

HOUSING EXPENDITURE/INCOME RATIOS OF OLDER NONMETROPOLITAN AND METROPOLITAN FEMALE HEADS OF HOUSEHOLD

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Abstract

Affordable housing is a problem for various groups of people. The purpose of this study was to investigate housing affordability for older nonmetropolitan female heads of household in comparison to older metropolitan female heads (using older male heads of household as a reference group). Data from the 1987 Panel Study of Income Dynamics were analyzed to describe similarities and differences on selected characteristics, housing expenditure/income ratios, and characteristics significantly related to housing expenditure/income ratios. Regression analyses indicated that tenure status and income level provide the highest predictive values for older nonmetropolitan female heads; that income level and minority status provide the greatest predictive values for older metropolitan female heads; and that tenure status and income level provide the greatest predictive values for older male heads. Recommendations for policy direction are suggested.

Introduction

A goal of the United States government is a decent home in a suitable environment for every family. Part of the challenge in making this dream a reality is having a housing stock that is affordable. One measure of affordability is housing expenditures that are 30% or less of income. Some groups of households have more difficulty than others in obtaining housing that meets this guideline. A sense of equity suggests that there should not be great differences among groups in achieving affordable housing, especially groups with similar characteristics.

Purpose of study

The purpose of this study is to investigate relative situations among older households in the United States. The primary group of interest is older nonmetropolitan female heads of household and how they are doing with respect to amount of income that must be used to meet their housing needs. To achieve a relative perspective, their characteristics and housing expenditures will be compared to older female heads living in metropolitan areas and with older male heads of household, in general.

There are two reasons why such analyses are beneficial. By narrowing the focus to specific categories of the older population living in areas of different population densities, it can be determined if different factors are important in predicting the proportion of income that is spent for housing. Such information can illustrate the kinds of problems that nonmetropolitan communities may have to address that may be different from those found in metropolitan communities. If differences exist, this would suggest that there needs to be some flexibility in programs; i.e., a program with specific criteria may not meet the needs of both nonmetropolitan and metropolitan communities. Second, by comparing housing affordability of older female heads to that of older male heads, it can be determined if housing affordability is a problem, in general, for the older population, or whether there are subgroups; i.e., in this analysis, older women, who have particular difficulty in obtaining affordable housing. When the older population is analyzed as a group, important information about a subset of that group is sometimes lost.

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Objectives of the study

The specific objectives of this study are:

1. To describe the similarities/differences on selected characteristics, between nonmetropolitan older female heads and metropolitan older female heads (with older male heads as a reference group).
2. To describe housing expenditure/income ratios of nonmetropolitan and metropolitan older female heads by selected characteristics (with older male heads of household as a reference group).
3. To discover characteristics significantly related to housing expenditure/income ratios for:
 - (a) non metropolitan older female heads of household;
 - (b) metropolitan older female heads of household; and
 - (c) older male heads of household.

Review of Literature

The review of literature focuses on identifying characteristics of older nonmetropolitan (NM) and metropolitan (M) female heads of household, describing similarities and differences between nonmetropolitan and metropolitan housing conditions, presenting methods of calculating housing expenditure/income ratios and reporting the housing expenditure income/ratios from previous studies. The information presented is intended to provide a background and a context for this study.

In the literature, nonmetropolitan and rural are often used interchangeably. Much of the previous literature does not separate female heads by age, but describes their characteristics as a group. In addition, nonmetropolitan (or rural) older female heads generally are not analyzed separately from older metropolitan female heads. Previous research does show that older female-headed households tend to have some of the lowest incomes in society (Schwartz, Ferlauto & Hoffman, 1988; Birch, 1985). Birch (1985) reports a median income for this group of \$5,000 compared to the U.S. median of \$20,000 for all households. Many widows have limited savings or pensions on which to rely. This seriously affects their ability to find affordable housing after their spouse dies (Schwartz et al., 1988). In a recent study, the median income of nonmetropolitan female-heads of household (\$5,472 for those receiving government housing assistance; \$9,800 for those not) was found to be much lower than that of older nonmetropolitan male heads of household (\$21,942) (Combs & Park, 1992a). On the average, older female heads of household were spending 25 to 32% of their income on housing, compared to 14% spent by older nonmetropolitan male heads of household.

Many households in nonmetropolitan (or rural) areas experience low incomes and less than adequate housing. While nonmetropolitan housing often costs less, incomes are often lower. Irby (1986) reports that about one-fourth of all rural households live in cost-burdened or substandard housing. Rental housing, in particular, is often substandard (Housing Assistance Council, Inc., 1987).

The measurement of housing expenditures varies from study to study, depending somewhat on the data set analyzed and the objectives of the study. In general, housing expenditures are comprised of the sum of mortgage payments (principle and interest), property taxes, and utilities for owners; and, the sum of rent and utilities for renters (Bunn, 1986, Combs & Park, 1992a, 1992b; Danes & Morris, 1986; Foster, 1985; Lodi, 1991). Other studies (particularly those using the Consumer Expenditure Survey data) include household operations, home furnishings, and equipment within the definition of expenditures. Researchers interested in the cost of housing include in their calculations a certain percentage of house value instead of annual mortgage payments, as mortgage payments include both investment and consumption (Duncan & Morgan, 1980; Goodman, 1974; Morgan & Newman, 1976; Roistacher, 1974; Shelton, 1968). Many studies use expenditures as a dependent variable rather than expenditure/income ratios. With these caveats in mind, the following section reports factors found to be related to housing expenditure/income ratios.

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Guadagno (1992) found that about 8% of nonpoor homeowners and 21% of nonpoor renters had 1989 housing expenditures that exceeded 28% of monthly before-tax family income. (Households with income below the 1989 poverty thresholds were excluded from the analysis.) "Those most likely to overspend for housing include low- and lower middle-income families, renters, single persons without children, female single-parent homeowners, minorities, and those who are retired and unemployed" (Guadagno, 1992, p. 2).

Income has been found to be a significant determinant of housing expenditure/income ratios (Combs & Olson, 1990; Combs & Park, 1992b; Crull, 1976; Feins & Lane, 1981; Lodl, 1991; Williams, 1988). As income rises, housing expenditure increases at a lower rate. Lower income families are found to spend a larger portion of income on housing than higher income families (Roistacher, 1974; Schwenk, 1988).

Black households were found to spend similar percentages of income for housing as white households (Pitts, 1989). However, when looking at levels of spending, black households spent much less due to their lower income than did white households (Pitts, 1989).

Female-headed households have been found to spend more of their income on housing than male-headed households (Roistacher, 1974; Pitts, 1989). Single parent families are found to spend the largest portion of income on housing. (Bianchi & Spain, 1986; Birch, 1985; Birch, 1989; Keller, 1981; Schwartz, et al., 1988). Husband-wife families were spending the smallest portion of income on housing (Pitts, 1989).

For older female heads of household, those who have mortgages tend to pay a higher proportion of income for housing as they grow older (Pitts, 1989). Older female renters living alone often pay a large proportion of their income for housing. According to Warner, (1983) about 56% of this group spend between 35 and 40% of their income on housing. Newman & Reschovsky (1987) report that the median rent of older women who live alone consumes about one-half of their income.

Previous research (Combs & Park, 1992a) on nonmetropolitan female heads of households found that tenure was a significant predictor of housing expenditure/income ratios, while the independent variables of health, disabled household, age, minority status, and receipt of government assistance were not.

While the body of knowledge with regard to housing expenditure/income ratios is growing, additional research is needed to identify further variations among groups of households. For example, recent findings reported in the AARP Bulletin (Lewis, 1992) indicate that older households are doing better than the general population with regard to percent of persons below the poverty line. But this statistic does not tell the complete story. Within the elderly population, evidence exists that there are groups being left behind. This study will provide additional information concerning housing expenditure/income ratios of older nonmetropolitan female-heads of household.

Methods

Data from the 1987 Panel Study of Income Dynamics, Wave XX, were used for the analysis (Survey Research Center, 1989). These data, on 7,061 households, were collected by the Institute of Survey Research. The data were then weighted so that they are representative of the United States (Duncan & Morgan, 1985). For this paper, only those 1,423 households in which the head was 65 years of age or older were analyzed (304 nonmetropolitan female heads, 365 metropolitan female heads, and 754 male heads). Data were collected from the male head of household, if present. Otherwise, the data were collected from a female head of household. Nonmetropolitan areas include counties of residence in which the population of the largest city is less than 50,000. In contrast, metropolitan areas include counties of residence in which the population of the largest city is 50,000 or more.

The independent variables used in the analyses were defined and measured as follows: (1) geographic regions of the United States are those defined by the U.S. Bureau of the Census (U.S. Bureau of the Census, 1992). They were grouped and classified as Northeast, North Central, Western, and Southern; (2) age of household head used was the actual age, in years, at the time of the interview; (3) household size was measured to include the number of persons living in the household at the time of the interview; (4) health was measured by

asking the respondent to self-report his/her health as either poor, fair, good, or excellent; (5) a household was considered disabled if the household contained an adult individual that has a physical or nervous condition that limits the type or amount of work done (coded no=0; yes=1); (6) a head of household was classified as a minority if the head is a Black, Asian, Hispanic, or Native American individual (coded no=0; yes=1); (7) tenure was measured as either ownership or rental of the housing unit (coded rent=0; own=1); (8) housing assistance was coded as "yes=1" if any one of the following conditions was met by the household: lived in public housing; the government paid part of housing costs; the household received help with their heating bills, or "no=0" if none of the conditions were met; (9) public assistance was coded as "yes=1" if the household received any one of the following: Supplemental Security Income, Medicaid, food stamps, and "no=0" if none of the conditions were met; and (10) income was measured as the dollar amount received, before taxes, by the household in 1986.

The dependent variable, housing expenditure/income ratio, was calculated by dividing housing expenditures by household income. Housing expenditures for homeowners included amount paid on the mortgage, real estate taxes, homeowner's insurance, and utilities. Housing expenditures for renters included rent payments and utilities. Missing values were coded to the mean.

To better understand the populations studied, means or percentages for each of the independent and dependent variables are reported for: (1) older nonmetropolitan female heads; (2) older metropolitan female heads; and (3) older male heads living in nonmetropolitan and metropolitan areas. To better understand differences and similarities in amount of income used for housing expenditures, housing expenditure income ratios are presented for categories of selected characteristics for the three groups described above. To discover characteristics significantly related to housing expenditure/income ratios for each group in the study, the SPSSX program for multiple regression was used to specify three separate models. The three null hypotheses tested were: income, tenure, minority status, disabled status, receipt of public assistance, receipt of housing assistance, age, health status, household size, and/or region of residence are not significantly related to housing expenditure/income ratio for: (1) older nonmetropolitan female heads; (2) older metropolitan female heads; and, (3) older male heads.

Findings

Sample description

Nonmetropolitan (NM) older female heads are, on the average, two years older than metropolitan (M) female heads and four years older than male heads (see Table 1). As might be expected, the mean household size for older female heads is just over one and just over two for older male heads of household. While a smaller proportion of NM female heads (44%) than metropolitan female heads (48%) describe their health as poor or fair, slightly more (1%) are disabled. A smaller proportion of male heads describe their health as fair or poor or are disabled. A smaller proportion of NM older female heads are minorities compared to M older female heads and older male heads

About two-thirds of older nonmetropolitan (NM) female heads own their home. This is a higher proportion than found among older metropolitan (M) female heads, but considerably lower than the proportion of older male homeowners. A larger percentage of older NM female heads receive housing assistance in one form or another than M older female heads. Relatively few male heads receive housing assistance. Housing assistance comes in a variety of forms. The largest proportion receive help with their heating bills. About one-half that proportion live in public housing. And about one-half that proportion receives help from the government to cover housing expenditures. In addition, a slightly larger percentage of NM older female heads (23%) receive public assistance. This compares with 20% M older female heads and 12% older male heads.

The mean and median monthly housing expenditure for older nonmetropolitan (NM) female heads is lower than for older metropolitan (M) female heads. Older male heads pay the most for housing. However, the mean and median income for older NM female heads is con-

Table 1. Selected characteristics of nonmetropolitan and metropolitan older female heads (using older male heads of household as a comparison group). (N=1423)

Characteristics	Nonmetropolitan Female Heads	Metropolitan Female Head	Male Heads
Mean age	77.28	75.20	73.26
Mean household size	1.15	1.29	2.08
% poor/fair health	44.2	47.7	35.4
% disabled	57.5	56.4	45.6
% minority	6.3	15.3	10.9
% own home	67.7	60.7	86.6
% on housing assistance	32.0 ¹	27.4 ¹	9.0 ¹
% in public housing	9.6	8.5	3.4
% gov't pays part of gov't	4.7	4.9	2.1
% receiving help with heat bills	19.2	17.0	4.5
% on public assistance	23.2	19.7	11.5
Mean income	\$ 10,058.89	\$ 15,546.53	\$ 25,975.52
Median	\$ 7,531.00	\$ 10,608.00	\$ 20,168.00
Monthly housing expense			
Mean	\$ 190.75	\$ 233.44	\$ 228.52
Median	\$ 143.75	\$ 188.33	\$ 185.42
Mean housing expenditure/income ratio (H/I)	.28	.27	.15
% H/I > 0.35	27.5	23.9	6.0
% H/I > 0.50	9.6	14.3	2.2
Region			
% Northwest	13.4	22.3	22.7
% North Central	29.3	27.3	27.8
% South	43.4	23.5	33.2
% West	14.0	27.0	16.2

¹ Percentage is less than the sum of the parts as some respondents indicated receiving two of the three types of housing assistance.

siderably less than the mean and median income of older M female heads. For comparison, male heads have a much larger mean and median income. When mean housing expenditure/income ratio are calculated, older nonmetropolitan (NM) female heads are paying 28% of their income for housing; older metropolitan (M) female heads pay 27% of their income for housing; and, older male heads pay 15% of their income for housing. Thus, older NM female heads pay a higher percentage of a lower income to cover their housing costs. However, there appears to be more variation among older M female heads in amount of income used to cover housing costs. Fourteen percent of older M female heads are paying more than 50% of their income for housing. This compares to 10% of older NM female heads and 2% of male heads.

While metropolitan (M) female heads are somewhat evenly distributed among the four regions of the United States, nonmetropolitan (NM) female heads have a higher representation in the southern region.

Housing expenditure/income ratios by selected characteristics

Characteristics of older NM female heads associated with spending more than 30% of income for housing included: renters, status as a minority, receipt of housing assistance, receipt of public assistance, poor or fair health, 80 years and older; income less than \$15,000, and residence in the southern region (see Table 2).

Table 2. Housing expenditures/income ratios of nonmetropolitan and metropolitan older female heads by selected characteristics (using older male heads of household as a comparison group). (N=1423)

Characteristics Categories	Nonmetropolitan Female Heads (N=304)	Metropolitan Female Heads (N=365)	Male Heads (N=754)
Age			
65 thru 79	.27	.27	.15
80 and over	.31	.28	.16
Household size			
One	.29	.29	.22
Two	.24	.21	.14
Health			
Fair/poor	.32	.33	.17
Good/excellent	.26	.22	.14
Minority			
Yes	.35	.44	.19
No	.28	.24	.15
Disabled			
Yes	.30	.30	.15
No	.25	.24	.15
Tenure			
Own	.22	.21	.13
Rent	.41	.37	.28
Housing Assistance			
Yes	.32	.39	.26
No	.26	.23	.14
Public Assistance			
Yes	.32	.47	.19
No	.27	.23	.15
Income			
Less than \$15,000	.31	.34	.23
\$15,000 thru \$29,999	.17	.18	.13
\$30,000 thru \$44,999	.08	.10	.08
\$45,000 thru \$59,999	.08	.08	.07
\$60,000 and over	---	.03	.05
Region			
Northeast	.27	.33	.17
North Central	.26	.34	.15
South	.33	.25	.14
West	.20	.19	.14

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Characteristics of older M female heads associated with spending more than 30% of income for housing included: receipt of public assistance; status as a minority; receipt of housing assistance; renters; income less than \$15,000; those in poor to fair health; residence in the northeast region and the north central region.

With regard to the selected characteristics, there was no characteristic for which male heads paid more than 30% of income for housing. The group of older male heads that had the highest proportion of income allocated to housing were renters.

Hypotheses Testing

The first model was created to investigate characteristics related to the housing expenditure/income ratio of older nonmetropolitan (NM) female heads of household. The null hypothesis was rejected ($p < .01$) with 26% of the variation in the dependent variable explained (see Table 3). The t-scores indicate that each of the independent variables was significant at the .05 level. From observing the standardized betas, we find that tenure contributes the most in explaining housing expenditure/income ratios. Renters are more likely to spend more of their income on housing expenditures. A negative relationship exists between income and housing expenditure income ratios. As income goes down, the proportion spent on housing increases. Compared to NM female heads living in the southern region, those in the western region, north central region and northeast region are likely to pay a smaller proportion of their income on housing. If the older NM female head is disabled, she is more likely to spend a higher proportion of her income on housing.

Older nonmetropolitan female (NM) heads receiving housing assistance are significantly more likely to pay more of their income for housing. While significant at the .05 level, the standardized betas for the remaining characteristics fall below .10. Older NM female heads are likely to pay a larger proportion of their income for housing; minorities are likely to pay a higher proportion; households with only one person are likely to pay more; and those in poor to fair health are likely to pay a higher proportion of income. In summary, the major contributors in explaining the housing expenditure/income ratio for older NM female heads of household are their tenure status, their income, if they are disabled, whether or not they receive housing assistance; and if they live in the southern region.

The second model was created to investigate characteristics related to the housing expenditure/income ratio of older metropolitan (M) female heads of household. The null hypothesis was rejected ($p < .01$) with an R^2 of .34 (see Table 3). While the largest contributor for NM older female heads is tenure status, the largest for M older female heads is income. As income decreases, the proportion of it spent for housing increases. The second major contributor is whether or not public assistance is received. Those receiving public assistance are paying a higher proportion of their income for housing. Those renting are paying more than those who own. While NM female heads living in the southern region pay a higher proportion of income for housing, for M female heads, those living in the north central and northeast pay a higher proportion of income for housing. Also, for M households, minority status plays a larger role. Each of the other characteristics, while significant, have betas of less than .10 (housing assistance; health status; age; disabled status; and, number in household).

The third model was created to investigate characteristics related to the housing expenditure/income ratio of older male heads of household (nonmetropolitan and metropolitan). The null hypothesis was rejected ($p < .01$) with an R^2 of .27 (see Table 3). The two characteristics that provide the most explanation of housing expenditure/income ratios for older male heads are tenure and income. Disabled households are likely to pay more than those who are not disabled. Compared to older male heads living in the south, those in the northeast are likely to spend more of their income for housing. While each of the other characteristics are significant, they have betas of less than .10 (health status; number in family; age; minority status; housing assistance; and, public assistance).

Discussion

Too often studies focus on trying to understand the older population as a whole. However, many differences among categories of older persons exist. The focus of this study was to provide greater understanding of some of these differences with regard to the amount of

Table 3. Regression of housing expenditure/income ratios on selected characteristics for (1) older nonmetropolitan female heads; (2) older metropolitan female heads; and (3) older male heads. (N=1423)

Characteristics	Older Nonmetropolitan Female Head		Older Metropolitan Female Head		Older Male Heads	
	Beta	(Sig)	Beta	(Sig)	Beta	(Sig)
Income	-.28	(.00)	-.28	(.00)	-.31	(.00)
Tenure	-.38	(.00)	-.17	(.00)	-.32	(.00)
Minority	.05	(.00)	.15	(.00)	.04	(.00)
Disabled	.11	(.00)	-.03	(.03)	-.12	(.00)
Public assistance	-.05	(.00)	.21	(.00)	.02	(.01)
Housing assistance	-.10	(.00)	-.07	(.00)	.03	(.00)
Age	.06	(.00)	.03	(.00)	-.04	(.00)
Health	.07	(.00)	-.05	(.00)	-.07	(.00)
Number in household	.05	(.00)	-.03	(.02)	-.04	(.00)
Region						
West	-.14	(.00)	--	(NS)	.02	(.04)
North Central	-.11	(.00)	.18	(.00)	.03	(.00)
Northeast	-.04	(.00)	.16	(.00)	.10	(.00)
	F = 147.2572		F = 262.9678		F = 390.5366	
	df = 12/5056		df = 12/6079		df = 12/12570	
	Sign = .00		Sign = .00		Sign = .00	
	R ² = .26		R ² = .34		R ² = .27	
	Adjusted R ² = .26		Adjusted R ² = .34		Adjusted R ² = .27	

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income spent to meet housing needs. Previous research has shown that older female heads spend considerably more of their income for housing than older male heads. The purpose of this study was to separate older female heads living in nonmetropolitan (NM) areas from those living in metropolitan (M) areas.

The findings indicate that income is a major factor for households with an older male head and for households with an older female head in both NM and M areas. The lower the income, the larger the proportion of income that must be spent for housing.

Older female heads living in NM areas pay less for housing than older female heads living in M areas, but also they have lower incomes which results in their paying a larger percentage of that income for housing. There appears to be more variance among older female-headed M households who pay more than 35% of their income for housing. While fewer older M female heads than NM female heads pay more than 35% of their income for housing, more pay over 50% of their income for housing. And those older M female heads receiving public assistance are among those paying the highest proportion of their income for housing. Apparently those receiving assistance are the households most in need, but the amount received still does not put many in a position to obtain affordable housing. In fact, both older female heads in NM and M areas receiving public assistance and/or housing assistance, though it undoubtedly helps, continue to pay more than 30% of their income for housing. It is just that the help is not as effective in reducing the proportion of income paid for housing in M as NM areas.

While rental status is a major predictor of housing expenditure/income ratios for all three older groups (NM, M, male), it seems to play the greatest role in predicting excessive expenditures for older NM female heads. More older NM female heads own their homes than do older female heads in M areas. However, those who rent in rural communities apparently face major challenges in obtaining housing that is affordable.

Minority status appears to be a major factor in obtaining affordable housing for older M female heads, while it does not seem to be as major a factor for older NM female heads or for older male heads. A larger proportion of older M female heads have a minority status which may contribute to their problem.

Nonmetropolitan communities appear to be more active in addressing the housing needs of their older female heads. A somewhat higher proportion live in public housing; a somewhat higher proportion obtain help with heating bills. A somewhat higher proportion receive public assistance. Yet, the mean housing expenditure/income ratio for older NM female-heads is still slightly higher than that found in M areas.

The region of the country in which older female heads live has an affect on the proportion of income paid for housing. Older female heads living in the NM South appear to have more difficulty in obtaining affordable housing; while older M female heads living in the Northeast and North Central regions appear to have more trouble.

Also, as NM female heads grow older, report fair or poor health and a disability, they are more likely to have problems obtaining affordable housing. This was the case for older M female heads also, except age was not as great a factor.

Recommendations

For older nonmetropolitan female heads of household, the first priority should focus on addressing the problem of those who rent. This may mean an increase in rental housing stock so that the supply is increased in relation to demand. Previous research (Combs, 1989) has indicated that many older female heads would like to move from that single family house that is difficult to keep up and offers limited social opportunities to multiple family housing, which may be rental. The challenge is the oversupply of housing in many rural areas which discourages the construction of new housing. Perhaps renovating existing large houses into rental apartments may be appropriate if such housing can be made accessible to an aging population. While older female-heads living in each region have difficulty in obtaining affordable housing; those living in the southern region appear to have the most difficulty.

For older metropolitan female heads of household, while lower incomes and rental status appear to require a larger proportion of their income for housing, a third factor (minority status) is also a challenge for this group. Controlling for income and tenure, minority status appears to create additional problems for this group. Of highest priority, should be further attempts to alleviate the negative impacts of race on securing affordable housing. In addition, the public assistance received by older metropolitan female heads does not appear to be adequate in terms of reducing the proportion of income required for housing. Older metropolitan female heads living in the northeast and north central regions appear to face the greatest challenges in finding housing that consumes a reasonable amount of income.

Older female-heads living in nonmetropolitan and metropolitan areas are not as successful in obtaining affordable housing as older male heads. Further research is needed to more clearly identify the differences between the two groups so that the gap can be narrowed and eventually be closed. Male heads of household have a much higher level of income. In addition, male heads are, on the average, younger, have better health, fewer are disabled and more own their home. A clearer understanding of these and other factors contributing to the differences between older male heads and older female heads may encourage solutions that reduce the problem of housing affordability for many older female-heads of household.

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