Volume 41, Issue 1

Homeownership and happiness: evidence from Canada

Ehsan Latif
Thompson Rivers University

Abstract

This study used panel data from the Canadian National Population Health Survey to examine the impact of homeownership on individual happiness. The study utilized a number of estimation methods, namely Ordered Probit, Ordinary Least Squares and panel data Fixed Effects. The Ordered Probit and the Ordinary Least Squares methods do not control for unobserved individual specific heterogeneities that may impact happiness. On the other hand, the panel data allowed this study to use a fixed effects method that controls for unobserved individual specific fixed effects. The results of the fixed effects method for the overall sample suggest that owning a home has no significant impact on happiness. However, the sub-sample analysis based on income levels suggests that owning a home negatively impacts happiness of individuals in the lowest income category.

1. Introduction

This paper focuses on the relationship between homeownership and happiness. For many households, homeownership is a lifetime dream (Beracha and Johnson, 2012). Homeowners receive consumption utility from having a permanent residence (Zhang and Zhang, 2019). Many homeowners also experience financial gains due to appreciation in housing prices. However, homeownership may also involve a financial burden because of mortgage-related costs, and as a result, many homeowners suffer from mental stress. Thus, theoretically, it is difficult to predict the impact of homeownership on happiness.   Many studies have examined the effects of homeownership on health, labor force participation, child outcomes, and household wealth (Haurin et al., 2002; Dietz et al., 2003; Munch et al., 2006; Turner et al., 2009; Engelhardt et al., 2010). On the other hand, not much research had been done on the effect of homeownership on happiness or life satisfaction. To the best of my knowledge, no study has used Canadian data to examine the impact of homeownership on individual happiness. This paper aims to fill this gap in the literature by examining the effect of homeownership on Canadians' Happiness. The results of this study will provide policymakers with empirical evidence that will support formulating appropriate housing policies beneficial to people.

The majority of existing studies on the relationship between homeownership and happiness utilized data from the United States, Europe and China. Using data from the U.S. General Social Survey, Rossi and Weber (1996) did not find any significant effect of homeownership on happiness. Using data from the eight waves of the European Community Household Panel (ECHP) covering the period 1994-2001, Diaz-Serrano (2009) found that renters who became homeowners not only experienced a significant increase in housing satisfaction, but also after changing their tenure status, they obtained a different utility from the same housing context. Using data from the Latin Barometer surveys on seventeen Latin American countries, Ruprah (2010) found that homeownership had a significant positive impact on happiness. Stillman and Liang (2010) used longitudinal data from nine waves of the nationally representative Household, Income and Labour Dynamics of Australia (HILDA) survey to examine the causal relationship between homeownership and a number of measures of personal wellbeing. The study found that homeownership had at most a small positive impact on overall measures of life satisfaction. However, homeownership resulted in a better feeling of inclusion and satisfaction with one's neighbourhood, particularly for single men and couples. In their study, Parker et al. (2011) used data from the British Social Attitudes (BSA) Surveys and they did not find any significant impact of homeownership on life satisfaction. Using data from the United States, Bucchianeri (2011) found that female homeowners were no happier than renters. Using a large nationally representative data set from urban China, Feng Hu (2013) examined the effect of homeownership on individual subjective well-being. The results suggest that homeownership status had a strong positive impact on both one's housing satisfaction and overall happiness in urban China. The study also found that the subjective benefits of owning a house in large cities were much smaller than in small cities. Zumbro (2014) used data from the German Socio-Economic Panel (GSOEP) to investigate the relationship between homeownership and life satisfaction in Germany. The study found that the effect of homeownership on life satisfaction was positive, provided the dwelling was in good condition. Zhang et al. (2018) utilized data from the 2006 Chinese General Social Survey to examine the relationship between housing characteristics and overall life satisfaction. The study found that homeownership had a significant positive impact on life satisfaction. The study estimated that perceived value of homeownership to be approximately 4.5 times individual income.

The objective of this paper is to use Canadian data to examine the impact of homeownership on happiness. Additionally, the study will conduct subgroup analyses based on location (urban vs rural) and also based on income categories.

The paper is structured as follows: section 2 discusses data and methodology; section 3 presents the results of the study; section 4 is the concluding section that summarizes the findings and discusses policy implications.

2. Data and Methodology

This study used longitudinal data from the Canadian National Population Health Survey (NPHS: 2006-2011). The NPHS collects information from the Canadian population on economic, social, demographic, occupational and environmental correlates of health. It has three components: the Households, the Health Institutions, and the North components. This study is based on the data from the household component of the NPHS. This component collected information from households in the ten Canadian provinces, excluding people living on Indian Reserves and Crown Lands, residents of health institutions, full-time members of the Canadian Forces Bases and some remote areas in Ontario and Quebec. The present study restricted the sample to individuals ages 16 and over, yielding 20,538 person-wave observations.

The dependent variable of the study is "Happiness". This variable has five ordinal categories: 1) so unhappy that life is not worthwhile; 2) very unhappy; 3) somewhat unhappy; 4) somewhat happy; and 5) happy and interested in life.

The major independent variable is a dummy variable indicating whether the dwelling is owned by a member of the household.

Other independent variables of the models are as follows: gender, age, marital status, education, health, work force status, immigration status, race, and number of bedrooms. Age is a continuous variable. Marital status has four categories: single, married, widowed and divorced/separated. The base category is "Single". The variable "Education" has four categories: less than secondary, secondary graduate, some post-secondary education and college-university education. The base category is "Less than Secondary Education". "Health" has five categories: poor health, fair health, good health, very good health and excellent health. The base category is "poor health". The variable "Work Force Status" has three categories: employed, unemployed and not in labor force. The base category is "Employed". "Immigration Status" is a dummy variable with Canadian born as a base category. "Race" is another dummy variable with "Non-White" as the base category. Finally, "Number of Bedrooms" is a continuous variable indicating the number of bedrooms in the dwelling.

Homeownership positively affects happiness, as it symbolizes one's personal success, self-esteem and social status (Diaz-Serrano, 2006; Ruprah, 2010). Furthermore, homeownership is associated with a number of economic benefits. For example, homeowners accumulate wealth as they repay their mortgage, and they also reap benefits when house prices increase (Boehm & Schlottmann, 2008). Unlike renters, homeowners do not have to worry about a future rent increase (Sinai & Souleles, 2005).

On the other hand, homeownership can also negatively impact Happiness (Ruprah, 2010; Parker et al. 2011). For example, homeownership may be a significant financial burden, particularly for the owners who don't have sufficient income to maintain their house or to make regular mortgage payments. Happiness may also be negatively impacted if house value

depreciates. Additionally, homeownership may decrease owners' subjective well-being, as owning a house in one city often reduces one's job mobility and flexibility (Oswald, 1996).

Thus, theoretically, it is not possible to determine the net impact of homeownership on individual happiness. It is a matter of empirical investigation.

The empirical framework for this study is based on the following model:

$$HAP_{it} = \beta_0 + \beta_x X_{it} + \beta_1 Home_{it} + \mu_i + \delta_j + \varepsilon_{it}$$

(1)

where HAP_{it} represents the happiness level of individual i in year t. X is a vector of observable individual-specific explanatory variables, such as gender, age, marital status, education, health, labor force status, immigration status, and race; Home represents homeownership status; and ε is the error term. μ_i represents unobserved individual specific fixed effects. The model includes provincial dummies (δ_j) to take into account the unobserved determinants of happiness that differ across locations but are time-invariant, such as different types of natural beauty and weather.

The dummy variable gender has been included in the model because previous studies have found gender difference with respect to happiness level. A number of studies found that females tended to be happier than males (Di Tella et al., 2001; Blanchflower & Oswald, 2004). Studies have found that marital status influenced subjective well-being. A number of studies have shown that married people are happier than single people (Diener et al., 2000; Johnson and Wu, 2002; Latif, 2015). The results for the impact of education on happiness are inconclusive. Some studies have found that education had a positive effect on Happiness (Di Tella et al. 2001; Becchetti et al. 2007; Cuñado and de Gracia, 2012). On the other hand, Clark and Oswald (1994, 1996) found a negative impact of education on happiness. Previous studies consistently found significant positive impact of health on Happiness (Dolan et al., 2008). Previous studies have found that employment had a positive while unemployment had a negative effect on Happiness (Di Tella et al., 2002; Helliwell, 2003; Latif, 2010, 2015). Thoits & Hewitt (2001) found a significant impact of race on subjective well-being.

As "Happiness" is an ordinal variable, to estimate the model, the study used the Ordered Probit method. However, Ferrer-i-Carbonell and Frijters (2004) showed that the assumption of ordinality or cardinality does not qualitatively change the results of the happiness model. So, as a test of robustness, the study also utilized the Ordinary Least Squares method to estimate the model.

Finally, the study used a panel fixed effects model to control for unobserved individual specific fixed effects such as personality. Ferrer-i-Carbonell and Frijters (2004) argued that controlling individual specific fixed effects might impact the results for the determinants of subjective well-being.

3. **Results of the Study**

Figures 1,2,3,4,5,6, and 7 show the graphs of marginal effects from the Ordered Probit Models estimated using overall, urban, rural, lowest income group, lower middle-income group, upper middle-income group, and highest income group samples respectively. The marginal effects are estimated based on following happiness categories: 1) so unhappy that life is not worthwhile; 2) very unhappy; 3) somewhat unhappy; 4) somewhat happy; and 5) happy and interested in life. Table I shows the descriptive statistics. The results of the Ordered Probit estimations are shown in Table II.[1] The second column of Table II shows the results for the overall sample while the third and fourth columns show the results for the urban sample and rural sample, respectively. The results for the overall sample suggest that owning a home enhanced happiness. Other notable results of the model are as follows: females are happier than males; married people are happier than single people; good health positively impacts happiness; education negatively impacts happiness. The third column shows the results for individuals living in urban areas. The results suggest that owning a home has a positive, but statistically insignificant impact on happiness. Other results for the urban sample are as follows: females are happier than males; married people are happier than single people; health positively impacts happiness; and white people are happier than non-white people. The results for the rural sample are shown in the fourth column of Table II. The results suggest that having owned home positively impacts happiness. Other results of this model include: females are happier than males; education negatively impacts happiness; married people are happier that single people; health positively impacts happiness.

Thus, according the Ordered Probit estimation, having owned home has a significant positive impact on individual happiness. However, when we divide the sample into urban and rural categories, then we find that the above result is true only for rural sample.

To conduct further investigation, the study divided the sample into four groups based on following income levels: lowest, lower middle, upper middle and highest. The results of the Ordered Probit estimations for the four samples are shown in Table III. The results suggest that owning a home has a significant positive impact on happiness only for individuals belonging to the highest income group. To the best of my knowledge, only Ren et al. (2008) conducted subgroup analysis based on income categories. Using data from China, the authors found that the impact of homeownership on life satisfaction was not statistically significant for low income urban residents, while it was significantly positively related to life satisfaction for high- and middle-income groups.

The results of the Ordinary Least square regressions are shown in Table IV. The results for the overall sample, as shown in the second column of Table IV, suggest that owning a home has a significant positive impact on happiness. Other results of the model are as follows: females are happier than males; education negatively impacts happiness; being married increases happiness; health positively impacts happiness. The results for the urban sample are shown in the third column of Table IV. The results for this sample show that having owned a home has a positive, but insignificant impact on people living in urban areas. Other results of this model are qualitatively similar to the findings from the overall sample. The results for the rural sample, as shown in the fourth column of Table IV, suggest that owning a home positively impacts individual

---

[1] The full results of the Ordered Probit Models, Ordinary Least Square Models and Fixed Effects Models are available upon request.

happiness. The other results for this sample are qualitatively similar to the findings of the overall sample.

Table V shows the results of the Ordinary Least Square estimations for sub-samples based on income levels. The results suggest that owning a home has a significant positive impact on happiness only in the sub-sample of individuals in the highest income category. The impact of owning a home is not statistically significant for all other income categories.

Thus, the results of Ordered Probit estimations and Ordinary Least Square estimations are qualitatively similar. Both methods suggest that, for the overall sample, owning a home has a significant positive effect on happiness. Both methods show that the positive impact of owning a home is restricted to individuals living in rural areas. Furthermore, both methods suggest that owning a home positively impacts the happiness of individuals belonging to the highest income category.

However, neither the Ordered Probit method nor the Ordinary Least Square method can control for unobserved individual specific heterogeneity that may impact happiness. Examples of unobserved factors include personality traits such as optimism, intrinsic gloominess etc. If these factors are not controlled, they will bias the results. One way to control unobserved individual specific fixed factors is to use the panel fixed effects method. This study uses the panel fixed effects method, and the results of the estimations are shown in Table VI and Table VII.

The results for the overall sample, as shown in Table VI, suggest that owning a home has a negative, but statistically insignificant impact on happiness. Other results for the fixed effects estimations are as follows: age has a significant negative impact on happiness; college or university education has a significant positive effect on happiness; married people are happier than single people; and health positively impacts happiness. The third column of Table VI shows the results for the urban sample. The results show that owning a home has a negative, but statistically insignificant impact on happiness. Other important results of the estimation include: age negatively impacts happiness; being married has a significant positive effect on happiness; and health positively impacts happiness. The fourth column of Table VI shows the results for the rural sample. According to the results, owning a home has a negative, but insignificant impact on individual happiness. Other results for this sample are as follows: age has a significant negative impact on happiness; education positively impacts happiness; health has a significant positive impact on happiness.

Thus, the fixed effects method, controlling for unobserved individual specific heterogeneities, finds that owning a home has no significant impact on individual happiness. This result from the fixed effects model contradicts the findings from the Ordered Probit method and Ordinary Least Square method, which do not control for unobserved individual specific factors.

The results for the fixed effects estimations for subsamples based on income categories are shown in Table VII. The results show that owning a home only has a significant negative impact on happiness for the lowest income group.

The fixed effects model can't fully solve the omitted variable problem.[2] For example, if becoming a homeowner is correlated with omitted variables that might influence happiness, the model can still have a problem. Further, the change in homeowner status is connected with some kind of achievement when becoming a homeowner and some kind of loss if one no longer is able to be a homeowner. To deal with these problems, the study created a robustness test with an unbalanced panel dataset by removing the first year after the change in homeowner status and then estimated regression models.

The results of the fixed effects models with unbalanced panel data are qualitatively similar to the original models confirming the findings of the results from the balanced panel data models.

In another robustness test, the study separated those that moved up and became homeowner from those who moved down and then estimated regression models. The results suggest that moving up has a significant positive impact on happiness. On the other hand, moving down has no statistically significant effect on happiness.[3]

4. Conclusion

This study used panel data from the Canadian National Population Health Survey to examine the impact of homeownership on individual happiness. The study utilized a number of estimation methods, namely Ordered Probit, Ordinary Least Squares and panel data Fixed Effects. The Ordered Probit and the Ordinary Least Squares methods do not control for unobserved individual specific heterogeneities that may impact happiness. On the other hand, the panel data allowed this study to use a fixed effects method that controls for unobserved individual specific fixed effects. The results of the fixed effects method for the overall sample suggest that owning a home has no significant impact on happiness. However, the sub-sample analysis based on income levels suggests that owning a home negatively impacts happiness of individuals in the lowest income category.

In sum, this study found that in the overall sample, controlling for unobserved individual specific fixed effects, homeownership has no significant impact on happiness. This result is consistent with the findings of Parker et al. (2011), Bucchianeri (2011) and Rossi and Weber (1996). Subgroup analysis in this study suggests that homeownership has a significant negative impact on the happiness of people in the lowest income category. A possible reason for this result is that homeownership may impose a financial burden on homeowners in the lowest income bracket.

The results of this study have important policy implications. The estimations of overall sample show that homeownership has no significant impact on individual happiness. This result implies that policymakers can be indifferent with respect to promoting homeownership or creating affordable rental units. Alternatively, policymakers can also consider offering rental supports to renters in need. Another important result of the study is that homeownership negatively impacts

---

[2] The author is grateful to an anonymous reviewer for suggesting the robustness tests.
[3] The results of these models are available upon request.

happiness of individuals in the low-income category. A possible reason for this result is that homeownership creates a financial burden for low income people. Policymakers may consider ways to ease this financial burden in order to enhance the subjective well-being of low-income individuals.

In 2017, the Government of Canada formulated Canada's first-ever National Housing Strategy (Government of Canada, 2017). The objectives of this $55 Billion, 10-year plan include cutting chronic homelessness by 50%, removing 530,000 families from housing need, modernizing 300,000 homes, and building up to 125,000 new homes. This National Housing Strategy prioritizes the most vulnerable Canadians, including women and children fleeing domestic violence, seniors, Indigenous peoples, homeless people, people with disabilities, young adults, racialized groups, and newcomers. This strategy will bring together the public, private and non-profit sectors to create more affordable housing.

The panel data set used in this study does not have information on the quality, age, or size of dwellings. If data become available, then future studies may include these variables in the happiness model to see whether quality of dwellings matters.

References

1. Bucchianeri, G.W. (2011). "The American Dream or the American Delusion? The Private and External Benefits of Homeownership for Women" Available at SSRN: https://ssrn.com/abstract=1877163 or http://dx.doi.org/10.2139/ssrn.1877163

2. Becchetti, L., Castriota, S., & Londono Bedoya, D. A. (2007). "Climate, happiness and the Kyoto protocol: Someone does not like it hot" Centre for Economic and International Studies (CEIS) working paper number 247.

3. Beracha, E., & Johnson, K. H. (2012). "Lessons from over 30 years of buy versus rent decisions: Is the American dream always wise?" Real Estate Economics 40(2), 217-247.

4. Blanchflower, D. G., & Oswald, A. J. (2004). "Well-being over time in Britain and the USA" Journal of Public Economics 88(7), 1359-1386.

5. Boehm, T. P., & Schlottmann, A. (2008). "Wealth accumulation and homeownership: Evidence for low-income households" Cityscape 10(2), 225-256.

6. Clark, A. E. and Oswald, A. J. (1994): "Unhappiness and unemployment" The Economic Journal 104(424), 648-59.

7. Clark, A. E. and Oswald, A. J. (1996): "Satisfaction and Comparison Income" Journal of Public Economics 61(3), 359-381.

8. Cuñado, J., & de Gracia, F. P. (2012). "Does education affect happiness? Evidence for Spain" Social indicators research 108(1), 185-196.

9. Diaz-Serrano, L. (2006). "Housing satisfaction, homeownership and housing mobility: A panel data analysis for twelve EU countries" IZA Discussion Papers number 2318.

10. Diaz-Serrano, L. (2009). "Disentangling the housing satisfaction puzzle: Does homeownership really matter?" Journal of Economic Psychology 30(5), 745-755.

11. Dietz, R. D., & Haurin, D. R. (2003). "The social and private micro-level consequences of homeownership" Journal of urban Economics 54(3), 401-450.

12. Diener, Ed, Carol L. Gohm, Eunkook M. Suh and Shigehiro Oishi (2000). "Similarity of the Relations Between Marital Status and Subjective Well-Being Across Cultures" Journal of Cross Cultural Psychology 31(4), 419-436.

13. Di Tella, R., MacCulloch, R. J., & Oswald, A. J. (2001). "Preferences over inflation and unemployment: Evidence from surveys of happiness" American Economic Review 91(1), 335-341.

14. Dolan, P., Peasgood, T., & White, M. (2008). "Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being" Journal of economic psychology 29(1), 94-122.

14. Engelhardt, G. V., Eriksen, M. D., Gale, W. G., & Mills, G. B. (2010). "What are the social benefits of homeownership? Experimental evidence for low-income households" Journal of urban Economics 67(3), 249-258.

15. Ferrer-i-Carbonell, A., & Frijters, P. (2004). "How Important is Methodology for the estimates of the determinants of happiness?" The Economic Journal 114(497), 641-659.

16. Government of Canada (2017). "Canada's First National Housing Strategy" Retrieved from https://www.placetocallhome.ca

17. Haurin, D. R., Parcel, T. L., & Haurin, R. J. (2002). "Does homeownership affect child outcomes?" Real Estate Economics 30(4), 635-666.

18. Helliwell, J. F. (2003). "How's life? Combining individual and national variables to explain subjective well-being" Economic Modelling 20(2), 331–360.

19. Hu, F. (2013). "Homeownership and subjective wellbeing in urban China: Does owning a house make you happier?" Social Indicators Research 110(3), 951-971.

20. Johnson, D. R., & Wu, J. (2002). "An empirical test of crisis, social selection, and role explanations of the relationship between marital disruption and psychological distress: A pooled time-series analysis of four-wave panel data" Journal of Marriage and Family 64(1), 211-224.

21. Latif, E. (2010). "Crisis, unemployment and psychological wellbeing in Canada" Journal of Policy Modeling 32(4), 520-530.

22. Latif, E. (2015). "Happiness Adaptation to Income: Evidence from Canada" *Economics Bulletin 35*(3), 1477-1487.

23. Munch, J. R., Rosholm, M., & Svarer, M. (2006). "Are homeowners really more unemployed?" The Economic Journal 116(514), 991-1013.

24. Oswald, A. J. (1996). "A conjecture on the explanation for high unemployment in the industrialized nations: Part I" Warwick Economic Research Papers number 2068-2018-901.

25. Parker, L., Watson, D., & Webb, R. (2011). "Family fortunes: Gender-based differences in the impact of employment and home characteristics on satisfaction levels" Journal of Socio-Economics 40(3), 259–264.

26. Ren, H., Folmer, H., & Van der Vlist, A. J. (2018). "The impact of home ownership on life satisfaction in urban China: A propensity score matching analysis" Journal of Happiness Studies 19(2), 397-422.

27. Rossi, P. H., & Weber, E. (1996). "The social benefits of homeownership: Empirical evidence from national surveys" Housing policy debate 7(1), 1-35.

27. Ruprah, I. J. (2010). "Does owning your home make you happier?: Impact evidence from Latin America" Inter-American Development Bank Working Paper number OVE/WP-02/10, NW, Washington DC.

28. Sinai, T., & Souleles, N. S. (2005). "Owner-occupied housing as a hedge against rent ris" The Quarterly Journal of Economics 120(2), 763-789.

29. Stillman, S., & Liang, Y. (2010). "Does Home-ownership improve personal well-being" Motu Economic and Public Policy Research manuscript.

30. Turner, T. M., & Luea, H. (2009). "Homeownership, wealth accumulation and income status" Journal of Housing Economics 18(2), 104-114.

31. Thoits, P. A., & Hewitt, L. N. (2001). "Volunteer work and well-being" Journal of health and social behavior 42 (June), 115-131.

32. Zhang, F., Zhang, C., & Hudson, J. (2018). "Housing conditions and life satisfaction in urban China" Cities 81, 35-44.

33. Zhang, C., & Zhang, F. (2019). "Effects of housing wealth on subjective well-being in urban China" Journal of Housing and the Built Environment 34(4), 965-985.

34. Zumbro, T. (2014). "The relationship between homeownership and life satisfaction in Germany" Housing Studies 29(3), 319-338.

Table I: Descriptive Statistics

| Variable	Overall Sample	Male Sample	Female Sample
Age (Average figure)	49.85 (.088)	49.67 (.130)	50.06 (.139)
Single	.08 (.002)	.12 (.003)	.04 (.002)
Married	.73 (.003)	.67 (.004)	.80 (.004)
Divorced/ Widow/ Separated	.19 (.003)	.21 (.004)	.16 (.004)
Less Than Secondary Education	.14 (.002)	.13 (.003)	.15 (.004)
Secondary Graduate Education	.13 (.002)	.13 (.004)	.13 (.004)
College- University Education	.47 (.003)	.47 (.004)	.46 (.004)
Some Post -Secondary Education	.26 (.002)	.27 (.004)	.26 (.005)
Home Ownership	.83 (.003)	.81 (.004)	.85 (.003)
Lowest Income Category	.05 (.001)	.06 (.002)	.03 (.001)
Low-Middle Income Category	.15 (.002)	.18 (.003)	.12 (.003)
Upper-Middle Income Category	.35 (.003)	.35 (.004)	.34 (.005)
Highest Income Category	.45 (.003)	.41 (.004)	.51 (.005)

Source: National Population Health Survey (2006-2011)

Figure 1: The Impact of Homeownership on the Probability of being on Happiness Outcome
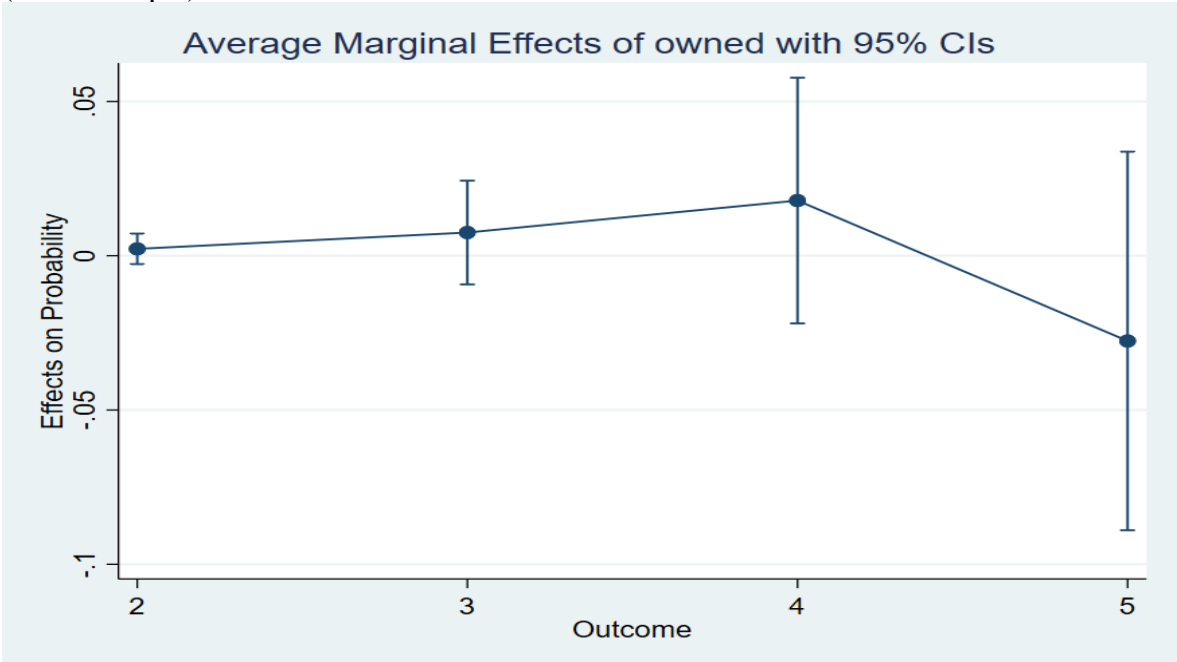(Overall Sample)
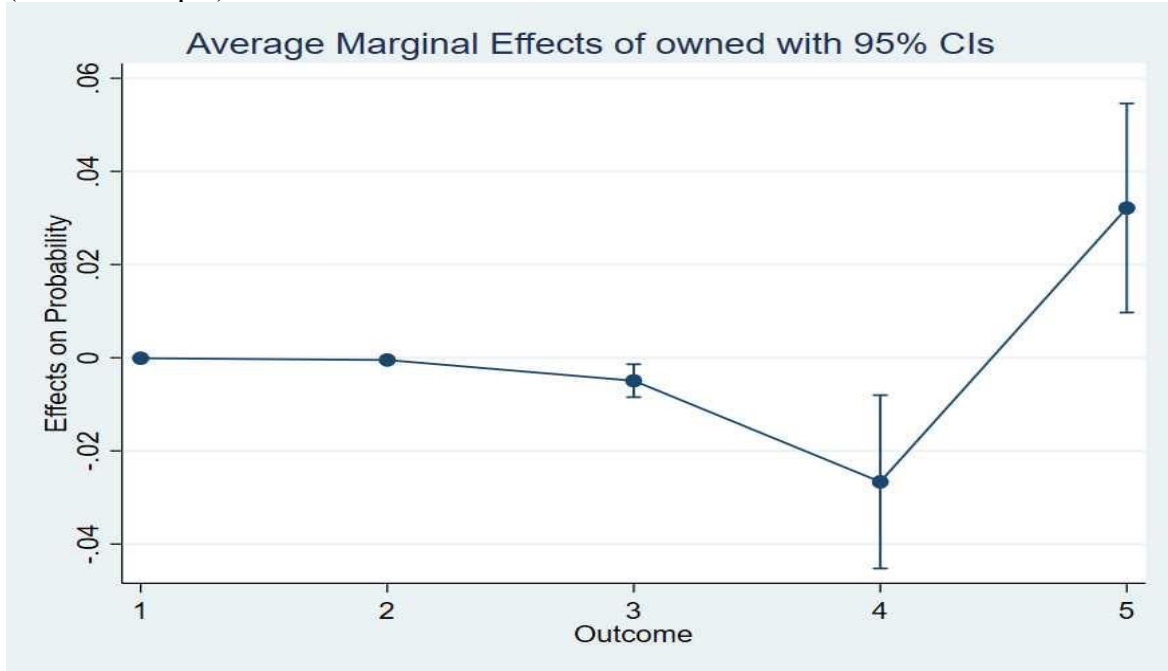
Note: 1 = so unhappy that life is not worthwhile; 2= very unhappy; 3= somewhat unhappy; 4= somewhat happy; and 5= happy and interested in life.

Figure 2: The Impact of Homeownership on the Probability of being on Happiness Outcome
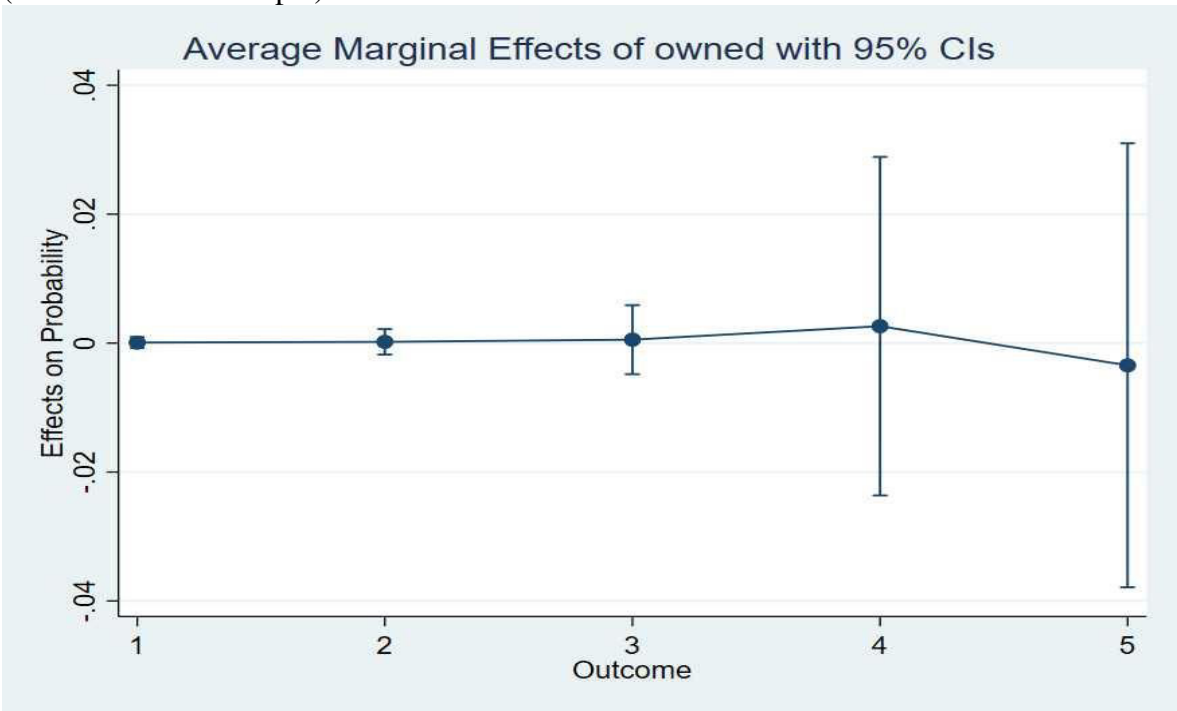(Urban Sample)
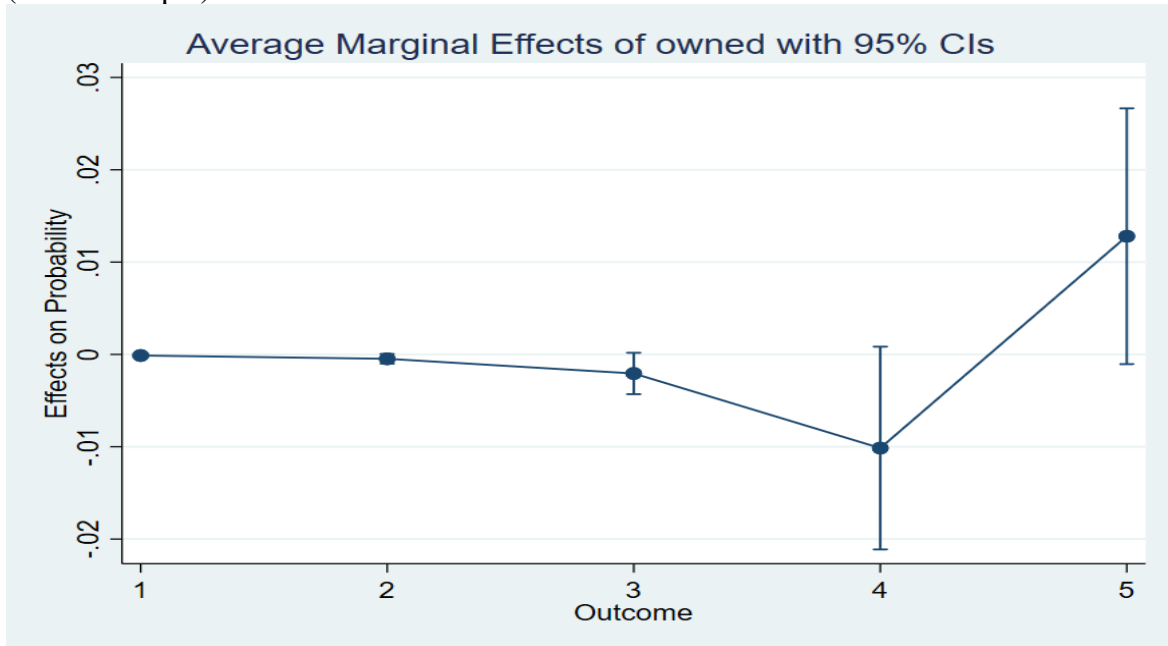
Note: Happiness Outcomes: 1 = so unhappy that life is not worthwhile; 2= very unhappy; 3= somewhat unhappy; 4= somewhat happy; and 5= happy and interested in life.

Figure 3: The Impact of Homeownership on the Probability of being on Happiness Outcome (Rural Sample)
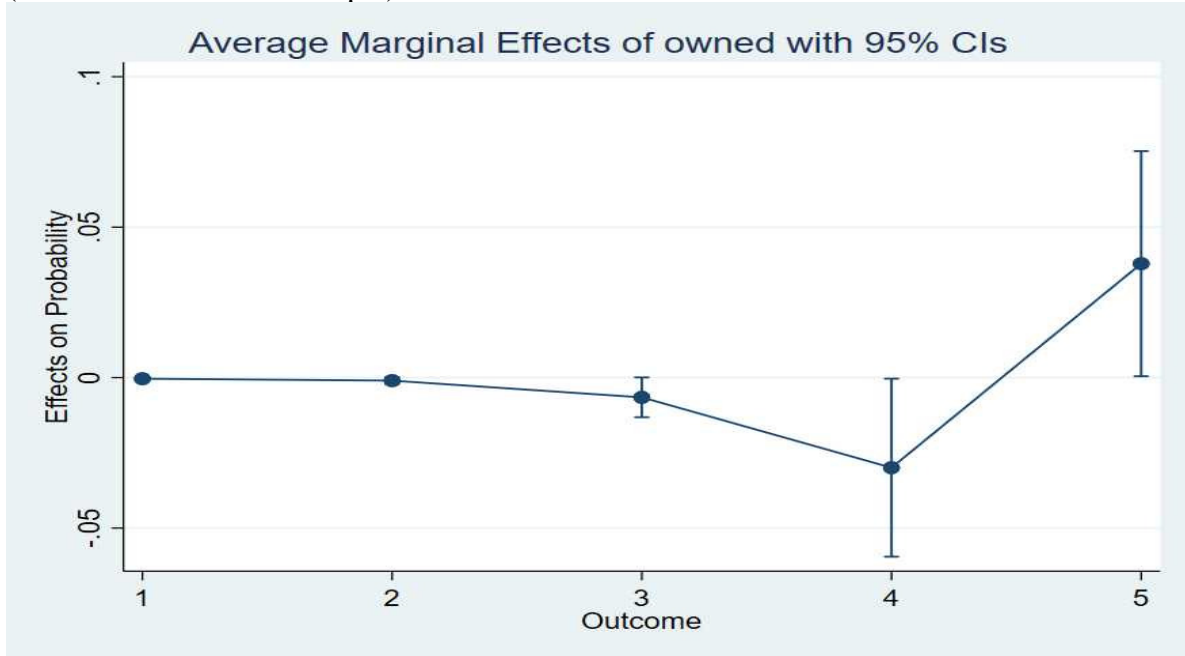

Note: Happiness Outcomes: 1 = so unhappy that life is not worthwhile; 2= very unhappy; 3= somewhat unhappy; 4= somewhat happy; and 5= happy and interested in life.

Figure 4: The Impact of Homeownership on the Probability of being on Happiness Outcome (Lowest Income Sample)
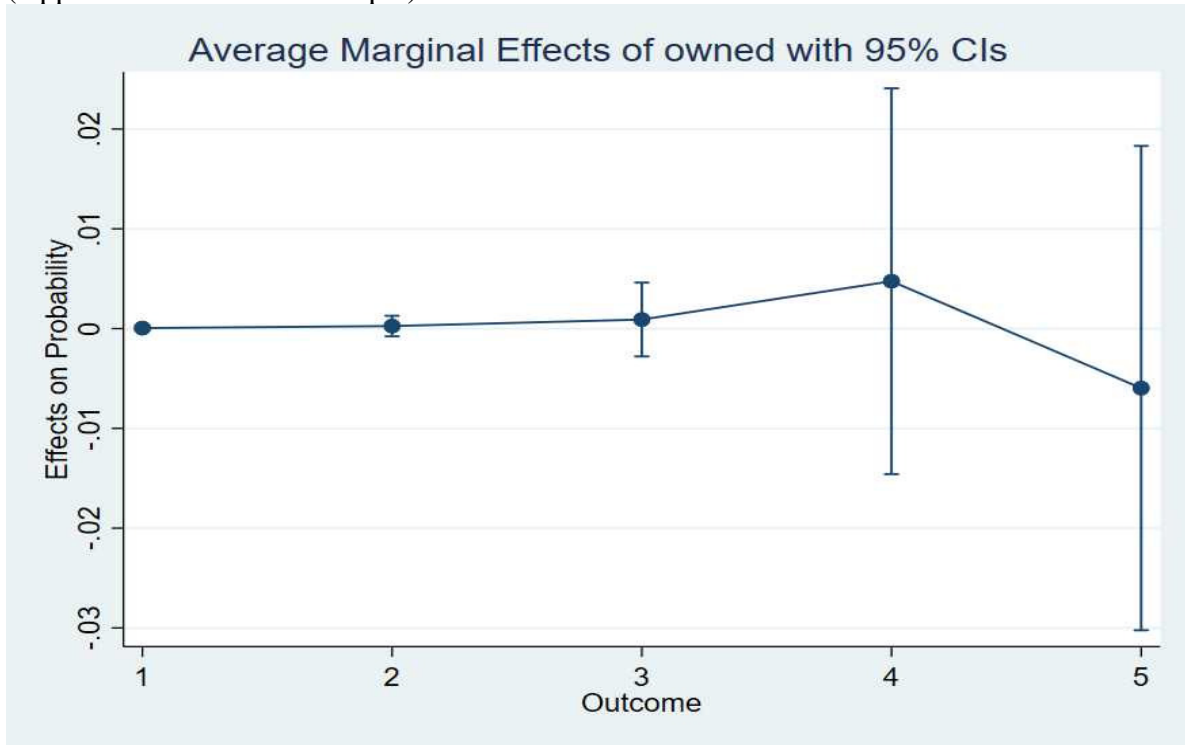

Note: Happiness Outcomes: 1 = so unhappy that life is not worthwhile; 2= very unhappy; 3= somewhat unhappy; 4= somewhat happy; and 5= happy and interested in life.

Figure 5: The Impact of Homeownership on the Probability of being on Happiness Outcome (Low-Middle Income Sample)

Note: Happiness Outcomes: 1 = so unhappy that life is not worthwhile; 2= very unhappy; 3= somewhat unhappy; 4= somewhat happy; and 5= happy and interested in life.

Figure 6: The Impact of Homeownership on the Probability of being on Happiness Outcome (Upper Middle-Income Sample)
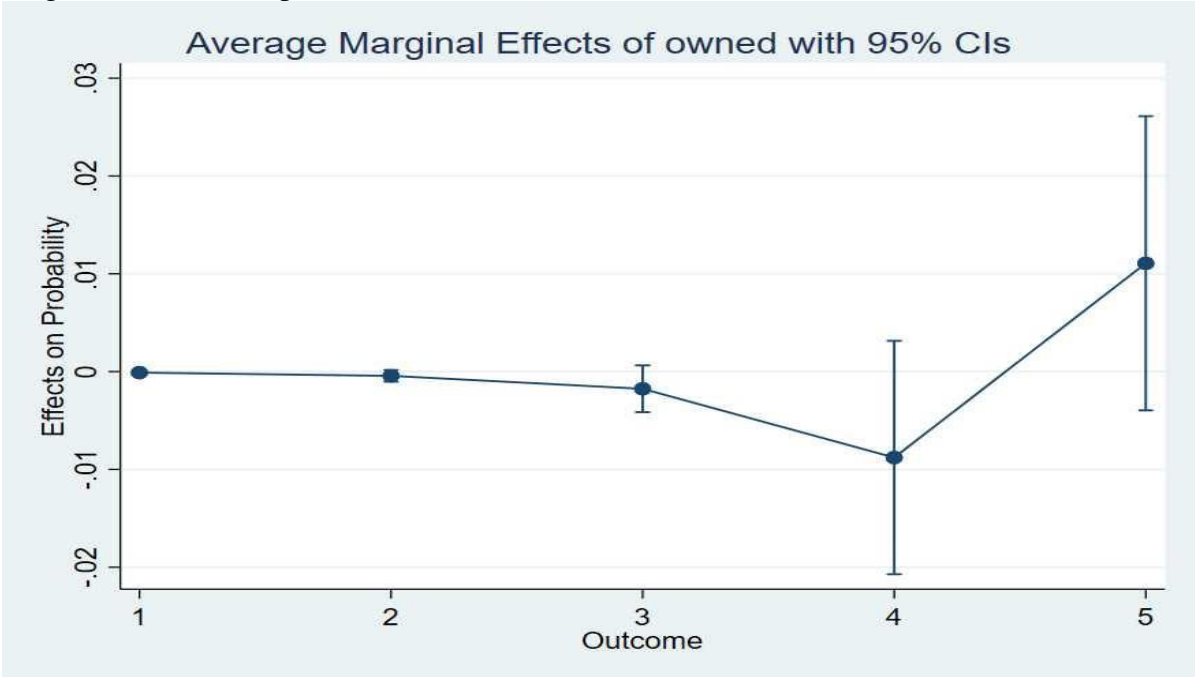

Note: Happiness Outcomes: 1 = so unhappy that life is not worthwhile; 2= very unhappy; 3= somewhat unhappy; 4= somewhat happy; and 5= happy and interested in life.

Figure 7: The Impact of Homeownership on the Probability of being on Happiness Outcome (Highest Income Sample)

Note: Happiness Outcomes: 1 = so unhappy that life is not worthwhile; 2= very unhappy; 3= somewhat unhappy; 4= somewhat happy; and 5= happy and interested in life.

Table II: The Impact of Homeownership on Happiness: Ordered Probit Model

Variable	Overall sample	Urban sample	Rural Sample
Having Owned Home	.0540*** (.0298)	.0472 (.0323)	.1635** (.0827)

Notes: Robust Standard Errors are in the parentheses

The results show coefficients of the Ordered Probit Models

* denotes that the coefficient is significant at 1% level, ** denotes that the coefficient is significant at 5% level, *** denotes that the coefficient is significant at 10% level

The models also include following variables: gender, age, education, marital status, number of bedrooms, race, immigration status, unemployment status, not in labor force status, and health.

Table III: The Impact of Homeownership on Happiness by Income Level: Ordered Probit Model

Variable	Highest Income Level	Upper Middle Income Level	Lower Middle Income Level	Lowest Income Level
Having Owned Home	.1572* (.0561)	-.0245 (.0503)	-.0105 (.0636)	-.0933 (.1008)

Note: Robust Standard Errors are in the parentheses

The results show coefficients of the Ordered Probit Models

* denotes that the coefficient is significant at 1% level, ** denotes that the coefficient is significant at 5% level, ***denotes that the coefficient is significant at 10% level

The models also include following variables: gender, age, education, marital status, number of bedrooms, race, immigration status, unemployment status, not in labor force status, and health.

Table IV: The Impact of Homeownership on Happiness: Ordinary Least Square Model

Variable	Overall sample		Urban sample	Rural Sample
Having Owned Home	.0193*** (.0107)		.0159 (.0115)	.0554*** (.0291)

Note: Robust Standard Errors are in the parentheses

* denotes that the coefficient is significant at 1% level, ** denotes that the coefficient is significant at 5% level, *** denotes that the coefficient is significant at 10% level

The models also include following variables: gender, age, education, marital status, number of bedrooms, race, immigration status, unemployment status, not in labor force status, and health.

Table V: The Impact of Homeownership on Happiness by Income Level: Ordinary Least Square Model

Variable	Highest Income Level	Upper Middle Income Level	Lower Middle Income Level	Lowest Income Level
Having Owned Home	.0439* (.0165)	-.0094 (.0173)	-.0142 (.0270)	-.0266 (.0461)

Note: Robust Standard Errors are in the parentheses
* denotes that the coefficient is significant at 1% level, ** denotes that the coefficient is significant at 5% level, *** denotes that the coefficient is significant at 10% level
The models also include following variables: gender, age, education, marital status, number of bedrooms, race, immigration status, unemployment status, not in labor force status, and health.

Table VI: The Impact of Homeownership on Happiness: Fixed Effect Model

Variable	Overall sample	Urban sample	Rural Sample
Having Owned Home	-.0146 (.0179)	-.0164 (.0199)	-.0230 (.0683)

Note: Robust Standard Errors are in the parentheses
* denotes that the coefficient is significant at 1% level, ** denotes that the coefficient is significant at 5% level, *** denotes that the coefficient is significant at 10% level
The models also include following variables: age, education, marital status, number of bedrooms, unemployment status, not in labor force status, and health.

Table VII: The Impact of Homeownership on Happiness by Income Level: Fixed Effect Model

Variable	Highest Income Level	Upper Middle Income Level	Lower Middle Income Level	Lowest Income Level
Having Owned Home	-.0013 (.0285)	-.0036 (.0305)	-.0032 (.0693)	-.2465*** (.1492)

Note: Robust Standard Errors are in the parentheses
* denotes that the coefficient is significant at 1% level, ** denotes that the coefficient is significant at 5% level, *** denotes that the coefficient is significant at 10% level
The models also include following variables: age, education, marital status, number of bedrooms, unemployment status, not in labor force status, and health.