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Conference Paper

The Romanian rural household under the impact of rural development policies

Provided in Cooperation with:

The Research Institute for Agriculture Economy and Rural Development (ICEADR), Bucharest

Suggested Citation: Chițea, Lorena (2020) : The Romanian rural household under the impact of rural development policies, In: Agrarian Economy and Rural Development - Realities and Perspectives for Romania. International Symposium. 11th Edition, The Research Institute for Agricultural Economy and Rural Development (ICEADR), Bucharest, pp. 254-261

This Version is available at:

<https://hdl.handle.net/10419/234399>

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THE ROMANIAN RURAL HOUSEHOLD UNDER THE IMPACT OF RURAL DEVELOPMENT POLICIES

LORENA CHIȚEA¹

Abstract: *The present paper aims to assess to what extent the rural development policies have had any impact on the Romanian rural household. For this purpose, it was decided to develop a theoretical model for assessing the degree of modernization and socio-economic development of rural areas from the perspective of increasing the rural household welfare. This was achieved taking into consideration the following dimensions of the rural space: natural-anthropoc, demographic, social and economic; for each dimension a set of indicators were selected considered relevant for the investigated issue. These indicators lay at the basis of a composite indicator meant to make a diagnosis of the modernization and development degree of the rural area at a given moment, in order to provide proper solutions/directions for rural development policies. To capture the impact of rural development policies on the rural area and on the rural household implicitly, the paper will analyse the correlations between the rural development measures implemented in the programming period 2007-2013 and the composite index of rural modernization and socio-economic development.*

Key words: *rural area, rural household, sustainable development.*

JEL Classification: *R20, Q 01, O2.*

INTRODUCTION

Following the author's previous scientific approach to consult the literature concerning various models for assessing the impact of rural development policies [6]; [11]; [8]; [2]; [13]; [12], it was opted for a theoretical model synthesising the main pillars of rural modernization and socio-economic development from the point of view of the main player in the rural area, i.e. the rural household.

The Romanian rural area is seen as a system where each dimension (natural-anthropoc, demographic, social and economic) can feel, to a certain extent, the effects of the modernization-development process, with the rural household as the central entity of the countryside, driver of the modernization process propagation in all the rural area domains. It is obvious that the reactions of the rural household are difficult to estimate, as besides the external factors (the rural development policies through all their levers) there are also internal factors (reduced ability to adapt to novelty elements; lack of demographic, social, economic possibilities to adapt to the new requirements of the agricultural and rural development policies) [14], these acting as a hindrance to the modernization and development process. For the rural household, modernization would involve the modern personality, in which family members exhibit intellectual openness, detachment from tradition, a sense of personal efficiency, desire to be an informed citizen, ability to adapt to new experiences [10].

The rural area with all its dimensions (demographic, social, cultural, economic, institutional, environmental, etc.) is the subject of rural development policies. Rural development is the second pillar of the Common Agricultural Policy, funded from the European Agricultural Fund for Rural Development (EAFRD). Taking into consideration the amount allocated to Romania in the period 2007-2013, i.e. 8.4 billion euros out of the 96.2 billion euros total amount allocated to Pillar 2 at EU level, our country was one of the main beneficiaries of the rural development policy [1].

The programmatic document for Romania for the period 2007-2013 was the National Rural Development Programme (NRDP 2007-2013). The proposed objectives were the following: improving the competitiveness of the agri-food and forestry sectors (Axis 1), improving the environment and the countryside (Axis 2), improving the quality of life in rural areas and

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diversification of the rural economy (Axis 3), starting and operating local development initiatives (Axis 4).

The rural household is the main actor in the rural area, whose main activity is agriculture, yet a subsistence agriculture is practiced, which is reflected in the standard of living and quality of life of the rural population. This is the result of the negligence of the agricultural policies in use since 1990 and before the accession to the European Union.

In the year 2007, there was a dual farm structure, where the small-sized farms (individual agricultural holdings) prevailed, which totalled 3830.80 thousand (97.39%), and operated 6846.90 thousand ha (49.78%), while the large-sized farms (agricultural holdings with legal status) accounted for 2.61% of the total number of farms and operated 50.22% of UAA [15]. In the period 2007-2016, the number of small-sized farms diminished by 13.6% and the utilised agricultural area operated by these declined by 29.3%; the large-sized farms experienced a consolidation process, i.e. the number of these farms increased by 47.5%, alongside with an increase of the utilised agricultural area operated by these by 16.5% [1]. Both the legislative basis in the transition years and the new agricultural programmes in the pre-accession and accession periods led to an increased discrepancy between the rural households with agricultural activity (subsistence and semi-subsistence holdings) and the large-sized, commercial competitive farms, eligible to attract EU funds.

In the programming period 2007-2013, the semi-subsistence farms received direct support through the following rural development measures (Pillar 2): Measure 141 Supporting semi-subsistence farms (total number of funded projects 50486); Measure 112 Setting up of young farmers (total number of funded projects 12635); Measure 121 Modernisation of agricultural holdings (2789 projects received funding).

About 350,000 holdings fall in the category of semi-subsistence farms, which is a very small number out of total individual farms (household farms). The terminology used for subsistence farms has changed in the two programming periods in Romania. Thus, in the period 2007-2013, the farms below 2 ESU² were in the category “subsistence” farms, while those from 2 to 8 ESU were considered “semi-subsistence” farms, according to NRDP. The access of individual subsistence farms (small farms) to direct payments under Pillar 1 has not been excluded, yet there are certain limitations as regards eligibility. The eligible farms for the Single Area Payment Scheme are those with minimum 1 hectare, while parcels should not be smaller than 0.3 hectares. Therefore, in Romania, about 3 million farms did not comply with these eligibility criteria [5]. There was an uneven distribution of direct payments between the small and large farms as a consequence of the dual structure of Romania’s agriculture [4].

MATERIAL AND METHOD

The present paper aims to quantify the impact of rural development policies on the Romanian countryside from the rural household perspective. For this purpose, the funds allocated under NRDP in the programming period 2007-2013 were taken into consideration, as well as the related measures that were correlated with the composite rural development index, as well as with each of its dimensions and with each indicator. The analysis is made at county level, so as to measure the impact of the rural development measures on the rural area and the rural household implicitly in the programming period 2007-2013.

The theoretical model for assessing the rural development impact on the modernization and socio-economic development of the rural household is the basis for constructing the indicator of modernization and socio-economic development (IMSED). This is a composite index on the socio-economic situation of the Romanian rural household, and can be useful both for researchers and for decision-makers at local, county, regional or national level. The composite index provides useful information for complex comparisons across regions and counties, as well as specific aspects

² ESU = Economic Size Unit

regarding the natural-anthropoc, demographic, social and economic dimensions. When the analysis is performed at regular intervals, the rural development index can reveal the trend of change by each criterion, as well as chronologically.

Theoretical model for assessing the rural development impact on the modernization and socio-economic development of rural household

Dimension	Indicators
Natural-anthropoc dimension	- agricultural area per person employed in agriculture - share of new dwellings in total dwellings - share of localities connected to the sewerage, drinking water supply and natural gas supply networks - share of modernised roads in total county and communal roads
Demographic dimension	- rural population (number) - natural increase of rural population - demographic ageing of rural population - degree of demographic dependency - population renewal index - migration balance
Social dimension	- average life span - fertility rate - infant death rate - number of pupils per teacher in the countryside - number of physicians in 1000 rural inhabitants
Economic dimension	- gross domestic product - agricultural output value - average salary in agriculture - labour force renewal rate - share of population employed in agriculture in total population of working age

Source: own model

The data on each indicator were entered in SPSS, and next several stages in the creation of final index followed, namely:

- a. data normalization – for each indicator, each analysed entity is ordered in the 0-1 interval, where the lowest value receives 0, and the highest value is assigned 1. The following formula is used for primary indicators normalization:

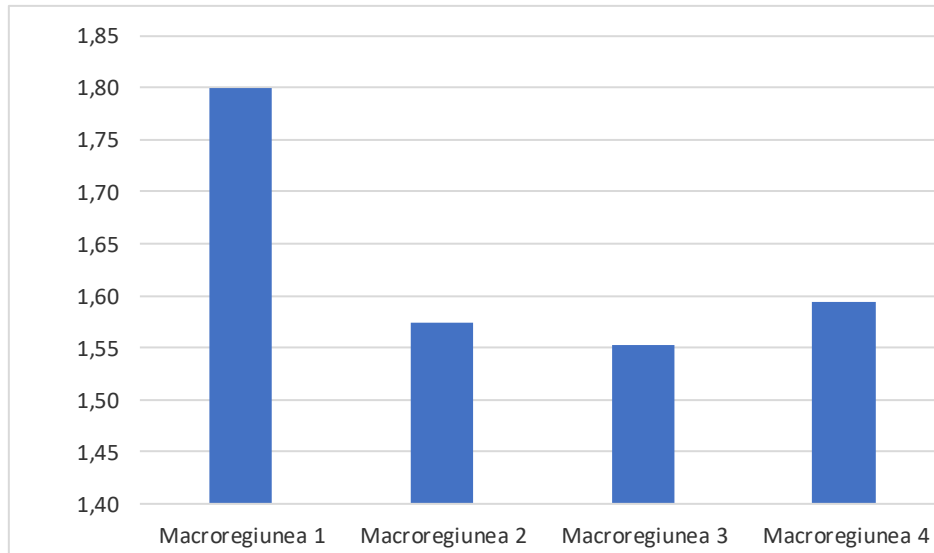
$$N=(X-X_{min})/(X_{max}-X_{min})$$
- b. establishing the weighting of each dimension and each indicator – each dimension and each indicator are assigned equal weights
- c. domain aggregation and index calculation – for each dimension an average grade will be calculated $D1=(X1+Xn)/n$, and the Total index = $(Dna+Dd+Ds+De)/4$.

To get a picture of the development level, nationwide and by regions and counties, aggregate indicators are increasingly used, even though individual indicators are not neglected either. The statistical method used for the assessment of the correlation between the NRDP measures and the modernization and development level of the rural area is based on the Pearson correlation coefficient that can be positive (in the case of direct correlations), negative (in the case of inverse correlation) or neutral (no influence) between the investigated variables.

RESULTS AND DISCUSSIONS

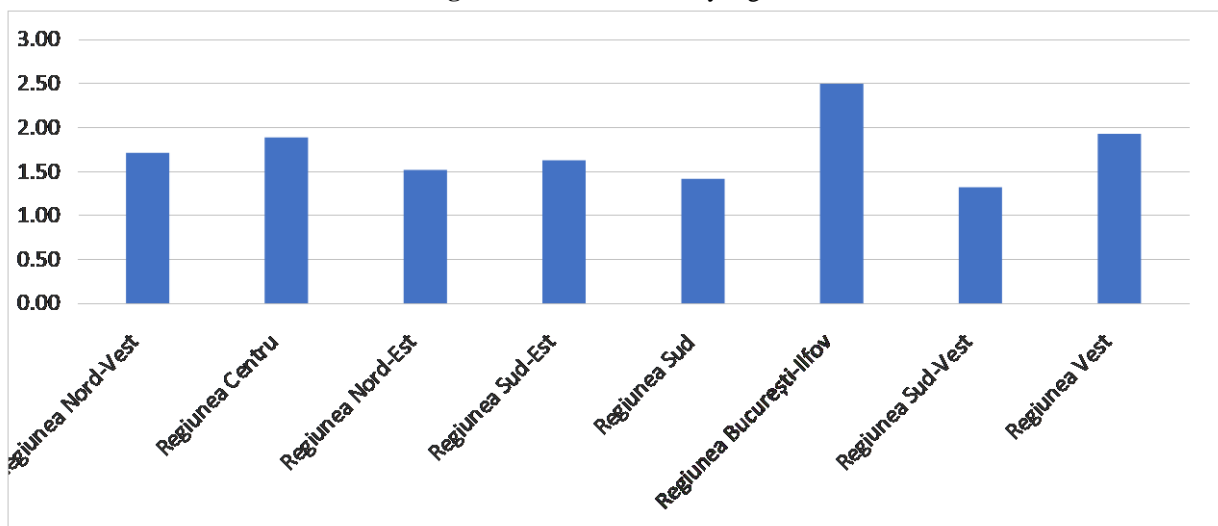
The value of the index of modernization and socio-economic development (IMSED) of the rural area, at county level, ranges from 0.96 (in Teleorman county) to 2.77 (in Timiș county); this value increases as the degree of rurality decreases. Thus, the average value of the index is 1.45 in the predominantly rural areas; 1.90 in the intermediate areas and 2.50 in the predominantly urban areas.

Figure 1. IMSED value at macro-regional level



Source: author's own processing based on NIS, tempo online data

Figure 2. IMSED value by regions



Source: author's own processing based on NIS, tempo online data

From the analysis of IMSED by macro-regions and regions, we get the following situations:

- Macro-region 1 has the highest IMSED value, at significant difference from the other macro-regions, although the component regions are not necessarily the ones with the best results; the regions București-Ilfov and Vest rank first, while the regions from Macro-region 1 (Nord-Vest and Centru) rank 3rd and 4th among the regions of the country.
- A similar situation can be found in the case of the region București-Ilfov, which takes the lead, at a significant distance from the other regions, which is a normal situation if we take into consideration the fact that we speak about the rural area adjacent to Bucharest, the capital city. Even though the gap between the region București-Ilfov and the other regions is great, the contribution to Macro-region 3 where it belongs is not significant, so that Macro-region 3 takes the last place among the macro-regions.

Following the analysis of Pearson correlations, it results that the 4 dimensions of the IMSED index have a significantly strong influence on the index, but they also strongly influence each other. This confirms the theory from the literature that the rural space is operating as a system where each dimension and component is important throughout the entire system [7]. Yet,

unfortunately, the demographic, social and economic structural dysfunctions that have appeared in Romania are difficult to correct.

Table 1
Intensity of Pearson correlations
between the four dimensions of the IMSED index, in the year 2017

Dimension	Natural-Anthropic	Demographic	Social	Economic
Natural-Anthropic	1	0.563**	0.347*	0.420**
Demographic	0.563**	1	0.646**	0.542**
Social	0.347*	0.646**	1	0.530**
Economic	0.420**	0.542**	0.530**	1
IMSED	0.740**	0.879**	0.785**	0.772**
**. Correlation is significant at the 0.01 level (2-tailed).				
*. Correlation is significant at the 0.05 level (2-tailed).				

Source: author's calculations in SPSS based on NIS tempo online data

In 2008, Bertolini [3] brought into discussion 4 categories of problems in the rural area that function as “Vicious Circles” (demography, distance/infrastructure, education, labour market), and their interaction amplifies the poverty phenomenon in the rural area. To break these “vicious circles”, policies should focus on investing in human capital (education, vocational training), infrastructure (technical, road infrastructure, transport services, ICT dissemination, etc.), on labour market (increasing the occupational diversity by stimulating entrepreneurship in agriculture and non-agricultural sectors), on healthcare, etc.

A classification of rural areas according to their modernization and development degree is useful to highlight certain characteristics of a given area; the smaller the territorial unit, the more specific the information provided. The counties are classified according to IMSED index values into 5 favourability categories, namely: a. very low modernization and socio-economic development level (22%); b. low modernization and socio-economic development level (39%); c. medium modernization and socio-economic development level (24.4%); d. acceptable modernization and socio-economic development level (9.8%); e. good modernization and socio-economic development level (4.9%). For each favourability class, the indicators related to the calculation model of the IMSED index were calculated.

This typology is only one example that the rural area is extremely diverse and is facing different problems, requiring different development models. The Romanian reality of rural areas needs top-down interventions, as well as the participation of rural communities for a sustainable rural development. However, the current rural development programmes do not take into consideration the specificity of each area, which can result in a structural change of the rural space, through the increasing abandonment of rural localities.

Impact of PNDR 2007-2013 measures on the Romanian rural area

The analysis of the links between the main rural development measures specific to NRDP 2007-2013 and the IMSED index, using the Pearson method, reveals a weak link between them, which leads us to the conclusion that the impact on the rural area and on the rural household, implicitly, is low. Only in specific cases a positive correlation can be noticed on certain indicators taken into account in the calculation of the global index. The measures under Axis 1 had a strong positive impact on two indicators, namely:

- “agricultural area per person employed in agriculture” – Measure 121 - Modernization of agricultural holdings (+0.517**) and Measure 123 - Adding value to agricultural and forestry products (+0.330*);

- “agricultural output value” – Measure 123 - Adding value to agricultural and forestry products (+0.602**), Measure 121 - Modernization of agricultural holdings (+0.586), Measure 142 – Setting up producer groups (0.397*) and Measure 112 - Setting up of young farmers (+0.353*).

The indicator “Average agricultural area per person employed in agriculture” can represent an important element in guiding the strategies for the development of a certain rural area.

In the period 2007-2017, the analysed indicator had a favourable evolution for the modernization of the farming activity, the value of the indicator increasing in all regions. This is a beneficial aspect, but other less visible aspects should also be taken into consideration at first glance, such as the decline of the population and labour force, land areas that remained uncultivated, land concentration on large-sized farms and not on family farms that would strengthen the middle class to be able to ensure food security, to protect the environment and the rural landscapes, to maintain a territorial balance by maintaining the population in all rural areas in order to facilitate human proximity to natural resources.

The large farm does not automatically imply economic competitiveness, and for the rural area, as Otiman (2012) [8] noted, “a negative correlation is noticed in this sense between the farm size and the persistence of rural poverty: in the areas with the largest farms in Romania, the areas with the widest poverty bags can be also found”.

Competitiveness can be also obtained by increasing the value added of traditional agricultural or non-agricultural products, or of services provided by small farms (rural tourism, traditions and customs).

At macro-regional level, the hierarchy highlights two categories: the first category, above the national average (Macro-region 4, with 9.64 ha/person employed in agriculture and Macro-region 1, with 9.19 ha/person employed in agriculture) and the second category under the average (Macro-region 3, with 7.67 ha/person employed in agriculture and Macro-region 2, with 7.63 ha/person employed in agriculture). There is no uniform trend across the macro-regions, one can even notice that in each macro-region there is a region under the national average, and another above the national average.

At county level, the differences between counties grew larger year after year. Thus, while in the year 2007 the difference was 8.67 ha/person employed in agriculture between the county with the highest value and the county with the lowest value (i.e. 3.15 ha/person employed in agriculture in the county Ilfov, and 11.82 ha/person employed in agriculture in the county), in the year 2017 the difference reached 12.16 ha/person employed in agriculture (4.09 ha/person employed in agriculture in the county Ilfov and 16.25 ha/ person employed in agriculture in the county Tulcea).

The increase of the average agricultural area per person employed in agriculture does not result in an increase of the average agricultural area of individual agricultural holdings, being the result of other processes of demographic nature, i.e. decline of population and labour force employed in agriculture. The fact that part of the land is left uncultivated (by the rural land owners or by the new owners who are not rural residents) also adds to this motivation; this can be also seen in the decline of the utilised agricultural area, in the period 2005-2016, from 9,886,159.43 ha to 6,926,256.09 ha [15]. At the rural household level, no agricultural land consolidation can be noticed, on the contrary, the agricultural area used by an individual household farm decreased from 2.33 ha in 2005 to 2.05 ha in 2016 (Farm Structure Survey).

Agricultural output value is the other indicator on which the rural development measures under NRDP – Axis 1 had a noticeable impact.

At macro-regional level, Macro-region 2 has the highest share of agricultural production (33.37%) at quite a great distance from the following macro-regions (Macro-region 4, with 23.37%, Macro-region 1 with 22.79%, Macro-region 3 with 20.47%). The development regions with the greatest contribution to national agricultural production are the following: Sud 19.20%, Sud-Est 17.69% and Nord-Est 15.69%. By counties, the share of agricultural production ranges from 0.86% in Ilfov to 4.80% in Timiș. The following counties had the greatest contribution to national agricultural production: Timiș 4.80% of total agricultural production, Dolj 4.06%, Constanța 3.54%, Călărași 3.43%.

The total agricultural output value featured high volatility also due to the high share of crop production [1]. The importance of crop production in total agricultural production increased by 22.97% from 1990 to present, except for only two counties where the importance of livestock production increased (Vrancea and Brașov). At macro-regional level, the share of crop production ranges from 59.77% in Macro-region 1 to 72.89% in Macro-region 3. By regions, we have the

following hierarchy depending on the importance of crop production: Sud-Vest 75.34%, Sud 73.97%, Sud-Est 73.58%, Vest 65.27%, Nord-Vest 62.44%, Nord-Est 61.99%, Centru 56.72%, București-Ilfov 56.47%. At county level, the share of crop production ranges from 38.31% in the county Brașov to 81.20% in the county Galați.

As it could be noticed, the effects of measures from Axis 1 of NRDP 2007-2014 are punctual, the targeted aspects being infrastructure and economy.

The measures from Axis 3 had no noticeable impact either on the degree of modernization and development of the rural area, the effects were felt only in particular cases, with no impact on the structural problems of the rural area. The measures of Axis 3 had a strong and significant positive impact on several IMSED indicators, namely:

- two of the measures from Axis 3 had an effect on the indicator “share of localities connected to the sewerage network”, M322 (strong correlation +0.335*) and M313 (significantly strong correlation +0.513**). M322 supported investments in public infrastructure, and M313 supported investments in connecting tourism structures and recreational infrastructure to public utilities.

- M313 had an effect on the indicator “number of physicians in 1000 rural inhabitants” (strong correlation +0.337*). The effect of this measure on the number of physicians may be a simple coincidence, the author thinks that as M313 is applied in tourism areas, these areas have higher living standards than the areas where the farming activities prevail, which is also reflected in the attractiveness of these areas for physicians.

- M312 had an effect on the GDP indicator (strong correlation +0.312*), which confirms the fact that the diversification of non-agricultural activities contributes to the improvement of the population’s standard of living.

- M312 also had an effect on the indicator “agricultural output value” (significantly strong correlation +0.602**), which reveals that the diversification of non-agricultural activities can result in higher valorisation and utilisation of agricultural production.

The effects of measures from Axis 3 of NRDP 2007-2013 are felt in particular cases, without generating chain reactions, opposed to “vicious circles”, the targeted aspects being technical infrastructure (sewerage system) and economy (diversification of non-agricultural activities and better valorisation of agricultural products). Unfortunately, the effects of the rural development measures are like a drop in the ocean, without generating changes in the existing structural problems of the countryside.

CONCLUSIONS

The impact of the rural development policy on the rural area and on the rural household/small farm was low in the first programming period. As main obstacles in NRDP 2007-2013 implementation, from the point of view of small farms, we can mention the following:

- the rural development objectives at EU level are not appropriate for the new member states like Romania, but they rather correspond to the needs of the old member states, which are also great contributors to the CAP budget;
- the programming period 2007-2013 can be considered an adaptation period to access and implement projects with non-reimbursable financing; several bureaucratic difficulties both at national and EU level;
- the small farms have low co-financing capacity and limited access to credits due to the lack of financial instruments dedicated to small and medium-sized farms, high interest rates;
- small farms are poorly informed and poorly advised;
- Romanian farmers’ reluctance to get associated, only 1% of farmers are members in an association;
- small farmers’ precarious financial situation; in many areas of the country, agriculture (subsistence farming) continues to be the only income source for many households (small farms), as there are no other occupational opportunities;

- social and economic disequilibria in the rural area generated by the communist period (when the agrarian structures radically changed) and by the transition period with no strategic vision on the rural area.

Romania's rural area is highly diverse and faces different problems, requiring different development models. The Romanian reality of the countryside needs top-down approaches, alongside with the participation of rural communities for a sustainable rural development. But the existing rural development programmes do not take into account the specificity of each area, which can determine structural change of the rural area by the increasing abandonment of rural localities.

For Romania, the rural household/small farms have an important economic, social and environmental role. The diminution of the number of farms should not be an objective *per se* in the process of increasing the productivity and competitiveness of the agricultural sector, as this may have undesired results such as rural area depopulation and agricultural land areas left uncultivated. Unfortunately, small farmers are not given any alternatives, and there is also one aspect that is less considered, namely the fact that small farmers are increasingly less resilient after the period of transition to market economy (lack of consistent agricultural and rural development policies) and after the pre-accession and accession period (policies focusing more on the increase of competitiveness).

Even though there are great and diverse needs in the rural area, in the absence of a coherent rural development policy in Romania, targeting real and solvable problems, in the absence of an overall vision and without dedicated people to represent us and negotiate at the EU level for Romania, the rural area may lose many of the basic functions it has at present (food security function, territorial balance function, environmental protection function, preserver of traditions and crafts).

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