Challenges for diversification of activities in private forest sector in Slovakia

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Abstract

Non-state forest sector in Slovakia manages 45% of forests. The traditional source of income in forestry, and especially for small-scale forestry (SSF), is wood. The diversification of production activities towards to new products and services helps to maintain sustainable forest management. The diversification of economy in SSF enterprises is an important way how to survive in economic crisis. According to quantitative analysis of data from Economic Accounts for Forestry average level of diversification in some European countries is about 25%. On average it is 20% in Slovakia, but in SSF only 6-7%.

A main challenge for diversification of activities in private forest sector flows from national forest policy, represented by National Forest Programme and Rural Development Policy. An example of new entrepreneurial activities in private forest enterprise based on SAPARD measures is analysed. Non-state forest enterprise in Veľký Klíž (forest land owned by around 600 owners) provides recreational services that are at the same time an additional source of income. This source represents on average about 10% of the enterprise income.

Key words: private forests, economy, diversification, recreational services, policy influence

1. Introduction

During last sixty years, the countries of Central and Eastern Europe have experienced two profound changes in the dominant political ideology; a transition to socialist centrally planned economy during the early 1950´s followed by a transition back to the market economy in the years following 1989 (DALE – BALDWIN, 1999). These changes had great impact on socio-economic and legal framework and brought changes in forestry sector as well (restitution of forest land). In Central and Eastern Europe countries (CEE) the proportion of forest land in private ownership varies from 5% in Romania to 80% in Slovenia. Average private forest ownership is about 30% (FAO, 1997). That means that non-state sector plays an important role in many countries. The process of land restitution in forest sector in these countries has been still going on. Main problems in non-state forest sector are insufficient skills and knowledge on forest management, lack of information on forests, bureaucracy, a need of assistance to non-state forest sector in protecting their forests from fires, diseases and timber steals, and sometimes also low interest of the forest owners (PIVORIŪNAS – LAZDINIS, 2004; VANČURA – TREJBALOVÁ, 2004).

Forest research in Slovakia deals with sustainability and development of forests, utilization of its benefits in favour of the forest owners and society. Slovakia with its 41% forest coverage belongs to the most forested countries in Europe.

After the year 1989 there occurred a shift in the perception of forest functions from the strictly productive character to the acknowledgement of its other functions (recreational and environmental). Significant changes in forest management and organizational structure took place as well. Forestry after 1989 can be characterized by decrease in the number of employees, long-lasting wage disparity in comparison with other economic sectors, reduction of state funding of the performances in public interest, increase of wood deliveries, progressive stabilization of wood export, preparation for EU accession and the link-up to the Common Agricultural Policy.

From the macroeconomic point of view the share of forestry on the main economic indexes is rather differentiated. The share of forestry on the gross domestic product (GDP) is

decreasing. It is because of the faster growth of the economy as a whole. In the GDP of forestry (0.52% in 2008) the utilization of ecological and social functions of the forests are not included. Although these forest functions begin to play a more significant role in benefits for the public, are still registered in other branches, which use these functions. The share of the forestry, wood-processing industry including the value of environmental and social functions is assed to approximately 3.3% of the GDP.

Investments into forestry were undersized which resulted in out of date machinery, almost stagnate forest road building and neglecting their reparation and maintenance. The volume of investments has nowadays an increasing tendency.

The economic performance and GDP of forest sector were from mid-2008 onwards significantly impacted by global financial crisis. The reduced demand for timber and timber-based products contributed to the imbalance between demands and supply and resulted in a fall of average prices per m^3 of timber by 12%. The sectoral GDP given in current prices rose by 1.18%; however, sectoral contribution to national GDP was at 0.42% on 0.04%was fall down and the trend is expected to continue in 2009.

The majority of sectoral investments (42.39 million Euros in 2008) went into construction (59.0%) and machinery / technology upgrade (33.5%). The remaining 7.5% were other investments. In the state sector, the investments annually rose by 11.8% whilst remaining largely unchanged in the non-state sector (1% up).

Funding of forest activities was undertaken in the years 2000 – 2006 through SAPARD-program (Special Assistance Program for Agriculture and Rural Development), Sectoral operational programs (Council Regulation 1257/99) and Rural Development Plans. For the actual planning period it is the European Agricultural Fund for Rural Development – EAFRD.

The aim of this paper is to analyse the situation in Slovakian forestry concerning to diversification activities especially in non-state forest sector. And on the example of successful implementation of project supported by SAPARD measure “Diversification activities in rural areas” to describe the possibilities occurring for small-scale forestry enterprises in the frame of rural development policy.

2. Forestry in Slovakia

Total forest area in Slovakia is 2,007 thousand hectares of which forest cropland is 1,933 thousand hectares. The state subjects manage 55% from the total area of forests, but hold property rights only to 40% of the area (MORAVČÍK ET AL., 2009).

The category of non-state forests in Slovakia includes private, community, church, agricultural co-op and municipal forests (Table 1). The process of forest restitutions has not been completed yet; therefore forests of unknown owners are temporary managed by state enterprises. Most common legal and organizational forms of non-state forest subjects are: land associations with /without corporate entity status; Ltd. companies; shared companies; physical persons with/without business licence and administrative units (commercial, semi-budgetary) attached to municipalities.

Table 1: Forest structure (forest crop land) by ownership and use 2008

Category	Ownership category						
	State	Municipal	Private	Community	Church	Agro co-operatives	Unknown
	Forest crop land, ha / %						
Ownership	777 107	187 818	252 192	495 051	57 818	4 438	159 167
	40.2	9.7	13.0	25.6	3.0	0.2	8.2
Use	1 067 124	170 264	139 080	519 361	32 530	5 232	-
	55.1	8.8	7.2	26.9	1.7	0.3	-

Source: Green Report 2009

Non-state forest enterprises are considerable diverse as regards the size of forest property, organisational structure and also expertise of forest land owners. Main problems of non-state sector in Slovakia are therefore effective forest property management, insufficient application of new ecological technologies, and insufficient compensation for restricted rights of forest owners, discrimination of forest owners caused by nature preservation restrictions, and unknown owners and the division of the common real estates.

There are no significant differences in basic data between state and non-state forestry sector (growing stock, area of mature stands, total increment) (Table 2). The average size of individual private holding is 2.8 ha. The very important force in forestry is creating sphere of forest service's suppliers who are doing outsourcing for state and non-state sector as well. According to national statistics in 2008 there was registered more than 15,400 such subjects active in NACE 02 Forestry.

Table 2: Key data on forestry sector in Slovakia 2008

Indicator	Ownership category					Total non-state sector	Total state sector
	Private	Community	Church	Agro co-operatives	Municipal		
Growing stock, 1,000 m^3	35,044	118,141	8,065	1,104	42,698	**205,052**	**247,038**
Area of mature stands, ha	29,831	92,059	6,036	1,259	33,360	**162,545**	**190,963**
Growing stock of mature stands, 1,000 m^3	11,990	35,470	2,340	409	14,174	**64,383**	**75,454**
Total increment, 1,000 m^3	919	3,052	244	32	1,078	**5,325**	**6,462**
Total increment, $m^3.ha^{-1}$	6.52	6.05	6.04	6.07	6.27	**6.24**	**6.16**

Source: Green Report 2009

3. Materials and methods

The overall approach to analysing the diversification activities is based on a cross-country comparison. In total, 15 European countries were included to analyses: besides Slovakia it was Slovenia, Bulgaria, Hungary, Czech Republic, Romania, Lithuania, Austria, Germany, Italy, Portugal, Greece, United Kingdom, and out of EU Switzerland and Norway.

The following methods of received data processing were applied:

- Qualitative analysis of key data about forestry sector in Slovakia from Green Report and Economic Accounts for Forestry
- Quantitative analysis of data from Economic Accounts for Forestry (EAF) for 2005, 2006 and 2007, according to EAF classification
  - As non-wood products there were analysed and summed items: 54,000 – other products, 15,000 – forestry services, 17,000 – non-forestry secondary activities (inseparable), 25,000 – other subsidies on production, 30,000 – interest receivable
  - The item 18,000 – output of the forestry "industry" represent total production of forestry
- There was calculated a ratio between the value of non-wood products and services and the value of total production of forestry with aim to analyse the level of diversification in the country
- For statistical processing of the data there were applied non-parametric statistical tests: Mann-Whitney U test and Kolgomorov Smirnov test (significance level α=0.05 for the number of degrees of freedom $f = k\,(n-1)$).

Economic accounts for forestry describe measure and analyse the generation of income and its distribution through the production account, the account of income generation, the entrepreneurial income account and the capital account. Economic accounts for forestry are an integrated part of the national economic accounts and their construction based on rules, principles and concepts of the ESA 95 methodology (EUROPEAN COMMISSION, 2000).

A case study analysis was the main method for describing diversification activities in private sector in Slovakia. An example of entrepreneurial activities was analysed from small forest holding point of view. The proportion of recreational services in total income of forestry holding was analysed in the official statistics and documents. In addition to that, face-to-face interviews with key actors were used as a research method. The case study data were collected by using a semi-structured thematic interview guideline. It allowed flexible conversations to take place still ensuring that all the main issues were discussed (see e.g. PATTON 2002). The themes were chosen to cover the critical aspects relating implementation of new recreational service.

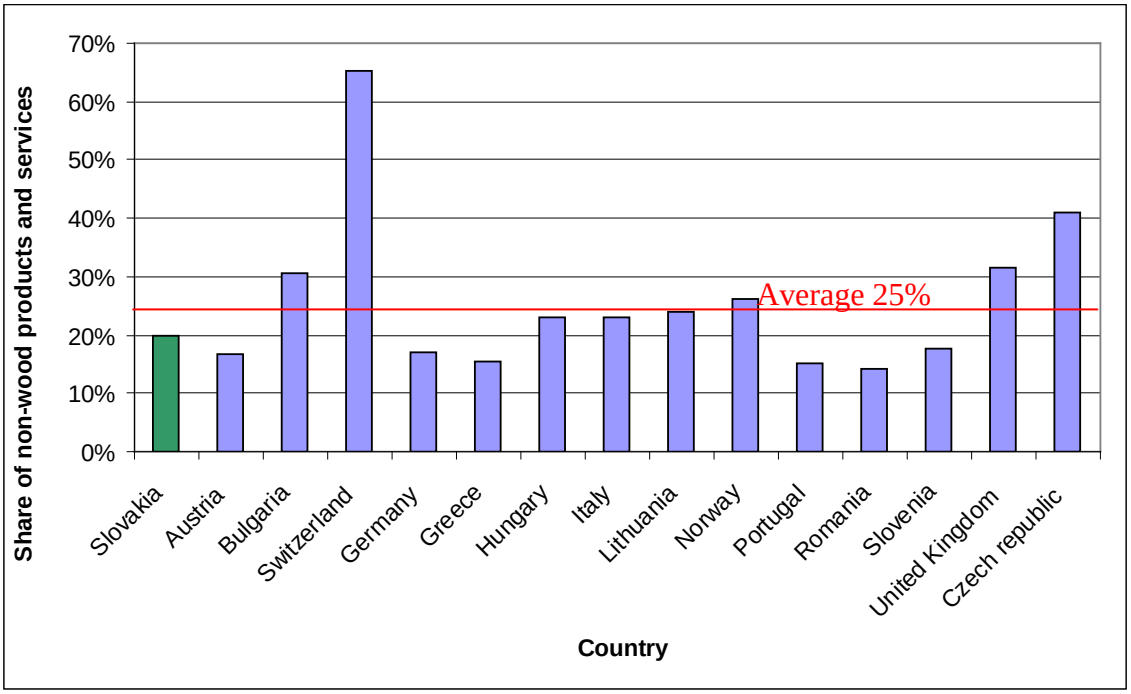
Main themes of the interview guideline were:

1. History and status of enterprise
2. Most important challenges for diversification
3. Most important actors and stakeholders
4. Critical aspects
5. Supporting factors
6. Results and benefits
7. Role of public policies

4. Results

4.1 Diversification of activities in the forestry sector

Diversification of activities in the forestry in selected countries was compared through the share of non-wood forest products and services on total production of the forestry in the country. Non-wood forest products consist of goods of biological origin other than wood, derived from forests, other wooded land, and trees outside forests such as natural gum, cork, and other forestry products. They include also agricultural products growing in forests such as mushrooms, truffles, other forest growing products (berries, nuts, etc.) and live animals grown in forest. Services include for instance, hunting as a sport or recreation, operation of reserves, national parks and other recreational services in forests. Comparable data were available for 15 European countries (Picture 1). The highest share of income from non-wood products and services was in Switzerland (65.27%). On the other hand the lowest level was in Romania (14.3%), Portugal (15.2%) and Greece (15.5%). Average level of diversification in the selected European countries is about 25%.



Picture 1: Activities diversification in forestry in some European countries

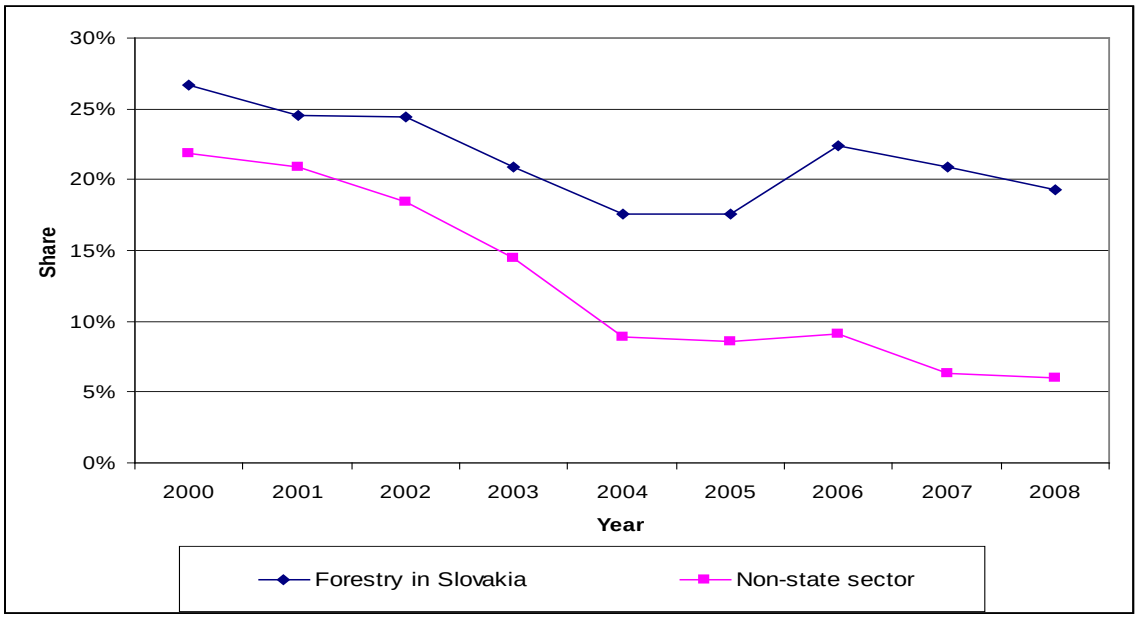
Although there are some differences in descriptive characteristics (mean, median, standard deviation, range and skewness) between old EU members[1] (include Switzerland and Norway) on the one hand and new EU members[2], they are no statistical significant and are due to chance (table 3).

Table 3 Testing of differences between old and new countries

Diversification of activities	n	Mean	Median	Min	Max	Skewness	Standard deviation
Old EU countries	8	26.27%	20.01%	15.22%	65.27%	2.21	16.80
New EU countries	7	24.27%	23.15%	14.32%	40.85%	1.09	8.93
H_o: $(x_a = x_b) > p$, H_A: $(x_a \neq x_b) \leq p$, (Mann-Whitney U test), U = 25.0, p = 0,73							
H_o: $(x_a = x_b) > p$, H_A: $(x_a \neq x_b) \leq p$, (Kolmogorov-Smirnov test), $D^- = -0{,}143$, $D^+ = 0{,}357$, $p > 0{,}1$							

[1] Old EU members: Austria, Switzerland, Germany, Greece, Italy, Norway, Portugal, United Kingdom
[2] New EU members: Slovakia, Bulgaria, Hungary, Lithuania, Romania, Slovenia, Czech republic

Forestry in Slovakia receives majority of its incomes from the sale of wood and timber. The share of income from timber sales in Slovakia is around 80%. In non-state forest sector it is in average higher, 93-94%. That means only 6-7% are incomes from other goods and services (KOVALČÍK ET AL., 2009). The trend is during last few years decreasing and unfriendly (Picture 2). Therefore it is important to increase the share of non-timber revenue. There is big challenge for diversification of activities especially in private sector, where the decrease was more than 15% between the years 2000 and 2008. Partly it is caused by land restitution process (small-scale forest owners are oriented mostly on wood production and forest management is their subsidiary activity), and partly by everlasting problems with market integration of until now non-marketed forest goods and services. As was mentioned above there is some possibilities defined in NFP but the implementation of such activities is still on the beginning.



Picture 2: Development of income share from other forest goods and services

One of the most prospective and the most developed activity is nature-based tourism and related recreational activities.

In general, tourism is one of the most rapidly growing industry sectors at the moment. In that context, especially forest related recreation is the activity promising the growth of turnover especially for small forest companies.

4.2 Recreational services in Veľký Klíž Forests

Case study represents a new innovative form to utilize forest areas in a form of private forest enterprise.

Sub-mountainous municipality Veľký Klíž, situated on the territory of the mountain Tríbeč (Western Slovakia), has 920 inhabitants living on cadastral territory of 4,241 hectares.

Forest enterprise of the municipality Veľký Klíž (community ownership category in the table 1 and 2) associates about 600 owners of agricultural and forest land with total area 786 hectares. Annual cut is about 800 m^3 of that about one half is fuel wood. Existing 248 ha of pasturelands is put on lease to Hunters' Association "Vrch Hora". Under good economic conditions felling of pine trees reaches almost 420 m^3 annually with following assortments –

30% saw log, 60% pulpwood and 10% poles and fuel wood. Forest managers are capable to produce 20% of saw log, 60% of pulpwood and 20% of fuel wood according to the timber prices and the needs of the association members. Turkey oak with its 50% proportion in tree species composition is not used for production of saw log as there is almost no demand after this assortment and wood is of low quality (many knots, curvature and cracks due to frost). Wood of Turkey oak forms a main component of fuel wood for the association members. The enterprise supplies 4-6 customers with log and pulpwood under good economic conditions. That means the annual income from wood is around 18,000 €.

The most important challenges for forest managers in preparing innovative project were as follows:

- Diversification of own production activities,
- Ensuring additional income for the members,
- Enhancement of the development of the municipality and the region with the use of natural and cultural potential of the municipality.

There was prepared and developed project supported by SAPARD (Special EU pre-accession assistance for agriculture and rural development) and in framework of this project there was reconstructed old-time forester's house and build up own facilities to provide background for other various recreational services (e.g. 9 round trails, forest guides, sport and playgrounds for children). In the beginning it was necessary to persuade the shareholders (members of association) about the need of investment. It required, in addition to others, suspension of paying membership shares for the period of two years of the project implementation.

Local associations (like hunting club), ALEA (Environmental Agency focusing on marketing of forest recreational services, local joiners, municipality and neighbour forest enterprise were the most important actors besides the forest owners.

The critical aspects were decision of the owners about suspension of paying membership shares, and during the implementation phase the cash flow. This was solved by loan from neighbour forest enterprise.

Supporting factors flow from the enthusiasm of forest managers and their personal interests. We need to highlight the important role of informal cooperation and cooperation networks in this process. Not least role had also possibility to use financing from SAPARD and other grant agencies (ORANGE).

The results and benefits of the project can be divided into economic benefits and others as:

- Receipts of about 2,000 € per year for recreational services related to the forester's house, (only accommodation represents 9.5% of total income),
- Receipts of the municipality related with providing next services with regard to the needs of tourists (e.g. information),
- Creating new jobs for local joiners.

Other benefits are:

- Recreation and education facilities for the inhabitants of the municipality (mainly pre-school children and elementary schools pupils),
- Creating an area for regular meetings of municipality organizations,
- Participation in public beneficial activities (e.g. waste collection),
- Improving the environment for local inhabitants.

Nowadays, the share of income from non-wood products and services is around 3,300€ (15.5%), what is above the average in SSF enterprises in Slovakia.

5 Discussion

Diversified economy, which is based on a wide range of profitable sectors or products, plays a key role in sustainable economy. There is a link between economic diversity and sustainability. Economic diversification can reduce national economic volatility and increase its real activity performance (SHEDIAC ET AL., 2010).

A challenge for diversification of activities brings new possibilities of income for rural areas. Farming and forestry businesses represent primary sector in rural areas. They give essential raw materials and provide a place of beauty, rest and recreation. The challenge for diversification is about meeting the possibilities and unlocking the potential.

Forestry along with traditional income source from wood must develop new products and services. On the other hand, it has a great deal to offer. Diversification of forestry and non-forestry activities as well as activities carried out in the framework of related sectors must be aimed at the increase of employment and incomes.

Priority areas defined in National Forest Programme for Slovakia are tourism (forest tourism, education, tourist guide, hunting), energy (use of alternative energy sources – bio energy, water) and the environment (environmental services in protection and enhancement of biodiversity). Diversification of production activities means their extension beyond the forestry in the areas of non-traditional wooden products, growing of ornamental trees and bushes, Christmas trees, medicinal plants, etc. (NATIONAL FOREST PROGRAMME OF THE SLOVAK REPUBLIC, 2007).

Income diversification helps to maintain sustainable forest management and, as it is presented by ILLUKPITIYA – YANAGIDA (2008), reducing forest dependence contributes to the conservation of biodiversity and thus to conservation of forest resources.

Level of activities diversification in the compared countries was about 25% of the total income of forestry. Data from GLOBAL FOREST RESOURCES ASSESSMENT (2005), which based on total value of non-wood forest products removals in 2005, presents this level of activities diversification in the same countries about 16%, but they include just the non-wood forest products (any services).

There have been carried out many studies on diversification of activities in forestry. For example KARPPINEN (1998) found out in his study that owners, who stressed that both, monetary and amenity benefits of their forest properties, were the most active in their silvicultural and cutting behaviour. Non-timber objectives seemed not to exclude wood production: a group called recreationists harvested slightly less than other owners. Recreationists were willing to invest in forestry but were selective with respect to management practices

ILLUKPITIYA – YANAGIDA (2008) found that in rural households in forest margins of Sri Lanka there is a positive relation between the index of income diversification and total income that indicates an increase in income due to increased diversification of income sources.

In general, we can state that non-state sector has been still under formation and it has been also improving own situation (for example establishment of associations as the powerful actors in the local policy). Main advantage of non-state sector is its independence in economic activities. It is easier to be engaged in other businesses than only in key business. There are also problems, of course, as short history of forest land management or lower skills and knowledge.

There are many factors that determine, which forestry activities forest owners carry out in their forest properties and which influence whether forest owners engage in entrepreneurial activity. Primary objective of forest owners is production or consumption of wood and non-wood goods and services. The forest owners whose objectives is timber production and who

are business-oriented are more likely to manage and harvest their stands. (Ní DHUBHÁIN ET AL. 2007)

In European Union (EU), at national and regional levels, there is a great amount of different policy documents at different levels highlighting the need to improve the competitiveness of rural regions in Europe. On European level one of the most important policy document securing implementation of practical measures for forestry sector is Rural Development Policy (RDP). EU stresses an important role of RDP for enhancing economic value especially for non-state forestry sector, together with maintaining the sustainable management and multifunctional role of forests (COUNCIL REGULATION 1698/2005).

During current programming period 2007-2013 EU rural development policy recommends to support diversification of activities through innovations in forestry. The most attractive opportunities for innovation are offered especially within the Measure 227 - Non-productive investments. Construction of new tourist infrastructure elements could be very important for rural development. Increasing of tourism attractiveness brings new opportunities for small-scale foresters. This measure is unfortunately not implemented in Slovakian RDP.

6 Conclusions

Main conclusions based on our analysis show findings as follows:

- Average level of diversification in the selected European countries is about 25% (based on results of Economic Accounts for Forestry - EAF).
- The level of activities diversification in Slovakia is comparable with other European countries (20%), but in non-state forest sector it is lower, and income from other goods and services is about 6-7% on average.
- There are good examples for diversification of activities and for innovation in non-state forest sector.
- Construction of new infrastructure for tourism may be very important for rural development. Increasing of tourism attractiveness brings new opportunities for small – land forest owners.
- Main fostering factor for introducing new services was the support from EU funds.
- The diversification of economy in SSF holdings is an important way how to survive in difficult time especially during this time of economic crisis.

It seems that despite the important role that economic factors play in the development of diversification process, appealing to this kind of factors alone is not enough. Some social and political issues are very important as well.

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