‘I know my rights, but am I better off?’: Institutions and Disability in Uganda

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1. Introduction

In 2011, the World Health Organisation reported estimates of the number of people with disabilities to be 15 per cent of the global population; ranging from 12 per cent of adult populations in higher income countries to 18 per cent in lower income countries.[1] The Secretariat of the African Decade of Persons with Disabilities (2015) calculates that there are at least 60-80 million people with disabilities in Africa, a segment of society often excluded from school, with restricted employment and income-earning opportunities. World Bank estimates suggest that people with disabilities may account for as many as one in five of the world’s poorest (Elwan, 1999).[2] Mirroring these statistics, in 2011 19 per cent of the Ugandan population were reported to have a disability in the Ugandan Demographic and Health Survey (UBOS, 2011). A study by Mijumbi and Okidi (2001) reported that 46 per cent of people living with disabilities in Uganda fell below the poverty line.

While the Ugandan Government has been at the forefront of a well-defined legislative and constitutional environment concerning disability, it has tended to view disability as a donor responsibility in terms of resources. Yet international organisations rarely target people with disabilities directly. The World Bank (2007) cites its mainstreaming approach as the reason why it has no figures on the volume of Bank resources dedicated to working with people with

disabilities. They do however estimate that between 2002 and 2006 4 per cent of all Bank projects, representing only 5 per cent of lending volume, had integrated disability as a component of their work.

In this paper we investigate whether the progressive legislative stance of the Ugandan government, disadvantaged by limited financial resources, has had any effect on the economic well-being of people with disabilities, specifically their income. We first establish whether people with physical disabilities are aware of the legislative environment in Uganda and identify the factors associated with this knowledge of the formal institutions. Second, we examine whether this knowledge or awareness leads to better economic outcomes, such as higher earnings?

We exploit a unique survey of 579 people with physical disabilities in Uganda conducted by the authors in 2012. Using this data on characteristics and knowledge of institutions and extensive interviews with 16 key stakeholders, we conclude that knowledge does make our respondents with disabilities better off, but only if they are women. We find evidence of a clear gender distinction both in terms of the knowledge of the formal institutions, and in income. Specifically, a woman's education, a measure of their social empowerment, and membership of external networks are important correlates to knowledge. In terms of income, we find that knowledge of the formal institutions of disability is a positive determinant of a woman's income (even after controlling for potential endogeneity). For men we find education and age are significant correlates of knowledge, but this knowledge has no effect on their income. For men, being in wage employment is the only significant factor positively affecting their income levels.

2. Background

Prior to the 20th century the prevailing model of disability was one of charity and benevolence by individuals and institutions, and tended to perpetuate exclusion and segregation of people

with disability from society, both literally and metaphorically. The current approach – the social or rights-based model – focuses not on the person's disability or impairment, but their functionality and integration with respect to activities; social participation being key to determining whether or not a person is classed as disabled (Loeb *et al.*, 2008). We take this definition as our benchmark in this paper. According to this model, people with disabilities can be excluded from society in three main ways: economically, socially and politically.

In practice, the implementation of this social model has resulted in the proliferation of numerous international accords and conventions, as well as legislation at the national level to define and protect the rights of people with disabilities. Whilst being a marked improvement on the initial 'charity' model a common criticism of the social model is its legalistic approach: ultimately that it is difficult to implement and enforce in practice (Handley, 2000; Sheldon, 2005). As such, there has been an explosion of non-governmental, rights-based organisations that have sought to address these deficiencies often without the backing of local governments.

As a result of exclusion, combined with mainstreaming practises of donor agencies, people with disabilities often do not fully benefit from poverty reduction programmes. As Sen (2009) notes, the dynamics between disability and poverty are complex and intricate – poverty increasing the risk of disability and disability increasing the risk of poverty. On the one hand, those living in poverty may be more exposed to diseases and environments that can cause disability, particularly as suitable and affordable healthcare is not available. On the other hand, people with disabilities may find the chances of living in poverty vastly increased due to their exclusion from society. This reverse causality between disability and poverty, and a paucity of data, has made empirical analysis within a development setting difficult. However, evidence that does exist tends to support the finding that people with disabilities are amongst the poorest. Braithwaite and Mont (2008) using data from Bosnia, Herzegovina

and Vietnam find that disabled people are more likely to have lower standards of living. Filmer (2008) analyses 14 household surveys from 13 developing countries and finds that having a disability increases the probability of being in the two poorest quintiles by approximately 10 percentage points. Mitra *et al*. (2013) provide baseline data on the economic well-being and poverty status of working-age people for 15 developing countries[3] and find that people with disabilities, on average and as a group, are found to have statistically significantly lower educational attainment and employment rates than people without disabilities.

Using the social model of disability as a foundation, this paper investigates the role of institutions in the relationship between disability and poverty. Section 3 describes the Ugandan disability context, outlining the nature of the formal and informal institutions present. Section 4 provides a brief outline of the conceptual framework underpinning the analysis, whilst section 5 describes the data used in the empirical analysis. The empirical methodology and subsequent results are in section 6, which precedes the conclusions presented in section 7.

3. Disability in Uganda

Despite estimates of the number of people with disabilities reported at the outset, data is particularly difficult to obtain[4], partly due to the fact that there is not one universal definition of disability[5], but also in many societies disability remains a social taboo resulting in under reporting (Lwanga-Ntale, 2003). As a consequence the data are widely considered inaccurate and in many cases conflicting (DFID, 2004); this is a reality in the Ugandan context (Lang and Murangira, 2009). The most comprehensive national disability statistics gathered through the 2002 Census reported 838,000 people as being disabled, out of a total population of 24.6 million, approximately 3.5 per cent of the population. In 2006 the Ugandan National Household Survey reported that 7 per cent of the population were disabled (UBOS, 2006a). It

is widely believed that these numbers are underestimated due to both statistical and societal reasons (Lwanga-Ntale, 2003; key informant interviews; MOH, 1997; Lang and Murangira, 2009). The 2006 and 2011 Ugandan Demographic and Health Surveys, using improvements in the phrasing of the disability questions,[6] show evidence of disability prevalence rates closer to 20 per cent for the population aged five years and above (UBOS, 2006b, 2011).

The 2002 Census collected data on types of disability which are reported in Table 1. The most common form of disability reported is physical, perhaps given it is the most visible. Uganda has a significant number of polio survivors (national figures are not available but WHO (1997) estimate that 10-20 million people worldwide are living with polio paralysis[7]); many are as a result of injuries inflicted by the guerrilla war perpetrated by the Lord's Resistance Army (LRA) that took place in the north of the country from 1987-2008; and more recently, road traffic accidents have become a predominant cause.

Table 1: Prevalence of Disability in Uganda

	Male (%)	Female (%)	Total (%)	Number (000s)
All*	…	…	…	838
Physical impairment	48.0	45.4	46.7	392
Hearing impairment	15.8	17.6	16.6	139
Sight impairment	23.9	27.2	25.4	213
Speech impairment	5.6	4.5	5.0	42
Mental impairment	4.3	3.9	4.1	34
Others	10.3	11.5	10.9	91

NB: individuals can report more than one type of disability; therefore cases do not tally to 100%.
Source: Uganda National Housing and Population Census 2002 (UBOS, 2006c)

Formal Institutional Environment[8]

Considered by many to be at the vanguard of the disability-rights movement, Uganda has at its foundation a legislative environment that is disability-specific (Yeo, 2001). This makes Uganda unique not only from a developing country perspective, but also globally. It is signatory to and has ratified a number of international and regional agreements committing itself to ensuring and protecting the rights of marginalised groups and (where applicable) specifically, people with disabilities (see Appendix 1).

These international commitments have also been translated domestically. The rights of people with disabilities have been recognised in the 1995 Constitution of the Republic of Uganda. Sign-language is recognised as an official language of the country – Uganda being the second country in the world to do so. The 2006 Persons' with Disability Act translates the ideas of the social model of disability (that is, covering a range of social factors such as education, health, employment, accessibility, discrimination) into a law. The 1996 Parliamentary Elections Statue requires that there are five seats in Parliament reserved for persons with disabilities – one for each of the four regions of Uganda as well as a women's representative.[9] Uganda is reported to have the highest number of people with disabilities represented in government in the world – a total of 47,000 at the local, regional and national government – which is attributed to the 1997 Local Government Act (Lwanga-Ntale, 2003).

Whilst the list of laws and conventions to which Uganda is party to is impressive and constitutes the formal institutional environment for the purpose of this study, the translation of these provisions into tangible improvements for the lives of people with disabilities in Uganda is less apparent. Lwanga-Ntale (2003) lists the obstacles to participation ranging from lack of physical independence to access to information that limit the effectiveness of legislation (also ILO, 2009). Lang and Murangira (2009) state that the major impediment to the successful implementation of policies and legislation is the presence of an 'implementation gap', which specifically reflects a lack of good governance or administrative practices that affects many realms of public policy in Uganda.

Informal Institutional Environment

In response to the absence of direct support from the Government, civil society has developed an informal institutional structure. Advocacy and more socially-related aspects of disability are becoming the predominant modus operandi of the disability-specific NGOs. The Ugandan Ministry of Internal Affairs' Register of NGOs for 2008 records over 300 disability-related

organisations, both local and international – an increase from around 70 in 2002.[10] Whilst finances are typically scarce, advocacy activities under the umbrella organisation – the National Union of Disabled Persons of Uganda (NUDIPU) – are strong; NUDIPU count amongst their many achievements the lobbying and successful addition of the requirement for people with disabilities to be represented in Parliament. In this analysis we consider informal institutions of disability to be an all-encompassing term for any civil society structures not implemented by the Government of Uganda.

4. Conceptual Framework

There is a limited theoretical and empirical literature in economics that focuses on disability; as such, we attempt to motivate our analysis by implementing a conceptual framework that merges concepts from the social capital and political science literature.[11] Our analysis is driven by the social model of disability that focuses on social inclusion. In this new framework we merge a social capital framework presented in Woolcock and Narayan (2000) and the informal institutions typology of Helmke and Levitsky (2004). The idea is to link the interaction of formal and informal institutions to socioeconomic outcomes, the transmission mechanism being the level of 'bridging' social capital (see Appendix 2 for a diagrammatic illustration of the conceptual framework). According to Putnam (2000), 'bridging' social capital is typically associated with the membership of groups with heterogeneous members and with external connections to other groups; whereas 'bonding' social capital is typically derived from close networks of family and friends.[12] In brief, the framework characterises four possible outcomes from the interaction between informal and formal institutions: complementary, substitutive, accommodating and competing. Providing the link between this interaction of institutions and socioeconomic outcomes is the level of 'bridging' capital.

Taking each in turn, in cases where informal institutions are *complementary* to formal institutions and outcomes of each converge and there are high levels of bridging social capital; we expect high levels of 'socioeconomic well-being'.

Where formal institutions are less effective, but outcomes are still likely to converge with those of informal institutions, the latter are considered *substitutive* to formal institutions and we observe a 'coping' state of economic well-being. Effectively, the informal institutions are compensating for the fact that the formal state is dysfunctional by high-levels of bridging social capital (and the associated superior skills/competences).

On the other hand, when bridging social capital is low 'mainly in primary social groups disconnected from one another, the more powerful groups dominate the state, to the exclusion of other groups' (Woolcock and Narayan, 2000), informal institutions are *accommodating* of formal institutions. They accommodate the latent conflict between groups, which results due to a break-down in state-societal relations and the presence of divergent outcomes between formal and informal institutions.

Lastly, where bridging social-capital is low, and informal institutions jostle for dominance over formal institutions that are ineffective (or have collapsed entirely), then the former are considered to be *competing*. Individual groups that may be high in bonding social capital, but lack the external connections to other groups attempt to fill the void left by the lack of formal institutions. In this instance, a state of conflict in terms of state-societal relations results, with divergent outcomes between formal and informal institutions and consequently, a complete breakdown in economic prosperity, because groups high in bonding social capital, but lacking in bridging social capital, are more inclined to perpetuate the exclusion of non-members and pursue solely the well-being of their own group members.

In our subsequent empirical analysis, we use this conceptual framework to structure the empirics. Specifically, we test whether the formal institutions have been effective in

providing a legislative environment that is enabling for people with disabilities. We do this by examining the impact of variables that proxy for institutional awareness on knowledge of the formal legislative setting. We then examine the role that bridging and bonding social capital play in the socio-economic outcomes amongst people with disabilities in Uganda.

5. Data

I. Fieldwork and Data Collection

This paper uses data from a randomised control trial which aimed to measure the effects of providing orthotic equipment to adults with lower limb disabilities in Kampala, carried out over the period June 2012 to June 2013. The trial included a pre-medical assessment, fitting of orthotic equipment (for example, callipers, crutches, walking sticks, knee and ankle braces), post-medical assessment and socio-economic survey.

The survey was administered to a sample of 579 adults with lower limb disabilities. In addition to the survey instrument, interviews with key informants were also carried out using a semi-structured interview technique. In total 16 interviews were carried out with institutions representing the Government of Uganda, NGOs and DPOs, foreign aid donors and Members of Parliament.[13]

The sample was drawn from a sampling frame of people with lower limb disabilities gathered by collaborators at the University of Makerere.[14] The sample included adults, aged 14 and over, who live in Kampala and four surrounding districts – Wakiso, Luwero, Mukono and Mpigi. To ensure outcome measurements, in particular medical outcomes, were comparable patients for the study were limited to those who suffered from lower-limb mobility issues as a result of disease (for example, poliomyelitis, stroke, osteomyelitis) or injury (for example, road traffic accidents, conflict-related). The unit of investigation was at the level of the individual (the person assessed, treated and surveyed) and of the organisation (key informant interviews).[15]

II. Variables and Descriptive Statistics

We are interested in whether the formal institutions are effective. We have established that they provide a legislative environment rather than financial resources. An indicator of their success would then be whether the laws they have passed are first known, and second whether they impact on the socio-economic well-being of their target audience.

We begin by defining a measure of knowledge of formal institutions. We use seven variables to proxy for the knowledge of formal institutions of disability (variable names in parentheses); creating dummy variables where 1 equates to knowledge and 0 to no knowledge (summary statistics provided in Appendix 3):

- Knowledge of the correct ministry responsible for disability issues;
- Knowledge of the Persons with Disability Act;
- Knowledge of the National Policy for Disability;
- Knowledge of the National Council for Disability;
- Awareness of provisions for the disabled in relevant health legislation;
- Awareness of provisions for the disabled in relevant education legislation; and
- Awareness of provisions for the disabled in relevant labour legislation.

In an attempt to capture a more broad-based indicator of knowledge, a composite indicator is created: *knowledge* is a dummy variable that takes the value 1 if three[16] or more of the seven institutional variables are known, 0 otherwise. On average 50 per cent of the sample were aware of each of the proxies; with 72 per cent knowing at least three.

Functionality of Formal and Informal Institutions

In line with our conceptual framework, we include variables in the model that account for the functioning of the formal institutions. This includes: *paid more than listed* price, which describes whether the respondent paid more for a health service than its listed/published price and is taken as a proxy of the extent of corruption and general functioning of the public institution; 75 per cent of the sample reported to have paid more than necessary. In a similar fashion, 23 per cent of the sample believed their payment was not passed onto the institution (*believe payment kept). Reported a crime* attempts to capture the respondent's inclusion and

participation in other formal institutions.[17] Given that those who are socially excluded are more likely to live in high crime environments (Howarth and Kenway, 1998), we take the variable *reported a crime* to be an indicator of social inclusion. The respondent may have been a victim of a crime, but was able to participate in a typical societal act and report the crime. The respondent's own assessment of the functionality of the public health service is measured by a descending, 7-point rating of the local health clinic they attend (*clinic quality*) - higher values indicate a lower perceived quality of service. Finally, *discrimination* is a dummy variable capturing whether the respondent has experienced some form of self-defined discrimination or mal-treatment in a public setting in the last 12 months.[18] This again points to the functionality of formal institutions, given the disability-focused legislative environment present in Uganda; if individuals are experiencing discrimination then these institutions would appear to be lacking.

We also include a measure of a person's belief that they have control over their own life outcomes. In the psychological literature Rotter (1990) refers to a person's perception or belief about the underlying main cause of events in their life: either a person believes their outcomes are controlled by themselves (internal locus of control) or by external forces such as powerful others, fate or luck (external locus of control). A person's belief about their disability may influence whether they seek knowledge, and/or act on that knowledge. To control for this we include a variable which we label *empowerment*. Following Bernard *et.al.* (2011) participants were asked a simple question which contrasted success through own effort with success through fate or luck. They were offered a choice between the following two statements: ***A*** - *Each person is primarily responsible for his/her success or failure in life;* ***B*** - *One's success or failure in life is a matter of his/her destiny.* A dummy variable *empowerment* is created if the respondent chose statement A. Framing the question in this way we aim to capture the pro-activeness of the respondent regarding their situation in life. If

the legislative environment is effective then we argue that it could empower individuals to feel responsible for their life outcomes.

Social Capital

To capture the impact of informal institutions we consider the types of social capital the respondent may possess, in particular their participation in networks. We create the following two dummy variables: *bonding* social capital which captures whether or not the respondent attends social and family gatherings; and *bridging* social capital which captures external networks through attendance of local, non-family based groups and contact with people outside of their immediate community.

We take membership of any network to imply higher levels of social capital. These networks are even more important in environments where formal institutions and support structures are ineffective or missing entirely.[19] Where formal institutions of disability are less than wholly effective, external networks expose them to greater social and economic opportunity than would otherwise have resulted from these institutions. As reflected in the conceptual framework, where the formal sector is ineffective the informal sector is necessary for enabling higher economic well-being.

Individual and household characteristics

Appendix 3 reports descriptive statistics for the key variables in the estimations. The average respondent is 41 years of age; we expect age to have a positive relationship with the knowledge of institutions, as well as subsequent earnings. Almost half of the sample is female (42%). The sample is well educated with on average 8.7 years of schooling which is roughly equivalent to completing two out of six years of secondary school, or grade S2. The level of education is controlled for using *schooling* (the number of years of schooling), or alternatively *primary*, *secondary* and *tertiary* (dummy variables for highest level of education achieved).[20] For the first estimation we are interested in levels of education, rather than total

years of schooling, which provides clearer policy recommendations.[21] In the second, we estimate a Mincerian earnings function which requires years of schooling.

Being in wage employment and self-employment may reflect an individual's engagement in the formal and informal institutional environment respectively. In the estimations *wage* is a dummy variable equal to 1 if the respondent is wage-employed; *self-employed* is a dummy variable if the respondent is self-employed. Approximately 29 per cent of the sample is wage-employed, whilst nearly 38 per cent of respondents report to be self-employed. The remainder of the sample are classed as out of the labour force (including the unemployed, students, and the sick).

To control for the wealth of the household, which may determine the respondents exposure to education, the knowledge of institutions, and future employment, we include both an income variable and an asset index which was created using the methodology outlined in Filmer and Pritchett (2001).[22,23] The respondent's individual monthly income is calculated[24] and logged (*lnearn*). Average monthly household income is 313,000 Uganda shillings (approximately USD120). GNI per capita in 2011 was USD510 (US current prices) indicating that the sample is relatively poor. [25,26]

6. Empirical Methodology and Results

I. The Factors Associated with the Knowledge of Formal Institutions of Disability

In the descriptive statistics we found that roughly 50 per cent of the sample was aware of the formal institutions concerned with disability. In this next section we estimate the following model to identify the factors associated with this knowledge of formal institutions:

$$knowledge_i = \alpha_i + \beta_i \mathbf{X} + \beta_i \mathbf{I} + \beta_i \mathbf{S} + \varepsilon_i \qquad (1)$$

Where **X** is a vector containing variables relating to the respondent's personal characteristics, **I** captures their engagement in the wider institutional environment and lastly, **S** are the variables measuring social capital. Given that the dependent variable *knowledge* is binary, equation 1 is estimated initially using a probit model.[27] Categories of variables are added sequentially and the results are presented in Table 2.

Column 1 reports the individual and household characteristics. The results show a non-linear relationship between age and knowledge. Specifically, knowledge of the formal institutions of disability increases up to the age of 46 years. Education is also important, with the coefficients on all variables, *primary*, *secondary* and *tertiary* displaying positive signs with statistical significance compared to those with no education, robust to model specification.[28] The magnitude of the effect of education on *knowledge* is greatest for tertiary education which is significant at the 1 per cent level, followed by secondary education significant at the 5 per cent level and then primary education at the 10 per cent level. This could reflect the ability of more educated individuals to understand more difficult levels of knowledge.

The wealth of the household (*household_wealth*) is positive and statistically significant in the early specifications, but once wider 'institutional engagement' variables are included this significance is lost. This result implies that household wealth may be taken as a crude proxy for the individual's engagement in society and its associated institutions, but once captured more directly, their family status becomes less important.

Overall, the variables capturing wider institutional engagement reported in column 2 (*paid more, reported a crime, believe payment was kept, clinic quality and discrimination*) are statistically insignificant. An exception is women reporting poor quality of clinics are more likely to have higher levels of knowledge at the 10 per cent level. Whilst recognising the fact that these are imperfect proxies, it does appear that even when individuals interact with

formal institutions, this confers no greater knowledge of the legislation in place. In terms of the conceptual framework, formal institutions could therefore be considered ineffective.

The proxy for empowerment (*empowerment*) appears to be an important, positive correlate to knowledge of formal institutions of disability, a result significant across specifications. Individuals who feel responsible for their life outcomes are more likely to report higher levels of knowledge.

From the conceptual framework we suspect that in the presence of ineffective institutions, networks are important in determining whether an individual with a disability is aware of their rights. In Table 2, column 3, we find that bridging social capital (*bridging*) is statistically significant. Connections outside of your immediate vicinity, which allow the sharing of information and experiences amongst other things, increase the probability that an individual will have a level of knowledge about their rights. In Uganda we conclude that the relationship between the formal and informal sector is substitutive. It is the level of bridging social capital that fosters greater knowledge.

To explore this further we divide the sample according to gender. Uganda has a particularly high gender inequality index of 0.53 and is ranked 164 out of 187 countries for gender inequality (UNDP, 2014). Kevane (2004) notes that engendered informal social structures can undermine female economic attainment; and that bargaining power is of immense importance in determining outcomes. With respect to informal institutions, such as NGOs, Kevane (2004) argues that initiatives designed to change the economic status of women have only been effective where bargaining power of women has been increased or discriminatory practises in business have been decreased. If we suspect that knowledge leads to an increase in bargaining power then this becomes an important channel for women to improve their economic status. We therefore examine differences in knowledge of institutions by gender.

Table 2: The Factors Associated with the Knowledge of Formal Institutions

	1	2	3	Female	Male
Individual and Household Characteristics					
Age	0.072***	0.064*	0.060*	0.011	0.098*
	(3.23)	(2.25)	(2.13)	(0.25)	(2.33)
age^2	-0.001***	-0.001*	-0.001*	-0.000	-0.001*
	(3.02)	(2.14)	(2.03)	(0.12)	(2.30)
Female	0.069	0.162	0.187		
	(0.55)	(1.16)	(1.32)		
Primary	0.599*	0.809*	0.870*	0.870	1.239
	(1.95)	(2.34)	(2.48)	(1.88)	(1.85)
Secondary	0.787**	1.059**	1.137**	1.080*	1.618*
	(2.53)	(3.01)	(3.17)	(2.30)	(2.38)
post-secondary	0.907***	1.193**	1.208**	1.536**	1.464*
	(2.75)	(3.19)	(3.21)	(2.90)	(2.12)
household_wealth	0.218**	0.125	0.109	-0.086	0.230
	(2.43)	(1.29)	(1.11)	(0.56)	(1.60)
Functionality of Institutions					
wage-employed		0.240	0.243	0.443	0.123
		(1.30)	(1.30)	(1.51)	(0.46)
self-employed		0.180	0.166	0.039	0.278
		(1.03)	(0.94)	(0.14)	(1.12)
paid more than listed price		0.212	0.207	0.011	0.313
		(1.32)	(1.27)	(0.04)	(1.41)
reported a crime		0.238	0.215	-0.012	0.364
		(1.28)	(1.15)	(0.04)	(1.38)
believe payment kept		-0.295	-0.309	-0.095	-0.408
		(1.86)	(1.94)	(0.38)	(1.81)
quality of clinic		-0.060	-0.057	-0.130*	-0.010
		(1.55)	(1.46)	(1.98)	(0.20)
discrimination		-0.176	-0.141	-0.359	-0.061
		(1.25)	(0.99)	(1.52)	(0.33)
empowerment		0.397**	0.400**	0.713**	0.238
		(2.65)	(2.65)	(2.85)	(1.17)
Social Capital					
Bonding			-0.272	-0.132	-0.461
			(1.26)	(0.42)	(1.45)
Bridging			0.318*	0.484*	0.176
			(2.27)	(2.06)	(0.93)
_cons	-1.775***	-2.275**	-2.158**	-0.722	-3.421**
	(3.30)	(3.28)	(3.03)	(0.72)	(3.08)
N	506	432	432	187	245
Chi^2	33.66	54.91	61.64	37.94	39.87
P	0.00	0.00	0.00	0.00	0.00
R^2_P	0.06	0.10	0.12	0.17	0.13

Notes: Dependent variable is *knowledge*; estimated using probit; * denotes statistical significance: * p<0.1; ** p<0.05; *** p<0.01. Test of joint significance of variables (chi^2), associated p-value (P).

Estimating equation 1 split by gender (columns 4 and 5 in Table 2) we find evidence of a gender divide with respect to factors that are associated with knowledge of formal institutions. For women with disabilities the coefficient on *secondary* education is positive

and significant at the 10 per cent level, and for *post-secondary* education positive and significant at the 5 per cent level. The positive and significant coefficient on *empowerment* appears to be driven by the women in the sample. Those women who feel more in control of their own destiny report higher levels of knowledge of formal institutions. It is also the case that women with strong external networks measured through the *bridging* social capital variable report higher levels of knowledge. For men, the coefficients on *age*, *household wealth*, and *secondary* education are positive and statistically significant. Neither *empowerment* nor *bridging* social capital is a statistically significant factor in determining men's knowledge of the institutions of disability.

II. Does this Knowledge Have an Effect on Income?

With insight into what factors are associated with knowledge of formal institutions, attention is now turned to whether this knowledge makes a difference to the respondent's economic well-being, that is, is their knowledge reflected in their level of income?

The empirical specification takes the form of a modified Mincerian earnings equation (Mincer, 1957; 1958):

$$\ln(earnings) = \beta_0 + \beta_1 schooling + \beta_2 schooling^2 + \beta_3 experience + \beta_4 experience^2 + \beta_5 \boldsymbol{knowledge} + \varepsilon \quad (2)$$

The dependent variable is the log of earnings. The education variable is the number of years of formal education (*schooling*) with the standard quadratic term included. In addition, years of work experience (*experience*) is included.[29,30] The variable of interest is *knowledge* – which was the dependent variable in the previous analysis (a dummy variable equal to 1 if the respondent is aware of three or more of the seven formal institutions; 0 otherwise). Equation 2 is estimated after the sample is split by gender. This is driven by the preceding analysis and findings reported by Appleton *et.al.* (1999) of a gender wage gap in Uganda in both the public and private sector. The results presented in Table 7 show a stark difference between

men and women in this sample. For women, *experience* is statistically significant and quadratic implying that the returns to experience diminish as more experience is gained (an expected result). *Schooling* is estimated to have an increasing effect on earnings. What is of particular interest is that women also benefit from *knowledge* of the formal institutions of disability in terms of their reported earnings. In this specification, for men, *schooling*, *experience* and *knowledge* of formal institutions are not important factors associated with their earnings.[31]

Table 3: Does this Knowledge Have an Effect on Income?

	Full Sample 1	Full Sample 2	Female 3	Female 4	Male 5	Male 6
experience	0.038*	0.035*	0.086***	0.077***	0.008	0.008
	(1.86)	(1.74)	(2.66)	(2.64)	(0.31)	(0.32)
experience^2	-0.001**	-0.001*	-0.002***	-0.002***	-0.000	-0.000
	(2.02)	(1.90)	(3.11)	(2.90)	(0.49)	(0.51)
schooling	-0.060	-0.059	-0.082	-0.071	-0.080	-0.080
	(0.77)	(0.77)	(0.83)	(0.73)	(0.60)	(0.60)
schooling^2	0.010**	0.009**	0.013**	0.011**	0.010	0.010
	(2.32)	(2.19)	(2.32)	(1.99)	(1.39)	(1.37)
Knowledge		0.285		0.730**		-0.034
		(1.42)		(2.35)		(0.13)
_cons	11.134***	10.996***	10.627***	10.245***	11.648***	11.665***
	(28.88)	(26.60)	(21.87)	(20.11)	(18.12)	(16.63)
F	11.33	9.11	11.58	10.02	4.81	4.12
P	0.00	0.00	0.00	0.00	0.00	0.00
R^2	0.11	0.12	0.20	0.25	0.08	0.08
N	283	283	106	106	177	177

Notes: Dependent variable is log of earnings (*lnearn)*; estimated using OLS and robust s.e.; * denotes statistical significance: * p<0.1; ** p<0.05; *** p<0.01. Test of joint significance of variables (F), associated p-value (P); R^2 is the coefficient of determination.

There may be concern that knowledge and earnings are endogenous. In order to account for the potential reverse causality an attempt is made to instrument for knowledge. Two instruments are identified: *free information* – capturing whether or not the individual has access to information that does not imply any costs including from word of mouth, community noticeboards, at the local markets and from community leaders; and

empowerment – capturing whether or not the respondent believes that they are primarily responsible for their success or failure in life, as opposed to it being determined by fate.

These two variables are not correlated with the dependent variable (*log of earnings*), but are positively correlated with *knowledge* with a significance level of 5 per cent. Estimating the model using two stage least squares we observe no change to our main finding that knowledge of institutions is positively associated with higher earnings for women (see Appendix 4).[32] Given the 'weak' instruments, the regressions are re-estimated using conditional instrumental variable regression (Moreira and Poi, 2003)[33] and again, the main result holds.

In Uganda, we conclude from our conceptual framework that women are in a 'coping' socio-economic state, with a high level of bridging social capital enabling greater knowledge of the institutions of disability which directly impacts on their level of income. As such, informal institutions are substituting for ineffective formal institutions.

7. Conclusions

Given the relatively progressive legislative environment characterising Uganda, which suggests a higher quality of institutions at least on paper, this analysis has sought to investigate using a unique dataset, whether this has had any real impact on the lives of people with disabilities. There is evidence that people with disabilities do benefit from this institutional environment, however non-formal mechanisms, such as informal institutions and social capital, tend to dominate more formal structures. That is not to say that these formal institutions are not important, it is clear that they have implicitly shaped the disability environment in Uganda and allowed for the growth of non-governmental and civil society organisations.

We find that the age of the respondent, their education and belief in their empowerment are positively related to knowledge (using a range of measures); as well as household wealth,

although the statistical significance of the latter is lost once the wider institutional variables are included. Reinforcing the underlying conceptual framework, external networks – a proxy for bridging social capital – is a positive and statistically significant correlate. There is evidence of a gender divide in relation to these factors, with women who invest in concerted actions such as belonging to networks gaining more knowledge of institutions than men.

In terms of whether or not this knowledge makes the person with the disability better-off, measured by their individual income, again there is an evident gender divide. For women, knowledge does have an effect on their subsequent earnings and this is robust to potential endogeneity. In addition, women's work experience and schooling also positively determines their earnings. The apparent gender divide highlights a broader challenge to ensuring inclusive development in Uganda.

The results presented above provide an important foundation for future disability policy in Uganda, both for the government and for potential donors. Whilst the Government of Uganda was initially unresponsive to the needs of the people with disabilities, a strong NGO-based movement developed, and with both domestic and international advocacy, pressurised the government to react. This resulted in the promulgation of disability-specific legislation, as well as memorandums of understanding with such NGOs. The results presented in this paper suggest that whilst the formal institutions have been active in legislating national policy to aid those with disabilities, it has been the informal institutions that have made people aware of their rights.

A vibrant NGO sector has developed in Uganda, but whether the government sees these informal institutions as substituting for their own responsibilities is not clear. That these informal institutions have been key to the transformation of the legislative environment in Uganda may raise concerns. The sector is not democratically elected and is widely acknowledged to have issues regarding transparency and accountability (McGann and

Johnstone, 2006). Burger and Owens (2013) find evidence that such concerns are justified. Examining data for a sample of Ugandan NGOs they found many NGOs either withheld or provided incorrect information on both their accounts and interaction with their beneficiaries. Relevant to this paper is one source of the misrepresentation centred around NGOs with antagonistic relations with government. In light of the evolution of disability policy in Uganda, and findings in this paper we would argue that both formal and informal institutions have a role to play in helping this disadvantaged group. Whilst the data suggests there is currently a substitutive role in place, a best case scenario would be a complementary partnership. To this end, Burger and Owens (2013) found NGOs with good relations with government were less likely to hide information. Encouraging the collaboration between these two institutions is a role that international donors can play.

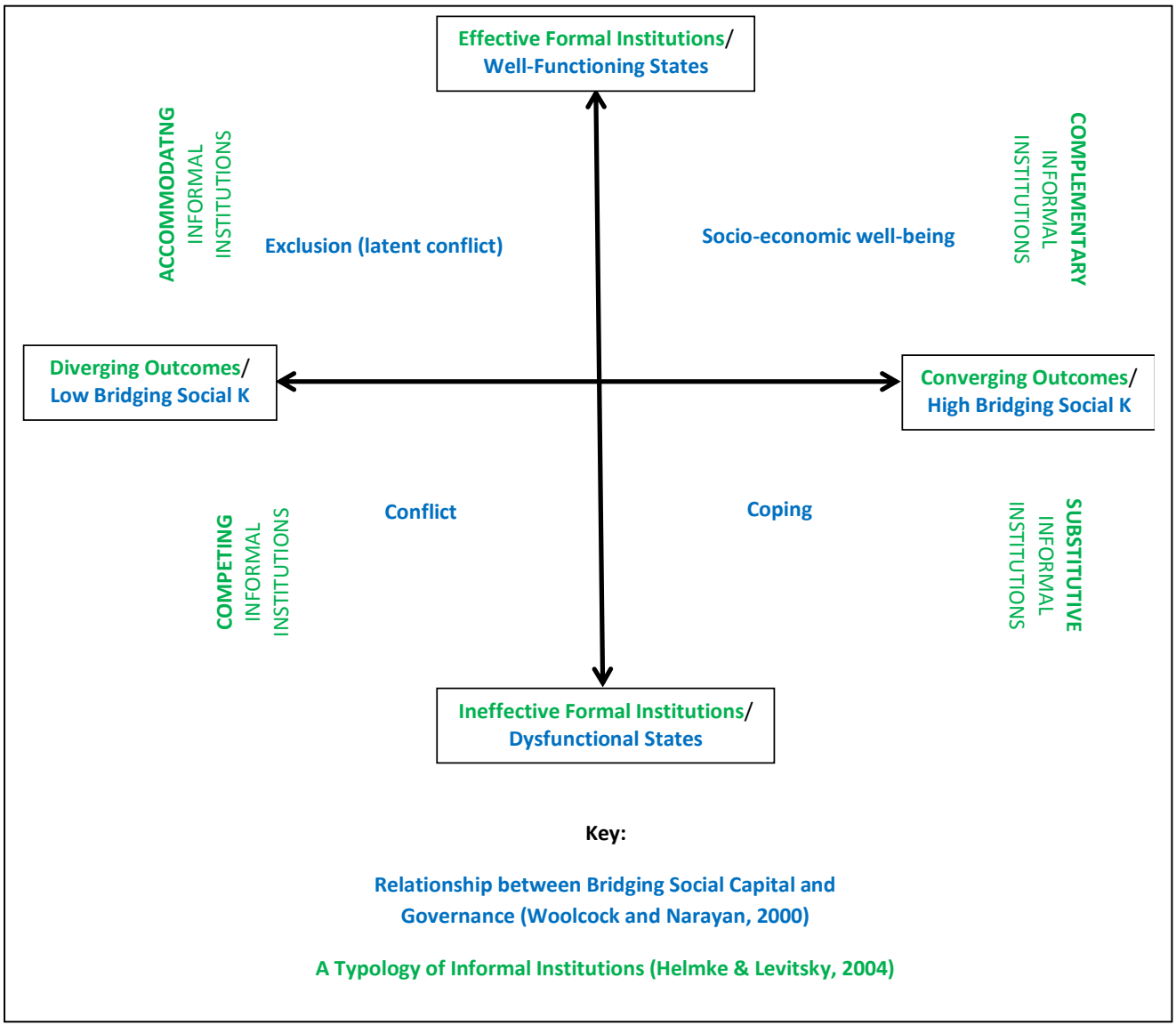
Ultimately, the results are a mix of outcomes with both positive and negative implications. However, one should take some reassurance. This sample have demonstrated a higher than expected level of education, a self-belief in their empowerment and control over their destiny and crucially, evidence of a cohesive community that through various networks enables them to cope and provide support for others.

8. APPENDICES

Appendix 1: International Conventions Ratified By Republic of Uganda

- The United Nations Convention on the Rights of Persons with Disabilities (CRPD)
- The UN Washington Group on Disability Statistics (2001)
- The Universal Declaration of Human Rights
- The Economic Covenant on Economic, Social and Cultural Rights (ICESCR)
- The Convention on the Elimination of Discrimination Against Women (CEDAW)
- The Convention on the Rights of the Child (CRC)
- African Charter on Human and Peoples' Rights
- The Convention Concerning Discrimination in Respect of Employment and Occupation
- The Convention Concerning Vocational Rehabilitation and Employment (Disabled Persons)
- African Decade of Persons with Disabilities (2000-2009)

Appendix 2: Conceptual Framework – The Interaction between Formal and Informal Institutions, Social Capital and Socio-economic Outcomes



Appendix 3: Summary Statistics

Variable	No. of observations	Mean	Std. Dev.	Min	Max
Age	572	40.67	14.27	14	82
Female	578	0.42	0.49	0	1
Schooling	525	8.70	4.28	0	16
Primary	579	0.34	0.47	0	1
Secondary	579	0.42	0.49	0	1
Tertiary	579	0.20	0.40	0	1
Wage-employed	579	0.29	0.45	0	1
Self-employed	579	0.38	0.49	0	1
Earnings	313	313,323	670,476	0	8,319,975
Discrimination	578	0.46	0.50	0	1
Mother's education	491	5.01	4.40	0	17
Mother has a disability	568	0.04	0.205	0	1
Fathers education	482	6.70	4.92	1	17
Father has a disability	567	0.04	0.205	0	1
Free information	580	0.22	0.417	0	1
Institutional Environment					
Paid more than listed price	551	0.75	0.43	0	1
Believe payment kept	557	0.23	0.42	0	1
Reported a crime	532	0.85	0.36	0	1
Clinic quality (descending 1-7 scale)	528	3.69	1.82	1	7
Social Capital					
Empowerment	577	0.72	0.45	0	1
Bonding social capital (close networks)	579	0.88	0.33	0	1
Bridging social capital	579	0.48	0.50	0	1

Institutional Variables

Variable	No. of observations	Mean	Std. Dev.
correct ministry	467	0.50	0.50
national policy	554	0.49	0.50
national council	554	0.50	0.50
pwd act	550	0.47	0.50
health legislation	554	0.52	0.50
education legislation	548	0.48	0.50
labour legislation	549	0.45	0.50
knowledge (generated dummy variable)	579	0.72	0.45
knowledge_sum (No. of institutions known)	436	3.56	2.48

Appendix 4: IV Regression

	1 First Stage	2 IV	3 cIV
knowledge		2.330**	2.330**
		(2.46)	(2.39)
experience	0.003	0.059	0.059
	(0.22)	(1.59)	(1.54)
experience^2	-0.000	-0.001	-0.001
	(-0.47)	(1.30)	(1.26)
schooling	0.016	-0.047	-0.047
	(0.47)	(0.45)	(0.44)
schooling^2	0.000	0.006	0.006
	(0.17)	(0.93)	(0.91)
empowerment	2.54**		
	(2.76)		
free information	-0.196***		
	(2.12)		
_cons	0.446*	9.409**	9.409**
	(2.69)	(13.29)	(12.91)
F/Chi2	4.02	26.85	5.07
P	0.000	0.000	0.000
N	106	106	106

Notes: Dependent variable is *knowledge*; estimated using a 2SLS model; female sub-sample; * denotes statistical significance: * p<0.1; ** p<0.05; *** p<0.01. Test of joint significance of variables (F/chi^2), associated p-value (P).

[1] To calculate these estimates they used data from the 2004 World Health Survey.

[2] Historical accounts of the African poor dating back to the 16th century repeatedly identify the very poor as 'the incapacitated', 'prominent among them were cripples' (Iliffe, 2003).

[3] Burkina Faso, Ghana, Kenya, Malawi, Mauritius, Zambia, and Zimbabwe in Africa; Bangladesh, Lao People's Democratic Republic (Lao PDR), Pakistan, and the Philippines in Asia; and Brazil, Dominican Republic, Mexico, and Paraguay in Latin America and the Caribbean.

[4] WHO, Disability and Health, Fact Sheet no. 352, June 2011.

[5] Although this is changing with the UN Washington Group on Disability Statistics working towards implementing common definitions and measurement parameters for the collection of data on disability.

[6] Formulated by the UN Washington Group on Disability Statistics: http://unstats.un.org/unsd/methods/citygroup/washington.htm

[7] More recent figures are not available.

[8] Defining institutions, like defining disability, is not straight forward. For the purpose of this research, we will use the institutional definition proposed by North (1994, p.316): '*Institutions are the humanely devised constraints that structure human interaction. They are made up of formal constraints (for example, rules, laws, constitutions), informal constraints (for example, norms of behaviour, conventions, self-imposed codes of conduct) and their enforcement characteristics'*.

[9] These seats are determined following election by a caucus of people with disabilities all of which are members of the National Union of Disabled People in Uganda (NUDIPU).

[10] Based on calculations of the authors. Acknowledgement is made of the potential inaccuracies of this data source. Existence on the register does not guarantee the NGO is active. The increase in the number that approached the Ministry to register is still striking.
[11] Torrance (2013), Interaction between Formal and Informal Institutions, Social Capital and Socio-economic Outcomes: A New Conceptual Framework (Chapter from Doctoral Thesis).
[12] It could be argued that Putnam's focus is at the level of society, however we assume in this analysis that these social capital distinctions are applicable at the level of the individual, and thus form the basis for the former.
[13] Anonymised data and stata code are available on request.
[14] Research assistants used snowball sampling to gather names of patients from local clinics and local NGOs from which a random draw of treated and control patients were selected. Due to ethical implications of an RCT we also treated patients who appeared on the day; and the team returned in 2013 to treat the control patients.
[15] Ethical approval was granted by both the University of Nottingham and the Uganda National Council for Science and Technology, June 2012, reference SS 2781. All subjects were informed that they did not have to participate in the survey to receive treatment, and that they could terminate their involvement at any time. Questionnaires were administered to patients in their local language by a team of enumerators from the University of Makerere with experience of completing surveys, and supervised by a Health Economist based at the University. Two of the eight enumerators had a lower limb disability.
[16] The value three was chosen as it represents a cumulative average of approximately 50 per cent. The results are robust however to alternative numbers of institutions known.
[17] As Noya and Clarence (2008) notes, the complexity of the factors associated with social exclusion requires its measurement by proxy, 'social exclusion must be seen as the result of a complex interplay of factors which contribute to precluding individuals and groups from participating fully in society'. Aasland and Flotten (2000) define one aspect of social exclusion as being that which prevents participation in civil society – a fibre of that being justice, law and order.
[18] The question being: 'Have you ever experienced any discrimination on the street or at a public space?' Yes/No.
[19] A number of studies within the social literature show how communities with strong social networks and civic associations are able to mitigate risk: see Moser (1996) on poverty and vulnerability; Varshney (2002) on dispute resolution; and Isham (1999) on how 'capital' enables people to take advantage of new opportunities.
[20] Respondents who reported not having any formal education, that is, 0 years of schooling, are the reference group.
[21] For robustness we estimate the first equation with years of schooling as well. The results do not alter.
[22] The correlation between the constructed variables capturing individual and household income is measured and shown to be positive and statistically significant at the 1 per cent level.
[23] Details on the index are available on request.
[24] Income from all reported sources is aggregated and converted to a monthly figure.
[25] UN Data, 2013.
[26] Data on whether the respondents' parents had a disability, as well as their level of education, was included in order to control for the effect of inter-generational knowledge and poverty. However, we found that only 4 per cent of the sample interviewed had a mother or father who was disabled. In the estimations this variable is not significant and is excluded from the results.

[27] *knowledge* is replaced with the seven individual institutional variables sequentially, as well as a count variable, *knowledge_sum*, of the number of institutions that the respondent is aware of (minimum of zero and maximum of seven). Crucially, the measure of empowerment and bridging social capital are robust to specification and age remains a strong correlate of knowledge.
[28] The model is re-estimated using the variable that captures the number of years of schooling. Earlier results are replicated. These are available on request.
[29] As a robustness check age was also included in the model and results are similar. Results not presented here, but available on request.
[30] Experience is calculated as the difference between the age of the respondent and the year they reported starting their first job (irrespective of type of employment).
[31] The same pattern emerges for both men and women when experience is replaced with age.
[32] The joint significance of the instruments is 8.41 below the commonly applied threshold of 10 for weak instruments, but the tests for endogeneity and over-identification are passed (Durbin chi^2 test statistic 3.08 (p-value 0.00); Sargan chi2 test statistic 0.046 (p-value 0.83)).
[33] As a result of the poor performance of the normal approximation of the t-statistic given the presence of weak instruments, the conventional test of significance on the parameter of the instrumented variable has incorrect size, and the Wald-type confidence interval has low coverage probability – conditional IV regression corrects for this (Moreira and Poi, 2003).

9. REFERENCES

Aasland, A., & Fløtten, T. (2001). Ethnicity and Social Exclusion in Estonia and Latvia. *Europe-Asia Studies*, 53(7), 1023-1049.

Appleton, S., Hoddinott, J. & Krishnan, P. (1999). The Gender Wage Gap in Three African Countries. *Economic Development and Cultural Change*, 47, 289-312.

Bernard, T., Dercon, S. &. Taffesse, A.S. (2011). Beyond Fatalism – An Empirical Exploration of Self-Efficacy and Aspirations Failure in Ethiopia. *Centre for Study of African Economies Working Paper* 3, 1–24.

Braithwaite, J., & Mont, D. (2008). Disability and Poverty: A Survey of World Bank Poverty Assessments and Implications. *ALTER – European Journal of Disability Research*, 3(3), 219-232.

Burger, R., & Owens, T. (2013). Receive Grants or Perish? The Survival Prospects of Ugandan Non-Governmental Organisations. *Journal of Development Studies*, 49(9), 1284-1298

DFID. (2004). Disability KAR: Assessing Connections to DFID's Poverty Agenda. Retrieved fromhttp://r4d.dfid.gov.uk/PDF/Outputs/Disability/PolicyProject_IsabelOrtizReportFinal1.pdf

Elwan, A. (1999). Poverty and Disability: A Survey of the Literature. *World Bank Social Policy Discussion Paper*, No 9932.

Filmer, D. (2008). Disability, Poverty and Schooling in Developing Countries: Results from 14 Household Surveys. *World Bank Economic Review*, 22(1), 141-163.

Filmer, D., & Pritchett, L. (2001). Estimating Wealth Effects without Expenditure Data - or Tears: An Application to Educational Enrollments in States of India. *Demography*, 38, 115-132.

Handley, P. (2000). Trouble in Paradise - A Disabled Person's Right to the Satisfaction of a Self-Defined Need: Some Conceptual and Practical Problems. *Disability and Society*, 16, 313-325.

Helmke, G., & Levitsky, S. (2004). Informal Institutions and Comparative Politics: A Research Agenda. *Perspectives on Politics*, 2, 725-740.

Howarth, C., & Kenway P. (1998). A multi-dimensional approach to social exclusion indicators, in Carey Oppenheim (ed.) *An Inclusive Society: Strategies for tackling poverty*, London: IPPR

Iliffe, J. (2003). *The African Poor*. African Studies Series, No. 58. Cambridge University Press.

ILO. (2009). Inclusion of People with Disabilities in Uganda. *ILO Factsheet* October 2009. Skills and Employability Department, International Labour Organisation. Geneva.

Isham, J. (1999). The Effect of Social Capital on Technology Adoption: Evidence from Rural Tanzania. *Annual Meeting of the American Economic Association*, New York.

Kevane, M. (2004). *Women and Development in Africa: How Gender Works*. Lynne Rienner Publishers.

Lang, R., & Murangira, A. (2009). *DFID Scoping Study*. Retrieved from http://www.ucl.ac.uk/lc-ccr/downloads/06052009_Disability_Scoping_Study_Uganda.pdf

Loeb, M., Eide, A.H., Jelsma, J., Toni, M.K., & Maart, S. (2008). Poverty and disability in Eastern and Western Cape Provinces, South Africa. *Disability & Society*, 23, 311-321.

Lwanga-Ntale, C. (2003). Chronic poverty and disability in Uganda, presented at *Staying Poor: Chronic Poverty and Development Policy*, *Institute for Development Policy and Management*, University of Manchester, 7-9 April 2003. Chronic Poverty Research Centre (CPRC), Manchester, UK

McGann, J., & Johnstone, M. (2006). The Power Shift and the NGO Credibility Crisis. *The International Journal of Not-for-Profit Law*, 8(2), 65–77.

Mijumbi, P., & Okidi, J. (2001). Analysis of Poor and Vulnerable Groups in Uganda. *Economic Policy Research Centre (EPRC)*, Makerere University, Kampala

MOH, (1997). *The Scope and Nature of Disability in Uganda.* Report prepared for the Rehabilitation Section, Ministry of Health, Government of the Republic of Uganda

Mitra, S., Posarac, B., & Vick, B. (2013). Disability and Poverty in Developing Countries: A Multidimensional Study. *World Development*, 4(1), 1-18.

Moreira, M., & Poi, B. (2003). Tests and Confidence Sets with Correct Size when Instruments are Potentially Weak. *Stata Journal* 6.

Moser, C. (1996). Confronting Crisis: A Comparative Study of Household Responses to Poverty and Vulnerability in Four Poor Urban Communities. *Environmental Sustainable Development Studies and Monographs Series 8*, The World Bank: Washington D.C.

North, D.C. (1994). Economic Performance Through Time. *The American Economic Review*, 84, 359-368.

Noya, A., & Clarence, E. (2008). Improving social inclusion at the local level through the social economy. *CFE/LEED, OECD, Working Document*, 17.

Putnam, R. (2000). *Bowling Alone. America's Declining Social Capital*. New York: Simon & Schuster

Rotter, J.B. (1990). Internal Versus External Control of Reinforcement: A Case History of a Variable, *American Psychologist*, April 1990, 490-493

Secretariat of the African Decade of Persons with Disabilities. (2015). Website. Retrieved from http://african-decade.co.za/about-us/

Sen, A. (2009). *The Idea of Justice*. Cambridge Harvard University Press.

Sheldon, A. (2005). One World, One People, One Struggle? Toward the Global Implementation of the Social Model of Disability. In: BARNES, C. & MERCER, G. (eds.) *Implementing the Social Model of Disability: Europe and the Majority World.* The Disability Press, University of Leeds.

Yeo, R. (2001). Chronic Poverty and Disability. *Action on Disability and Development, Background Paper*. No. 4. Chronic Poverty Research Centre, University of Manchester.

Uganda Bureau of Statistics. 2006a. *The Uganda National Household Survey 2005/06: Report on the Socio-Economic Module*. Retrieved from http://siteresources.worldbank.org/INTLSMS/Resources/3358986-1181743055198/3877319-1328111100912/UNHS.2005-06.Socioeconomic.Report.FINAL.pdf

Uganda Bureau of Statistics. (2006b). *Uganda Demographic and Health Survey 2006.* Retrieved from http://dhsprogram.com/pubs/pdf/FR194/FR194.pdf

Uganda Bureau of Statistics. (2006c). *2002 Uganda Population and Housing Census: Analytical Report.* Retreived from http://www.ubos.org/onlinefiles/uploads/ubos/pdf%20documents/2002%20CensusPopnSizeGrowthAnalyticalReport.pdf

Uganda Bureau of Statistics. (2011). *Uganda Demographic and Health Survey 2011*. Retrieved from http://dhsprogram.com/pubs/pdf/FR264/FR264.pdf

United Nations. (2013). Retrieved from http://data.un.org/Search.aspx?q=Gross+National+Income+per+capita

United Nations Development Programme. (2014). *Human Development Report 2014: Sustaining Human Progress: Reducing Vulnerabilities and Building Resilience*. UNDP, New York.

Varshney, A. (2002). *Ethnic Conflict and Civic Life: Hindus and Muslims in India.* Yale University Press: New Haven

Woolcock, M., & Narayan, D. (2000). Social Capital: Implications for Development Theory, Research, and Policy. *The World Bank Research Observer*, 15(2), 225-249.

World Bank. (2007). *Social Analysis and Disability: A Guidance Note Incorporating Disability-Inclusive Development into Bank-Supported Projects*. World Bank Group, Washington D.C.

World Health Organisation. (1997). Press Release. Retreived from http://www.hoffmanpr.com/press-release/polio-eradication-effort-on-target/

World Health Organisation. (2011). *World Report on Disability*. WHO Press, Geneva. Retreived from http://www.who.int/disabilities/world_report/2011/report.pdf