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Nominal Rigidities in the Market for Housing Rentals in Turkey

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Abstract: Using a national panel of housing units, this paper analyzes the rate of nominal rigidities in housing rents in Turkey between 2008 and 2011. We find that, on average, 31.5 percent of the rents did not change from year to year in nominal terms. We then ask if the incidence of nominal rigidity depends on the turnover status of the housing unit. We show that 35.4 percent of the non-turnover units had rigid rents, while for only 17.1 percent of the turnover units rents did not change. We also present evidence that grid pricing is responsible for more than half of the observed nominal rigidities in housing rents. Implications of these results for monetary policy, inflation accounting, and asset prices are discussed.

Özet: Bu çalışmada, TÜİK tarafından 2008-2011 yılları arasında uygulanan Gelir ve Yaşam Koşulları Araştırması verisi kullanılarak Türkiye'de konut kiralarındaki katılığın derecesi ölçülmektedir. Nominal kiraların yıllık bazda ortalama yüzde 31,5'inin değişmediği bulunmuştur. Sonraki aşamada, kiralardaki katılığın kiracıların ev değiştirme oranıyla ilişkisi incelenmiştir. Katılık derecesi evlerini değiştirmeyen birimlerde yüzde 35,4'e kadar çıkarken, ev değiştirenlerde bu oran yüzde 17,1'e kadar düşmektedir. Bunun yanı sıra, kiralarda gözlenen katılığın yarısından fazlasının da yuvarlama etkisinden kaynaklandığı gösterilmiştir. Ayrıca, para politikası, enflasyon ve varlık fiyatlaması gibi konulardaki etkiler de tartışılmıştır.

1. Introduction

Whether prices are sticky or not has been a longstanding matter of controversy in macroeconomics and has motivated a large set of theoretical ideas[1] aiming to model the link between monetary policy and the real variables in the economy. Thus, empirical studies on quantifying and explaining the magnitude of price stickiness is important for refining our understanding of the real effects of monetary policy.

A particularly important price category to examine the degree of nominal rigidities is housing rents. Documenting stickiness in housing rents is critical for three main reasons. First, rents constitute a significant fraction of the household budget. Second, the market for housing rentals has certain characteristics setting it apart from the market for ordinary goods such as supermarket goods. The most obvious one is that ordinary goods have a fixed price tag on it applying equally to all customers. Housing rents, however, can be tailored to a particular tenant based on the landlord's subjective and objective evaluations.[2] This also implies that supermarket goods are subject to menu costs, while housing rents are not. Another is that housing rents are subject to contracts, which is an additional source of price rigidity. Third, the determination of housing rents involves a considerable amount of additional costs such as negotiation and information acquisition costs.

The main purpose of this study is to quantify and explain the magnitude of nominal rigidities in housing rents. Three main findings are presented. First, on average, 31.5 percent of the rents did not change from year to year in nominal terms. Second, performing pairwise comparisons across the years in the sample, it is shown that 21.4 percent of the units in the sample experienced a turnover (i.e., had a new tenant) in the following year. It is found that 35.4 percent of the non-turnover units had rigid rents, whereas for only 17.1 percent of the turnover units rents did not change; thus, turnover status is an important determinant of nominal rigidities in rents. Finally, we present convincing evidence that grid pricing is responsible for 68 percent of the observed nominal rigidities in housing rents. In other words, the tendency to round rents to the nearest multiple of 10, 25, 50, and 100 can explain a significant fraction of rigidities.

[1] See Calvo (1983) for an example of time-dependent reasoning, i.e., only a certain fraction of prices change in any given time period. There is also a large literature explaining staggering with the existence of small menu costs implying state dependency rather than time dependency [e.g., Sheshinski and Weiss (1977), Mankiw (1985), Caballero and Engel (1991), Caplin and Leahy (1991), Nakamura and Steinsson (2008), and Midrigan (2011)].

[2] These evaluations depend on whether the tenant is a new or continuing one, i.e., turnover matters a lot.

There is a large empirical literature on price rigidities.[3] However, the literature reporting direct evidence on rigidities in housing rents is rather small. In this study, rigidities are measured by adopting the method used in Genesove (2003). We contribute the related literature in three ways. First, this is one of the very few papers in the literature presenting direct evidence on housing rents. In particular, this is the first study documenting the degree of nominal rigidity in housing rents in a developing country using micro-level data. Second, this study is the first to link data on housing unit to data on the corresponding household members. This enables us to examine if rent rigidities can be explained by individual-level characteristics. Finally, this is the first study investigating the role of the household income level on renting behavior.

2. Descriptive Properties of Yearly Changes in Housing Rents

The Turkish Income and Living Conditions Longitudinal Survey (ILCS) is a publicly available four-year rotating panel of housing units, compiled by the Turkish Statistical Institute, aiming to provide information on the following topics: housing, labor market status, poverty, income level, social exclusion, demography, and health.[4] There are three waves of panel data compiled in four-year intervals: 2006-2009, 2007-2010, and 2008-2011. Housing units are followed over time rather than over households. Information on actual rents is provided only in the 2008-2011 wave of the survey. Thus, in this study, we work with the 2008-2011 panel, which has 2,976 distinct households in each year of the survey by focusing only the renters.

At the first stage of data construction, the consecutive survey years are matched in a pairwise manner. Specifically, three distinct two-year balanced panel datasets are constructed. The first one focuses on those housing units which are occupied by renters both in 2008 and 2009. In this structure, we observe the actual rent of the same unit both in 2008 and 2009, which allows us to see whether the rent has changed or not over a year. We also observe whether the same tenant occupies the unit in both years or there is a new tenant in 2009. The same procedure is followed to construct two additional datasets for 2009-2010 and 2010-2011. The nominal growth rate of the housing unit's rent is calculated via the formula $dr_t = \ln r_t - \ln r_{t-1}$, where r_t is the nominal rent in year t.

[3] Recent studies include Baharad and Eden (2004), Levy and Young (2004), Dhyne, Alvarez, Le Bihan, Veronese, Dias, Homann, Jonker, Lunnemann, Rumler, and Vilmunen (2006), Heidhues and Koszegi (2008), Nakamura and Steinsson (2008), and Bouakez, Cardia, and Ruge-Murcia (2009).

[4] The survey excludes the population in nursing homes, prisons, military barracks, hotels, private hospitals, and child care centers along with the immigrant population.

Table (1) summarizes the main facts.[5] In the entire sample, the incidence of nominal rigidity in housing rents is 31.5 percent. The lowest rate is recorded in 2008-2009, i.e., the crisis period. Clearly, the tendency—measured both in terms of the mean and median changes—to increase rents is higher in 2008-2009 than the following periods. This suggests that adjustments in housing rents are more likely to be exercised in turbulent periods, perhaps because rent inflation is notably higher in these periods.

The dispersion of yearly rent changes is described by two different statistics: Q3-Q2 and standard deviation. Following Genesove (2003), we construct the statistic "Q3-Q2," which describes the distance between the median and the 75th percentile.[6] Genesove argues that Q3-Q2 is relatively more stable than the standard deviation. For our sample, both the Q3-Q2 and standard deviation are fairly close the each other across years. Moreover, there is no significant relationship between any of these measures and the extent of nominal rigidities in rents.

Based on year-on-year comparisons, on average, tenants change in the 21.4 percent of all units in the sample. This ratio is fairly constant across years. We show that the incidence of nominal rigidity varies significantly with turnover status. As reported in Table (2), the incidence is 17.1 percent in turnover units, while it is 35.4 percent (more than twice) in non-turnover units. In the crisis period, the incidence is only 8.3 percent in turnover units, whereas it goes up to 27.5 percent (more than three times) in non-turnover units.

Figure (1) presents a year-on-year comparison of the empirical inverse cumulative distributions of turnover versus non-turnover units in our sample. The most prominent fact Figure (1) communicates is that, continuing tenants are not subject to sharp yearly increases in housing rents relative to the new tenants. The bargaining process can offer an explanation justifying these patterns. Bargaining with a continuing tenant may be less cumbersome than bargaining with a new tenant as it saves time, reduces stress for both parties, and minimizes the information acquisition costs [Genesove (2003)]. These pecuniary and non-pecuniary costs jointly make the nominal price at time $t-1$ a good proxy for determining the nominal rent at time t. Formally speaking, an ex post surplus emerges as a consequence of the bargaining between the landlord and tenant. This surplus will also be a function of the costs mentioned above. The existence of these costs smooth out the price changes—in both directions—for the continuing tenants. The ILCS panel data suggest that the rent inflation rates are 10 percent, 6.8 percent, and 7 percent for

[5] The number of observations is increasing over time due to the rotating nature of the dataset.
[6] Genesove calls this statistic "dispersion."

2008–2009, 2009–2010, and 2010–2011, respectively, while the actual rent inflation rates have been 8.2 percent, 4.3 percent, and 4.3 percent for the same periods. It seems that the ILCS somewhat overestimates the rent inflation. The reason for this overestimation is that the ILCS oversamples the poor—since its main purpose is to understand the income and living conditions of the low-income households—and rent increases are relatively large in percentage terms for low-rent units.

To summarize, we find that the degree of nominal rigidities is significant in Turkey; that is, a non-negligible fraction of housing rents do not change yearly. We also show that this rigidity is more pronounced for non-turnover units.

3. Explaining Nominal Rigidities in Rents

3.1 Grid Pricing

One potential explanation for the observed nominal rigidity in housing rents is that there is a tendency to price on a grid, i.e., prices tend to be rounded to a multiple. Table (3) provides summary information on grids over the whole sample and for turnover versus non-turnover units separately. The table should be read as follows. In the whole sample, 35.2 percent of the rents are multiples of 100, 29.1 percent are multiples of 50, 7.9 percent are multiples of 25, 24.4 percent are multiples of 10, and 2.3 percent are multiples of 5.[7] The remaining 1.2 percent is multiples of 1. Observe that these patterns are preserved for turnover and non-turnover units, except that non-turnover units slightly have more rounding to 100 and less rounding to 50 than turnover units. The table suggests that grid pricing is present and it is significant.

To estimate the extent to which grid pricing is responsible for the nominal rigidity in rents, a probit regression is run as described by Genesove (2003). First, a “rigidity” dummy variable is constructed taking 1 if the rent has not changed over the year and 0 otherwise. This binary rigidity variable will be the dependent variable in the probit regression. The explanatory variables are: year dummies, the dummy variables for grids, dummy variables for unit size, dummies for building type, and the natural logarithm of the nominal rent level. The 2008-2009, the lowest grid (in which we collapse 1 and 5), the largest unit, and the semi-detached building dummies are omitted. Estimation results are reported in Table (4). The first and fourth columns use the whole sample, and the second and third use turnover and non-turnover units, respectively. “Φ-

[7] Grids are determined as follows. After setting the rents that are multiples of 100, we set the ones that are multiples of 50 (but not 100), multiples of 25 (but not 50 and 100), multiples of 10 (but not 25, 50, and 100), and multiples of 5 (but not 10, 25, 50, and 100). The remaining part consists of the ones that are multiples of 1 (but not 5, 10, 25, 50, and 100).

unrestricted" is the average predicted probability of rigidity and "Φ-restricted" is the average predicted probability after restricting all of the grid dummies to be zero. The predicted probabilities are calculated by multiplying the estimated coefficients with the corresponding variable for each observation. For the "restricted" estimates, the coefficients of the grid dummies are set to zero. Thus, the difference between the two can be attributed to the explanatory power of grid pricing. This analysis suggests that around 68 percent of the nominal rigidity come from grid pricing over the whole sample. We also find that grid pricing is responsible for almost 100 percent of the nominal rigidity in turnover units and around 63 percent in non-turnover units.[8] This means that the factors leading to rigid nominal rents other than grid pricing are only relevant for non-turnover units. We also observe that the estimated coefficients for grid points are incresaing in grid size, which also supports our arguments. Note that the level of rents do not appear to effect the qualitative and quantitative features of these result [see column 4]. See Aysoy, Aysoy, and Tumen (2014) for various alternative calculations documenting that the result that grid pricing is an important factor in rent determination is quite robust.

3.2. Characteristics of the Household Head and the Rigidity Tendency

In this subsection, the unit-level data is matched with the individual-level details. The main purpose is to investigate whether the observed characteristics of the household head is in a systematic relationship with the observed nominal rigidities in housing rents. However, it should be noted that we interpret the results as suggestive correlations rather than causal effects.

In our dataset, there are details on the annual income, employment status, the education level of the household head, and the age of the household head. The annual income contains the income from all sources during the survey year and the natural logarithms of the annual income are used in the regressions. Following the conventions in the labor economics literature, the employment status of the household head is described with three dummy variables: employed, unemployed, and not in labor force (NILF). As for the education level of the household head, we construct 6 dummy variables: no degree, primary school, secondary school, high school, vocational high school, and college & above. The "rigidity" dummy is the dependent variable. We focus only on the "non-turnover" units, because running this regression only makes sense for those units having the same tenant in two consecutive years. Since income, employment status, and education are clearly endogenous, three separate regressions are run by using only one of them in each

[8] The numbers 63 percent, 68 percent, and 100 percent are calculated by employing the formula (Φ-unrestricted - Φ-restricted)/ Φ-unrestricted.

regression. We also include year dummies, unit size dummies, building type dummies, region dummies (at the NUTS1 level), a dummy variable indicating whether the unit is located in an urban versus rural area, a dummy variable for marital status (taking 1 if the household head is married and 0 if non-married), and the number of individuals residing in the unit.[9] A probit regression is run and the marginal effects along with robust standard errors are reported.

The estimation results are reported in Table (5). The first column says that a 10 percentage point increase in the yearly income of the household head reduces the probability of rigidity by 2.7 percentage points in non-turnover units. The second column suggests that the probability of rigidity is 7.7 percentage points lower when the household head is employed, while being unemployed does not have a statistically significant effect on rigidity. The third column says that the probability of rigidity does not depend on the education level of the household head. Although the education coefficients are statistically insignificant, their signs suggest that the probability of rigidity is lowest when the household head has a college education or above. It is also found that being married reduces the probability of rigidity by around 3.5 percentage points. The age of the household head does not have a statistically significant effect on the probability of rigidity.[10]

Overall, the main messages that this regression communicates are as follows. When the income level is high—either measured directly or proxied by employment status and education—it is seen that the probability of rigidity is low. This might mean that high-income households have higher opportunity costs and, therefore, they are more willing to stay in the same unit in case of a positive rent shock, rather than seeking a replacement.

4. Policy Implications

We document that the degree of nominal rigidity in rents is significant. This result has several implications for central bank policies. The first, a rather well-known implication, is related to monetary policy. The sticky-price models of monetary policy assert that prices change infrequently and, as a result, there is scope for monetary policy to have large real effects, at least in the short run. Thus, measuring the degree of nominal rigidities in prices is important for providing credibility to macroeconomic models relying on price stickiness in examining the real effects of monetary policy. Another point related to this issue is that housing rental market provides a good example of price stickiness with no physical menu costs.

[9] See Aysoy, Aysoy, and Tumen (2014) for further details on the construction of variables.
[10] See Arslan, Ceritoglu, and Kanik (2014) for further evidence on the link between housing markets outcomes and household characteristics.

This study also has implications for inflation accounting. There is a large literature suggesting that the “user costs” rather than actual rents should be used in the CPI calculation [see Gordon and van Goethem (2008) for a detailed survey]. The user cost refers to the total cost of housing services consumed by the household occupying the unit. It is well-established in the literature that the user cost is an ex ante measure used by the household in making economic choices related to housing, while the actual rents paid is an ex post outcome. It has also been shown that the correlation between the user cost and actual rent is not necessarily statistically significant. The main reason for this is the stickiness in rents. When the rents are sticky, the growth rate of actual rents will deviate from the growth rate of the user costs. This means that the CPI calculations carried out based on actual rents will misrepresent consumer inflation.

A serious question related to monetary policy implementation is the one asking if monetary authorities should respond to fluctuations in asset prices. One common argument is that changes in asset prices are reflected by changes in the rate of inflation; thus, responding to inflation should, to some extent, reduce fluctuations in asset prices. But this is hardly the case. For example, Japan experienced low and stable inflation in the last two decades of the twentieth century, which was named, by some authors, a period of “complete” price stability. Although, monetary policy in this period was successful in achieving low and stable inflation, it could not prevent a boom and a subsequent bust in housing prices, which seriously affected the path of output growth. One reason why changes in asset prices is not directly visible in inflation is stickiness in the user costs of assets. Since housing is one of the most important asset categories in any economy (especially in Turkey), understanding the degree and patterns of rigidities in housing rents is important in uncovering the link between changes in asset prices and inflation.

At the end, It will perhaps be useful to compare the level of stickiness in housing rents to the degree of price stickiness for other items. Ozmen and Sevinc (2011, 2012) present a comprehensive analysis of the items in the consumer basket and report important findings on the degree of nominal rigidities. They argue that, in terms of both magnitude and frequency, price changes in Turkey exhibit a more flexible pattern relative to other developing countries. A certain degree of flexibility is observed even after leaving out the food prices. Based on these findings, they argue that the potential for price shocks to generate long-lasting real effects is quite limited. Their study does not provide an analysis for housing rents, so this paper is complementary to theirs in this respect. Although the potential for direct comparability is limited, our findings provide suggestive evidence that the degree of nominal rigidity in housing rents is somewhat higher than

that for other items.

5. Concluding Remarks

This study examines the degree of nominal rigidity in housing rents using data from the Turkish Income and Living Conditions Survey between 2008 and 2011. It is found that, on average, 31.5 percent of the rents in Turkey do not change on a yearly basis. Although the tendency for inflation indexation is expected to be strong in Turkey due to the hyperinflation experience in the near history, it is interesting to observe that nearly one third of the rents remain unchanged from year to year. This is comparable to the estimates reported for the US, which is 29 percent.

The nominal rigidity in housing rents is important because it has potential implications for monetary policy, inflation accounting, asset pricing, and welfare. The links between rigid rents and these implications are more or less clear. However, although the existing research on the degree of the rigidity is informative, the mechanisms offered in this literature to explain rigid rents are not equally clear. One of the innovative features of this paper is that we utilize the micro-level details offered in the dataset to understand the behavioral foundations of rigid rents. Specifically, it is documented that high-income households have longer tenure in the same unit and, as a related but distinct matter, they are less likely to change units frequently. On the other hand, when they choose not to change units, they are less likely to have rigid rents. This mechanism suggests that search and moving costs impose frictions that amplify the opportunity costs of high-income tenants; thus, they are more likely to agree on reasonable rent increases each year for the purpose of saving time and emotional stress. Additional empirical research is needed to test the existing hypotheses and propose new ones.

One minor caveat is that the survey we use oversamples the poor for the purpose of having a better idea about the income and living standards of the low-income households. However, the dataset is a nationally-representative one and we believe that the results we report can still be generalized for the market for rental units in Turkey. Whether these patterns hold also for other developing countries is still an open question and our study does not claim universal applicability of the results. Cross-country studies are needed to confirm the universal validity of the results we report.

TABLE 1: NOMINAL RIGIDITY, BY YEAR				
	2008-2009	2009-2010	2010-2011	All years
Percent negative change	13.5	15.2	14.1	14.3
Percent zero change (nominal rigidity)	23.4	33.3	33.3	31.5
Percent positive change	63.1	51.5	52.6	54.2
Median	0.087	0.022	0.036	0.048
Mean	0.100	0.068	0.070	0.075
Standard deviation	0.204	0.190	0.192	0.194
Q3-Q2	0.113	0.114	0.089	0.095
Turnover rate	0.212	0.216	0.213	0.214
# of observations	628	1168	1672	3468
CPI inflation	5.3	8.3	6.7	-
Rent inflation	8.2	4.3	4.3	-

"Turnover rate" defines the fraction of units with a new renter in all rental units. "Q3-Q2" describes the distance between the median and the 75th percentile in the distribution of rent changes. CPI and rent inflations are given in yearly percentage changes in terms of the annual averages of monthly year-on-year changes.

TABLE 2: NOMINAL RIGIDITY, BY YEAR AND TURNOVER STATUS					
		2008-2009	2009-2010	2010-2011	All years
Percent negative change	T	28.1	23.0	21.6	23.5
Percent zero change (nominal rigidity)	T	8.3	18.7	19.4	17.1
Percent positive change	T	63.6	58.3	59.0	59.4
Mean percentage change	T	9.5	11.2	11.2	10.9
Percent negative change	N	9.3	13.0	12.0	11.9
Percent zero change (nominal rigidity)	N	27.5	37.3	37.1	35.4
Percent positive change	N	63.2	49.7	50.9	52.7
Mean percentage change	N	10.1	5.7	5.9	6.6
Percent negative change	Total	13.5	15.2	14.1	14.3
Percent zero change (nominal rigidity)	Total	23.4	33.3	33.3	31.5
Percent positive change	Total	63.3	51.5	52.6	54.2
Mean percentage change	Total	10.0	6.8	7.0	7.5

T and N describe the turnover and nonturnover units, respectively.

TABLE 3: RAW GRID POINTS, PERCENTAGE			
Grid	**Whole sample**	**Turnover**	**Non-turnover**
100	35.2	32.4	35.9
50	29.1	32.0	28.3
25	7.9	7.9	7.9
10	24.4	24.1	24.4
5	2.3	2.4	2.2
1	1.2	1.1	1.2

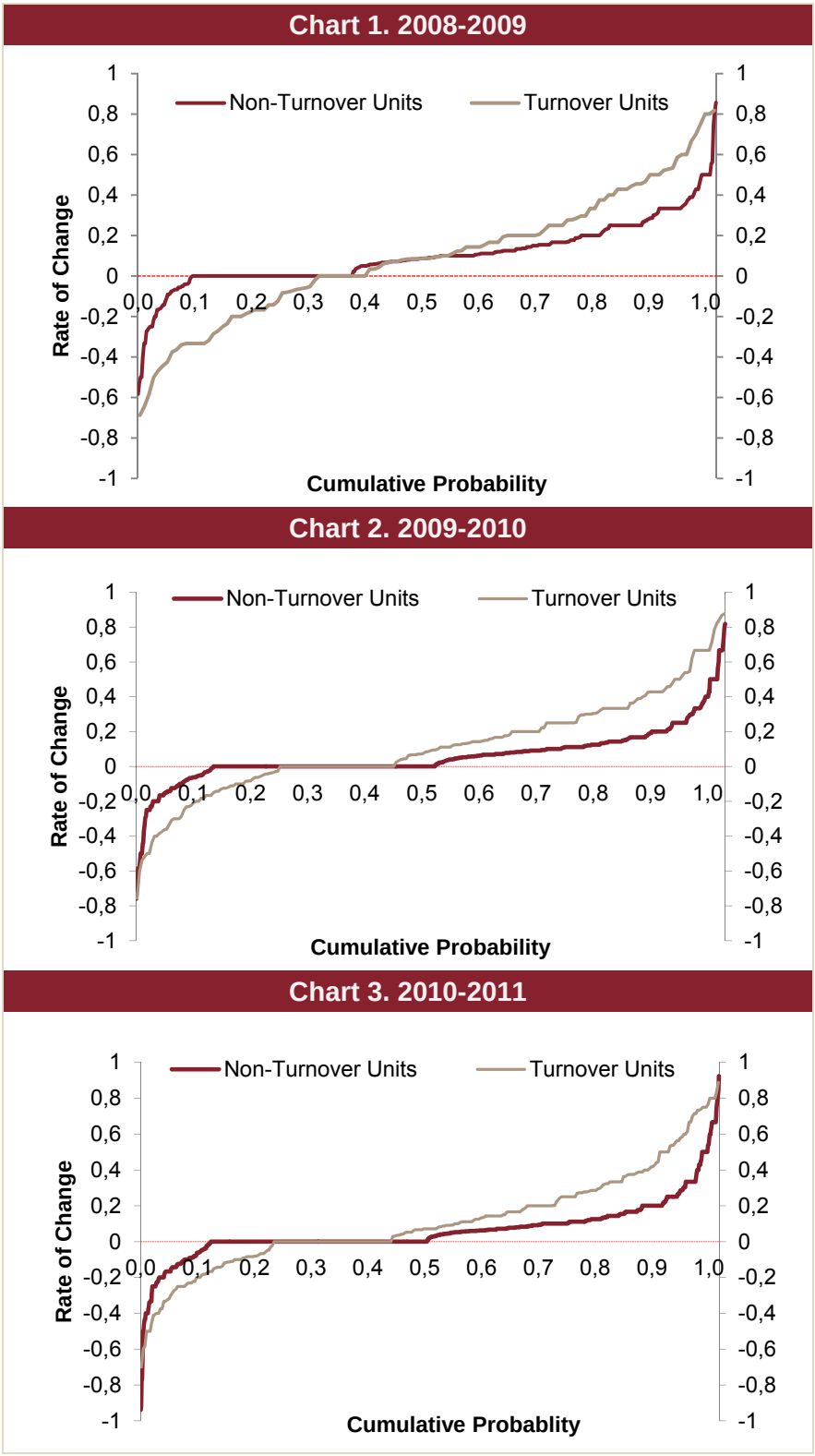
TABLE 4: NOMINAL RIGIDITY, GRID PRICING: PROBIT REGRESSION				
Dependent variable: Rigidity				
	Whole sample	Turnover	Non-turnover	Whole sample
Year Dummies				
2008-09	omitted	omitted	omitted	omitted
2009-10	0.288***	0.511***	0.272***	0.283***
	(0.069)	(0.195)	(0.075)	(0.069)
2010-11	0.273***	0.533***	0.249***	0.265***
	(0.065)	(0.187)	(0.072)	(0.066)
Grid Points				
1&5	omitted	omitted	omitted	omitted
10	0.421**	4.038***	0.377**	0.417**
	(0.166)	(0.168)	(0.175)	(0.166)
25	0.595***	4.034***	0.577***	0.586***
	(0.179)	(0.272)	(0.190)	(0.179)
50	0.923***	4.803***	0.865***	0.913***
	(0.163)	(0.146)	(0.173)	(0.164)
100	1.039***	4.802***	0.982***	1.026***
	(0.162)	(0.141)	(0.171)	(0.163)
Unit Size (Square Meters)				
151	omitted	omitted	omitted	omitted
131-150	-0.037	-0.893*	0.091	-0.034
	(0.160)	(0.467)	(0.175)	(0.161)
111-130	-0.008	0.030	0.015	0.018
	(0.134)	(0.337)	(0.147)	(0.135)
91-110	0.140	-0.041	0.184	0.152

	(0.130)	(0.327)	(0.143)	(0.132)
71-90	0.021	-0.146	0.069	0.034
	(0.129)	(0.324)	(0.142)	(0.131)
51-70	-0.086	-0.239	-0.035	-0.066
	(0.143)	(0.354)	(0.148)	(0.145)
25-50	0.053	-0.665	0.170	0.081
	(0.198)	(0.646)	(0.215)	(0.200)
Building Type				
Semi-detached	omitted	omitted	omitted	omitted
Detached	0.269**	0.275	0.277*	0.275**
	(0.129)	(0.363)	(0.142)	(0.129)
Building < 10 units	0.194	0.059	0.216	0.178
	(0.126)	(0.357)	(0.138)	(0.127)
Building 10 units	0.196	0.130	0.206	0.170
	(0.129)	(0.365)	(0.142)	(0.132)
Log of nom. rents	-	-	-	0.047
				(0.056)
Constant	-1.743***	-5.940***	-1.631***	-1.992***
	(0.241)	(0.490)	(0.262)	(0.388)
Φ-restricted	0.103	0.001	0.133	0.099
Φ-unrestricted	0.321	0.182	0.357	0.318
Log likelihood	-2,044	-299	-1,690	-2,044
N	3,403	701	2,702	3,403

Probit coefficients are reported. 65 observations with missing household-level details are dropped.

TABLE 5: NOMINAL RIGIDITY, INDIVIDUAL-LEVEL DETERMINANTS: PROBIT REGRESSION, MARGINAL EFFECTS, NON-TURNOVER UNITS			
Dependent variable: Rigidity			
Year dummies	Yes	Yes	Yes
Unit size dummies	Yes	Yes	Yes
Building type dummies	Yes	Yes	Yes
Region dummies	Yes	Yes	Yes
Location dummy	Yes	Yes	Yes
Family Variables			
Married	-0.033*	-0.008	-0.038*
	(0.018)	(0.023)	(0.019)
# of HH members	0.003	0.001	-0.004
	(0.009)	(0.009)	(0.009)
Age (of HH head)	0.0026	0.0018	0.0021
	(0.0022)	(0.0021)	(0.0021)
$Age^2/100$	-0.0007	-0.0009	-0.0009
	(0.001)	(0.001)	(0.001)
Log income	-0.0027** (0.001)	-	-
Employment Status			
NILF	-	omitted	-
Unemployed	-	-0.031	-
		(0.046)	
Employed	-	-0.077**	-
		(0.032)	
Education			
No degree	-	-	omitted
Primary school	-	-	0.018
			(0.051)
Secondary school	-	-	0.014
			(0.055)
High school	-	-	0.035
			(0.057)
Voc. high school	-	-	0.009
			(0.052)
College & above	-	-	-0.059
			(0.054)
N	2,702	2,702	2,702

FIGURE 1: EMPIRICAL INVERSE CDF'S OF YEARLY CHANGES IN NOMINAL RENTS, BY TURNOVER STATUS



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