Chronic poverty: scrutinizing estimates, patterns, correlates, and explanations

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Summary

The paper lists estimates of chronic poverty incidences in 25 countries. Research reveals its 'patterns' and socioeconomic 'correlates', but hardly 'explanations'. The patterns are three (economic insecurity, short-range mobility and path dependency) and the correlates are four (spatial, demographics and household type, human capital and labor, and physical assets). Important similarities are observed between developing and affluent countries in such patterns and correlates. In countries of vastly differing wealth, apparently people face some similar problems in fully participating and the burden of poverty is unequally shared over time, i.e. chronic poverty. Recognizing this, the paper draws on research in affluent countries centered more closely on life experiences. Such 'lifefull' approaches to chronic poverty contrast with present 'lifeless' approaches in developing countries. Useful explanations should understand the reversibility of chronic poverty, timeliness of reversals and relevance of outcomes.

Introduction

Purely idiosyncratic poverty would, by definition, strike any person anytime. Data tracking households longitudinally through time demonstrates that poverty is nowhere purely idiosyncratic. Over a given number of years, approximately 50 percent of all person-years of absolute poverty can be expected to be suffered by just 30 percent of the population in rural India, 21 percent in rural Zimbabwe, 16 percent in rural Pakistan and 11 percent in rural China.[1] In affluent countries, 50 percent of all person-years of absolute poverty strikes just 8 percent of the population in the UK and 6 percent in the USA.[2] Despite presumably more equal economic opportunities, via greater public provisioning of services, welfare systems and more complete markets, a concentration of nationally-defined absolute poverty remains. In possibly its broadest sense – as subjective self-evaluation, where one may suppose idiosyncrasy – poverty remains systematically and unequally shared (even if regal lives experience occasionally an *annus horribilus*).[3]

What causes a segment of the population – the chronically poor – to suffer over time more than their share of poverty? Microlongitudinal research provides two kinds of relevant information: *patterns* of chronic poverty, and *correlates* of chronic poverty. Section 2 lists chronic poverty incidences. Methodological differences are stressed that unfortunately prevent direct international comparison of incidences. The section examines patterns of economic mobility at the poorest tail of the welfare distribution, isolating three mobility problems facing the chronically poor: economic insecurity, short-range mobility, and path dependence. Section 3 summarizes multivariate statistical models of mobility from varied country contexts and research methods. These suggest that socioeconomic correlates of chronic poverty fall into four types: spatial, demographics and household formation, human capital and labor, and physical assets. As noted in section 3, a general limitation of microlongitudinal studies – and, by extension, this paper too – is that the focus on tracking individuals might underemphasize societal processes in chronic poverty. These remained

outside the scope of the paper, partly because there is little empirical literature allowing evidence in microlongitudinal studies to be connected to broader issues around socioeconomic opportunity (c.f. Műller 2002).

The paper shows commonality between poverty in developing countries and poverty in affluent countries in the three mobility patterns and four mobility correlates. Throughout there is *no* claim that poverty in developing countries (commonly anchored to subsistence materialism) is equivalent to poverty in affluent countries (with comparatively generous materialism). Strikingly though, however rich a country, poverty is unequally shared. This is obviously different from relative poverty (some have to be poorest), and even chronic relative poverty (apparently some are always poorest), since it refers to persistence below a given absolute threshold. Microlongitudinal datasets in very different societies apparently suggest, to some extent, similar life experiences for those chronically trapped poor within their respective societies.

This point is exploited in Section 3 on explanations. Poverty models estimated using longitudinal data are remarkably similar to those obtained already using cross-sectional data, and I feel provide little extra information towards proper explanations of chronic poverty. Such 'lifeless' models of complex – and possibly permanently harmful – life experiences at different ages, are presented reductively and largely with weak exposition of theoretical foundations. Section 3 aims not to evaluate lifeless methodology, but to discuss how, by virtue of richer datasets, fuller life-course analyses have been attempted in affluent countries. I see lifefull explanations as potentially providing better understanding of *whether* chronic poverty is reversible, the best timing of any such reversals, and the ultimate welfare relevance to the lives thus changed. Intergenerational literature is cited to indicate the potential of lifefull approaches. The concluding section includes suggestions for chronic poverty research in developing countries in the light of issues raised in the paper.

Estimates and patterns of chronic poverty

Chronic *absolute* poverty (CAP) refers to the persistently poor and chronic *relative* poverty (CRP) the persistently poorest. CAP reflects low socioeconomic growth of individuals, i.e. low absolute mobility. CRP reflects low socioeconomic re-ranking of individuals, i.e. low relative mobility. Table 1 reports CAP and CRP estimates in 25 countries, based on microlongitudinal datasets longer than one year. This condition excluded estimates listed as note 3 under Table 1. Six Latin American, eight African, eight Asian and three European countries were included. Table 1 distinguishes between chronic *duration*, viz. poor in all periods, and chronic *shortfall*, viz. 'permanent' welfare below poverty levels. Permanent welfare is what remains after transitory fluctuations are purged. Different methods exist in each approach.[4] Importantly duration and shortfall approaches need not classify people consistently.[5]

Table 1 lists only CAP and CRP *incidence* – the percentage of people or households persistently below different poverty lines. Chronic poverty 'depth' and 'severity' (temporal analogues to Foster, Greer, & Thorbecke's (1984) 'alpha 1' and 'alpha 2' poverty measures) are estimable once permanent welfare is obtained. Presently they are rare for developing countries, and omitted from the table. Importantly the few available studies show the chronically poor can differ in how far they lie below the poverty line, and this can be correlated to observable characteristics.[6]

Table 1: Percentage of population or households chronically poor

	Country		Sample location	Absolute		Relative	Unit of	Obs	Number of	Indicator	See
				Duration	Perm shortfall	Duration	analysis	period	waves		note
	• South America										
1	Argentina	1	urban			6	Males	1994-95	2	Income	2
						6	Females	1994-95	2	Income	2
2	Chile	2	rural	55			Hh	1968-86	2	Income	2
3	El Salvador	3	rural	19			Hh	1995-97	2	Income	
4	Mexico	4	urban			6	Hh	1994-95	2	Income	2
5	Peru	5	rural and urban	23	36	14	Pop	1997-99	3	Cons/ Exp	2
		6	Lima			8	Hh	1985-90	2	Cons/ Exp	2
				13		9	Hh	1990-96	3	Cons/ Exp	2
6	Venezuela	7	rural and urban	44		10	Hh	1994-95	2	Income	1, 2
		8	rural and urban	44		9	Hh	1995-96	2	Income	1, 2
		9	rural and urban	36		10	Hh	1997-98	2	Income	1, 2
	• Africa										
7	Côte d'Ivoire	10	rural and urban	14			Hh	1985-86	2	Cons/ Exp	1
		11	rural and urban	13			Hh	1986-87	2	Cons/ Exp	1
		12	rural and urban	25			Hh	1987-88	2	Cons/ Exp	1
8	Egypt	13	rural and urban	19			Hh	1997-99	2	Cons/ Exp	
9	Ethiopia	14	rural	25	30	10	Hh	1994-95	2	Cons/ Exp	
10	Israel	15	rural and urban			6	Pop	1983-95	2	Income	1
11	Kenya	16	non-pastoralist	13			Cluster	1994-97	2	Cons/ Exp	2
12	Madagascar	17	Antananarivo	65		9	Pop	1997-99	3	Income	
13	South Africa	18	KZ-Natal non-white	18		9	Hh	1993-98	2	Cons/ Exp	1
14	Zimbabwe	19	rural	11			Hh	1994-97	4	Income	
	• Asia										
15	Bangladesh	20	rural	12			Hh	1970-77	Retrospective	Cons/ Exp	1, 2
		21	rural	39			Hh	1987-90	2	Income	
				38			Hh	1990-94	2	Income	
16	China	22	rural			7	Hh	1978-89	Retrospective	Income	2
		23	rural			6	Hh	1987-99	2	Cons/ Exp	1
		24	rural Fujian			8	Hh	1975-84	Retrospective	Income	
		25	rural Sichuan	6			Hh	1991-95	5	Cons/ Exp	
		26	rural southwest		20		Pop	1985-90	6	Cons/ Exp	
17	India	27	Gokilapuram (rural)			12	Hh	1977-85	2	Wealth	2
		28	Palanpur (rural)			3	Hh	1974-83	2	Income	2
		29	rural	33		7	Hh	1968-70	3	Cons/ Exp	
		30	semi-arid rural	22	48		Hh	1975-83	9	Income	
18	Indonesia	31	rural	9		11	Hh	1997-98	2	Cons/ Exp	1
19	Malaysia	32	rural and urban			11	Males	1967-76	Retrospective	Earnings	2
20	Pakistan	33	rural	5	26	10	Hh	1986-90	5	Income	
		34	rural northwest	63			Hh	1996-99	2	Cons/ Exp	
21	South Korea	35	rural and urban			11	Hh	1996-97	2	Cons/ Exp	
						10	Hh	1997-98	2	Cons/ Exp	
22	Vietnam	36	rural and urban	29		9	Hh	1992-97	2	Cons/ Exp	
	• Europe										
23	Hungary	37	rural and urban	10			Pop	1987-89	2	Cons/ Exp	
				10			Pop	1992-94	3	Income	1
						7	Pop	1992-96	5	Income	
24	Poland	38	rural and urban	10			Hh	1987-88	2	Cons/ Exp	
				15			Hh	1988-89	2	Cons/ Exp	
				19			Hh	1989-90	2	Cons/ Exp	
				17			Hh	1990-91	2	Cons/ Exp	
				24			Hh	1991-92	2	Cons/ Exp	
						7	Hh	1993-96	4	Cons/ Exp	
25	Russia	39	rural and urban	13			Hh	1992-93	2	Cons/ Exp	2
						8	Hh	1994-98	2	Cons/ Exp	2

Note 1. Absolute poverty lines were defined for approximately 2100 to 2300 calories plus basic non-food items, *except* in Bangladesh (1970-77), Hungary (1992-94), South Africa, and Venezuela where poverty lines provide a minimum consumption bundle, and Côte d'Ivoire and Indonesia with arbitrary absolute lines. Relative poverty lines defined the

poorest quintile, *except* in Israel which defined the poorest 15 percent and China (1987-99) which defined those below half mean consumption in each wave.
Note 2. Panels for Peru, Russia, Venezuela and partly Chile were constructed by matching dwellings and household characteristics. The Kenyan panel is longitudinal on 'clusters' of about 100 geographically proximate households, from which a dozen households were randomly drawn in each wave. Samples were small for Chile (146 households), Bangladesh 1970-77 (199 households), India 1977-85 (83 households) and India 1974-83 (120 households). The Mexican result pools several panels lasting five quarters each during 1992-97, and the Argentine result pools seven panels lasting four semesters each during 1993-98 – for these, the table states mid-years.
Note 3. Excluded because panels were shorter than one year, the incidence of chronic absolute poverty shortfall in *Belarus* was seven percent in 1994 (World Bank 1996); in *urban China* was 32 percent in 1997 (Gibson et al. 2002); in *Georgia* was one percent, four percent, five percent, four percent in 1997, 1998, 1999, and 2000 respectively (World Bank 2002); in *Papua New Guinea* was 15 percent in 1996 (Gibson 2001); in *Rwanda* was 14 percent in 1983 (Muller 1997); and in *Thailand* was one percent, six percent and seven percent in 1996, 1998 and 1999 respectively (Bidani & Richter 2001).
Sources. Some estimates were derived from sources. *Argentina*: World Bank (2000); *Bangladesh (1970-77)*: van Schendel (1981); *Bangladesh (1987-90)*: Sen & Begum (1998); *Bangladesh (1990-94)*: Sen (2001); *Chile*: Scott (2000); *China (1975-84)*: Nee (1991); *China (1978-89)*: Nee & Liedka (1997); *China (1985-90)*: Jalan & Ravallion (1998); *China (1987-99)*: Benjamin et al. (2002); *China (1991-95)*: McCulloch & Calandrino (2002); *Côte d'Ivoire*: Grootaert & Kanbur (1995); *Egypt*: Haddad & Ahmed (2002); *El Salvador*: Sanfeliu & Gonzalez-Vega (2000); *Ethiopia (1992-96)*: Dercon & Krishnan (2000); *Hungary (1987-89)*: Ravallion et al. (1995); *Hungary (1992-94)*: Speder (2001); *Hungary (1992-96)*: Galasi (1998); *India (1968-70)*: Gaiha (1989; 1988); *India (1974-83)*: Lanjouw & Stern (1991); *India (1975-83)*: Gaiha & Deolalikar (1993); *India (1977-85)*: Swaminathan (1991); *Indonesia*: Skoufias, Suryahadi & Sumarto (1999); *Israel*: Shayo & Vaknin (2000)*Kenya:* Christiaensen & Subbarao (2001); *Madagascar*: Herrera & Roubaud (2001); Herrera (2001); *Malaysia*: Randolph & Trzcinski (1989); *Mexico*: Cunnigham & Maloney (2000); *Pakistan (1986-90)*: McCulloch & Baulch (1998; 1999); *Pakistan (1996-99)*: Kurosaki (2001); *Peru (1985-90)*: Glewwe & Hall (1998); *Peru (1990-96)*: Herrera (1999); *Peru (1997-99)*: Herrera (2001b); *Poland (1987-92)*: World Bank (1994); *Poland (1993-96)*: Okrasa (1999); *Russia (1992-93)*: Mroz & Popkin (1995); *Russia (1994-98):* Jovanovic (2000); *South Africa*: Carter & May (2001); Maluccio et al. (2000);*South Korea*: Goh, Kang & Sawada (2001); *Venezuela*: Freije (2000); *Vietnam*: Houghton et al. (2001); Justino & Litchfield (2002); *Zimbabwe*: Baulch & Hoddinott (2000);

Close attention to methodology reveals differences that prevent international comparison of available CAP and CRP estimates. Most estimates in Table 1 anchor CAP to subsistence consumption, and CRP to the poorest quintile (see table note 1 for exceptions). Higher poverty lines generate larger poverty estimates. The table reports variations in *welfare indicators* (differing in temporal variability), *observation periods* (more time passes, more welfare-changing events occur), *number of waves* (longer interval, more transitory movements ignored), and *units of analysis*. Often observation periods are short (consecutive years) or waves are minimal (two waves). In four cases, a single wave was used to obtain

longitudinal data retrospectively. Retrospective data may suffer recall inaccuracies, but not selective longitudinal sample attrition, though admittedly an even representative sample at time 2 may not necessarily report data that is representative of earlier time 1, if selective events, like migration and death, already occurred. Estimates using individuals as the analytical unit simply scale for household size, i.e. none considered intrahousehold dynamics (c.f. Yaqub 1999). Other issues regarding the table are: 1/ four estimates rely on samples smaller than 200 households (see table note 2); 2/ only basic sampling information is reported (e.g. rural or urban site), and most were not nationally representative; 3/ few studies evaluated longitudinal sample attrition;[7] 4/ few studies evaluated potential attenuation bias in chronic poverty estimates due to errors in measuring the welfare indicator (which exaggerate dynamics).[8]

Patterns observed in microlongitudinal datasets suggest three interrelated mobility challenges facing the chronically poor. First, much economic mobility amongst the poor is actually just transitory fluctuation – an economic insecurity problem. Second those escaping CAP and CRP do not go far beyond that poverty – a distance problem. Third escaping poverty is harder the longer its duration – a path dependence problem. Importantly, identical problems apply to poverty in affluent countries.

Economic insecurity problem. Chronic poverty is not necessarily a stagnant situation. Even if *seemingly* as mobile as others, the chronically poor may face greater insecurity from transitory fluctuations, thus making their mobility qualitatively different. Admittedly some of this might be artifacts of measurement error, if occurring particularly at extremes of the welfare distribution. Lower intertemporal mean income (or consumption), i.e. chronic poverty in the shortfall approach, combines with higher intertemporal variability in Brazil (Neri et al. 1999), Sichuan China (McCulloch & Calandrino 2000), Indonesia (Pritchett, Suryahadi & Sumarto 2000), Pakistan (McCulloch & Baulch 1999), Spain (Salas & Rabadán 1998), Sweden (Björklund & Palme 1997), and USA (Gottschalk & Moffitt 1994) – but not in

southwest China (Jalan & Ravallion 1998). Intertemporal coefficients of variation (CV) were negatively correlated to income level in two of three ICRISAT Indian study regions, and the range between the highest and lowest household CVs was greatest in the riskiest, drought prone villages (Walker & Ryan 1990, p.85), i.e. the extra income variability from living in riskier climates was unevenly distributed across households. Using retrospective data in urban areas of Colombia, Ecuador, Guatemala, Honduras, Nicaragua, Paraguay, and Venezuela, Gaviria (2001) found that the probability of drops in consumption was greater for those in the lowest quintile of a *long-run* socioeconomic index (constructed from dwelling characteristics and household durables).

In a wide review, Sinha, Lipton & Yaqub (2002) showed that poverty in many developing countries combines riskier, more uninsured, livelihoods with lower growth prospects. Gottschalk & Moffitt (1994) characterized this problem as 'good jobs' versus 'bad jobs' in the USA, where high stable pay contrasts with low unstable pay. In developing and affluent countries, the poor manage their few assets against fluctuations (Moser 1998; Ruggles & Williams 1989), but the transitory poor might well dominate such smoothing transactions. Townsend (1995) on India and Udry (1995) on Nigeria showed that crop, currency and credit – rather than livestock and consumer durables – accounted for short-run dynamics in asset positions, and probably these smaller assets are owned least by the chronically poor. Lokshin and Ravallion (2001) showed that the time taken to recover from a single negative income drop was longer for households with lower long-run income levels, i.e. chronically poor. Okrasa (1999) found in Poland access to formal and informal consumption smoothing mechanisms were inversely correlated to years spent in poverty.

Distance problem. Many of those escaping poverty do not rise far, even with observation periods lasting several years. Again, measurement errors could mislead by falsely signaling some movements across the poverty line, but the proportions are large. In South Africa, 41 percent of absolute poverty exits remained within 1.25 times the poverty line after five years

(Carter & May 2001) – this was 57 percent in Indonesia (Skoufias et al. 1999) and 52 percent in Pakistan (Kurosaki 2001). In Egypt 91 percent of those escaping absolute poverty remained within twice the poverty line two years later (Haddad & Ahmed 2002), and in Chile 35 percent 18 years later (Scott & Litchfield 1994). Similarly, in Hungary 53 percent of exits from 'under half-mean income' were to '50-75 percent of mean income' four years later (Speder 2001); this was 57 percent in China between 1987-99 (Benjamin, Brandt & Giles 2001) and 82 percent in the UK between 1990-94 (Jarvis & Jenkins 1996).

Escape from *relative* poverty is also short-ranged. In India (Gaiha 1988), Russia (Jovanovic 2000), Britain (Jarvis & Jenkins 1996), Vietnam (Haughton et al. 2001), South Africa (Maluccio, Haddad & May 2000), and Peru (Glewwe & Hall 1998), between 36 – 70 percent of exits from the poorest quintile remained in the adjacent quintile up to five years later. Even for longer observation periods, the proportions are high: 24 percent in India nine years later (Drèze, Lanjouw & Stern 1992), 40 percent in Malaysia nine years later (Randolph & Trzcinski 1989), 48 percent in the USA 21 years later (Gottschalk & Danziger 1997).

Importantly the distance problem is not just a case of the deeply poor being unable to rise far above the poverty line, i.e. just about poverty depth. Transition matrices for Peru (Herrera 2001b), South Africa (Carter & May 2001), Pakistan (Kurosaki 2001), Canada, Germany, UK and USA (Antolin et al. 1999) do not suggest strong correlation between poverty depth and nonpoverty height.

Path dependence problem. The chance of escaping poverty appears related to poverty duration. **Error! Reference source not found.** shows that the probability of poverty increases conditionally on past years in poverty – after four years of poverty, most remained poor. Not shown in the table is that large proportions of those leaving poverty re-enter after the first year of non-poverty, and the conditional probability of *re-entering* poverty declines with duration in non-poverty (same sources as **Error! Reference source not found.**). This

seems consistent with the distance problem where poverty exits remain close to the poverty line.

Table 2: Percentage of poor remaining poor conditional on T years of poverty

	Absolute		0.5*median income			0.5*mean inc	Poorest quintile
T years poverty	USA	UK	Neth'lds	Germany	Canada	Hungary	Poland
1	47	50	32	45	56	34	60
2	64	59	63	69	59	100	72
3	73	66	75	65	61	27	78
4	77	78	80	60	65	57	
5	81	87	92	58		88	
6	84	70	91	100			
7	85		100	71			
8	87		100	100			
9	88						
10	89						

Note. Percentages derived from indicated sources.
Sources. *Canada*: Antolin et al. (1999), *Hungary*: Braithwaite (2001), *Neth'ds and Germany*: Muffels et al. (1999); *Poland*: Okrasa (1999); *UK*: Devicienti (2001); *USA*: Stevens (1994);

Frequently cited reasons for poverty path dependency include physical asset depletion, even if this is not as statistically well demonstrated as might be presumed. Dercon (1998) and Carter & May (2001) argued asset-based 'poverty traps' exist – facing imperfect financial markets, more investment is self-financed, but smoothing income fluctuations repeatedly depletes savings, and so the poor cannot undertake economic activities leading to accumulation, and hence face low growth. This view is consistent with evidence on economic insecurity amongst the poor, presented earlier. Less cited as a cause of path dependency is that poverty duration may also erode physical vitality (e.g. Bidinger et al. 1991 on morbidity in India) and skills (e.g. Rutkowski 2001 on unemployment path dependency in Hungary).

Some path dependency could be due to welfare-generating characteristics that we cannot observe. In this view **Error! Reference source not found.** indicates a sorting process, so over time only the less able, motivated and resilient remain poor, assuming these are the unobserved welfare-generating characteristics. The extent of this is important to know because income gain at a particular time will not lower the chances of future poverty if the unobserved factors remain unchanged. Cappellari & Jenkins (2002) estimated unobserved

heterogeneity accounts for about 40 percent of path dependency in Britain – Giraldo et al. (2001) argued that once the evolution of unobserved heterogeneity is also accounted for, all path dependency in Italy is due to such characteristics. Obviously such estimates really just measure shortcomings in our explanations of poverty, posing the seemingly impossible research problem of identifying unobserved poverty culprits. Possibly many such unobserved poverty culprits result from prior duration in poverty, perhaps as permanent biological damage or behavioural adaptations, and if so, seem approachable only with fuller knowledge of life experiences. This issue is raised later to contrast 'lifefull models' with 'lifeless models' of chronic poverty.

Correlates of chronic poverty: lifeless models

Research towards explaining chronic poverty correlate household socioeconomic characteristics to one of five mobility concepts: 1/ changes in absolute welfare levels, 2/ shortfalls below the absolute poverty line in intertemporal-mean welfare, 3/ duration in absolute poverty, 4/ exit chances from absolute poverty, 5/ exit chances from relative poverty. **Error! Reference source not found.** lists multivariate models of mobility, covering 27 discrete samples in 21 countries.

Table 3: Summary of models identifying mobility correlates

Type	*Study*	*Sample*	Mobility concept	Country	Period	N waves	N hhlds	Indicator	Source
1	1	1	Change in levels	Chile, rural	1968-86	2	146	Income per capita	Scott & Litchfield 94
	2	2	Change in levels	China, rural	1987-97	10	3100	Income per prime age	Giles 02
	3	3	Change in levels	Côte d'Ivoire, rural	1987-88	2	250+	Exp per capita	Grootaert et al. 97
		4	Change in levels	Côte d'Ivoire, urban	1987-88	2	250+	Exp per capita	Grootaert et al. 97
	4	5	Change in levels	El Salvador, rural	1995-97	2	489	Income per capita	Conning et al. 00
	5		Change in levels	El Salvador, rural	1995-97	2	494	Income per household	Sanfeliu & Vega 00
	6	6	Change in levels	Ethiopia, rural	1994-95	2	1411	Exp per capita	Dercon & Krishnan 00
	7	7	Change in levels	India, Bombay slum	1987-92	2	220	Earnings of hhld head	Swaminathan 97
	8	8	Change in levels	India, rural cultivating hhold	1975-83	9	873	Income per capita	Gaiha & Deolalikar 93
		9	Change in levels	India, rural non-cultivating hh	1975-83	9	657	Income per capita	Gaiha & Deolalikar 93
	9	10	Change in levels	Indonesia, rural	1993-97	2	6768	Income per capita	Fields et al. 01
	10	11	Change in levels	Indonesia, rural	1997-98	2	8141	Exp per capita	Skoufias et al. 99
	11	12	Change in levels	Mexico, rural ejido	1994-97	2	1017	Income per hhld	Davies et al. 99
	12	13	Change in levels	Peru, Lima	1985-90	2	699	Cons per cap	Glewwe & Hall 98
	13	14	Change in levels	Poland	1995-96	2	4919	Exp equivlsd	Okrasa 99b
	14	15	Change in levels	Russia	1994-98	2	2390	Exp per capita	Jovanovic 00
	15	16	Change in levels	South Africa, KZ-N non-white	1993-98	2	1393	Exp per capita	Maluccio et al. 00
	16		Change in levels	South Africa, KZ-N non-white	1993-98	2	1003	Income per capita	Fields et al. 01
	17	17	Change in levels	South Korea	1994-98	5	3000+	Exp per capita	Goh et al. 01
	18	18	Change in levels	Venezuela	1997-98	2	7747	Income per capita	Freije 00
	19	19	Change in levels	Zimbabwe, rural	1994-97	4	320+	Net crop income hhld	Owens & Hoddinott 98
2	20	20	Intertemporal-mean shortfall	China, rural	1985-90	6	5854	Cons per capita	Jalan & Ravallion 99
	21	21	Intertemporal-mean shortfall	Egypt	1997-99	2	346	Exp per capita	Haddad & Ahmed 02
3	22	22	Status: 4yrs poor or not	Hungary	1992-97	6	1800+	Income equivlsd	World Bank 01
			Number years poor	Poland	1993-96	4	4919	Exp equivlsd	Okrasa 99b
4	23	23	Exit abs pov	Madagascar, Antananarivo	1997-99	3	1249	Income per hhld	Herrera & Roubaud 01
	24	24	Exit abs pov	Pakistan, rural	1986-90	5	686	Income per capita	Baulch & McCulloch 98
	25	25	Exit abs pov	Peru	1997-98	2	3100	Exp per hhld	Herrera 01b
			Exit abs pov	Poland	1993-96	4	4919	Exp equivlsd	Okrasa 99b
			Exit abs pov	Venezuela	1997-98	2	7747	Income per capita	Freije 00
			Move to richer income band	Chile, rural	1968-86	2	146	Income per capita	Scott & Litchfield 94
5	26	26	Move to richer decile	Malaysia	1967-76	2	1000+	Male head earnings	Trzcinski & Randolph 91
	27		Change rank	Mexico, rural ejido	1994-97	2	1046	Income per hhld	Lanjouw 98
			Exit poorest quintile	Venezuela	1997-98	2	7747	Income per capita	Freije 00
	28	27	Exit p'rst 40% to r'chst 40%	Vietnam	1992-97	2	4305	Exp per capita	Haughton et al. 01

Four methodological points are noted. The first borrows from macroeconomic growth literature, which has a similar motivation, only a different unit of analysis. Many country characteristics have been correlated to macroeconomic growth, but the problem is that "variable x_1 will soon be found to be significant when the regression includes variables x_2 and x_3, but it becomes nonsignificant when x_4 is included" (Sala-i-Martin 1997, p.178). Generally studies do not subject mobility correlates to robustness checks, say of the sort suggested in macroeconomic growth literature. Second, type 1 studies assume mobility is symmetric, i.e. identical correlation with upward mobility as downward mobility. Study types 4 and 5 model also the chances of *entry* into poverty and sometimes show different effect sizes to those for poverty exit. Third, generally studies assume linearity, i.e. identical effects throughout the distribution. Yet Baulch & McCulloch (1998), for example, find education to be non-significant at lower poverty lines, and Gaiha & Deolalikar (1993) find that several 'squared variables' have statistically significant effects in their models.

Fourth, and most importantly, the emphasis on individuals and households in microlongitudinal data risks insufficient attention to broader societal processes, such as the distribution of socioeconomic opportunities. Aggregate economic growth reduces poverty only where it outpaces inequality, but inequality rises whenever it outpaces economic mobility (because mobility, by sharing over time prosperous and hardship years, reduces inequality). Growth, inequality, and CRP all determine CAP. Notice the issue is one of relative pace in each of the quantities. Thus "*increased* yearly inequality must be offset by a sufficiently large *increase* in mobility… extent of mobility is irrelevant to changes in inequality" (Gottschalk & Danziger 1997, p.7). Statistical correlations between mobility, inequality, growth, and poverty, remain largely unknown.[9]

To attempt a summary, first I listed all socioeconomic characteristics included as regressors in mobility models, as well as their direction of effect and statistical significance. Second a simple 'vote counting method' tallied the number of discrete samples in which a socioeconomic characteristic showed a statistically significant correlation with upward mobility (i.e. an effect on mobility different from zero at the five percent level). Vote counting was done across discrete samples rather than models to avoid double counting. Inconsistent significant correlations across models arose only once in which case the model with the greater number of controls was selected for the vote.

Vote counting has recognized limitations as a meta-analytic method because it wastes statistical information (Hunter & Schmidt 1990; Bushman 1994). It is biased towards studies with large samples detecting small effect sizes, and so variations in sample sizes across studies may cause erroneous conclusions. The studies in this review with sample sizes below 400 did not report markedly unusual significant results. A 'publication bias' towards reporting 'significant' results might be assumed, in which case votes for 'not significantly

different from zero' would be attenuated. Moreover, the focus on significance ignores the important issue of effect sizes.

Table 4: Correlates of upward mobility, vote counting across 27 study samples

		Positive significant	Negative significant	Not significantly different from zero	Not included	Total samples
1 Spatial	Provincial effects?	Sig effects in	12 samples	5	10	27
2 Regression to mean	Base-yr inc level. If poorest 20%? Num yrs poor.	0	10	1	16	27
3 Household type	Age hh head	6	2	10	9	27
	Household size	4	6	3	14	27
	Rise household size	2	5	2	18	27
	Num dependents	3	12	4	8	27
	More dependents	2	8	1	16	27
	Female hh head	3	3	10	11	27
4 Human capital	Hhold educ, head's and total	12	0	9	6	27
	More education	3	1	4	19	27
5 Physical capital	Land	9	0	3	15	27
	Gained land	6	0	3	18	27

Source. Same as **Error! Reference source not found.**.

Table 4 shows that characteristics associated with upward mobility fall into four types: 1/ spatial (e.g. province, urban, proximity to market), 2/ demographics and household type (e.g. household size, age structure, sex, race), 3/ human capital and labor (e.g. education, health, labor experience, economic sector), and 4/ physical assets (e.g. land, livestock, housing etc.). Two observations immediately occur. First, socioeconomic correlates of mobility obtained from longitudinal data do not differ markedly from poverty correlates identified from cross-sectional data. Such poverty correlates have been obtained from multivariate regressions of welfare levels or 'poor/ nonpoor' status estimated on cross-sectional data. The point is shown in Annex 1. Second, developing country mobility correlates are broadly similar to those found in affluent countries, as discussed below.

Births, deaths, ageing and age-dependency correlate with mobility. Household age structure had mobility effects consistent with long held views about age-profiles for poverty, income and wealth in developing and affluent countries (e.g. Kearl & Pope 1983; Lipton 1983).[10] In developing country models, generally, household formation is simplified to female headship (statistically insignificant). In affluent countries it is treated as a major issue, possibly

triggering as much as 40 percent of poverty spells (e.g. Bane & Ellwood 1986; Cantó-Sánchez 1996; Jenkins 2000). That household formation is not more prominent in developing countries is surprising given long-standing poverty literature regarding complex-households, household splits, child fostering and polygamy (e.g. van Schendel 1982; Serra 1997; Magnani, Bertrand, Makani & McDonald 1995). "(F)or many women becoming a mother is a greater disposing factor to poverty than gender alone… a non-contributing father in any household type is among the most severe welfare risks mothers and children face" (Bruce & Lloyd 1997, p.221).

Higher levels of household human and physical capital, and gains in these over time, correlate with upward mobility. Notably several models showed *insignificant* correlations – generally the signs of the coefficients were in the expected direction, but apparently their effect sizes were too small (if not zero). In Indonesia, South Africa, Spain and Venezuela, Fields, Cichello, Freije, Menendez & Newhouse (2001b) found that the proportion of variance in income growth that was explained by education of household head was low. Credentialist selection in the labor market might mean that, to some extent, upward mobility requires not only being better educated, but also better educated *relative to others*. Even for affluent countries, with presumably more efficient labor markets, a hierarchy of school certificates is argued to correspond to hierarchically organized labor markets (Kivinen & Silvennoinen 2002). Qualitative variations – not normally included in mobility models – might explain why greater public investment in education has not always led to greater equality and mobility, e.g. Hanushek and Lavy (1994) on Egypt, and Handa (1996) on Jamaica.

Spatial correlates of socioeconomic mobility seem to exist in the form of provincial effects and pro-urban bias. Spatial variations in public provisioning of services, like health, education and communication, certainly exist in affluent and developing countries. Interestingly domestic migration had ambiguous effects on socioeconomic mobility in El Salvador (Sanfeliu & Gonzalez-Vega 2000), India (Drèze et al. 1992), and Malaysia

(Trzcinski & Randolph 1991). Relating to the poverty of others, 'neighborhood effects' and 'peer effects' have been found (e.g. Handa, Huerta, Perez & Straffon 2001 on Mexico; Hanushek, Kain, Markman & Rivkin 2001 on USA; McCulloch & Joshi 2001 on Britain). Datcher (1982) found community characteristics were at least as important as personal characteristics in explaining the lower achievements of blacks relative to whites in the USA.

Explanations of chronic poverty: reversibility, timeframes and relevance

Lifefull and lifeless approaches differ in their treatment of three important issues: reversibility, timeframes and relevance. The usefulness of any explanation of poverty lies in showing how poverty can be reversed. The distinction between transitory and chronic poverty conveniently implies reversibility. Transitory poverty reverses because it is just turbulence in the welfare trajectory due to the vicissitudes of life.[11] In contrast, it is not so obvious how chronic poverty is reversible. Its very chronicity might imply reversible and irreversible forms.

The reversibility of chronic poverty lies in the *variability through time* of 'levels' and 'distribution' of welfare-generating characteristics, and the 'welfare-returns' to those characteristics. In affluent countries, genetics is openly discussed – and hotly contested – as influencing welfare-generating characteristics (e.g. Bowles & Gintis 2001; Ceci & Williams 1999), *especially* with regard to explaining chronic poverty. This stands in contrast to developing country poverty literature where it is basically absent. Lifefull research, and much less lifeless research, can hope to tackle directly the threat to antipoverty commitments posed by genetic determinism, by properly situating within life experiences welfare-generating characteristics, and perhaps to some extent the welfare-returns obtained from them.[12]

Simple (genetically determined) characteristics, like sex and race, are intrinsically time-invariant, and only their welfare-returns can vary. The real argument lies over complex

human characteristics, like ability, not only in terms of whether genes determine them, but also how socioeconomic environmental factors alter the effect that genetics have on characteristics. An obvious concern is that poverty – as opposed to genes – may *permanently* damage the potential for welfare-generating characteristics. For example, wide ranging evidence shows that childhood is foundational for lifetime characteristics in cognition, physical vitality and personality, and this is traced to specific behavioural and non-genetic biological mechanisms (Yaqub 2002). As people reach biological maturity, alterations to their developmental trajectories rely increasingly on alterations in behavioural relationships. Adults develop and respond to life experiences, e.g. Osmani (1992) on physiological adaptations, Jovanovic & Nyarko (1997) on acquired expertise in farming, Sen (1997) on effects of long-term unemployment, and Olson & Schober (1993) on the 'satisfaction paradox' observed amongst people that are *objectively* poor. Admittedly even childhood research could drive over-deterministic conclusions (e.g. *all* poor children become poor adults). Avoiding such conclusions requires close inspection of life events to reveal how people specifically resist or reverse damage from poverty, either during childhood or later as adults (Yaqub 2002).

A second issue is about reversing chronic poverty within acceptable timeframes, and at least *within lifetimes of sufferers*. Shortened lives from prolonged exposure to poverty reduce the numbers of poor, and so chronic poverty solves itself. Shortened lives may also reverse the chronic poverty of those living, say by lowering household age-dependency (a poverty correlate in lifeless models). Obviously death should count as policy failure, and yet, our temporal poverty measures – especially chronic incidence, presented in Table 1 – are insensitive to our aversion to these patently perverse reversals arising from the failure to solve chronic poverty within relevant lifetimes. Lifeless explanations usefully list characteristics that correlate with welfare changes, but we also need to understand timeframes for poverty reversals. Even if the most important welfare-generating characteristics are in principle time-variable, practical policy-levers to affect change may be

lacking or weak – for instance, the proven antipoverty link to land contrasted with practical difficulties in its redistribution (e.g. IFAD 2001). Where poverty proves difficult to reverse within relevant lifetimes, its prevention at critical points in the life-course may be a cost-effective alternative.

A third issue relates to making relevant changes. Improving the welfare-returns to a characteristic may not be welfare equivalent to enhancing the characteristic itself. Moreover the two are differently time-variant. For example, increasing rewards to unskilled laboring seems easier than skilling unskilled laborers, and presumably has different implications for the lives enjoyed. The difference between chronic absolute poverty in affluent countries and that in developing countries is less stark – though still unequal – if we shift the poverty concept from materialism to, more fundamentally, human functionings. This point was clarified by an exchange between Amartya Sen (1983 and 1985) and Peter Townsend (1985) on welfare valuations of absolute and relative poverty, in the commodity space versus the capabilities space. Human functionings generate material gain, but are enjoyed intrinsically. In what sense is the life of a laborer in Bangladesh truly different to the life of a laborer in Britain? Such considerations should complicate not only our understanding of historical absolute chronic poverty apparently 'eliminated' by country affluence, but also our explanations of that process in developing countries. It might, for example, question additional lifetime demands made on chronically poor people by proposed solutions, say in terms of working longer, more efficiently, and more intensively. Explanations of poverty should therefore be relevant to evolving development of individual functionings throughout a life.

The explanatory potential of a life-course approach is implied by welfare correlations: 1/ between offspring and parents, and 2/ between siblings. Both correlate a person's welfare with a highly reductive indicator of their prior life (in the form of the welfare of people that shared that background). Table 5 shows intergenerational and sibling correlations in

earnings, status, and wealth. These can be 'large', especially when long-run measures are used, although a lot of interpersonal welfare variance remains unexplained and regression to the mean exists. Earnings advantages implied by contemporary intergenerational correlations in Britain, for example, are comparable to advantages gained through tertiary education (O'Neill and Sweetman 1995).

Table 5: Intergenerational and sibling correlations in affluent countries

			Short-run		Long-run		Lifetime	
			R-sqr	Elasticity	R-sqr	Elasticity	R-sqr	Elasticity
Canada	Son-father	Earnings		0.11		0.13		
Canada	Son-father	Income		0.15		0.19		
Finland	Son-father	Earnings			0.22			
Germany	Dtr-mother	Earnings	-0.07			-0.05		
Germany	Son-father	Earnings	0.12			0.11		
Norway	Son-father	Income	0.11	0.14				
Sweden	Son-father	Earnings			0.17 - 0.23	0.216 - 0.28		
Sweden	Son-father	Income			0.19 - 0.29	0.24 - 0.36		
UK	Dtr-father	Earnings		0.35		0.47 - 0.68		
UK	Ofpg-parent	Income		0.23 - 0.38				
UK	Son-father	Earnings		0.24		0.43 - 0.57		
USA	Dtr-mother	Earnings	0.14			0.12		
USA	Ofpg-parent	Wealth					0.25	0.76
USA	Son-father	Earnings	0.15 - 0.20	0.23 - 0.43	0.26 - 0.41	0.13 - 0.54		0.41
USA	Son-father	Socec status	0.08	0.32 - 0.36	0.07	0.33 - 0.46		0.47
USA	Brothers	Earnings		0.24		0.40 - 0.60		0.63
USA	Brothers	Socec status				0.44 - 0.51		0.50

Note. Short-run correlations refer to single year measures of welfare. Long-run correlations rely on different methods, viz. inter-temporal mean, instrumental variables, predicted values, and error autoregression (AR1), used to obtain long-run welfare measures - see sources for details. The elasticity refers to the proportionate change in the offspring measure for a proportionate change in the parental measure.
Source. Atkinson et al. (1983); Björklund & Jäntti (1997); Jäntti & Österbacka for Finland (in Björklund & Jäntti 2000); Corak & Heisz (1998); Couch & Dunn (1997); Dearden et al. (1997); Lillard & Reville (1997); Menchik (1979); Soltow for Norway (in Atkinson et al. 1983); Zimmerman (1992)

Intergenerational and sibling correlations are few for developing countries. Child laboring in Egypt is intergenerationally correlated, especially maternally (Wahba 2001). Walker & Ryan (1990) found that up to 35 percent of variance in household incomes can be explained by just *parental* characteristics and inheritances at the time of household formation. Intergenerational occupational persistence is shown in China (Cheung 1998), Russia (Sabirianova 2000), Philippines (Fuwa 1999), India (Krishna & Pattnaik 1997; Drèze et al. 1992), Hungary (Ferge 1987), and South Korea, Japan, and Taiwan (Yun 1994). Depending on offspring-parent pair, intergenerational correlations in schooling years were between 0.31 and 0.42 in South Africa (Burns 2000), and 0.10 to 0.12 in Hungary and 0.09 to 0.14 in

Russia (Gang 1996). In Nigeria, Sierra Leone and Zimbabwe an offspring was up to seven times as likely to attain at least secondary education if also the father had at least secondary education (Peil 1990). In Brazil (Duryea 1998), Guinea (Glick & Sahn 2000), Mexico (Binder 1998), and the Philippines (Bouis, Palabrica-Costello, Solon, Westbrook & Limbo 1998) offspring education attainments were correlated with parental education, after controlling for other characteristics including family income. Interestingly for reversibility, in Brazil, parental education did not explain the 'value-added' obtained by those repeating a school year (Gomes-Neto & Hanushek 1994). Sibling correlations in schooling ranged between 0.35 and 0.60 in 17 developing countries, as compared to 0.20 for the USA (Dahan & Gaviria 1999; El Khoury 2001).

Conclusion

Poverty is unequally shared over time, i.e. chronic poverty exists – why? Longitudinal datasets tracking households reveal three patterns of mobility amongst the poor. First transitory fluctuations cause economic insecurity. Second those escaping poverty remain close to the poverty line. Third the chances of escaping poverty depends on its duration. Microlongitudinal data also show that certain socioeconomic characteristics correlate with chronic poverty. This suggests chronic poverty is spatially concentrated, affected by household demographic structure and formation, and depends on access to human capital, labor markets and physical assets. Many of these correlates of poverty were already deduced from cross-sectional data. The literature does not allow these two aspects – patterns and correlates – to be combined to explain processes underlying chronic poverty.

Explanations of chronic poverty, to be useful, need to identify how chronic poverty is reversed, and if they exist, critical points in lifetimes when it can be reversed or prevented. Reversals need to be timely, at least to protect longevity from prolonged exposure to poverty, and there should result developmental impacts in functionings relevant to people's

lives. On these counts – reversibility, timeframes and relevance – the paper develops the view that explanations of chronic poverty need to move from current lifeless frameworks towards those modeling more closely harmful life experiences. Lifeless models usefully show correlations between different welfare characteristics, many of which merely represent 'fossilized' events experienced perhaps *before birth*. As explanations of chronic poverty, therefore, they do not reveal what amongst those lifetime experiences can be thought of as 'casual to', 'causal to', or 'caused by' chronic poverty.

Early microlongitudinal research in affluent countries, some initiated a century ago (Elder & Johnson 2000), were similarly lifeless. Approaches that emerged subsequently have shared some common features and assumptions (Bynner 2001; Benson 2001). Lives are viewed as trajectories, or serially linked states, operating in interconnected domains of work, family, etc.. Trajectories include transitions across biologically and socially determined 'life-stages' that condition the sequencing of various events. Thus the developmental impact of events are contingent on their timing in life. Studies emphasize interdependency of lives and the influences of historical context. Important issues of individual agency and constraints are included.

Clearly not everything can be borrowed from this affluent country literature. For example, a theme in life-course research in affluent countries is adult implications of heterogeneous transitions into and out of adolescence, a life-stage that is hardly as well defined in developing countries. Nevertheless arguably lives in developing countries have a regularity eroded in affluent countries by expanding choices: "As modernization continues in North America and Europe life-course arrangements are becoming more dynamic, less standardized and more self-directed. In consequence, modern life-course analysis questions to what extent biographies have lost their determining frames that used to be social origin, gender, age and ethnicity, and highlights how the shaping by structural forces shifts to social

processes of negotiation between the person, social networks, opportunity structures and institutions" (Heinz & Krüger 2001).

The general importance of seeking poverty explanations cognizant of life experiences is probably easily accepted. The difficulty is implementation in data scarce contexts. Some existing quantitative microlongitudinal data might be used more intensively.[13] Sibling correlations can be estimated without longitudinal data, and retrospective data could be used especially for non-pecuniary intergenerational correlations. Qualitative research shows that the poor, whilst always attaching importance to materialism in defining poverty, tend to focus on the content and chronology of their life experiences. Yet, existing qualitative research could be more valuable with different research motivations. "What distinguishes the anthropological approach is sustained attention to both subtleties of meaning and belief (the *emic*) and patterns of observed behaviour and events (the *etic*)… what anthropological and other contextual methods have to contribute to the understanding of poverty is currently expressed too much as a contribution to *emic* understanding and not enough as an alternative perspective on *etic* issues and on the critical interface between *emic* and *etic*" (Booth, Leach & Tierney 1999). Interest in combining quantitative and qualitative analysis has been largely towards verification of poverty measurements and consistency in monitoring (e.g. discussions over triangulation, etc.) and less towards combined methodology on questions relevant to life-course research (Bardhan 1989; Yaqub 2000).

Conventional advice to developing countries on antipoverty can be characterized as pursing 'social market democracies', following those found to varying strengths in affluent countries. At the same time, the chronicity of poverty shows similarities in patterns and correlates at the micro-level in both rich and poor country contexts. If the apparent promise of 'poverty amongst plenty' is to be avoided as countries develop, I feel poverty explanations must incorporate specific harmful experiences as people continuously develop, maintain and face declining functionings throughout life.

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Annex 1: Socioeconomic correlates of poverty from cross-sectional data

	Brazil	Colombia	Ecuador	Guatemala	Kyrgyz	Mongolia	Hungary	Madagascar, rural	Lesotho
Urban	Not incl	Not incl	Not incl	-	-	-	Not incl	Not incl	-
Female headship	+	+	Not sig.	Not sig.	Not sig.	+	+	+	Not sig.
Educated hhold head	-	-	-	-	Not sig.	-	-	-	-
Livestock ownership	Not incl	Not incl	Not sig.	Not incl	Not incl	-	Not incl	Not incl	Not incl
Employed hhold head	-	Not incl	Not incl	-	-	-	-	-	Not incl
Land ownership	Not incl	Not incl	-	Not incl	Not incl	Not incl	Not incl	-	-
Hhold size	+	Not sig.	Not incl	Not sig.	+	-	+	+	Not sig.
Older hhold head	-	-	Not incl	-	+	Not incl	-	Not incl	+

Note. + raises and – lowers chances of poverty in multivariate regression models.
Source. World Bank poverty assessments.

Endnotes

[1] I calculated these percentages from Gaiha and Deolalikar (1993), Baulch and Hoddinott (2000), Baulch and McCulloch (1999) and McCulloch and Calandrino (2002). They gave population distributions by duration in poverty. They used country-specific poverty lines defined for nutritional adequacy. I ignored the problem of censored observation.
[2] See endnote 1. Poverty distributions were from Devicienti (2001) and Rodgers and Rodgers (1993).
[3] Britain's monarch, Queen Elizabeth II, described her experience of 1992 as *annus horribilus* saying it "is not a year I shall look back on with undiluted pleasure". On subjective welfare see, for example, Graham and Pettinato (2001) and Speder (2001).
[4] Where the sample is observed only twice, a transition matrix shows poverty duration by cross-tabulating welfare status in base and terminal years. A problem of censored observation remains. This can addressed statistically if datasets are sufficiently longitudinal (e.g. Muffels et al. 1999). To estimate the permanent component, averaging over time is a simple method (e.g. Jalan and Ravallion 1998) – in this intertemporal transactions costs can be included (e.g. Rodgers and Rodgers 1993). Alternatively the permanent component could be 'predicted' from its theoretically supposed correlates, such as education, and with longitudinal data, 'fixed effects' from unobservable characteristics, like diligence, can be controlled (e.g. Gaiha and Deolalikar 1993). Alternatively the permanent component could be estimated by modeling serial correlation (e.g. Benjamin et al. 2002).
[5] For example, in Gaiha and Deolalikar (1993), only one-third of those chronically poor using the shortfall approach were classified poor all nine years of the panel. Similar inconsistent classifications appear in Baulch and McCulloch (1999) and Dercon and Krishnan (2000).
[6] See Dercon and Krishnan (2000); Gibson, Huang and Rozell (2002); Gibson (2002); Jalan and Ravallion (1998); McCulloch and Baulch (2000).
[7] Haddad and Ahmed (2002) found no attrition bias in the Egyptian panel. Though concluding similarly for the South African panel, Alderman et al. (2000) suggested attrition be evaluated for the particular model and variables being studied (they were not studying chronic poverty). Cappellari and Jenkins (2002) found attrition affected chronic poverty estimates for Britain, as did Giraldo, Rettore and Trivellato (2001) for Italy.
[8] Notice, if measurement errors are random over time for each household, they would sum to zero over time, leaving chronic poverty estimates from the shortfall approach unaffected. Glewwe and Nguyen (2002) calculate half the mobility in household expenditures, observed in the Vietnam panel, was an artifact of measurement error – large magnitudes were estimated for the Russian and Polish panels (Luttmer 2000) and the Indonesian panel (Pritchett et al. 2000).
[9] Aaberge et al. [1999] found no association between inequality and income mobility across the USA, Denmark, Norway and Sweden, and Björklund and Jäntti [1997] found no link between intergenerational mobility and inequality when comparing Sweden and the USA.
[10] See Scott (2000) for a discussion of a (small sample, N=146) case where life-cycle effects were *not* found.
[11] It is not, however, fully idiosyncratic. People differ systematically in their exposure, vulnerability, 'aversion to' and 'protection from' welfare-damaging fluctuations (Sinha et al. 2002). These determine the distribution over time of prevailing transitory poverty. Moss (1998) showed how historically governments in the USA played a pivotal role to not only lower, but also redistribute, private risk for business (pre-1900), workers (1900-1960s) and households (post-1960s).
[12] I am not claiming genetic determinism, but just that the issue demands explicit attention, since it clearly diminishes commitments to antipoverty. Many understand the chronicity of poverty as due to people *innately* lacking welfare-generating characteristics. Similar ideas existed in earlier developing country literature, c.f. Neil

Smelser and Talcott Parsons, but unsurprisingly the 'modernizing man' eluded concrete definition and was dropped. Often the poor are claimed to form an underclass that dynastically transmits poverty, genetically and otherwise. I note that even moderate positions acknowledge some genetic determinism, at least when chronic poverty is evaluated subjectively – 'pessimistic Pradeep' contrasted with 'optimistic Omar'. Against all this is the fact that humans are over 99 percent genetically identical and the largest differences are intra-African, since that is where all our ancestors are argued to have originated (Crow 2002; Diamond 1999). For policy relevance, ethical questions over genetic manipulations are just being explored in the face of recent technological breakthroughs (Bris 2001).

[13] Microlongitudinal data exist for Brazil (Neri et al. 1999), Bangladesh 1996–97 (Quisumbing 2002), Burkina Faso 1982–1985 (Reardon, Delgado & Matlon 1992), Indonesia 1993-97 (Field et al. 2001), Kenya 1984–87 (Kennedy 1992), Mali 1997–98 (Christiaensen & Boisvert 2000), and the Philippines 1997–98 (Chaudhuri & Datt 2001), but I could not find chronic poverty incidences using these datasets.