

Grazia Napoli

*Dipartimento di Architettura,
Università degli Studi di Palermo*

E-mail: grazia.napoli@unipa.it

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The economic sustainability of residential location and social housing. An application in Palermo city

The aim of this paper is to analyse the interconnections among the so-called “grey area” citizens, who have great difficulty to get an own house, and the public (and private) stakeholders that have a key part to play in translating the housing politics into practice.

The analysis proposes some economic tools – the analysis of the local real estate market and the “Income-Threshold” – to support municipality in achieving social housing projects corresponding to the family’s financial constraints.

The methodology of analysis is applied to data directly collected in Palermo. The purpose is to point out the operational and problematic aspects corresponding to the family’s access to the real estate market and to estimate the financial gap corresponding to the impossibility to achieve that.

Introduction

The housing issue is a multi-disciplinary theme dealing with: political level in terms of welfare State and economic policy that make and distribute wealth; political-administrative level in terms of city pattern, inclusive or selective; economic-evaluating level in terms of economic and financial analysis.

The economic crisis is accenting many social problems. Firstly, the real estate prices make the access to the real estate market difficult or impossible because they are not “lined up” to the family’s incomes. They also widen the “grey area” citizens that are not able to afford market prices. Besides, a sharp contraction in market demand and prices decrease has reduced the entrepreneurs’ profits and has raised the investment risk (because of quotas of unsold or not rented real estate). That places a responsibility on the public Administrations that have to face greater difficulties to get the private capitals involved in urban renewal projects including Social Housing.

The decision process, intended to realize Social Housing projects, needs to be supported by a preventive competences framework, including evaluating tools as the “Income-Threshold” based on the affordability index and the Real Estate Market Analysis. Both of them can be used to diversify the social housing characteristics according to the household financial constraints, but also to establish the public capitals share, the social and functional mix that makes the projects profitable.

Location Decisions and Access to the Housing

The decisions concerning with the family locations depend on three factors: economical, social and cultural. From an economic point of view, decisions are conditioned by urban economic principles (principle of agglomeration, accessibility, spatial interaction, urban hierarchy, competitiveness) (Camagni, 1993; Evans, 1985). In fact, families decide to localize themselves in a city when they can benefit from relevant agglomeration economies, and they choose a specific neighbourhood for his accessibility and potentiality of interaction (Alonso, 1964; Niedercorn and Bechdolt, 1969).

The choice between potential and alternative locations has to deal with different trade-off (e.g. accessibility/transport cost, accessibility/house size, house quality/market prices, etc.), but independently from the residential pattern, (trade-off model, filtering down/up model, economic-spatial potential model, etc.), the variables that have assumed a preponderant weight are:

- family's income;
- house market price.

Because of the actual economic crisis, a wider group of social classes has increased his difficulty accessing to housing. These difficulties don't concern only poor and lower class but they are also investing the middle class, forming a large "grey area".

The "grey area" has an heterogeneous social composition, in fact it is formed by: young people, young couples and migrant that have part-time jobs; low-income or job-less households; lone-parent households with children; elderly people; but also many households in which only one person has a job and students.

From the economic point of view, all people who belong to the "grey area" have an income that excludes them from the housing: in fact they haven't enough income to entry into the real estate rental market (because the income is too low), but also they don't get the public housing (because the income is too high). Moreover, because of their discontinuous and uncertain incomes they do not allow to possibly get a mortgage loan.

"Income-Threshold" as Indicator of the Economic Sustainability

The concept of "Income-Threshold", based on the affordability index, is proposed to notice the economic sustainability of the residential location, observing the relationship between the house renting or selling market price and the family's income.

The affordability index (OMI, 2013a) is proposed by ABI -Italian Banking Association- (this index is analogue to the NAR's -National Association of Realtors- HAI -Housing Affordability Index) for measuring the financial ability of a family to afford the median priced home:

Affordability index >0 family is able to afford the median priced home
 Affordability index >0 family is not able to afford the median priced home

The affordability index is based on the condition that the payment is sustainable if it doesn't exceed 30 per cent of the family's income:

$$\text{Affordability index} = 30\% - \text{Affordability index_base} \quad [1]$$

The Affordability index_base coincides with the instalment loan computed in function of many items:

$$\text{Affordability index_base} = \text{instalment} \cdot f [i, T, (P * \text{LTV}\%)] / R \quad [2]$$

instalment = instalment loan; i = rate of interest; T = loan term; P = house price; LTV% (Loan To Value) = percentage of housing price covering by loan; R = family's income.

T and LTV are conventionally fixed: T is 20 years and LTV is 80 per cent (this assumes a down payment of 20% of the house price). The rate of interest, the house market price and the family's income are considered variable.

The ABI's index is a macroeconomic index as regards the average house price and household conditions and dwellings usually related to the national territory level, regional or areal as well (although it could be related to the "cadastral microzones" level).

Figure 1 shows the affordability index value (OMI, 2013a) from 2007, when the Stock Exchange crashed because of the sub-prime mortgage crisis, to 2012. The nationale average index has always a positive value from 4% up to 6% (it grows during 2008 and 2010, in 2011 it lightly falls and maintains the same value in 2012). The index rise is due to European Union monetary policies that have progressively reduced the rate of interest from 2007, according to the American Federal Reserve decisions (Fig. 2) and to the decrease of the long-term fixed rate loan (Fig. 3). As to the ABI and OMI calculations, in 2012 (OMI, 2013a) only the 60 per cent of the Italian families is able to afford house market price.

The progress of the affordability index shows that the values are appreciably greater in southern Italy, almost coincident to the average in the north, while they're always negative in the centre (Fig. 1). The range of variation (from -2% up to +7%) underlines that the national average value is not representative of the local conditions. Therefore, it cannot be assumed as a significant element to direct and support the urban housing policies, because it has to be supplementary disaggregated by using data whose references to the socio-territorial areas are the most peculiar as possible.

When we analyse the outcome data, it is quite clear that the housing price level affects the index composition more than the income level. In the southern Italy the real estate market prices are lower than the average and that's why the affordability index value is the highest in spite of the south is a weak economic area and the southern family's income is far lower than the national average (-14,2% south, -19,7% islands) (Fig. 4 and 5).

Figure 1. Affordability index in Italy and in geographical areas (2017-2012). (Elaborated on ABI-OMI data).

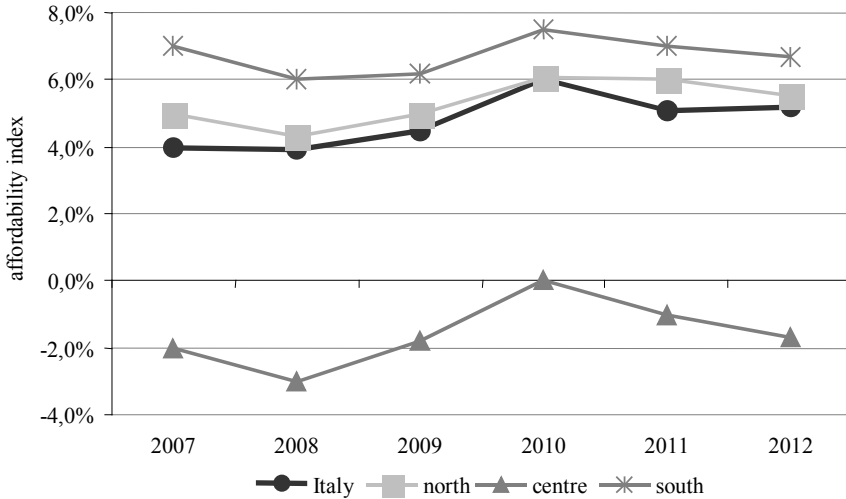
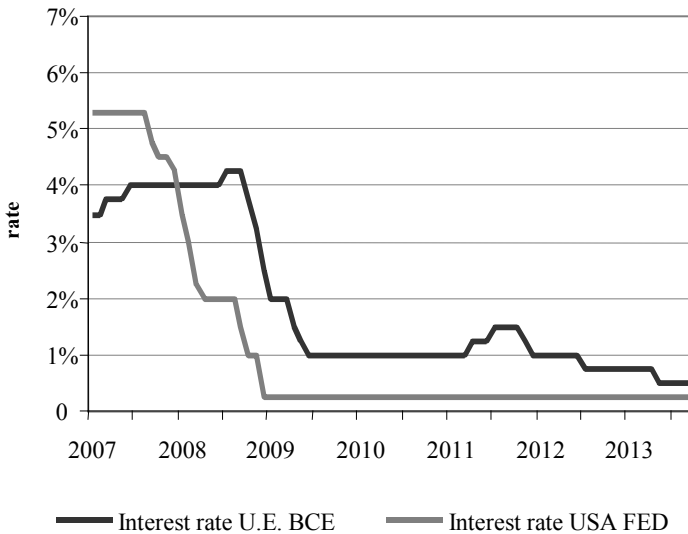


Figure 2. Rate of interest. European Central Bank (UE) and Federal Reserve (USA) (2007-2013).



The “Income-Threshold”, proposed in this study, shows an overturning of the concept of the affordability index and it is applied to the urban area data. The “Income-Threshold” can be defined as the least income level that allows a family to

Figure 3. Long-term fixed rate loan in Italy (term > 10 years). Source: OMI.

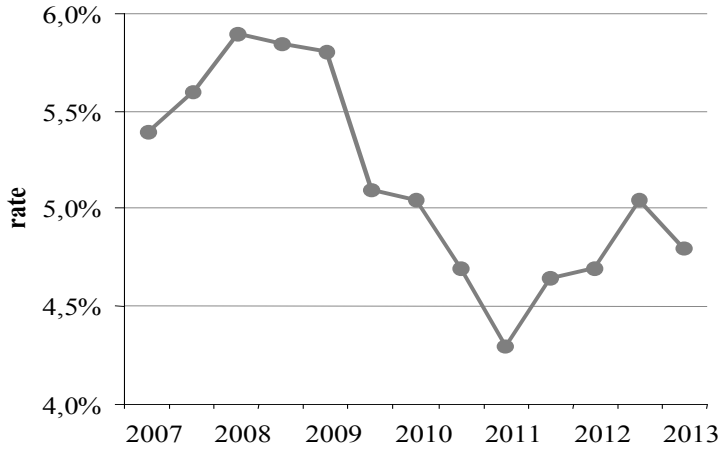
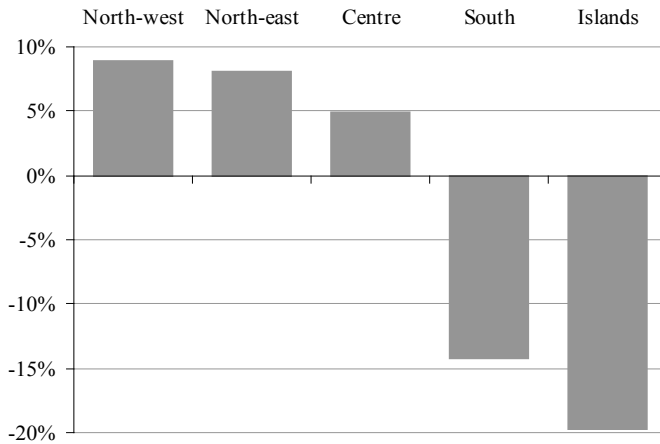


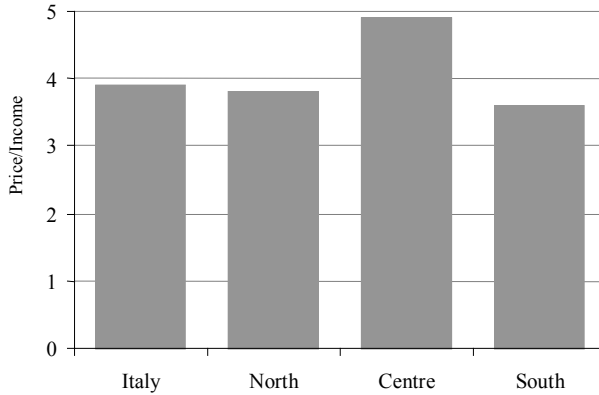
Figure 4. Family's income 2009. Difference per cent to national average income (Elaborated on ISTAT data).



access the residential location in specific urban neighbourhoods by purchasing or renting a house belonging to a specific real estate market segment. The “Income-Threshold” constitutes, therefore, a crucial element because it acts as a filter, selecting in entrance the potential buyers or tenants as well (Fig. 6):

$$IT_b = \text{instalment } f [i, T, (P * LTV\%)] / 30\%$$

Figure 5. Ratio housing market price/family's income (average values 2012). (Source: ABI, ISTAT and OMI).



$$IT_r = R/30\% \tag{4}$$

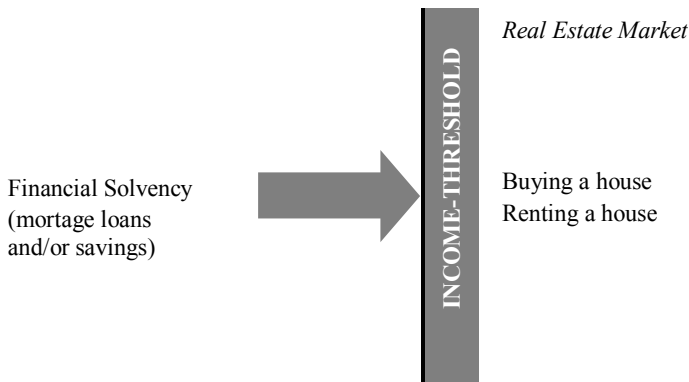
IT_b = Income-Threshold_buying; IT_r = Income-Threshold_renting; R = monthly rent.

The price and the rent in the formulas [3] and [4] are average values but they are calculated using data directly collected in various segments of the local real estate market (neighbourhoods or urban area).

By comparing the “Income-Threshold” and the family median income, the purpose is:

- to verify if the families have the opportunity to access to the housing market and what are the conditions to do that;

Figure 6. Income-Threshold and Real Estate Market Access.



- to know what is the financial gap that has to be compensated in order to achieve this access.

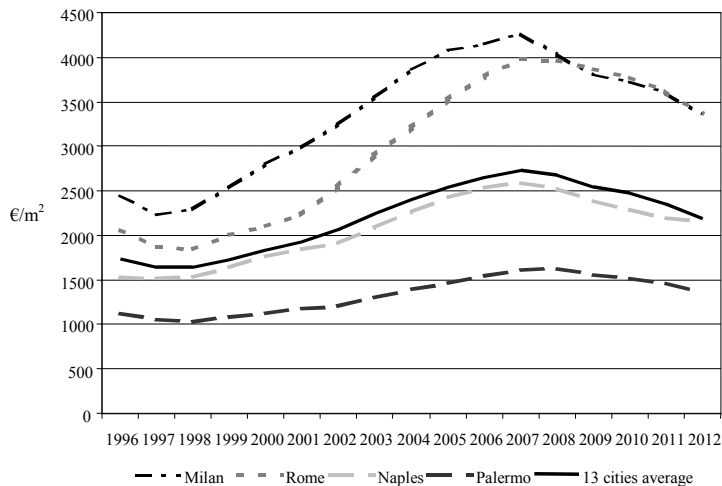
Real estate market Dynamics

The analysis of the real estate market dynamics is finalized to understand what are the interconnections among the housing market characteristics (demand, supply and market prices) and the housing location problems, in terms of “Income-Threshold”.

According to Rizzo (2002) the real estate market can be articulated in “Real Estate Basins”: the period 1997-2012 is characterized by a raising phase from 1997 (point of *compluvium*) to 2007 (point of *displuvium*) and by the current descending phase. The real estate plus-minus-evaluation process is predominantly caused by monetary nature of every form of capital (Rizzo, 1999), whose value varies due to the continuous liquidity transmutation that constitutes the capitalistic system inner energy producing the market progress at a global/national level (Rizzo, 2002).

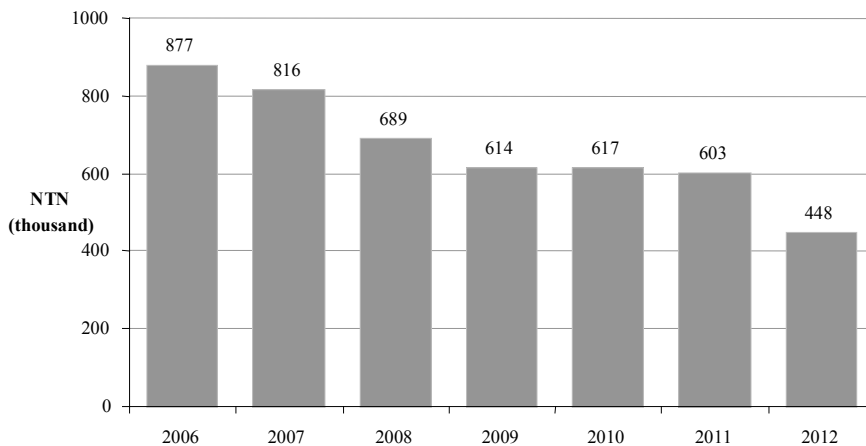
In the same “Real Estate Basin”, at urban level there is a real estate values differentiation that is the expression of the city behaviour as an auto-poietic system (Maturana and Varela, 1980) or as a dissipative structure (Prigogine and Stengers, 1981): every city elaborates in unique and creative way the macroeconomic, microeconomic, micro-territorial and macro-territorial factors, and models his own monetary and temporal shape (Napoli, 2007a) (Fig. 7).

Figure 7. Housing market in Palermo, Naples, Rome, Milan and 13 major city average value (fixed prices up to 2012) (Elaborated on Nomisma data).



The raising and descending phases are similar in the different cities but each datum diverges in a different way from the average value of the thirteen urban major cities (Bari, Bologna, Cagliari, Catania, Florence, Genoa, Milan, Naples, Padua, Palermo, Rome, Turin and Venice) both in terms of absolute value and annual average value. Concerning with the process of the Nomisma collected data during the decade 1997-2007, the annual average of the thirteen city (calculated on fixed prices 2012) is +6,6%, but Rome reaches +11,2% and Palermo stops to +5,2%, while during the five years period 2007-2012 Milan budges -4,3% and Palermo -2,9%. The real estate market crisis can also be realized by the NTN -Normalized Transactions Number- that is halved from 2006 to 2012 (-51%) (OMI, 2013b) (Fig. 8).

Figure 8. NTN Normalized Transactions Number, Italian housing market 2006-2012 (Elaborated on OMI data).



The halving causes can be founded in the generalized worsening of the Italy's most important economic indicators e.g. GDP, unemployment rate, investments, etc., but especially in the household income reduction. Besides the Consumer Price Index and taxation increase, the long term economic crisis has:

- increased the unemployment rate and the workers on income support;
- scattered the half time job;
- corroded part of the family's savings;
- caused pessimistic expectations on the future working and income conditions.

Besides, families have a lower financial solvency because of they have been hit hard by the banks credit crunch. Despite the BCE's rate of interest is very low, the banks grant mortgage loans with great difficulty ask additional guarantees and finance a smaller percentage covering the real estate property value.

The prices and real estate demand decreasing directly involves the building industry and reduces the return on investment: the entrepreneurs more and more often appraise highly risky and not adequately profitable many projects both of new building and of restructuring (Napoli, 2007b). This state also produces consequences to public governance, because municipalities hardly involve the private capitals in urban renewal projects, above all if they are finalized to Social Housing.

However it is necessary to notice that because of the resistance (stickiness) to the decrease, sale and rent prices are not yet "lined up" with the actual family's incomes, causing at the same time unsold stock for the entrepreneurs (supply) and family unable to buy or rent a house (demand).

This leads to found the housing policy and the implementing actions on a precise analysis of the housing characteristics that are articulated and diversified in groups of families on the bases of:

- the financial solvency. Low or absent, stable or discontinuous, etc.;
- the specific housing demand. Distinction for household patterns, housing size, age, etc.;
- the willing to rent or to buy;
- the period. Temporary or long-term renting, immediate or postponed purchase, etc.

Housing Policy and Social Housing

The housing policy and the right of the person to have a house are themes concerning the welfare state and its role in managing public goods and services production. There is an actual, national and international, debate on the Welfare or neo-liberal State vision (de Leonardis, 2002; Giampino, 2012), and some European Countries have privatised many services or have introduced a private management of public services (as the New Public Management in Great Britain).

Planning theories have faced the housing issue, with different results in Europe (Geddes and Le Galés, 2001; Tosi, 1994), proposing city pattern and operational tools as to guarantee the housing right to citizens who are not able to afford market prices. The national debate leads to a Manifesto on the Social Housing promoted by INU -National Institute of Urbanism- with other stakeholders (CD-PI-sgr Deposits Loans Investments Bank, ANCE -Association of National Building Industries-, Banks, banking Foundations). The Manifesto is based on four interactive points: land-use planning and architectural-project; welfare and management; stakeholders' strategy; finance and taxation.

Since the second postwar period up to now, several laws, administrative systems and planning tools have been launched in Italy and they are differentiated in three principal phases (Pinzello, 2012). The most meaningful elements of the actual phase (beginning in 1998) are:

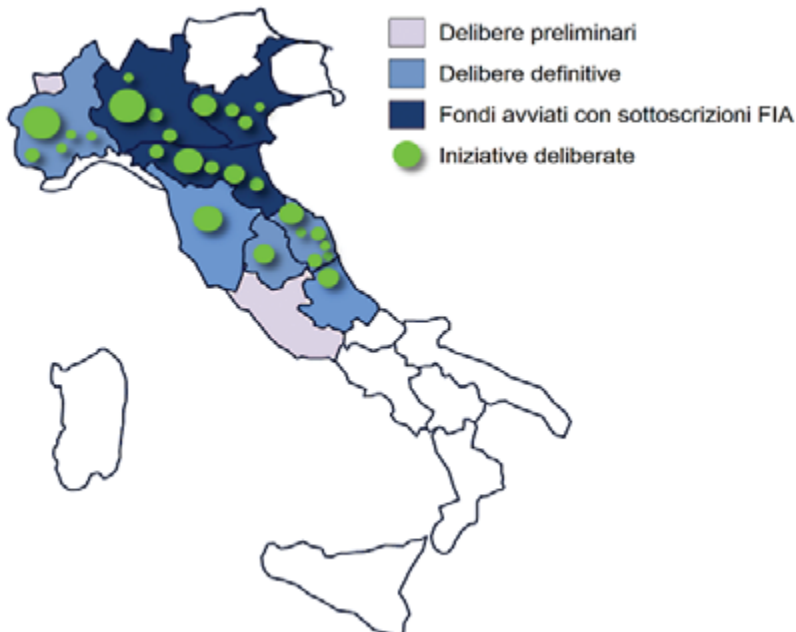
- the assignation of the competences on the ERP -Public Residential Building- to the regional Government (D.L. 112/1998);
- the recognition of the ERS -Social Residential Building- as a public interest service that is considered a planning basic rule [L. 244/2007, article 1(258-259)];

- the definition of social housing (DM 22/04/2008) that underlines its role to forward social cohesion and to reduce the uneasiness housing;
- the replacement of the expropriation with the free transfer of areas or buildings in case of social housing project;
- the changing from a model of satellite-district of ERP to a model of urban and social integration of ERS, located in the city. This model also provides the rehabilitation of the existing buildings both in suburbs and historical section of town;
- the stakeholders involvement in ERS projects that can also be "housing realized or renovated by public and private stakeholders, with public grants – e.g. tax reduction, assignation of areas or buildings, guaranty funds, etc. - for at least eight years of temporary location and also to the ownership" [(DM 22/04/2008, article 1(3)];
- the institution of the national Fund as to support the social housing access (L. 431/1998);
- the institution of the SIFI -Integrated System of Real Estate Funds- (Dpcm 16/07/2009) and of the FIA -Investments Fund for Living-, that is administered by CDPI-sgr together to other investors.

The FIA has already financed many ERS projects that currently are assembled in the northern and central Italy (Fig. 9), allocating 1.162 million euros up to June 2013 (57,3% of its resources) with definitive and preliminary deliberations.

To understand how laws can be turned in operational rules, 29 ERS projects have been analysed proving that there are several application forms:

Figure 9. FIA's grants in 2012 (Source: CDPI).



- the stakeholders can be public, private, social private or mixed private/public (Municipalities, banking Foundations, House Firms, cooperatives and building industry);
- the citizens (corresponding to the “grey area”), whom social housing is addressed to, have a low solvency;
- the real estate properties can be both on sale or long-term/short-term renting;
- there are many kind of rents. Social rent, rent with pact of postponed purchase after 8 or 10 years (Lombardy, Valley of Aosta, Friuli); or rent as instalment (Alessandria);
- the social model of co-housing is also proposed in small autonomous flats with common services areas (Bologna, Milan, Turin).

These projects have allowed the “grey area” to access to the housing because they have proposed sustainable forms of purchase and rent 30%-50% discounted in comparison with the market prices (a 80 mq house rent varies from 300€/month in Parma up to 600€/month in Milan) (Nomisma 2011).

The main problem in the ERS project execution consists in getting profitability, obtaining a cash-flow that also guarantees the return of the investment capitals and maintaining, at the same time, the rent and prices sustainability. It is obviously essential overcoming this difficulty in order to have low costs and acceptable profits.

Costs containment is often achieved by fiscal and financial tools (low taxes, facilitation in the loans, etc.) and public funds (co-financing) and/or real estate (areas or buildings) invested with private capitals. In order to reach the financial feasibility for the most number of projects, the 40% limit of the FIA's co-financing has recently been abolished and it can reach now 80% if projects introduce elevated social benefits (Dpcm 10/07/2012 published in the G.U. only in February 2013). Private financial investment has often profited from some donated public areas (Bologna, Milan, Ancona), but cooperatives (in Lombardy, Valle d'Aosta, Friuli) have also experimented the self-building or the self-renovated buildings (Bologna). Some projects, in particular, represented the opportunity of introducing constructive and technological innovations (e.g. prefabrication systems, industrialized systems of modular components, dry assemblage construction), flexibility in composition (both in horizontal and vertical), energetic efficiency, low environmental impact and low costs of construction (below 1.000€/mq), and of minimizing the management and transformation costs (Treviso, Florence, Milan).

In order to increase the profits, administrative tools are used (changing planning rules e.g. cubage increase, land use) mixing social housing, housing on sale and rent housing. A symbolic case is the project of the Village Expo 2015 in Milan (financed by the CDPI-sgr) that it foresees, after the exposure, to allocate buildings to rent with pact of postpone purchase (31%), long term rent (31%) and on sale (38%) (Nomisma 2013).

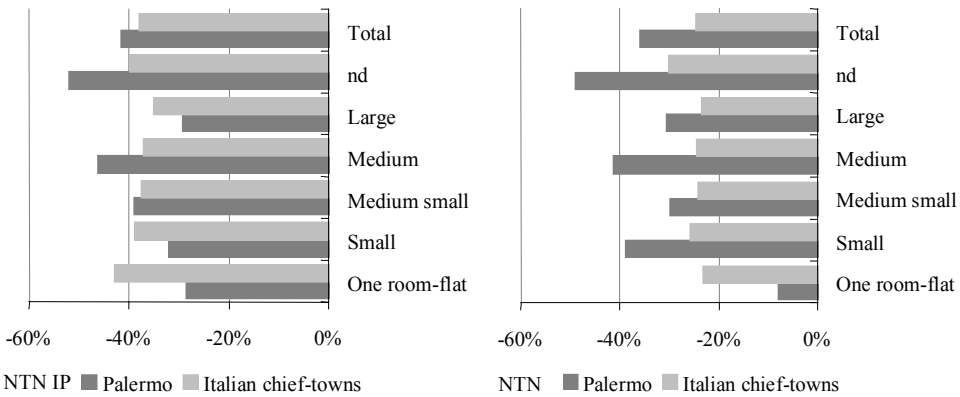
The Sustainability of the Residential Location in Palermo

In Palermo the housing uneasiness is common and concerns both the poor and “grey area”. In fact the last ERP public call (2003-2004) has satisfied only the

7% of the submission (692 houses assigned on 9858 submissions) (Pinzello, 2012), due to the sale of a part of Public Residential Housing that has not been compensated by the purchase or the construction of new housing. Besides, the Economic and Finance Department income data show that in 2010 a large quota of the citizens has a low income, in fact the 14,7% of the contributors in Palermo declares an income up to 10.000€/year and 47,3% up to 20.000€/year, with an monthly income equal respectively to 833€/month (band A) and 1.667€/month (band B).

Also the real estate urban market is in crisis as the transactions (NTN) are lower in Palermo than in the Italian chief-town (of province), above all the transactions with loan mortgage (NTN IP): disaggregating for house size, the variation 2011-2012 is equal to -46,3% for the medium houses and to -39,1% for the medium-small houses (Fig. 10). In the same period the monetary capital allocated in real estate loans is reduced of -45,9% while national average chief-town is equal to -42% (OMI, 2013b).

Figure 10. Percentage NTN and NTN IP 2011/12 for size houses in italian chief-town and in Palermo (Elaborated on OMI – Agenzia del Territorio data).



The medium and small houses collapse transactions, the increase of the bargaining ratio in 2012 equal to 17,1% (for used houses) and the long time for purchase (6,5 months) are all indicative elements of the middle class difficulties to access to the real estate market, despite of the median house prices are getting lower (-3% in 2011-2012).

“Grey area” citizens supporting to the housing market access is limited to grants of National Fund (L. 431/1998) that, however, cannot overcome 260€/month, (if family’s income <11.985,22€/year) or 194€/month (if family’s income <14.027,35€/year).

None ERS projects have already been realized in Palermo, but in 2012 the Sicilian Region Government set up the fund ASSI -Social Living in Sicily- to get grants from the FIA.

Therefore, the Municipality of Palermo could propose ERS projects and start the preliminary analyses, according to the “Manifesto on the Social Housing” points. In particular:

- the enquiry into the town to individualize the public or private properties, areas or buildings (e.g. National buildings, private disused or degraded buildings, unsold recently fabricated or not completed buildings) that could be involved in Social Housing projects, also hypothesizing land use changes or cubage increase;
- the social housing analysis, articulated in different type of potential housing demand and household financial constraints;
- the social housing supply, diversified in size, typological and technological characters of building, etc., but also in many sale and rent contractual forms corresponding to financial sustainability;
- preliminary projects studies hypothesizing diversified forms of share public-private (starting from cases already experimented).

With regard to family’s financial constraints, a study has been conducted in Palermo for appraising the “Income-Threshold” in reference to the residential location sustainability in “Palazzo Reale” (that is a Historical Center part) and “Oreto-Station” District.

These districts have been select as there are still areas and buildings to redevelop, private projects have almost come to a halt, there is a social *mixité*, there are filtering down processes in the “Oreto-Station” district, and both filtering up and filtering down in the “Palazzo Reale” (the Municipality wants to adopt a social policy of *mixité* maintenance for attenuating the gentrification phenomenons that occurred in the recent past especially in the historical center).

To apply the formulas [3] and [4] is necessary to appraisal the price P and the rent R and to know the rate of interest payed on loans. A market research has been made (Simonotti, 1997) structured in the following phases:

- the real estate market of the case-study districts are divided in the market segments V1, V2, V3, V4, L1, L2 and L3;
- the parameters of the market segments are defined (they are different for location, typology of the transaction, state of maintaining and building typology) (Tabb. 1 and 2);
- direct collecting of real estate data belonging to each market segment (altogether 90 data);
- calculation of the minimum, maximum and middle prices both of sale and rent for a house of 80 m²;
- reporting of the rate of interest on mortgage loans (fixed rate loan and for 20 year-term), that is equal to 5,15% in October 2013;
- appraising the “Income-Threshold” in correspondence of the minimum, medium and maximum prices for each market segments (Tabb. 3 and 4). In the formula [3] P is equal to the supply values directly collected and reduced of 10,6%, that is the bargaining ratio for the new or renewed houses (segment V1, and of 17,1% for the used houses (segments V2, V3 and V4) as pointed out by the Nomisma’s studies for Palermo.

In this way it can be established what are:

Table 1. Parameters of market segments V1, V2, V3 and V4. Housing on sale, 2013.

| | | Market Segments - Housing on Sale | | | |
|--------------------------|---|---|-------------|---|---|
| | | V1 | V2 | V3 | V4 |
| | | Renewed | Not Renewed | Not Renewed | Not Renewed |
| Urban Location | Palermo Central Area "Palazzo Reale" | | | Palermo Semicentral Area "Oreto-Stazione" | |
| Transaction Typology | Market Price (supply) | | | Market Price (supply) | |
| Building Typology | Historical Building Historical Palace | | | Apartment Building | |
| | Stone Wall Structure Built before the Second World War | | | Concrete Structure Built in the 1960s-1980s | Stone Wall Structure Built before the Second World War |
| | Years of Renovation: < 5 Years | > 5 Years | | Years of Renovation: -- | -- |
| Building Characteristics | State of Maintenance: Good- Excellent | Medium-Bad | | State of Maintenance: Good | Medium |
| | House Size: 40÷128 m ² | 40÷70 m ² | | House Size: 65÷144 m ² | 48÷120 m ² |
| | Elevator Not always | None | | Elevator One | None |
| Real Estate Typology | Housing Unit in Condominium Intermediate Floor (second÷fourth) | | | Housing Unit in Condominium Intermediate Floor (second÷fourth) | |
| Economic Characteristics | Not Rented | | | Not Rented | |
| Market Price (supply) | 1.200€/m ² (min) 2.400€/m ² (max) 1.850€/m ² (weighted average) | 900€/m ² (min) 1.650€/m ² (max) 1.200€/m ² (weighted average) | | 1.200€/m ² (min) 2.700€/m ² (max) 1.700€/m ² (weighted average) | 1.200€/m ² (min) 1.900€/m ² (max) 1.500€/m ² (weighted average) |

- the financial barriers in entrance to the sale and rent market;
- the affordability housing for the "grey area";
- the gaps that should be filled, e.g. by getting Social Housing, to guarantee the right to the housing and to reduce the uneasiness housing.

Comparing each "Income-Threshold" and the band A and B incomes, the purchase of the housing is never sustainable for people belonging to the band A, while it is always possible for the band B, even if limitedly to the lower prices of the segments V1 and V3, or to the lower and average prices of the segments V2 and V4

Table 2. Parameters of market segments L1, L2 and L3. Housing for rent, 2013

| | | Market Segments - Housing for Rent | | |
|-----------------------------|---|--|---|-------------------|
| | | L1 Renewed | L2 Not Renewed | L3 Not renewed |
| Urban Location | Palermo Central Area "Palazzo Reale" | Palermo Semicentral Area "Oreto-Stazione" | | |
| Transaction Typology | Market Price (supply) | Market Price (supply) | | |
| Building Typology | Historical Building Historical Palace | Apartment Building | | |
| | Stone Wall Structure Built before the Second World War | Concrete Structure Built in the 1960s-1980s | Stone Wall Structure Built before the Second World War | |
| | Years of Renovation: < 5 Years | Years of Renovation: -- | -- | |
| Building Characteristics | State of Maintenance: Good- Excellent | State of Maintenance: Good | Medium | |
| | House Size: 62÷120 m ² | House Size: 80÷120 m ² | 50÷130 m ² | |
| | Elevator Not always | Elevator One | One | |
| Real Estate Typology | Housing Unit in Condominium Intermediate Floor (second+fourth) | Housing Unit in Condominium Intermediate Floor (second+fourth) | | |
| Economic Characteristics | Not Rented | Not Rented | | |
| Market Price (supply) | 62€/m ² /year (min) 120€/m ² /year (max) 89€/m ² /year (weighted average) | 51€/m ² /year (min) 82€/m ² /year (max) 70€/m ² /year (weighted average) | 50€/m ² /year (min) 86€/m ² /year (max) 67€/mq/year (weighted average) | |

(Fig. 11-14). It is important to underline, as previously told, that a family willing to purchase a house must have an income greater than the "Income-Threshold", and also has to have a money capital equal to the 20% of the price house and, in many cases, this constraint can be an invincible obstacle (Tabb. 3 and 4).

The rent data also show that the income level is a barrier in entrance forcing many families to move to a suburban location or to ruined houses (Fig. 15-17). In fact the gaps to access the houses purchase are very wide for the segment L1 hav-

Table 3. Income-Threshold and money capital. Purchase (house of 80 m²).

| Market price (Purchase) | Segment V1 | | Segment V2 | | Segment V3 | | Segment V4 | |
|----------------------------|-------------------------------|-----------------|-------------------------------|-----------------|-------------------------------|-----------------|-------------------------------|-----------------|
| | Income Threshold/ month | Cash (20% P) | Income Threshold/ month | Cash (20% P) | Income Threshold/ month | Cash (20% P) | Income Threshold/ month | Cash (20% P) |
| minimum | € 1.500 | € 17.000 | € 1.100 | € 12.000 | € 1.600 | € 17.000 | € 1.400 | € 15.000 |
| weighted average | € 2.400 | € 26.000 | € 1.600 | € 17.000 | € 2.200 | € 25.000 | € 1.700 | € 19.000 |
| maximum | € 3.100 | € 34.000 | € 1.900 | € 22.000 | € 3.150 | € 35.000 | € 2.200 | € 25.000 |

Table 4. Income-Threshold and money capital. Rent (house of 80 m²).

| Market price (Rent) | Segment L1 | Segment L2 | Segment L3 |
|------------------------|-------------------------------|-------------------------------|-------------------------------|
| | Income Threshold/ month | Income Threshold/ month | Income Threshold/ month |
| minimum | € 1.400 | € 1.100 | € 1.100 |
| weighted average | € 2.000 | € 1.600 | € 1.600 |
| maximum | € 2.700 | € 1.900 | € 1.800 |

ing the best qualitative characteristics such as renewed building in a central area ("Palazzo Reale" district).

The base-line study of the household sustainable rents and prices is fundamental to get an ERS projects. Besides, the gap quantification in comparison with the market values allows establishing the compensation that must be given from the public capitals share. The share could finance or transfer real estate properties, grant a functional mix (mix of land use) and/or social mix (social housing and market housing) to the stakeholders, but above all the share can be diversified for each segment market according to the project costs and the current real estate values of each district.

There are thereby different trade-off, e.g. between the public grant percentage (corresponding to private cost decrease) and the housing market percentage (translating in profit increase), for which different compromises can be found. These first results can flow in a preliminary study of the return of the investment from which a concerted action process with all the stakeholders could get started.

Conclusions

This study shows evidently that dealing with the housing complexity needs to promote the synergy among different competences. This is essential, above all, as to reduce the new housing uneasiness extended to the middle class that has turned into "grey area" citizens. It results, particularly, that the housing market prices are not lined up to the families' income for which the market house prices are unaffordable and this facet has been analysed and quantified in terms of "Income-Threshold". A partial solution to the family difficulties can be achieved by

Figure 11. Income-Threshold and families' income. Purchase - Segment V1.

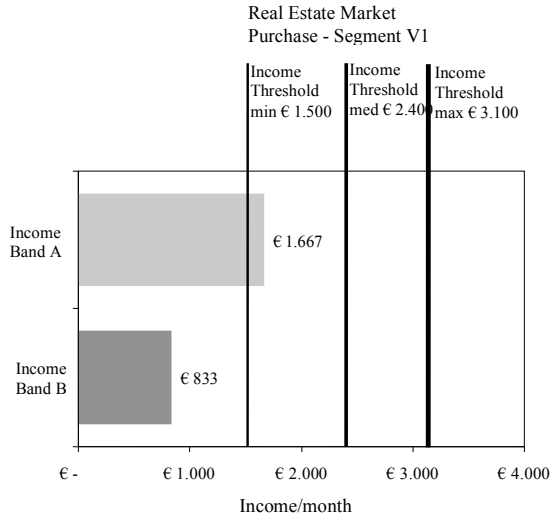
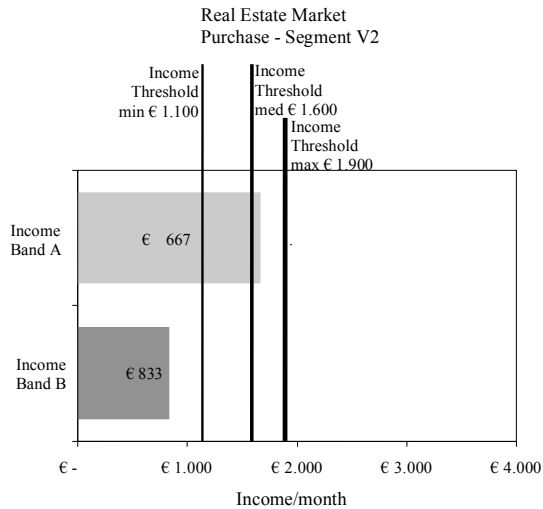


Figure 12. Income-Threshold and families' income. Purchase - Segment V2.



Social Housing projects. The understanding of the phenomenon needs to study the real estate market, the current laws, and the characteristics of several Social Housing projects already finished. The appraisal of the "Income-Threshold" has been applied to two districts in Palermo, allowing to individualize and to quantify

Figure 13. Income-Threshold and families' income. Purchase - Segment V3.

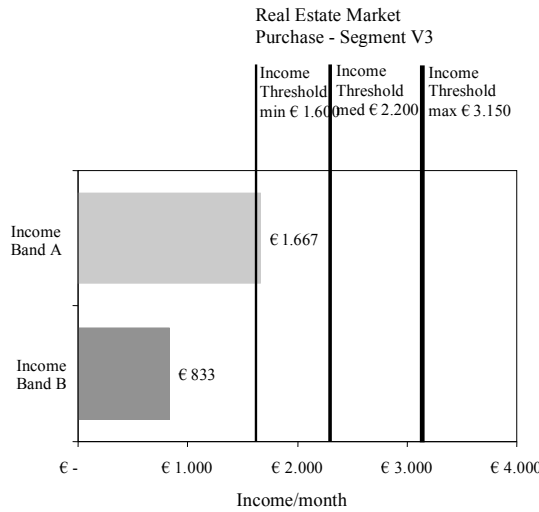
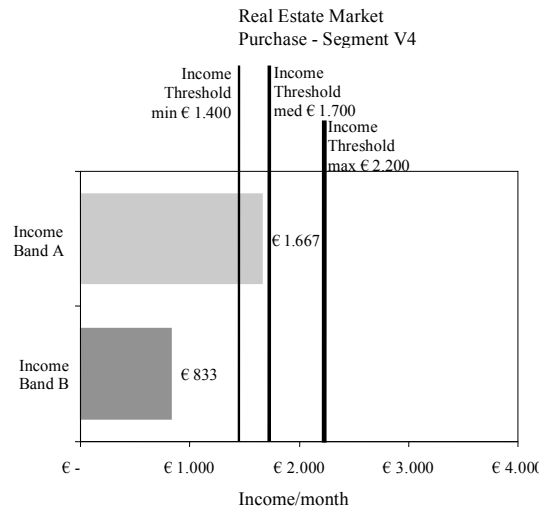


Figure 14. Income-Threshold and families' income. Purchase - Segment V4.



the gap between families' income and market prices, diversified for social groups and for market segments, accordingly to know the measure of the public grants to the Social Housing projects.

Figure 15. Income-Threshold and families' income. Rent - Segment L1.

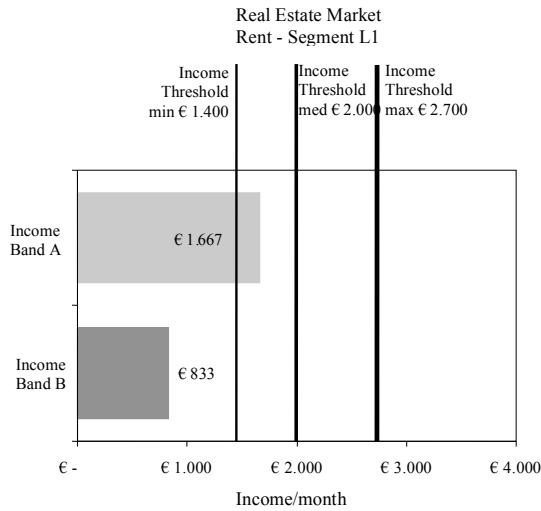
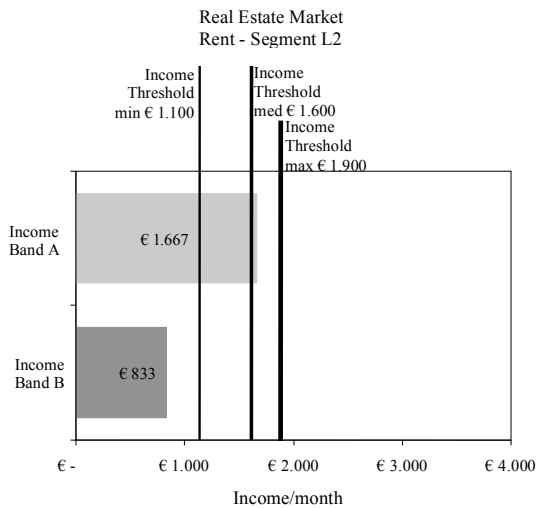


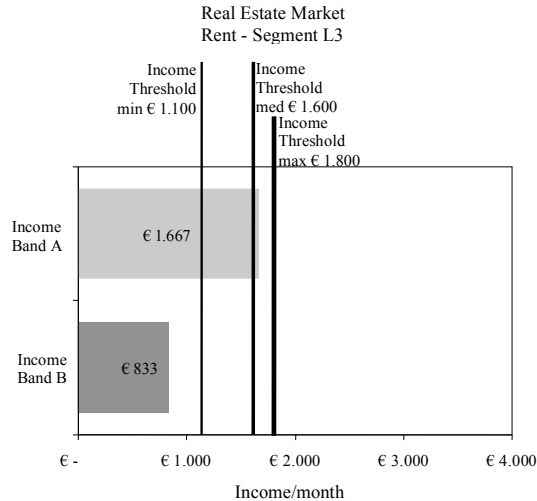
Figure 16. Income-Threshold and families' income. Rent - Segment L2.



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Figure 17. Income-Threshold and families' income. Rent - Segment L3.



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