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The Effects of Property Rights on Household Economic, and Individual Social Capital among Poor beneficiaries of Low-Cost Housing in Cape Town, South Africa

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Introduction

The consequences of the deliberate use of property rights as a developmental intervention to reduce poverty in developing countries have not been established. The World Bank (1993) and the widely acclaimed de Soto (2000) champion the claim that property rights reduce poverty by giving owners a foothold in the capitalist market. However, there are contradicting arguments as to whether provision of property rights to the poor reduces poverty. Some of de Soto’s critics like Culpeper (2002) imply that the poor in the informal sector are better than those with formal titles. Other critics like Woodruff (2001) and Skidelsky (2000) point out that it is untrue that the extralegal/informal sector does not generate capital as fortunes are made in the informal sector. Some empirical studies such as Galiani and Schargrodsky (2010), Boudreaux (2008), Van Gelda (2007; 2009a), Mendez (2006) and Dower and Potamites (2005) find that property rights alleviate poverty while others such as Payne et al. (2009), Field and Torero (2006), Ayelew et al. (2005) and Lemanski (2010), find that they have no impact.

Upon examining the state of the debate, my central argument is that among the reasons for these differences in findings is the difficulty in ascertaining causality. Primarily, studies of the developmental effects of property rights examine the effects of property rights using cross-sectional studies. Further, these studies are on specific variables such as income or financial returns, access to credit and housing improvement etc. For example, carrying out her study over a period three years, Lemanski (2010) assesses whether property titles provide financial returns to low income households, Van Gelda (2009a, 2007) examines various sources of tenure security and housing improvements, and Field and Torero (2006) investigate whether property titles increase credit access among the urban poor. The disadvantages of cross sectional studies is that the question of the direction of causality lingers on. The disadvantage in measuring specific variables is that overall conclusions about the effects of property rights are made based on evidence about specific effects. No matter how sound the evidence on specifics is, it is not enough to merit overall conclusions about the effects of property rights.

In this paper, I use longitudinal data to try and ascertain causality and suggest that there is unexplored potential in using a composite view of the effects of property rights rather than focusing on specific effects. Longitudinal data allows for one to measure the effects of property rights on the lives of freeholders and non-freeholders at different times. A composite view of the effects allows for one to understand the aggregate effects of property rights and to come to a much more informed conclusion. Further, I highlight the difficulty of using longitudinal data to study the effects of property rights, even in data-rich environments like South Africa.

Informed by Pierre Bourdieu's theory of capital and social mobility and particularly focusing on the exercise of property rights rather than the process of property titling, this paper draws on the case of Cape Town, South Africa to examine whether beneficiaries of public low cost housing for the poor have increased their volumes of economic, social and cultural capital. The paper examines this question by taking advantage of a quasi natural experiment.

From 1994, low income households in informal settlements benefitted from state-subsidised low-cost housing transferred to them under freehold. As a conscious response to correcting apartheid injustices, the post-apartheid state adopted the provision of homeownership partly as a redistributive strategy to reduce poverty. The post-apartheid state claims to have approved more than three million housing subsidies between 1994 and 2008, and completed 2,358,667 units (South Africa, 2008: 28). It also claims that "...[A]bout 10 million people benefited from state-subsidised housing opportunities." (South Africa, 2008: 28). These houses are commonly referred to as RDP houses after the Reconstruction and Development Programme (RDP) under which they were built. Between 1994 and 2003, the post-apartheid state approved 172, 000 units in Cape Town (Provincial Government of the Western Cape, 2004). With a policy modelled after the MES, the state adopted a private property rights approach. It developed a targeted one-off subsidy in form of a grant to low income households, which provided eligible households with ownership of a newly-built fully serviced one-bedroom house. Because of the scarcity of financial resources and a growing backlog, the housing built was not enough to accommodate all people in informal settlements. The allocation system created beneficiaries and non-beneficiaries.

Almost two decades after South Africa's first post-apartheid housing policy which allowed for the provision of housing subsidies to the poor was formulated and implemented, there have been claims within civil society that the RDP houses have had no benefits to their owners (Social Housing Foundation, 2009) while others claim that there have been benefits.

A contribution of this analysis is to examine the effects of property rights on various dimensions using a composite view. The timing of the paper also coincides with recent calls in South Africa that suggest that RDP houses have not brought an end to poverty among beneficiaries. These calls have not been backed by evidence from systematic and rigorous scholarly study. For this reason and because of the central role that housing plays in post-apartheid South Africa, the debate as to whether providing property title as a developmental intervention remains a critical debate for Cape Town and South Africa in general. Research in this area is therefore critical to providing concrete evidence.

Property rights and Pierre Bourdieu's theory of Capital and Social Mobility

Property rights are difficult to define because of their dynamic nature and contextual character. However, I define property rights in line with Barzel (1989:2) who suggests that property rights are composed of the rights, or the powers to consume assets, obtain income from them by engaging in exchange through the mutual ceding of rights, and alienating these assets. In addition, Payne (2001:416) sheds light on this definition by suggesting that property rights may cover access, use, development or transfer and, as such, exist in parallel with ownership. I apply this specifically to homeownership.

Among the many models explaining homeownership in society is that developed by Flint and Rowlands (2003) based on Bourdieu's (1984; 1986) concepts of the habitus, field and forms of capital. This model explains types of tenure as legitimised tastes in housing consumption, with homeownership legitimised as the highest form of housing consumption and a marker of class in many societies today.

Bourdieu's habitus is defined as a process through which social structures and the use of capital generates and reproduces social norms, among them a propensity towards homeownership. Capital is understood as the set of actually usable resources available to the individual (Bourdieu, 1984:114). It is effective in any given field, the field being a social space in which agents are positioned with capital but at the same time structured by other's actions and powers, including state power (Flint and Rowlands, 2003:214). Housing is a field according to Flint and Rowlands (2003:214).

Capital takes the form of economic, social, cultural and symbolic capital. Economic capital is the financial resources available to an individual and is the primary determinant of different types of housing consumption. Bourdieu himself viewed economic capital as institutionalised through property rights, in this case I focus on homeownership. Flint and Rowlands (2003:215) define cultural capital as the accumulation of credentials, skills and knowledge acquired through upbringing and education. Flint and Rowlands (2003:216) view social capital as a collectively owned resource based upon mutual ties and reciprocity, through which social connections are used to generate economic capital. Bourdieu himself defined social capital as socially beneficial networks, connections and obligations, the aggregate of which represent the potential or actual resources which provide the agent with the backing of the collective and entitles the agent with credit (Bourdieu, 1997:249). Finally, Flint and Rowlands (2003:217) define symbolic capital as the form of capital that demonstrates the aesthetic taste of the agent and is socially constructed. Symbolic capital is thus utilised as a means of legitimising particular forms of consumption. Within the housing field, symbolic capital accrues to tenures, in which housing consumption confers an identity and status upon individuals, comprising both aesthetic (good taste) and moral (responsible conduct) judgments. Social housing in many societies is constructed as the lowest form of housing consumption while homeownership is constructed as the highest form (Flint and Rowlands, 2003:217).

In Bourdieu's theory, social mobility occurs from a multiplication and conversion of capital among economic, social and cultural forms thereby increasing one's composition and volume of capital. This in a developing country context, and particularly among the poor is akin to poverty reduction. Bourdieu equated the relationship between an agent's initial capital and present capital to that of one's initial social position and present social position respectively in social space (1984:109).

Empirical studies on the socio-economic effects of property rights

In this section, I show studies that have tried to establish the relationship between property rights and some specific aspect of socio-economic wellbeing and argue that the effects of property rights can be categorised into composite measures and that Bourdieu's theory of capital and social mobility provides a useful composite analytical framework.

Many of the studies on the effects of property rights in essence measure economic capital. For example, Van Gelda (2009a:132) examined the recent theoretical and policy debate on the use of titling programmes as a strategy for alleviating poverty and found that perspectives of tenure security (a continuum from informal to formal) have a significant and positive effect. Van Gelda (2007) examined the relationship between perceived tenure security and housing improvement in an informal neighbourhood of Buenos Aires and found a positive effect. In contrast, Ayelew et al. (2005) examining the link between insecure property rights and capital accumulation in Ethiopian coffee plantations found that tenure security is closely associated to whether one had property title or not. In the same vein, Dower and Potamites (2005) investigated the impact of having land title on formal credit access in Indonesia and found that having a formal title significantly increased a household's probability of having had a formal loan and the size of working capital loans it received. In contrast and perhaps in one of the most cited studies, Field and Torero (2006) investigated the impact of property titles on access to credit among the urban poor in Peru and whether improvements in land rights reduce credit rationing on the market and found that access to credit from the private sector lender is unaltered by titling and that credit rationing is still a key feature of the micro-lending environment in urban Peru.

Other studies that can be categorised under economic capital include Mendez (2006) investigating self assessed gains from legal housing titles and their relative importance to beneficiaries in the Costa Rican urban housing market, Moura and Bueno (2009) measuring the impact of property rights on labour markets in Brazil and studies investigating the effect of property titles on land and housing markets in which property titles have been found to promote active urban land and housing markets by increasing property values (Durand-Lasserve & Royston, 2002; Lanjouw & Levy, 2002; Dowall, 1998; & Deutsch, 2006). However, a widely corroborated finding is that newly titled households continue to regard their houses primarily as homes, the basis for family and community life and an asset to bequeath to their children. Hence they are unlikely to sell them (Payne et al. 2009; Lemanski, 2010). Also homeownership studies by Di Tella et al. (2005) Galiani and Schargrodsky (2010), Di (2007) Turner and Luea (2009) and Krum and Austin (1989:281-294)

As regards studies of effects that can be categorised as pertaining to effects of property rights on social capital, empirical evidence shows that homeownership is positively related to neighbourhood stability. Rohe and Stewart (1996) used US census data for 1980 and 1990 to test the impact of homeownership on length of tenure and property values and found that homeowners tend to stay longer. This means home ownership is positively related to higher socially and economically beneficial networks which strengthens community bonds through social involvement (Rohe and Stewart, 1996:54-55; Baum and Kingston, 1984; Ahlbrand and Cunningham, 1979; Rossi and Webber, 1996; Rohe et al. 2001:16). Because of this, homeownership can be argued to be a strong basis for yielding social capital by virtue of providing individual social stability for the homeowners (NAR, 2006:7).

With regard to studies investigating the effects of property rights on cultural capital, there are studies that have been done looking at homeownership and educational attainment. An example is a study by Boehm and Schlottmann (1999) who find that homeownership has a positive effect on educational attainment among children of homeowners and that it has a long term effect on human capital. Green and White (1997) find that home ownership fosters socially desirable behaviours among youth and adults which reduce delinquency and crime (Green and White, 1997; Boehm and Schlottman, 1999). The argument is that, since anti-social behaviour affects property prices in a neighbourhood, home owners put more effort to discipline their children and local youth than renters who do not have much of a stake in the neighbourhood (Green and White, 1997).

Although there is a rich amount of literature on housing regarding the South African context, literature and empirical studies focusing on property rights and their effects are few, and like the studies examined above, examine specific effects rather than composite, specifically categorised under economic capital studies. These studies are a response to De Soto’s (2000), *The Mystery of Capital* and whether his proposed titling and formalisation of assets of the poor can reduce poverty in South Africa.

There are three main empirical studies. The first is Boudreaux (2008) who examined the benefits of property titling programs on the poor in her case study of Langa in Cape Town and found that formalisation via titling provides benefits to freeholders (Boudreaux, 2008:313) and that few title-holders put their newly formalised rights to use as collateral for commercial loans. The second empirical study is that of Lemanski (2010) who investigated whether home ownership proves to be a financial asset for poor households to move up the ladder out of income poverty. Unlike Bourdreaux (2008), her conclusion was that despite providing a financially tradable asset, low transaction values of RDP houses in Westlake Village meant that they cannot be sold for sufficient value to secure upward property movement. Complimenting Boudreaux (2008), she also found that low-income home owners are reluctant to use RDP houses as collateral for credit, thus limiting the financial asset value of state-subsidized houses for low income households. The final study is that of Payne *et al.*(2009) who did a literature review and case study of South Africa and Senegal to examine whether property rights eradicate poverty and found that they do not.

The remainder of the South African literature is made up of discussion papers put together under a colloquium that was organised by the Development Bank of South Africa and the

University of Witwatersrand. The papers examine De Soto's views and their appropriateness to South Africa. They suggest that there is no evidence to support de Soto's assertion that property titling reduces poverty (McKinney, 2006:13-16; Tomlinson, 2006:17-31; Royston, 2006:32-43; Rust, 2006:44-52; Kingwill *et al.*, 2006:53-65).

The above studies show that the effects of property rights can be categorised into economic, social and cultural capital.

Method

The hypotheses which will be tested are formulated as follows:

Ha 1: property rights increase economic capital among poor low-cost homeowners because homeowners use their houses for rent and business to generate income

Ha 2: property rights increase social capital among poor low-cost homeowners because homeowners invest and participate more in the affairs of their neighbourhoods

Ha 3: poor low-cost homeowners have higher volume of economic capital than poor non-homeowners

Ha 4: poor low-cost homeowners have higher volume of social capital than poor non-homeowners

These hypotheses were tested using the Cape Area Panel Study (CAPS), which is an ongoing longitudinal study in Cape Town. The CAPS follows the lives of a large representative sample of young adults living in metropolitan Cape Town as they undergo multiple transitions from adolescence to adulthood (Lam et al. 2008:1). The first wave commenced in 2002 with a sample of approximately 4750 randomly selected individuals aged between 14 and 22 years. There have been 4 subsequent waves with the latest wave (wave 5) carried out in 2009. The CAPS includes a range of aspects of adolescence including schooling, entry into the labour-market, sexual and reproductive health and family and kin relations (Lam et al. 2008:1).

Ideally, to construct the homeownership variable using longitudinal data, the first point of measurement would be the time at which beneficiaries and non-beneficiaries were all non-beneficiaries, that is T=0. Then the second point of measurement would be after part of the group benefited from housing and then subsequent points of measurement at later times.

However, this was not possible with the first group of beneficiaries who had benefitted earlier than the first wave of CAPS. These I call cohort02 as the first time at which they were measured was after they had benefitted. A second group however was identified which received housing by the third wave of CAPS, which is between 2002 and 2004. I call this group cohort04.

To sample these cohorts, I first selected a sub-sample made up of all beneficiaries and non-beneficiaries of low cost housing from wave 5 of the CAPS sample. I used wave five because this allowed me to identify my potential control group of non-beneficiaries. It was also the first stage in identifying and selecting the first cohort of housing beneficiaries and non-beneficiaries and identifying the subsequent cohort. I then narrowed the selection to those beneficiaries that lived in areas where housing projects had taken place recently before 2002 and to those non-beneficiaries that lived in areas where people who had benefitted had originated. These areas corresponded to Khayelitsha, a township in Cape Town. I then identified and selected each of the respondents that lived in each beneficiary household. I also selected each of the respondents that lived in non-beneficiary households. I did this having obtained the kind permission of the Director of CAPS to access confidential information. I identified two cohorts of housing beneficiaries. The following are the descriptives for these cohorts.

Independent Variables

Property rights variable

Table 1: Frequency Table for cohort02 beneficiaries and non-beneficiaries

beneficiary	Frequency	percent	Cumulative frequency
non-beneficiary-household of govt housing	689	82.42	82.42
beneficiary-household of govt housing subsidy	147	17.58	100.00
Total	836	100	

Table 1 illustrates the sample of all beneficiaries in Khayelitsha who received housing before and up to 2002 and non beneficiaries and are referred to as cohort02 having reported receiving housing subsidies in 2002.

Table 2: Frequency Table for cohort04 beneficiaries and non-beneficiaries

beneficiary	Frequency	percent	Cumulative frequency
non-beneficiary-household of govt housing	223	70.35	70.35
beneficiary-household of govt housing subsidy	94	29.65	100.00
Total	317	100	

Table 2 shows the sample of those respondents who benefited from low cost housing after 2002 and before 2004 and are referred to as cohort04. This includes non-beneficiaries.

Table 3: Frequency Table for Cohort02 and cohort04 beneficiaries and non-beneficiaries combined

beneficiary	Frequency	percent	Cumulative frequency
non-beneficiary-household of govt housing	223	48.06	48.06
beneficiary-household of govt housing subsidy	241	51.94	100.00
Total	464	100	

Table 3 shows the combined sample of wave 1 and wave 3 beneficiaries and wave 1 and wave 3 non-beneficiaries. It is a sample of all beneficiaries and non-beneficiaries in Khayelitsha who had received or not received low cost housing by 2004. The sample is selected in such a way that if one benefitted from RDP housing in wave 1 or wave 3, he or she is a beneficiary. If the household did not receive housing in wave 1 and still did not receive housing in wave 3, they are non-beneficiaries.

Dependent Variables

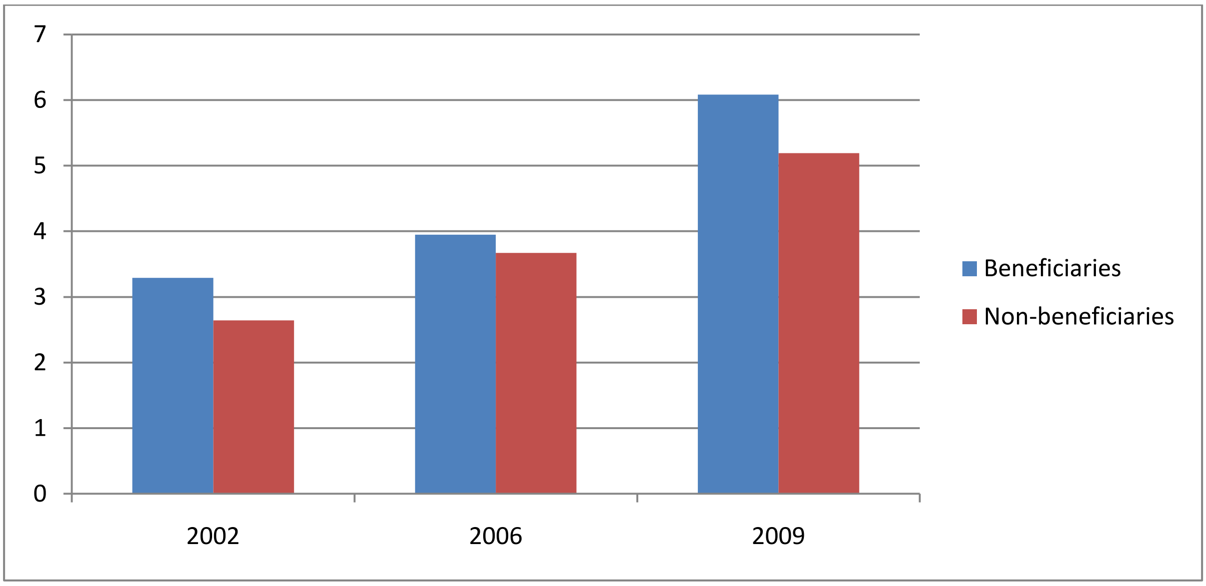
Capital indices for each form of capital were constructed using principal components analysis (PCA). Principal components analysis (PCA) is employed to compute economic, social and cultural capital indices from asset-variables and social capital variables using waves 1, 3, 4 and 5 of the Cape Area Panel Survey. The indices are each divided into quintiles in which households that score in the bottom or second quintile are poor while the third quintile and above are moderate to above poverty. These are interpreted in the same way as one would income, though indices are not comparable across waves.

Analysis

Ttests were conducted to measure the differences in the mean capital scores between the two groups. Bivariate regressions for economic capital and multivariate regressions for social capital were also conducted.

Below, the graph shows the mean economic capital for cohort02 measured at three points; 2002, 2006 and 2009.

Figure1: Mean Economic Capital Score among Cohort02 for 2002, 2006 and 2009



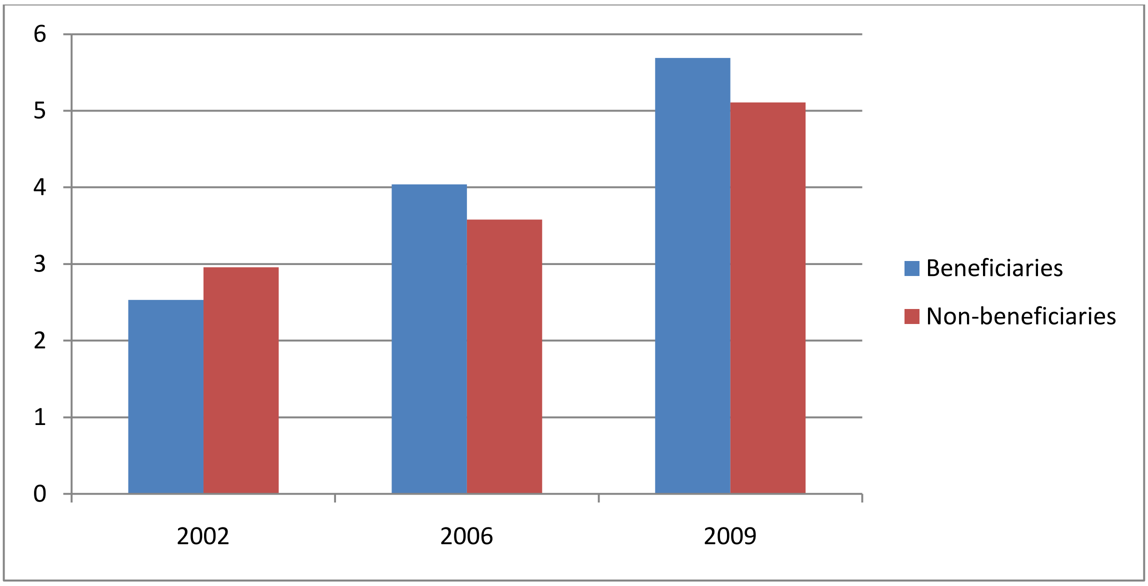
As the graph shows, in 2002, the mean volume of capital for home owners was at 3.29 index points compared with 2.64 for non-homeowners. In 2006, homeowners had a mean index score of 3.95 while non-homeowners scored at 3.67. By 2009, homeowners had a mean economic index score of 6.08 while non-homeowners had a mean score of 5.19. The findings suggest that the volume of economic capital for homeowners was higher among homeowners than that of non-beneficiaries. This difference was maintained with home owners having slightly higher increases in economic capital than non homeowners.

An independent samples t-test was conducted to compare the mean household economic capital for housing beneficiaries and non-beneficiaries using the economic capital index. For 2002, the result showed that there was a significant difference between the mean economic capital index score for housing beneficiaries (M=3.29, SD=0.16) and non-beneficiaries

(M=2.64, SD=0.10); t(438)= --3.57, p=0.004). For 2006, the result showed a not significant difference between the mean capital index score for housing beneficiaries (M=3.95, SD=0.11) and non beneficiaries (M=3.67, SD=0.19); t(394)= -1.33, p= 0.1841. In 2009, the result showed a significant difference between the mean capital index score for housing beneficiaries (M= 6.08, SD= 0.19) and non-beneficiaries (M= 5.19, SD= 0.13); t(343)= -3.64, p= 0.0003.

These results suggest that there is a real difference between the volume of economic capital for homeowners and non-homeowners, with that of home owners being slightly higher.

Figure2: Mean Economic Capital Score among Cohort04 measured at 2002(T=0), 2006 and 2009

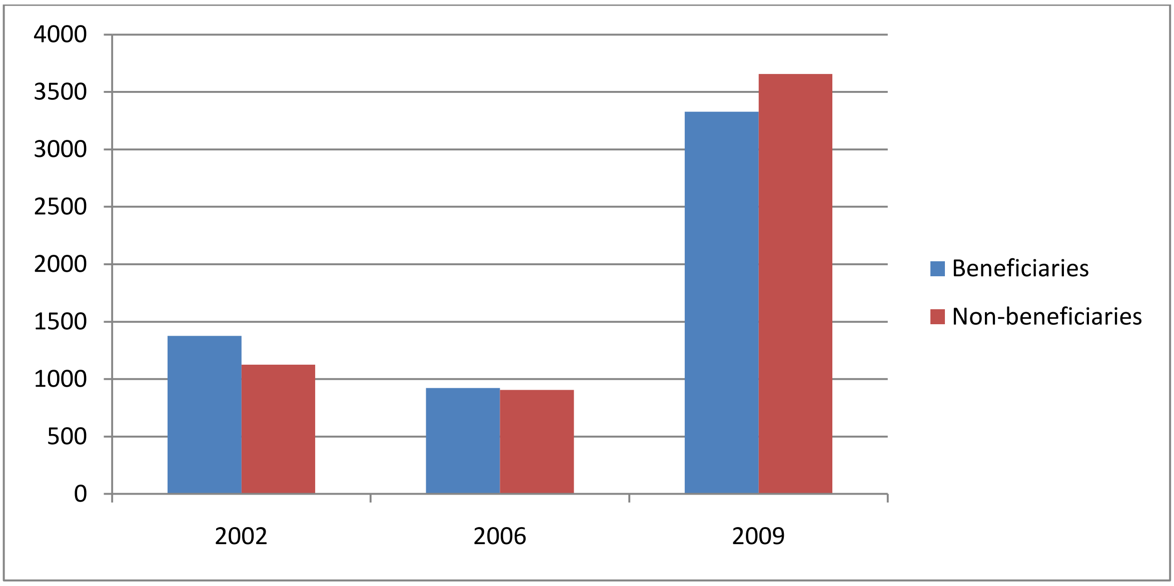


For cohort04, the graph above shows that before households received housing, those who later became non-beneficiaries had higher scores on the economic capital index with a mean score of 2.53 while those who became beneficiaries had a mean index score of 2.95. In 2006, beneficiaries scored a mean capital index score of 4.04 compared with 3.58 index points for non-beneficiaries. In 2009, housing beneficiaries on average scored 5.69 index points with non-beneficiaries scoring an average of 5.11 index points. The results suggest that homeownership is associated with higher scores on the economic capital index.

For this cohort, an independent samples t-test was also conducted to compare the mean household economic capital for housing beneficiaries and non-beneficiaries using the economic capital index. For 2006, the result showed that there was a significant difference between the mean economic capital index score for housing beneficiaries (M=4.04, SD=0.18) and non-beneficiaries (M=3.58, SD=0.13); t(302)= -2.01, p= 0.0444). In 2009, the result showed a significant difference between the mean capital index score for housing beneficiaries (M= 5.69, SD= 0.23) and non-beneficiaries (M= 5.11, SD= 0.14); t(272)= -2.19, p= 0.0290.

These results were compared to those obtained using income instead of economic capital index. However, there were a number of problems with the income variable. Most importantly, the non-response rate was high. This made it impossible to generate consistent results across waves.

Figure 3: Mean Income among 2002/2004 low cost housing beneficiaries and non-home owners from 2006 to 2009



As the graph shows, in 2002, the mean income for those home owners who benefitted from housing before 2002 was at R1375 compared with R1125 for non-homeowners. The mean income difference was insignificant (t(634)= -1.63 and p= 0.1022). In 2006, homeowners had a mean income of R921.66 while non-homeowners had a mean income of R906.10. The mean income difference was also found to be insignificant (t(47)=-0.04, p= 0.9690). In 2009, homeowners had a mean income of R3328.72 while non-beneficiaries had a mean income of R3655.64. The mean difference was also found to be insignificant (t(429)= -0.95, p= 0.3378).

The results suggest that the volume of economic capital for homeowners was the same for beneficiaries and non-beneficiaries. This was maintained in each year. However, the results should be taken with caution due to missing values and high non-response rates.

To further determine the causal relationship between property rights and economic capital, bivariate regressions were conducted between possession of property rights and amount of economic capital a household possessed from 2002 to 2009. The models are shown below.

Table 4: Results of bivariate OLS regression models of household economic capital for cohort02 measured in 2002, 2006 and 2009

Variable	**Result**
Cohort02_beneficiary	0.65*** (0.18)
Constant	2.64*** (0.11)
Adjusted R2	0.0260
Obs	440
Wave 4	
Cohort02_beneficiary	0.28 (0.21)
Constant	3.67 (0.11)
Adjusted R2	0.0019
Obs	396
Wave 5	
Cohort02_beneficiary	0.89*** (0.24)
Constant	5.19*** (0.12)
Adjusted R2	0.0346
Obs	345
Significance: * p<0.10; ** p<0.05; *** p<0.01	

As the table above shows, being a beneficiary in 2002 had a positive effect (β=0.65) on economic capital scores in 2002. The result was significant at the 1 per cent level. In wave 4, being a beneficiary had a positive effect (β=0.28) on a household's volume of economic capital and this finding was not statistically significant. In wave 5, being a beneficiary was found to have a positive effect (β=0.89) on a household's volume of economic capital in 2009. The result was statistically significant at the 1 per cent level.

The results suggest that having a low cost house is associated with higher economic capital scores for a household. The study could not proceed to conducting a multivariate analysis because of a limitation on the availability of control variables at the household level.

Table 5: Results of bivariate OLS regression models of household economic capital on cohort04 for 2006 to 2009

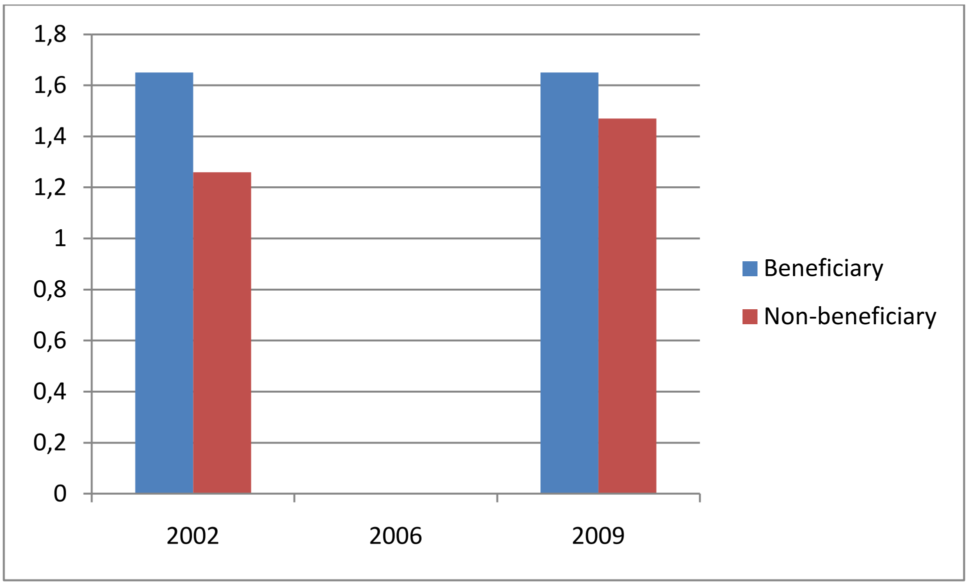
Variable	**Result**
Wave 4	
Cohort04_beneficiary	0.46** (0.22)
Constant	3.58*** (0.12)
Adjusted R2	0.0101
Obs	304
Wave 5	
Cohort04_beneficiary	0.58** (0.24)
Constant	5.11*** (0.15)
Adjusted R2	0.0138
Obs	274
Significance: * p<0.10; ** p<0.05; *** p<0.01	

The table above shows that being a beneficiary in 2004 had a positive effect (β=0.46) on economic capital scores in 2006. The result was significant at the 5 per cent level. In wave 5, being a beneficiary was found to have a positive effect (β=0.58) on a household's economic capital index scores for 2009. The result was statistically significant at the 5 per cent level. These results suggest that low cost homeownership is associated with higher scores on the economic capital index.

Social Capital

As regards the effect of home ownership on social capital, the study used a t test to test whether there was a significant difference in the mean social capital index scores for beneficiaries and non-beneficiaries. The figure below shows the mean social capital index scores for each group in 2002 and 2009. There were no social capital variables in wave 4 of CAPS hence the lack of observation for 2006.

Figure 4: Social Capital for Cohort02 measured in 2002 and 2009

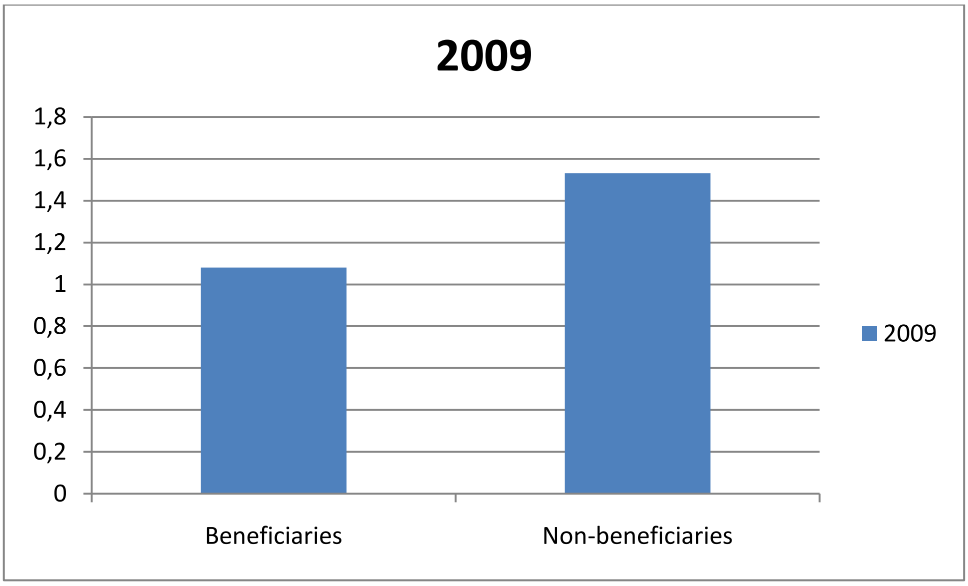


The figure above shows that in 2002, the mean volume of capital for beneficiaries was at 1.65 index points compared with 1.26 for non-homeowners. In 2009, homeowners had a mean index score of 1.65 which was the same as that of 2002, while non-homeowners scored at 1.47 index points. The findings suggest that social capital was stable for beneficiaries while it increased for non-beneficiaries.

An independent samples t-test was also conducted to compare the mean individual capital index score for housing beneficiaries and non-beneficiaries. In 2002, the result showed that there was a significant difference between the mean social capital index score for housing beneficiaries (M= 1.65, SD= 0.17) and non-beneficiaries (M= 1.26, SD= 0.06); t(531)= -2.73, p= 0.0066). However, in 2009 the study found not a significant difference between the mean social capital index score for housing beneficiaries (M=1.65, SD= 0.17) and non-beneficiaries (M= 1.47, SD= 0.07); t(343)= -1.04, p= 0.2996.

The results of the t test mean that initially in 2002, the volume of social capital among beneficiaries was higher than that of non-beneficiaries. However, later in 2009, there was no difference in the volume of social capital between beneficiaries and non-beneficiaries. The results also suggest that this reduction in difference occurred because of the reduction in social capital among beneficiaries and not because of an increase in the social capital among non-beneficiaries.

Figure 5: Social Capital for Cohort04 measured in 2009



For cohort04, the mean social capital index score for beneficiaries was 1.07 while that of non beneficiaries was 1.53 index points. The ttest showed that there was a statistically significant difference between beneficiaries and non-beneficiaries with non-beneficiaries having higher scores. This result was significant at the 5 percent level. The result suggests that non-beneficiaries had lower social capital index scores.

To test whether being a beneficiary causes higher volumes of social capital, bivariate regressions were conducted. The table below shows the results of these regressions

Table 6: Results of bivariate OLS regression models of Cohort02 young adults' social capital on beneficiary-status for 2002 to 2009

Variable	**Coefficient**
Cohort02_beneficiary	0.39*** (0.14)
Constant	1.26*** (0.06)
Adjusted R2	0.0120
Obs	533
Wave 5	
Cohort02_beneficiary	0.17 (0.17)
Constant	1.47*** (0.07)
Pseudo R2	0.0002
Obs	345
Significance: * p<0.10; ** p<0.05; *** p<0.01	

As the table above shows, home ownership in 2002 was found to have a positive effect (β=0.39) on one's scores of social capital. This finding was statistically significant at the 1 per cent level of statistical significance. In 2009, being a beneficiary was found to have a positive effect (0.17) on social capital index scores but this finding was not statistically significant.

Table 7: Results of bivariate OLS regression models of Cohort04 young adults' social capital on beneficiary-status for 2002 to 2009

Variable	**Coefficient**
Wave 5	
Cohort04_beneficiary	-0.45** (0.17)
Constant	1.52*** (0.09)
Adjusted R2	0.0235
Obs	205
Significance: * p<0.10; ** p<0.05; *** p<0.01	

The table above shows that being a beneficiary had a negative effect (β=0.45) on social capital index scores. This finding was significant at the 5 per cent level of statistical significance.

Further, the relationship between being a beneficiary and the social capital index was tested using a multivariate regression analysis. Control variables included age, gender, marital status, volume of cultural capital, and household income.

Table 8: Results of multivariate OLS regression models of Cohort02 young adults' social capital on beneficiary-status and other variables in 2009

Variable	Model A	Model B	Model C
age1	0.05** (0.03)	0.04 (0.03)	0.04 (0.03)
maleya1	0.14*** (0.14)	0.60*** (0.14)	0.57*** (0.13)
married1	-0.38 (0.63)		
hhold_income4	0.96* (0.51)	0.65 (0.47)	
Cohort02_beneficiary			0.16 (0.16)
Constant	-0.65 (0.70)	-0.17 (0.66)	
Adjusted R2	0.0655	0.0568	0.0509
Obs	323	327	345
Significance: * p<0.10; ** p<0.05; *** p<0.01			

As the table shows above, models were first constructed without the cohort02_beneficiary variable and then the the variable was introduced in the final model. As the table shows, in model A, age in wave 1 had a positive effect (β=0.05) on social capital index scores. This was significant at the 5 per cent level of statistical significance. Being male had a positive effect (β=0.14) on social capital index scores. This result was significant at the 1 per cent level of statistical significance. Being married was found to have a negative effect (β=-0.38) on social capital index scores but was statistically insignificant. Household income had a positive effect (β=-0.96) on social capital index scores. This finding was significant at the 10 percent level of statistical significance. In model B, being married was omitted. Age was found to have a positive effect (β=0.04) on social capital index scores but this was not statistically significant. Being male had a positive effect (β=0.60) on social capital and this finding was statistically significant at the 1 percent level of statistical significance. Household income was found to have a positive effect on social capital index scores but this was not statistically significant. In the final model, model C, age, being male and the cohort02_beneficiary variable were included. Age had the same effect (β=0.04) as that in model B (β=-0.05). Being male had a positive effect (β=0.57) on social capital index scores. This was significant at the 1 percent level of statistical significance. Being a beneficiary was found to have a positive effect on social capital. This result was however not statistically significant.

Table 9: Results of multivariate OLS regression models of Cohort04 young adults' social capital on beneficiary-status and other variables in 2009

Variable	Model A	Model B	Model C
W3y_age	0.09** (0.03)	0.08** (0.03)	0.07** (0.03)
maleya1	0.58*** (0.18)	0.57*** (0.17)	0.54*** (0.17)
married1			
W4_income	-0.76 (1.13)		
Cohort04_beneficiary			-0.40** (0.20)
Constant	-0.15 (1.41)	-0.42 (0.68)	
Adjusted R2	0.0845	0.0750	0.0915
Obs	166	166	174
Significance: * p<0.10; ** p<0.05; *** p<0.01			

The table above shows the results of the multivariate OLS regression of social capital index on cohort04 young adults measured in 2009. As in the above models, models were first constructed without the cohort04_beneficiary variable and then the variable was introduced in the final model. In model A, age had a positive effect (β=0.09) on social capital index scores. This was significant at the 5 per cent level of statistical significance. Being male had a positive effect (β=0.58) on social capital index scores. This result was significant at the 1 per cent level of statistical significance. Household income was found to have a negative effect (β=-0.76) on social capital index scores but was not statistically insignificant. In model B, household income was omitted. Age was found to have a positive effect (β=0.08) on social capital index scores and this was statistically significant at the 5 per cent level. Being male had a positive effect (β=0.57) on social capital and this finding was statistically significant at the 1 percent level of statistical significance. In the final model, model C, age, being male and the cohort04 beneficiary variable were included. Age had a positive effect (β=0.07) on social capital index scores and the finding was significant at the 5 per cent level of statistical significance. Being male had a positive effect (β=0.54) on social capital index scores. This was significant at the 1 percent level of statistical significance. Being a beneficiary was found to have a negative effect on social capital. This result was statistically significant at the 5 per cent level of significance.

Discussion

In sum, though the index does not allow for comparability across waves, property rights are associated with higher household economic capital scores. However, this is not the complete picture because of limitations in the data. Firstly, T=0 fell before the first wave of data for CAPS was collected. Secondly, other assets that were not available in the dataset would have enriched the analysis and findings. The picture could also have been clearer if multivariate regression analysis were conducted between the economic capital indices and several control variables. This was not possible because many of the variables were individual level variables that could not be used at household level. Further, it would have been ideal to use the head of household as the proxy for the households but variables for the head of household were not available in the dataset for the reason that it is a dataset primarily for young adults. However, the evidence from cohort04 is more reliable though limited by the latest time at which the group's variables have been measured.

As regards the effect of property rights on social capital, the evidence provided in this study suggests that being a beneficiary of a low-cost house is associated with weak social capital. The evidence here is supported by qualitative work done on new housing projects in Cape Town (Seekings *et al.*, 2010) in which respondents stated that initially after moving into their houses, beneficiaries had high levels of social cohesion but these reduced by the time of that study in 2009. However, since the measure of social capital includes mostly an individual's participation in groups, it is also a plausible explanation that a young adult's participation in groups such as sports clubs, music and civic participation is initially high during the teens – in which many young adults were in 2002 – and then reduces as they grow older and out of their teens – the age at which many of the individuals were at the end of 2009. Like cultural and economic capital indices, the testing of this hypothesis was also limited by number of variables and particularly observations. Other variables that could have been included are measures of the value of financial favours received by an individual, economic worth for friends who an individual receives financial favours from, economic value of technical advice received from friends or relatives and more organisational affiliations such as honour societies.

Because the study uses a pseudo experimental design, the evidence provided by the t tests that there is a significant difference in economic capital, a significant difference in social capital should be taken as such but subject to further testing in a natural experiment proper or a randomised controlled trial when financially feasible. A natural experiment or RCT would appropriately enhance the methodology used in this study. Further, the study could generate more informative results by further observing the beneficiaries and non-beneficiaries in subsequent waves on the same variables. In addition, the study would benefit from comparison with other contexts, which provides justification for comparison with housing beneficiaries in Lusaka, Zambia.

Thirdly, the use of aggregate measures of the effects of property rights provides an alternative measure which is complimented by the specific micro level analyses of other studies in the literature. For example, Van Gelda's (2009) study that showed housing improvement among homeowners in Buenos Aires complements this study as the economic capital index includes various housing characteristics which are akin to an improvement in the transition from non-homeowner to homeowner. This includes index components such as wall materials, roof materials and toilet facilities. Another example is that of Di *et al.* (2007) who found that homeownership had a positive effect on wealth creation overtime, complementing the findings of this study in that the index includes symbols of wealth such as assets. Likewise, Turner and Luea (2009) who showed that income levels among homeowners were higher. Particularly, the study shows the challenges encountered when using income data. However, regarding social capital, an important variable that was absent in this study and present in Rohe and Stewarts' (1996) was neighbourhood stability in terms of length of stay among beneficiaries and how this affects social capital. Perhaps the relationship between homeownership and social capital can best be understood through the mediation of neighbourhood stability, which this study had as a limitation due to a shorter duration over which respondents were investigated. The use of aggregate measures in investigating the effects of property rights should therefore be encouraged in future studies.

Finally, the findings suggest that low-cost homeownership does not eradicate poverty among beneficiaries but rather alleviates poverty. This is because the two groups still score within the same range. Qualitative research could shed more light into the differences between these groups.

Conclusion

In Cape Town as in most of South Africa, low cost housing is a contentious issue, particularly whether the provision of housing with property title can bring socio-economic wellbeing for beneficiaries, apart from restoring the dignity of adequate shelter. Among young adults and specifically those in households that benefitted from state subsidised housing, they have higher asset-accumulation compared to those that come from households of non-beneficiaries. But this does not mean homeownership eradicates poverty but rather alleviates it. The difference in economic capital seems to be caused by homeownership. Counter-intuitively, low-cost homeownership has a negative effect on social capital. There is a difference in social capital between homeowners and non-homeowners.

The results from this study should be taken with caution because the absence of some variables that could have been included in the indices suggests that a more complete picture could have been portrayed with the availability and inclusion of those variables. These would potentially strengthen the finding that property rights increases volumes of economic capital and would have shed more light on the relationship between property rights and social capital.

In future research involving property rights and its' effects on socio-economic wellbeing, other aggregate measures of the effects should be pursued and compared with the results obtained using principal components analysis. Taking advantage of a natural experiment or conducting an RCT would appropriately enhance the methodology used in this study. Further, the study could generate more informative results by further observing the same beneficiaries and non-beneficiaries in subsequent waves at larger sample sizes on the same variables and more. Qualitative interviews investigating the differences in the experiences of poverty between the two groups is also recommended.

Finally, the state and housing NGOs should regard provision of low cost housing as a poverty alleviation measure rather than a long term poverty eradication measure. Policies and programmes to improve and sustain social capital in new housing projects should be instituted and encouraged. In addition, there should be programmes to assist homeowners to use their houses as assets to improve their socio-economic wellbeing and not to discourage homeowners from settling for using their houses as dwellings in order to maximize poverty alleviation.

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