756 19%	182,286 169,842 3%	64,378 56,985 10%		95,255 92,000 6%	95,706 90,811 100%
Own account (farm)	33,639 37,782 3%	46,411 53,298 3%	60,675 67,493 1%	53,592 61,516 9%	44,466 45,536 57%			47,047 49,571 24%	66,758 59,857 2%	46,418 48,600 100%
Non-farm family worker								59,762 42,143 31%		99,669 82,681 100%
Family farm worker	58,589 58,223 2%	48,202 62,873 3%		55,892 69,011 4%	42,093 36,414 3%	42,027 40,616 2%	44,783 44,034 1%	56,692 79,403 1%	51,630 51,887 22%	46,913 47,499 100%
Unemployed			128,999 168,895 17%				44,354 42,470 36%		88,194 87,844 33%	83,794 89,582 100%
Out of labour force	46,538 47,302 1%	100,811 97,605 3%		76,038 78,237 2%	74,823 51,534 1%	46,833 46,257 4%	118,980 96,222 49%	71,642 68,465 1%	60,684 58,598 39%	66,900 66,900 100%
	46,947 47,047	97,495 100,322	108,021 97,383	86,212 89,641	49,222 47,111	82,057 81,151	46,871 46,286	107,194 94,407	69,903 66,900	

Key

- Significant decrease in consumption (10% level)
- Significant increase in consumption (10% level)
- Change in consumption not statistically significant
- Insufficient observations (fewer than 10 individuals)

## **Appendix IV: Selected Government poverty-reduction programmes**

### **Decentralisation**

Since 1986, the Central Government has been strongly committed a grass-roots approach to governance, beginning with devolution and later administrative and fiscal decentralisation. The Constitution 1995 and the Local Government Act 1997 empowered Local Governments as the entities responsible to deliver essential services to the population at the sub-national level. Local Governments remain at the forefront of public interventions to reduce poverty.

### **The PEAP**

The beginning of the Poverty Eradication Action Plan era in 1997 saw the Government shift focus from rehabilitation to poverty eradication. The PEAPs were successful in guiding the prioritisation of public policy and cooperation between the Government and its development partners, particularly in the provision of social services such as education, health and sanitation.

### **Poverty Action Fund**

The PAF was set up in 1998/1999 in order to channel resources from HIPC debt relief to key sectors identified in the PEAP. The virtual fund became an integral part of the national budget, instrumental in translating the PEAP priorities into public expenditure.

### **Universal Primary Education**

Universal Primary Education (UPE) was the flagship intervention under the first PEAP introduced in 1997. The policy entailed free primary school tuition to four children per household, although parents retained the responsibility for providing exercise books, pens, uniforms and school meals. The result was a near doubling in primary school pupils from 2.9 million in 1996 to 5.3 million in 1997. UPE also decentralised school management, giving Local Governments the responsibility to recruit teachers, construct classrooms and inspect schools.

### **Plan for Modernisation of Agriculture**

The Plan for Modernisation of Agriculture (PMA) began in 2001 as a key component of the PEAP. It remains a cross-sectoral framework to guide policies and investment plans enabling the rural poor to improve their livelihoods sustainably, particularly by raising farm productivity, increasing the share of agricultural production that is marketed, and creating on-farm and off-farm employment.

## **National Agricultural Advisory Services**

A key component of PMA, NAADS was put in place in 2001 to increase the efficiency and effectiveness of agricultural extension services. The NAADS Act 2001 formed a semi-autonomous body with a mandate to develop a demand-driven agricultural service delivery system for poor subsistence farmers. NAADS employs an innovative public-private approach to empower farmers to demand and control agricultural advisory services. The programme has had a positive impact on the adoption of new crop and livestock enterprises, the use of modern agricultural production technologies and practices, and the commercial marketing of commodities.

## **Rural Electrification**

A nationwide programme initiated in 2000, implemented by the Ministry of Energy and Mineral Development. The objective is to enhance incomes and the quality of rural life by extending access to the national electricity grid. In 2001, only around 80,000 rural consumers were registered on the grid. The target for universal access has been set for 2035.

## **Prosperity for All**

In 2005 Government placed renewed emphasis on poverty alleviation under the Prosperity for All programme (PFA). The pillars of PFA are production, value addition, marketing and microfinance.

## **The Rural Financial Services Strategy**

One of the major pillars of PFA, the RFSS guides the delivery of financial services in rural areas. Emphasis is placed on savings, credit and investment to improve production and processing for value addition. There are now over 2,800 Savings and Credit Cooperative Organisations (SACCOs) throughout the country. Lending is channelled through the SACCO network to smallholder farmers through farmer groups at below-market interest rates.

## **Regional programmes**

Government has long recognised that development challenges differ across different parts of the country, particularly those recovering from conflict and insecurity. To address this, a number of regionally specific programmes have been implemented.

## **Northern Uganda Social Action Fund**

NUSAf is a decentralised development project created in 2003. Communities and groups are able to apply for government grants for infrastructure construction; income support and livestock for the ultra-poor; and vocational training and tools. The ultimate objectives of the programme are to empower the communities of northern Uganda to identify, prioritise and plan their needs; and to revive income-generating activities to improve the economic welfare of households.

## **Karamoja Integrated Disarmament and Development Plan**

Started in 2001, the KIDDP is overseen by the Office of the Prime Minister. Operational within the districts of Moroto, Kotido and Nakapiripiriti, disarmament is pursued in conjunction with improved service delivery and efforts to encourage diversification of income-generating activities to reduce dependency on cattle rearing and ensure total peace and stability.

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