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Abstract:
The objective of this research is to investigate the situation of the poor in Morocco through assessing the implicit charges of informal housing transactions in different cities. A model allowing the calculation of the implicit interest rate from the traditional-mortgage transactions is applied. Data about traditional-mortgage housing transactions, duration, and rental values are collected from a sample of households in different cities. The results reveal that these transactions are costly although they involve small amounts of money. On average, a rate higher than 6% but lower than 50 % is implicitly implied in traditional-mortgage transactions. The overall results confirm that poor households are implicitly charged higher interest rates in their housing transactions in comparison with the explicit rates charged by formal credit markets, including microfinance. This implies that administrative and economic policies are to be further developed to ensure that poor households can easily access formal credit markets.

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Introduction

Poor people satisfy their financial needs through other channels that could be informal. Despite some differences, many financial practices are shared by the poor around the world. These transactions take place in informal setting, and most of the time, they occur between a lender and a borrower. The borrower does not often have other options than accepting the terms set by the lender who is in need of housing and does not have other alternatives. As these transactions involve direct or indirect monetary exchange over time, the implicit costs of borrowing and lending are often revealed without reference to an explicit and known interest rate.

While these types of informal financial transactions exist all over the world, they are also common practices in the poorest neighborhoods and cities of Morocco. El Abdaimi (1990) suggests that, in the city of Marrakech, 4% of houses are occupied using traditional-mortgage contracts. Mansouri and Ziki (2005) provides a description of this transaction considered as a pseudo-mortgage where the owner of the mortgaged premise benefits in compensation from a small amount of money disbursed by "the renter" in addition to a smaller rent than the one prevailing on the market, over the period of the pseudo-mortgage.

This study focuses on the financial transactions related to traditional and informal housing operations in Morocco. The transaction involves small amounts of money borrowed by a house or room owner against access of the lender to residency for a given period of time. This social transaction is such that a person lends an amount of money to a house owner in exchange for occupying that place during an agreed upon period of time. In addition, the renter pays a monthly rent that is low in comparison to the market value. At the end of the contract period, the borrowed amount is paid back to the lender in total. The renter does not have the right to live in the house anymore after closing this contract. The implied interest in this transaction resides in occupying the house without paying the real market value of rent against a monetary sum that is recuperated by the end of the period.

The motivations behind the practice of traditional mortgage are multiple. This transaction is said to be a principal financing source for micro-entrepreneurs in housing sector (Mansouri and Ziki,

2005). Also, another driver is the fact that many houses are in irregular administrative situation, most often, because of inheritance issues as El Abdaimi (1990) claims.

The objective of the current research is to assess the implicit interest rates involved in traditional and informal transactions taking place in a poor housing context. The persons involved in such transactions may wrongfully think that interest rate is not considered because it is not explicitly disclosed. But, there is an implicit interest rate in those operations as they involve time and money lending throughout time periods. Moreover, those informal transactions are not specific to a given country and locations but practiced around the world. In such contexts, it is believed that the poor is charged higher rates relative to those set by formal markets and in comparison to the non-poor. This study focuses on informal housing transactions in some cities of Morocco that represent a kind of "mortgage" process related to access to traditional housing.
The current paper is composed of four sections. While the first one is a literature review, the second addresses the theoretical model to be used for the assessment of the implicit interest rate. The third and fourth sections are respectively devoted to data, the empirical applications, and results with discussion.

I. Literature Review

Besides the high costs of access to most goods and services, the poorest segments of the population face high implicit charges while looking at financial transactions. Most of them are conducted outside the formal financial and banking institutions and are therefore informal.

Poor households and individuals also face higher costs when willing to contract loans. Because of higher expected risks, lenders may demand collateral and guaranties or charge high interest rates. The availability of financial institutions and individual lenders willing to conduct credit with poor households and individuals is another factor that leads to high costs of credit. Because the majority of lenders are located in major cities, the poor has to move to the bank. This creates some other expenses. Credit file expenses also add up to increase the costs associated with credit granting. In addition, the risk of insolvability of borrowers is seen as a risk that may aggravate their poverty level.

Poor households and individuals are exposed to high income risk. This risk is originated from frequent climatic and economic policy shocks that increase the vulnerability of households to severe hardships. Examples of these shocks include but not limited to poor harvest due to drought and floods and unexpected additional expenses encountered because of variations in economic policies imposed by the country. But as pointed out in many studies held in this framework, the nature and types of shocks vary in time and intensity depending on the efforts of developing countries to deal with such issues. It is this variation that determines the level of impact and the policies developed by poor individuals to overcome these shocks (Dercon, 2002).

Dercon (2002) also pointed out that there are two types of income risks faced by poor individuals and households. Given their aggregate nature, common risks impact all the individuals in a given community or region. Idiosyncratic or individual risks affect a particular member of the society.

In reality, not many research dealt exactly with interest rate of financial transactions in the context of poverty. Mendoza (2011) introduces the concept of poverty penalty as "the relatively higher cost shouldered by the poor, when compared to the non-poor, in their participation in certain markets".

Banerjee et al., (2010) reveal that micro credits have positive impact on residents of poor Indian district and that many new businesses are launched based on micro credits.
Lawrence (1991) studies the interpersonal preferences of poor and rich households and argues that, in a given age group, rich households are more patient than the non-poor as he finds that there is a negative correlation between household income and time preference.
Bart (2008) stresses the noticeable growth in financial services and examines their effects on customers involved in pay-day loans.
Duflo and Banerjee (2010) analyze market development in relation to micro-credits. The main finding is that the disadvantaged people are willing to apply for micro-credits even though they are charged excessive interest rates.
Bhattacharjee (2010) is primarily concerned by determining the causes why interest rates, charged by moneylenders, are higher in the less developed areas in comparisons to more developed ones. The author finds that 50% of surveyed borrowers are using informal lending agencies, in which they assume usurious interest rates of more than 30%. However, these high interests vary with areas. They get lower when the geographic area is more developed.

Meenakchi (2009) tries to examine the extent of indebtedness of households in West Bengal with emphasis on credit accessibility and factors leading to interest rates variation, especially in the informal sector. This has revealed that the poor in urban areas face greater problems to get loans either from formal or informal sources.

Regarding the Moroccan context, Alaoui Moustain (2002) wrote a paper to explore the relationship between microfinance, in Moroccan poverty context, and the sustainable social and economic development. One of the main findings of the study is that micro credits intended for creating self-owned microenterprises lead to an increase in the income of the poor. Furthermore, this study reveals that microfinance institutions' claim of charging constant interest rates is not thoroughly correct. As a proposed solution to the issue of charging different rates to different clients, the paper came up with the solution of using the initial income of the borrower and the ROI (return on investment) of the financed project to determine the interest rate to be charged. The author claimed that charging higher rates for people with high initial income and who hold high ROI projects would increase funds availability to provide additional loans to the needy.

Regarding interest rate in housing transactions, the research by Mansouri and Ziki (2005) is important as the topic is not fully explored, especially in the context of Morocco.

II. Theoretical model

The objective is to assess the implicit interest rates that prevail in transactions involving an initial amount of money or equivalent (M) against direct payments or benefits made at times 0, 1, 2,…..n. These can be understood as days, weeks or months. But, in some traditional transactions in real estate, people with limited resources can own M but need to be housed at a monthly rent (r) with a market rent R. The house owner takes M and receives (r) against renting at R over n periods. Under these circumstances, all happens as if the house owner borrows the amount (M) against providing (R-r) to the lender each time during the n periods. It is assumed that the market interest rate that is prevailing in the area and in similar transactions is (m) for each period under consideration. The implicit interest rate (i) related to this transaction can be derived as the present value of the stream of payments over M.

The present value (PV) related to the stream of payments under the above assumption is given by:

$$PV = (R-r)(1-q^{n+1})(1-q)$$
$$q = (1+m)^{-1}$$
$$PV = (R-r)(1+(1/m)-(1/m)(1+m)^{-n}$$
$$i = PV/M$$
$$i = ((R-r)/M)(1+(1/m))-(1/m)(1+m)^{-n}$$

As R>r, the following results hold:

$$\partial i/\partial m < 0$$
$$\partial i/\partial n > 0$$

Besides that, larger values of n lead to:

$$\lim_{n\to\infty} i = i^* = ((R-r)/M)(1+(1/m))$$

It is clear from the above relationships that "i" is a function of m and it is sometimes useful to compare i to m through looking at the sign of the expression:

$$(i-m) = -m+(1+(1/m))-(1/m)(1+m)^{-n}$$

This requires the finding of the zero of the above equation as the function i(m) is a strictly decreasing function of m. This is similar at looking at the intersection of i(m) curve and the 45 degree line in an (i, m) graph.

There is definitely a single value m* above which the implicit interest rate is below the on-going market interest rate and below which the implicit interest rate is higher.

These values indicate that in the interval]0, 1], there is no intersection between the curves of i and this happens at values of m higher than m*. This says that the prevailing implicit interest rates are higher than the ones provided by the market.

III. Empirical methods & data

This part is devoted to reveal the methods that were used to gather data necessary for this research about traditional mortgage, micro-lending, and the determinants that push the poor to accept high rates in informal transactions.

Firstly, the choice of several cities in Morocco as a research area regarding the traditional-mortgage transaction is justified by the requirement of investigating the situation in many locations. A report of the World Bank about the geographic distribution of poverty in Morocco (2004) indicates that the selected places exhibit higher poverty rates 24 to 37 percent in some locations. The selected regions are Ifrane, Azrou, Salé, Marrakech and Meknes.

Besides that, lack of financial resources for most of the population creates the belief that the traditional-mortgage would be a very efficient way to ensure housing with reasonable cost while making locked saving. The expansion of the traditional-mortgage phenomena is also explained by other factors such as the growing rural exodus, hence, an increasing demand for housing. Also, lack of identification papers for an important portion of the population added to the irregular situation of many properties make it hard for people to conduct the common transactions of buying or renting houses in this region.

Collecting data concerning traditional-mortgage transaction was not an easy task at all. When asked, it has been noticed that people tend to avoid talking about that topic as they are afraid from being implied in problems, especially that this transaction has no legal status at all. After many efforts of explaining that this investigation has absolutely nothing to do with any state related parties, but it is purely intended to academic research, we were able to collect data about 191 observations from four different cities (Ifrane-Azrou, Salé, Marrakech, and Meknes). In front of difficulty of collecting data, the investigator contacted some housing brokers; some of them provided no information while others provided up to four examples of traditional-mortgage transaction in which they were the intermediaries.

The questions that were asked concern mainly whether or not the respondent occupies a house using the traditional-mortgage. If the answer is yes, then further questions about the amount loaned in the transaction (M), the amount of monthly rent (r), and an estimation of the market rental value of the property (R). Regarding data about monthly discount rate (m), it is from secondary sources, mainly from the website of the Moroccan central bank.

The table in the appendix shows the collected data about M, r, and R from observations collected from the four Moroccan cities as well as the calculated interest rates calculated using the

constructed model. Collected data have been arranged in a chronological manner depending on the date in which traditional mortgage contracts took place.

IV. Empirical analysis & results:

Within the 0 and 1 interval, the possible monthly discount rate (m) values are assessed as intersection point between i(m), for a given period (n) and a given (k), and the 45 degrees where i(m)=m where the market rate (m) equals the implicit rate i(m). This intersection is given by m* as given below under different values of K.

K values	m*
0.02	13%
0.03	17%
0.04	21%
0.05	24%
0.06	27%
0.07	29%
0.08	32%
0.09	35%
0.1	37%
0.11	40%

The m* value is critical in a sense that it is the only value where the monthly discount rate is equal to implicit rate of the traditional mortgage transaction. Since $k = \frac{(R-r)}{M}$ is a positive number, higher values of k lead to an upward movement of the graph of i(m) to the right which results in higher implicit rates from the transaction and also a higher m*.

More importantly, if the monthly market rate happens to be greater than m*, the renter does not benefit from a traditional mortgage as i then becomes lower than market rate m. whereas, when m is below m*, the traditional mortgage transaction is said to be beneficial for the renter as i>>m.

As has been noted earlier, the Moroccan banking system finances a full range of sectors. Housing is one sector heavily served by Moroccan banks because it requires huge money either to invest in or acquire a title. One important point is about the fact that Moroccan banks charge two different types of housing credit; the rate applied could be either fixed or variable depending on clients' choice. Variable rate follows fluctuations of referential indices and could either decrease leading to low cost of debt, or the contrary. In 2011, when a Moroccan bank allocates a housing loan for particulars, fixed rate loans approximate rates of 6.5%, while variable rates begin at around 5.5%, excluding taxes and fees. The fixed rate is going to be used for comparison aim. In real life practice, the client is not only charged the market rate. Other fees such as transaction fees and required life insurance amount to approximately 1% of amount of loan on the burden of the client.

Housing rates in Morocco have significantly decreased throughout the last decade. Different sources point out that 15% to 20% rates prevailed before the 1990s. Contemporary data about the rates charged by banks in housing sector are available from the website of the Moroccan central bank. The general trend in housing sector is that rates charged have become more affordable. The mean value of housing rate is 6% with a very low variation. Hence, estimated implicit rates from traditional mortgage transaction are going to be compared to 6% to determine if they are more costly.

When applying the developed model on the collected data, implicit rates from traditional mortgage transaction are determined. The average implicit rate from the sample of 191 observations from the four cities is 30% over the contract period. Further, the average monthly implicit rate from traditional mortgage transaction is 1%/month. Also, the calculation of implicit rate from traditional-mortgage transaction where variables M, r, R, and n are the average values from the data sample.

M	r	R	n	K	i(m)	i(m) per month
99571	299	1235	36	0.0094	31%	1%

The rate of 31% is the total rate implicitly gained by the renter over the whole period of traditional-mortgage transaction. The monthly rate for these average values is 1% monthly which

is a high rate than 0.5% (6% annually) that is charged by formal banks. Only 5% of implicit rates calculated for the observations were equal or slightly lower than bank rate of 0.5% monthly.

From field work, it has been noticed that real estate owners who use traditional-mortgage transaction are generally micro-entrepreneurs with portfolios of no more than 2 to 3 low standing houses. The raised funds are used by those micro-entrepreneurs to financing building a new house. Mansouri and Ziki (2005) also revealed that 60% of Marrakech house owners involved in traditional-mortgage use borrowed money to finance investment activities in housing sector. The empirical results reveal that the traditional-mortgage instrument is wrongfully thought of to be a cheap financing instrument. This is because the renter (the one lending money) explicitly charges higher rates than those that would be charged by formal financial sources.

The obtained implicit rates for every city need to be compared. A t -test for comparison is implemented. It appears that there is no statistically significant difference between means of the implicit rates from the four different cities. All the t-statistics reported are very low. The following table summarizes these findings.

Reported t-test for comparing means between cities

	Azrou & Ifrane	Marrakech	Salé	Meknes
Azrou & Ifrane	------	0.22743	0.0916	0.42061
Marrakech		------	0.05857	0.22278
Salé			------	0.2749
Meknes				------

V. Discussion

The transaction that has been explored by this study is the traditional-mortgage. Exclusively related to housing sector and practiced mainly by the poor, this highly used way of providing financing is very costly for the borrower. This transaction involves explicit lending of money, and a cost related to that as a result. However, this interest is explicitly received. The renter, who lends the money, receives interest on the form of a low paid rent in comparison to market rental value. Real estate owner, who is the borrower, uses the raised funds to finance other investments, in housing sector most of the time as the literature indicates. The cost of money for the real estate owner has been shown in this study to be greater than other sources of financing, namely, commercial banks loans. As has been empirically displayed, monthly rates charged in traditional-mortgage transaction reach 30% on average over the contract period. This is especially true when amount lent (M) and paid rent (r) are low while the market rental value (R) is high. Moreover, these findings can be generalized to the whole country (Morocco). This is because comparison of sample means from the four different cities showed that they are not statistically different from each other at a confidence level of 95%.

These results show that the common belief, among practitioners, that traditional-mortgage is a cheap way of borrowing money, is actually wrong. This belief is nothing but a social illusion. On an average traditional-mortgage transaction, the amount of money borrowed is not very significant.

Relating to rates charged by conventional banks, these are said to be the lowest. However, poor people don't have access to them most of the time. Even though these rates fluctuate, they don't reach unreasonable levels. Generally, they don't exceed much 6% annual interest. In 1995, the charged rate by banks was around 15% with a decreasing trend; in 2007, this rate does not exceed 6%.

More importantly, comparison of borrowing cost for the poor around the world shows those latter bear excessive costs. It is hard to come up with a global average of interest rates charged in traditional mortgage instrument. This is because not many research explored the topic despite its omnipresence around the world. Our study revealed that real estate owners bear rates approaching 40% when raising money through traditional-mortgage.

Conclusion:

The main finding in this study is that borrowing money through traditional-mortgage is highly costly. The charged rates in this financial instrument are of 40% on average for amounts of money that are relatively low.

The concepts and results of this study will serve to have a better understanding of informal market that is exclusively frequented by the poor. Moreover, this study is said to be an introductory phase for exploring further financing instruments occurring in poverty context.

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Appendix: Data

	M	r	R	n	K	i(m)	i(m)/month
	100000	500	1300	48	0.008	33.6%	0.7%
Azrou & Ifrane	50000	200	1300	24	0.022	50.8%	2.1%
	140000	400	1300	60	0.0064286	32.3%	0.5%
	70000	150	1200	24	0.015	34.7%	1.4%
	50000	150	1000	36	0.017	55.9%	1.6%
	60000	200	1100	36	0.015	49.4%	1.4%
	30000	150	800	24	0.0216667	50.1%	2.1%
	40000	200	900	36	0.0175	57.6%	1.6%
	30000	150	700	24	0.0183333	42.4%	1.8%
	100000	400	1000	36	0.006	19.7%	0.5%
	40000	200	750	24	0.01375	31.8%	1.3%
	60000	0	1200	36	0.02	65.8%	1.8%
	20000	100	600	12	0.025	31.2%	2.6%
	40000	250	1000	36	0.01875	61.7%	1.7%
	30000	150	700	12	0.0183333	22.9%	1.9%
	70000	300	1500	24	0.0171429	39.6%	1.7%
	20000	100	600	12	0.025	31.2%	2.6%
	50000	250	1300	24	0.021	48.5%	2.0%
	30000	200	750	24	0.0183333	42.4%	1.8%
	60000	400	1200	24	0.0133333	30.8%	1.3%
	30000	200	700	12	0.0166667	20.8%	1.7%
	40000	800	1500	12	0.0175	21.9%	1.8%
	70000	500	2000	24	0.0214286	49.5%	2.1%

80000	400	1500	12	0.01375	17.2%	1.4%
110000	500	2000	36	0.0136364	44.9%	1.2%
30000	200	800	24	0.02	46.2%	1.9%
40000	500	1400	24	0.0225	52.0%	2.2%
50000	500	1500	12	0.02	25.0%	2.1%
160000	250	1500	24	0.0078125	18.1%	0.8%
30000	0	500	12	0.0166667	20.8%	1.7%
10000	350	1200	24	0.085	196.4%	8.2%
50000	200	900	24	0.014	32.4%	1.3%
30000	0	600	24	0.02	46.2%	1.9%
70000	300	1000	12	0.01	12.5%	1.0%
60000	300	900	24	0.01	23.1%	1.0%
100000	500	1200	36	0.007	23.0%	0.6%
80000	300	800	24	0.00625	14.4%	0.6%
60000	300	1300	12	0.0166667	20.8%	1.7%
20000	100	550	12	0.0225	28.1%	2.3%
90000	300	800	24	0.0055556	12.8%	0.5%
50000	300	700	36	0.008	26.3%	0.7%
70000	400	1100	12	0.01	12.5%	1.0%
150000	0	750	60	0.005	25.2%	0.4%
60000	50	300	48	0.0041667	17.5%	0.4%
100000	0	500	48	0.005	21.0%	0.4%
20000	0	150	24	0.0075	17.3%	0.7%
80000	0	375	48	0.0046875	19.7%	0.4%
160000	0	600	60	0.00375	18.9%	0.3%
10000	0	50	12	0.005	6.2%	0.5%
40000	0	200	12	0.005	6.2%	0.5%
70000	0	200	24	0.0028571	6.6%	0.3%
70000	0	200	24	0.0028571	6.6%	0.3%
30000	0	150	36	0.005	16.5%	0.5%
50000	0	250	24	0.005	11.6%	0.5%
40000	0	300	24	0.0075	17.3%	0.7%
150000	0	650	36	0.0043333	14.3%	0.4%
50000	0	400	12	0.008	10.0%	0.8%
90000	0	250	60	0.0027778	14.0%	0.2%
30000	200	800	12	0.02	25.0%	2.1%
25000	*150*	*150*	24	0	0.0%	0.0%
60000	60	500	60	0.0073333	36.9%	0.6%
60000	250	500	48	0.0041667	17.5%	0.4%
50000	150	500	48	0.007	29.4%	0.6%
50000	150	500	24	0.007	16.2%	0.7%
20000	50	200	12	0.0075	9.4%	0.8%
70000	250	500	24	0.0035714	8.3%	0.3%

	40000	300	900	24	0.015	34.7%	1.4%
	10000	150	750	24	0.06	138.7%	5.8%
	20000	100	1000	12	0.045	56.2%	4.7%
	40000	100	350	24	0.00625	14.4%	0.6%
	70000	150	400	24	0.0035714	8.3%	0.3%
	25000	0	150	24	0.006	13.9%	0.6%
	20000	100	1000	18	0.045	80.6%	4.5%
	60000	300	300	60	0	0.0%	0.0%
	20000	0	125	24	0.00625	14.4%	0.6%
	70000	0	400	24	0.0057143	13.2%	0.6%
	70000	0	350	60	0.005	25.2%	0.4%
	15000	*30*	*600*	12	0.038	47.5%	4.0%
	40000	250	700	24	0.01125	26.0%	1.1%
	60000	0	600	24	0.01	23.1%	1.0%
	30000	0	500	24	0.0166667	38.5%	1.6%
	70000	100	500	24	0.0057143	13.2%	0.6%
	60000	250	1000	36	0.0125	41.1%	1.1%
	70000	0	500	60	0.0071429	35.9%	0.6%
	40000	0	600	24	0.015	34.7%	1.4%
	30000	0	300	24	0.01	23.1%	1.0%
	120000	0	500	24	0.0041667	9.6%	0.4%
	20000	50	500	24	0.0225	52.0%	2.2%
	40000	0	850	48	0.02125	89.2%	1.9%
	35000	100	700	36	0.0171429	56.4%	1.6%
	20000	0	400	12	0.02	25.0%	2.1%
	20000	0	600	24	0.03	69.3%	2.9%
	30000	0	300	36	0.01	32.9%	0.9%
	50000	0	900	60	0.018	90.6%	1.5%
	30000	0	750	60	0.025	125.8%	2.1%
	20000	300	1000	24	0.035	80.9%	3.4%
	25000	100	700	24	0.024	55.5%	2.3%
	15000	0	400	36	0.0266667	87.8%	2.4%
	40000	0	450	24	0.01125	26.0%	1.1%
	25000	0	400	24	0.016	37.0%	1.5%
	80000	0	800	60	0.01	50.3%	0.8%
	10000	100	300	12	0.02	25.0%	2.1%
Meknes	100000	350	1300	24	0.0095	22.0%	0.9%
	50000	250	750	24	0.01	23.1%	1.0%
	120000	600	2000	24	0.011667	27.0%	1.1%
	55000	300	1400	12	0.02	25.0%	2.1%
	40000	400	1000	36	0.015	49.4%	1.4%
	7000	50	200	6	0.021429	14.7%	2.5%
	70000	500	1500	24	0.014286	33.0%	1.4%

	90000	700	1500	24	0.008889	20.5%	0.9%
	250000	1000	4000	36	0.012	39.5%	1.1%
	110000	300	900	24	0.005455	12.6%	0.5%
	250000	500	2500	24	0.008	18.5%	0.8%
	10000	200	600	12	0.04	50.0%	4.2%
	40000	300	1100	24	0.02	46.2%	1.9%
	80000	500	1400	24	0.01125	26.0%	1.1%
	100000	400	1700	24	0.013	30.0%	1.3%
	200000	700	2000	24	0.0065	15.0%	0.6%
	50000	200	800	36	0.012	39.5%	1.1%
	180000	800	3000	36	0.012222	40.2%	1.1%
	15000	150	500	24	0.023333	53.9%	2.2%
	120000	0	2100	24	0.0175	40.4%	1.7%
	90000	200	1800	24	0.017778	41.1%	1.7%
	60000	600	1200	24	0.01	23.1%	1.0%
	68000	300	1000	36	0.010294	33.9%	0.9%
	800000	2000	6000	36	0.005	16.5%	0.5%
	100000	300	1300	24	0.01	23.1%	1.0%
	80000	500	1700	24	0.015	34.7%	1.4%
	10000	600	1500	24	0.09	208.0%	8.7%
	130000	500	2000	36	0.011538	38.0%	1.1%
	85000	400	1500	12	0.012941	16.2%	1.3%
	300000	1000	4000	36	0.01	32.9%	0.9%
	150000	800	2000	24	0.008	18.5%	0.8%
	70000	200	900	12	0.01	12.5%	1.0%
	180000	0	1700	24	0.009444	21.8%	0.9%
	30000	300	750	24	0.015	34.7%	1.4%
Marrakech	60000	400	1200	36	0.013333	43.9%	1.2%
	300000	2000	7000	36	0.016667	54.8%	1.5%
	40000	800	1500	12	0.0175	21.9%	1.8%
	70000	500	1000	24	0.007143	16.5%	0.7%
	20000	250	700	36	0.0225	74.0%	2.1%
	550000	900	2500	24	0.002909	6.7%	0.3%
	30000	200	700	12	0.016667	20.8%	1.7%
	150000	500	1600	24	0.007333	16.9%	0.7%
	100000	250	1200	36	0.0095	31.3%	0.9%
	3000000	3000	25000	36	0.007333	24.1%	0.7%
	120000	500	1500	24	0.008333	19.3%	0.8%
	100000	300	1000	24	0.007	16.2%	0.7%
	160000	700	2000	24	0.008125	18.8%	0.8%
	20000	100	400	12	0.015	18.7%	1.6%
	60000	0	700	24	0.011667	27.0%	1.1%
	110000	350	900	24	0.005	11.6%	0.5%

	150000	600	1300	12	0.004667	5.8%	0.5%
	20000	400	1500	36	0.055	181.0%	5.0%
	15000	0	400	12	0.026667	33.3%	2.8%
	120000	400	2000	24	0.013333	30.8%	1.3%
	100000	200	1300	24	0.011	25.4%	1.1%
	65000	0	700	12	0.010769	13.5%	1.1%
	130000	600	1700	12	0.008462	10.6%	0.9%
	140000	400	1500	36	0.007857	25.9%	0.7%
	100000	500	2000	24	0.015	34.7%	1.4%
	78000	350	900	24	0.007051	16.3%	0.7%
Salé	100000	400	1300	12	0.009	11.2%	0.9%
	400000	1000	3700	36	0.00675	22.2%	0.6%
	100000	300	1500	24	0.012	27.7%	1.2%
	200000	600	2000	36	0.007	23.0%	0.6%
	140000	250	1500	24	0.008929	20.6%	0.9%
	50000	0	700	12	0.014	17.5%	1.5%
	130000	450	1600	24	0.008846	20.4%	0.9%
	80000	250	1000	12	0.009375	11.7%	1.0%
	100000	700	1200	12	0.005	6.2%	0.5%
	20000	0	300	12	0.015	18.7%	1.6%
	100000	350	1500	24	0.0115	26.6%	1.1%
	300000	800	2500	36	0.005667	18.6%	0.5%
	90000	100	800	24	0.007778	18.0%	0.7%
	120000	0	1100	36	0.009167	30.2%	0.8%
	100000	600	1300	24	0.007	16.2%	0.7%
	160000	700	2000	48	0.008125	34.1%	0.7%
	70000		700	12	0.01	12.5%	1.0%
	85000	400	1000	24	0.007059	16.3%	0.7%
	130000	600	1500	24	0.006923	16.0%	0.7%
	65000	500	1000	12	0.007692	9.6%	0.8%
	170000	0	2000	24	0.011765	27.2%	1.1%
	350000	500	2700	24	0.006286	14.5%	0.6%
	25000	0	400	24	0.016	37.0%	1.5%
	80000	300	1000	48	0.00875	36.7%	0.8%
	120000	800	2000	12	0.01	12.5%	1.0%
	200000	1000	2500	24	0.0075	17.3%	0.7%
	75000	400	1600	36	0.016	52.7%	1.5%
	35000	0	600	12	0.017143	21.4%	1.8%
	130000	250	900	24	0.005	11.6%	0.5%