

DRAFT – NOT FOR CITATION

Poverty dynamics and migration by core and dynasty households in KwaZulu-Natal

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ABSTRACT

The existence of intergenerational transmission of poverty, where children born to people in poverty may be susceptible to persistent poverty (Moore, 2004), prevents poverty-alleviation strategies from being devised by individuals or households. One such household strategy to deal with poverty is migration.

Migration is however an extremely complex phenomenon. The literature agrees that migration is multifaceted and that it cannot therefore be explained by a single theory (Boyle et al., 1998; Arango, 2000; Kok et al., 2003). The new economics of migration theory recognises individual migration as a *household* decision that forms part of a risk-management strategy aimed at income diversification (Greenwood, 1985; Bilsborrow et al., 1987; Lauby and Stark, 1988; Junming, 1997; Arango, 2000; Kok et al., 2003). The “general model of migration decision-making” developed by De Jong (2000) emphasises the importance of family networks and also of family migration norms as being important influences on a household’s decision to migrate. Past migration patterns and migration networks moreover reduce the cost of migration, thereby increasing the likelihood of migration.

The link between migration and poverty is also complex and moreover dependent on the specific circumstances in which migration takes place (DFID, 2007). Since many households use migration in an attempt to improve their economic situation, migration has the potential to support the achievement of policy objectives aimed at alleviating and

eradicating poverty. Unfortunately, poverty (and vulnerability) have two conflicting effects on migration: while poverty creates an incentive to migrate, it also decreases the ability to migrate (Waddington, 2003). Since the option of migration is not always available to all poor households, especially the chronically poor, research is required to disentangle the links between internal migration and poverty.

The aim of this paper is to investigate the impact of migration in core and dynasty households on poverty in dynasty households.

KEYWORDS

Poverty; Migration; Inter-generational transmission

JEL CLASSIFICATIONS

I32 – Measurement and Analysis of Poverty

D64 – Intergenerational Transfers

R23 – Regional Migration

1. Introduction

2. Data and method

This paper uses the KwaZulu-Natal Income Dynamics Study (KIDS) data to investigate the impact of migration on poverty in dynasty households¹. KIDS is a longitudinal study that followed a random sample of individuals who were living in KwaZulu-Natal (KZN) in 1993 (KIDS overview, 2005). Those individuals interviewed in the 1993 wave of the study – known as the Project for Statistics on Living Standards and Development (PSLSD) – were re-interviewed in 1998 and then again in 2004. Because the KZN population comprises largely Africans (85%) and Indians (12%), whites and coloureds were excluded from both the 1998 and the 2004 samples (despite their originally having been included in the 1993 PSLSD). In 1993, a total of 1558 African and Indian households were interviewed. In 1998, all the core members of the African and Indian households originally interviewed in 1993 were again interviewed, including tracking those who had moved outside KwaZulu-Natal. KIDS was able to re-interview 1212 of these in 1998. Due to aging and the effect of HIV/AIDS on these core members, the 2004 wave of the study also interviewed the so-called next-generation households (new households formed by the sons and daughters of the 1993 core members) and also the foster-children households of the 1993 core household members. This was done to refresh the panel and for research purposes, i.e. to establish a generational transition (KIDS, 2006). This 2004 data sample comprised 1426 households and included 865 *core* households, 319 *next-generation* households, 193 *foster-child* households and 49 *extinct core death* households (who are excluded from the analyses).

To compile the household-level data, the *core* and *dynasty* households were identified. For the purposes of this paper, both next-generation and foster-child households are

¹ A household member is defined as an individual who (i) has lived under this “roof” or within the same compound/homestead/stand for 15 days or longer in the past year; (ii) has shared food from a common source while they were there; and (iii) shared in or contributed to a common resource pool. The KIDS definition of a household therefore makes provision for the inclusion of non-resident members.

combined within the *dynasty household* category to represent the younger generation split-offs of the original core households. A panel data set was created by linking the 1993 core households, the 1998 core households and the 2004 core households that were linked to the cross-section data for the 2004 dynasty households. The focus of this paper is on core dynamics and their link with poverty in dynasty households. Therefore, only core households with split-off dynasty households were included in the analysis. By linking these dynasty households to their core counterparts, one is able to investigate core migration and -poverty dynamics as explanations for poverty in dynasty households.

Internal migration involves the movement of a person or household across defined boundaries for a specified period of time, or as Kok et al. (2003:7) put it, as a change of residence, accompanied by crossing one of the boundaries of a migration-defining area. For the purpose of this paper, a household was identified as migratory if that household, during the preceding five-year period, had moved out of the community they lived in at the time of the previous survey. The specific question used to identify migratory households in the 2004 survey was: "Is this household in the same community as 1998?" The migratory move by a household may have occurred in any of the preceding five-year periods under consideration, that is, 1993 to 1998 (for the 1998 survey) or 1998 to 2004 (for the 2004 survey). Since this migration question was only asked in the 1998 and 2004 questionnaires and not in the original 1993 PSLSD questionnaire, migration was only observed twice for core households and once for dynasty households. Migration, importantly, does not refer to the movement of core household members to new dynasty households.

Since migration may be seen as a risk-diversification strategy that households use in an attempt to escape poverty, this paper explores the link between migration in core and dynasty households and the headcount, depth and severity of poverty in dynasty households. To establish the levels of poverty, this paper uses poverty lines based on adult

equivalence household sizes². Household expenditure is regarded as more stable over time than household income and therefore a better indicator to use for poverty comparisons (Ravallion, 1994: 15 & 81). This paper therefore uses household expenditure as determinant of stable household income. The poverty line used is an amount of R250 per person per month (2000 prices). Van der Berg and Louw (2004) also used this poverty line in a study focusing on the 1995 and the 2000 South African Income and Expenditure Surveys (IES). The monthly poverty line of R250 per person per month was adjusted for inflation by using the annual Consumer Price Index (CPI) published by Statistics South Africa. In this way, a 2004 monthly poverty line of R310 per person was calculated. The same index was used to calculate the respective poverty lines for 1993 and 1998 of R153.00 and R225.50 per person per month. The paper uses adult equivalent household sizes in conjunction with the individual poverty lines to calculate the household poverty lines. Based on these poverty lines, the *Foster Greer Thorbecke* (FGT) measures of poverty (i.e. headcount, depth and severity of poverty) were calculated for each household. The FGT measures of poverty are represented by the following equation:

$$P_{\alpha} = \frac{1}{n} \sum_{i=1}^q \left(\frac{z - y_i}{z} \right)^{\alpha}$$

, where: z represents the chosen poverty line, y_i represents the standard of living indicator for the i^{th} household, and n represents the population size. The headcount poverty (FGT=0) is measured when $\alpha = 0$, the poverty gap (FGT=1) is measured when $\alpha = 1$, and last, the squared poverty gap (FGT=2) when $\alpha=2$. The poverty gap measures the depth of poverty, i.e. how far the household lies below the chosen poverty line, while the squared poverty gap is an indication of the severity of poverty experienced by the household, i.e. it reflects the distribution of poverty below the poverty line. To determine the robustness of the poverty measures, poverty dominance measures were employed. In this way, different percentages of the R250 per person per month were used as a

² Adult equivalent household sizes are determined by calculating the number of adults and adding 50% (0.5) times the number of children younger than 15 years of age (OECD, 1982)

poverty line so as to ensure that conclusions are not drawn based solely on an arbitrary poverty line.

The panel data set for the core households covering the periods 1993, 1998 and 2004 was used to investigate poverty dynamics. Poverty dynamics were examined by first dividing core households into one of four categories: *never poor*, *moving into poverty (transitory into)*, *moving out of poverty (transitory out of)*, and *chronically poor*. Due to common practice and for comparability, households moving into poverty and households moving out-of poverty are also combined into a single *transitory poor* category. *Never poor* households include core households that were non-poor in each of the three years under consideration (1993, 1998 and 2004). *Transitory poor households* are households that either moved into or out of poverty between the specific survey years. These transitory poor cores were also subdivided into those transitory poor cores that either moved out of poverty or into poverty during two subsequent survey years. Chronic poverty refers to household poverty of extended duration. Chronically poor households experienced poverty in each of the three survey years (1993, 1998 and 2004). Core households were then linked to their dynasty households.

Probit regression models (cf. Equation 1) were used to investigate the effects of core and dynasty migration on poverty experienced by dynasty households, while tobit regression models (cf. Equation 2) were used to investigate the effects of these migratory moves on the depth and severity of poverty in dynasty households. Both probit and tobit regressions were reduced form models adjusted for clustering, since some of the dynasty households originated from the same core household, and estimated using robust standard errors to adjust for heteroscedasticity, while tobit models were used due to the censored nature of expenditure data. The robustness of results was tested for by using poverty dominance analysis.

$$P(\text{dynasty poverty}_i | X) = B_1 \text{dynasty characteristics} + B_2 \text{core migration} + B_3 \text{dynasty migration} + B_4(\text{core poverty} * \text{migration dynamics}) + u_i \dots\dots\dots [1]$$

, where: *dynasty poverty* is a dummy variable with a value equal to 1 if dynasty household expenditure falls below the poverty line and a value of 0 otherwise; X is a vector of explanatory variables that include dynasty household characteristics such as size of the household and household dependency ratio; and *core poverty transitions* include poverty transitions into and out of poverty.

$$Exp(\text{dynasty poverty}_i | X) = B_1 \text{dynasty characteristics} + B_2 \text{core migration} + B_3 \text{dynasty migration} + B_4(\text{core poverty} * \text{migration dynamics}) + u_i \dots\dots\dots [2]$$

, where: *dynasty poverty* represents the expected depth and severity of poverty and X is a vector of explanatory variables (cf. the above).

Both the probit and tobit regression models identify differences as regards the headcount, the depth and the severity of poverty in dynasty households. Important here is that causality can be inferred from the regression analysis due to core poverty dynamics, core migration and dynasty migration being observed prior to dynasty poverty.

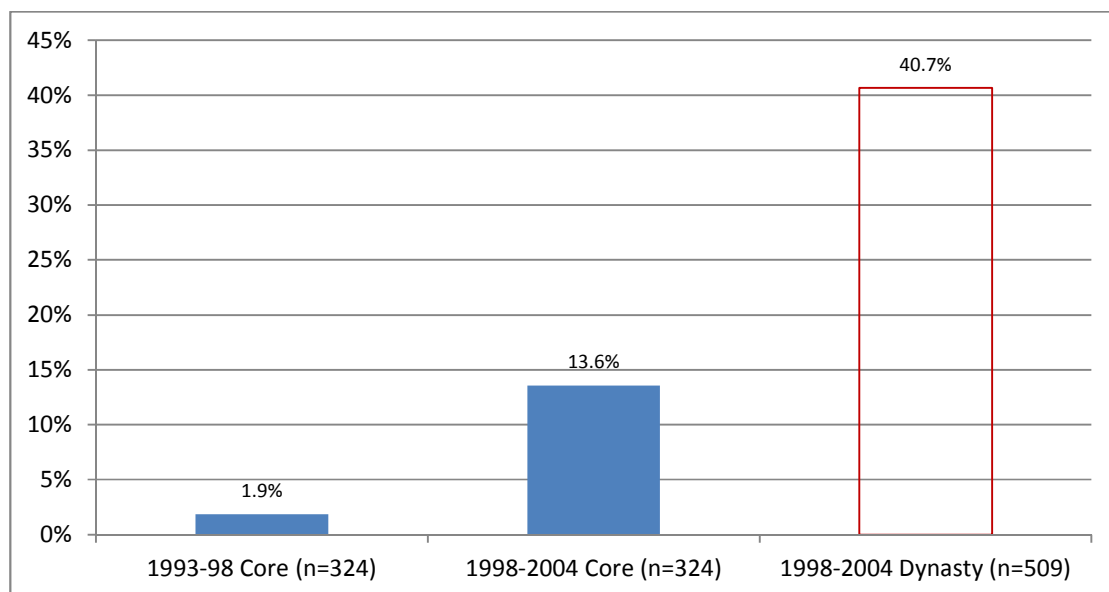
3. Results

3.1 Migration in core and dynasty households

Figure 1 below depicts migration of both core and dynasty households. There is a significant increase in post-apartheid migration. The proportion of core households that migrated between 1998 and 2004 (13.6%) is significantly higher than the only 1.9% of core households that migrated between 1993 and 1998 (p<0.001). Also, the proportion of dynasty households that migrated between 1998 and 2004, as expected, is significantly

higher than migration in core households between 1993 and 1998 or between 1998 and 2004. During the five-year period (1998–2004), a total of 40.7% (207) dynasty households migrated, while 13.6% (44) and 1.9% (6) only of core households did so. The post-apartheid movements of both core and dynasty households are therefore significantly higher than in earlier periods. Possible explanations for increases in migration after apartheid include the relaxation of influx controls and the simultaneous availability of economic opportunities in geographical areas to which Africans had formerly had limited access.

Figure 1: Migration in core and dynasty households (1993–2004)

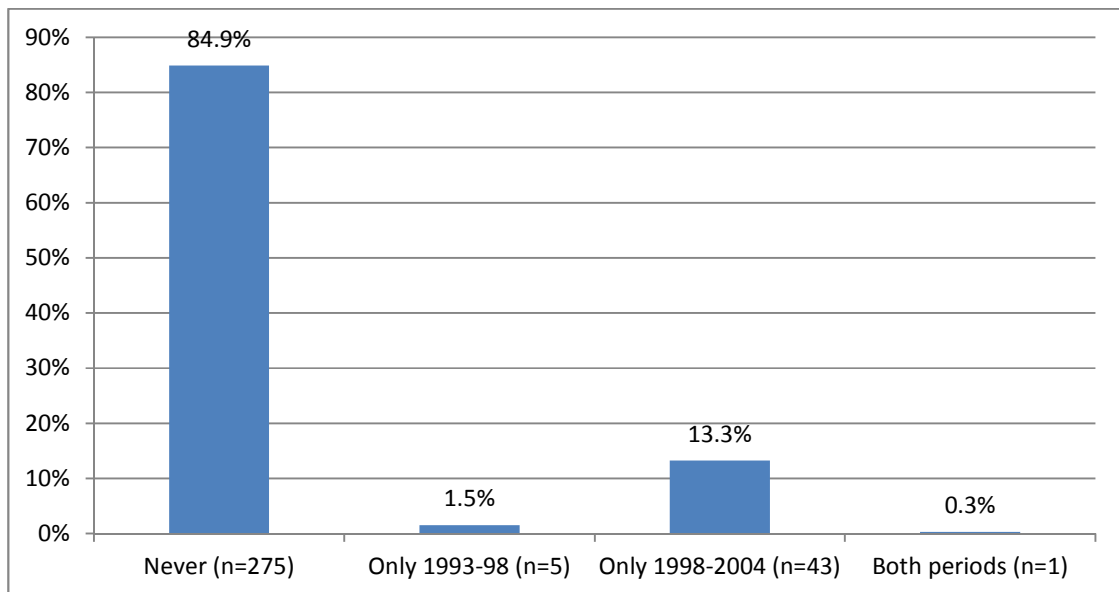


Note: The migration event occurred at any time during the preceding five-year period (1993–1998 and 1998–2004). Migration was not measured in the 1993 survey. All differences are statistically significant at the 1% level of significance ($p < 0.001$). The number of households indicated in brackets refers to the number of observations in the core and dynasty households.

Figure 2 reports migration transitions in core households. A total of 84.9 per cent (275) of, or, in other words, the majority of core households never migrated (i.e. did not migrate in either of the two five-year periods). One core household only (0.3%) migrated during both the 1993–98 and 1998–2004 periods. In turn, 13.3% (43) of core households migrated between 1998 and 2004 only, but not between 1993 and 1998, while 1.5% (5) migrated between 1993 and 1998 only and not between 1998 and 2004. A total of 15.1%

(49) of all core households therefore had ever migrated at some time during any of the two periods under consideration. Figure 2, like the results in Figure 1 above, thus suggests that mobility among core households was relatively higher in the post-apartheid era than in the late-apartheid era.

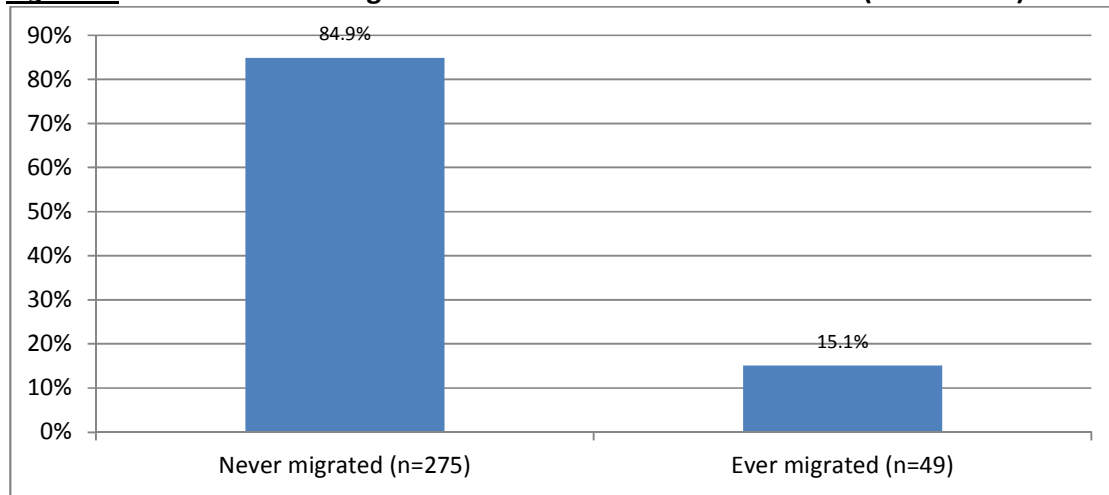
Figure 2: Migration transitions in core households (1993–2004)



Note: The number of households indicated in brackets refers to the number of core households linked to the migratory category.

Figure 3 summarises the core-household migration transitions in Figure 2 over the entire period between 1993 and 2004. Almost all of the core households that were linked to one or more than one dynasty household (84.9%) never migrated, while only 15.1% (49) of core households migrated during either the first (1993–1998), the second (1998–2004) or during both of the said periods.

Figure 3: Combination of migration transitions in core households (1993–2004)



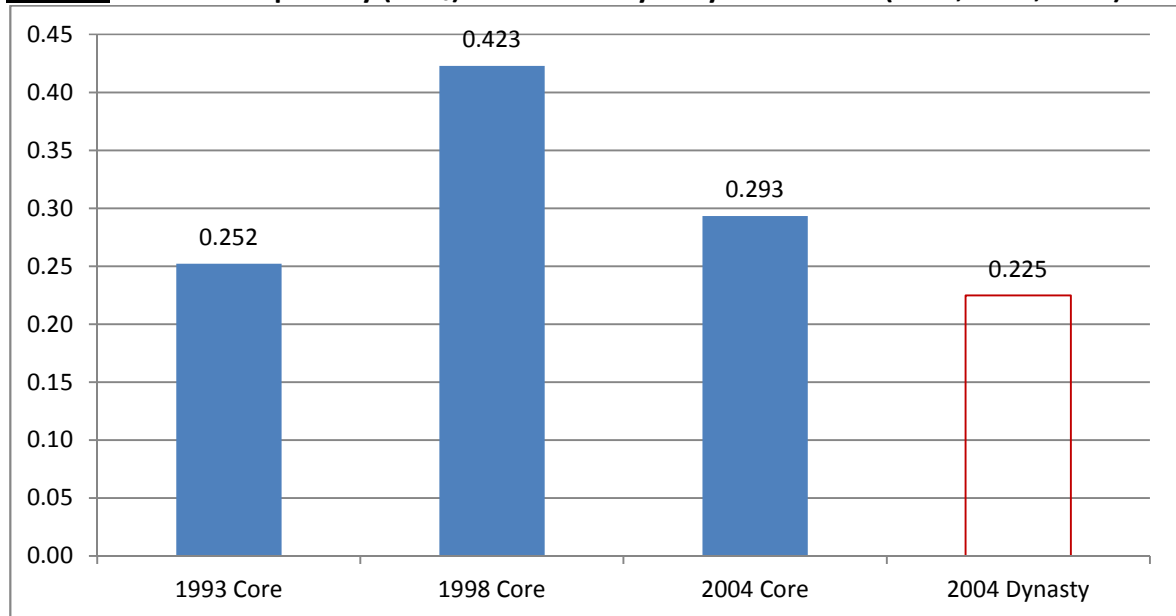
Note: The migration event occurred at any time during the two preceding five-year periods, i.e. between 1993 and 1998 or 1998 and 2004, or during both periods. The number of households indicated in brackets refers to the number of core households linked to the migratory category.

3.2 Poverty in core and dynasty households

Significant higher average levels of household expenditure are recorded for dynasty households (R3987) compared with the 1993 core (R3114), 1998 core (R2833) and 2004 core (R3289) households ($p < 0.001$). Given this, Figure 4 displays the Headcount Poverty Index for core and dynasty households. In 1993, 25.2% of the core households fell below the poverty line of R250 (at 2000 prices) per adult-equivalent individual per month. This apartheid poverty level in 1993 core households is lower than both the 42.3% of 1998 core households ($n = 357$; $p < 0.001$) and the 29.3% of 2004 core households ($n = 324$; $p = 0.114$) that fell below the monthly household poverty line in the post-apartheid era³. However, differences in the prevalence of poverty in core households between 1993 and 2004 are not statistically significant at the 10% level of significance. The lowest level of poverty was recorded for dynasty households. In 2004, 22.5% ($n = 512$) of dynasty households fell below the poverty line. This is significantly lower than the poverty levels recorded for core households in both 1998 ($p < 0.001$) and in 2004 ($p = 0.012$). Differences

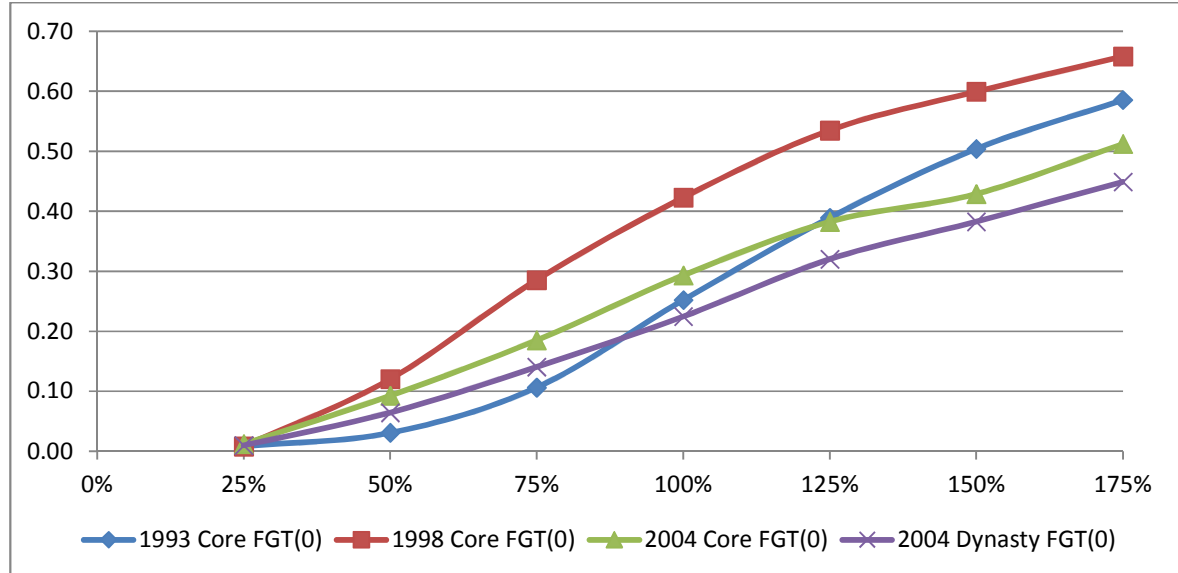
between the 2004 dynasty and the 1993 core households are not statistically significant ($p=0.173$). Dynasty households in the post-apartheid era are thus better off than core households. Although not indicated here, similar results are shown for both the depth and severity of poverty indices.

Figure 4: Headcount poverty (FGT_0) in core and dynasty households (1993, 1998, 2004)



To test for the robustness of the results presented in Figure 4 above, Figure 5 depicts *headcount poverty (FGT_0)* dominance in both core and dynasty households. These headcount poverty dominance curves reflect the cumulative percentage of households falling into headcount poverty at different fractions of the R250 (at 2000 prices) per adult-equivalent poverty line. According to Figure 5, the highest levels of headcount poverty were recorded for 1998 core households, irrespective of the chosen poverty line, followed by 2004 core households. Irrespective of the chosen poverty line, headcount poverty in the 1998 core households therefore dominates both the 1993 and 2004 cores, and also the headcount poverty amongst the 2004 dynasty households. Poverty in cores dominates poverty in dynasties, but only at higher poverty lines. Similar results (not shown) are obtained for the dominance in both the depth and severity of poverty in core and dynasty households.

Figure 5: Dominance in headcount poverty (FGT₀) in core and dynasty households (1993, 1998, 2004)



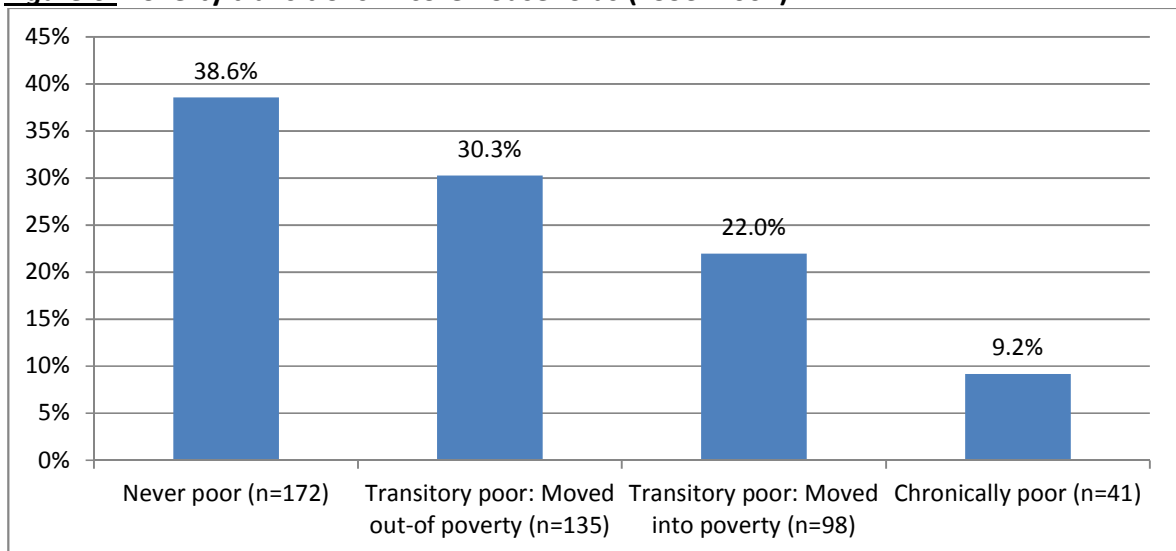
It can be concluded that, irrespective of the poverty index used, the 2004 dynasty households are better off than both 1998 and 2004 post-apartheid core households, while both post-apartheid cores on average fare worse than do the apartheid 1993 core households. These trends mirror unemployment trends (Quantec, 2006), suggesting the important role of the economic climate in explaining trends in poverty.

3.3 Poverty transitions in core households

Figure 6 summarises poverty transitions in core households over the period between 1993 and 2004. Core households fall into three categories: *never poor*, *transitory poor*⁴, and *chronically poor*. *Never poor households* include core households that were non-poor in each of the three years under consideration (1993, 1998 and 2004). Figure 6 indicates that while 38.6% of core households had never been poor, 52.3% (233) had been transitory poor. *Transitory poor households* are households that either moved into or out-of poverty between the specific survey years here under consideration. Figure 6 shows that 30.3% of transitory poor core households moved out-of poverty during the post-

apartheid period (1998-2004), compared with the 22% of such households that moved into poverty over this period. Chronic poverty in turn refers to an extended duration in the incidence of household poverty. Chronically poor households experienced poverty in each of the three survey years (1993, 1998 and 2004). Figure 6 shows that a total of 9.2% (41) core households were experiencing extended poverty. These 41 (9.2%) chronically poor households furthermore indicate that 15.0% of households experiencing poverty in the survey period are chronically poor. **This level of chronic poverty is relatively low in comparison with estimates of 35%-45% for sub-Saharan Africa or the >80% estimates by Finn & Leibbrandt (2016), but higher than the estimates of 10%-15% for the Middle Eastern and North African regions (Chronic Poverty Research Centre, 2010: 140).**

Figure 6: Poverty transitions in core households (1993–2004)



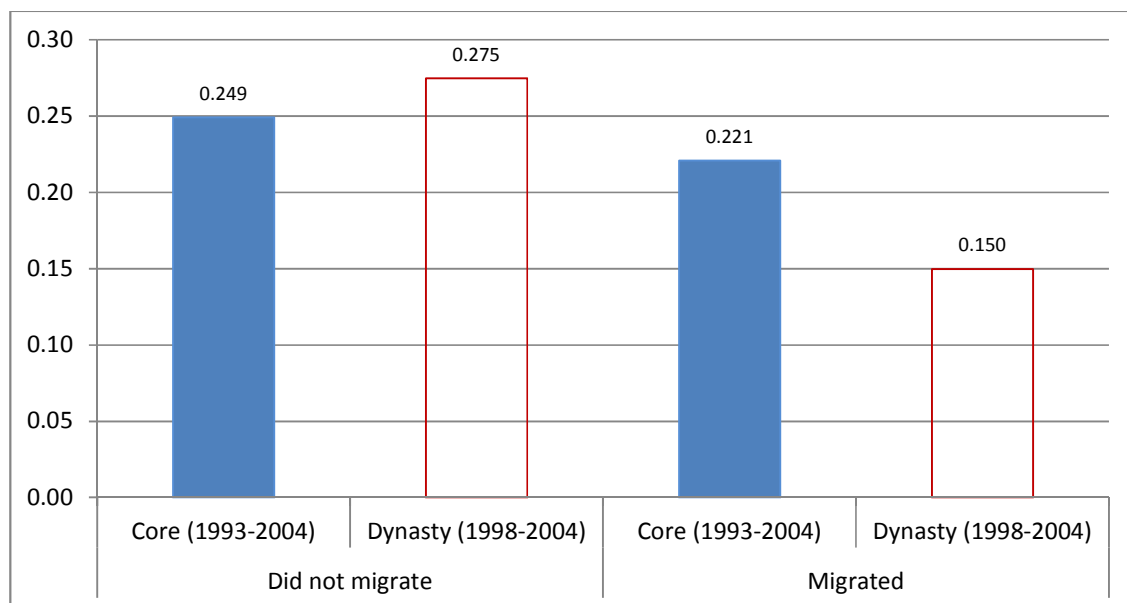
3.4 Migration in core and dynasty households and dynasty poverty

Figure 7 depicts the headcount (FGT₀) poverty in dynasty households by their own migratory backgrounds and by those of their linked cores. Comparing dynasty poverty by their own migratory background, a migratory move by a dynasty household would appear to have a statistically significant association with poverty status ($p < 0.001$). The relationship between poverty in dynasty households and their own migration background confirms the hypothesis that households that migrate tend to be less poor than those

households that do not do so. As many as 27.5% (83) of the dynasty households that did not migrate between 1998 and 2004 found themselves living below the household poverty line in 2004, while the same was true of only 15.0% (31) of the dynasty households that had migrated between 1998 and 2004 ($p < 0.001$). Migration may therefore be seen as a risk-diversification strategy that is used to escape poverty.

If we focus on headcount poverty in dynasty households linked to non-migratory and migratory cores, the same risk-diversification assumption seems to hold, although the differences are not statistically significant ($p = 0.300$). Dynasties linked to a migrating core household are less poor than are the dynasties related to cores that had never migrated. The headcount poverty for dynasties linked to migratory core households is 22.1% (17), compared with the 24.9% (92) of non-migratory cores ($p = 0.356$).

Figure 7: Headcount poverty (FGT₀) in dynasty households (2004), by migration in core and dynasty households (1993–2004)



Note: The migration event by core households may have occurred at any time during the preceding five-year periods between 1993 and 1998 or between 1998 and 2004, while the migration event by dynasty household occurred at any time during the preceding five-year period (1998–2004). Differences in headcount poverty between migratory and non-migratory dynasty households are statistically significant at the 1% level of significance ($p < 0.001$), while differences in the headcount poverty between dynasties from migratory and those from non-migratory backgrounds are not statistically significant at the 10% level of significance ($p = 0.356$).

Figure 8 depicts headcount poverty (FGT₀) dominance in dynasty households by the migration status of their cores, while Figure 9 depicts the headcount poverty (FGT₀) dominance in dynasty households by their own migration status. These headcount poverty-dominance curves reflect the cumulative percentage of dynasty households in poverty at different fractions of the R250 (at 2000 prices) per adult-equivalent poverty line. Figure 4.8 reflects no consistent dominance in dynasty headcount poverty rates between dynasties linked to migratory cores and dynasties linked to non-migratory cores (i.e. the dominance curves cross between alternate poverty lines).

Figure 8: Headcount poverty (FGT₀) dominance in dynasty households (2004), by core migration patterns (1993–2004)

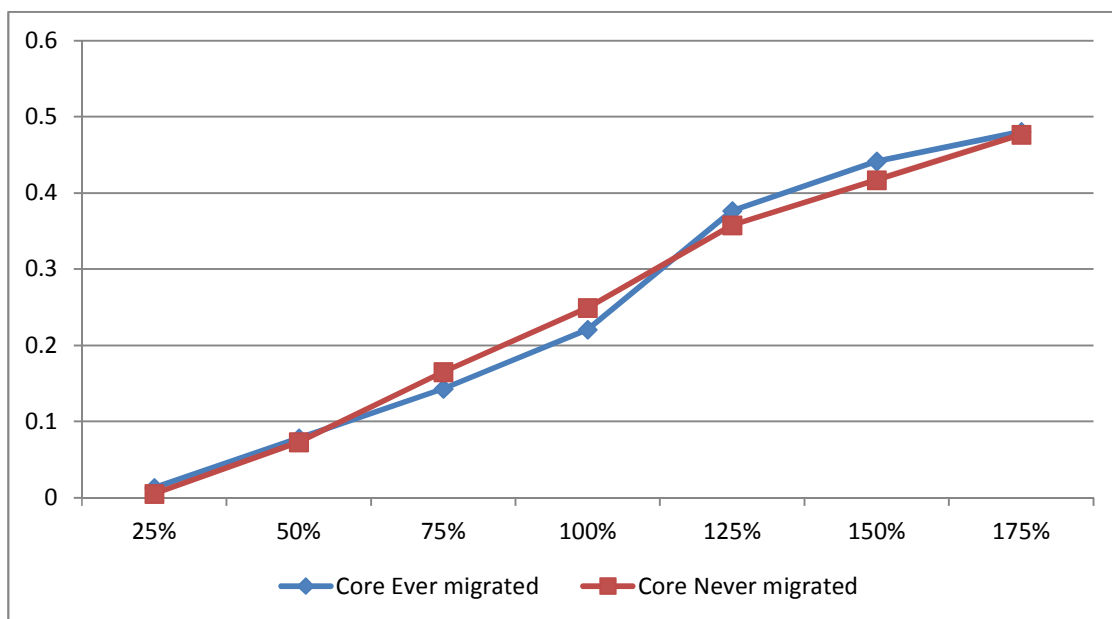
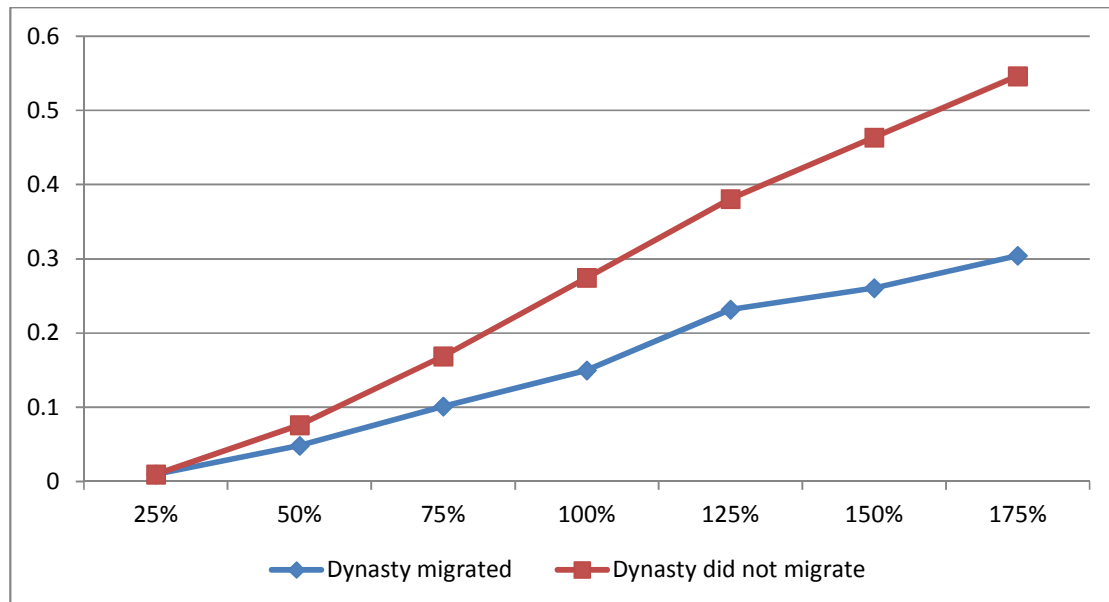


Figure 9 indicates the highest levels of headcount poverty in dynasty households that did not migrate. Irrespective of the chosen poverty line, therefore, headcount poverty in dynasty households that did not migrate dominates the headcount poverty in migrating dynasty households. Hence, the finding regarding poverty status and migration in dynasty households is a robust one.

Figure 9: Headcount poverty (FGT₀) dominance in dynasty households (2004), by dynasty migration (1998–2004)



Although not shown here, migration by a dynasty household not only significantly reduces headcount poverty as Figure 9 above indicates, but it also significantly reduces the depth and severity of poverty experienced by dynasty households ($p=0.003$ & $p=0.017$). These results therefore suggest that the new economics of migration theory hold for dynasty households, since the headcount poverty, and the depth and severity of poverty are statistically significantly lower for migratory dynasties than for non-migratory dynasties. This result emphasizes the importance of household decision making regarding migration to diversify risk (although not for associations between the migration of core households and poverty in their respective dynasty households).

3.5 Regression analysis

Table 1 and Figure 10 investigate the influence that migration may have on headcount poverty in dynasty households. Since the intergenerational transmission of poverty prevents a household from devising risk-diversification strategies, this section also investigates the influence that interaction between migration transitions and poverty dynamics in core households may have on headcount poverty in dynasty households.

Table 1 indicates all the marginal effects that the chosen explanatory variables have on the probability of a dynasty household being poor (Refer to Appendix for results on the depth and severity of poverty in dynasty households). The regression models all use robust standard errors to adjust for heteroscedasticity. Standard errors were also adjusted for clustering, using household identifiers, since some dynasty households originate from the same core household. The Wald Chi² tests together with their probability values indicate that all the models perform adequately in terms of overall goodness of fit. Hence, at least some of the independent variables explain part of the probability that a dynasty household will be poor. The model diagnostics also indicate that almost 80% of dynasty households are correctly classified by the relevant regression models as being poor. All the regression models therefore display a relatively good fit with the data.

Table 1 shows that household size is associated with higher levels of headcount poverty. On average, an increase in the dynasty household size by one member will increase headcount poverty by between 4.0% and 4.6%. As expected, an increase in the dependency ratio in dynasty households will increase the headcount poverty in these households between 27.9% and 35.7%, which emphasises the economic burden dependants place on a household. Table 1 also indicates that headcount poverty of dynasty households linked to a migratory core does not differ significantly from that of dynasties linked to a non-migratory core. Only migration by the dynasty household itself significantly influences the prevalence of poverty in dynasty households, decreasing the probability of being poor by 10.1% in comparison with non-migratory dynasties.

Table 1: Migration as determinant of headcount poverty in dynasty households

Dynasty headcount poverty	Model 1	Model 2	Model 3	Model 4	Model 5
Dynasty household size	0.046***	0.040***	0.044***	0.044***	0.045***
Dynasty dependency ratio	0.357***	0.296***	0.329***	0.297***	0.281**
Migration (comparison = never-migrated (cores / dynasties)					
Dynasty migration		-0.101***			

Only dynasty hh migrated				-0.052	
Core migrated (any period)	-0.052				
Only core hh migrated				-0.004	
Core & dynasty migrated				-0.199***	
Core poverty & migration transition (comparison = non-poor)					
Core transitory out & never migrated					0.207***
Core transitory out & migrated					0.072 .
Core transitory into / chronic & never migrated					0.205***
Core transitory into / chronic & migrated					0.244***
Core transitory & never migrated					0.163***
Core transitory & migrated					0.101 .
Core chronically poor					0.403***
Sample (n)	446	573	443	446	446
Wald chi2 ()	53.81	74.27	67.76	59.93	66.41
Prob> Chi2	0.000	0.000	0.000	0.000	0.000
Pseudo R2	0.167	0.159	0.1850	0.202	0.213
% correctly classified	78.03%	79.76%	78.10%	80.04%	80.27%

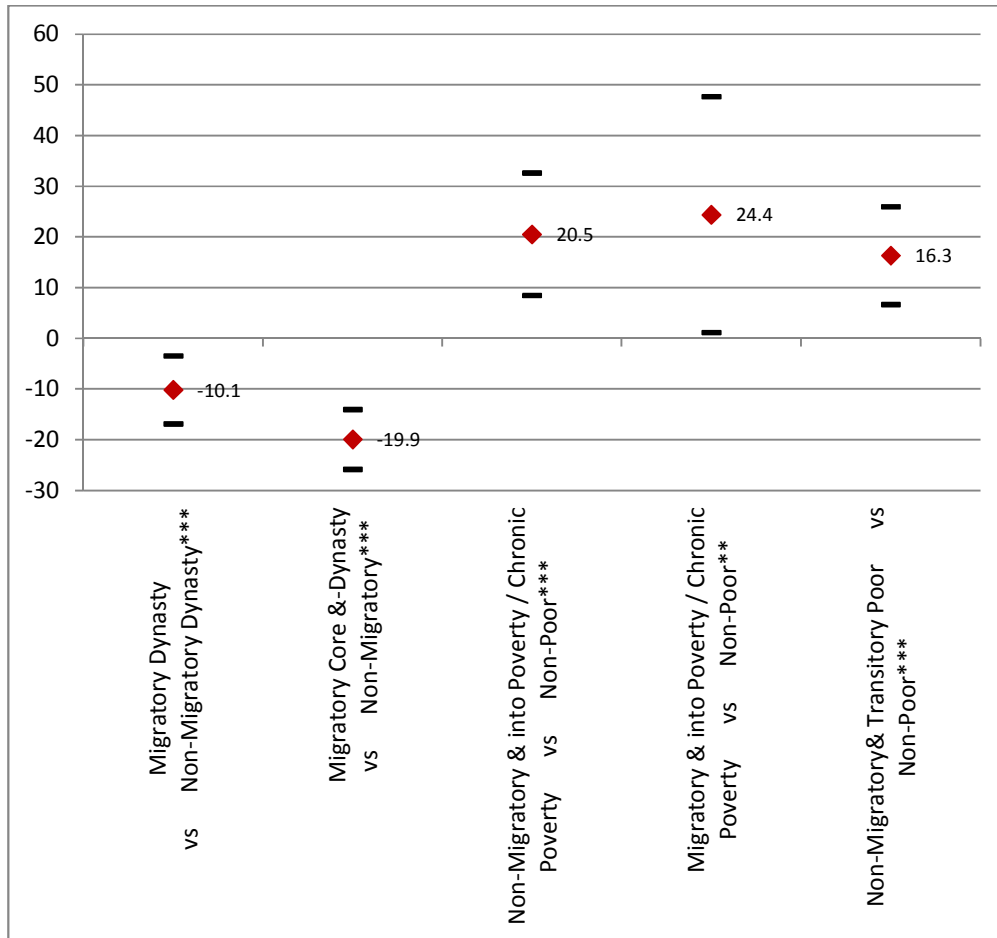
Note: Table shows coefficients from probit regressions with (mF/mX) marginal effects.

*, ** and *** denote statistically significant results at the 10%, 5% and 1% levels respectively.

Appendices 4A and 4B contain the regression results for the depth and severity of poverty in dynasty households that mirror the above results.

According to Regression Model 3, the probability that a dynasty household is poor will decrease by 19.9% if both the dynasty household and their linked core household migrated. Since 24 of the 25 dynasty households that migrated were linked to cores that migrated in the same period, it can be concluded that these dynasty households most likely migrated together with their linked core households, which, contrary to the results presented earlier above, offers some evidence of the joint migration of extended families.

Figure 10: Headcount poverty in dynasty households



Note: Figure reflects selected statistically significant coefficients (mean and 95% confidence intervals) for probit regressions with (mF/mX) marginal effects. Results are adjusted for dynasty household size ($p < 0.001$) and dynasty dependency ratio ($p > 0.100$). *, ** and *** denote statistically significant results at the 10%, 5% and 1% levels respectively. Appendices 4A and 4B contain the regression results for the depth and severity of poverty in dynasty households that mirror the above results.

Regression models 4 and 5 combine poverty dynamics and migration in core households as determinants of poverty in dynasty households. The dominant determinant of dynasty poverty is the existence of the intergenerational transmission of poverty. The probability of dynasty households being poor, is 20.5% higher for dynasty households traced back to non-migratory core households that either moved into poverty or were chronically poor than for dynasties linked to non-poor backgrounds ($p < 0.001$). The probability of being poor is 24.4% higher for dynasties from migratory core households that also either moved into poverty or were chronically poor than for those from non-poor backgrounds ($p = 0.020$). The last coefficient indicates that the probability of being poor is 16.3% higher

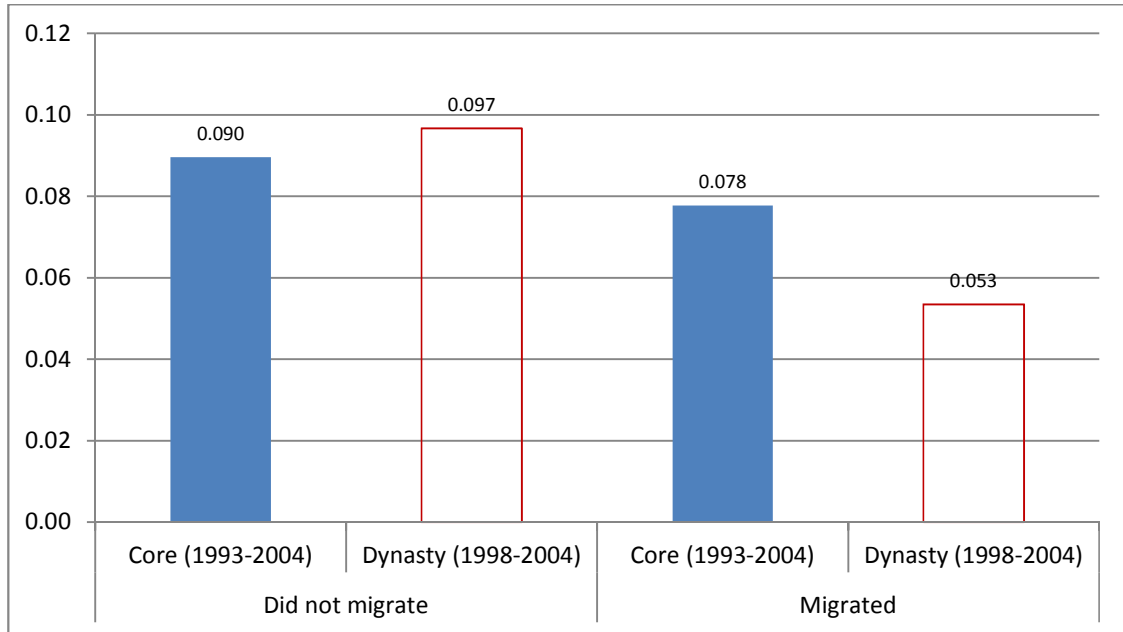
for dynasties linked to non-migratory and transitory poor core households than for dynasties linked to non-poor core households ($p=0.001$). Given the overlapping confidence intervals for these coefficients, migration by core households does not significantly influence the probability that a dynasty household will be poor, even when interacted with poverty in the cores.

4. Conclusion

APPENDIX

Appendix A

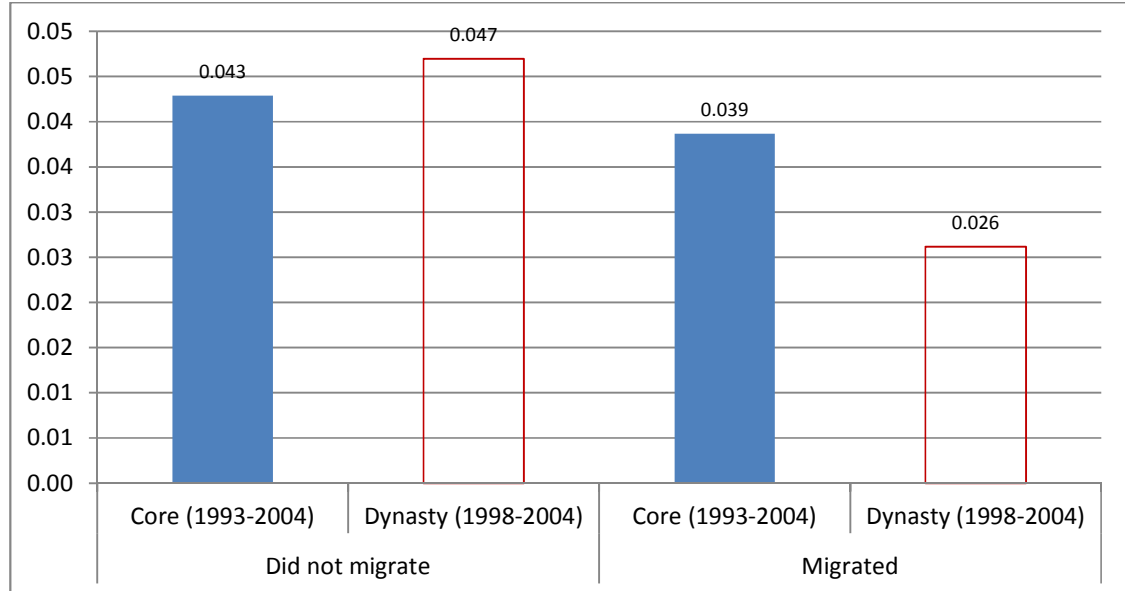
Depth of poverty (FGT₁) in dynasty households (2004), by migration in core and dynasty households



Note: The differences in the depth of poverty in migrating and non-migrating dynasty households are statistically significant at the 1% level of significance ($p=0.003$), while the differences in the depth of poverty in dynasties of migratory and non-migratory core households are not statistically significant ($p = 0.305$).

Appendix B

Severity of poverty in dynasty households (2004), by migration in core and dynasty households



Note: Differences in severity of poverty between migratory and non-migratory dynasty households are statistically significant at the 5% level of significance ($p=0.017$), while differences in the depth of poverty between dynasties of migratory and non-migratory cores are not statistically significant ($p = 0.377$).

Appendix C

Tobit regression results: determinants of depth of poverty in dynasty households

Dynasty depth of poverty	Model 1	Model 2	Model 3	Model 5	Model 6
Dynasty household size	0.072***	0.068***	0.070***	0.066***	0.066***
Dynasty dependency ratio	0.498***	0.415***	0.457***	0.375**	0.354**
Migration (comparison = never migrated (cores / dynasties)					
Dynasty migration		-0.165***			
Only dynasty hh. migrated			-0.095		
Core migrated (any period)	-0.106		-0.046		
Only core hh. migrated					
Core & dynasty migrated			0.601***		
Core poverty & migration transition (comparison = non-poor)					
Non-migratory & transitory out of P core				0.315***	
Migratory & transitory out-of P core				0.092*	
Non-migratory & into P / chronic P core				0.321***	
Migratory & into P / chronic P core				0.343***	
Non-migratory & transitory P core					0.285***

Migratory & transitory P core					0.159*
Sample (n)	446	573	443	446	446
F	31.46	39.83	22.69	19.11	24.64
Prob> F	0.000	0.000	0.000	0.000	0.000
Pseudo R2	0.191	0.182	0.210	0.241	0.248

Note: Table shows coefficients from tobit regressions with (mF/mX) marginal effects.
*, ** and *** denote statistically significant results at the 10%, 5% and 1% levels respectively.

Appendix D

Tobit regression results: determinants of severity of poverty in dynasty households

Dynasty severity of poverty	Model 1	Model 2	Model 3	Model 5	Model 6
Dynasty household size	0.041***	0.039***	0.039***	0.037***	0.037***
Dynasty dependency ratio	0.273***	0.224***	0.249***	0.202**	0.191**
Migration (comparison = never-migrated (cores / dynasties)					
Migratory dynasties		0.092***			
Only dynasty hh. migrated			-0.057		
Migratory cores (any period)	-0.056				
Only core hh. migrated			-0.024		
Core & dynasty migrated			-0.347***		
Core poverty & migration transition (comparison = non-poor)					
Non-migratory & transitory out of P core				0.182***	
Migratory & transitory out of P core				0.067	
Non-migratory & into P / chronic P core				0.184***	
Migratory & into P / chronic P core				0.200***	
Non-migratory & transitory P core					0.166***
Migratory & transitory P core					0.103***
Sample (n)	446	573		446	446
F	22.21	26.46		12.95	16.21
Prob> F	0.000	0.000		0.000	0.000
Pseudo R2	0.269	0.260		0.342	0.351

Note: Table shows coefficients from tobit regressions with (mF/mX) marginal effects.
*, ** and *** denote statistically significant results at the 10%, 5% and 1% levels respectively.