# HOUSING AFFORDABILITY OF DIFFERENT INCOME GROUPS IN TURKEY: REGIONAL COMPARISON

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## ABSTRACT

### HOUSING AFFORDABILITY OF DIFFERENT INCOME GROUPS IN TURKEY: REGIONAL COMPARISON

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Housing affordability has been a major topic of interest both for researchers and policy makers in many countries. However, in the Turkish case, research on housing affordability is scarce. The problem of housing has usually been considered as a quantitative deficiency problem in Turkey, and for many decades any other dimension of the problem is neglected. Increasing the housing stock in numbers has always been given priority by the Turkish governments. This tendency to support new housing production has continued in the 2000s. Currently, the issue of housing affordability becomes a relevant topic of research and policy than ever in the Turkish context owing to the negative effects of policies adopted after 2002 on the lowest and low-income households' housing affordability.

This study, considering the housing affordability as a gradually worsening problem in the Turkish cities, has two major arguments: Increased housing production in the country did not contribute to the housing affordability of low-income households, and the extent of the housing affordability problem displays differences in different housing markets. In this context, this study empirically examines the housing affordability of households with respect to mode of tenure, household income, and TR Level-1 regions. Findings of the study reveal that the extent of the housing affordability problem in Turkey differs with respect to tenure modes, income, and regions. For all income categories, tenants are devoting more of their income for

housing expenditures compared to owner-occupiers. Among owner-occupiers, it is the lowest and low income households who experience housing affordability problems. For all households in the lowest income category, housing affordability is a problem that prevents them to maintain their minimum standards of life. However, the most compelled group is the lowest income tenants in TR1 region (İstanbul). Furthermore, changes in affordability rates display that increased housing supply did not affect the lowest income tenants positively in any TR regions of Turkey. The major conclusion of the study is that housing policies which consider the whole country as a uniform housing market with standard households will eventually be unsuccessful. Housing policies, to achieve their aims, should consider the local and area based circumstances and problems.

***Key*words**: *Housing Affordability, Affordability Measures, Housing Policies in Turkey, Housing Stock, Housing Expenditures to Income Ratio*

# ÖZ

## TÜRKİYE'DE FARKLI GELİR GRUPLARININ KONUTA EKONOMİK ERİŞEBİLİRLİĞİ: BÖLGESEL KARŞILAŞTIRMA

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Konuta ekonomik erişebilirlik pek çok ülkede hem araştırmacılar için hem de kentsel politika konusunda karar vericiler açısından temel bir araştırma konusu olmuştur. Türkiye'de ise bu konu hakkında yapılan araştırma sayısı oldukça kısıtlıdır. Ülkemizde konut sorunu yıllardan beri bir nicelik sorunu olarak ele alınmış ve sorunun niteliksel boyutları uzun yıllar boyunca görmezden gelinmiştir. Bu sebeple, hükümetlerin hemen her zaman konut stokunun sayısını artırmak konusuna önem verdiği görülmektedir. Bu eğilim 2000'li yıllarda da devam etmiştir. Oysa günümüzde, konuta ekonomik erişebilirlik konusu hem araştırmacılar için hem de politika açısından her zaman olduğundan çok daha geçerli bir konu olarak önümüze gelmektedir. Bu durumda, 2002 yılı sonrasında uygulanan politikaların dar gelirli kesimler üzerindeki olumsuz etkilerinin payı vardır.

Bu çalışma, Türkiye kentlerinde konuta ekonomik erişebilirlik sorununun giderek arttığını göz önünde bulundurarak iki temel iddia öne sürmektedir. Birincisi, ülkede uzun yıllardır gözlenen konut üretim performansının aslında dar gelirli hanehalklarının konuta ekonomik erişebilirliklerini artırmaya bir katkısı olmadığıdır. İkincisi ise konuta ekonomik erişebilirlik sorununun farklı konut piyasalarında farklı düzeylerde seyrettiğidir. Bu bağlamda, bu çalışma ampirik olarak hanehalklarının konuta ekonomik erişebilirliklerini konuta mülkiyet şekli, gelir grupları ve TR Düzey-1 bölgeleri açısından incelemektedir. Çalışmanın temel bulguları, hangi gelir grubunda

olursa olsun kiracıların ev sahiplerine kıyasla gelirlerinin daha büyük bir kısmını konut harcamalarına ayırdığını, ev sahiplerinin özellikle en düşük ve düşük gelirli kesimlerinin konuta ekonomik erişebilirliğinde sorunlar gözlendiğini ortaya koymaktadır. Ayrıca, tüm mülkiyet türleri için, en dar gelirli kesimlerin konut için yaptıkları harcamaların asgari yaşam standartlarını sağlamayı ve sürdürmeyi zorlaştırdığı görülmektedir. Ek olarak, çalışmanın bulguları ekonomik erişebilirlik açısından en zor durumda kalan grubun TR1 İstanbul bölgesinde yaşayan kiracılar olduğunu ortaya koymaktadır. Ayrıca, erişebilirlik oranları incelendiğinde, artan konut üretim düzeyinin özellikle dar gelirli kiracılar açısından hiçbir TR bölgesinde iyileşme sağlayamadığı görülmüştür. Çalışmanın temel sonucu, tüm ülkeyi ve içindeki hanehalklarını tek tip olarak gören konut politikalarının başarısız olmaya mahkûm olduğu ve politikaların amaçlarına ulaşmalarının yolunun yerel ve yere özgü koşulları ve sorunları göz önünde bulundurmaktan geçtiğidir.

***Keywords***: *Konuta Ekonomik Erişebilirlik, Erişebilirlik Ölçütleri, Türkiye'de Konut Politikaları, Konut Stoku, Konut Harcamaları/Gelir Oranı*

*To my beloved family,*

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In this study, Income and Living Condition Survey data of the Turkish Statistical Institute (TURKSTAT) is employed. This data is obtained through a research project entitled ‘Housing Affordability and Measurement Methods’ funded under the Scientific Research Projects of Middle East Technical University. Thanks to the Scientific Research Projects Office under the head of President Office of Middle East Technical University (METU).

## TABLE OF CONTENTS

## LIST OF TABLES

## LIST OF FIGURES

## LIST OF MAPS

## LIST OF INSTITUTIONS AND THEIR ABBREVIATIONS

**AF:** The Administration of Foundation

**BAĞ-KUR:** The Social Insurance Institution of Tradesman, Craftsman and other Self-Employed People

**BBC:** The Bank of Building and Construction

**BLB:** The Building and Loan Bank

**BM:** The Bank of Municipality

**BREC:** The Bank of Real Estate and Credit of Turkey

**FSF:** The Foundation of Security Forces

**HDA:** Housing Development Agency

**Hh:** Household

**JDP:** Justice and Development Party

**METU:** Middle East Technical University

**NUTS:** Nomenclature of Territorial Units for Statistics

**OECD:** Organization for Economic Cooperation and Development

**OYAK:** The Armed Forces Assistance and Pension Fund

**PWS:** The Ministry of Public Works and Settlement

**SPO:** The State Planning Organization

**SSO:** Social Security Organization

**TR:** Turkish Republic

**TURKSTAT:** Turkish Statistical Institute

**UDHR:** Universal Declaration of Human Rights

**UN:** United Nations

# CHAPTER 1

# INTRODUCTION

Housing has several functions for society and individuals (Tekeli, 1988). Besides being a shelter, which provides protection and private space for its users; housing provides a social space for the households and a space where social relations with the society are continuously reproduced. Furthermore, it serves as a consumption and an investment good. Apart from these vital functions, housing has a specific feature which makes it a subject of governmental policy: housing is defined as a human right.

Article 25 of the Universal Declaration of Human Rights (UDHR), states that "everyone has the right to a standard of living adequate for the health and well-being of himself and of his family" (UN General Assembly, 1948). In article 25, this standard of living must include "housing as well as food, clothing, medical care, necessary social services, and the right to security in case of unemployment, sickness, disability, widowhood, old age or other conditions beyond individuals' control" (UN General Assembly, 1948). It is the government's responsibility to ensure that everyone, irrespective of income and other household attributes, can exercise the right to housing. Yet, housing becomes increasingly unaffordable for many households all over the world. It is particularly the households at the lowest end of the income bracket who suffer from the unaffordable housing.

For many years, housing affordability has been a major topic of interest both for researchers and policy makers in many countries. Especially with the subprime mortgage crises of 2008 and the subsequent developments experienced in many housing markets, the attention to household's ability to afford housing has been increased. Existing research usually follows two paths; first one deals with stating households with affordability problems and the second one considers "the means by which affordability should be measured (Jones et. al., 2011:342)". It is usually underlined in the relevant literature that housing affordability is a multidimensional

issue and the term ‘housing affordability’ brings a number of different topics together such as “the distribution of income, the ability of households to borrow, public policies affecting housing markets, conditions affecting the supply of new or refurbished housing, and the choices that people make about how much housing to consume relative to other goods” (Quigley and Raphael, 2004:191). This multidimensionality makes it difficult to define and measure housing affordability. However, affordability is frequently interpreted as the relationship between household income and housing expenditure. Housing is considered to be affordable if expenditure relative to income is reasonable or moderate. Yet, what do researchers refer with ‘housing expenditure’ and how do they define ‘reasonable/moderate’ in this context is still under discussion in the relevant literature.

Existing literature suggests different measures of housing affordability such as ‘ratio approach’, ‘residual income approach’, ‘housing induced poverty approach’, etc. Among them, the most common measure is the ‘ratio approach’. Affordability is commonly measured in terms of the ratio of housing costs to income. This approach is originated from the 19th century's rule of thumb principle, which denotes that a week's income should be sufficient to pay for a month's rent (Tharman, 1999). In time, different housing expenditure-to-income ratio criteria have been applied in different countries with changing thresholds from 25 percent to 50 percent to examine housing affordability (Yates and Gabriel, 2006; Kitty, 2005; Gabriel et. al., 2005). Households exceeding these thresholds are defined as ‘households experiencing affordability problems’ and they are identified as the target group for particular types of housing assistance.

Ratio approach has been criticized by researchers because the priority is directly given to the housing expenditures of households. As an attempt to improve ratio approach, ‘residual income approach’ has been developed which takes non-housing expenditures of households into consideration. In this method, household income is considered to be sufficient if it meets both housing and essential non-housing costs such as food and clothing (Chaplin and Freeman, 1999; Bramley, Munro and Pawson, 2004). The most notable research that covers the residual idea is Stone's (1993) ‘shelter poverty’

concept. “This method proposes that, if a household is not experiencing housing affordability problem, then household’ s income should be able to meet non-housing needs after housing costs are deducted (Bourassa, 1996)”. Housing costs, in this case, include mortgage payments, maintenance expenses, and property taxes. While the residual income measure is thought to be more reasonable since it takes non-housing needs into account, its applicability is compromised by many issues. As Stone (2016) pointed out, defining necessary non-housing costs is one of the principal issues for establishing the residual income standard. Yet, there are various non-housing cost standards that have been applied in the literature (Bradbury et al., 1987 and Kutty, 2005).

Currently, a variety of organizations monitor homeownership affordability using the following indicators: House price to income ratio (UN-HABITAT, 2001), mortgage payment to household income ratio (US National Association of Realtors, 2009), ratio of median family income to the income required to qualify for a conventional mortgage on the median-valued house sold (US Department of Housing and Urban Development, 2009). Consequently, the measurement of housing affordability diverges in different research according to the nature and composition of the study and also with respect to the available data.

The issue of housing affordability has an extensive international literature, yet; there are very limited studies on this issue in Turkey. The problem of housing has usually been considered as a quantitative deficiency problem for many decades and any other dimension of the problem is neglected. Therefore, increasing the housing stock in numbers has always been given priority by the Turkish governments. This tendency to support new housing production has continued in the 2000s. Yet, currently the issue of housing affordability becomes a relevant topic of research and policy than ever in the Turkish context owing to the negative effects of policies adopted after 2002 on lowest and low income households’ housing affordability. In 2003, the Justice and Development Party, in their first term in office, declared an urgent action program in which the housing production is seen as a way to decrease unemployment, to reach economic targets and to increase the life quality by planned urbanization process.

Within this context, ‘new housing production’ and ‘urban transformation projects’ came into agenda under the leadership of Housing Development Administration (HDA). “After the 2000s, in many European countries governments started to take a less active role in housing production (Elsinga, 2015:18)”. Yet, in contrary to the trends seen in many other countries, the public sector in Turkey has become a direct actor in housing production starting from the year 2002 (Özdemir, 2011). The government initiated a country-wide housing program which basically aimed at increasing owner-occupied housing provision for low income families through new housing construction (The Ministry of Development, 2003). At the first stage, HDA was made responsible for producing 500,000 new dwelling units, and this target was achieved in 2011. Recently, a new target was set, and until 2023 HDA is expected to produce 700,000 new dwelling units. The government’ s country-wide housing program and other attempts to realize urban transformation projects also triggered private sector’ s housing production after 2002, and in 2014 annual new housing starts exceeded one million dwelling units. Although the country has displayed significantly high levels of housing production since 2002, lowest and low income households’ housing affordability has been impaired significantly in this period (Özdemir-Sarı and Aksoy, 2016).

Within the above mentioned context, this study examines the changes in housing affordability of different income groups in Turkey after 2002. The study mainly adopts the ratio approach as a method for measuring housing affordability. It is basically housing expenditure and household income variables which are taken into consideration. Yet, the ratio approach is modified and improved through the integration of some elements of ‘residual income’ and ‘shelter poverty’ approaches such as poverty and starvation thresholds, other housing expenditures, non-housing expenditures, etc. The data employed in this study is the ‘Income and Living Conditions Survey’ data of the Turkish Statistical Institute (TURKSTAT). This data is accessed through a research project entitled ‘Housing Affordability and Measurement Methods’ funded under the Scientific Research Projects of METU.

## 1.1. AIM AND SCOPE OF THE THESIS

Turkish cities have witnessed a significant increase in construction activities after the 1980s. Most of those activities were new housing production which took place not only in central areas of cities but also at peripheries. Since then the country has displayed a unique performance in housing production compared to many European countries. Besides many other factors, the leading reason for this production increase is the government policy which considers construction sector as the leading sector in economic development. Yet, the distribution of this new housing stock among the different sections of the society and the effects of this housing production on house prices, rents and also households have never been a concern. At the same time, the supplementary effects of housing production on other sectors of the economy were also underestimated.

In recent years, the numbers of annual housing starts have significantly surpassed the increases in the number of households (Türel and Koç, 2015). By 2015, existing housing stock in urban areas is estimated to be nearly 30 per cent in excess of existing households (Özdemir-Sarı and Aksoy, 2016). Although the level of housing production displays geographical differences, almost half of the Turkish provinces have excess housing stock (considering a 4 per cent vacancy rate) by 2014 (Özdemir-Sarı, 2015). Yet, the existence of this excess stock does not contribute to housing affordability of all households.

In this thesis, uncontrolled country-wide housing production is primarily accepted as one of the main housing problems of Turkey. Following the general elections of 2002, the government in office initiated a country-wide housing program called ‘ Planned Urbanization and Housing Production’ the main target of which was declared as to increase owner-occupied housing provision for low-income families through extensive housing construction (The Ministry of Development, 2003). In the last 15 years (2000-2014), an oversupply is achieved for almost 80 per cent of the provinces (Özdemir-Sarı, 2015), yet; the contribution of this production to low-income households’ housing affordability has never been monitored.

This thesis has two main arguments: (1) increased housing production in the country does not contribute to housing affordability of households at the lowest end of the income scale, (2) housing affordability conditions display differences in different housing markets thus country averages of affordability rates are misleading. In line with these arguments, in this study housing affordability of different income groups in different regions (NUTS 1 regions) of Turkey is examined for different time periods. In this context, while defining housing affordability from a ratio approach perspective, this study also takes starvation and poverty level of households into account and examines regional differences in terms of overcrowding, mismatch, and living conditions of households. Consequently, this research aims to identify households who suffer from housing affordability and regions where housing affordability is experienced most. Thereby, policy measures should be developed and directed to those households and regions.

## 1.2. RELEVANCE AND NECESSITY OF THE STUDY FOR THE TURKISH CASE

There are a number of reasons which underline the relevance of this study in the Turkish context. First of all, contrary to the extensive international literature and research, there are very few studies in Turkey which consider housing affordability. The reason behind the lack of studies about housing affordability could be attributed to the lack of data directly related to housing. Most of the studies use 'Household Budget Survey' or 'Income and Living Condition Survey' data. However, these data sets are not designed as 'housing survey' thus impose several constraints and difficulties on researchers in the field of housing.

Another reason which underlies the lack of affordability studies in Turkey is the lack of interest in the issue by the Turkish governments. Hence, the studies and research also do not address housing affordability. Although housing affordability is mentioned in a number of policy documents since 2002, it is still not the focus of housing policy.

As an attempt to fill this gap in literature, this study has a valuable and relevant contribution.

A second issue which underlies the relevance of this study is the current housing affordability of households in Turkey. A recent research in the field, based on the Household Budget Survey of TURKSTAT, displays that housing affordability has become a problem for wider sections of the society since 2002, and particularly low and lowest income households' housing affordability have been impaired in this process (Özdemir-Sarı and Aksoy, 2016). Based on these findings, effects of the country-wide housing production program of the successive governments on housing affordability worth investigating in detail. And finally, displaying the changing extent of the problem with respect to different housing markets (in this case regions) would be a valuable contribution to policies and measures which ignore the local differences and develop standard solutions for the overall country.

### 1.3. STRUCTURE AND THE METHODS OF THE STUDY

This study employs a number of methods to examine housing affordability of different income groups in different regions of Turkey. First, an international survey of existing studies is conducted to examine the theoretical background of the housing affordability issue, different measurement methods, their deficiencies and advantages, and their uses in different contexts. This survey is presented in the second chapter of this study. The framework of analysis utilized basically from the information provided by previous research in the field. However, literature review is not the only source referred; Turkey's own dynamics and conditions are also integrated into the study. To achieve this, in the third chapter, policies related to housing, current housing problems, and affordability in Turkey is discussed in detail.

In order to examine housing affordability empirically, this study adopts Income and Living Conditions Survey (2009-2014) of the Turkish Statistical Institute. This data set is preferred over Household Budget Survey data due to the geographical references

provided in this data as rural/urban and NUTS regions. As a result, 12 NUTS-Level-1 regions were examined between 2009 and 2014. Steps of the analysis are provided in detail in chapter 4. 12 NUTS-Level-1 regions are compared in this study with respect to their housing production performances and housing affordability conditions. In order to do these comparisons on one hand, the number of residential construction permits and housing production performance of 12 NUTS-Level-1 regions were examined between 2000 and 2014. On the other side, housing affordability rates for different regions and income categories are calculated. This calculation requires equalizing total income of households in order to make comparisons. To calculate equivalent household income this study adopts square root method. Based on equalized household income, all surveyed households (owner-occupiers, tenants, privileged tenants, etc.) were divided into five income categories. Then, by using rent/imputed rents of housing units, other housing expenditures of households, incomes of households, the number of households in families, as a first and common indicator of affordability, housing expenditures/income ratio is calculated. Later, changes in housing affordability for different income groups are examined. At the final stage, affordability problem is investigated for NUTS-Level 1 TR regions. To elaborate the analyses, the starvation lines and poverty lines between 2009 and 2014 are determined for households according to the number of family members and their square root scales, and they are also introduced to the calculations of housing affordability. These analyses are presented in the fourth chapter.

The final chapter discusses the major findings of this study and conclusions derived from these findings which form the scope for housing affordability policies in Turkey.

## 1.4. DATA CONSTRAINTS OF THE STUDY

In this study, various limitations existed because of the data. Firstly, housing affordability should be based on a process. While measuring housing affordability of regions or households, we should also measure the changes in a specific household in a time line. To do this, there is a need to use panel data which has a continuation of households in different years. With that way, it is easy to follow up the changes

between observed periods. However, in Income and Living Condition Survey panel data, it is not possible to make a regional distribution of cases because of undefined geographical location. In Income and Living Condition Survey cross-sectional data, despite there is a geographical distribution of cases, the continuation of the same households does not exist. Also, it is hard to find answers to some of the survey questions which are directly related to income and money. However, in this thesis, it is firstly accepted that this data is the only one available to measure the geographical differences in housing affordability for the whole country. Hence, the reliability of the data is approved with all of its constraints and limitations.

Nevertheless, to make a contribution to further studies other factors that help to measure housing affordability are also investigated. There are a number of factors which affect housing affordability of households directly or indirectly. These could be examined under internal and external factors to be guide for further studies. Internal factors are categorized into three according to their subjects: (1) Price, which plays an active role in the selection of dwelling units, (2) the amount of housing production, which leads to housing shortage or surplus, (3) appropriateness of dwelling units to the households.

Not only internal factors but also a number of external factors have influence on housing affordability. These are local and regional housing policies, planning decisions and vision of governments, land price regulations, interventions of government to private sector, cooperation of government and private sector. In terms of purchasing power of households, credit requirements as prepayments of credit, monthly amount of credit payment and loan to value ratio are appointed as other factors. However, in this study because of the changing conditions and regulations about housing finance, the topics related with credit requirements-income should not be investigated in detail.

## CHAPTER 2

# HOUSING AFFORDABILITY: THEORETICAL BACKGROUND AND MEASUREMENT METHODS

Housing constitutes quite a distinctive commodity and a market since it has multiple functions for society (shelter, investment good, consumption good, etc.) and a number of peculiar features (i.e. durability, immobility, a human right). Some of these features (i.e. a human right) and functions (i.e. shelter) make housing a subject of public policy and planning. Land-use planning is one of the basic institutions which affect housing supply. Planning, by allocating land for development, defining the size of urban plots and determining the density of development affects new house building, price, size and design of housing. Failures in the housing market, whether or not worsened by the planning system, arise as problems of housing quality, homelessness, unemployment, the distribution of wealth, and housing affordability (Bramley, et al., 2004).

From the urban planning point of view, housing is the widest land use in urban areas, accounting almost half of all urban land in most cases. Through planning, public sector plays a significant role in housing markets affecting the location of new housing development, housing prices, and affordability. Location decisions, target population and type of housing for new housing development are usually at the center of the biggest public policy debates (Breheny and Hall 1996, Bate, 1999). All around the world, rising incomes have affected demand for property ownership rather than renting. However, limited housing supply, increasing house prices, and difficulties in accessing to credit prevented households from becoming homeowners. In this context affordability of housing arises as a main subject of housing and covered by the concept of housing need (Mark and Whitehead, 2000).

## 2.1. WHAT IS HOUSING AFFORDABILITY?

According to Quigley and Raphael (2004), the significance of housing affordability for households depends on two fundamental issues. In the first place, housing gets a

foothold with the most excessive percent in a household's budget. The share devoted to housing from household budget usually varies between 25-50 per cent. The second issue is directly related to the irrepressible increase in house prices or rents as against households' income. It means that, by percentage, the median prices or rents increase more than median incomes. Worsening economic conditions of households against increasing house prices highlighted a discussion about 'definition of housing affordability' and 'under which conditions housing is affordable and for whom'. Yet, housing units have different alternatives with various characteristics, and households' housing preferences matter in this context. Thus, it is almost impossible to make a single definition of optimal and most appropriate housing for households. Linneman and Megbolugbe (1992:371) summarize this issue as "talk of housing affordability is plentiful, but a precise definition of it is at best ambiguous". In line with Linneman and Megbolugbe, Edgar et al. (2002) and Sendi (2014) also point out that "if the definition of adequate, decent and sanitary housing can be determined, then a simple definition of affordability is that the price of that dwelling unit (net of state subsidy) is not an unreasonable burden on households' income".

According to the common definition of housing affordability adopted in the literature, if the cost of housing is at or below 30% of gross income, then housing is accepted to be affordable and the household does not suffer from affordability problems (Belsky, Goodman and Drew, 2005). Stone (2006) defines affordability as a challenge for households related to cost equalization under income restrictions. In other words, households have to consider the cost of housing (as rent or a housing credit) on one side and cost of non-housing expenditures on the other, subject to income constraints. He also explains housing affordability as "an expression of the social and material experiences of people constituted as households, in relation to their individual housing situations" (Stone, 2006, p.151). Instead of giving priority to non-shelter expenditures or shelter expenditures, Hancock defines affordability as "any rent would be affordable, if leaves the consumer with socially acceptable standards of both housing and non-housing consumption after rent is paid" (Hancock, 1993:144).

Although most of the governments all around the world use the terms ‘affordable housing’ or ‘housing affordability’, they usually do not explicitly define housing affordability criteria in their policy frameworks (Torluccio and Dorakh, 2011). However, Bourassa mentions that if governments have understood the importance of housing affordability for themselves, they would certainly focus on it. Bourassa (1996:1870) adds that “housing affordability is a very slippery thing to try to grasp, because it hosts different estimates of the magnitude and distribution of the housing affordability problems”. In other words, while detecting or projecting the number of houses, authorities generally omit some topics such as quality, appropriateness of houses in terms of cost, location, size and type to households.

## 2.2. MEASUREMENT METHODS OF HOUSING AFFORDABILITY

Measurement of affordability and housing problems related with it dates back to the 19$^{th}$ century studies of Ernst Engel and Herman Schwabe about households’ budget, and affordability finds its expression as ‘one week’s pay for one month’s rent’ (Stigler, 1954). This usage of the term inspired the different surveys and plans in the US starting from 1955 (Orshansky, 1965) and formed the basis of the 25% ratio in order to identify housing expenditures to income (Hulchanski, 1995). The ratio of 25% of income as a housing expenditure lasted up to the 1980s and later on, the ratio has changed to 30% of income as a “rule of thumb” (Stone, 2006) because of the changes in urban development and housing practices (Bacher, 1993; Hulchanski, 1995). Predominantly after the 1980s, the term housing affordability is widely used in order to show problems based on economic condition and hardship of households (Bramley, 1994; Hallett, 1993; Hancock, 1993; Linneman and Megbolugbe, 1992; Stone, 1990; Whitehead, 1991). The ratio of housing cost to income has been set to 25-30-40-50% by different institutions in different time periods. Households which are exceeding these ratios, cost burdens, are identified as a sufferer of affordability problem.

However, affordability measures which were basically aimed at rental housing were reviewed in order to cover the transition to home ownership. Since the beginnings of the discussion in the literature, detecting the maximum amount of mortgage or other housing credits which can be paid by households, is always questioned and debated.

As a prepayment of credit, generally 25% of total amount, has become the issue of concerns that how households will save and collect that amount of money while paying for rent.

### 2.2.1. THE RATIO APPROACH

Because of its simplicity and easy access to its data, the ratio of housing expenditures/rent to disposable income as defined 30/100, is used internationally by practitioners (Bogdon and Can, 1997; Hulchanski, 1995; O'Dell, Smith and White, 2004; U.S. Dept of HUD, 2006; Stone, 2006). In some countries, rent to income ratio finds a usage to itself in order to define rents of non-market housing which public, social or non-profit housing according to their beneficiaries (Dennis and Fish, 1972). The prediction of a household's ability to pay the rent or mortgage is a determinative decision for mortgage or credit providers and landlords. In this manner, they deputize the amount of deliverable credit and the guarantee of repayment (Hulchanski, 1995). According to Hulchanski (1995), housing expenditures to income ratio not only indicates the affordability of housing but also gives clues about many different statements. They are compose of "the description of household expenditures, the analysis of changing trends, the administration of public housing, the definition of housing need for public policy purposes, the prediction of a household to pay rent or mortgage or a way to decide rent a house or buy a house with mortgage" (Hulchanski, 1995:471).

According to Grigsby and Rosenburg, the ratio test was deficient (1975), affordability of low-income households could be measured with a defined minimum market basket of goods and services. It means that after paying the cost of housing if a household is able to get determined minimum market basket goods and services with the net disposable income, they do not have housing affordability problem.

Despite its simplicity and easement, the ratio approach is expostulated because of the ignorance of cost differences in food, transport, other expenditures and etc. (Jewkes

and Delgadillo, 2010). Bogdon and Can criticized the ratio approach in the matter of its short-term measure of affordability without taking into consideration of changes in income and circumstances (1997). An omitting point about the housing affordability is the changing conditions of households. In other words, households cannot earn the same amount of money for their all life cycles. Also in different age groups, circumstances of different groups vary, and according to these conditions, the measurement and the policies about the housing affordability should cover problems in a different way (Bourassa, 1996). It means that the ratio approach shows short-term affordability condition of a household instead of long-term one.

Criticism of commonly used ratio approach continued with deficient points of it (Pivo, 2013). First one is about giving priority to housing unit rather than basic needs. Based on that belittlement, Stone (2006) enhanced Shelter Poverty model. Secondly, Pivo (2013) examines 30% ratio, by virtue of no account of differences in costs related to neighborhood quality and accessibility. Similar to that idea, Fisher et al. (2009) brought a new concept called area affordability. They advocate that not only housing but also an area due to its accessibility, amenity and opportunity have affordability issue. Thirdly, 30% ratio ignores physical, structural or other conditions of housing. Therefore, in spite of mismatches in housing units or unlivable circumstances of units, it should be mentioned about the affordability of that housing unit for someone (Pivo, 2013). In order to avoid its superficiality, the different methods to evaluate and measure affordability have started to be investigated, by articulating the living condition, the characteristic and size of households, their preferences about housing and the changes in housing.

### 2.2.2. THE RESIDUAL INCOME APPROACH

At the end of 1960s and early 1970s, in America, some housing analysts tried to understand the relationship between income adequacy and living standards of families. Dolbeare (1966) defined the residual approach that showed according to the determined poverty threshold firstly the non-shelter costs of families should be

calculated. Then the remaining income for the housing expenditures of defined households' size should be examined. With that way, the size of households was taken into consideration by defining the non-shelter expenditures. Von Furstenberg claimed that in this method as a result of less non-housing costs because of the smaller size of households, smaller households could get and live higher rented shelters compared to larger households with the same amount of income (1968). During the 1970s, different reports and research carried out and published especially in America about the housing affordability and its standards. They focused on the usage of residual income approach in order to analyze housing needs and subsidy policies for national housing planning (Freiden 1971, Lowry 1971, Newman 1971). Similar to the U.S., in England also, residual income approach has commonly used in order to explain housing affordability and its standards (Malpass and Murie, 1999; Hancock, 1993; Brownill et al., 1990; Sharp et al., 1990). In her study, Whitehead brought a different perspective to residual income approach with "the opportunity cost of housing vis-à-vis other goods and services (1991:873)". This approach does not directly give any importance to housing cost.

### 2.2.3. SHELTER POVERTY APPROACH

In the following years based on Dolbeare's concept, Stone come up with the term "shelter poverty" in order to betray households which cannot trade off non-shelter expenditures against shelter expenditures (1975, 1983, 1990, 1993, 1994, and 2006). According to Stone, while some of the low income households cannot have the ability to pay even 25-30% of their incomes for housing, it cannot be accepted that if a household pays less than %30 of its income, there is no housing affordability problem. He argues that the ratio approach should be used just for high income households (Stone. 1993). Shelter Poverty Approach especially should be used for low-income families because it was accepted that mostly they had difficulties to provide a minimum standard of living. That is why Stone came up with shelter poverty for low-income households. In Stone's shelter poverty model, a household should allocate the maximum amount for housing by subtracting the cost of a minimum adequate level of

non-housing consumption from the total income. If the paying amount of housing expenditures is more than the subtracted amount, it means that households suffer from shelter poverty. In that measurement, the residual income after housing expenditures and tax deductions takes into consideration of households' size and other characteristics. Therefore, it provides a detailed definition of non-housing expenditures of households (Yates and Gabriel, 2006).

Housing expenditures are the least flexible and the largest spending of households. With this hypothesis, residual income and shelter poverty approach criticized that whether the maintainability of residual income after extracting housing expenditures of households from the disposable income, is enough to meet the non-housing expenditures of households according to defined living standards (Burke, Stone and Ralston, 2011).

### 2.2.4. LOCATION CONSIDERING AND BASED AFFORDABILITY

Different from previous measurements, Lerman and Reeder (1987) took into consideration firstly an adequate standard of living conditions and later on the capability to pay the cost of housing which meets their necessities. It was criticized that affordability means not only the ability to pay rent or housing credits but also the ability to live in a minimum standard of living conditions or above it. With their method, Lerman and Reeder took location into consideration because of the fact that the differences in geographic regions lead to various costs and preferences for households. However, they did not focus on the transportation costs and its effects on households' budget and expenditures.

In addition to their studies, Lipman (2006) thought that the missing point on affordability was the location. According to him in spite of it is the major factor that affects both the cost of housing and transport so the housing affordability. In order to explain affordability, preferences of households and their effects on affordability should be examined with detail by composing a housing/transport expenditures for different characterized households. At the same time, changing supply in central areas

and outer ones both affect the prices of each other and preferences of households. Therefore, about the supply of housing in different locations, Robertson (2006) argues that an increase in the supply of housing in outer areas does not relatively affect the price of housing in inner parts of the city. It gives some clues about the importance of local policies of governments for affordability of housing, mainly in England, Ireland, the U.S., Canada, and Australia, where the local approaches to provide affordable housing have been started to adopt.

### 2.2.5. DEMAND-SUPPLY OF AFFORDABLE HOUSING AND MISMATCH MEASUREMENT

When the current methods to measure housing affordability standards are insufficient, on the contrary to the other approaches which focused on the affordability solely from the demand side of housing, Bogdon, Silver and Turner (1994) improved on an alternative approach by taking into consideration both housing supply and demand sides. They discussed affordability from supply side by evaluating vacancy rates for units at a certain rent level according to households' size, paying no more than 30% of their income and the total number of housing units in different rent categories. In demand side, according to households' size and income, they were classified into different groups. As a result of these numbers, it could be detected that the level of vacancy in which rent prices are the most and the least. That supply side measurement does not say anything about the condition, appropriates of household characteristics and etc. similar to the most of other methods, supply also measures the use of 30% as an affordability definer. In another study, Bogdon and Can proved that the mismatch measure was defined as "the ratio of housing units potentially affordable to households of a certain income to the number of households in that income range" (1997:48). If ratio shows less than 1, it means that there are fewer affordable housing units than the number of necessary units for that income group (Bogdon and Can, 1997).

### 2.2.6. 30/40 RULE

In order to extend the comprehensiveness of housing affordability of different groups, authorities and institutions defined housing affordability measurements differently. Another commonly used indicator of housing affordability, in other words, housing stress is the 30:40 rule, "where a household is defined as being in housing stress if its housing costs exceed 30 per cent of income and the household is in the bottom 40 percent of the income distribution" (Yates, 2007:37.). It means that the households having lowest 40 percent of the income distribution can spend maximum 30 percent of their income for housing costs, any cost above it classifies as unaffordable. These households suffering from above percent, are named as in housing stress.

### 2.2.7. APPARENT AND ACTUAL AFFORDABILITY MEASURING

By combining a rent to income ratio, a quality-based measure and a measure of housing consumption, Thalmann (1999) clarified a measure by drawing on the ratio of average rent for an appropriate bundle of housing and household income. Accordingly, he thought that difference between apparent affordability and actual affordability problems. It means that which households have distresses to pay average rents and try to live in with left income in the standard bundle, actual affordability problem. From another side, because of the excessive and luxury preferences of households, some of them have obvious affordability problems. However, it is not clear that how it could be defined criteria, congestion, and limits of apparent and actual affordability issues.

### 2.2.8. RELATIVE CHANGES OF HOUSE PRICES AND WAGES, INCOMES

In spite of the different usage of the method that is the comparison of house prices and consumer prices or income, uses the changes of median house price and consumer price index in different cities during selected years. It indicates the change of housing affordability as positively or negatively over time (Abelson and Chung, 2004).

Additionally to other methods in order to measure housing affordability, one method is housing wage measure. This method focuses on whether a worker has the ability to afford the fair market rent in the desired area, with an hour full-time wage according to the %30 ratio approach or not. Because of its convenience and easement to reach wage and income data, this method can be preferred. However, its simplicity avoids to detect the relationship between housing affordability and other indicators except for hourly wage of the worker. It provides an opportunity just to evaluate housing affordability for constant rent, not for home ownership or changing condition in job or rent. Addition to the previous definition of affordability, mean value of housing prices and wages, alternative measures have been handled by Meen et al. (2005) that was the 'the ratio of lower quartile house prices to incomes' .

### 2.2.9. HOUSING INDUCED POVERTY APPROACH

With the contribution of shelter poverty, topics have been expanded to measure housing affordability. Kutty (2005) introduced the term of housing induced poverty by re-handling residual income approach that she acknowledges the non-housing standard of households. Housing induced poverty uses the amount of housing expenses and the official poverty line according to the size of household (Kutty, 2005). Differently from other methods after excluding the housing based expenditures from the disposable income, if the remaining amount is less than the amount of two-thirds of the official poverty line for that households, it is called as "housing induced poverty". Besides all these, notwithstanding the amount of housing expenditures is quite low, if a household is still suffering from the housing induced poverty, which is named as "housing induced lack of money". In housing induced poverty, it is accepted that the preferences of household indirectly affect the price/rent of housing units, in the long run it leads to dispensations in households' some basic needs. Therefore, although a household is spending more than 30% of its disposable income for housing, at the same time, it does not face with affordability problem to meet its basic needs, in these circumstances, it can be said that this household does not organize over housing affordability problems.

With that way, Kutty specifies the difference in sensibility, in order to measure housing affordability (2005).

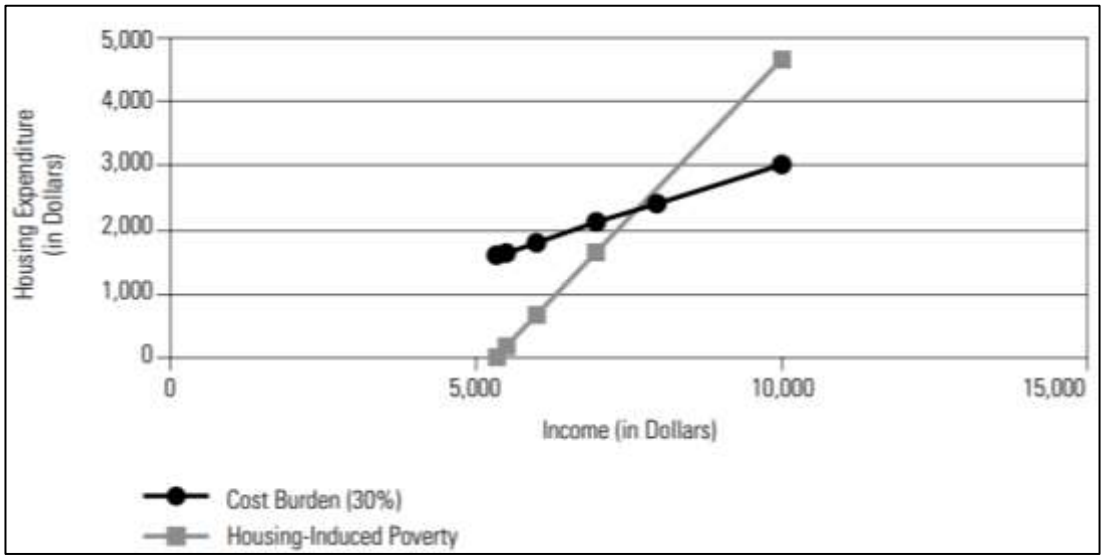



Figure 2.1: Difference between Housing-Induced Poverty and Cost Burden (Kutty, 2005, p.120)

According to Kutty, the luxury and arbitrary preferences of the household could lead to increase in the value of the defined ratio (2005). On another side, income could cause deceptions because the affordability or housing cost burden can be seen very low. In order to solve these problems, the division of households to different income groups, according to their characteristics, the affordability should be measured. Kutty explained the direct effect of housing expenditures on non-housing expenditures as higher amount than households could afford, reduce their expenditures on food, clothing, heating, healthcare, education and other capital investments (2006).

Kutty also adds that the problems of housing affordability do not merely shape with the luxury choices of households (2005). In the current location, the sameness of all housing choices and the limitedness of alternatives can lead to affordability problems because of the lacks of supply side housing.

In Table 2.1 different housing affordability measurement methods were approached, merits and demerits of them are evaluated. The suitability of measurement methods

for different income groups was utilized according to their measurement criteria. The usage of measurement methods was handled with their constraints and complications. In Table 2.1, housing affordability measurement methods were summarized with their description, merits, and demerits. As measurement methods the ratio approach, the residual income approach, the shelter poverty model, location based and considering affordability, demand-supply of affordable housing and mismatch measurement, apparent-actual affordability measuring, 30/40 rule, relative changes of house prices and wages, incomes, the housing induced poverty approach were handled.

Table 2.1: Housing Affordability Measurement Methods

| Name of Model | Description | Merits | Demerits |
|---|---|---|---|
| **The Ratio Approach** | Housing is not affordable if more than 30% of income is spent on total housing costs | - Easy to obtain data on income and housing expenditure<br>- Ability to compare different regions in different years | - No consideration of households' characteristics, living condition and location |
| **The Residual Income Approach** | According to the determined poverty threshold the non-shelter costs of families are handled first, then if the housing expenditure of defined household is less than remaining income, housing is affordable. | - Take into consideration of non-shelter costs and households' characteristics<br>- Given priority to standard or minimum living conditions rather than housing | - Do not show the degree of affordability problem for different income groups - The size of households and expenditures of different income groups were not taken into consideration (It is known that smaller size of households suffer housing affordability less than others because of some basic expenditures such as heating, rent and etc. |

Table 2.1: (Cont'd) Housing Affordability Measurement Methods

| Name of Model | Description | Merits | Demerits |
|---|---|---|---|
| **The Shelter Poverty Model** | A minimum adequate level of non-housing consumption is determined and deduced from the total income. If the remaining amount is sufficient for housing expenditures then housing is affordable. | - Detailed definition of households' and non-housing expenditures | -Weaknesses similar with the ratio approach and the residual income approach |
| **Location Considering and Based Affordability** | Housing is not affordable if the ratio is more than 30%, when the preferences of households and their effects on affordability are examined in detail by composing a housing/transport expenditures for households with different attributes | - Displays the effects of location on both housing/transport expenditures and housing affordability<br>- Detecting choices of households in different location | - Difficulty of collecting data about transport and other expenditures of households |

Table 2.1: (Cont'd) Housing Affordability Measurement Methods

| Name of Model | Description | Merits | Demerits |
|---|---|---|---|
| **Demand-Supply of Affordable Housing and Mismatch Measurement** | Housing is affordable if the number of housing units in supply side according to the defined classification is less than the necessary number of housing units in demand size, for that ranking system. | -Firstly superposition of vacancy rates of different cost units from supply side and maximum amount of rents according to households' income from demand side | -Deceptive results as a consequence of individual preferences of households<br>- No data about appropriateness of housing units to households' characteristic |
| **Apparent-Actual Affordability Measuring** | Actual affordability problem is for who have distresses to pay average rents and try to live in with left income in the standard bundle. From other side, because of the excessive and luxury preferences of households, some of them have apparent affordability problems. | -Provide opportunities to analysis the reality of affordability | -Hardness to define individually changing luxury or average needs |

Table 2.1: (Cont'd) Housing Affordability Measurement Methods

| Name of Model | Description | Merits | Demerits |
|---|---|---|---|
| **30/40 Rule** | The households having lowest 40 per cent of income distribution can spend maximum 30 percent of their income for housing costs, any cost above it classifies as unaffordable. | -Easy to measure with basic data | -Merely focusing on low-income households |
| **Relative Changes of House Prices and Wages, Incomes** | The changes in wages or income are more than the increase in housing expenditure and a worker has ability to afford the fair market rent in a desired area, with an hour full-time wage according to the 30% ratio approach. | - Evaluation of changes in inflation, wages and house prices | - Only calculation for full time workers<br>- Ignorance of owner-occupied households paying mortgage and other housing credits (There is no change in fixed rate/amount of credit) |

Table 2.1: (Cont'd) Housing Affordability Measurement Methods

| Name of Model | Description | Merits | Demerits |
|---|---|---|---|
| **The Housing Induced Poverty Approach** | After excluding the housing based expenditures from the disposable income, if the remaining amount is less than the amount of two-thirds of the official poverty line for that households, they are suffering from housing induced poverty. | - Comprehensiveness for all whole income groups<br>- Easy computation and comparing between different years in order to reveal positively or negatively changes in affordability | - Sharp division between luxury expenditures and poverty line<br>- Changing costs of basic needs in different locations diversely from poverty line |

## 2.3. CONCLUSIONS OF THE LITERATURE REVIEW

Housing affordability is a multidimensional issue, yet, it is not always easy to evaluate all of the components of this topic. In this study, in investigating housing affordability, households' housing and non-housing needs are considered in addition to their indigenous preferences and characteristics. However, all components of this definition could not be used in the study due to data limitations.

Review of the relevant literature displays that, measurement methods of affordability were evolved in time, building up on previous studies. In the very first years of housing affordability studies, the ratio approach was the only method and it was measuring affordability on the basis of rent of the dwelling unit and income of the households. In time housing and non-housing expenditures, the size of households, housing

affordability differentiation of modes of tenure, transport costs, poverty thresholds etc. are introduced into the measurements.

In order to measure housing affordability, this study employs a combination of different measurement methods (Figure 2.2). As reference methods, the ratio approach, the residual income approach and the shelter poverty were utilized.

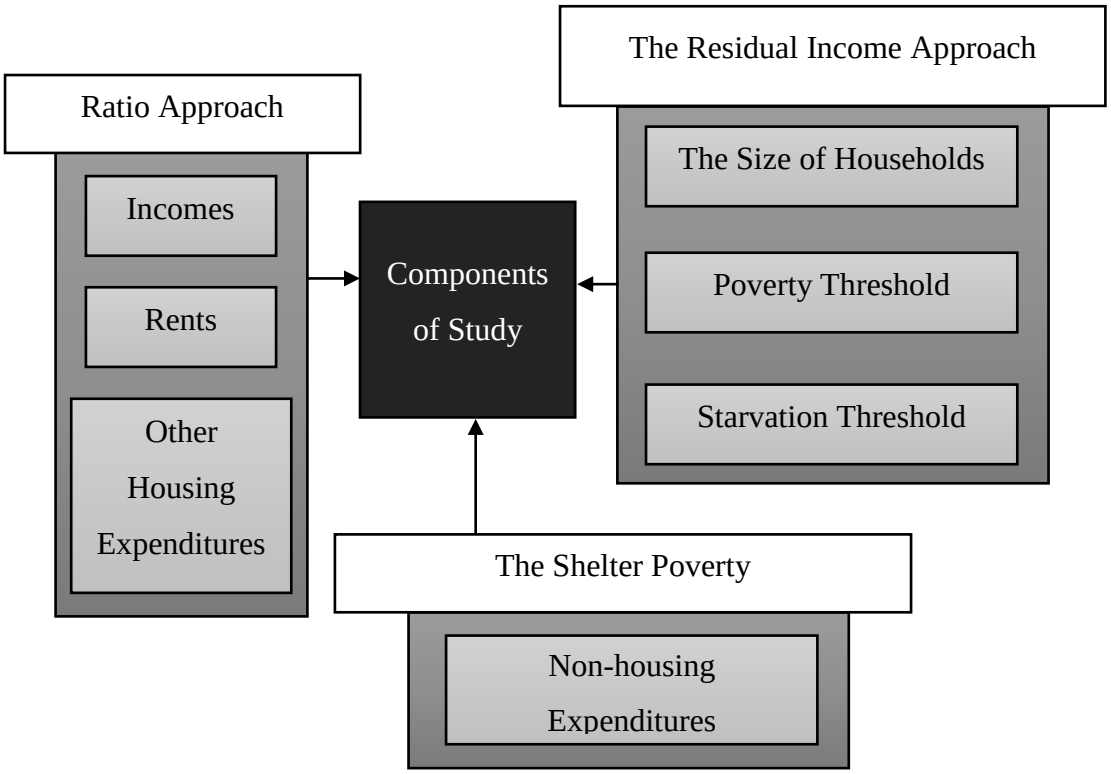



Figure 2.2: Components of the Study for Housing Affordability Measurement

From the ratio approach income and rent and other housing expenditures variables, from the shelter poverty approach non-housing expenditures of households and from the residual income approach the size of household, starvation and poverty thresholds were gathered. Such a combination is employed at first place to compare housing affordability rates obtained with different measurement methods and secondly due to the data limitations.

Similar to the literature, this study has some constraints and advantages at the same time in measuring housing affordability of households. These constraints basically derived because of the restriction of data. For example, it is not possible to reach the price of housing units for different TR regions, transportation costs, the distance to the city center or other nodes and also the amount of mortgage or housing credit payments.

For poverty and starvation thresholds, the preferences and differences of different income groups were not taken into consideration, merely the size of households was paid attention. Differently from the residual income approach, in this study it is assumed that households first pay their rent and then meet their other needs. Therefore, the condition of satisfaction with remaining income was tested after payment of rents.

# CHAPTER 3

# AN OVERVIEW OF TURKISH HOUSING EXPERIENCE WITH REFERENCE TO HOUSING AFFORDABILITY

In the very first years of the Republic, housing was seen as a need, however, it did not take place in the Constitution of Turkey then. In 1937, it was recognized in the first government program of Celal Bayar as duties of municipalities were assigned as preparation of maps, development plans, and provision of infrastructure, culture and sports facilities and playgrounds for children (Tekeli, 2012). On the following years, governments have formulated specific housing policies for civil servants, victims of natural disasters and workers. The recognition of housing as a constitutional right came up with the 1961 Constitution for the first time, which dealt with social rights systematically (Abdulhakimoğulları and Kale, 2013). Item 49 of the 1961 Constitution assigns the responsibility to the state in providing appropriate housing units for low-income households. The 1982 Constitution sustained the interest in right to the housing. Item 57 of the Constitution states that state takes measures to respond housing need in line with a plan that considers characteristics of cities and environmental conditions and supports mass housing development. Although, right to the housing is considered by the Turkish Constitution, in practice it did not attract much attention of governments.

## 3.1. HOUSING PROVISION, POLICIES, AND PROBLEMS BEFORE 2000

In the first years of the Republic of Turkey, almost all implementations and applications from public administration to redevelopment have been influenced by Ottoman Empire. After 1930s, these implementations started to be directly related and adapted with the modern Turkish Republic that is why Ankara has become the first city that faced different urbanization processes. The reasons behind that can be the high population increase in Ankara and new formations of trade, industry and

government. At the same time introducing and implementing new efforts and then monitoring and managing them could be easy in Ankara. Different methods of housing provision and finance have shaped firstly in Ankara.

It can be stated that with the declaration of Ankara as a capital city of new government, a series of problems started to appear in Ankara. In 1927, the population of Ankara was nearly 404,600 and in 23 years, Ankara doubled its population. It reached 819,700 in 1950, while population of Turkey was just increased 1.5 times. The higher increase in population of Ankara compared to other cities accompanied with high housing need. During 1930s, the population growth rate of Ankara was 3.4%, while 1.96% in Turkey. The increase of the number of civil servants and bureaucrats in Ankara was the main reason of this uncontrolled increase (Tekeli, 2012). In order to support them government attempted to provide and pay housing restitution. This method would help civil servants to afford housing much easier. However, in time, increasing number and amount of supports led difficulties for government. This restitution did not affect the housing supply and ownership in Ankara, consequently in 1951, government abolished the housing restitutions (Keleş, 2010).
Furthermore, with the industrialization policies and the increasing population of workers in big cities such as Ankara, İzmir, İstanbul, Bursa etc., the first signals of squatter housing formation were observed. While the Second World War has slowed down this industrial activities, it did not impede the uncontrolled increase of illegal constructions (Çoban, 2012).

Still another problem was the probability to enter into the Second World War and related precautions which stagnated the housing production. With disposition in economy, housing has become the scarce item at all around the country. In addition to this, the high housing rents became a problem during the Second World War. In 1940 government enacted a legislation to fix rents. Even though there were some objections to the legislation in 1950s, its effects had continued until 1960s (Yenal, 2001).

Between 1923 and 1950, government did not focus on housing policies to provide housing. Instead, the Bank of Building and Construction (BBC) was established in

1926 to solve problems about housing. In the first years of the bank, Ankara and West Anatolian cities such as İzmir, Aydın were given priority. From 1926 to 1937, 1,232 out of 2,920 buildings that were built in Ankara employed credits of the BBC (Tekeli, 2012). Even there was not enough data about İzmir and Aydın, general view indicates BBC as a sponsor for credits.

The enterprises, investments and credit opportunities of the BBC was carried by the Bank of Municipalities (BM), İlbank, the Bank of Real Estate and Credit of Turkey (BREC), the Foundation of Security Forces (FSF) and the Administration of Foundations (AF) in the following years. Although, the aims and priorities of these institutions were different, the main target of them was to provide affordable and appropriate housing for citizens and to supply necessary credit with low interest rate and minimum repayment amount. These institutions have continued their activities under the support and control of government. In 1944, the first private enterprise of banking came from the Building and Loan Bank (BLB) that described housing as an activity area. Despite its foundation aims, BLB did not involve in construction activities, just continued with other banking businesses.

Between 1927 and 1950 another change in housing was the shift from detached houses to apartments. Apartments were first seen in İstanbul, capital and the most important city of Ottoman Empire. In 1927, there were 1,441 apartments, while 89,762 detached houses in İstanbul (Table 3.1)). However, in 1950 the number of apartments reached to 5,384, while the number of houses were 102,361. In other words, between the given years, the increase in the number of apartments were 300% whereas the number of detached houses increased 20%.

Table 3.1: The number of detached houses and apartments in İstanbul between 1927 and 1950 (Kaya, 1961)

| | ***The Number of Detached Houses*** | ***The Number of Apartments*** |
|---|---|---|
| ***1927*** | 89,762 | 1,441 |
| ***1935*** | 96,502 | 3,090 |
| ***1940*** | 91,760 | 3,382 |
| ***1950*** | 102,361 | 5,384 |

The major reason underlying the increase in the number of apartment blocks was the unaffordability of individual housing provision for households. In the first years of the Republic of Turkey, housing production was based on individual provision. Formally by using credits of different agents and informally by borrowing money from relatives, the supply of housing was increased. Individuals produced housing units either on vacant land or by demolishing and redeveloping old houses. However, insufficiency of urban land had resulted in land speculations and high land values.

In Turkey, public housing similar to European examples have never existed. Public houses provided by the state were lodgements (lojman) for civil servants. Saraçoğlu district constructed in Ankara is one of the successful examples of this type of public housing. Bureaucrats and administrative officers accommodated in this planned district's houses. 434 housing units were built by the BBC according to the plan of Paul Bonatz, a German architect. With the success of Saraçoğlu attempt, the public housing of government started to appear all around the country.

Between 1923 and 1948, new construction had slightly increased. In 1940, the negative effects of Second World War was slowing down and this was reflected in the construction figures (Table 3.2).

Table 3.2: The number of housing stocks and new constructed housing between 1923 and 1948 (Bulutay et al., 1974)

| ***Years*** | ***The Number of Housing Stocks*** | ***The number of New Constructed Housing*** |
|---|---|---|
| ***1923*** | 816,100 | No data |
| ***1925*** | 827,400 | 6,066 |
| ***1930*** | 865,800 | 8,561 |
| ***1935*** | 910,200 | 10,374 |
| ***1940*** | 971,000 | 9,983 |
| ***1945*** | 1,023,500 | 11,681 |
| ***1948*** | 1,068,000 | 16,470 |

Between 1923 and 1950, the development and construction of public facilities and the solution of housing problems were seen as a responsibility of local governments (Palabıyık and Yavaş, 2006). Central government was responsible from the large scale operations such as the provision of housing after natural disasters and provision of housing for civil servants especially in Ankara. However, with the establishment of the Ministry of Public Works and Settlement (PWS) in 1958, the duties of municipalities and central government were redefined. After 1950s, government was assigned to supply land and finance for housing in addition to designing housing policies. Also housing and squatter housing problems started to appear in government programs. The most important one with reference to affordability was the construction procurement of low-priced housing for citizens in cities, towns and villages. However, all of these attempts were too general and monotonous and as a result they were unable to keep up with the changing dynamics of urbanization.

After the 1950s, almost every government recognized the problem of housing. Yet, none of them were able to develop sound solutions and interventions. Housing problem in Turkey has always been a qualitative problem as well as a quantitative one (Turhan, 2008). However, for governments, it remained as a quantitative deficiency problem.

Even if the supply of housing were enough in rapidly growing cities, in terms of the environmental standards and living qualities, many other problems would prone to happen (Kim and Gottdiener, 2003). One of the main triggers behind the housing problem could be the result of high population growth to the whole country and rural to urban migration.

Table 3.3: The population increase and the average number of households between 1950 and 1980 (Tekeli, 2012)

| ***Years*** | ***The Population Increase between Given Years*** | ***The Average Number of Households*** |
|---|---|---|
| ***1951-1955*** | 1,700,000 | 5.03 |
| ***1956-1960*** | 1,820,000 | 5.07 |
| ***1961-1965*** | 2,630,000 | 5.28 |
| ***1966-1970*** | 3,786,000 | 5.42 |
| ***1971-1975*** | 4,643,000 | 5.38 |
| ***1976-1980**** | 4,025,000 | 4.98 |

*The population census in 1980 was made incompletely, that is why the population increase was less than previous five years'.

Yet in Turkey, high increase in population was accompanied with decreasing average household size (Table 3.3.). As Table 3.4 displays, decreasing household size increased the housing need. High land values of urban plots and insufficiencies in land development, and demanding permission procedures for construction triggered the squatter housing development and other forms of unauthorized construction. The given number of housing deficit is enough to explain the housing problem between 1950 and 1980.

Table 3.4: The Number of Necessary Housing Unit, Provision of Officially Permitted Houses and Housing Unit as a Deficit (Tekeli, 2012)

| ***Years*** | ***Housing Need**** | ***The Number of Authorized Dwelling Units*** | ***Housing Deficit*** |
|---|---|---|---|
| ***1951-1955*** | 337,972 | 181,000 | 156,972 |
| ***1956-1960*** | 358,974 | 217,000 | 141,974 |
| ***1961-1965*** | 498,106 | 248,000 | 250,106 |
| ***1966-1970*** | 698,524 | 470,000 | 228,524 |
| ***1971-1975*** | 863,011 | 683,000 | 180,011 |
| ***1976-1980***** | 808,233 | 907,000 | -98,767 |

*****The number of necessary housing unit does not include losses in fire, demolishment etc., just based on the population increase and the average number of households.
******The population census in 1980 was made incompletely, that is why the population increase was less than previous five years' and the number of housing unit as a deficit was revealed negatively.

In addition to increase in population between 1950 and 1980, housing provision was directly related with economy and government development policies. A mass movement started after Marshall Plan which was provided as an economic aid to Turkey by the USA (Kazgan, 1999). Plan provided firstly monetary finance and then the necessary items and equipment for the modernization of industry and agriculture in order to raise the productivity. With Marshall Plan, Turkey started to use tractor and agricultural machinery in agriculture and thus, it brought out very big numbers of unemployed workers in agriculture. During 1950s, structural intervention in agriculture to integrate it into the market, largely supported by Marshall Plan, concludes with migration and the search of a new livelihood. Related with these pushing forces and mentioned changes (Gürel, 2001), citizens started to move to the metropolitan areas voluntarily or reluctantly in order to access different job

opportunities. In other words, Marshall Plan not only supported feudalism, indirectly also caused a migration flow in time. Faced with rapid urbanization, Turkish authorities questioned the reasons and ways behind the rural to urban migration, and heeded the housing problems (Çoban, 2013). The changing percentages of population in urban and rural land revealed the condition (Figure 3.1).

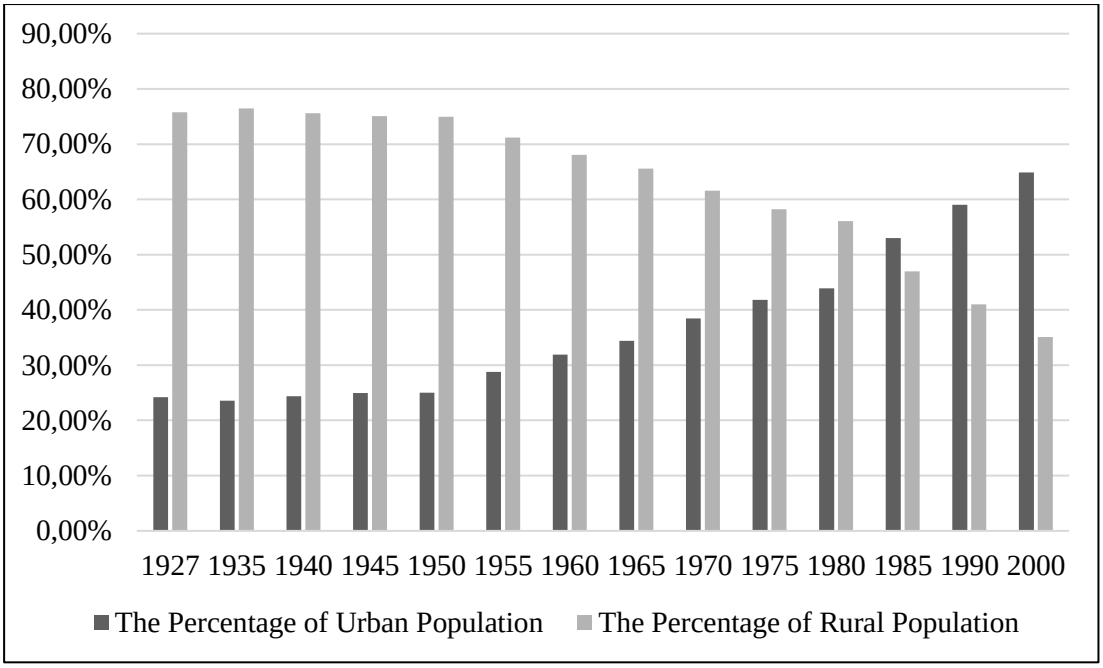



Figure 3.1: The percentage of population changes in urban and rural land between 1927 and 2000 (TURKSTAT, 2012)

In spite of increasing migration from rural to urban, government focused on how to distribute the limited capital between industrialization and housing provision in the most efficient form (Şengül, 2001). Similar to other developing countries, in Turkey, government also majored on industrialization in order to give priorities to the economic development. For housing provision, households were expected to find their own solutions within a network of people who had similar experiences (Duyar-Kienast and Mahmud, 2001).

The more rapid industrialization period brought rapid urbanization, the more illegal settlements in countries (Uzun et al., 2010). Along with industrialization process, the

necessity of cheap labor force, workers has appeared. In order to survive, industrialization mostly required the migration to metropolitan cities in Turkey, to attract agricultural society the cities, and to staff them in machinery-based production (Şenyapılı, 2006). In those cities, the difficulty to buy or rent a house cheaply led households to build their own houses on peripheral areas that were close to factories and employment areas of city centers. At the end of 1940s, the number of squatter houses was forecasted as 25,000-30,000 units, but the number reached 1,750,000 units in 1990 (Keleş, 2010). This condition was encouraging the factory owners and employers because of the existence of the cheap labor force in cities.

Between 1950 and 1980, housing affordability problem did not continue at the same pace. Early in the 1950s, people who came from rural areas or other small cities to work in metropolitan areas, were building their own squatter houses. In the first phase of squatter housing, public land was occupied and governments neglected the issue and even distributed the lands (Aydın and Yarar, 2007). In the mentioned years, people in the squatter areas were seen as a pool of voters, supporters and thus central and local governments ignored the squatter housing problem. As a result, illegal housing and unplanned regions spread all around the cities.

Different solution to the problem of housing began to be sought with the end of single-party regime and changes in government programs. In order to reach better solutions by exchanging of ideas and opinions, the first development congress was organized. Substantially, finance, legal regulations and predominantly housing problems were discussed. After congress, in 1956, a development law numbered 6785 was taken out to intervene current situation. Law paved a way for local, specific and innovative practices instead of uniform practices in cities (Torlak, 2002). In terms of affordability, squatter housing and unauthorized forms of housing were seen as an affordable way for people to provide houses for themselves and ways of accepting them as legal were searched. Units built on privately owned land by its owners were accepted to be legal, although there is no permission, units built on public land and on third parties' land were considered to be illegal. With that law, planning, as a directing and incentive tool, was acted as a restrictive way (Geray and Özen, 1985).

Instead of designing policies to provide housing to the low-income groups, government let the formation of squatter housing (Tekeli, 2012). Forasmuch as, it supported industrialization and left low-income groups alone to solve their problems with that way (Arı, 1979). However, outgoing amnesties and transformation projects promoted the squatter housing (Keleş, 1986). Illegal houses spread all around the country in a short span of time with no other affordable housing option. To deal with this problem, government aimed to build maximum unit with minimum cost. The result was the identification of the housing standards to maximize efficiency (The Ministry of Public Works and Settlement, 1964). Standards were grouped as obligations and recommendations. Additionally to the construction techniques, the required area of $m^2$ of houses were assigned by taking into consideration of the number of children in a family. In order to make these standards applied, government took preventive measures about some topics. They were the simplification of procedures for entrepreneurs and the exemption from taxes and opportunities to benefit from housing credits (The State Planning Organization, 1963). At the same time, cooperatives were also given priorities to produce mass housing according to the standards (Tekeli, 2012). Thereby, the prices of houses would have decreased and houses would be more affordable. Minimum housing floor area was set to 69.3 square meter, and it was increased to 100 $m^2$ in 1966 with the pressure of some unions (Keleş, 1982). However, after 1970s, the shift from rural to urban areas was observed with different trends. Renting a squatter housing was the new step for new comers (Can and Çiçek, 2012). This was a result of rising unaffordability problem of housing especially in metropolitan areas. Increasing prices of construction materials and decreasing availability of vacant land made it much difficult for new comers to build their own squatter housing.

After the second world war the main obstacle for housing provision was seen as the underdeveloped economy and to develop it the State Planning Organization was founded in 1960 (Hiç and Hiç Gencer, 2009). State Planning Organization structured the five-year development plans to succeed in economic, social and structural development. In terms of the affordability experiment, the first five-year development plan attempt to decrease the price of land which constitutes 25-30% of total housing

costs. With that way, the total cost and the price of houses could be decreased. Plan also focused on the squatter housing areas. It aimed to improve and rehabilitate these areas, instead of clearing and demolishing them. Only the ones which could not be used were decided to be demolished. In other words, plan gave importance to the individual struggle of low-income groups for affordable but illegal housing.

One significant issue about the first development plan is that the difficulty of entry to homeownership for low- income groups was recognized by the government. The plan targeted to bring restrictions to the provision and construction of luxury and expensive housing. With this plan, social housing concept was received in planning framework of government. It would maintain the right to a house for low-income households. Moreover, plan was underlining the importance of land speculations as an obstruction for housing provision (The State Planning Organization, 1963). To reach the aim of the first five-year development plan (1963-1967), that was the 7% growth for development rate, there were some restrictions for housing investments of government (The State Planning Organization, 1963). That limit stipulates the maximum amount of housing investments as 20% of the total investments.

The second five-year development plan (1965-1969) also highlighted the necessity to shift to the mass housing implementations. It was accentuated that the social and cultural needs of the low-income households could also be met with mass housing. As the main aim was to provide housing for specific groups, government also attached importance to repay housing credits without interest (Tekeli, 2012).

Contrary to the first two five-year development plans which were focusing on the importance of the supply of housing to the low-income groups and poor citizens, the third five-year development plan (1973-1977) did not have any new changes and interventions about the housing sector. Rather, it criticized the previous two plans about their implementations (Adam et al., 2009).

In addition to the above mentioned development plans, governments also had some efforts to prevent the increasing housing and land prices, and thereby unaffordability

of housing. From the purely economic point of view, it is usually accepted that shortage of urban land which is ready for development has negative effects on house prices. In other words, the restrictions on land supply through planning policies increase the price of housing that directly reverberates positively to the existing owners and high-income groups but negatively to the tenants, new buyers and low-income groups (Bramley et al., 1995). As mentioned before, the price speculations of land was one of the obstacles to provide and get affordable housing for households. In order to facilitate the land provision, in 1956, a law for the expropriation of lands by municipalities was accepted as a first step to deal with the unaffordable housing provision. By this means, municipalities obtained right to declare a land as cheap housing areas through expropriation, to sell land without adding profit or speculative value to low-income groups to build their houses affordably.

With the flat ownership law in 1965, as a second step, a land could be used by different users through ownership of individual flats. It means that the price of land would be distributed between owners of each flat and land costs per flat would diminish thereby contribute to affordable housing. Flat ownership system had led to the formation of a new method to build houses which is called 'build and sell system' based on a profit. This system is based on an agreement, a development partnership of different social groups (Işık, 1995). The result of these processes was the apartment blocks (Balamir, 1996). As the main aim of the build and sell system was to get maximum profit, it immediately targeted the high-income groups. That is to say, apartment blocks and build and sell system availed high-income groups. Besides, it worked as a remedy to the supply of rental housing.

In order to ease the land provision and cheapen the price of land, the third step was the establishment of the Land Office in 1969. With the Land Office, it is thought that the obstacles for housing supply could be prevented by providing opportunities to increase supply and cheapen prices. However, the limited budget of the office raised difficulties to reach its aims.

By the end of 1970s, with the proliferation of build and sell system, new formation of mass housing started to appear that was consisting of apartment blocks in large scales. Apart from the unaffordability of build and sell system, it disregarded the historical value of buildings and environment by demolishing the buildings which did not reach to the end of their economic life and constructing multi-storey buildings instead (Tekeli, 2012).

With the minimization of economic risks after the Second World War, between 1960 and 1980, many different private firms were founded to construct such as MESA, ORAN, HASTAŞ and ISOTAŞ. However, their target was never to build for low-income groups or poor citizens. They supplied the housing needs of high and middle-income groups that would bring maximum profit for them. Hence, these firms did not contribute to increase the housing affordability.

Between 1950 and 1980 the most important brand of housing finance was carried out by the Bank of Real Estate and Credit of Turkey that was establish as a continuity of the Bank of Building and Construction. Bank provided credits to build or buy houses, in line with the determined housing standards, for a wide and different groups composing of workers in abroad and retired military staff.

In addition, Social Security Organization (SSO), the Armed Forces Assistance and Pension Fund (OYAK), the Social Insurance Institution for Tradesman, Craftsman and other Self-employed People (BAĞ-KUR), Teacher's Bank and the Bank of Foundations provided financial support to their members in order to establish housing cooperatives or buy houses (Demirel and et al., 2003). Even the amount, duration and beneficiaries' of credit, the rates of interest were changed between organizations, the main providers were the same between 1950 and 1980 (Türel, 1994). However, the share of housing credits given by the mentioned institutions was very low. Between 1963 and 1981, these institutions provided credits of just 8-17% of total housing investments (Türel, 1986).

To solve the problem of housing supply and high prices especially in big cities, the Fund of New Settlement within the Ministry of Public Works, Construction and Settlement was founded. The main aim of the fund was to sustain and support the housing production and increase the efficiency of government on the housing sector. As mentioned before, government was the initiator of the mass and social housing predominantly in metropolitan areas. With that fund, in order to supply affordable housing in metropolitan areas, the obligations were brought to obey the conditions that were the identification of rents and prices of housing. Thereby, unreasonable increases in prices could be prevented and more affordable housing could be supplied.

After the first attempt of cooperatives, that was the Bahçelievler housing cooperative, in the middle of the 1970s Batıkent project became one of the most successful and significant cooperative projects that aimed to provide housing for low and middle-income groups starting from land supply to construction, (Şenyel, 2006). It was on the cooperation and responsibility of Kent-Koop and Ankara Metropolitan Municipality. The completion of project continued eighteen years, because of some conflicts among the project management authorities and members. Finally, with its low and high-rise buildings, project was a successful initiative on non-profit cooperative housing (Şenyel, 2006).

Economic policies of the 1980s mainly focused on the deregulation and liberalization of private sector while the role of the state was redefined as a facilitator. “With the emergence of neoliberal policies, a transformation from state centered economic development approaches to entrepreneurial, competitive and market based economic development has occurred after 1980 (Kayasü and Şenbil, 2014)”. In other words, after 1980, urbanization started to have a new phase under the pressure of neoliberal policies (Kamacı, 2012). According to Brenner and Theodore (2002), neoliberalism not only provides open, competitive and unregulated markets, but also decontrols state interventions and detainment. Therefore, it compensates the optimal mechanism by deactivating the obstacles for economic development. However, at the same time it is one of the main reasons of polarization and income inequalities in cities (Işık, 1999).

Neoliberalism reproduces the relationship between public institutions and private entrepreneurs who are the key actors of the market. It holds the ways to reduce the governments' activity by encouraging non-government agencies and individuals and motives civil society to handle more activities, which were done by the government. Harvey touches the neoliberalism differently to betray the balance of and separation between market and state interventions. According to him, the minimum state interventions to market should be, because the state always cannot possess enough information to the prices. Instead of the state, powerful interest groups will inevitably distort and bias state interventions for their own businesses' benefit (Harvey, 2005). It is stated that to accept the demand-supply relationship as an equitable and fair necessity measurement of public, other common conditions that affect both demand and supply should also be fair (Harvey, 1999). However, theory revolts from practices in terms of fair conditions.

Similar to the experiences of other countries, in order to overcome the aggravated economic crisis in 1979, the required aid was made compulsory to adopt stabilization program that was January 24 decisions. It was focusing on the empowerment of the market while devitalizing the government and public sector against market. The main decisions were enclosed:

- The changes in institutional and legal framework to formulate policies and apply effectively
- The devaluation of Turkish Lira against US Dollar
- The precautions to encourage export
- The increase in the price of government properties and the abrogation of the price controls of properties
- The increase in interest rates
- The encouragement of foreign investments

Their aim was to achieve free competition in market including with foreign and private entrepreneurs by excluding state control in market.

Just to implement January 24 decisions did not solve the problems of the existing crisis. Therefore other obstacles beyond the capital accumulation had to be removed. With the military intervention in September 12 the opposition and requests of working class that hindered the capital development were repressed (Çoban, 2012).

January 24 decisions affected both housing demand and supply so the local entrepreneurs who were the actors of build and sell system. On one hand, the interest rate problem of entrepreneurs was increasing, on the other hand with the committed wage increases, the price of housing inputs were increasing. Directly it had an influence on the cost of housing and the price of a housing unit. The changes in house prices steered the savers to buy and get other investment tools that brought high return with high interest rates instead of housing which had low return compared to other investments. These changing preferences of savers led to a decrease in the number of housing production that can be measured with the number of housing permits (Kentkoop, 1983). However, in the long run with the support of governments to the housing sector, the activities of construction sector reached its peak level.

As a result of neoliberalism policies and capital accumulation, urban rent and its distribution between different actors became a significant issue. Built environment became the tool to create and share the urban rent. Similar to the most countries which adopt neoliberal policies, in Turkey also, construction activity has become the leading sector of economy after 1980. This was due to the fact that construction both supports different sub-sectors and reinvigorate the economy and creates tidy employment (Inal, 2014). Starting from 1980s, middle-income groups were encouraged to buy land and housing in order to secure their savings from the effects of inflation.

Neoliberal economic and politic strategies had deepened the inequalities in urban life and housing sector in Turkey (Aydın and Yarar, 2007). By entering international market with the neoliberal policies, small-scaled business went bankrupt. In the

competition environment, factories decreased the number of their workers. Indirectly, these changes created serious economic collapse and unemployment problem for squatter housing residents. The gap between poor and rich reached a peak level. On the other hand, in 1984 and 1985, the Özal government passed various laws related to squatter housing. With that way, squatter housing owners had rights to have four-storey apartments in the land of their squatters.

The differentiation of the squatter housing that stamped the previous 40-50 years has directly related with the commercialization of the squatters. The phenomenon of 1960-1970s was the apartment blocks spread to the squatter housing areas. The sufferers of the neoliberal economic actions that were the squatter housing owners and factory workers had become economically better off in a short time (Erman, 2001). It means that housing and its formation have shaped with the executions of government and laws between the given years. Actually, neoliberalism revealed a continuous process of construction, reconstruction and capital accumulation that comes from construction of the built environment (Balaban, 2015).

Between the 1980 and 2002, in terms of legal perspective, some regulations aiming to solve existing problems, led to new conflicts in urban and rural areas. With the 1982 Constitution a special article was prepared for the housing issue instead of being pronouncing it as a part of the right to health. This was the indication of the increasing importance attached to housing, daily life and policies.

In 1980, in order to provide a house for the people who were not homeowners, the National Housing Policy was defined by the Council of Ministers. As a result of the policy, the first mass housing law numbered 2487 was enacted in 1981. The state support from budgets started to be delivered for mentioned mass houses. In the definition of mass housing, the number of units has been mentioned between 750 and 1000. The housing production attempts between these numbers were named as mass housing. To get government support in these types of projects, some targets and limitations had been decided. The maximum size of housing was determined as $100m^2$ and the target group was low and middle-income group. However, in the long term,

the users of the credits had changed from low and middle to high and middle-income groups.

In 1984, the second mass housing law numbered 2985 was enacted. The aim of this law was:

- To provide house for low and middle income groups
- To improve and enhance the squatter housing regions with infrastructure and cadastral survey services
- To establish a fund to increase resources apart from general budget to finance housing
- To provide more opportunities for private sector to produce houses
- To transform housing facilities of cooperatives into the mass housing production method
- In addition to the mass housing credit, to create individual housing credits.

While the starting point and target of mass housing fund was to provide credit and house for low income groups and poor citizens, by the time, it deviated from these aims. In 1993, it came under the general budget and dismantled completely in 2001. From a different perspective, when the mass housing law is evaluated, it can be said that the aim of the law was not only to provide housing but also to revive the economy and increase the employment. It means that similar with other implementations of state after 1980s, the mass housing fund and law started to be affected by the neoliberal policies.

In addition to the second mass housing law in 1984, Housing Development Agency (HDA) was founded. This institution was separated as HDA and State Partnership Organization in 1990.

Between 1983 and 1988, a series of laws had passed with an aim to transform squatter housing. With these laws, by solving the ownership and possession problems, squatter housing gained a legal status. It is possible to follow this as a next step that the transformation of squatter houses into the apartment blocks (Şenyapılı, 1988).

In 1985, Development Law, numbered 3194, was accepted. It had directly affected the municipalities with the given rights and responsibilities. With the acting changes in 1980s about the development legislation, the right and authority to prepare and approve the development plans of the local government were purveyed opportunities to provide land fast and exponentially. With the increasing rights, they planned more area and so the land development and the housing production increased as a result of the decentralization and localization process. In a short time, this law was seen as a solution of housing problem and cheap land provision. In the long term this law led to the problem of land supply for housing production (Türel, 2008).

Despite the previous phenomenon of 1950 and 1980, that was build and sale system has continued between 1980 and 2002, the supported method of housing was the mass housing production especially with the hand of cooperatives. With that way in one time, a large number of housing could have been produced. It can be said that while between 1980 and 2001 about housing production, cooperatives were marking with their activities, after 2002 HDA and its implementation has occupied an important position in sector. The positive effect of the mass housing laws and fund on the housing production cooperatives has seen dramatically. In 1970s, the percentage of housing which produced by cooperatives was 13, that number transcended the % 30 levels in 1980s (Coban, 2012).

However, in spite of the increasing number of housing unit by cooperatives, generally middle-income groups utilized them with the credits of mass housing fund. The main indicator of that condition were the utilizers of credits between 1984 and 1997. As number showed that between given years low-income group, according to determined criteria, (Alkan 1998) used none of 885,000 credits. In other words, with the deviation of aims, cooperatives and the mass housing fund did not provide housing affordably

for poor citizens and low-income groups. In another hand, small-scale builders and sellers, which produce mostly apartments on single parcels, dominated to the private sector in terms of residential.

Between 1980 and 2002, the government did not directly intervene to the housing sector. Alternatively, its function was to provide the credits and support the private actors with different wrinkles. In order to increase the housing production with the declared mass housing law in 1981, % 5 of the total budget were separated for the mass housing fund (Türel, 1989).

After 1984, during 20 years HDA provided housing credits for different producers but especially for cooperatives. In 1993, the mass housing fund was taken into the scope of general budget and in 2001 completely abated. During this time, totally 950,000 housing units were benefited from its credits. Before being a house producer, between 1984 and 2003 HDA has delivered housing credits to 1,048,310 houses (Demir and Palabıyık, 2005). Actually, 944,000 of them were cooperative houses (Türel, 2010). Also at that time, it just produced 43,145 housing units in its land. According to these numbers, up to 2003, HDA was mostly dealt with the credit financing instead of direct housing production (Türel, 2010). With the ascendance of Justice and Development Party in 2002, HDA's role and operations has changed and it started to build houses on public land for low income households so they could buy the houses with instalments. As the changing power and activities of HDA were shaped by government, for instance in 2002, the housing credits in other words mortgage loans by HDA were reduced and stopped totally in 2005. HDA directly transformed into a housing producer.

### 3.2. HOUSING PROVISION, POLICIES, AND PROBLEMS AFTER 2000

In 2003, the JDP in their first term as government in office declared an urgent action program in which the housing production is seen as a way to decrease unemployment, to reach economic targets and to increase the life quality by a planned urbanization process. “Cities resemble huge construction areas and some areas are so full of

skyscrapers, apartment blocks, and other huge buildings (Yeşilyurt-Gündüz, 2015)". As a result of these construction activities, the number of housing units increased dramatically.

Table 3.5: Housing construction permits between 2003 and 2015 (TURKSTAT, 2016)

| | ***2003*** | ***2008*** | ***2013*** | ***2014*** | ***2015*** | ***TOTAL*** |
|---|---|---|---|---|---|---|
| ***TR1*** | 9362 | 14657 | 75195 | 78152 | 84078 | 493953 |
| ***TR2*** | 9936 | 21744 | 32367 | 24319 | 28756 | 283846 |
| ***TR3*** | 33118 | 79690 | 50274 | 81988 | 82151 | 858267 |
| ***TR4*** | 16639 | 35263 | 57312 | 78424 | 50059 | 519076 |
| ***TR5*** | 21323 | 32451 | 52130 | 58467 | 46701 | 535860 |
| ***TR6*** | 13025 | 52420 | 65295 | 70123 | 58512 | 614312 |
| ***TR7*** | 6779 | 14698 | 18775 | 29584 | 22014 | 213077 |
| ***TR8*** | 8139 | 21328 | 24627 | 25066 | 24369 | 242141 |
| ***TR9*** | 3299 | 9706 | 16442 | 17611 | 15343 | 126257 |
| ***TRA*** | 2219 | 2205 | 6270 | 6787 | 8023 | 53130 |
| ***TRB*** | 3116 | 6525 | 15412 | 13300 | 8954 | 97441 |
| ***TRC*** | 1777 | 7764 | 14282 | 19959 | 19744 | 131338 |
| ***TOTAL*** | 128732 | 298451 | 428381 | 503780 | 448704 | 4168698 |

Within this context, new housing production and urban transformation projects came into agenda under the leadership of HDA. In order to implement urban transformation projects, between 2003 and 2007, a number or laws were enacted. With the law numbered 5216 in 2004, municipalities started to have right and authority to make local physical plans. This means, they are enabled to make changes wherever they want. As a result of that law, in the large scale housing projects, both land provision and physical plan and construction are conducted by municipalities and their own companies (Uzun, 2010).This method was firstly seen as a way to produce affordable

housing by municipalities in their lands. However, in the end, law just contributed to enlarge the authority of metropolitan municipalities on district municipalities.

After a long period, the intervention in order to increase affordability of rental houses has embodied. Government has brought restrictions in order to control rent increases. In order to keep the rents under control; state standardized the maximum rent increase as 25% of rent for a year in 2000. Up to 2011, it continued like that and in 2011, the maximum increase in rent was determined according to the producer price index during the preceding 12 months. Hence, increases cannot be higher than this percentage.

Since 2003, the duties of HDA have been considerably expanded. The right to establish companies about housing, the right to take in partnership on currently established companies, the opportunities to provide credits for individuals and mass housing and urban transformation projects, the authorization to do and procure the housing, infrastructure and social reinforcement implementations were given to HDA (Geray, 2009). In other words, after 2003, HDA has transformed into a large scale builder and seller with its own lands. With the changing policies, HDA has become the authorized institution for the whole subjects about the built environment (Balaban, 2009).
HDA has been criticized about the inappropriateness of its houses and their environmental characteristics to its users and their cultures. In addition to these, the typical projects which are applied everywhere, displacement, gentrification processes, the improper payment regulations for house owners and lack of arrangements for the tenants have also been criticized (Uzun, 2006).

After 2002's financial resources have been diversified. They are consisted of the allowances from budget, the incomes from the sales of real estate properties, the repayment of credits and also interest earned. Without transferring financial sources from state budget, by selling public land with the corporation of builders and sellers, HDA has also built luxury housing projects. The profits of these projects were used to build social housing projects on the public land for lower and middle income groups. Thereby, after 2002 HDA has right to unlimited access for public land, the

authorization to make every type of plan and etc. HDA has been made the strongest actor in housing sector in the short time. However, the discussions about whether the produced housings are social housing or not are still continuing. To sum up, HDA as being an actor in housing sector, got profits from the projects of middle and high income groups and used these gains and payments of house buyers to build houses that are named social housing.

HDA is at the center of allegations because of its uncontrolled power, its activities which damage spatial and architectural quality, and its random choices of housing production.

It is seen easily that between 2002 and 2016, HDA has built houses in 12 different NUTS-Level 1 regions. According to Türel (2012), housing production in some provinces was less than the necessary number according to the newly formed households, whereas in some provinces the newly produced housing units meet the need of them. In spite of all its contradictive activities, the price of HDA houses are generally below the market prices. The crumbling financial sources of HDA has directly been seen from the share of cooperatives. In 2004, it stated to fall under 10% and went further down to 2% in 2011 (Türel, 2012).
After 2003, as aimed in five-year development plans, the necessity to rearrange housing finance methods has arisen. The solution was seen in the housing mortgage system. However, that method did not serve to the low income groups and poor people, instead high income groups met their housing needs easily through this system. As a result, this arrangement did not provide any opportunities for the low-income people to get a house affordably.

In the ninth five years development plan (2007-2013), housing was not handled widely. It was just mentioned that in order housing markets to continue their operations, financial sources and financial models should be improved and diversified. The changing context of five year development plans could be understand as, while the share of housing in capital stock has been increasing, because of the maximum profit aim, the policies are also increasing, yet the policies that suggested affordable

housing practices for low income groups were extracted among those policies. Under these circumstances, housing is seen purely as an investment good and a guarantee for high income groups and an increasing problem and a cost burden for low income groups.

Housing production and urban transformation program of the JDP government which started in 2003 declared one of its major aims as to increase homeownership among low income households (Özdemir-Sarı, 2015). However, in 2000, 68% of households had their homes, and this number has regressed to %60 in 2007 (TURKSTAT, 2009). It means that the produced houses did not reach the people who did not have a home. They were utilized as a second or third houses of previous homeowners. So these houses did not make any contributions to the affordable housing.

Especially in recent years, urban transformation and activities related with it were concentrated on to reach the defined aims of 2023. However, transformation, renewal and rebuilding issues were just seen as a physical and profit-oriented activities, without giving any importance to housing right. In other words, even there were enhancements in the physical quality, they did not contribute to solve the housing problem of low-income groups.

### 3.3. CONCLUSION

Housing affordability or affordable housing has never been handled comprehensively and as a priority issue by Turkish housing policy. Particularly, in the last 15 years, housing policies aiming to improve homeownership among low income groups were not able to influence the affordability of housing positively. On the contrary, construction sector was seen as the leading sector for economic growth, and housing production was supported without an expectation to improve the quality and affordability for low income households. As a result, in Turkey although there is a significant excess housing production in urban areas, housing affordability is still a problem which is gradually increasing for lowest and low income households. In the next chapter, the changing dynamics of housing affordability among different income

groups between 1994 and 2014, and the extent of the current affordability problem with respect to income, mode of tenure and regions are examined in detail.

# CHAPTER 4

# HOUSING AFFORDABILITY OF DIFFERENT INCOME GROUPS: REGIONAL ANALYSIS

## 4.1. HOUSING AFFORDABILITY IN TURKEY: 1994-2014

Excess housing production in the country became highly significant after the 2000s. Contrary to the expectations, house prices continue to increase. However, the effects of these developments on housing affordability are still ambiguous. A very recent research by Özdemir-Sarı and Aksoy (2016) displays that during this housing boom period affordability of lowest and low income households have been impaired significantly. In this section, in order to draw general changes in housing affordability of different income groups, findings of that research is reviewed first.

Özdemir-Sarı and Aksoy (2016) employ Households Budget Survey data for years 1994, 2004 and 2014 to examine the changes in housing affordability with respect to income and mode of tenure. They use two different affordability index. The first index reveals housing expenditures (i.e. rent, repair-maintenance expenses, and utility bill) as a ratio of household's income. Households spending more than 30% of the net disposable income on housing are considered to experience affordability problems. The second index represents housing and transportation expenditures together as a proportion of income of household. For this index, households secluding more than 45% of the net disposable household income on housing and transportation are considered to have affordability problems (Özdemir-Sarı and Aksoy, 2016).

The results of the above mentioned study display that in the last 20 years the budget devoted for housing expenditures by lowest and low income owner-occupiers' has gradually increased (Figure 4.1.). Furthermore, housing affordability has become a problem for larger sections of the low and lowest income households in time (Figure 4.3). By 2014, almost 50% of lowest income owner-occupiers and 40% of low income owner-occupiers spend more than 30% of their budget for housing (Figure 4.3). The

second index reveals that housing affordability of all income quintiles is getting worse between the examined years. Turkish cities facing with urban spatial expansion particularly after 2000s, have experienced increased transport costs.

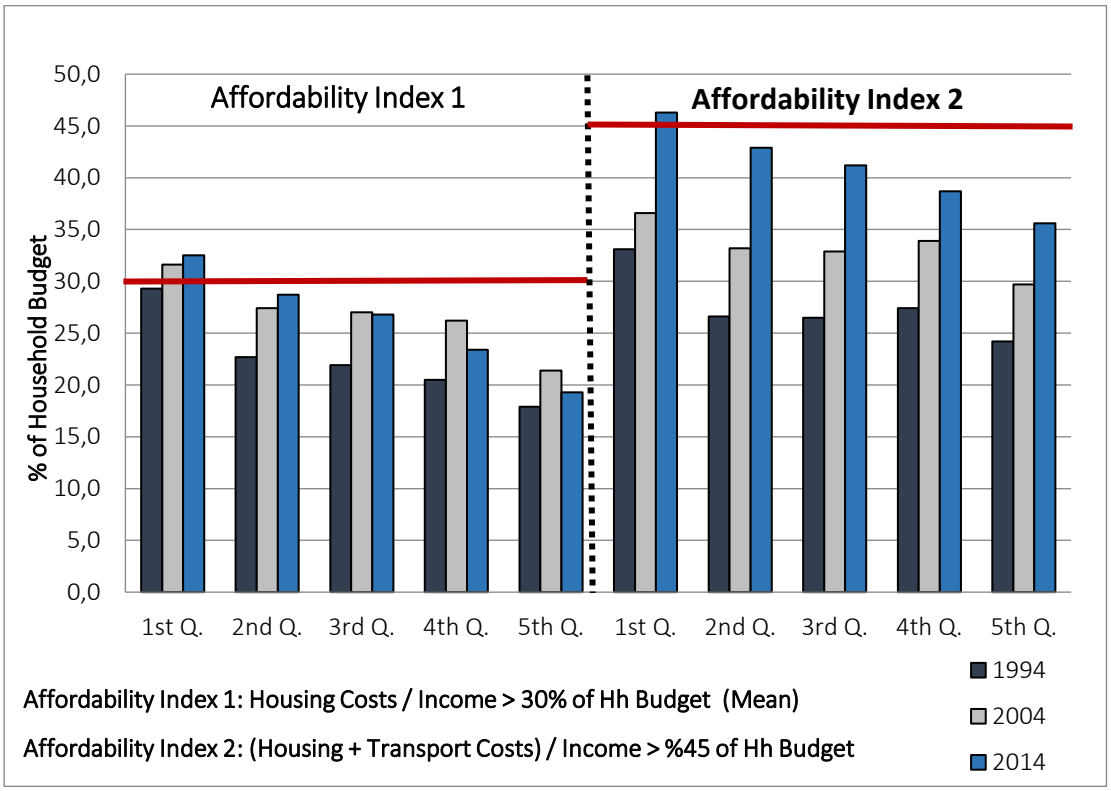



Figure 4.1: Housing Affordability of Owner-occupiers (Özdemir-Sarı and Aksoy, 2016)

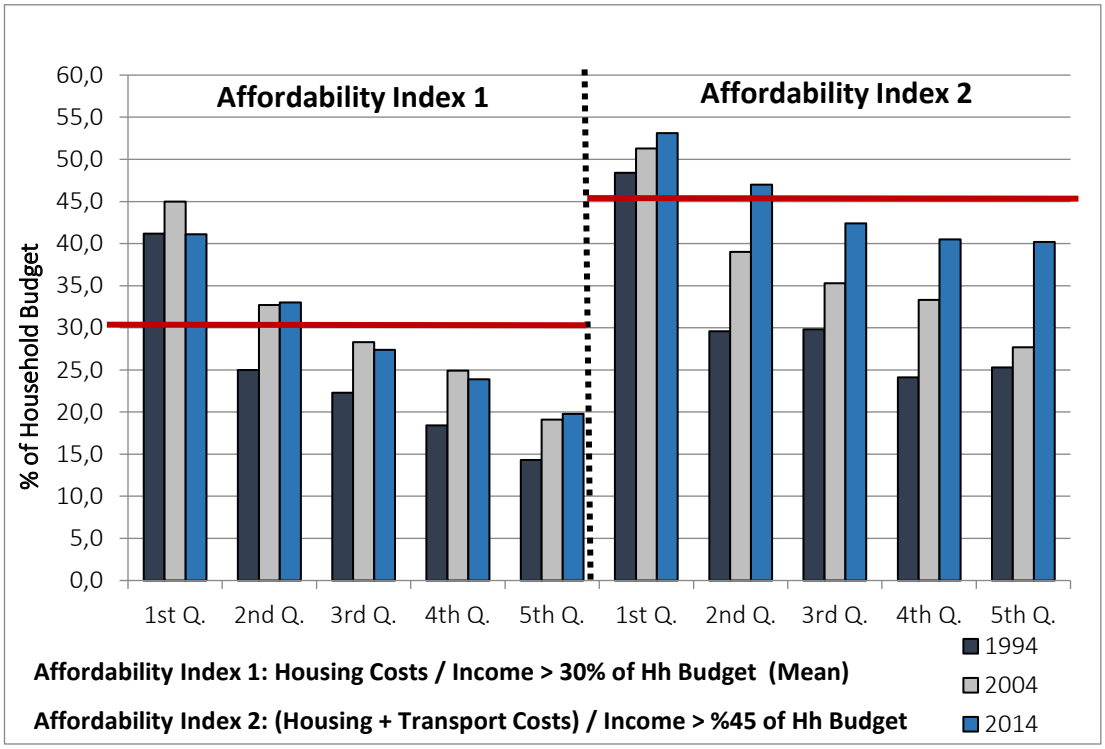



Figure 4.2: Housing Affordability of Tenants (Özdemir-Sarı and Aksoy, 2016)

Figure 4.2 displays that, lowest and low income tenants suffer from housing affordability more severe than owner-occupiers. According to the first index, more than 70% of lowest income tenants and 56% of low income tenants are facing with housing affordability problems by 2014 (Figure 4.4.). The second index displays that all income groups are suffering from increased transport costs and wider sections of the tenant households are affected when 1994, 2004 and 2014 values are compared.

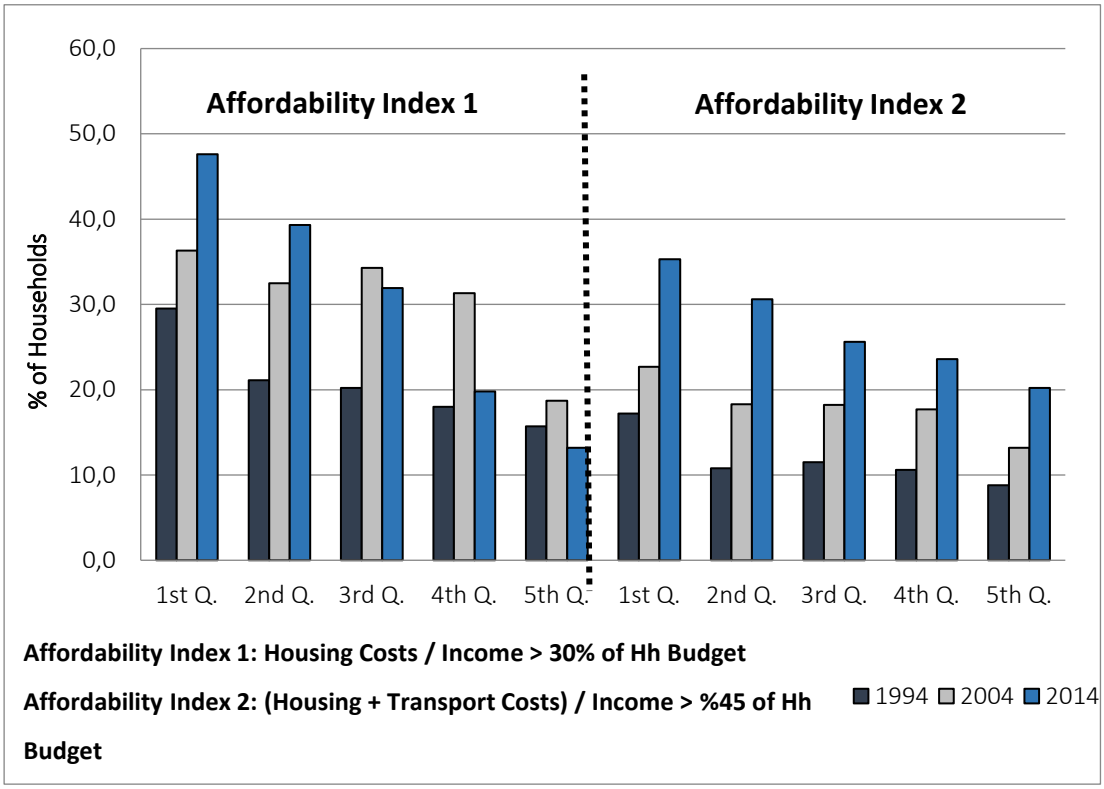



Figure 4.3: Percentages of Housing Affordability for Owner-occupiers (Özdemir-Sarı and Aksoy, 2016)

When the percentage of households who are facing with affordability problems are examined (Figure 4.3, Figure 4.4), it is clearly seen that although the country averages display minor improvements for lowest income tenant households, in reality housing affordability has become a problem for larger part of this group. Furthermore, according to the second index in the last twenty years all sections of the society have experience increasing housing affordability problem.

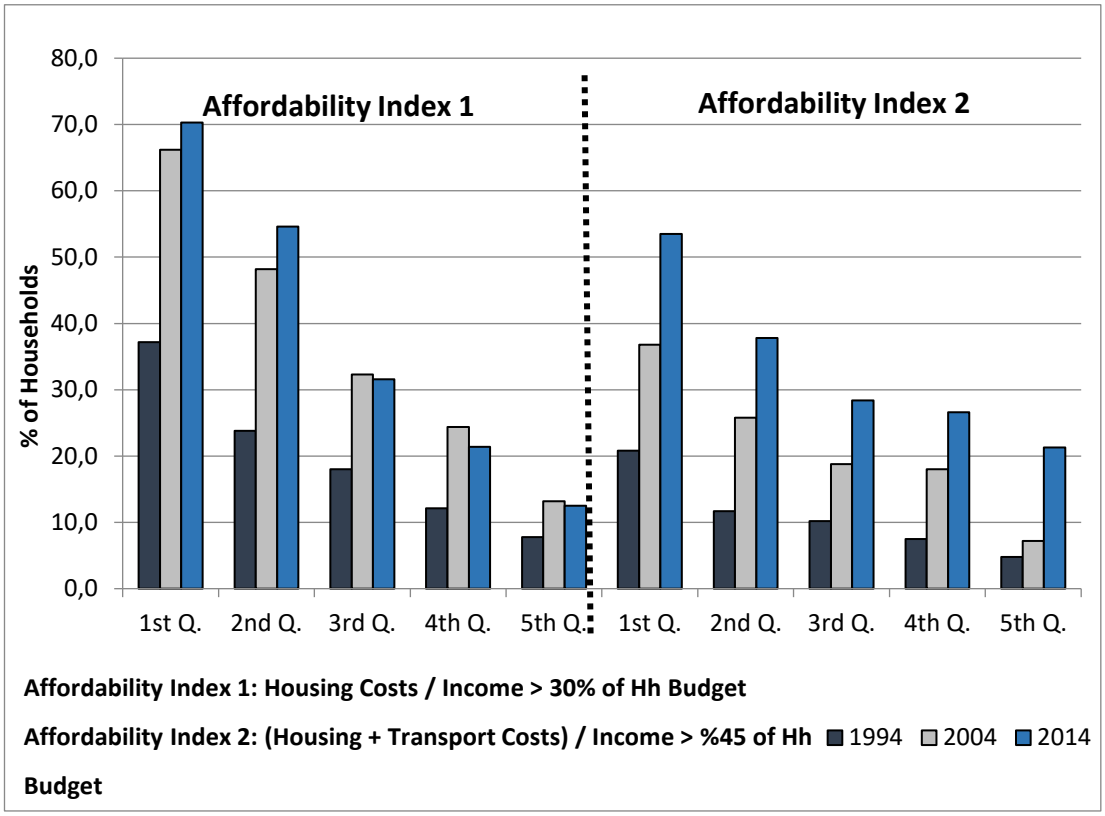


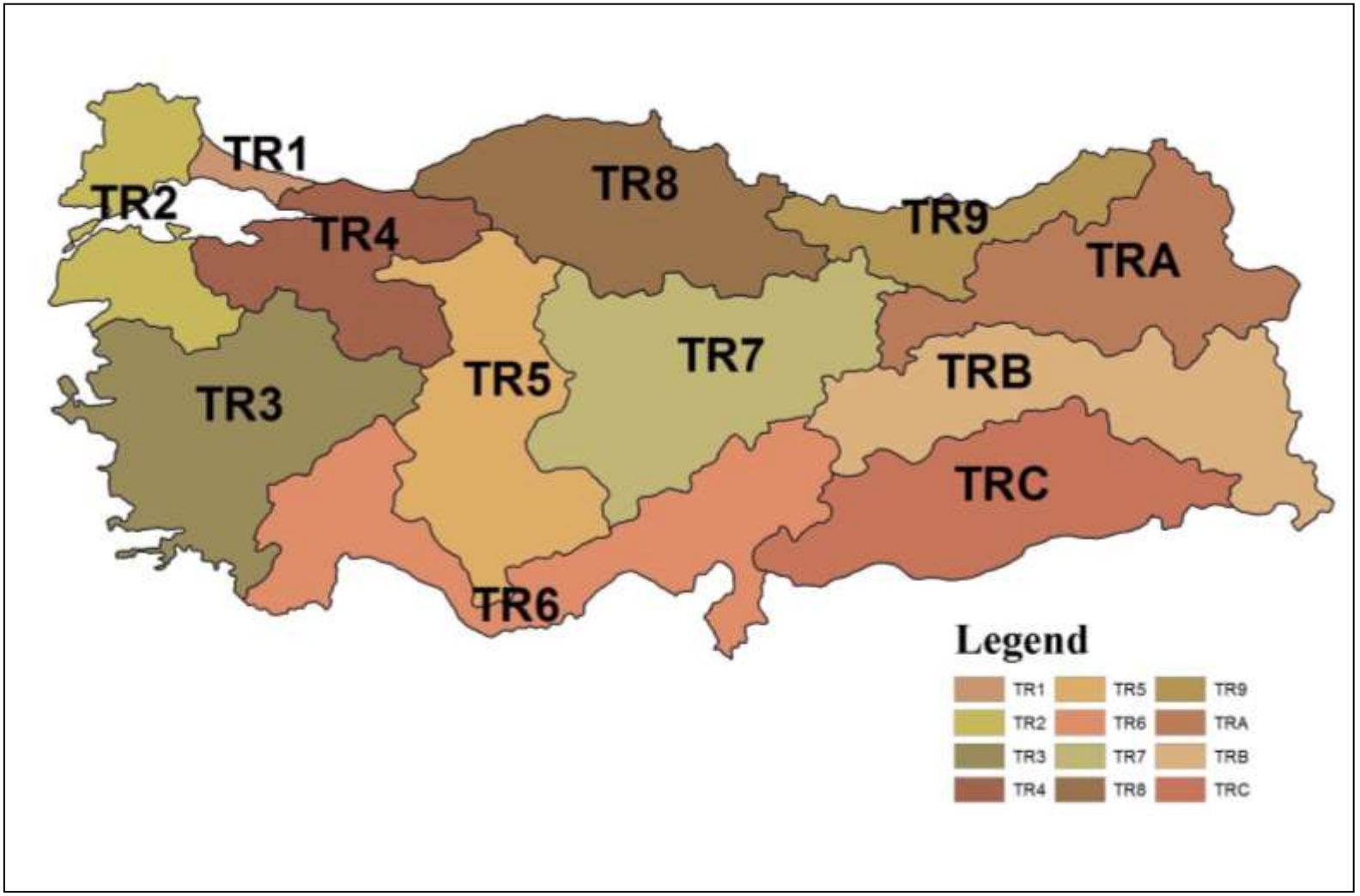

Figure 4.4: Percentages of Housing Affordability for Tenants (Özdemir-Sarı and Aksoy, 2016)

The findings of Özdemir-Sarı and Aksoy (2016) imply that middle, high and highest income households have benefited more from the recent measures taken to improve housing affordability in the country, in contrary housing affordability of low and lowest income households have been impaired significantly.

## 4.2. DATA SOURCES AND METHODS EMPLOYED IN THE STUDY

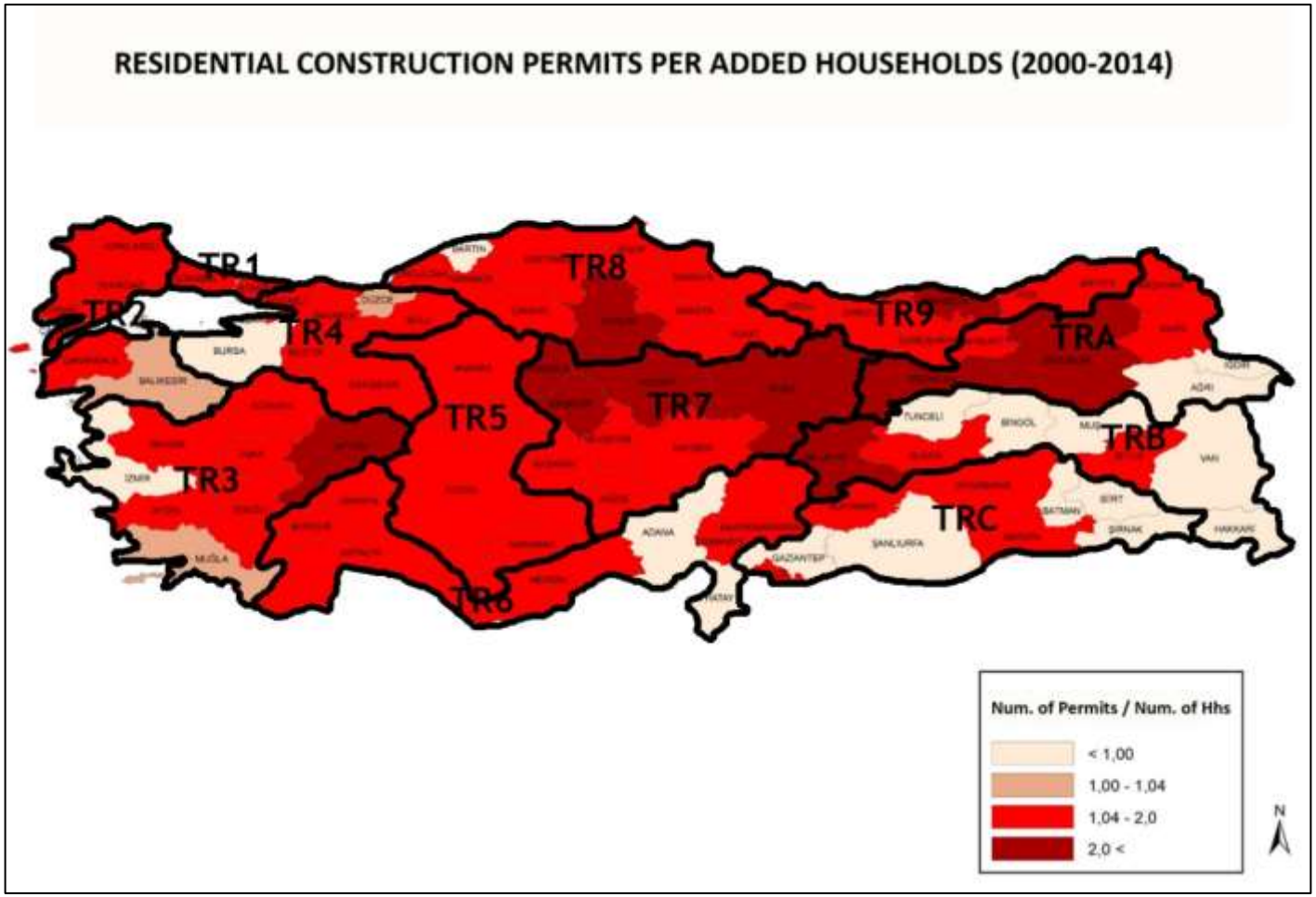
In this study, Income and Living Conditions Survey Micro Data Set (Cross Sectional) 2009- 2014 and Poverty Studies of 2009 which are provided by the Turkish Statistical Institute (TURKSTAT) are employed. As a methodology of the study, a combination of two different measurement methods have been used. First of all, the determined ratio by international literature, that is 30% of total income, has limited as a rent and other housing expenditures for tenants and an imputed rent and other expenditures for

owner-occupiers. Thereby, for tenants the current condition of housing affordability, and for owner-occupiers, the estimated condition of housing affordability have been appointed. Households who live in lodgement or government's houses and their relatives' houses were eliminated. However, poverty and starvation lines and income classification of households were made before this elimination in order to reflect conditions of all households. After that, households who pay more than 30% of their incomes for housing expenditures were classified as sufferer of housing affordability. Other households who pay less than 30% of their incomes, 'so called affordable cases', were subjected to two more measurements. As poverty line, 60 per cent of median equivalent income and for starvation line 20 per cent of median equivalent income were identified. Households were categorized with regard to the ability of paying housing expenditures after meeting their needs for poverty and starvation thresholds. Between given years, changes in housing affordability and ability to meet their needs have been examined for different first level TR regions (Map 4.1) which are TR1- İstanbul (İstanbul), TR2- West Marmara (Tekirdağ-Balıkesir sub-regions), TR3- Aegean (İzmir-Aydın-Manisa sub-regions), TR4- East Marmara (Bursa-Kocaeli sub-regions), TR5- West Anatolia (Ankara-Konya sub-regions), TR6- Mediterranean (Antalya-Adana-Hatay sub-regions), TR7- Middle Anatolia (Kırıkkale-Kayseri sub-regions), TR8- West Black Sea (Zonguldak-Kastamonu-Samsun sub-regions), TR9- East Black Sea (Trabzon sub-region), TRA- North West Anatolia(Erzurum-Ağrı sub-regions), TRB- Middle East Anatolia (Malatya-Van sub-regions), TRC- South East Anatolia (Gaziantep-Şanlıurfa-Mardin sub-regions).




Map 4.1: NUTS- Level-1 Regions of Turkey

As a final step, housing production rates and amounts of these regions have been compared with the affordability problem of regions. Thereby, an attempt is made to examine how increasing housing supply affects housing affordability and ability to meet basic needs of households in different TR regions. For these comparisons Map 4.2 is employed. In all of the TR1, TR5, TR7, TR9 regions' cities, construction permits issued per added households is more than 1.04. It means that housing production in these regions is much more than needed. In TR2, TR3, TR4, TR6, TR8 and TRA regions, housing production according to change in number of households is very close to each other. Except 1 or 2 cities in each region, housing units were produced more than needed. In TRB and TRC regions, most of the cities had inadequate number of permits compared to increase in the number of households. The inadequacy could be attributed to the local dynamics of housing production (informal housing), and household composition (two or more generations living together) in these regions.




Map 4.2: Residential Construction Permits per Added Households (2000-2014) (Modified from Özdemir-Sarı (2015) according to the needs of this study)

Several methods were used in different steps of the study. This study compares households in different income categories in terms of their housing affordability. Therefore, first, to compare and classify household income variable, 'equivalence scales' were investigated. "When household income is adjusted according to an equivalence scale, the equalized income can be viewed as an indicator of the economic resources available to a standardized household" (OECD, 2013, p.173). Although a wide range of equivalence scales exist (Figure 4.5), the most commonly used scales include "OECD equivalence scale, OECD-modified scale and square root scale" (OECD, 2013, p.2). While OECD equivalence and OECD-modified scales assign different values for different individuals in a household (i.e. first adult, child aged under 14), square root scale just focuses on the total number of individuals in a household. For each of these scales, the equalized household income can be calculated by dividing total/disposable household income to defined scales.

| **Household size** | **Equivalence scale** | | | | |
|---|---|---|---|---|---|
| | per-capita income | "Oxford" scale ("Old OECD scale") | "OECD-modified" scale | Square root scale | Household income |
| 1 adult | 1 | 1 | 1 | 1 | 1 |
| 2 adults | 2 | 1.7 | 1.5 | 1.4 | 1 |
| 2 adults, 1 child | 3 | 2.2 | 1.8 | 1.7 | 1 |
| 2 adults, 2 children | 4 | 2.7 | 2.1 | 2.0 | 1 |
| 2 adults, 3 children | 5 | 3.2 | 2.4 | 2.2 | 1 |

Figure 4.5: Different Equivalence Scales (OECD, 2013)

In this study, due to data limitations square root scale was chosen. According to the number of individual, square root scale for each household was calculated.

Data employed in this study does not provide total household income as a pre-calculated variable for all survey years. Thus, in the second step, total income of households was calculated from the individual and household data considering the following variables:

- Annual total net cash and real salary, other wage and daily wage incomes,

- Annual total net cash and real entrepreneur incomes,
- Annual unemployment compensation incomes,
- Annual retirement incomes,
- Annual widows and orphans pensions' incomes,
- Other individual based incomes,
- Child care, social and housing supports,
- Receiving donations and grants from other households or organizations,
- Receiving alimonies, real estate property incomes.

Some other expenditures such as given alimonies, periodical taxes and voluntary, private insurance charges are removed.

Thirdly, in order to find equalized household income, total income of a household was divided into the square root value calculated in the first step. Thereby, household incomes are adjusted to be employed in income categorization. As a result of the third step households were classified in five income quintiles with respect to their equalized household income. This categorization is undertaken for the whole sample of the survey in order to reflect current situation of society.

In the fourth step, 60 per cent of median equalized household income was assigned to determine poverty line for each year between 2009 and 2014. For starvation line, 20 per cent of median equalized income was specified.

Then, the percentage of households who has income below starvation line and poverty line was computed for the whole sample (Figure 4.8). After that point, tenants and owner-occupier households were chosen in order to analyze their housing affordability. At that step, other households who live in lodgements, and privileged tenants who live in their parents or relatives' houses were eliminated because of their rent values that are below market values.

In the analysis stage, two different measurement methods were formulated. While first measurement method is only focusing on the ratio of housing expenditures to total income of households, second method investigates both the ratio of affordability and

the poverty condition of households according to make these calculations. For basic housing expenditures real rent values for tenants, imputed rent values for owner-occupiers were used. For other housing expenditures, water, electricity and heating bills, housing services, maintenance costs and real property taxes were calculated. By summing up basic housing expenditures and other housing expenditures, total value of annual housing expenditures were calculated.

In measurement method 1, especially for regional comparisons, instead of using mean values of housing affordability of each cases, the share of total housing expenditures on total income values of all examined households (who live in specified region as assigned mode of tenure, have equalized household income according to predefined income quintiles) were summed (Figure 4.6). Housing affordability ratio of these households was calculated between 2009 and 2014.

$$\textbf{The Share of Housing Expenditures on Households' Income} = \frac{\textbf{Total Housing Expenditures of Households}}{\textbf{Total Income of Households}}$$

Figure 4.6: Measurement of the Share of Housing Expenditures of a Group of Households

For individual comparisons and percentage of affordable cases, housing affordability ratio of a household was calculated separately from other households. By this mean, first step of analysis, measurement method 1 was completed.

$$\textbf{Housing Affordability Ratio} = \frac{\textbf{Housing Expenditures of a Household}}{\textbf{Total Income of Household}}$$

Figure 4.7: Measurement of Housing Affordability of a Household Individually

As a result of this step, the percentage of affordable cases which pay less than 30 per cent of their incomes for different income groups, different modes of tenures, and 12 different regions were examined.

For second measurement method, not only housing affordability ratio but also equalized household incomes which are above or below poverty line were tested. As mentioned before for starvation line 20 per cent of median equalized household income, for poverty line 60 per cent of median equalized household income were approached. In this step, households were grouped into two. 1st group was affordable cases whose housing affordability ratio is equal to 30 per cent or less than 30 per cent and equalized household income is more than poverty line (60 per cent of median equalized household income). 2nd group composed from unaffordable cases whose housing affordability ratio is more than 30 per cent or equalized household income is less than poverty line or both of these conditions.

In this step, households were evaluated individually. Therefore, the percentage of affordable cases formed individually. As a result of this study, housing affordability and poverty conditions of households were examined in detail by making regional, monetary and ownership based comparisons in 2009, 2012 and 2014 (Figure 4.10).

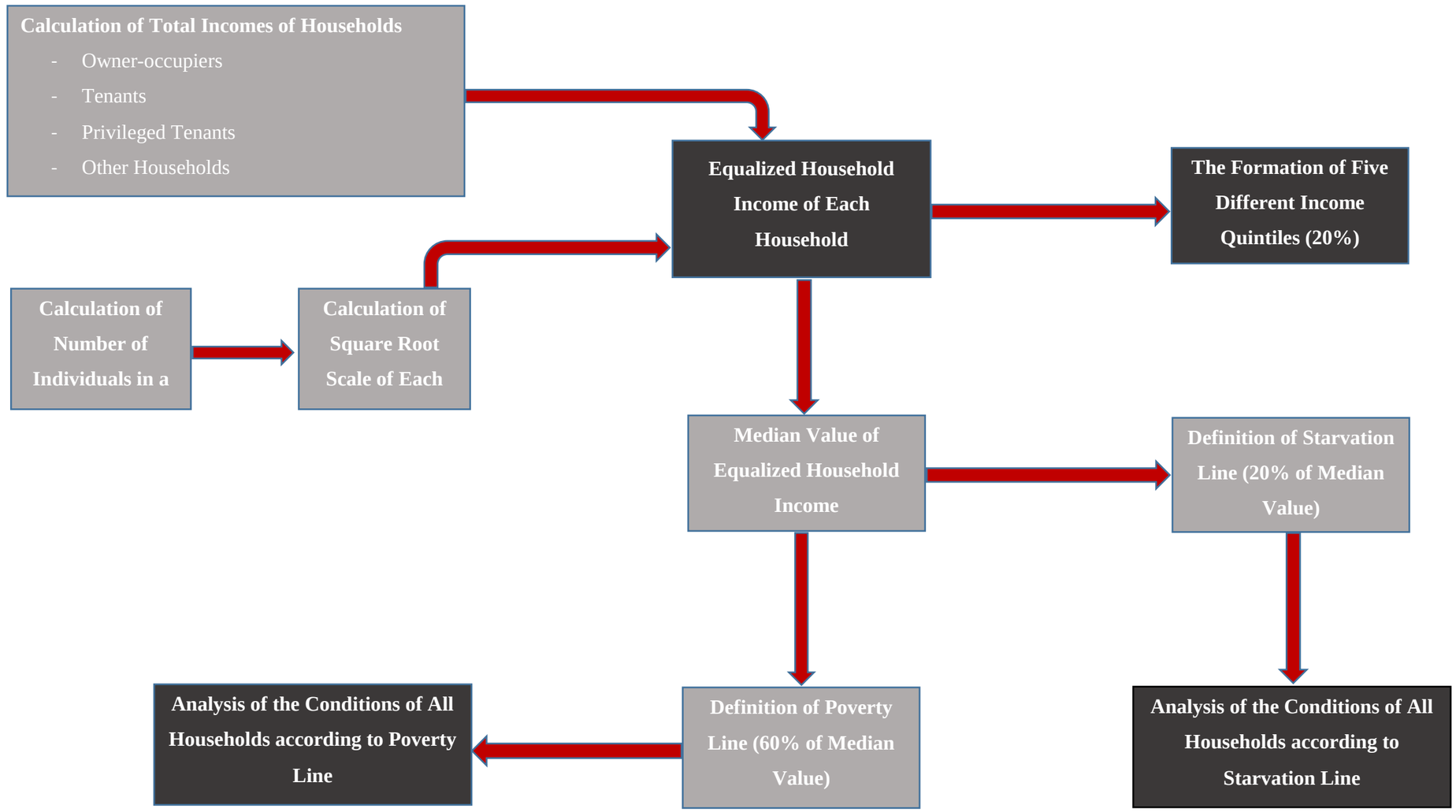



Figure 4.8: First Step of the Analysis

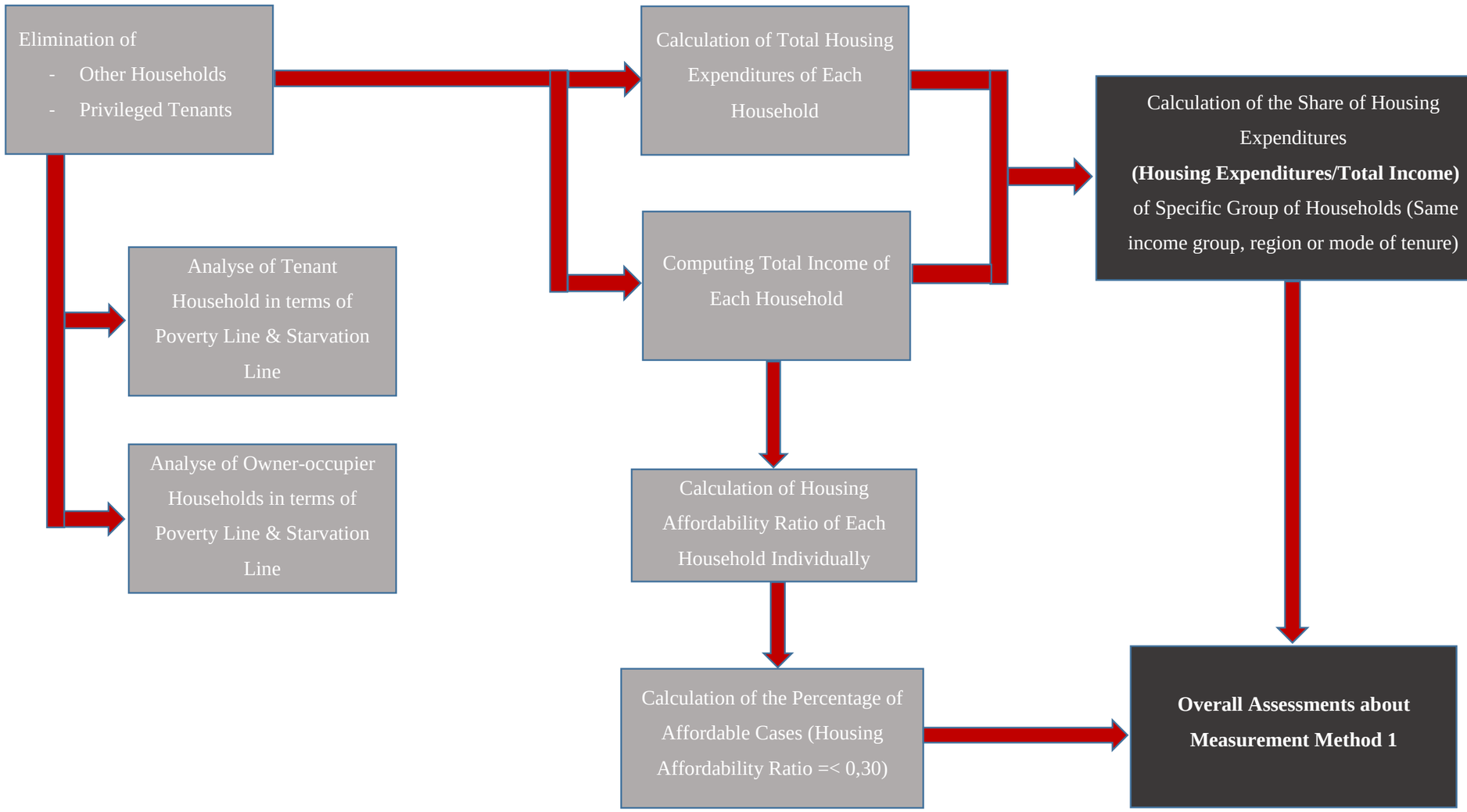



Figure 4.9: Second Step of the Analysis

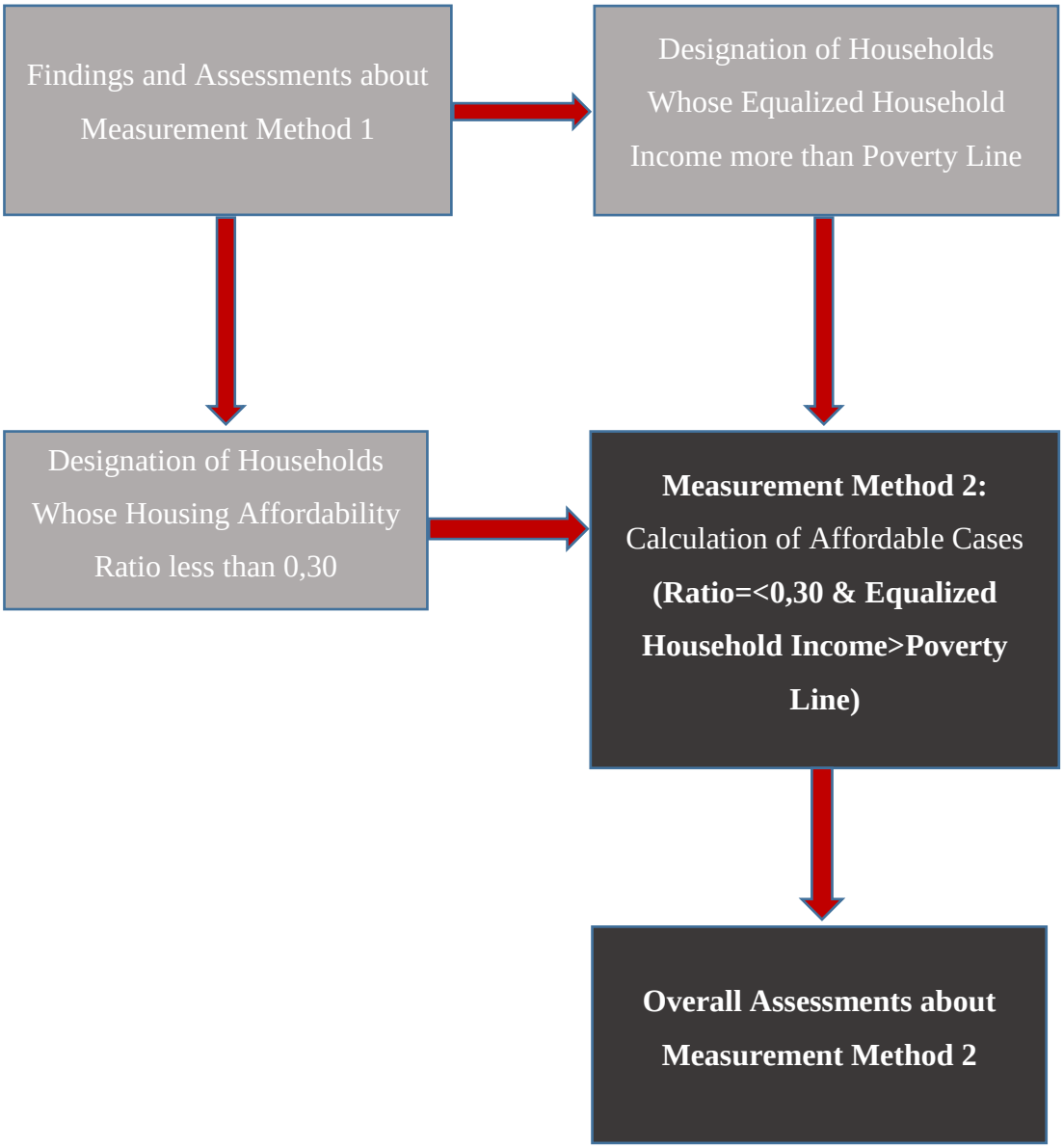



Figure 4.10: Third Step of the Analysis

## 4.3. AN OVERALL EXAMINATION OF THE SURVEY DATA

This survey examines housing affordability conditions and housing conditions of households between 2009 and 2014. It took into consideration of the regional distribution of households while evaluating them. In terms of modes of tenure, tenant and owner-occupier households were scrutinized. Other households who live in their relatives' houses or governmental houses were omitted. The observed number of cases was showed in table 4.1. There is no significant changes in the distribution of population in urban land that was between 63-67 per cent of total population.

Table 4.1: Total and Observed Number of Cases

| Years | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| Total Number of Cases | 11856 | 12102 | 15016 | 17548 | 19840 | 22708 |
| Number of Cases | 9835 | 9959 | 12343 | 14373 | 16272 | 18721 |

Almost for each year, 18 per cent of total cases were eliminated because of their modes of tenure as other households or privileged tenants. However, the increase in the number of cases provides more comprehensive analysis opportunities to researchers. However, the increase in the mean values of annual income of households remarks in this data.

Table 4.2: Mean Value of Annual Income of Observed Cases

| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---|---|---|---|---|---|
| Mean Value of Annual Income | 18.181 TL | 19.614 TL | 21.142 TL | 22.840 TL | 25.607 TL | 28.162 TL |

Table 4.3: Poverty Line of Households (Annually)

| | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** |
|---|---|---|---|---|---|---|
| **Poverty Line (60% of Median Value of Equivalence Income)** | 4242 TL | 4608 TL | 5020 TL | 5542 TL | 6242 TL | 6956 TL |

Table 4.4: Mean Values of Rents for Tenants and Owner-occupier Households (Annually)

| | **Years** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **Change (Btw 2009-2014)** |
|---|---|---|---|---|---|---|---|---|
| **RENTS (TL)** | **Tenant (Mean)** | 3623 | 3236 | 4104 | 4365 | 4673 | 4970 | 37% |
| | **Owner-occupier (Mean)** | 2851 | 2206 | 3327 | 3442 | 3252 | 3478 | 22% |

Table 4.5: Mean Values of Total Area of Housing Units

| **Years** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** |
|---|---|---|---|---|---|---|
| **$M^2$ (Mean)** | 100,76 | 101,54 | 103,06 | 104,1 | 105,27 | 106,37 |

The size and composition of households in these cases has observed and varied between one person and two adults with more than three children in a family. The distribution of them is displayed in Appendix A. In addition, households which are composed of single parent and a dependent child comprises the least part of cases. For all years, the distribution of size and composition of households did not evolve in terms of marginally and the mostly observed group.

With respect to mode of tenure, averagely 74% of all cases are owner-occupiers and 26% of them are tenants. Between observed years, the distribution of tenants and owner-occupiers did not change substantially.

The type of housing units has been expressed in tables in Appendix A. It indicates that nearly half of the cases are living in apartment blocks while half of them living in single family houses for all years. However, there is an increase in the percentage of apartment blocks which have 10 and more than 10 units.

According to the changing size of households and total income by using square root methods to define equivalence income of households, starvation line and poverty line have been asserted according 20 per cent of median equivalent income and 60 per cent of median equivalent income of households. In this analysis, all households were examined and starvation and poverty lines were described according to owner-occupiers, tenants, privileged tenants and other households. In appendix A, detailed observations about poverty and starvation thresholds can be reached.

Table 4.6: Percentage of All Households according to Pre-defined Criteria

| | **YEARS** | | | | | |
|---|---|---|---|---|---|---|
| **PERCENTAGE OF ALL SURVEYED HOUSEHOLDS** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** |
| **Hhs Income below the Starvation Line** | 2 | 1,9 | 2,1 | 1,9 | 1,8 | 1,6 |
| **Hhs Income below the Poverty Line** | 23,9 | 22,7 | 22,6 | 22,9 | 21,8 | 22,1 |

In each part about observation and characteristics of households in examined years, the changes in percentages and ratios about pre-defined affordability criteria were shown. According to this table, there is an upturn for all households. The income of households are increasing according to defined poverty and starvation line, therefore less per cent of households has income below these lines.

Table 4.7: Percentage of Surveyed Households according to Pre-defined Criteria

| | YEARS | | | | | |
|---|---|---|---|---|---|---|
| **PERCENTAGE OF ALL SURVEYED HOUSEHOLDS** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** |
| **Hhs Income below the Starvation Line** | 2,1 | 1,7 | 2 | 1,8 | 1,7 | 1,5 |
| **Hhs Income below the Poverty Line** | 22,4 | 21,1 | 21,2 | 21,4 | 20,5 | 20,8 |
| **Hhs Income below Starvation Line After the Housing Expenditure is Deducted** | 12,3 | 11,2 | 11,5 | 10,1 | 9,2 | 8,7 |
| **Hhs Income below the Poverty Line after Housing Expenditure is Deducted** | 28,7 | 28,2 | 29,1 | 28 | 25,1 | 24,4 |
| **Hhs Paying more than 30% Of Their Income as Housing Expenditure** | 60 | 59 | 63 | 59 | 53 | 52 |
| **RATIO OF ALL SURVEYED HOUSEHOLDS** | | | | | | |
| **Housing Expenditure/Income Ratio (Mean)** | 0,46 | 0,50 | 0,46 | 0,44 | 0,44 | 0,41 |
| **Housing Expenditure/Income Ratio (Total Housing Expenditures Based)** | 0,32 | 0,32 | 0,31 | 0,31 | 0,29 | 0,28 |

When the percentage of households according to predefined criteria was evaluated, it is reached that more than 20 per cent of households have income less than poverty line. In addition to that high percentage, there is an improvement in percentages of households whose income below starvation line, poverty line, starvation line after the housing expenditure is deducted, poverty line after housing expenditure is deducted. However, housing expenditures to income ratio of households as mean of all cases is more than 40 per cent for all observed years. While total housing expenditures to total income ratio is approximately 0,30.

### 4.3.1. OBSERVATION AND CHARACTERISTICS OF SURVEYED HOUSEHOLDS IN 2009

In 2009, 9835 cases have been evaluated according to predefined and explained housing affordability measuring criteria. Of these cases 36% were living in rural areas whereas 64% of them were living in urban areas. The regional distribution of cases are composed from all regions, did not have great changes between 2009 and 2014. For detailed examination of regional distribution, see Appendix A.

By comparing poverty and starvation lines with households' income, the percentages of households above and below these thresholds have been revealed, 2.1% of households try to live with an income which is less than starvation line and 22.4% of households have income less than poverty line. Additionally, 12.3% of households after paying their housing expenditures, are facing with starvation problem and 28.7% of households are confronted with poverty line. When housing affordability and ability of households to pay a real or an imputed rent and other housing expenditures are examined, it is reached that 60% of households are paying more than 30% of their incomes as housing expenditures. For all households, mean value of the ratio of housing expenditures to income is 0.46. Total housing expenditures of households to their total income ratio is 0.32.

### 4.3.2. OBSERVATION AND CHARACTERISTICS OF SURVEYED HOUSEHOLDS IN 2010

In 2010, 9959 cases have been evaluated according to predefined and explained housing affordability measuring criteria.

By comparing lines with households' income, the percentages of households above and below these thresholds have been revealed. 1.7% of households try to live with an income which is less than starvation line and 21.1% of households have income less than poverty line. Additionally, 11.2% of households after paying their housing

expenditures, are facing with starvation problem and 28.2% of households are confronted with poverty line.

When housing affordability and ability of households to pay a real or an imputed rent and other housing expenditures are examined, it is reached that 59% of households are paying more than 30% of their incomes as housing expenditures. For all households, mean value of the ratio of housing expenditures to income is 0.5. Total housing expenditures of households to their total income ratio is 0.32.

### 4.3.3. OBSERVATION AND CHARACTERISTICS OF SURVEYED HOUSEHOLDS IN 2011

In 2011, 12343 cases have been evaluated according to predefined and explained housing affordability measuring criteria.

By comparing lines with households' income, the percentages of households above and below these thresholds have been revealed, 2% of households try to live with an income which is less than starvation line and 21.2% of households have income less than poverty line. Additionally, 11.5% of households after paying their housing expenditures, are facing with starvation problem and 29.1% of households are confronted with poverty line.

When housing affordability and ability of households to pay a real or an imputed rent and other housing expenditures are examined, it is reached that 61% of households are paying more than 30% of their incomes as housing expenditures. For all households, mean value of the ratio of housing expenditures to income is 0.46. Total housing expenditures of households to their total income ratio is 0.31.

### 4.3.4. OBSERVATION AND CHARACTERISTICS OF SURVEYED HOUSEHOLDS IN 2012

In 2012, 14373 cases have been evaluated according to predefined and explained housing affordability measuring criteria.

The income of households and poverty and starvation lines according to the size of household in a family is compared, the percentages of households above and below these thresholds have been revealed. 1.8% of households try to live with an income which is less than starvation line and 21.4% of households have income less than poverty line. Additionally, 10.1% of households after paying their housing expenditures, are facing with starvation problem and 28% of households are confronted with poverty line. When housing affordability and ability of households to pay a real or an imputed rent and other housing expenditures are examined, it is reached that 59% of households are paying more than 30% of their incomes as housing expenditures. For all households, mean value of the ratio of housing expenditures to income is 0.44. Total housing expenditures of households to their total income ratio is 0.31.

### 4.3.5. OBSERVATION AND CHARACTERISTICS OF SURVEYED HOUSEHOLDS IN 2013

In 2013, 16272 cases have been evaluated according to predefined and explained housing affordability measuring criteria.

By comparing starvation and poverty lines with households' income, the percentages of households above and below these thresholds have been revealed, 1.7% of households try to live with an income which is less than starvation line and 20.5% of households have income less than poverty line. Additionally, 9.2% of households after paying their housing expenditures, are facing with starvation problem and 25.1% of households are confronted with poverty line.

When housing affordability and ability of households to pay a real or an imputed rent and other housing expenditures are examined, it is reached that 53% of households are paying more than 30% of their incomes as housing expenditures. For all households, mean value of the ratio of housing expenditures to income is 0.44. Total housing expenditures of households to their total income ratio is 0.29.

### 4.3.6. OBSERVATION AND CHARACTERISTICS OF SURVEYED HOUSEHOLDS IN 2014

In 2014, 18721 cases have been evaluated according to predefined and explained housing affordability measuring criteria. The income of households and poverty and starvation lines according to the size of household in a family is compared, the percentages of households above and below these thresholds have been revealed. 1.5% of households try to live with an income which is less than starvation line and 20.8% of households have income less than poverty line. Additionally, 8.7% of households after paying their housing expenditures, are facing with starvation problem and 24.4% of households are confronted with poverty line. When housing affordability and ability of households to pay a real or an imputed rent and other housing expenditures are examined, it is reached that 52% of households are paying more than 30% of their incomes as housing expenditures. For all households, mean value of the ratio of rent to income is 0.41. Total housing expenditures of households to their total income ratio is 0.28.

## 4.4. MEASURING HOUSING AFFORDABILITY OF DIFFERENT INCOME GROUPS IN NUTS-LEVEL 1 REGIONS

For the purposes of this analysis households were first ordered with respect to their equivalence incomes according to the size of households, and then categorized into five groups. In division of households according to equivalence income, all households which are tenants, owner-occupiers, privileged tenants and other (lodgement)

households were taken into consideration in order to increase real condition of households.

Table 4.8: Income Groups of Households according to Equivalence Income

| | **Median Equivalence Income** | **1st Income Group** | **2nd Income Group** | **3rd Income Group** | **4th Income Group** | **5th Income Group** |
|---|---|---|---|---|---|---|
| **2009** | 7070 TL | 0-3861 TL | 3862-6010 TL | 6011-8451 TL | 8452-12869 TL | 12870-270582 TL |
| **2010** | 7680 TL | 105-4275 TL | 4276-6478 TL | 6479-9171 TL | 9172-13965 TL | 13967-427450 TL |
| **2011** | 8366 TL | 0-4697 TL | 4698-7000 TL | 7001-10000 TL | 10001-15350 TL | 15351-322055 TL |
| **2012** | 9237 TL | 0-5161 TL | 5162-7783 TL | 7784-10957 TL | 10958-16657 TL | 16658-277755 TL |
| **2013** | 10403 TL | 0-5999 TL | 6000-8822 TL | 8823-12391 TL | 12395-18497 TL | 18498-373924 TL |
| **2014** | 11594 TL | 0-6628 TL | 6629-9764 TL | 9765-13744 TL | 13746-20755 TL | 20761-329093 TL |

The figure 4.11 exhibits that the gap between the lowest and the highest income group continuously widens during 2009-2014. In other words, it indicates the unfairness of income distribution. Thus, households at the lowest end of the bracket are more likely to experience difficulties in the housing market if no measures are taken to improve their housing options.

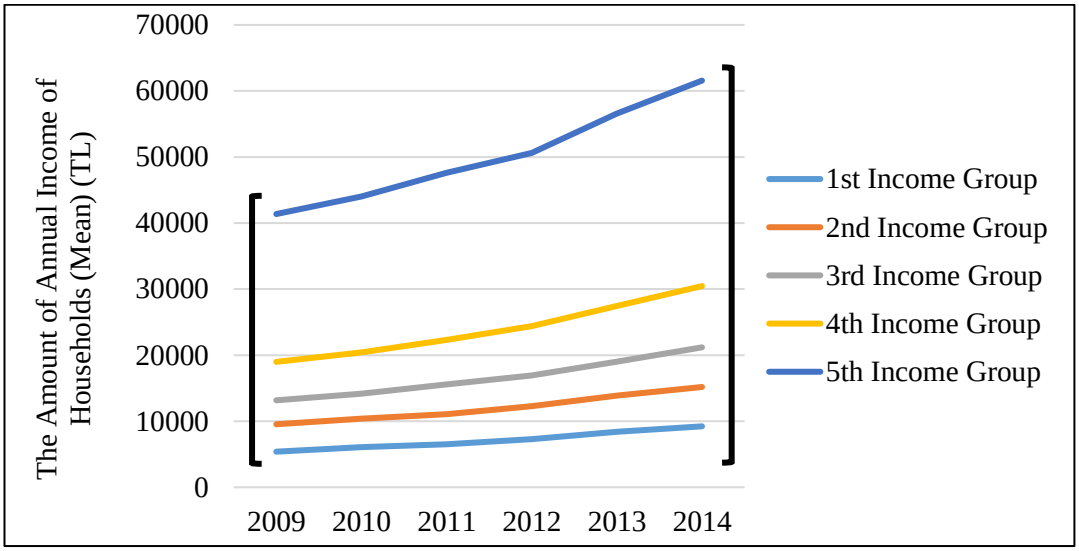



Figure 4.11: Changes of Mean of Total Income of Households between 2009 and 2014

Table 4.9: Total Housing Expenditures/ Total Income of Households Ratio and Percentage of Unaffordable Cases

| | **Housing Expenditures/Income Ratio** | | | | | **Percentage of Hhs Paying more than 30% of Their Income as Housing Expenditures** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Income Groups** | **1st Gr** | **2nd Gr** | **3rd Gr** | **4th Gr** | **5th Gr** | **1st Gr** | **2nd Gr** | **3rd Gr** | **4th Gr** | **5th Gr** |
| **2009** | 0.60 | 0.48 | 0.41 | 0.34 | 0.21 | 86% | 72% | 63% | 51% | 32% |
| **2010** | 0.68 | 0.47 | 0.4 | 0.33 | 0.21 | 85% | 71% | 63% | 51% | 31% |
| **2011** | 0.61 | 0.49 | 0.4 | 0.32 | 0.21 | 88% | 76% | 65% | 50% | 29% |
| **2012** | 0.56 | 0.46 | 0.39 | 0.32 | 0.22 | 82% | 71% | 64% | 51% | 29% |
| **2013** | 0.56 | 0.42 | 0.35 | 0.29 | 0.2 | 82% | 68% | 55% | 42% | 25% |
| **2014** | 0.56 | 0.4 | 0.34 | 0.28 | 0.19 | 85% | 65% | 51% | 39% | 23% |

In table 4.7, when 2009 and 2014 compared in terms of changes in housing expenditure/income ratio of different income groups, although there is some fluctuations, the affordability conditions of 1st (lowest) income groups decreased from

0.60 to 0.56. In addition, the percentage of households paying more than 30% of their income as rent for all income groups decreased from 2009 to 2014.

In the next step, households in different income groups were categorized according to their mode of tenures as tenants and owner-occupiers. By this way, households in different income and tenure groups have been examined in terms of their housing affordability condition. It must be noted that this investigation is a purely economic one depending solely on the cost and income constraints. The following sections identify most suffered income groups and regions and reasons behind these conditions have been criticized.

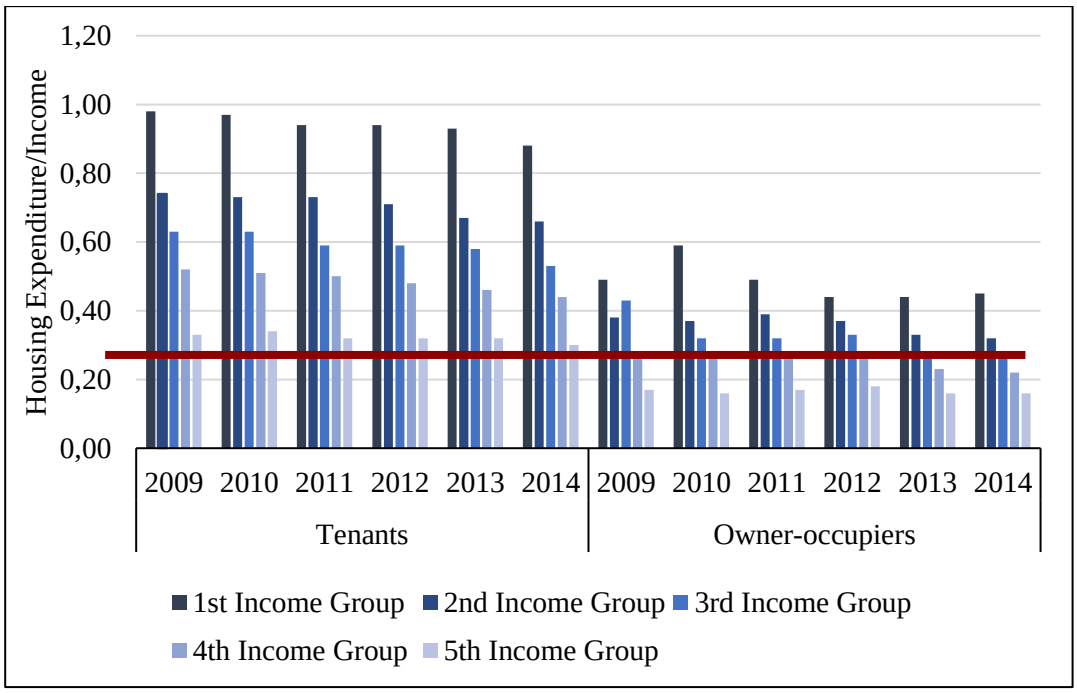



Figure 4.12: Housing Expenditure/Income Ratios of Different Income Groups' Tenants and Owner-occupiers

In terms of tenants' household 1st (lowest) income households, the amount of rents in comparison with the amount of incomes is much more. The pre-defined affordability limit (30%) constitutes a problem for 1st, 2nd, 3rd, 4th and 5th income group of tenants in all of the examined years and between 2009 and 2012 for 1st and 2nd income group of owner-occupiers.

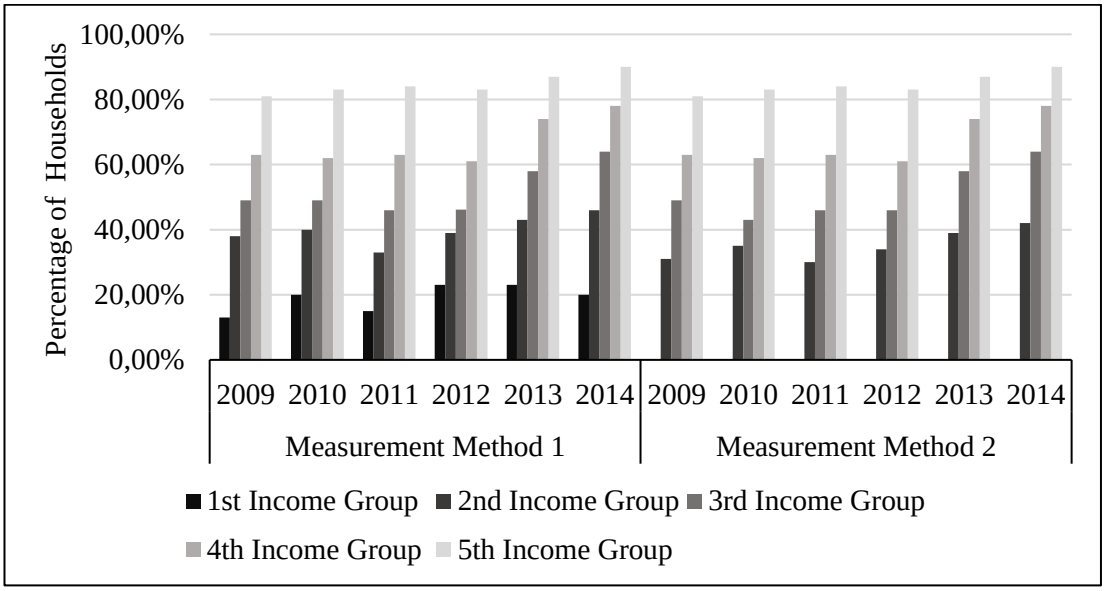



Figure 4.13: Percentage of Owner-occupier Households in terms of Different Affordability Measurements

According to first measurement method, housing expenditure/income ratio, the percentage of both tenant and owner-occupier households paying less than 30% of their income as rent decreased from 1st (lowest) income group to 5th (highest) income groups. Also comparing 2009 and 2014, while percentage of households in lowest income group was increasing for owner-occupier households, it decreased for tenants.

For second measurement method aiming to find the percentage of households who pay less than 30% of their incomes for housing expenditures and also have income more than poverty threshold according to the size of households. For 1st income group of tenants, the percentage is equal to 0 and owner-occupiers, the percentage of households is less than 20%. It is still problem for the half of 3rd income group of tenants and owner-occupiers. In addition, there is no affordable cases for lowest income group according to measurement method 2. Even for highest income group, percentage of affordable cases according to both of measurement methods is below 50 per cent of total cases.

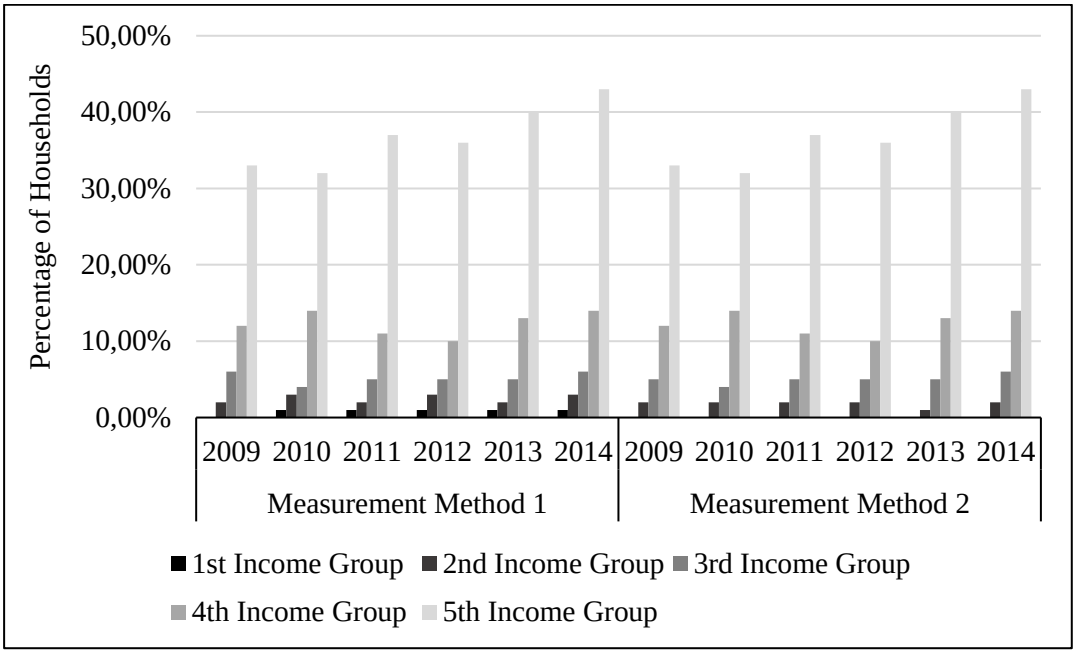



Figure 4.14: Percentage of Tenants Households in terms of Different Affordability Measurements

### 4.4.1. HOUSING AFFORDABILITY CONDITIONS OF TENANTS

#### 4.4.1.1. 1st (Lowest) Income Group

First of all, when housing affordability of tenant households is examined with respect to different regions, it is revealed that TR1 region's 1st income group, lowest income households, is the most compelled group in terms of housing affordably. Between 2009 and 2014, for all year total value of households' housing expenditures to this group total income ratio is greater than 1 which means these households' housing expenditures are more than their regular household income.

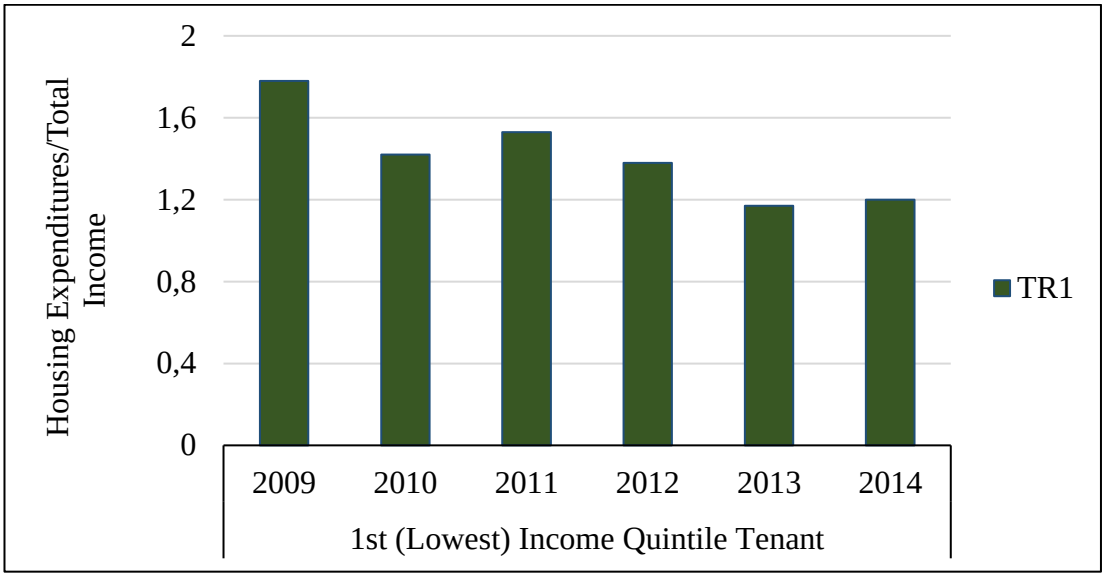



Figure 4.15: Housing Expenditures/Income Ratio of TR1 Region Lowest Income Tenants

This implies that households with regular wages have little share in the lowest end of the income bracket and rents and other housing expenditures are met from additional income sources such as agricultural activities and unrecorded income from informal jobs.

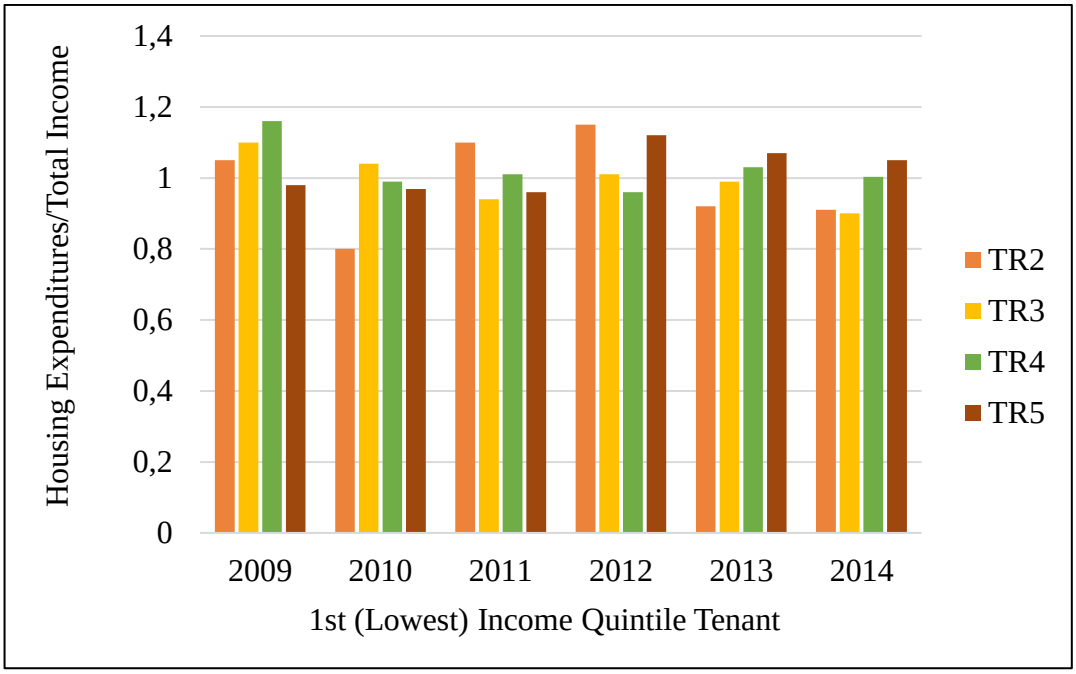



Figure 4.16: Housing Expenditures/Income Ratio of TR2, TR3, TR4 and TR5 Regions Lowest Income Tenants

TR2, TR3, TR4, TR5 and regions' lowest income tenants also experience severe affordability problems. These households housing expenditures to income ratios are in 1,2 – 0,8 range, which is well above the literarily accepted rent to income ratio of 0.30.

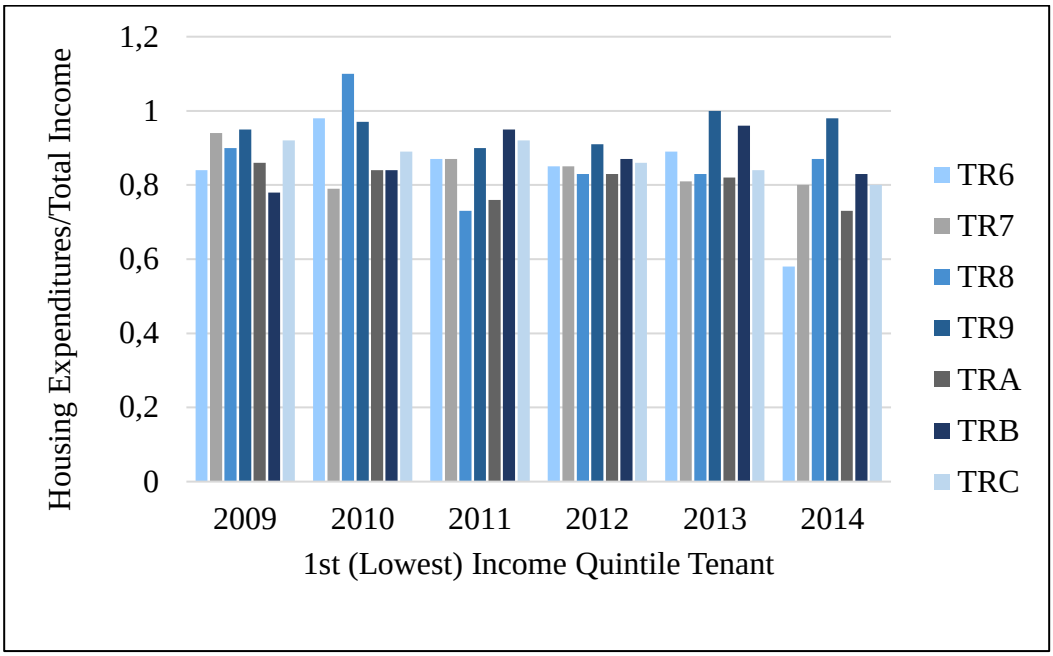
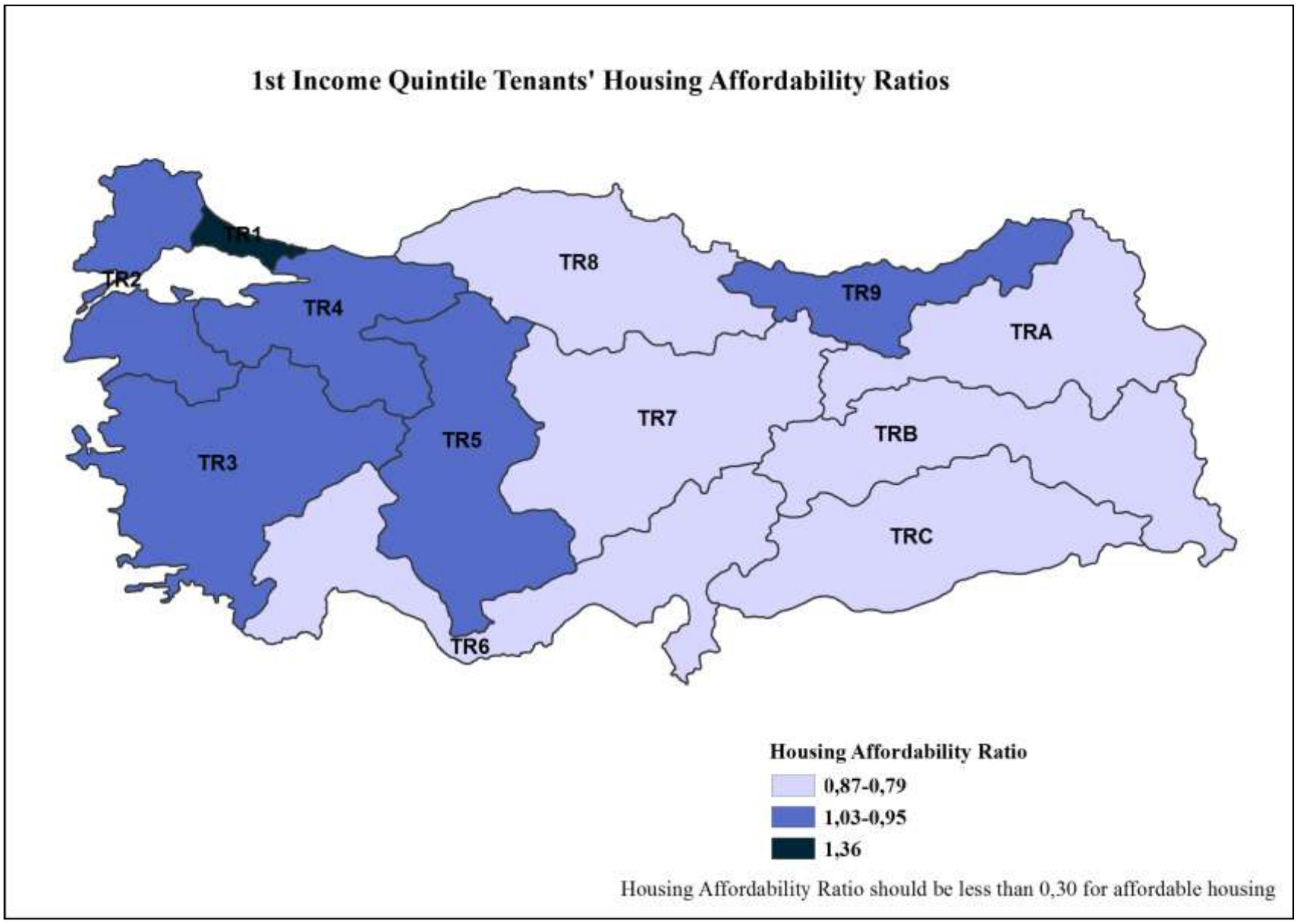



Figure 4.17: Housing Expenditures/Income Ratio of TR6, TR7, TR8, TR9, TRA, TRB and TRC Regions Lowest Income Tenants

In TR6, TR7, TR8, TR9, TRA, TRB and TRC regions, lowest income tenants spend averagely 75 per cent of their incomes for housing expenditure that means rent and other expenditures. Housing affordability still poses a problem for these households.




Map 4.3: Housing Affordability Condition of 1st Income Group Tenants (Weighted Mean)

Table 4.10: Mean of Total Housing Expenditures/Total Income Ratio of 1st Income Group of Tenants

| | **1st Income Group (Tenant)** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **Weighted Mean** |
| **TR1** | 1,78 | 1,42 | 1,53 | 1,38 | 1,17 | 1,2 | 1,36 |
| **TR2** | 1,05 | 0,8 | 1,1 | 1,15 | 0,92 | 0,91 | 1,00 |
| **TR3** | 1,1 | 1,04 | 0,94 | 1,01 | 0,99 | 0,9 | 0,99 |
| **TR4** | 1,16 | 0,99 | 1,01 | 0,96 | 1,03 | 1 | 1,01 |
| **TR5** | 0,98 | 0,97 | 0.96 | 1,12 | 1,07 | 1,05 | 1,03 |
| **TR6** | 0,84 | 0,98 | 0,87 | 0,85 | 0,89 | 0,58 | 0,79 |
| **TR7** | 0,94 | 0,79 | 0,87 | 0,85 | 0,81 | 0,8 | 0,83 |
| **TR8** | 0,9 | 1,1 | 0,73 | 0,83 | 0,83 | 0,87 | 0,85 |
| **TR9** | 0,95 | 0,97 | 0,9 | 0,91 | 1 | 0,98 | 0,95 |
| **TRA** | 0,86 | 0,84 | 0,76 | 0,83 | 0,82 | 0,73 | 0,80 |
| **TRB** | 0,78 | 0,84 | 0,95 | 0,87 | 0,96 | 0,83 | 0,87 |
| **TRC** | 0,92 | 0,89 | 0,92 | 0,86 | 0,84 | 0,8 | 0,86 |

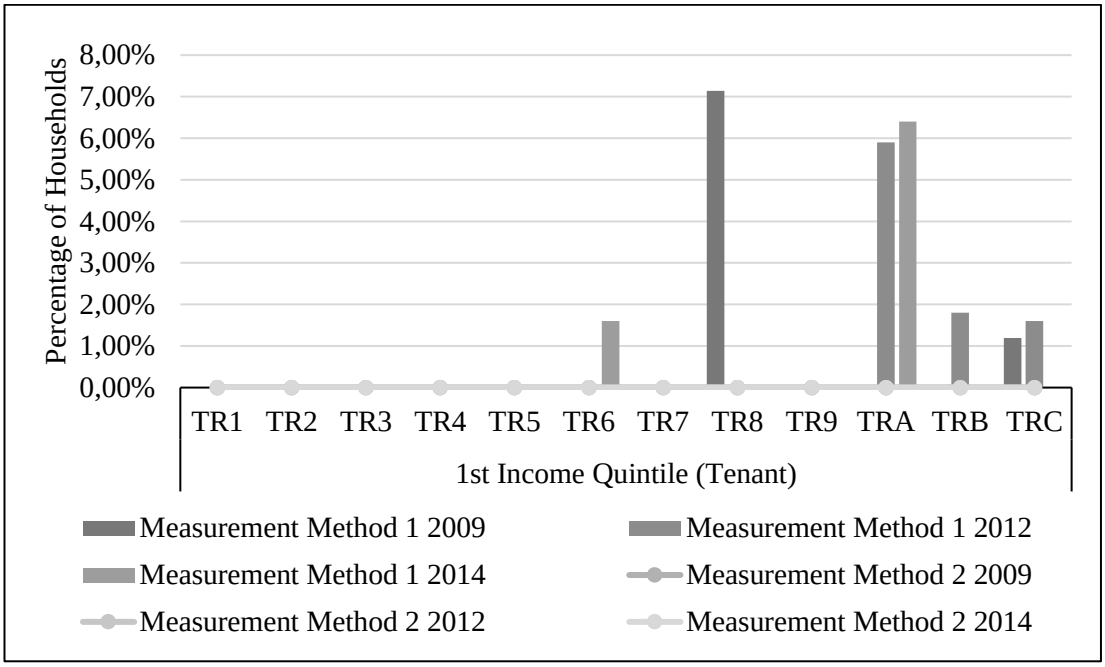



Figure 4.18: Percentage of 1st Income Tenants according to Different Measurement Methods

In brief, lowest income tenants in all regions experience the most severe housing affordability problems which prevents them to maintain a minimum life standard. According to measurement method 1, none of TR1, TR2, TR3, TR4, TR5, TR7 and TR9 region lowest income tenants pay less than 30 per cent of their income as housing expenditures for 2009, 2012 and 2014. According to measurement method 2, households tested with housing expenditures to total income ratio and poverty line. It is a fact that while households are separating nearly all of their incomes for housing expenditures, they are not able to meet their needs at the same time. In spite of positive changes in affordability rate, the percentages of households according to two different measurement methods, increasing housing stock did not affect the lowest income group tenants positively in any TR regions of Turkey.

#### 4.4.1.2. 2nd (Low) Income Group Tenants

For low income tenants, housing affordability still poses problems. Especially in TR1 region, for all survey years, affordability rate is higher than 0,8. It means that low

income tenants in İstanbul are separating nearly 90% of their incomes to housing expenditures.

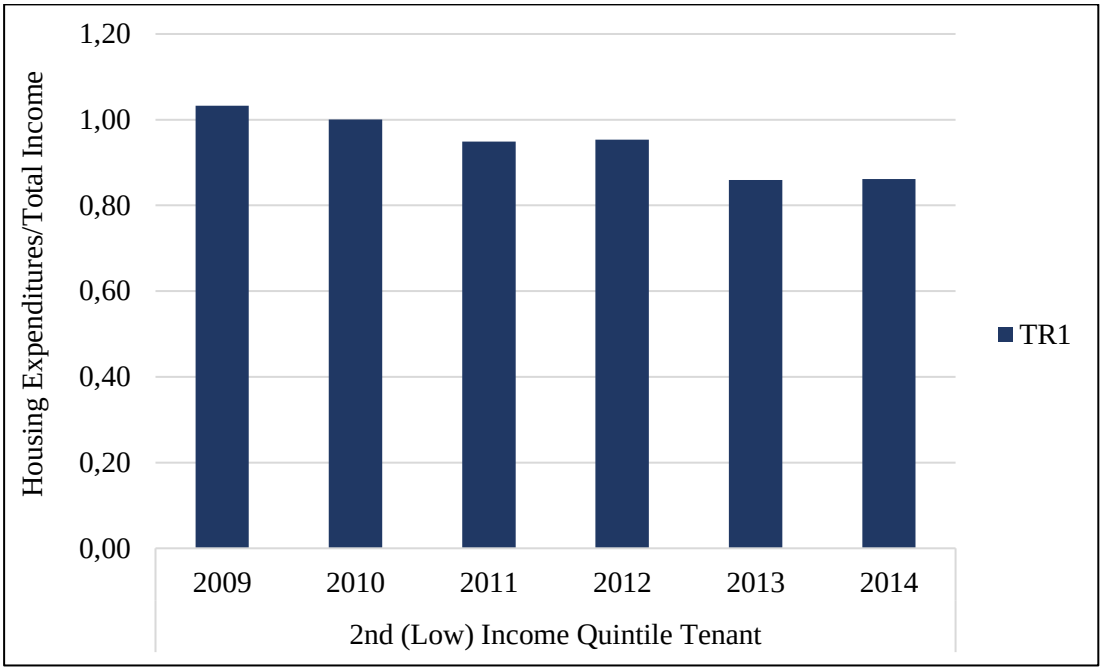



Figure 4.19: Housing Expenditures/Income Ratio of TR1 Region 2nd Income Group Tenants

In TR2, TR3, TR4 and TR5, affordability rate is slightly more than 0.6. However, when it is compared with the condition of TR1 region, it can be asserted that they suffer from affordability problems less than TR1 region. Moreover, in TR1, TR2, TR3, TR4 and TR5 regions housing affordability is observed to be slightly improved through the years.

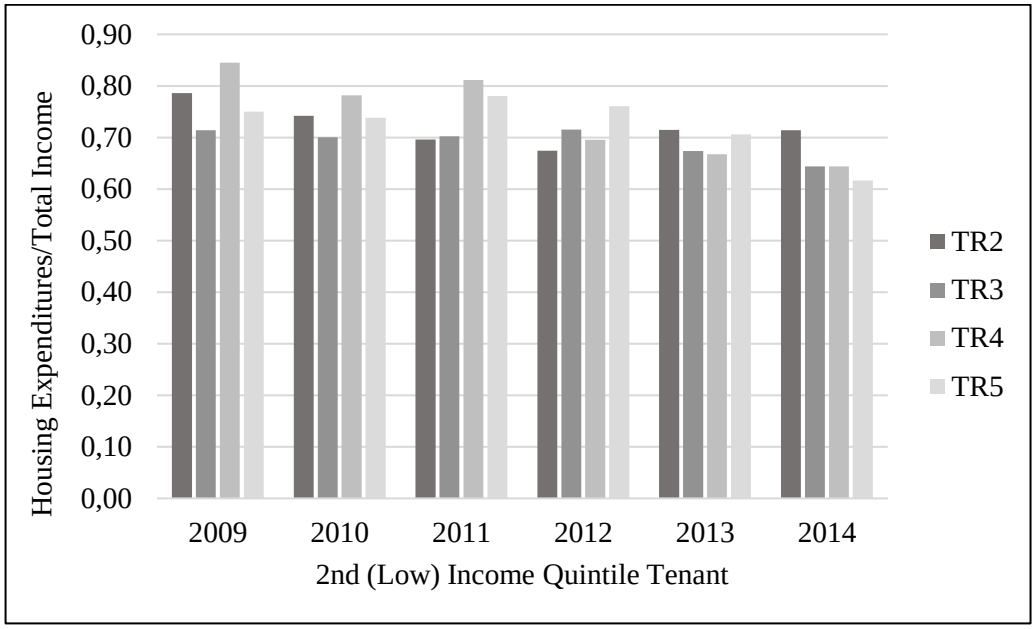



Figure 4.20: Housing Expenditures/Income Ratio of TR1 Region 2nd Income Group Tenants

In addition, TR6, TR7, TR8 and TR9 are categorized as another unaffordable regions in terms of their affordability rates. Despite in some fluctuations, housing expenditures to income ratio exceeded 30% border, commonly rate is above 0.5.

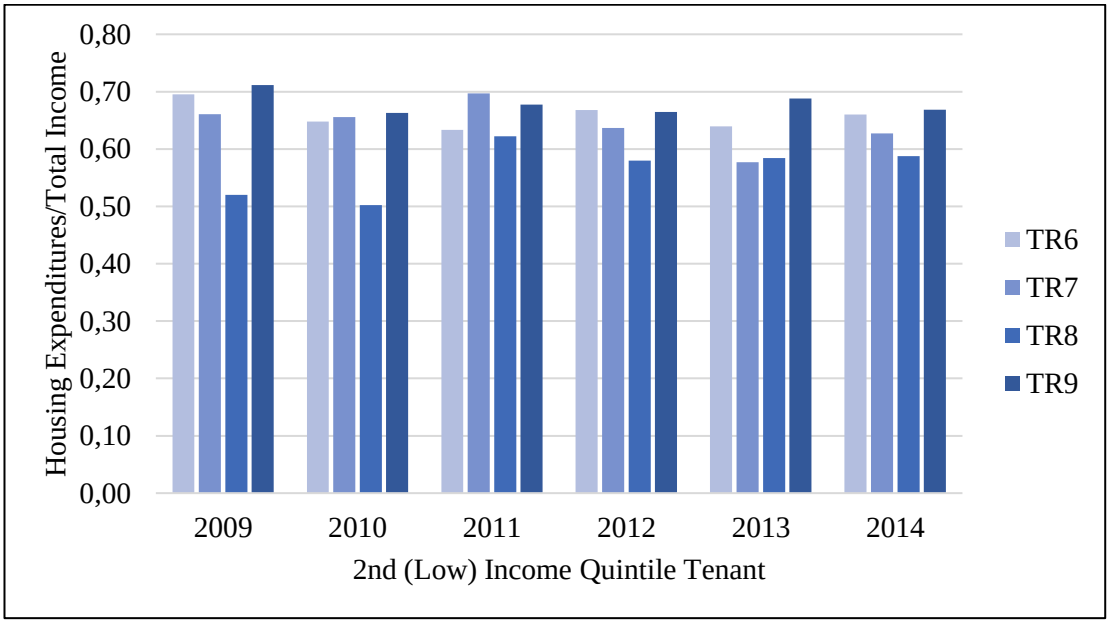



Figure 4.21: Housing Expenditures/Income Ratio of TR6, TR7, TR8 and TR9 Regions 2nd Income Group Tenants

Lastly in 2nd (Low) Income Quintile Tenants Group, TRA, TRB and TRC regions were observed with their changes.

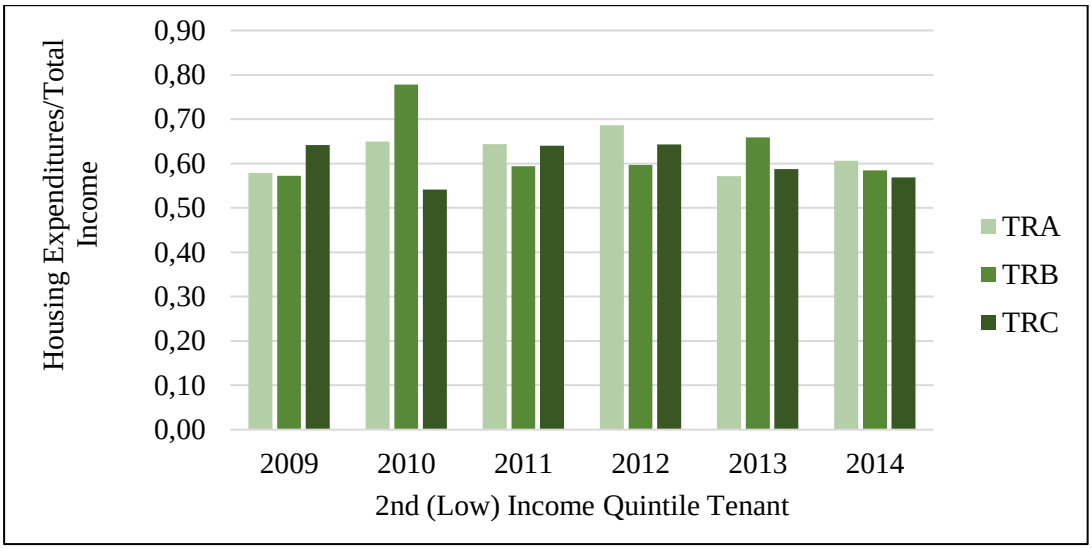



Figure 4.22: Housing Expenditures/Income Ratio of TR6, TR7, TR8 and TR9 Regions 2nd Income Group Tenants

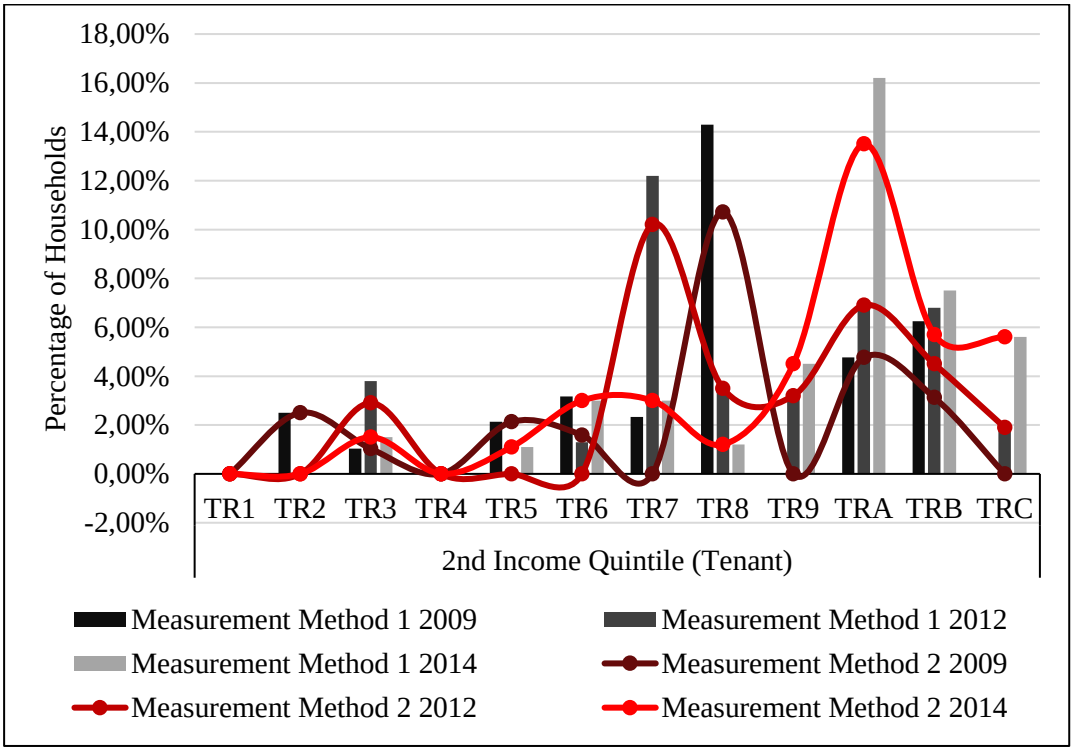
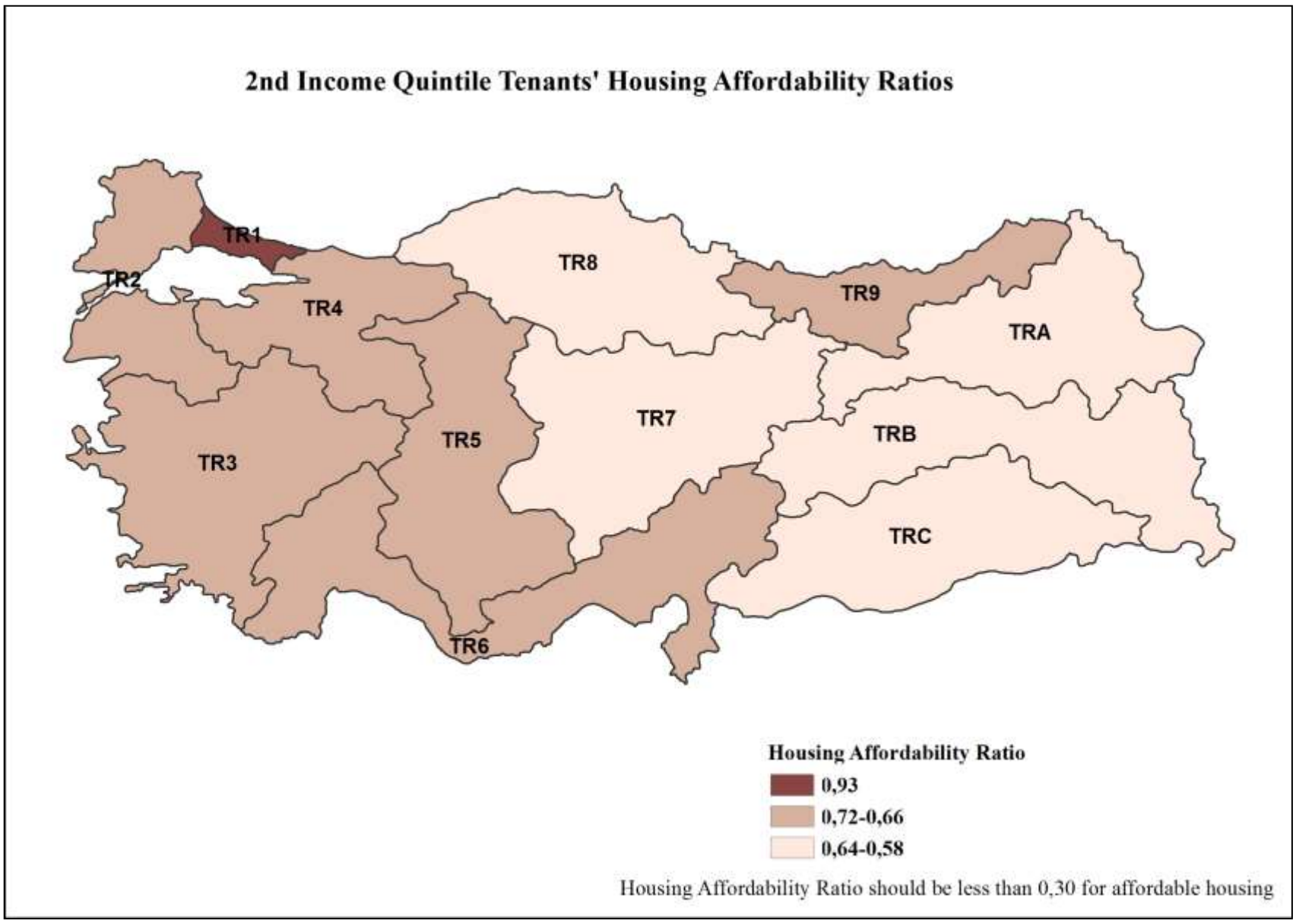



Figure 4.23: Percentage of 2nd Income Tenants according to Different Measurement Methods

Differently from other regions, TR1 and TR4 regions remarked with their 0 per cent according to measurement method 1 and 2. In these regions, for 3 examined years, none of 2nd (Low) income group tenants had affordable housing conditions by paying less than 30 per cent of their incomes for their housing expenditures. Also none of these group households had equivalence income more than defined poverty line and affordable housing conditions. However, 3 regions in this category should be examined in detail because of their changing percentage in observed years. While the percentage of households according to method 1 and 2 in TRA and TRB regions are increasing, the percentage of these households in TR8 region decreases.




Map 4.4: Housing Affordability Condition of 2nd Income Group Tenants (Weighted Mean)

Table 4.11: Mean of Housing Expenditures/Income Ratio of 2nd Income Group of Tenants

| | **2nd Income Group (Tenant)** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **Weighted Mean** |
| **TR1** | 1,03 | 1,00 | 0,95 | 0,95 | 0,86 | 0,86 | 0,93 |
| **TR2** | 0,79 | 0,74 | 0,70 | 0,67 | 0,71 | 0,71 | 0,72 |
| **TR3** | 0,71 | 0,70 | 0,70 | 0,72 | 0,67 | 0,64 | 0,69 |
| **TR4** | 0,84 | 0,78 | 0,81 | 0,70 | 0,67 | 0,64 | 0,72 |
| **TR5** | 0,75 | 0,74 | 0,78 | 0,76 | 0,71 | 0,62 | 0,72 |
| **TR6** | 0,70 | 0,65 | 0,63 | 0,67 | 0,64 | 0,66 | 0,66 |
| **TR7** | 0,66 | 0,66 | 0,70 | 0,64 | 0,58 | 0,63 | 0,64 |
| **TR8** | 0,52 | 0,50 | 0,62 | 0,58 | 0,58 | 0,59 | 0,58 |
| **TR9** | 0,71 | 0,66 | 0,68 | 0,66 | 0,69 | 0,67 | 0,68 |
| **TRA** | 0,58 | 0,65 | 0,64 | 0,69 | 0,57 | 0,61 | 0,62 |
| **TRB** | 0,57 | 0,78 | 0,59 | 0,60 | 0,66 | 0,58 | 0,62 |
| **TRC** | 0,64 | 0,54 | 0,64 | 0,64 | 0,59 | 0,57 | 0,60 |

#### 4.4.1.3. 3rd (Middle) Income Group Tenants'

When third income group is examined, it revealed that in TR1, İstanbul Region, households still agonizes over housing affordability problem. In spite of betterment in affordability rate, mean of rent to income ratio is still above the determined 0.3 limit.

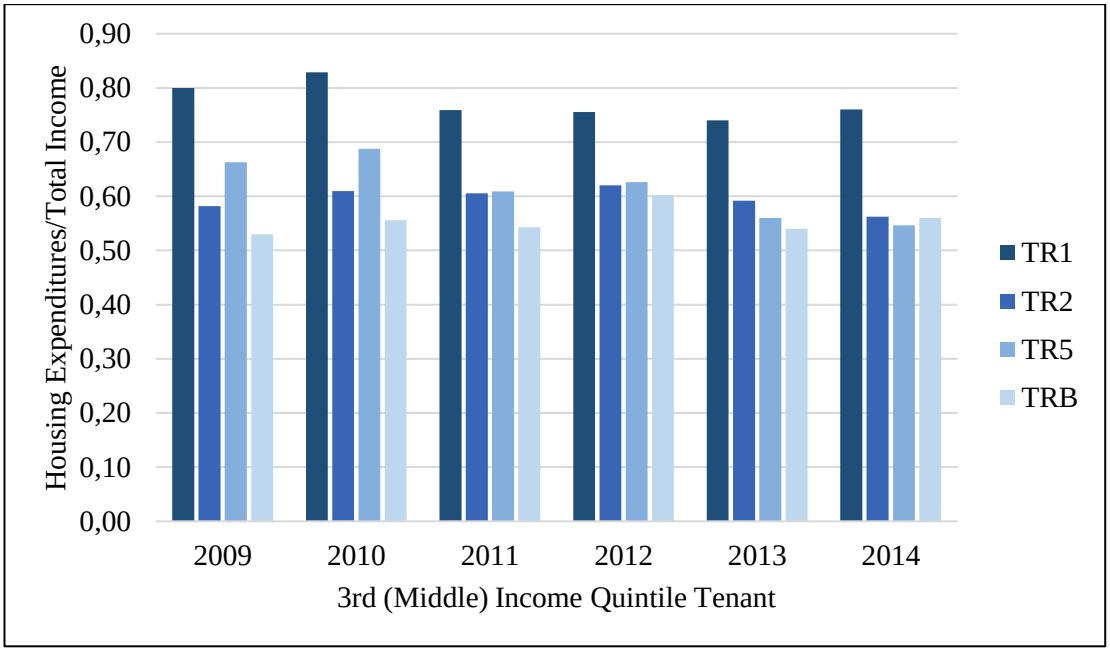



Figure 4.24: Housing Expenditures/Income Ratio of TR1, TR2, TR5 and TRB Regions 3rd Income Group Tenants

It executes that increase in housing stock of İstanbul did not have any improving and perfect effects on housing affordability of 3rd income group tenants in İstanbul. Although their housing affordability ratios are not as high as TR1 region, for TR2, TR5 and TRB regions, housing expenditures to total income ratio exceed 30 per cent limit. For all observed years and regions, it is more than 50 per cent.

Another group of tenants who do not live in affordable housing conditions compose from TR3, TR4, TR6, TR7, TR8, TR9, TRA and TRC regions. All 3rd (Middle) income group tenants of these regions pay more than 30 per cent of their incomes for housing expenditures.

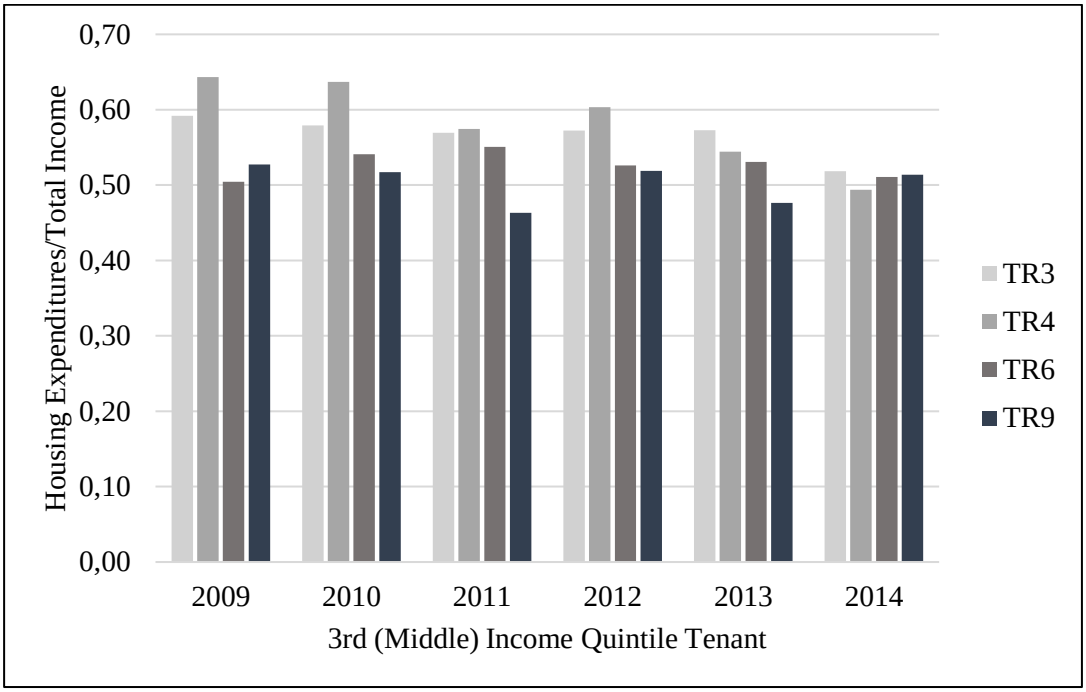



Figure 4.25: Housing Expenditures/Income Ratio of TR3, TR4, TR6 and TR9 Regions 3rd Income Group Tenants

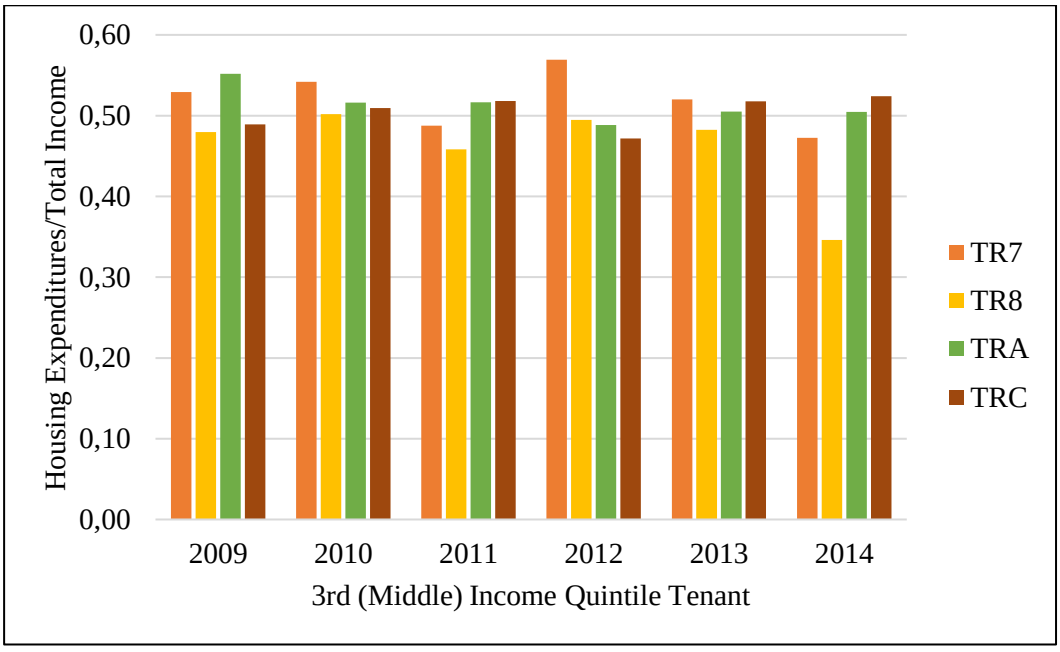



Figure 4.26: Housing Expenditures/Income Ratio of TR7, TR8, TRA and TRC Regions 3rd Income Group Tenants

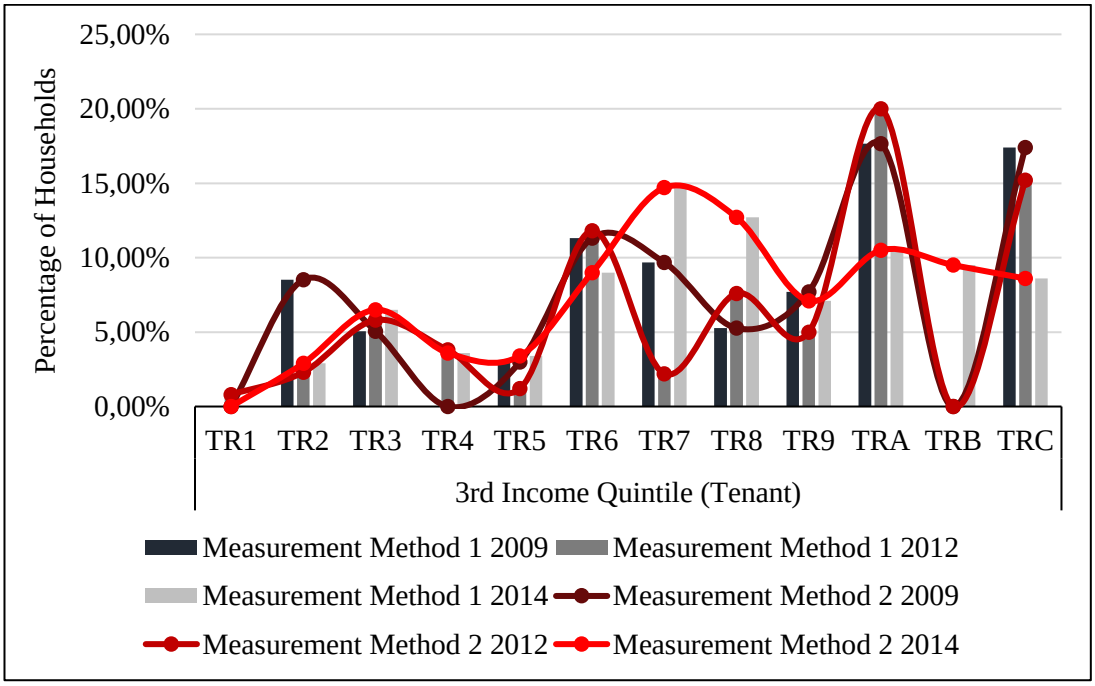



Figure 4.27: Percentage of 3rd Income Tenants according to Different Measurement Methods

For 3rd (Middle) income quintile tenants, the percentage of households according to both measurement method 1 and 2, did not exceed 20 per cent of all households in this group. Even for TR1 region, there are not any households who live in affordable conditions according these methods. Contrary to the lowest and low income households, it is also observed that if a household is living in affordable housing condition, it also has total income more than poverty line for 3rd income quintile tenants.

#### 4.4.1.4. 4th and 5th (High and Highest) Income Groups

In Turkey 4th and 5th income categories are indirectly affected by housing affordability problems in some of the regions. Calculations display that some of these households pay more than 30 percent of their incomes as housing expenditures. This may provide some clues about the ownership patterns of these households. For example, if a household lives in a rental housing and also that household is categorized in high-income group, staying in a rental housing could be a choice/preference of them. It

means that they prefer living in rental unit maybe because of the lack of same quality housing as on sale status or the long distance to working areas of them.

### 4.4.2. HOUSING AFFORDABILITY CONDITIONS OF OWNER-OCCUPIERS

#### 4.4.2.1. 1st Income Group's Owner-occupiers

Differently from tenants, for owner-occupiers in order to present housing affordability rate imputed rent of houses and other housing expenditures are used. According to this calculation, households who face with affordability problems by staying above 0.3 limit, were grouped. Similar with the conditions of tenants, TR1 region first income group's owner-occupiers are identified as the most sufferer group in owner-occupiers.

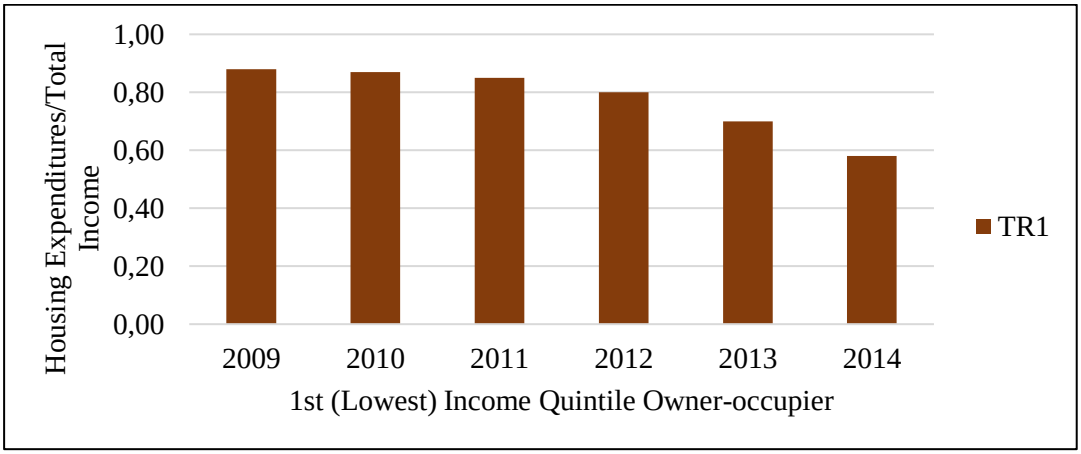



Figure 4.28: Housing Expenditures/Income Ratio of TR1 Region Lowest Income Owner-occupiers

In that region for whole years, rent to income ratio was higher than 0.5. It means that if these households were giving any rents, they would pay more than half of their income for these housing expenditures.

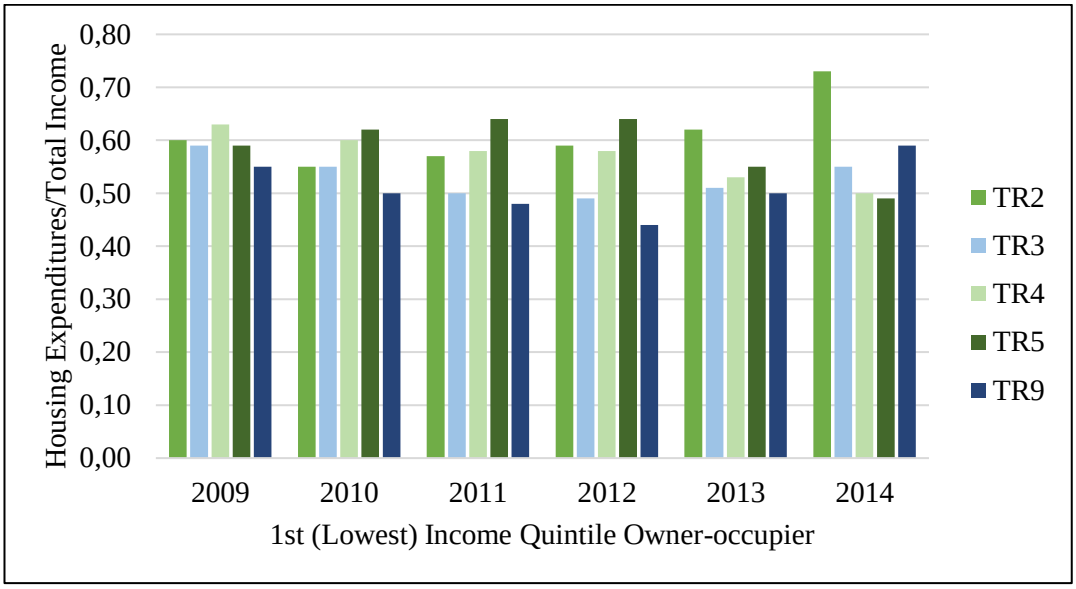



Figure 4.29: Housing Expenditures/Income Ratio of TR2, TR3, TR4, TR5 and TR9 Regions Lowest Income Owner-occupiers

Second group of the lowest income owner-occupiers is consisting of the TR2, TR3, TR4, TR5 and TR9 regions. In these regions total housing expenditures/ total income ratios are higher than 0.4. It certifies that comparing with same regions tenants, this groups have better conditions in terms of affordability. Nevertheless, they are suffering from housing affordability problems with these high ratios.

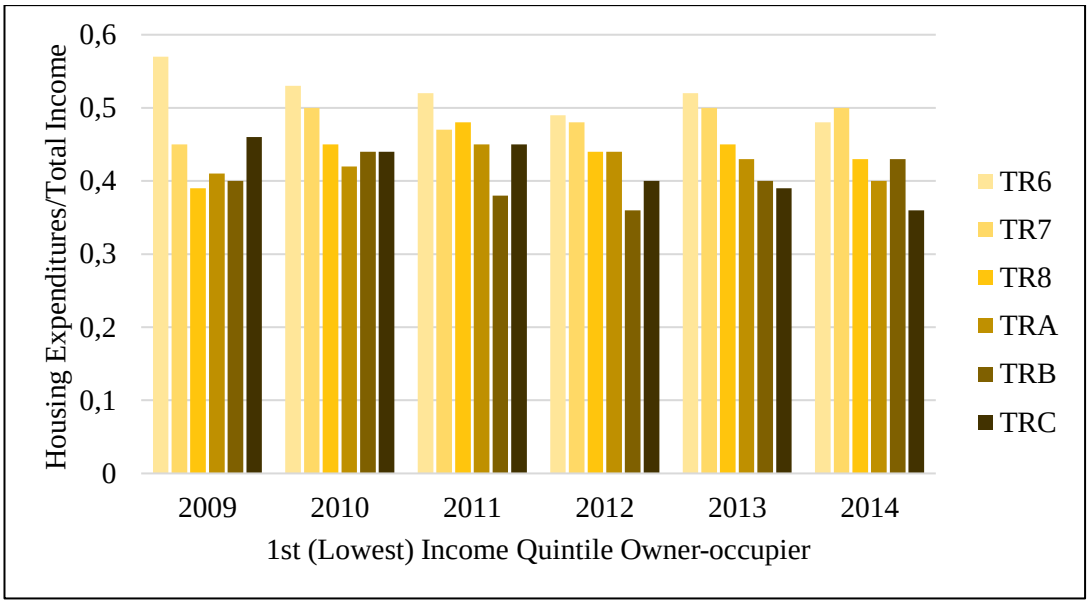



Figure 4.30: Housing Expenditures/Income Ratio of TR6, TR7, TR8, TRA, TRB and TRC Regions Lowest Income Owner-occupiers

Last group of 1st (Lowest) income quintile tenants is formed by TR6, TR7, TR8, TRA, TRB and TRC regions. Highest ratio of housing affordability in this group refers to TR6 region with approximately 0,5. In addition, TRB region remarks because of its fluctuations. In 2009 while TRB region has the second lowest ratio, also other years it was one of the lowest ones, in 2014 housing affordability ratio of TRB region increased prominently.

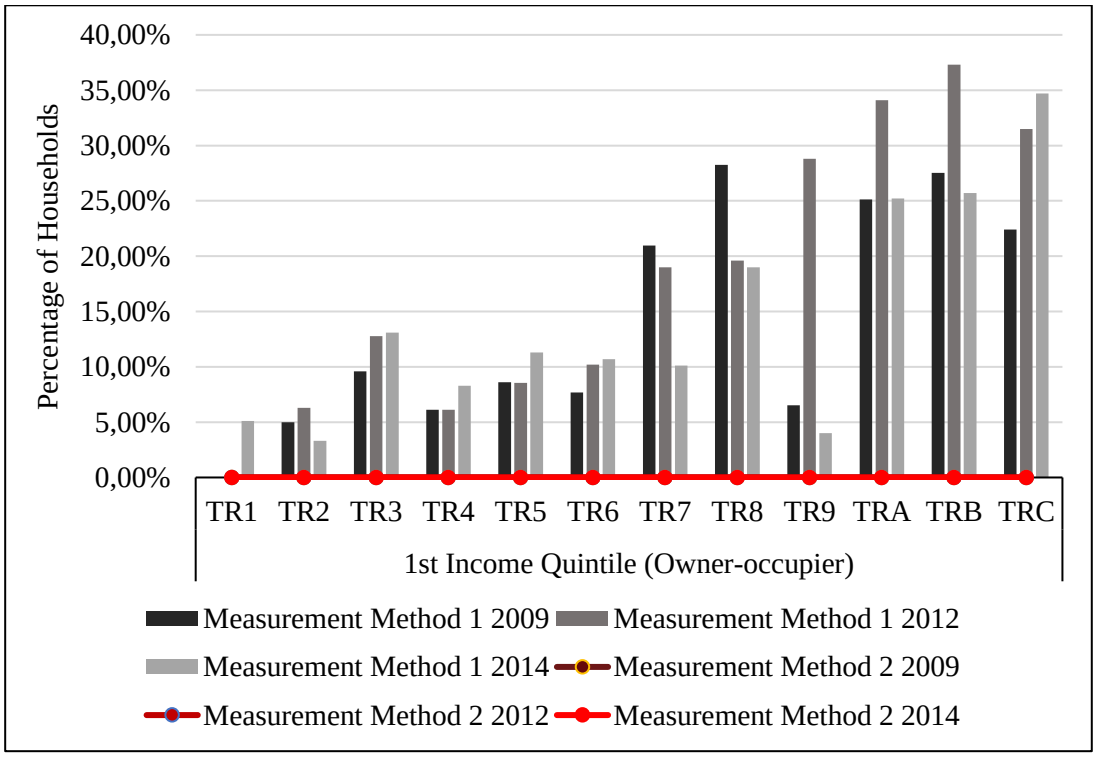
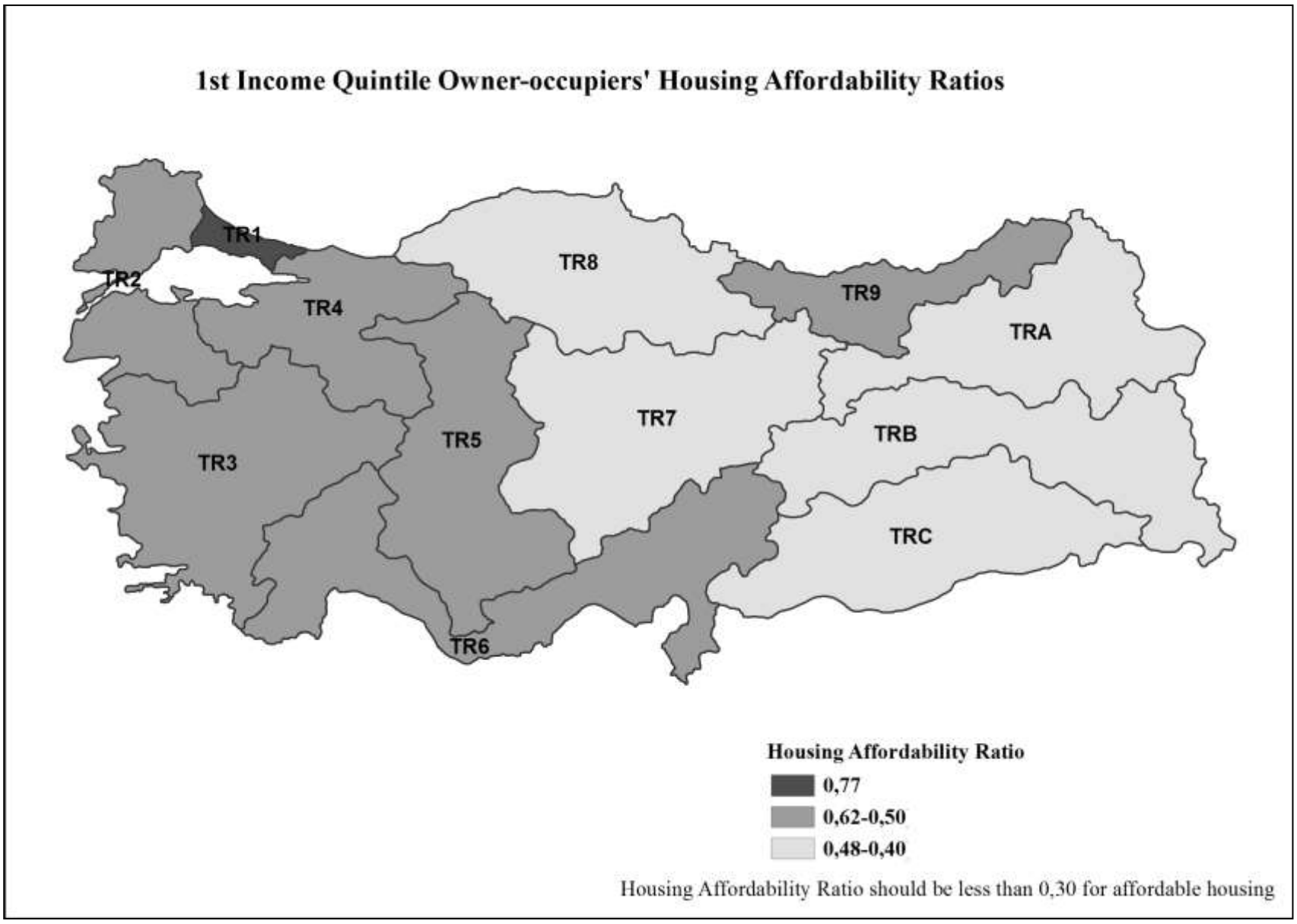



Figure 4.31: Percentage of 1st Income Owner-occupiers according to Different Measurement Methods

In brief, lowest income owner-occupiers in most of the regions experience severe housing affordability problems which prevents them to maintain a minimum life standard. According to measurement method 1, less than 25 per cent of TR1, TR2, TR3, TR4, TR5, TR6 and TR7 region lowest income quintile owner-occupiers pay less than 30 per cent of their income as housing expenditures for 2009, 2012 and 2014. For remaining regions, the percentage is still less than 40 per cent of households. According to measurement method 2, households tested with housing expenditures to total income ratio and poverty line. It is a fact that while households are separating

nearly all of their incomes for housing expenditures, they are not able to meet their needs at the same time. In spite of positive changes in affordability rate, the percentages of households according to measurement method 2, none of households have ability to both pay less than 30 per cent of their income as housing expenditures and have income more than poverty line.




Map 4.5: Housing Affordability Condition of 1st Income Group Owner-occupiers (Weighted Mean)

Table 4.12: Mean of Housing Expenditures/Income Ratio of 1st Income Group of Owner-occupiers

| | **1st Income Group (Owner-occupier)** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **Mean** |
| **TR1** | 0,88 | 0,87 | 0,85 | 0,8 | 0,7 | 0,58 | 0,77 |
| **TR2** | 0,60 | 0,55 | 0,57 | 0,59 | 0,62 | 0,73 | 0,62 |
| **TR3** | 0,59 | 0,55 | 0,5 | 0,49 | 0,51 | 0,55 | 0,53 |
| **TR4** | 0,63 | 0,6 | 0,58 | 0,58 | 0,53 | 0,5 | 0,56 |
| **TR5** | 0,59 | 0,62 | 0,64 | 0,64 | 0,55 | 0,49 | 0,58 |
| **TR6** | 0,57 | 0,53 | 0,52 | 0,49 | 0,52 | 0,48 | 0,51 |
| **TR7** | 0,45 | 0,5 | 0,47 | 0,48 | 0,5 | 0,5 | 0,48 |
| **TR8** | 0,39 | 0,45 | 0,48 | 0,44 | 0,45 | 0,43 | 0,44 |
| **TR9** | 0,55 | 0,50 | 0,48 | 0,44 | 0,5 | 0,59 | 0,50 |
| **TRA** | 0,41 | 0,42 | 0,45 | 0,44 | 0,43 | 0,4 | 0,42 |
| **TRB** | 0,40 | 0,44 | 0,38 | 0,36 | 0,40 | 0,43 | 0,40 |
| **TRC** | 0,46 | 0,44 | 0,45 | 0,4 | 0,39 | 0,36 | 0,41 |

#### 4.4.2.2. 2nd Income Group's Owner-occupiers

For these regions, the negative effects of housing affordability started to decrease especially in 2012 and 2014. For TR1 İstanbul region, in spite of decrease in housing expenditures to income ratio, housing is still unaffordable. Households separate more than 50 percent of their incomes for imputed rents and other expenditures.

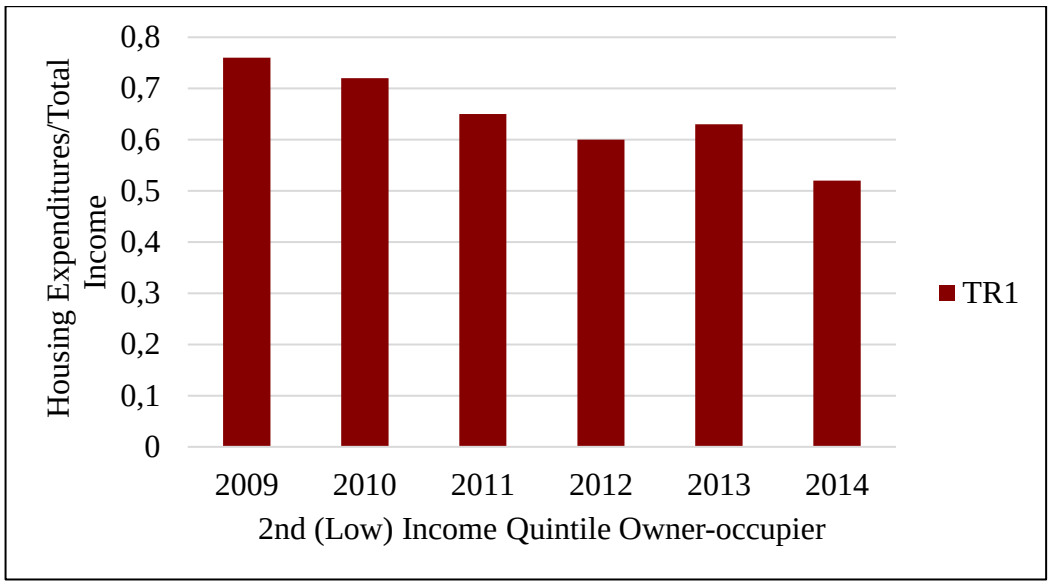



Figure 4.32: Housing Expenditures/Income Ratio of TR1 Region 2nd Income Group Owner-occupiers

Despite housing affordability is changing during 2009-2014 for examined group of TR2, TR3, TR4, TR5, TR6, TR7 and TR9 regions, housing affordability rate that is housing expenditures/income ratio is more than determined 0.3 border.

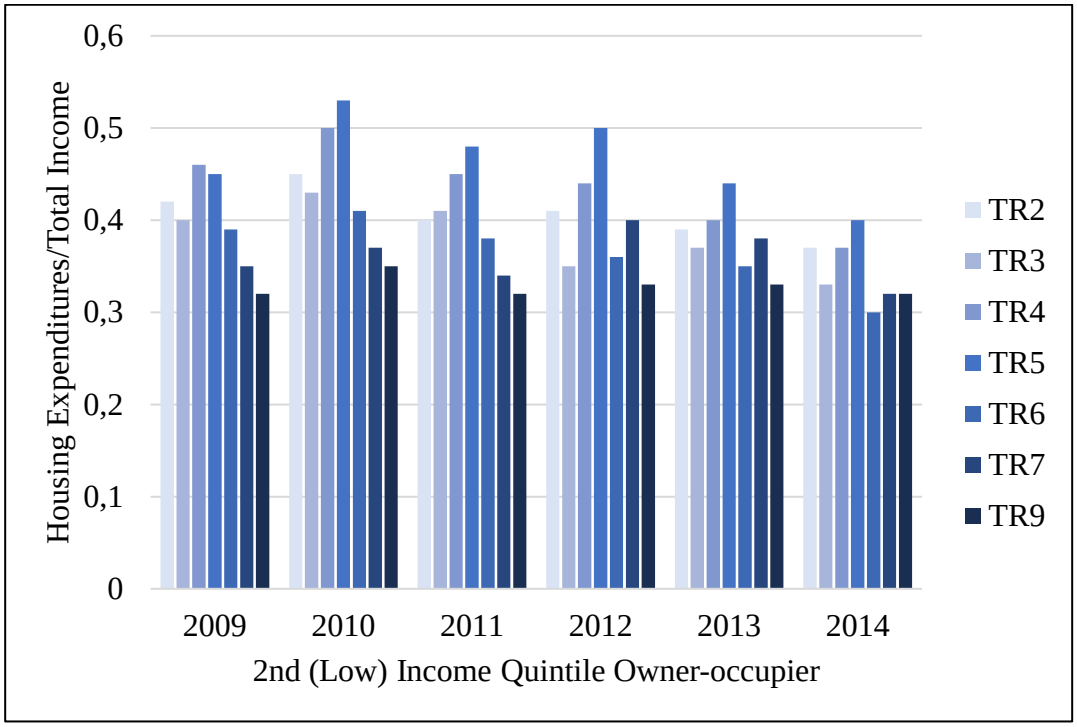



Figure 4.33: Housing Expenditures/Income Ratio of TR2, TR3, TR4, TR5, TR6, TR7 and TR9 Regions 2nd Income Group Owner-occupiers

Barely, while it is increasing up to 2010, after that time something happens and affordability rate is affected positively. In next parts, it should be handled in detail by comparing changing housing production patterns of regions. Though it can be propounded that increasing housing stock in these regions has proceeded to contribute housing affordability of 2nd income group's owner-occupiers.

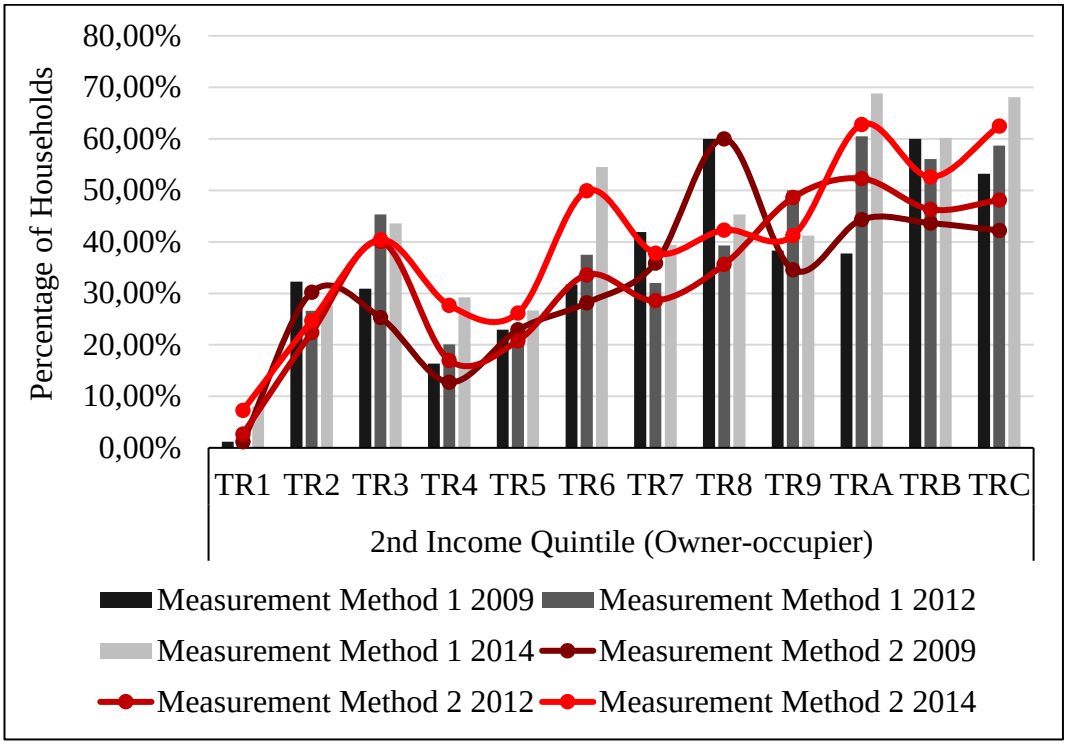
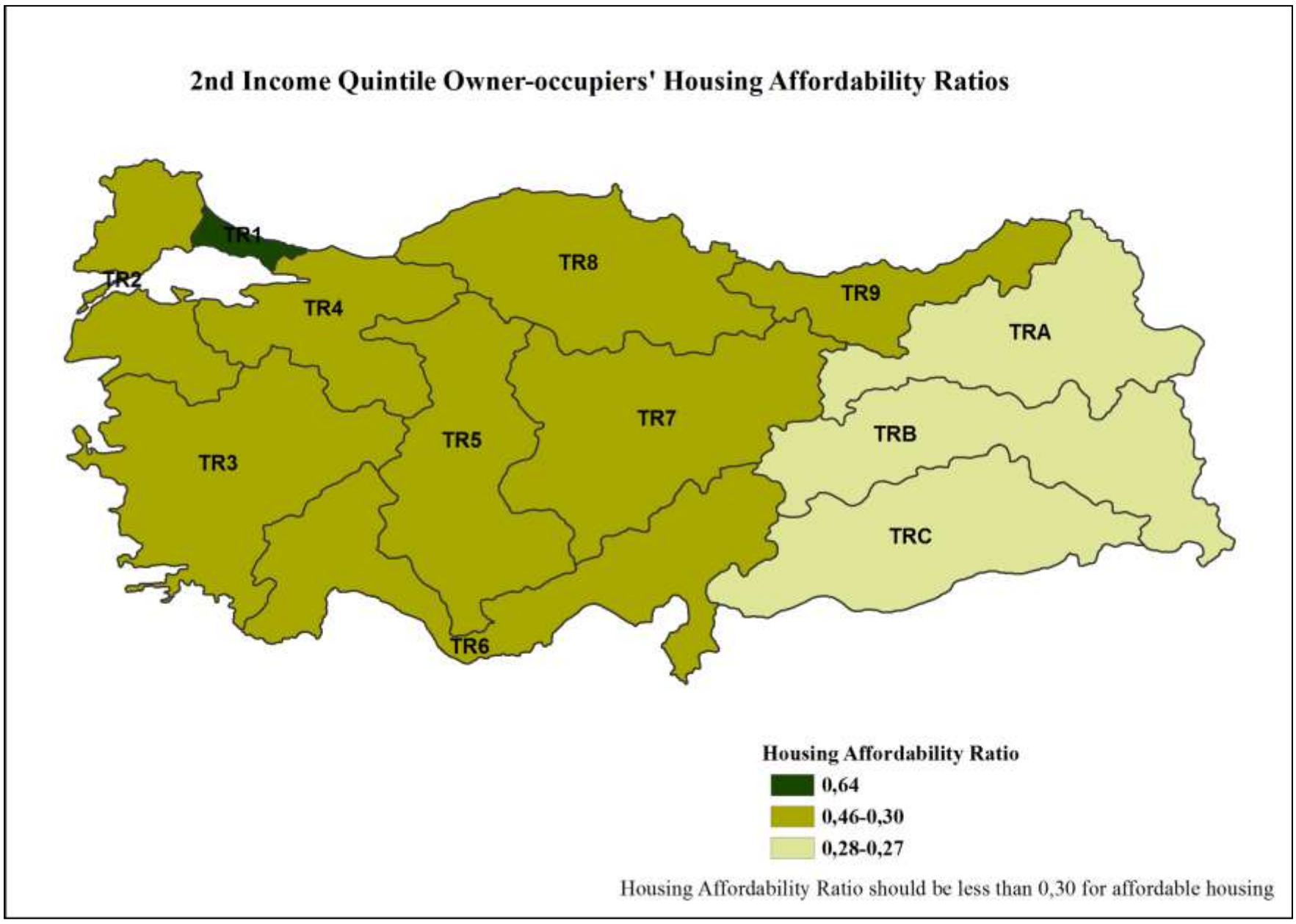



Figure 4.34: Percentage of 2nd Income Owner-occupiers according to Different Measurement Methods

For 2nd (Low) income quintile owner-occupiers, the percentage of households according to both measurement method 1 and 2, did not exceed 70 per cent of all households in this group. Even for TR1 region, less than 10 per cent of households live in affordable conditions according these methods. Contrary to the lowest and low income households, it is also observed that if a household is living in affordable housing condition, mostly it also has total income more than poverty line for 3rd income quintile owner-occupiers.




Map 4.6: Housing Affordability Condition of 2nd Income Group Owner-occupier (Mean)

Table 4.13: Mean of Housing Expenditures/Income Ratio of 2nd Income Group of Owner-occupiers

| | **2nd Income Group (Owner-occupier)** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **Mean** |
| **TR1** | 0,76 | 0,72 | 0,65 | 0,6 | 0,63 | 0,52 | 0,64 |
| **TR2** | 0,42 | 0,45 | 0,4 | 0,41 | 0,39 | 0,37 | 0,40 |
| **TR3** | 0,4 | 0,43 | 0,41 | 0,35 | 0,37 | 0,33 | 0,37 |
| **TR4** | 0,46 | 0,5 | 0,45 | 0,44 | 0,4 | 0,37 | 0,43 |
| **TR5** | 0,45 | 0,53 | 0,48 | 0,5 | 0,44 | 0,4 | 0,46 |
| **TR6** | 0,39 | 0,41 | 0,38 | 0,36 | 0,35 | 0,3 | 0,35 |
| **TR7** | 0,35 | 0,37 | 0,34 | 0,4 | 0,38 | 0,32 | 0,36 |
| **TR8** | 0,27 | 0,3 | 0,28 | 0,35 | 0,33 | 0,31 | 0,31 |
| **TR9** | 0,32 | 0,35 | 0,32 | 0,33 | 0,33 | 0,32 | 0,33 |
| **TRA** | 0,3 | 0,25 | 0,27 | 0,28 | 0,3 | 0,25 | 0,27 |
| **TRB** | 0,29 | 0,25 | 0,27 | 0,29 | 0,3 | 0,28 | 0,28 |
| **TRC** | 0,31 | 0,26 | 0,30 | 0,27 | 0,29 | 0,25 | 0,28 |

#### 4.4.2.3. 3rd Income Group's Owner-occupiers

Startlingly, when affordability rate of 3rd income group owner-occupiers is examined, it is reached that in TR1 and TR5 regions households were facing with affordability problems. However, the improvement in housing expenditures to total income ratio proved that especially for İstanbul excessive housing production contributes to this group of households. The proportion for housing expenditures decreased neatly by years. However, this situation also executes the failure of housing policies for low-income groups of Justice and Development Party (JDP). Instead of betterment in housing affordability lowest income groups, some unfavorable effects have occurred for these groups. These housing policies made a major contribution to the conditions of middle-income households.

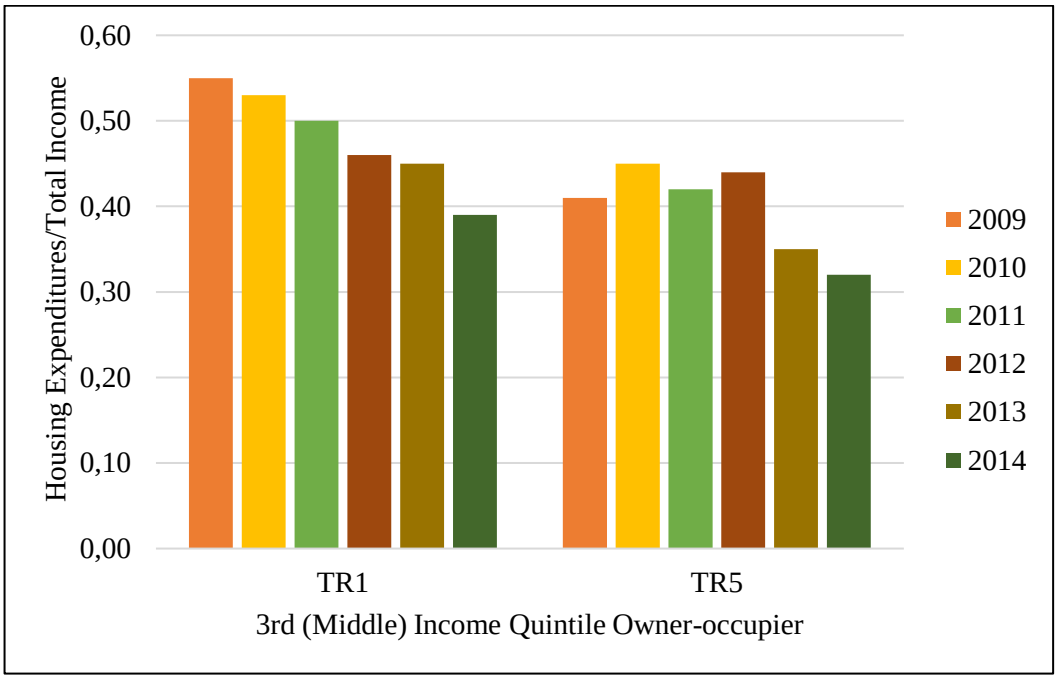



Figure 4.35: Housing Expenditures/Income Ratio of TR1 Regions 3rd Income Group Owner-occupiers

#### 4.4.2.4. 4th and 5th Income Group's Owner-occupiers

Similar to the condition of 4th and 5th income group tenants, also 4th and 5th income group of owner-occupiers not directly affected by housing affordability problems. All

means of them pay less than 30 percent of their incomes as housing expenditures. When owner-occupiers and tenants are compared, it is easily reached that tenants have more difficulties to continue their life in affordable housing standards.

### 4.4.3. DETAILED HOUSING AFFORDABILITY AND LIVING CONDITIONS OF TR1 HOUSEHOLDS

In TR1 region between 2009 and 2014, the percentage of affordable cases is less than 10 for both 1st income group tenants, owner-occupiers and 2nd income group tenants. When high housing expenditures to income ratio of TR1 region took into consideration, this result came as no surprise. However, 2nd income groups were compared, it showed that owner-occupiers are in better condition than tenants. In other words, increasing housing stock in İstanbul stands owner-occupiers in good stead rather than tenants. Strikingly, for 3rd income quintile owner-occupier groups in 2009 percentage of affordable cases was at the level of 5, in recent years that number reached 25% of owner-occupiers. Similar increase in percent is valid also for 4th income quintile owner-occupier groups. For 5th income quintile owner-occupier groups, housing affordability was not a problem for previous years. Probably it will not look like as a problematic situation for forthcoming years. However, it is also predicted that the conditions of tenants in TR1 region will pose serious housing affordability problems in upcoming years.

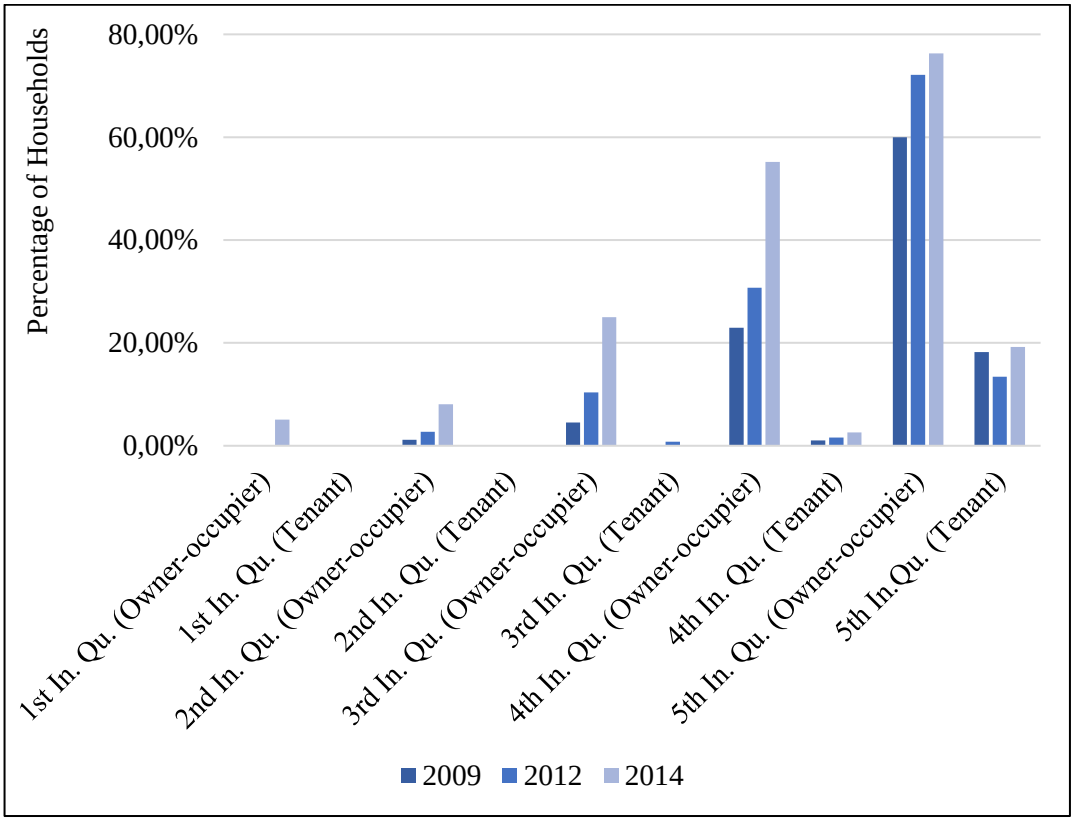



Figure 4.36: Changing Percent of Affordable Cases in TR1 (İstanbul) Region

In TR1 region between examined years, it can be said that for all income groups' tenants, total area of housing has increased from 2009 to 2014. Also it arose in proportion to increase in incomes. It means that the lowest income households live in the smallest housing units. As regards to tenants, owner-occupier households live in larger houses and it is also direct proportionate to increase in incomes. However, in terms of changes in total area of housing units, the recruitment of tenants' units is better than owner-occupier'. In Istanbul, it astonishes that there is an increase in the percentage of one person households up to the level of 50%. Additionally, the number of households of tenants is more than owner-occupiers' in that region.

Though, housing condition is viewed in recognition of the adequateness of number of rooms in housing unit according to the number of households, surprisingly it is reached that for middle income households that situation forms worse results. To illustrate, in

2009 69% of 1st income group of tenants were suffering from inadequacy of rooms that number reached 78.4% levels for 3rd income group of tenants. For 1st income group of owner-occupiers, it was 33.3% of groups and increased to 60.8%. Changes of overcrowding situation of owner-occupiers and tenants were compared, it is presented that for 1st, 2nd and 3rd income group of tenants and 1st and 2nd income group of owner-occupiers there is an improvement from 2009 to 2014. In addition, in TR1 region households are dealing with the uniqueness of housing units. Between observed years, it is proved that nearly all housing units were composing of three rooms except from kitchen, WC, bathroom.

Lastly, as a heating system, more than 73.5% of households of 1st, 2nd and 3rd income group of tenants were using stove in 2009, it decreased to 52.7% levels. In order to reach basic points of production years of houses, the year that households started to in that unit is examined. As a result, households have less housing mobility than tenants. In other words, they were changing housing units rarely and with the increase in incomes, the starting year of accommodation become newer. By means of less income groups were living in old housing units with long duration.

## 4.5. HOUSING AFFORDABILITY ISSUE FOR TURKEY: AN OVERVIEW OF THE FINDINGS

A number of findings reveal from the empirical analysis conducted in this study. First of all, during 2009-2014, when the country averages are examined, although the housing expenditures to income ratios do not display significant differences for different years, the share of households paying more than 30% of their income as housing expenditures declined from 60 per cent to 52 per cent. Housing affordability rate for an average owner-occupier and tenant seems to be slightly improved for every income category. This finding is contrary to the results revealed by Household Budget Survey analysis by Özdemir-Sarı and Aksoy (2016). Furthermore, when percentage of households who suffer from affordability is examined for 2009-2014 period, it is

proved that by time, fewer sections of the society is being affected from the affordability problem.

Secondly, extent of the housing affordability problem in Turkey differs with respect to tenure modes, income and regions. The analysis reveals that for all income categories, tenants are devoting more of their income for housing expenditures compared to owner-occupiers. For owner-occupiers it is basically the lowest and low income households who devote more than 30% of their income for housing expenditures, for tenants this is true for lowest, low, middle high and highest income households. For all households in the lowest income category, housing affordability is a problem that prevents them to maintain their minimum standards of life. However, the most compelled group is the lowest income tenants in TR1 region, paying more than 1.2 times of their incomes. Changes in affordability rates displays that increasing housing production did not affect the lowest income group tenants positively in any TR regions of Turkey.

Among 1st quintile income tenants, second worst group in terms of affordability are composed from TR2, TR3, TR4 and TR5 regions. These households secluded 1.2-0.8 times of their incomes to housing costs. Even separated values change between examined years, ratio never dropped below the literarily accepted rent to income ratio that is 0.30. Third group consisted of TR6, TR7, TR8, TR9, TRA, TRB and TRC regions' 1st quintile tenants. In that group, households spend averagely 80 per cent of their incomes for basic housing expenditure and other housing expenditures that means total housing expenditures. Similar with previously mentioned regions, housing affordability still poses a problem in order to meet basic needs of households in these regions.

Similar with the conditions of tenants, TR1 region first quintile income group's owner-occupiers are identified as the most sufferer group among owner-occupants. In that region for whole years, housing expenditures to income ratio was higher than 0.6. It means that if these households were giving any rents, they would pay nearly all of their income for these housing expenditures. Second group of the lowest income owner-

occupiers is consisting of the TR2, TR3, TR4, TR5 and TR9 regions. In these regions almost all housing expenditures/income ratios are higher than 0.5. It certifies that comparing with same regions' tenants, this groups have better conditions in terms of affordability. Nevertheless, they are suffering from housing affordability problems with these high ratios. Last group of 1st (Lowest) income quintile tenants is formed by TR6, TR7, TR8, TRA, TRB and TRC regions. Highest ratio of housing affordability in this group refers to TR6 region with approximately 0.5. In addition, TRB region remarks because of its fluctuations. While TRB region has maintained very low ratios before 2014, in 2014 housing affordability ratio of TRB region increased prominently.

Instead of explaining each TR region, in this section it is decided to evaluate them totally in observed TR region. For all TR regions' cases especially for 1st income group of tenants and owner-occupiers remark. For these tenants between 2009 and 2014 averagely less than 20 per cent of group have affordable housing conditions. In other words, almost 80 per cent of this group suffers from housing affordability problems, pays more than 30% of incomes for housing expenditures. For 1st income group of owner-occupiers, it shows better results. However, it still constitutes affordability issue for at least 70 per cent of them. While the housing affordability problem has continued to be a problem for 1st, 2nd, 3rd and 4th income quintile tenants, just for 1st and 2nd owner-occupiers. For 4th and 5th income group of owner-occupiers, sudden increment in the percentage of affordable cases after 2011 was pointed out. For 3rd, 4th and 5th income group of tenants, the improvement of the increasing percentage of affordable cases has fluctuant tendencies between 2009 and 2014. It explicates that increasing housing stocks had influences on owner-occupiers more than these tenants groups in terms of housing expenditures to income ratio.

When housing conditions of aggrieved households were investigated in respect to total area, adequacy of housing unit to household, heating system and household mobility, conspicuous results were figured out. To illustrate, total housing area of same income quintile tenants is less than same income quintile owner-occupiers for all regions households. Though, by the time, there is a tendency to enlarge the total area of housing units for high and highest income quintile tenants and owner-occupiers. Also

as expected, when the amount of equalized household income increases, total area of housing units also increase. It means that income groups which are mentioned above took advantages about increase in total housing area.

Then, adequacy of housing units to the households was poured for some years. There are many other changes in conditions. However, changes in conditions of housing units and households' preferences were gained favor for 1st income group owner-occupiers and 2nd income group of tenants rather than other groups. In order to explain these results in detail, the similar characteristics of regions were handled. It is reached that these regions are constituting migration-receiving regions of Turkey because of different job opportunities, successful education facilities and higher security status compared to the other regions. These regions also involve metropolitan cities such as İzmir, Denizli, Manisa, Bursa, Eskişehir, Kocaeli, Ankara, Konya, Antalya, Adana and etc. Therefore, it can help to explain that is why housing condition of 1st income group of tenants were not changing positively. For some other group such as migration giving ones, TR9, TRA, TRB and TRC, despite total area of units is much more than other regions, housing mismatch and adequacy issue become serious problem. More than 50 per cent of these households live in units which are not sufficient in terms of the number of rooms according to the number of individuals in that unit (person per room ratio).

In the way of housing mobility or movement, tenants move their houses more frequently than owner-occupiers. Although not yet certain, possibly tenants utilize newer housing units while owner-occupiers benefit from older ones. The least mobile group consists of 1st income group owner-occupiers with averagely 25 years duration of stay in the same housing unit. When the number of members of 1st income group owner-occupiers is examined, it is reached that on the average 54 per cent of that group is composing from a family with a person or two people. When less mobile households were took into account, it can be interpreted that mostly old couples and single but middle or old aged people are living in these units.

Based on the above findings this study arrives at a number of conclusions:

Housing production which is triggered by the government' s country-wide housing program initiated in 2002 served generally to improve the conditions of households who are already at the highest end of the income bracket. The study concludes that recent housing policies and strategies adopted in Turkey fail to improve housing affordability of households. In other words, producing more housing units does not mean promoting housing affordability. Increasing housing supply solely, without any regulations, do not contribute to improve housing affordability of households. Even, it could worsen conditions for low income households. In order to maximize profits, housebuilders aimed to increase price of housing units. This means purchasing and renting problems for lowest and low income households and also contributes to spatial segregation. Rising house prices make home purchases inaccessible for some buyers and rents are also increased which means difficulties for some households to access rental units.

With the country-wide housing program, which attempts to increase owner-occupation among low-income households, rate of owner-occupation in the country has declined almost 10 per cent during 2002-2013, and highest end of the income bracket became the major target for new housing construction (Özdemir-Sarı and Aksoy, 2016).

At the same time, high house prices are accompanied with high ongoing costs such as maintenance and service charges, repair-maintenance costs for households. This in turn results in increasing affordability problems.

Findings imply that rather than standard policies which apply for the whole country, there is a need for housing policies and strategies which care for local differences in housing markets and household attributes.

In addition to other conclusions, this study attempts to find answers for some questions which are listed below. These questions composes main objectives of research in terms of different income groups and modes of tenures who live in different regions. Firstly,

- Who buys that housing?

As a result of this study, it is reached that mostly high and middle income households bought newly produced housing units as a second or third dwelling units because of the potential of housing as an investment good. Increasing housing production did not contribute to the condition of low income groups in terms of purchasing power or price.

- In which TR regions is the production of new housing adequate or inadequate?

When housing production performance of regions between 2000 and 2014 were compared, only two NUTS-Level 1 region suffers from housing production shortage according to different size of households. These regions are TRB-East Anatolia region and TRC-South-east Anatolia region. However, 10 NUTS-Level 1 regions had housing surplus with varied numbers of housing units.

- Which households can reach housing affordably and where do they live?

Commonly, highest income groups reach housing affordably in all TR regions, while lowest income groups face with affordability problems. TR1 region's households in all income groups are the most sufferer section of the households in Turkey compared to the others. It is also seen that increase in housing production affected the affordability condition of middle, high and highest income group positively.

- When starvation and poverty line of households were taken into consideration, how does housing affordability change?

Two different measurement methods were employed in this study, which aimed to find (housing expenditures/income ratio<30% and total income of household>the poverty threshold) changing affordability conditions of different income groups in different regions. Firstly, without regional distribution and mode of tenure, while housing expenditures/income ratio has fluctuations for all income groups, the percentage of sufferers decreased between 2009 and 2014.

However, for lowest income groups of all TR regions, the percentage of affordable cases increased with least percentage in terms of both measurement method 1 and

measurement method 2. Even for measurement method 2, the percentage of households who reach housing units affordably is very close to 0% in each TR regions.

- Is there any betterment about the condition of housing for who reach housing affordably, in terms of overcrowding, heating and etc.?

The betterment about condition of housing was reached for middle, high and highest income group of households in all regions. Again low and lowest income groups continued to be the constrained section of society.

# CHAPTER 5

# CONCLUSION

## 5.1. HOUSING AFFORDABILITY: AN OVERVIEW OF THE STUDY

Housing affordability has been a major topic of interest both for researchers and policy makers in many countries. The attention to the issue has been increased in recent years, particularly, due to the subprime mortgage crises of 2008 and the subsequent negative developments experienced in many housing markets. However, in the Turkish case, research on housing affordability is scarce, neither policy makers nor researchers pay attention to the issue. This study, considering the housing affordability as a gradually worsening problem in Turkish cities, has two major arguments: (1) increased housing production in the country did not contribute to the housing affordability of low-income households, (2) the extent of the housing affordability problem displays differences in different housing markets. With these arguments in mind, this study empirically examines the housing affordability of households with respect to mode of tenure, household income, and TR1 regions.

The major findings of this study reveal that the extent of the housing affordability problem in Turkey differs with respect to tenure modes, income and regions. For all income categories, tenants are devoting more of their income for housing expenditures compared to owner-occupiers. Among owner-occupiers, it is basically the lowest and low income households who devote more than 30% of their income for housing expenditures, for tenants this is true for all income categories. For all households in the lowest income category, housing affordability is a problem that prevents them to maintain their minimum standards of life. However, the most compelled group is the lowest income tenants in TR1 region, paying more than 1.2 times of their incomes for housing expenditures. Changes in affordability rates displays that increased housing supply did not affect the lowest income tenants positively in any TR regions of Turkey.

## 5.2. SCOPE FOR POLICY OPTIONS TO IMPROVE HOUSING AFFORDABILITY

Policy recommendations related to 'housing affordability' or 'affordable housing' are not within the scope of this study. Yet, there are a number of issues to be highlighted as conclusions of this study to provide a number of clues in policy design with respect to affordability. First issue is related to the design of housing policies. ''Affordable housing' or 'housing affordability' should have become an urgent topic of discussion and an inevitable part of Turkish housing policies. Yet, affordability issue could not be tackled in isolation from housing production policies. Furthermore, policies aiming to improve housing affordability in existing housing stock and in new housing supply cannot be considered independent from the major actor of housing production, households, and policy makers.

A second issue is directly related to the target of affordability policies. A uniform 'housing affordability policy' for whole country which does not consider local differences in household and housing conditions is doomed to be unsuccessful. These policies could be targeted and designed with respect to households who are unable to pay the expenditures of their dwellings and meet their basic needs (i.e. tenant households, low income households), and regions where affordability rate is higher compared to other regions (i.e. TR1 region) There might be several policy options to increase housing affordability in existing housing stock and urban environments and these options could be designed with respect to the specific households, housing units, and housing markets that are the most problematic cases in terms of housing affordability.

Not only for some regions but also for all NUTS regions, the shift from market-enabling strategies to smart regulation in housing should be considered. National housing policy strategies must strive to establish the institutional, regulatory and financial conditions of an efficient and effective housing policy (Hegedüs et al, 2016). The market enabling approach, which saw market liberalization as a cure of state and regulatory inefficiencies, must be replaced by a smart and social regulation approach,

which proactively creates the economic and political conditions of affordable housing for especially low income households.

The third issue is related to the institutional dimension of the affordability. Differently from most of the European countries, Turkey does not have any housing stock which is named as affordable housing that aim to provide housing units below market value for a specific group of households. Social and affordable housing provision is a common practice in many countries.

In the Netherlands, for instance, the percentage of social housing provision in existing stock of the country is 32 per cent in 2014 (Elsinga and Wassenberg, 2014). Yet, in Turkey, social and affordable housing provision is not a vital discussion neither for policy nor for practice. For many decades, housing affordability has been ignored by Turkish urban planning and housing policies. Rather, urban transformation projects are usually considered as an opportunity to improve existing urban environments. However, most of the transformation projects had resulted with the displacement of the urban poor and gentrification. Thus, the main apprehension of Turkey should be the design and implementation of affordable housing policies, as integrating policies in the housing system.

Considering the extent of the 'housing affordability' problem among low-income households and tenants, it could be suggested that providing affordable housing units is a necessity in the Turkish case. In line with this suggestion, first there is a need to establish an organization or a plan in order to form an affordable housing pool and to determine the conditions of creating such a pool, its management, and eligibility conditions for affordable housing. Whether it is based on government endorsement and leadership or non-governmental organization, it should aim to provide a financial and provision system for affordable housing.

## 5.3. MAIN CONCLUSIONS OF THE STUDY

Turkish cities are facing with urban spatial expansion. The basic reason of this expansion could be identified as the settlements at the outskirts of the cities which emerged due to the new modes of housing projects. Households prefer to live in these areas due to the opportunities provided by the housing (i.e. larger and new units) and its environs (i.e. open spaces, parking lots, lack of noise and pollution). In other words, they make choices among their options. However, expansion of cities to the outskirts means extra burdens on households' commuting times and transport budgets. This also means environmental damage in terms of loss of agricultural land and natural environments. In previous studies, it is reached that the total amount of housing and transportation cost of households makes almost half of their total income mostly for high and highest income groups (Özdemir-Sarı and Aksoy, 2016). These numbers show the reflection of urban spatial expansion on households' budgets, but what about central and local governments' budgets? Urban sprawl or expansion also leads to some difficulties in order to provide public services and urban infrastructure. Therefore, in order to prevent these increasing costs and environmental damages local and central governments should care for the location choices of land-uses.

Nowadays, the main focus of local authorities and other actors becomes the increase in urban rent. The most practical and easiest way to do this is changing the use of land from agricultural land to urban land. The growing cities, increasing population and urban sprawl tendencies triggered these changes. In time, the total area of agricultural land decreased since these areas were converted to urban land. As the main priority is profit maximization, constructions on these lands target basically high and middle income groups. Size and quality of the constructions resulted in increasing prices of housing units especially in these areas. This has consequently contributed to spatial segregation in cities. As a result, while high and highest income groups start to live in outskirts of cities in gated communities and closed housing areas, low and lowest income groups have to live in inner city, where neighborhoods experience physical deterioration and economic depreciation. With that way, recent housing production trends contributed to income based polarization in cities. This spatial polarization will

eventually cause urban decline in older parts of the cities where lowest end of the income bracket matches with lowest end of the housing stock where repair and maintenance cost burden is high. The high costs of maintenance and repair make individual housing unit rehabilitation impossible for homeowners. Then, urban transformation process by local and central governments take place which also leads to increase in the price of housing units because of land prices and new construction costs, so decrease in housing affordability and relocation of households.

Increased construction activities are experienced in each part of the Turkish cities. When the distribution of land use is examined, residential areas constitute more than half of the land-use in cities. Recent process shows that this percentage will increase in coming years. Open spaces and discharged military areas in centers and empty areas in fringes will be target for transformation into residential usages. At that point, some questions like “for whom and how” should be asked to responsible actors. If there is a potential to produce housing units in cities, low and lowest income groups should be the main beneficiaries instead of high and highest income groups. In addition, it is also shown up that nearly 30 per cent of existing housing stock in cities are vacant (Özdemir-Sarı, 2015). Actually, the main aim can be designated to give advantages to the households experiencing housing unaffordability from vacant housing stock with incoming policies.

Despite constraints of data, findings of this study revealed that housing preferences of households are various and different housing markets, such as regions, experience different problems. This implies the necessity of diversification of housing supply and policies. Rather than current housing policies and country wide housing program which consider the whole country as a uniform space consisting of standard households, local and area/problem based approaches should be defined. Housing policies, housing provision, housing finance system, governmental intervention and subsidies should become varied in line with the varying household characteristics.

In terms of housing affordability, Syrian refugees’ accommodation problem as an emerging agenda should also become a topic of policy discussions. These immigrants

commonly settle on the declining parts of the cities. At the very first stage, in order to share the cost burden, migrant families rent a housing unit together with two or more immigrant families. In the long term, these circumstances cause rising rents of housing units, unaffordability, and overcrowding problems. Providing residence permit to live in a country is not sufficient to solve the problems of immigrants, rather comprehensive policies should be developed to tackle the housing, employment, health, and education needs of this population.

Another conclusion arrived at this study is related to the definition of poverty. Poverty is commonly defined on the basis of income constraints to meet some basic needs such as shelter, food, clothing and some public services. In current context, especially in poverty reduction strategies, reasons behind the poverty should be defined clearly. In doing this, there is a necessity of multidisciplinary thinking which will help to develop actions in order to reduce poverty with multiple dimensions. In this multidimensional concept, the significance of housing provision and affordability issues are needed to be taken into consideration. It should be recalled that since the year 2000, the cost of housing expenditures directly leads to poverty and starvation problems for poor households.

## 5.4. RECOMMENDATIONS FOR FURTHER STUDIES

This research could be considered as an initial step in the exploration of changing housing affordability conditions of several income groups and tenure modes in the existing NUTS-Level 1 TR regions in the Turkish case. It is also possible to recommend a number of directions for future research. Accordingly, an essential task for further studies should be based on developing new measures to obtain necessary information in order to reach housing affordability problems of households in detail. There is a need to investigate housing provision and housing affordability problems together, in order to design effective affordability policies. However, designing effective housing affordability policies is dependent upon the availability of reliable databases on housing and households. As mentioned in Chapter 1, internal and external

factors that affect housing affordability are needed to evaluate all housing affordability conditions. These are price issues (the prices of rents and housing units), appropriateness of houses according to households (size, cultural background), local housing policies and planning decisions of government, the satisfaction between credit requirements and income (prepayment-deposit of credit, monthly amount of credit payment, loan/value ratio). The effects of these indicators of households' housing affordability should also be examined in detail.

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# APPENDICES

## APPENDIX A: DISTRIBUTION OF CASES

The Distribution of Cases in 2009

| **Name of Region** | **The Number of Total Households** | **The Number of Tenants** | **The Number Of Owner-occupiers** |
|---|---|---|---|
| **TR1** | 1159 | 397 | 762 |
| **TR2** | 748 | 179 | 569 |
| **TR3** | 1429 | 417 | 1012 |
| **TR4** | 754 | 204 | 550 |
| **TR5** | 884 | 272 | 612 |
| **TR6** | 992 | 273 | 719 |
| **TR7** | 703 | 136 | 567 |
| **TR8** | 660 | 116 | 544 |
| **TR9** | 466 | 121 | 345 |
| **TRA** | 608 | 105 | 503 |
| **TRB** | 674 | 143 | 531 |
| **TRC** | 758 | 184 | 574 |
| **TOTAL** | 9835 | 2547 | 7288 |

The Distribution of Cases in 2010

| **Name of Region** | **The Number of Total Households** | **The Number of Tenants** | **The Number Of Owner-occupiers** |
|---|---|---|---|
| **TR1** | 1274 | 463 | 811 |
| **TR2** | 740 | 158 | 582 |
| **TR3** | 1428 | 396 | 1032 |
| **TR4** | 740 | 203 | 537 |
| **TR5** | 921 | 306 | 615 |
| **TR6** | 967 | 242 | 725 |
| **TR7** | 704 | 149 | 555 |
| **TR8** | 615 | 110 | 505 |
| **TR9** | 482 | 115 | 367 |
| **TRA** | 641 | 120 | 521 |
| **TRB** | 709 | 161 | 548 |
| **TRC** | 738 | 174 | 564 |
| **TOTAL** | 9959 | 2597 | 7362 |

The Distribution of Cases in 2011

| **Name of Region** | **The Number of Total Households** | **The Number of Tenants** | **The Number Of Owner-occupiers** |
|---|---|---|---|
| **TR1** | 1429 | 546 | 883 |
| **TR2** | 859 | 176 | 683 |
| **TR3** | 1739 | 481 | 1258 |
| **TR4** | 954 | 267 | 687 |
| **TR5** | 1196 | 393 | 803 |
| **TR6** | 1330 | 311 | 1019 |
| **TR7** | 791 | 191 | 600 |
| **TR8** | 893 | 207 | 686 |
| **TR9** | 505 | 120 | 385 |
| **TRA** | 753 | 130 | 623 |
| **TRB** | 847 | 162 | 685 |
| **TRC** | 1047 | 243 | 804 |
| **TOTAL** | 12343 | 3227 | 9116 |

The Distribution of Cases in 2012

| **Name of Region** | **The Number of Total Households** | **The Number of Tenants** | **The Number Of Owner-occupiers** |
|---|---|---|---|
| **TR1** | 1477 | 539 | 938 |
| **TR2** | 967 | 192 | 775 |
| **TR3** | 1985 | 531 | 1454 |
| **TR4** | 1229 | 351 | 878 |
| **TR5** | 1351 | 409 | 942 |
| **TR6** | 1661 | 369 | 1292 |
| **TR7** | 929 | 202 | 727 |
| **TR8** | 1160 | 287 | 873 |
| **TR9** | 550 | 110 | 440 |
| **TRA** | 901 | 154 | 747 |
| **TRB** | 947 | 180 | 767 |
| **TRC** | 1216 | 268 | 948 |
| **TOTAL** | 14373 | 3592 | 10781 |

The Distribution of Cases in 2013

| **Name of Region** | **The Number of Total Households** | **The Number of Tenants** | **The Number Of Owner-occupiers** |
|---|---|---|---|
| **TR1** | 1573 | 606 | 967 |
| **TR2** | 1088 | 223 | 865 |
| **TR3** | 2264 | 606 | 1658 |
| **TR4** | 1383 | 372 | 1011 |
| **TR5** | 1525 | 457 | 1068 |
| **TR6** | 1925 | 435 | 1490 |
| **TR7** | 1063 | 239 | 824 |
| **TR8** | 1404 | 322 | 1082 |
| **TR9** | 562 | 114 | 448 |
| **TRA** | 977 | 150 | 827 |
| **TRB** | 1022 | 182 | 840 |
| **TRC** | 1486 | 344 | 1142 |
| **TOTAL** | 16272 | 4050 | 12222 |

The Distribution of Cases in 2014

| **Name of Region** | **The Number of Total Households** | **The Number of Tenants** | **The Number Of Owner-occupiers** |
|---|---|---|---|
| **TR1** | 1694 | 678 | 1016 |
| **TR2** | 1216 | 255 | 961 |
| **TR3** | 2577 | 689 | 1888 |
| **TR4** | 1598 | 427 | 1171 |
| **TR5** | 1774 | 550 | 1224 |
| **TR6** | 2272 | 541 | 1731 |
| **TR7** | 1257 | 301 | 956 |
| **TR8** | 1669 | 382 | 1287 |
| **TR9** | 596 | 139 | 457 |
| **TRA** | 1049 | 157 | 892 |
| **TRB** | 1222 | 258 | 964 |
| **TRC** | 1797 | 438 | 1359 |
| **TOTAL** | 18721 | 4815 | 13906 |

## APPENDIX B: CHARACTERISTICS OF HOUSEHOLDS AND HOUSING UNITS

Characteristics of Households and Housing Units in 2009

| THE SIZE OF HOUSEHOLDS | | |
|---|---|---|
| | **Frequency** | **Percent** |
| **Households with a person** | 668 | 6.7 |
| **Households with two adults (without dependent children)** | 1277 | 13.0 |
| **Households with two adults (one is older than 65)** | 773 | 7.8 |
| **Other households with two people** | 1179 | 12.0 |
| **Households with a mother or a father and a dependent child** | 194 | 1.7 |
| **Households with two adults and a dependent child** | 1212 | 12.4 |
| **Households with two adults and two dependent children** | 1315 | 13.4 |
| **Households with two adults and three children** | 1060 | 10.8 |
| **Households with two adults and more than three children** | 2157 | 22.2 |
| **Total** | 9835 | 100.0 |

| THE TYPES OF HOUSING UNITS | | |
|---|---|---|
| | **Frequency** | **Percent** |
| **Single family house** | 4670 | 48.1 |
| **Double or terraced house** | 379 | 3.3 |
| **Apartment block (Less than 10 units)** | 2499 | 25.4 |
| **Apartment block (10 and more than 10 units)** | 2274 | 23.1 |
| **Other** | 13 | 0.1 |
| **Total** | 9589 | 100.0 |

Characteristics of Households and Housing Units in 2010

| THE SIZE OF HOUSEHOLDS | | |
|---|---|---|
| | **Frequency** | **Percent** |
| **Households with a person** | 675 | 6.7 |
| **Households with two adults (without dependent children)** | 1292 | 13.0 |
| **Households with two adults (one is older than 65)** | 836 | 8.3 |
| **Other households with two people** | 1235 | 12.4 |
| **Households with a mother or a father and a dependent child** | 201 | 1.8 |
| **Households with two adults and a dependent child** | 1270 | 12.8 |
| **Households with two adults and two dependent children** | 1365 | 13.7 |
| **Households with two adults and three children** | 1030 | 10.3 |
| **Households with two adults and more than three children** | 2056 | 20.9 |
| **Total** | 9959 | 100.0 |

| THE TYPES OF HOUSING UNITS | | |
|---|---|---|
| | **Frequency** | **Percent** |
| **Single family house** | 4533 | 46.0 |
| **Double or terraced house** | 397 | 3.5 |
| **Apartment block (Less than 10 units)** | 2570 | 25.8 |
| **Apartment block (10 and more than 10 units)** | 2456 | 24.7 |
| **Other** | 3 | .0 |
| **Total** | 9959 | 100.0 |

Characteristics of Households and Housing Units in 2011

| THE SIZE OF HOUSEHOLDS | | |
|---|---|---|
| | **Frequency** | **Percent** |
| **Households with a person** | 866 | 6.9 |
| **Households with two adults (without dependent children)** | 1565 | 12.7 |
| **Households with two adults (one is older than 65)** | 1047 | 8.4 |
| **Other households with two people** | 1504 | 12.2 |
| **Households with a mother or a father and a dependent child** | 264 | 1.9 |
| **Households with two adults and a dependent child** | 1582 | 12.8 |
| **Households with two adults and two dependent children** | 1718 | 14.0 |
| **Households with two adults and three children** | 1305 | 10.6 |
| **Households with two adults and more than three children** | 2493 | 20.4 |
| **Total** | 12343 | 100.0 |

| THE TYPES OF HOUSING UNITS | | |
|---|---|---|
| | **Frequency** | **Percent** |
| **Single family house** | 5540 | 45.3 |
| **Double or terraced house** | 500 | 3.6 |
| **Apartment block (Less than 10 units)** | 3201 | 26.0 |
| **Apartment block (10 and more than 10 units)** | 3093 | 25.0 |
| **Other** | 6 | .0 |
| **Total** | 12343 | 100.0 |

Characteristics of Households and Housing Units in 2012

| THE SIZE OF HOUSEHOLDS | | |
|---|---|---|
| | **Frequency** | **Percent** |
| **Households with a person** | 1188 | 8.0 |
| **Households with two adults (without dependent children)** | 1784 | 12.5 |
| **Households with two adults (one is older than 65)** | 1198 | 8.1 |
| **Other households with two people** | 1770 | 12.4 |
| **Households with a mother or a father and a dependent child** | 382 | 1.8 |
| **Households with two adults and a dependent child** | 1755 | 12.3 |
| **Households with two adults and two dependent children** | 1965 | 13.9 |
| **Households with two adults and three children** | 1451 | 10.0 |
| **Households with two adults and more than three children** | 2881 | 20.9 |
| **Total** | 14373 | 100.0 |

| THE TYPES OF HOUSING UNITS | | |
|---|---|---|
| | **Frequency** | **Percent** |
| **Single family house** | 6041 | 43.7 |
| **Double or terraced house** | 767 | 3.4 |
| **Apartment block (Less than 10 units)** | 3701 | 25.8 |
| **Apartment block (10 and more than 10 units)** | 3862 | 27.0 |
| **Other** | 2 | .0 |
| **Total** | 14373 | 100.0 |

Characteristics of Households and Housing Units in 2013

| THE SIZE OF HOUSEHOLDS | | |
|---|---|---|
| | **Frequency** | **Percent** |
| **Households with a person** | 1294 | 7.9 |
| **Households with two adults (without dependent children)** | 2148 | 13.2 |
| **Households with two adults (one is older than 65)** | 1453 | 8.9 |
| **Other households with two people** | 1894 | 11.6 |
| **Households with a mother or a father and a dependent child** | 321 | 1.8 |
| **Households with two adults and a dependent child** | 2057 | 12.7 |
| **Households with two adults and two dependent children** | 2233 | 13.8 |
| **Households with two adults and three children** | 1641 | 10.1 |
| **Households with two adults and more than three children** | 3231 | 20.0 |
| **Total** | 16272 | 100.0 |

| THE TYPES OF HOUSING UNITS | | |
|---|---|---|
| | **Frequency** | **Percent** |
| **Single family house** | 7369 | 45.6 |
| **Double or terraced house** | 619 | 3.5 |
| **Apartment block (Less than 10 units)** | 3930 | 24.1 |
| **Apartment block (10 and more than 10 units)** | 4351 | 26.8 |
| **Other** | 3 | .0 |
| **Total** | 16272 | 100.0 |

Characteristics of Households and Housing Units in 2014

| THE SIZE OF HOUSEHOLDS | | |
|---|---|---|
| | **Frequency** | **Percent** |
| **Households with a person** | 1631 | 8.5 |
| **Households with two adults (without dependent children)** | 2465 | 13.3 |
| **Households with two adults (one is older than 65)** | 1589 | 8.3 |
| **Other households with two people** | 2221 | 11.9 |
| **Households with a mother or a father and a dependent child** | 475 | 1.9 |
| **Households with two adults and a dependent child** | 2386 | 12.9 |
| **Households with two adults and two dependent children** | 2540 | 13.8 |
| **Households with two adults and three children** | 1886 | 10.0 |
| **Households with two adults and more than three children** | 3528 | 19.4 |
| **Total** | 18721 | 100.0 |

| THE TYPES OF HOUSING UNITS | | |
|---|---|---|
| | **Frequency** | **Percent** |
| **Single family house** | 7633 | 42.0 |
| **Double or terraced house** | 929 | 3.4 |
| **Apartment block (Less than 10 units)** | 4696 | 25.1 |
| **Apartment block (10 and more than 10 units)** | 5463 | 29.5 |
| **Other** | 0 | .0 |
| **Total** | 17368 | 100.0 |

## APPENDIX C: HOUSING AFFORDABILITY RATIOS AND ANNUAL HOUSING EXPENDITURES

Housing Affordability Ratios in 2009

| Name of Region | Annual Housing Expenditures (Mean) | Mean Housing Affordability Ratio |
|---|---|---|
| **TR1** | 10128 TL | 0,63 |
| **TR2** | 4994 TL | 0,45 |
| **TR3** | 5866 TL | 0,44 |
| **TR4** | 6530 TL | 0,48 |
| **TR5** | 7299 TL | 0,47 |
| **TR6** | 5055 TL | 0,44 |
| **TR7** | 4421 TL | 0,38 |
| **TR8** | 3772 TL | 0,33 |
| **TR9** | 4448 TL | 0,37 |
| **TRA** | 4079 TL | 0,39 |
| **TRB** | 4719 TL | 0,42 |
| **TRC** | 4087 TL | 0,54 |

Housing Affordability Ratios in 2010

| **Name of Region** | **Annual Housing Expenditures (Mean)** | **Mean Housing Affordability Ratio** |
|---|---|---|
| **TR1** | 10332 TL | 0,56 |
| **TR2** | 5436 TL | 0,53 |
| **TR3** | 6384 TL | 0,59 |
| **TR4** | 6653 TL | 0,47 |
| **TR5** | 7728 TL | 0,46 |
| **TR6** | 5495 TL | 0,43 |
| **TR7** | 4781 TL | 0,37 |
| **TR8** | 4673 TL | 0,52 |
| **TR9** | 4571 TL | 0,35 |
| **TRA** | 4575 TL | 0,54 |
| **TRB** | 5218 TL | 0,42 |
| **TRC** | 4790 TL | 0,48 |

Housing Affordability Ratios in 2011

| **Name of Region** | **Annual Housing Expenditures (Mean)** | **Mean Housing Affordability Ratio** |
|---|---|---|
| **TR1** | 11621 TL | 0,57 |
| **TR2** | 5756 TL | 0,48 |
| **TR3** | 6730 TL | 0,41 |
| **TR4** | 7187 TL | 0,55 |
| **TR5** | 8057 TL | 0,47 |
| **TR6** | 5673 TL | 0,44 |
| **TR7** | 5826 TL | 0,41 |
| **TR8** | 4773 TL | 0,34 |
| **TR9** | 5443 TL | 0,42 |
| **TRA** | 4622 TL | 0,38 |
| **TRB** | 5256 TL | 0,45 |
| **TRC** | 4716 TL | 0,52 |

Housing Affordability Ratios in 2012

| **Name of Region** | **Annual Housing Expenditures (Mean)** | **Mean Housing Affordability Ratio** |
|---|---|---|
| **TR1** | 12208 TL | 0,55 |
| **TR2** | 6229 TL | 0,54 |
| **TR3** | 7066 TL | 0,41 |
| **TR4** | 7679 TL | 0,42 |
| **TR5** | 9204 TL | 0,48 |
| **TR6** | 6228 TL | 0,42 |
| **TR7** | 6840 TL | 0,40 |
| **TR8** | 5789 TL | 0,36 |
| **TR9** | 5490 TL | 0,35 |
| **TRA** | 5179 TL | 0,37 |
| **TRB** | 5428 TL | 0,40 |
| **TRC** | 5097 TL | 0,49 |

Housing Affordability Ratios in 2013

| **Name of Region** | **Annual Housing Expenditures (Mean)** | **Mean Housing Affordability Ratio** |
|---|---|---|
| **TR1** | 13278 TL | 0,51 |
| **TR2** | 6510 TL | 0,38 |
| **TR3** | 7299 TL | 0,38 |
| **TR4** | 7827 TL | 0,38 |
| **TR5** | 9135 TL | 0,45 |
| **TR6** | 6440 TL | 0,41 |
| **TR7** | 6520 TL | 0,36 |
| **TR8** | 6113 TL | 0,34 |
| **TR9** | 6003 TL | 0,33 |
| **TRA** | 5609 TL | 0,38 |
| **TRB** | 5810 TL | 0,44 |
| **TRC** | 5933 TL | 0,83 |

Housing Affordability Ratios in 2014

| **Name of Region** | **Annual Housing Expenditures (Mean)** | **Mean Housing Affordability Ratio** |
|---|---|---|
| **TR1** | 13506 TL | 0,49 |
| **TR2** | 7250 TL | 0,59 |
| **TR3** | 7820 TL | 0,38 |
| **TR4** | 8089 TL | 0,35 |
| **TR5** | 9571 TL | 0,40 |
| **TR6** | 6948 TL | 0,40 |
| **TR7** | 7177 TL | 0,39 |
| **TR8** | 6611 TL | 0,34 |
| **TR9** | 6996 TL | 0,35 |
| **TRA** | 6016 TL | 0,35 |
| **TRB** | 6487 TL | 0,42 |
| **TRC** | 6424 TL | 0,41 |