

A study on the sustainability of the universal postal service and defining its role in accordance with the changing needs of users

Phase III – Evaluation of the sustainability of the universal postal service with recommendations

Year 2024

Orderer:	Regulatory Authority for Electronic Communications and Postal Services - RATEL, Belgrade, Palmotićeve 2
Service provider:	TCOM DOO BEOGRAD, Belgrade, Čemernička 2/10
Contract:	Service provision agreement RATEL No.1-06-4042-23/23-11 from 26.06.2023. TCOM No. 260623-01 from 26.06.2023.
Service:	A study on the sustainability of the universal postal service and defining its role in accordance with the changing needs of users

CONTENT

SUMMARY.....	1
1. PREPARATION AND COLLECTION OF THE NECESSARY DATA SETS FOR ASSESSING THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE	2
1.1 The data collected for the evaluation of the sustainability of the universal postal service in the segment of scope	2
1.2 The data collected for the evaluation of the sustainability of the universal postal service in the segment of the service quality	30
1.3 The data collected for the evaluation of the sustainability of the universal postal service in the segment of the availability of postal network units	39
2 ASSESSMENT OF THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE IN THE SCOPE SEGMENT - RESULTS OF THE APPLICATION OF THE PROPOSED METHODOLOGY	53
2.1 Introductory notes on the scope of the universal postal service in the European Union and Serbia	53
2.2 Considered alternatives related to the scope of the universal postal service	56
2.3 Considered criteria related to the scope of the universal postal service.....	57
2.4 Results of application of the proposed methodology in the scope segment universal postal services.....	58
3 ASSESSMENT OF THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE IN THE SEGMENT OF THE QUALITY OF SERVICE IN TERMS OF TRANSIT TIMES - RESULTS OF THE APPLICATION OF THE PROPOSED METHODOLOGY	67
3.1 Introductory notes on the quality of service in the European Union and Serbia	67
3.2 Considered alternatives in the segment of service quality	70
3.3 Considered criteria in the segment of the service quality	72
3.4 Results of application of the proposed methodology in the segment of the service quality	73
4 ASSESSMENT OF THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE IN THE SEGMENT AVAILABILITY OF POSTAL NETWORK UNITS - RESULTS OF THE APPLICATION OF THE PROPOSED METHODOLOGY	80
4.1 Availability of postal networks in Europe from the aspect of universal service.....	80
4.2 Overview of the state of the postal network in the Republic of Serbia	82
4.3 Considered alternatives in the segment of availability of postal network units	83

4.4	Considered criteria in the segment of availability of postal network units.....	84
4.5	The results of the application of the proposed methodology in the segment of availability of postal network units	85
5	FINANCIAL SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE – IMPACT OF MARKET LIBERALIZATION AND FINANCING MODELS.....	92
5.1	Models for financing the universal postal service and the experience of other European countries	92
5.2	Choice of universal service financing model.....	97
5.3	Projection of the development of the postal services market in accordance with liberalization.....	100
6	CONCLUSION AND RECOMMENDATIONS ON THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE IN THE REPUBLIC OF SERBIA	108
6.1	Recommendations on the sustainability of the universal postal service in the scope segment	109
6.2	Recommendations on the sustainability of the universal postal service in the segment of quality of service in terms of transit times.....	110
6.3	Recommendations on the sustainability of the universal postal service in the segment of the availability of the postal network	111
6.4	Recommendation on the financing model of the universal postal service.....	111
7	APPENDICES.....	113
	Appendix I.A Questionnaire for experts on the evaluation of alternatives according to criteria regarding the scope of the universal postal service	113
	Appendix I.B. Questionnaire for experts on the assessment of the importance of each of the factors for deciding on the appropriate scope of the universal postal service	114
	Appendix I.C. Questionnaire for experts on the assessment of the importance of each criterion for deciding on the appropriate scope of the universal postal service	115
	Appendix II.A Questionnaire for experts on the evaluation of alternatives according to criteria regarding the quality of service in terms of transit times.....	116
	Appendix II.B. Questionnaire for experts on the assessment of the importance of each of the factors for deciding on the appropriate concept of universal postal service in the segment of the quality of service in terms of transit times.....	117
	Appendix II.C. Questionnaire for experts on the assessment of the importance of each criterion for making a decision on the appropriate universal postal service concept in the segment of the quality of service in terms of transit times	118
	Appendix III.A Questionnaire for experts on the evaluation of alternatives according to criteria regarding the concept of universal postal service in the segment of availability of postal network units.....	119
	Appendix III.B. Questionnaire for experts on the assessment of the importance of each of the factors for deciding on the appropriate concept of universal postal service in the segment of availability of postal network units.....	120

Appendix III.C. Questionnaire for experts on the assessment of the importance of each criterion for deciding on the appropriate concept of universal postal service in the segment of availability of postal network units.....	121
Appendix IV. Experiences of other postal operators, comparable to Post of Serbia, which have or had the concept of reserved service as a model of sustainability of universal postal service	122
Appendix V. Weighting coefficients used by the fuzzy AROMAN method, by segments of the sustainability of the universal postal service.....	153

LIST OF FIGURES

Figure 1.1. Volume of letter items for the period 2014-2023. year	3
Figure 1.2. Volume of letter items for the period 2014-2023. (with a forecast 2024-2026)	3
Figure 1.3. Volume of unregistered letter items for the period 2014-2023. (with a forecast 2024-2026)	4
Figure 1.4. Volume of letter items without ADM for the period 2014-2023. (with a forecast 2024-2026)	4
Figure 1.5. Volume of ADM for the period 2014-2023. (with a forecast 2024-2026)	5
Figure 1.6. Volume of court letters for the period 2014-2023. year (with a forecast 2024-2026).....	5
Figure 1.7. Volume of money orders for the period 2014-2023. (with a forecast 2024-2026) .	6
Figure 1.8. Volume of priority letters 2021-2023. year (with a forecast 2024)	6
Figure 1.9. Scope of the parcel for the period 2014-2023. year (with a forecast 2024-2026) ..	7
Figure 1.10. Income from letter items for the period 2014-2023. year	9
Figure 1.11. Average revenue per unit of letter items for the period 2014-2023. year.....	10
Figure 1.12. Income from letter items for the period 2014-2023. (with a forecast 2024-2026)	10
Figure 1.13. Income from letter items without ADM for the period 2014-2023. (with a forecast 2024-2026)	11
Figure 1.14. Average revenue per unit of letter items without ADM for the period 2014-2023. (with a forecast 2024-2026)	11
Figure 1.15. Average revenue per unit of letter items for the period 2014-2026. year (based on forecasts from Figure 1.4 and Figure 1.13).....	12
Figure 1.16. Income from court letters for the period 2014-2023. year (with a forecast 2024-2026).....	12
Figure 1.17. Average revenue per unit of court letters for the period 2014-2023. (with a forecast 2024-2026)	13
Figure 1.18. Income from money orders for the period 2014-2023. (with a forecast 2024-2026).....	13
Figure 1.19. Average income per unit of money orders for the period 2014-2023. (with a forecast 2024-2026)	14
Figure 1.20. Income from parcels for the period 2014-2023. (with a forecast 2024-2026) ...	14
Figure 1.21. Average revenue per unit Parcels for the period 2014-2023. (with a forecast 2024-2026)	15
Figure 2.1. Rank of alternatives in the segment of the scope of the universal postal service .	60
Figure 2.2. The importance of introducing eServices of the state administration as a service of public interest.....	61
Figure 2.3. The importance of introducing services such as payments and withdrawals, payments of pensions, social assistance and similar as services of public interest that would be an addition to the UPS	61
Figure 2.4. The significance of the introduction of the hybrid letter service within the universal postal service	62
Figure 2.5. Importance of introducing services intended for different vulnerable categories	63
Figure 2.6. The importance of continuing to provide the priority letter service within the UPS	64
Figure 2.7. The importance of continuing to provide addressed direct mail services within the UPS.....	65
Figure 2.8. Importance of transferring parcels of large dimensions (over 60x50x50 cm) within the UPS.....	65

Figure 3.1. The trend of decreasing quality of transmission of priority items for the term $D+1$	68
Figure 3.2. Norwegian delivery model	70
Figure 3.3. The volume of items on delivery by days in the case of alternative A.2.1	71
Figure 3.4. The ranking of alternatives in the segment of service quality	74
Figure 3.5. Percentage of unregistered letter items to be transferred within $D+1$	75
Figure 3.6. Percentage of unregistered letter items to be delivered within $D+2$	75
Figure 3.7. Percentage of unregistered letter items to be transferred within $D+3$	76
Figure 3.8. Percentage of unregistered letter items to be transferred within $D+4$	76
Figure 3.9. Percentage of unregistered letter items to be transferred within $D+5$	77
Figure 3.10. Percentage of unregistered priority letter items to be transferred within $D+1$..	77
Figure 3.11. Percentage of unregistered priority letter items to be transferred within $D+2$..	78
Figure 3.12. Percentage of unregistered priority letter items to be transferred within $D+3$..	78
Figure 4.1. Rank of alternatives in the segment of availability of postal network units	86
Figure 4.2. The percentage of the population that is up to 2.5 km from the post office at the municipal level	87
Figure 4.3. The percentage of the population that is up to 5 km from the post office at the municipal level	87
Figure 4.4. The percentage of the population that is up to 10 km from the post office at the municipal level	88
Figure 4.5. The percentage of the population that is within 2.5 km from a post office at the national level	88
Figure 4.6. The percentage of the population that is within 5 km from a post office at the national level	89
Figure 4.7. The percentage of the population that is up to 10 km from a post office at the national level	89
Figure 4.8. Estimated minimum working hours of the post office on weekdays (in hours)	90
Figure 4.9. Estimated afternoon minimum working hours for delivery mail at least once a week ("up to hours")	90
Figure 4.10. Estimated minimum number of post office working days in rural areas (in days)	91
Figure 4.11. Estimated minimum working hours of post offices in rural areas (in hours)	91
Figure 5.1. Ratio of changes in the volume of letter items after market liberalization in selected countries	101
Figure 5.2. Ratio of changes in the volume of parcel items after market liberalization in selected countries	106
Figure 7.1. Number of letter items - Austria	122
Figure 7.2. Number of parcels - Austria	123
Figure 7.3. Number of letter items – Bulgaria	124
Figure 7.4. Number of parcels - Bulgaria	124
Figure 7.5. Number of letter items - Croatia	125
Figure 7.6. Number of parcels - Croatia	125
Figure 7.7. Number of letter items - Slovenia	126
Figure 7.8. Number of parcels - Slovenia	126
Figure 7.9. Number of letter items - Montenegro	127
Figure 7.10. Number of parcels - Montenegro	128
Figure 7.11. Number of letter items - Switzerland	128
Figure 7.12. Number of parcels - Switzerland	129
Figure 7.13. Number of letter items - Lithuania	129
Figure 7.14. Number of parcels - Lithuania	130

Figure 7.15. Number of letter items - Slovakia.....	130
Figure 7.16. Number of parcels - Slovakia.....	131
Figure 7.17. Number of letter items - Hungary	131
Figure 7.18. Number of parcels - Hungary	132
Figure 7.19. Number of letter items - Czech Republic	132
Figure 7.20. Number of parcels - Czech Republic	133
Figure 7.21. Number of letter items - Ukraine	134
Figure 7.22. Number of parcels - Ukraine	134
Figure 7.23. Number of letter items - Denmark	135
Figure 7.24. Number of parcels - Denmark.....	135
Figure 7.25. Number of letter items - Estonia	136
Figure 7.26. Number of parcels - Estonia	136
Figure 7.27. Number of letter items - Finland.....	137
Figure 7.28. Number of parcels - Finland.....	137
Figure 7.29. Number of letter items - France.....	138
Figure 7.30. Number of parcels - France.....	138
Figure 7.31. Number of letter items - Germany	139
Figure 7.32. Number of parcels - Germany.....	139
Figure 7.33. Number of letter items - Great Britain.....	140
Figure 7.34. Number of parcels - Great Britain.....	140
Figure 7.35. Number of letter items - Greece.....	141
Figure 7.36. Number of parcels - Greece.....	141
Figure 7.37. Number of letter items - Ireland.....	142
Figure 7.38. Number of letter items - Italy.....	143
Figure 7.39. Number of parcels - Italy.....	143
Figure 7.40. Number of letter items - Latvia	144
Figure 7.41. Number of parcels - Latvia	144
Figure 7.42. Number of letter items - Luxembourg	145
Figure 7.43. Number of parcels - Luxembourg	145
Figure 7.44. Number of letter items - Malta.....	146
Figure 7.45. Number of parcels - Malta	146
Figure 7.46. Number of letter items - Netherlands.....	147
Figure 7.47. Number of parcels - Netherlands.....	147
Figure 7.48. Number of letter items - Poland.....	148
Figure 7.49. Number of parcels - Poland.....	148
Figure 7.50. Number of letter items - Portugal	149
Figure 7.51. Number of parcels - Portugal	149
Figure 7.52. Number of letter items - Romania	150
Figure 7.53. Number of parcels - Romania	150
Figure 7.54. Number of letter items - Spain	151
Figure 7.55. Number of letter items - Sweden	152

LIST OF TABLES

Table 1.1. Number and types of vehicles in operation.....	18
Table 1.2. Number of lines of the General Transport Schedule/Transport Schedule and distance traveled	19
Table 1.3. Number of vehicles and average daily distance traveled	19
Table 1.4. The daily distance traveled by postmen in PAK	19
Table 1.5. Number of injuries at work, according to severity of injury at work and number of days absent from work due to injury at work	29
Table 1.6. Number of injuries by cause of injury	29
Table 1.7. Public procurement plan and implementation for 2023	41
Table 1.8. Operating costs for 2023	41
Table 1.9. Values of economic criteria for alternative A3.1	42
Table 1.10. Comparison of the value of economic criteria for alternatives A3.1 and A3.3	43
Table 1.11. Mileage by vehicle type and average fuel consumption	44
Table 1.12. Total number of post offices by number of working days in the week	50
Table 1.13. Number of post offices that deliver by number of working days.....	50
Table 1.14. Number of post offices delivering in urban areas by number of working days	50
Table 1.15. Number of post offices delivering in rural areas by number of working days	50
Table 2.1. Changes to the scope of the UPS	54
Table 2.2. Examples of six countries where special UPS requirements apply	56
Table 3.1. Realized quality of the transmission of priority letters from EU countries, Norway and the United Kingdom	67
Table 3.2. EU countries and Norway that have relaxed delivery deadlines	68
Table 3.3. Frequency of delivery in EU countries, Norway and the United Kingdom	69
Table 3.4. Potential quality standards for the transmission of letter and parcel items under alternative A.2.1	71
Table 3.5. Deadlines for the transfer of non-priority unregistered letter items in the internal postal traffic in the year 2022	72
Table 3.6. Deadlines for the transfer of priority unregistered letter items in the internal postal traffic in 2022	72
Table 3.7. Potential quality parameters in terms of the speed of transmission of items in the internal postal traffic.....	72
Table 4.1. Structure of the postal network of JP " Post of Serbia"	82
Table 5.1. Ranking of financing models.....	100
Table 5.2. Change in the volume of letter items after the liberalization of the market	101
Table 5.3. Change in the volume of letter items after the liberalization of the market, taking into account the compatibility index of the observed countries with Serbia.....	102
Table 5.4. Change in the volume of letter items after market liberalization in relative amount to the volume of letter items of other observed countries	103
Table 5.5. Changes in the volume of parcel items after market liberalization	105
Table 5.6. Changes in the volume of parcel items after the liberalization of the market, taking into account the compatibility index of the observed countries with Serbia.....	106
Table 5.7. Changes in the volume of parcel items after market liberalization in relative amounts to the volume of parcel items in other observed countries	107

SUMMARY

The aim of the "Study on the Sustainability of the Universal Postal Service and Defining its Role in Accordance with the Changing Needs of Users" is to propose, through the first phase, a research methodology based on which data is collected in the second phase and then, in the third phase, "Evaluation of the sustainability of the universal postal service with recommendations", tests the proposed model. The first phase of the study "Methodology for assessing the sustainability of the universal postal service and defining the necessary types and data sets, based on which the model will be tested", was adopted on December 26, 2023 and was published on the website of the Regulatory Authority for Electronic Communications and Postal Services as part of published studies in the field of postal services. The proposed model should provide directions for defining the universal postal service to ensure the availability and sustainability of the universal postal service in accordance with the needs of users and changes in the market, while at the same time preserving economic sustainability.

Multi-criteria decision-making, specifically the FUZZY AROMAN method, is used as the basic methodological concept, as one of the newest methods in this field. To implement the multi-criteria decision-making procedure, experts from the field of postal traffic evaluated the offered alternatives using linguistic evaluations, and according to each criterion that is considered important for making a decision. To facilitate the assessment of the experts, as well as to contribute to objectivity, the experts were presented with the appropriate statistical data collected in the second phase of the study, as well as the results of forecasting the variables of interest. Also, each of the experts stated the importance of each of the criteria when deciding on the appropriate concept of universal postal service. The expert team that was surveyed in order to conduct this research was composed of representatives of the public postal operator, the Regulatory Authority for Electronic Communications and Postal Services, the competent Ministry, and members from the academic sector in the field of postal traffic. The proposed methodology was tested in three segments related to the sustainability of the universal postal service, namely: the scope of the universal postal service, the quality of service, and the availability of postal network units. The general methodological concept is adapted to each of these three segments, and three methodological approaches are proposed in this study depending on the analyzed segment of the universal postal service.

1. PREPARATION AND COLLECTION OF THE NECESSARY DATA SETS FOR ASSESSING THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE

In Phase II of the Study on the sustainability of the universal postal service and defining its role in accordance with the changing needs of users data was collected from the Regulatory Authority for Electronic Communications and Postal Services (hereinafter RATEL), the public postal operator JP "Pošta Srbije" (hereinafter Post of Serbia), the Ministry of Information and Telecommunications (hereafter MIT), and users of postal services. Within these data, opinions (estimates) were also given on issues related to parameters that could not be expressed with exact values. During the testing of the model in Phase III, a group of experts from the field of postal traffic expressed their opinion on the relationship between the criteria and alternatives using *fuzzy* linguistic variables that were defined in Phase I - *Methodology for assessing the sustainability of the universal postal service and defining the necessary types and data sets, based on which the model will be tested*. The data collected in Phase II represented decision-making support for the group of experts who gave their opinion in Phase III – *Evaluation of the sustainability of the universal postal service with recommendations*.

1.1 The data collected for the evaluation of the sustainability of the universal postal service in the segment of scope

The collected data is structured according to the criteria on the basis of which each of the alternatives is evaluated, the criteria themselves are grouped into four clusters: economic factors, environmental factors, social factors, and technical factors.

ECONOMIC FACTORS

The analysis of the financial concept of the sustainability of the universal service and the changes that would occur in the event of the abolition of the reserved band will be analyzed at a later stage of the study, after the evaluation of the alternatives.

K1.1. Expected scope of services (max)

A1.1 (This alternative is described in chapter 2.2, page 56)

Based on a ten-year series of data on the number of items from the scope of the universal postal service, graphs were created showing the data together with forecasted values for the period from 2024 to 2026. Figure 1.1 shows the volume of letter items in the period 2014 - 2023 according to the respective sets of types of services.

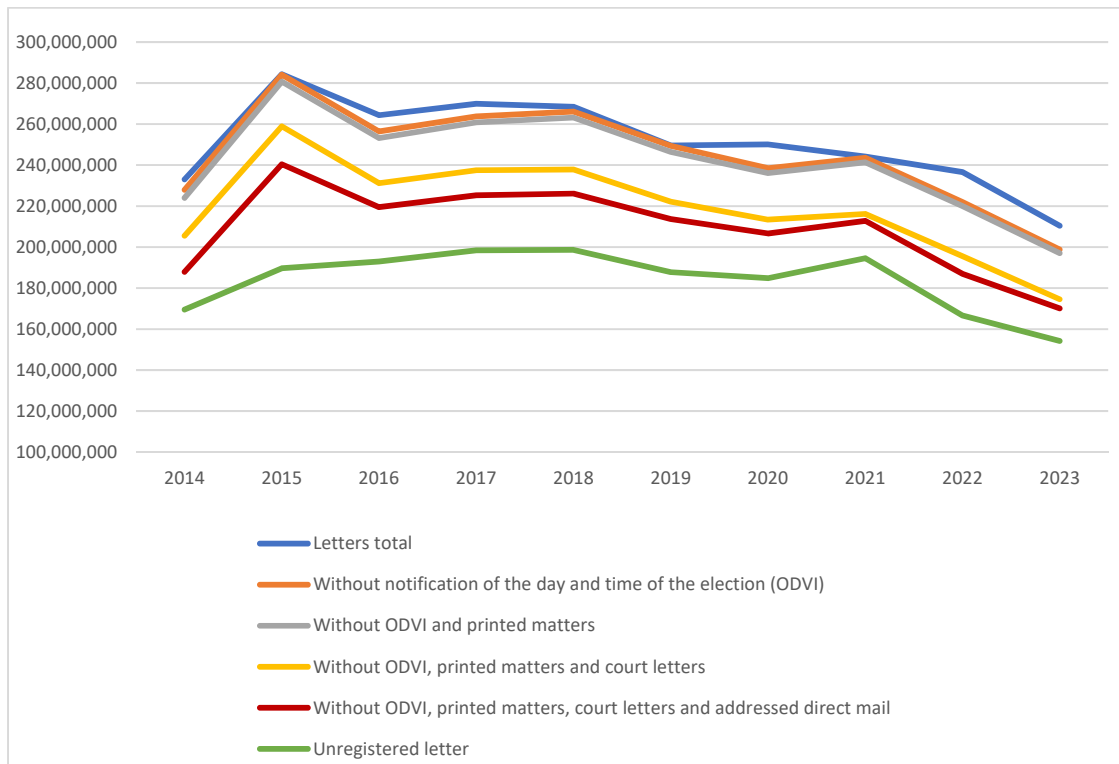


Figure 1.1. Volume of letter items for the period 2014-2023. year

Figure 1.1 shows that the main influence on the trend is the volume of unregistered letters. Based on this, it can be concluded that all the forecasts of the total volume of letter items will move in the same direction, in accordance with the forecast of unregistered letters.

The forecasted values, in addition to the basic trend (forecast line), also show the upper and lower confidence interval, that is, the movement of the volume of items in the specified interval is predicted depending on the circumstances in the market (Figures 1.2 to 1.9).

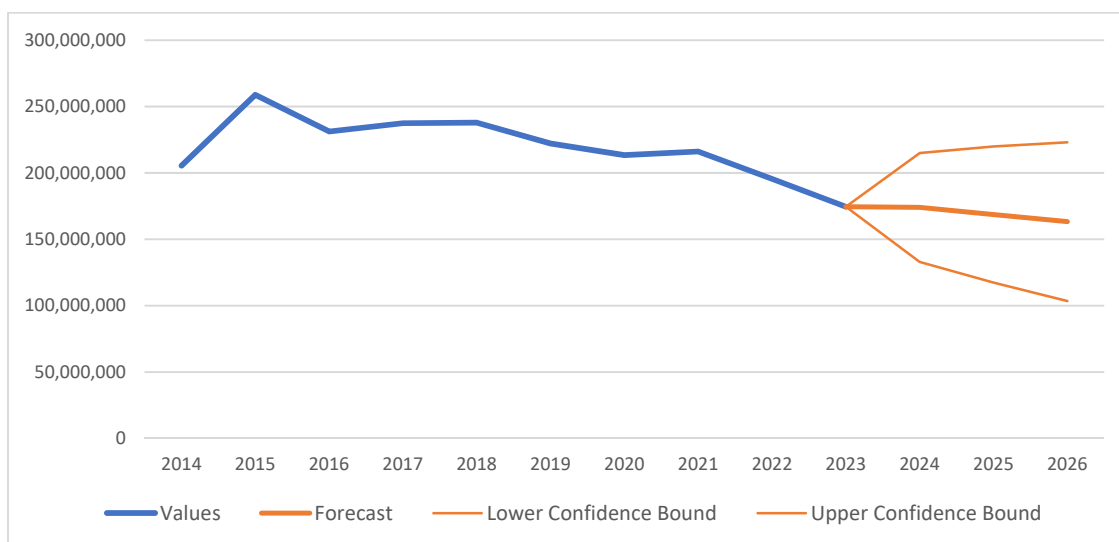


Figure 1.2. Volume of letter items for the period 2014-2023. (with a forecast 2024-2026)

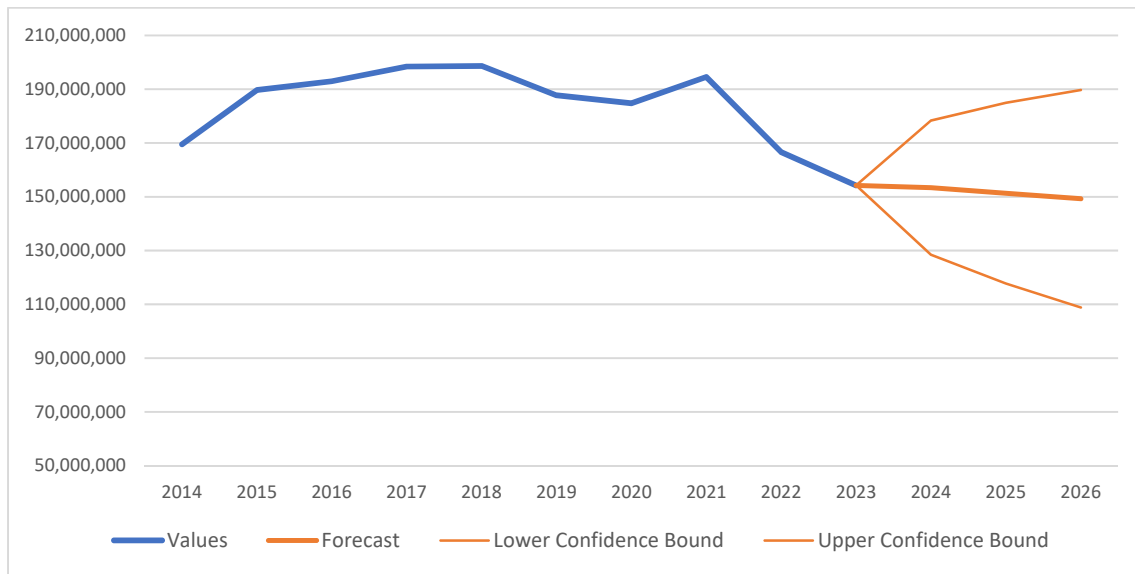


Figure 1.3. Volume of unregistered letter items for the period 2014-2023. (with a forecast 2024-2026)

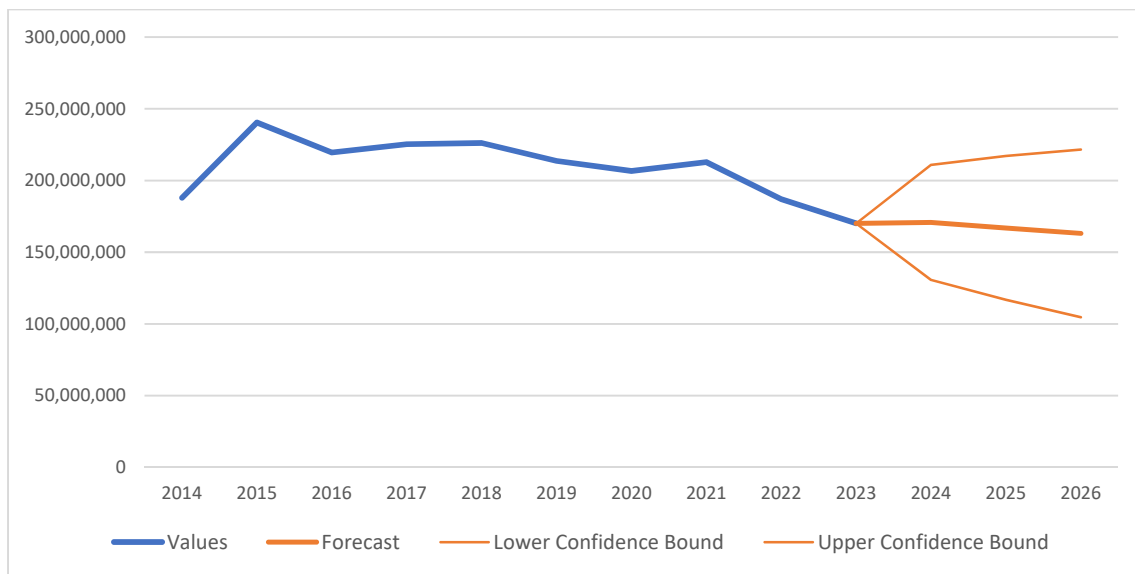


Figure 1.4. Volume of letter items without ADM¹ for the period 2014-2023. (with a forecast 2024-2026)

¹ ADM - Addressed Direct Mail

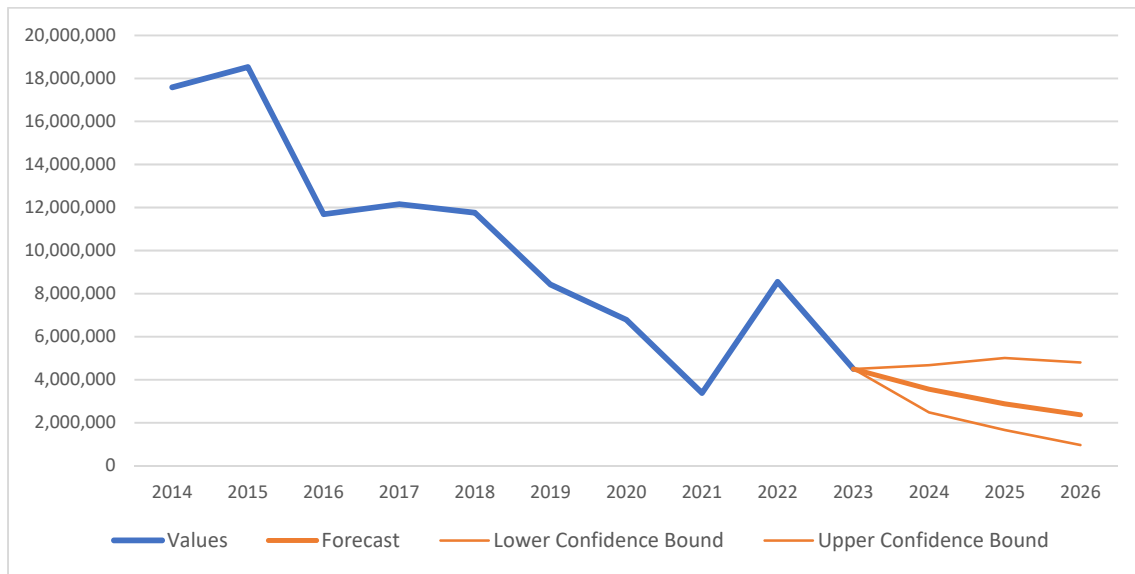


Figure 1.5. *Volume of ADM for the period 2014-2023. (with a forecast 2024-2026)*

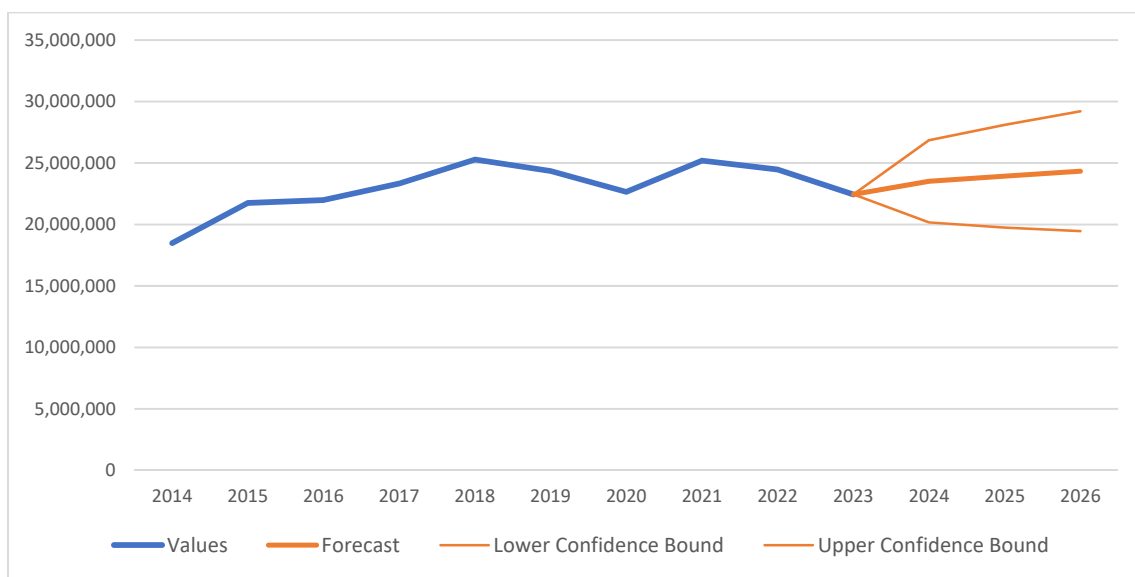


Figure 1.6. *Volume of court letters for the period 2014-2023. year (with a forecast 2024-2026)*

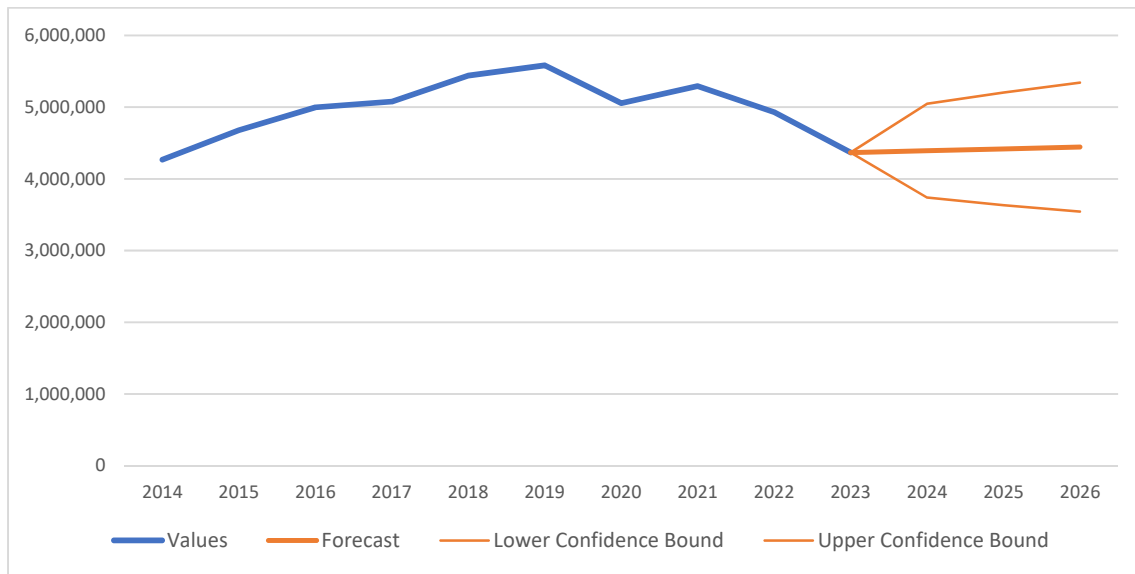


Figure 1.7. Volume of money orders for the period 2014-2023. (with a forecast 2024-2026)

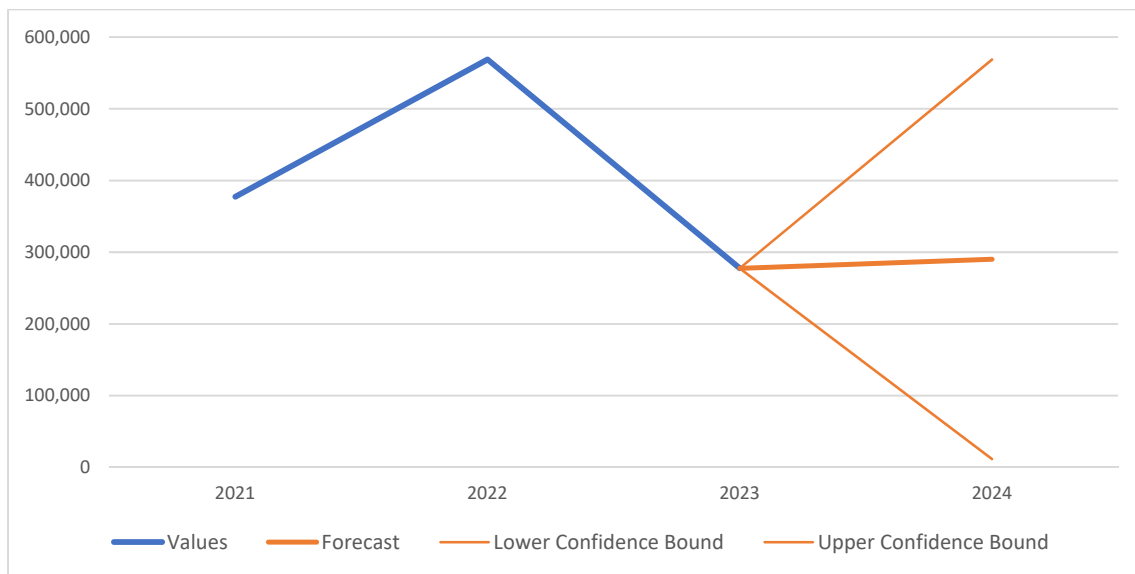


Figure 1.8. Volume of priority letters 2021-2023. year (with a forecast 2024)

When it comes to priority letters, it must be noted that this service was introduced in 2021, so the trend and forecast should be viewed conditionally, bearing in mind that the coefficient of determination is relatively low and amounts to 0.1134².

² The coefficient of determination shows which part of the variability is explained by the model. In the case of priority letters, 11.34% of the projected volume was explained by the volume in previous years, while the rest of the variability arose under the influence of other factors.

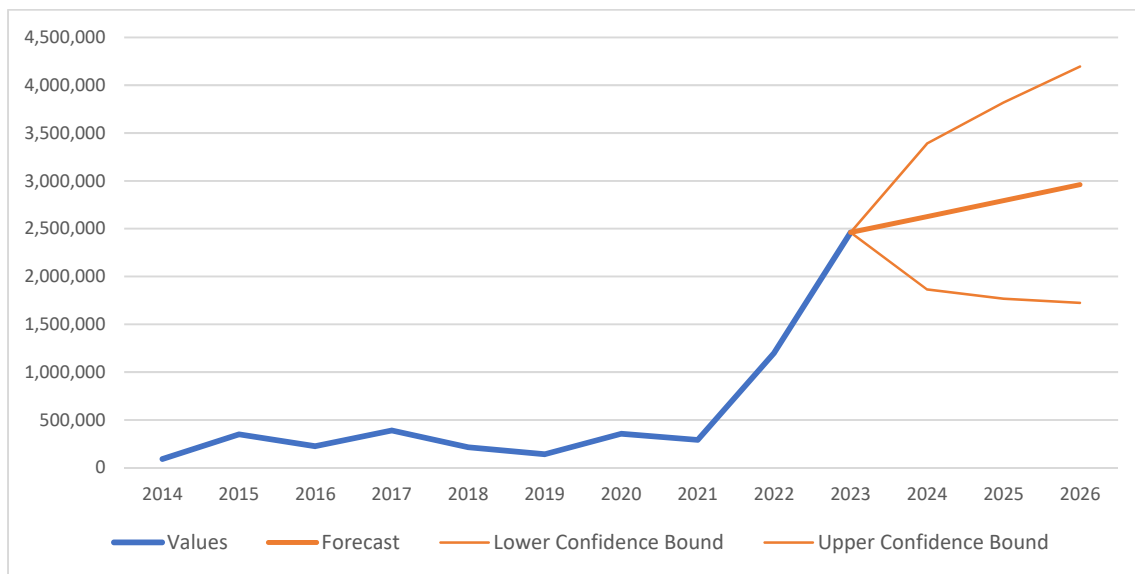


Figure 1.9. *Scope of the parcel for the period 2014-2023. year (with a forecast 2024-2026)*

Analyzing alternative A1.1, which envisages maintaining the existing situation in the scope of universal service, it can be said that the highest probability of realization of the volume of postal items in the future is illustrated by the graphs shown. One of the challenges for the public postal operator, i.e. The Serbian Post, which could affect a certain reduction in the volume of items, is the discrepancy between the set quality standards and the achieved level of service quality in practice, when it comes to priority and non-priority letters.

A1.2 (This alternative is described in chapter 2.2, page 57)

According to the data from 2023, the services which according to alternative A1.2 are being considered for cancellation from the universal service have a relatively small share in the total volume of postal services. Priority letters and addressed direct mail take part with 0.12% and 3.4%, respectively, in the volume of letter items, while bulky parcels take part with 1.25% in the total volume of parcels. Changes within the existing scope of the universal postal service related to the reduction of the scope, as envisaged by alternative A1.2, could lead to the following changes in the volume of postal items:

- If the priority letter is completely abolished (in 2023, in terms of volume, about 278,000 of these services were implemented), it can be expected to spill over into the unregistered letter. In the event that the reserved service is canceled and if the priority letter is canceled only from the universal service, and continues to be provided as a commercial service (i.e. within other services) of the public postal operator, it is to be expected that the price of the service will increase, and the availability of the service in the entire territory would be called into question, which would probably result in a smaller number of these services. However, if the reserved service is not abolished, it is not expected that the priority letter will become a commercial service because the price would have to be at least 2.5 times higher than the non-priority unregistered letter, which would deter users from using this service. Therefore, the most realistic scenario in case of cancellation of a priority letter is that almost all of these items will be transferred to non-priority unregistered letters, possibly an extremely small part to express services;

-
- If addressed direct mail is abolished (in 2023, about 4,496,000 of these services were implemented), it is expected that it would be transferred to unregistered mail, with a possible reduction in volume due to a slightly higher price of the service compared to the existing one;
 - When it comes to bulky parcels, if they are excluded from the universal service (in 2023, about 188,000 of these services were implemented), a decline in these services or spillover into other services can be expected.

A1.3 (This alternative is described in chapter 2.2, page 57)

In 2023, around 12.3 million items were printed and equipped via hybrid mail for large users - legal entities. The public postal operator did not consider the possibility of introducing a hybrid letter for natural persons as well. The aforementioned volume of services provided by the Post of Serbia is expected to continue in the future, and if the service is introduced for natural persons as well, a slight increase in volume is expected. In the previous period, the Post of Serbia undertook activities to introduce the items of utility companies containing invoices into the postal streams through the unified printing and distribution service, since almost 50% of the invoices (estimated postage of about one billion dinars per year) are distributed outside the postal streams (utility companies themselves organize the distribution of invoices to avoid costs for postal services). Also, services for the category of "vulnerable" users would not lead to a significant increase in the volume of services. Services for the category of "vulnerable" users will only be defined later in accordance with the needs of this group of users. The increase in volume can be influenced by the hybrid service of Scanning return receipts and envelopes of undelivered items, which in 2023 was 991,000, which can be a value-added service.

A1.4 (This alternative is described in chapter 2.2, page 57)

It is estimated that the introduction of public services, which would be an addition to the universal service, would lead to an increase in the volume of services for:

- paid money orders TR 10 (pension, social assistance, and other benefits that are paid to the address of the co-payer), amounting to about 3,352,000;
- volume based on business cooperation and realized services with eGovernment, a volume of about 391,000;
- generation of payment instructions (issuance of identity cards, passports...), volume of about 205,000.

K1.2. Expected income (max)

A1.1 (This alternative is described in chapter 2.2, page 56)

When it comes to alternative A1.1, similarly as in the case of considering the volume of items, it can be said that the highest probability of realization of revenue from postal items in the future is illustrated by the graphs shown. Figure 1.10 shows the income from letter items in the period 2014 - 2023, as well as variations based on different sets of services.

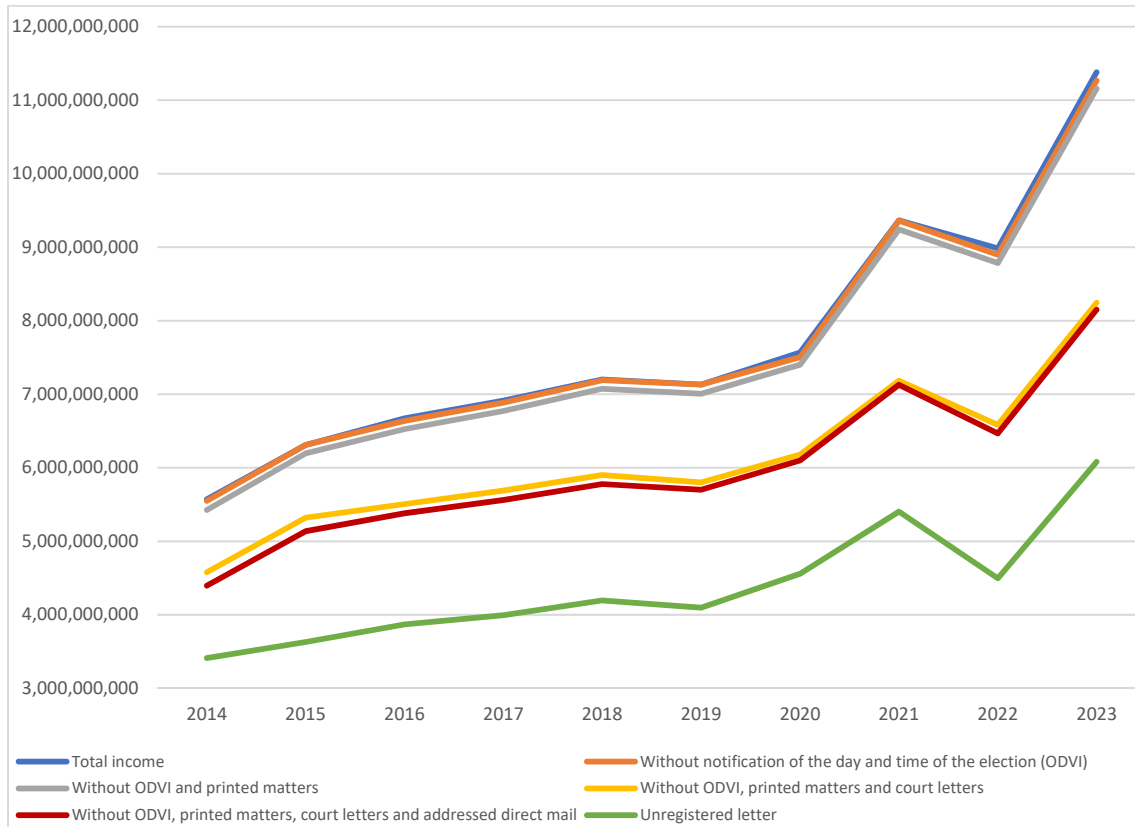


Figure 1.10. *Income from letter items for the period 2014-2023. year*

Just as when it comes to the volume of letter items, the trend of income from letter items (Figure 1.10) is identical regardless of which types of items are considered in total, that is, the main influence on the trend is the income from unregistered letters. On the basis of this, it can be concluded that all projections of the total income of letter mail will move in the same direction, in accordance with the projection of income from unregistered letters. The trend of average revenue per unit is also most influenced by unregistered letters (Figure 1.11).

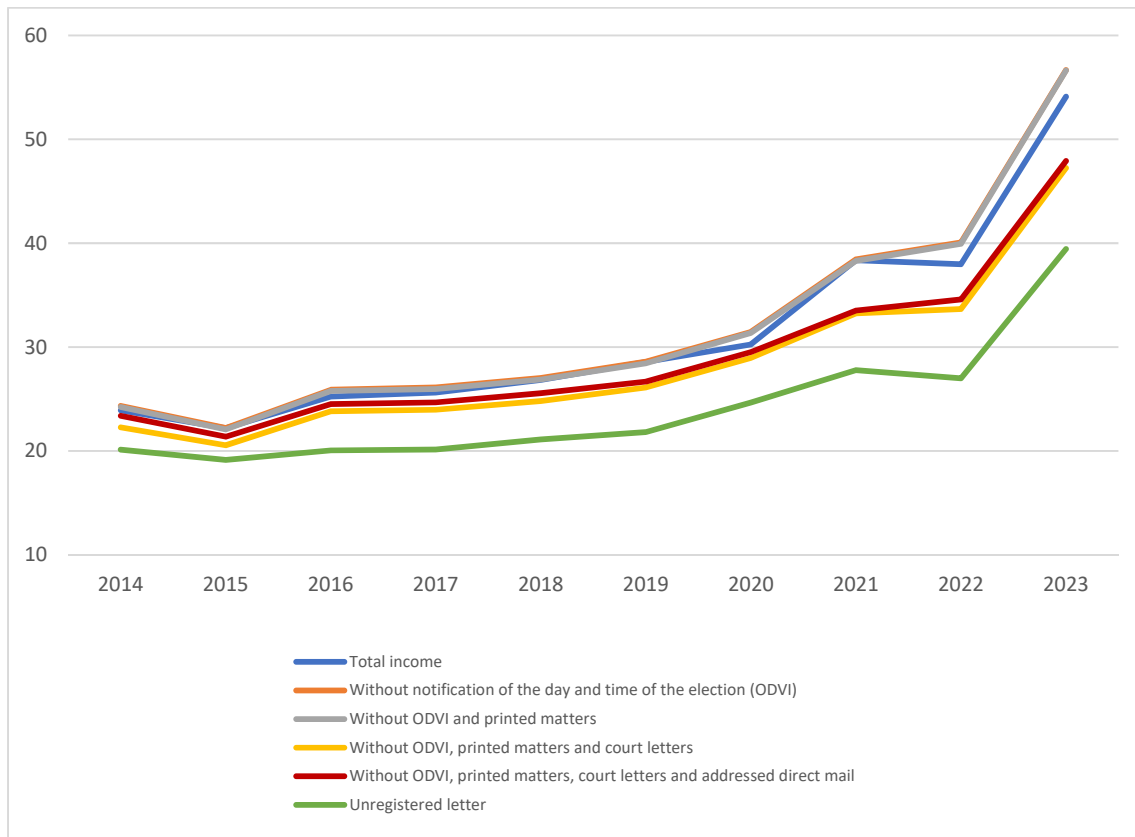


Figure 1.11. Average revenue per unit of letter items for the period 2014-2023. year

Figures 1.12 to 1.21 show income levels, by type of service, in the last 10 years, along with forecasts until 2026.

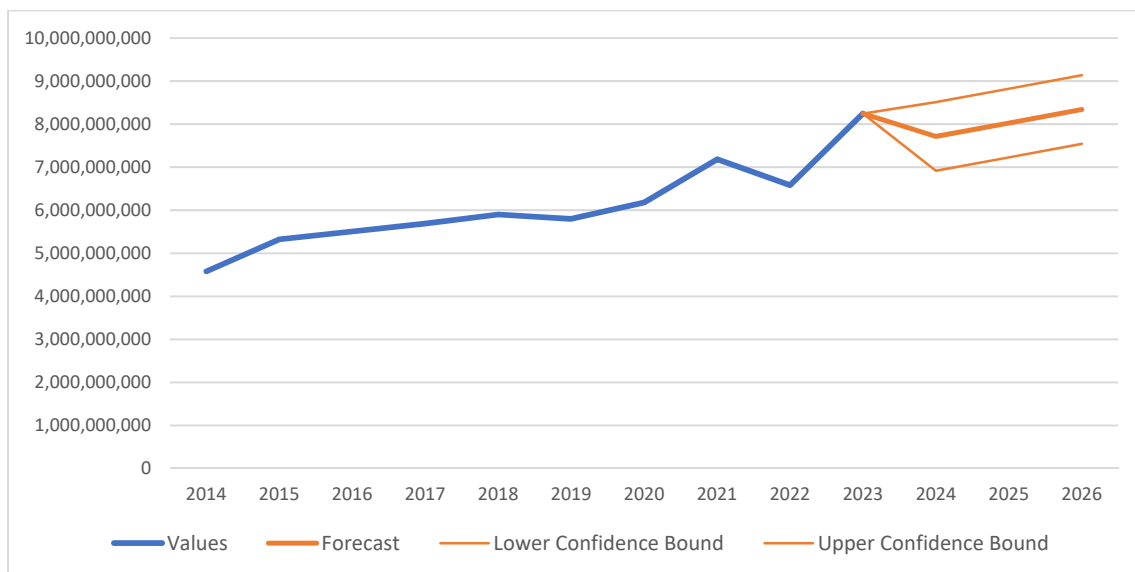


Figure 1.12. Income from letter items for the period 2014-2023. (with a forecast 2024-2026)

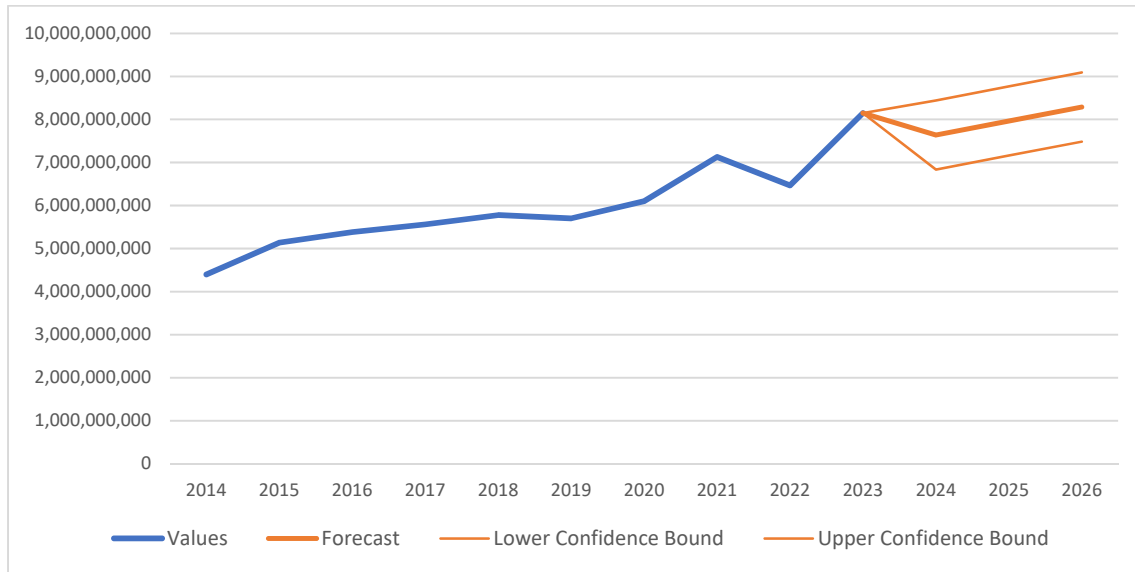


Figure 1.13. Income from letter items without ADM for the period 2014-2023. (with a forecast 2024-2026)

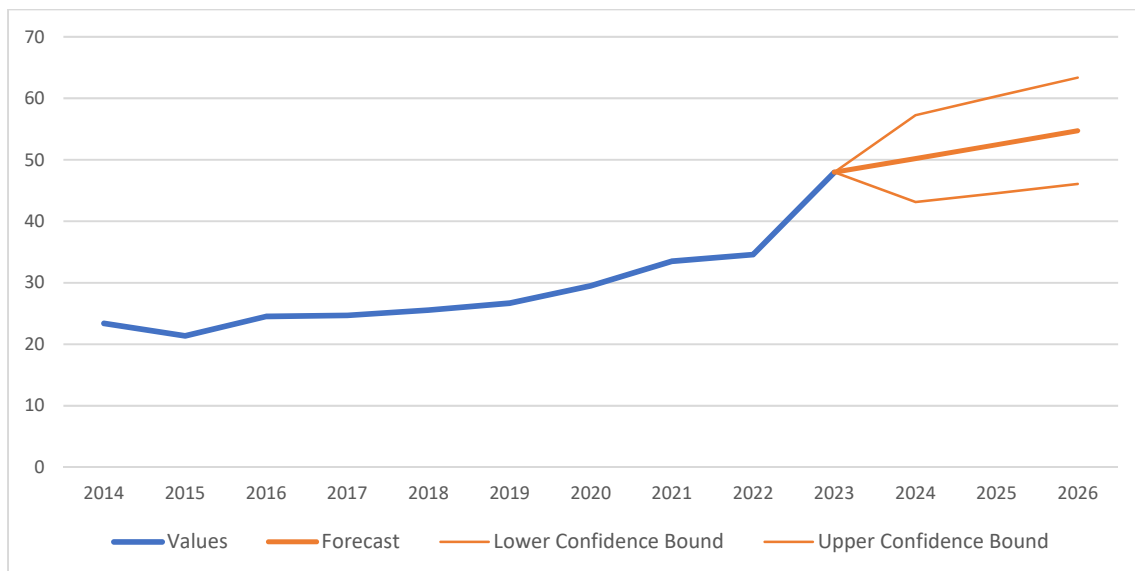


Figure 1.14. Average revenue per unit of letter items without ADM for the period 2014-2023. (with a forecast 2024-2026)

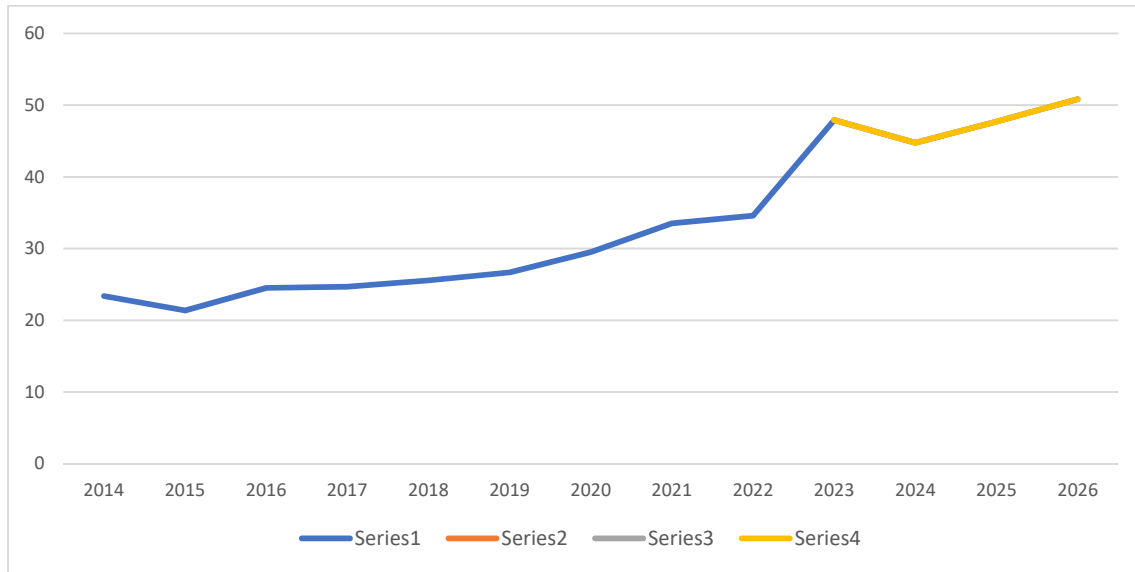


Figure 1.15. Average revenue per unit of letter items for the period 2014-2026. year (based on forecasts from Figure 1.4 and Figure 1.13)

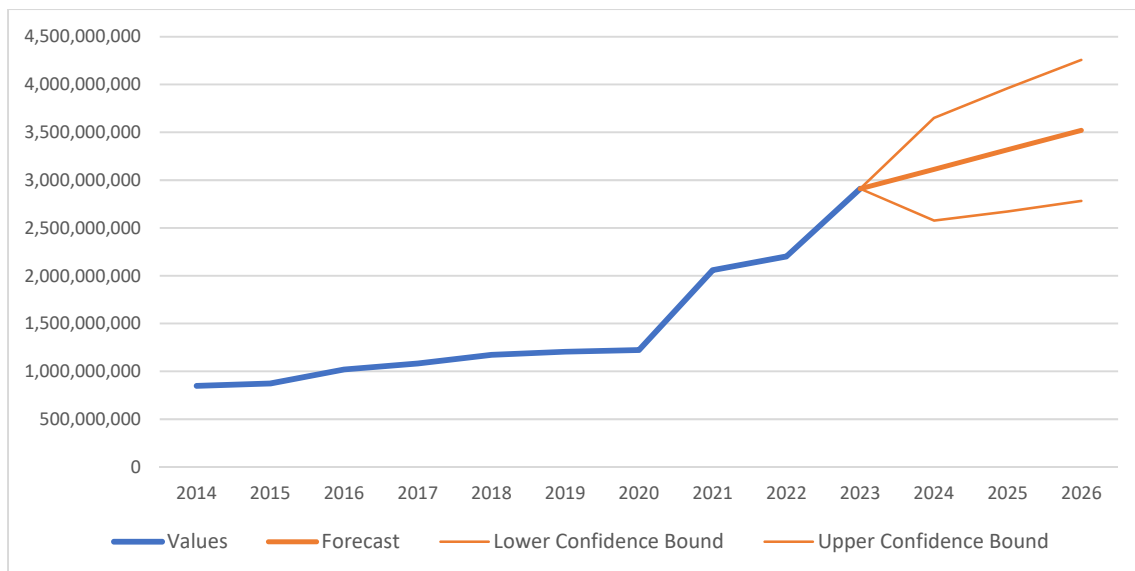


Figure 1.16. Income from court letters for the period 2014-2023. year (with a forecast 2024-2026)

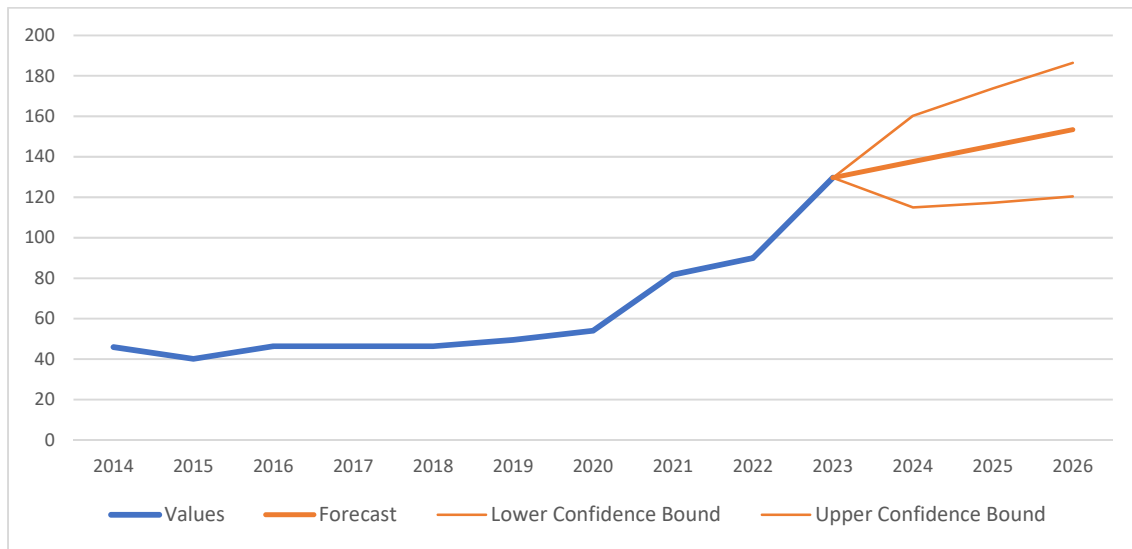


Figure 1.17. Average revenue per unit of court letters for the period 2014-2023. (with a forecast 2024-2026)

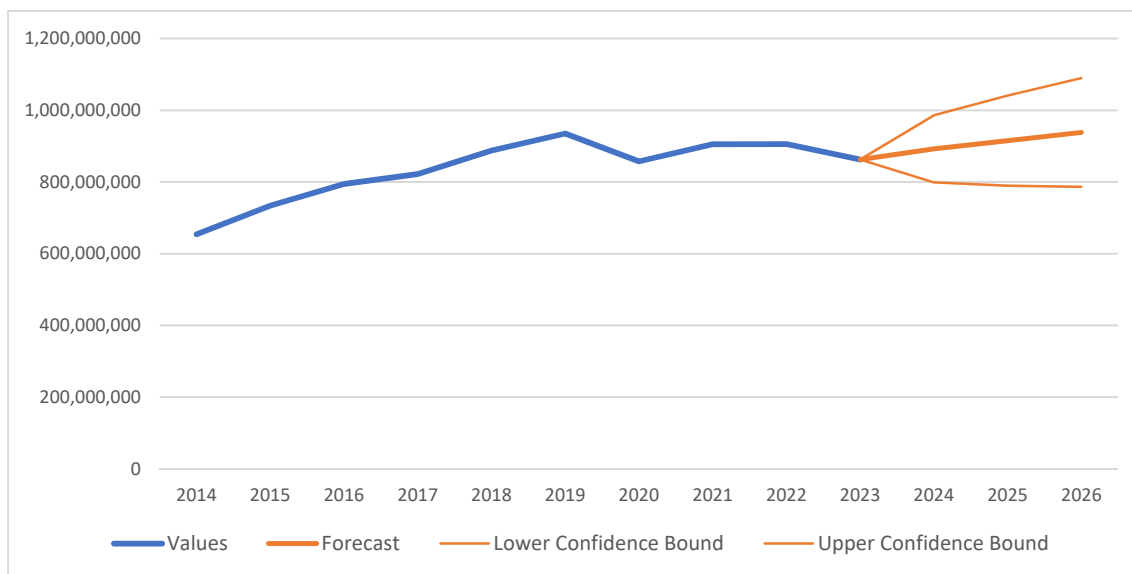


Figure 1.18. Income from money orders for the period 2014-2023. (with a forecast 2024-2026)

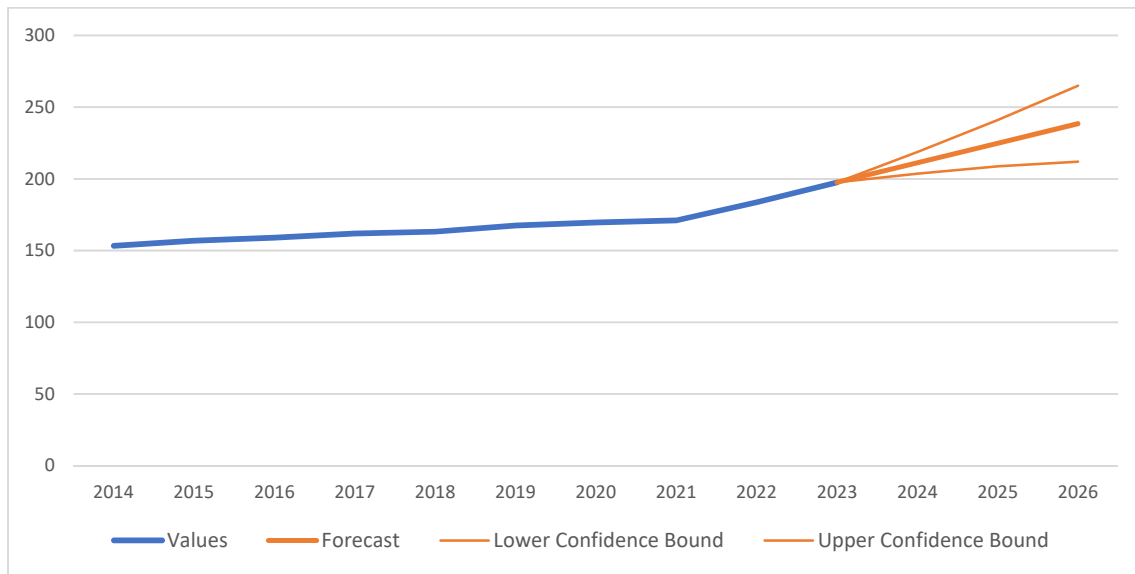


Figure 1.19. Average income per unit of money orders for the period 2014-2023. (with a forecast 2024-2026)

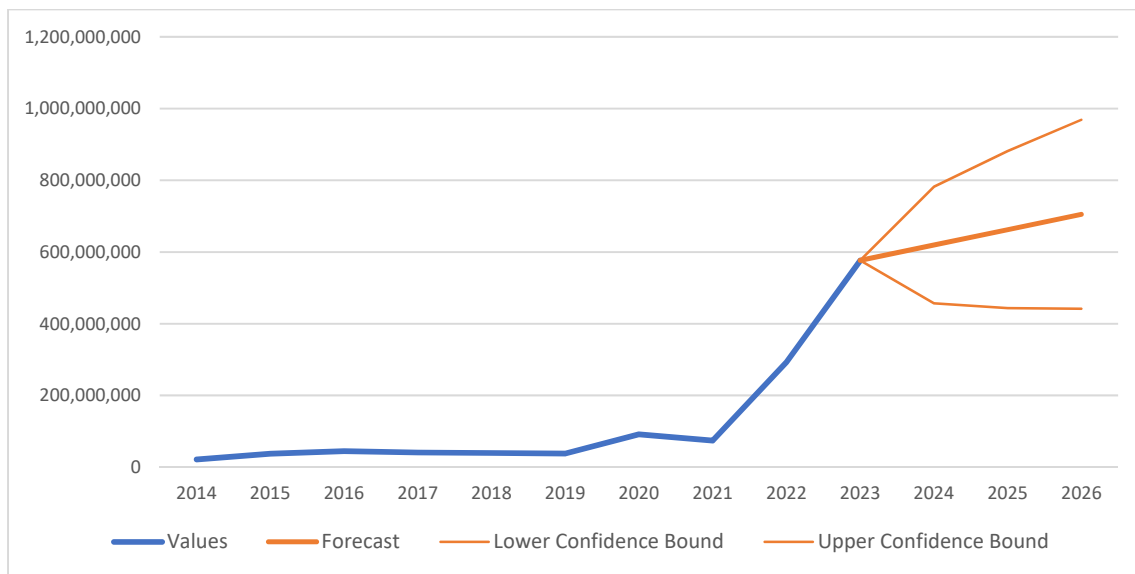


Figure 1.20. Income from parcels for the period 2014-2023. (with a forecast 2024-2026)

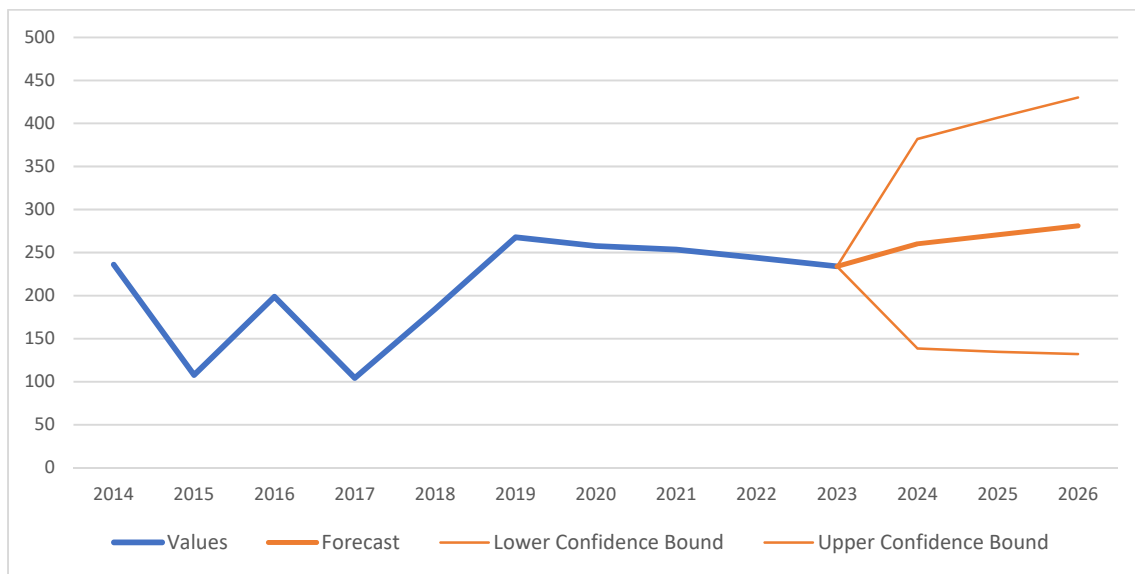


Figure 1.21. Average revenue per unit Parcels for the period 2014-2023. (with a forecast 2024-2026)

A1.2 (This alternative is described in chapter 2.2, page 57)

Changes within the existing scope of the universal postal service will lead to changes in revenues from the universal postal service as follows (estimates):

- It is expected that the income from the priority letter will decrease by 6,627,000 dinars, which represents the difference in price between the priority and unregistered letters;
- In 2023, addressed direct mail generated revenue of 97,236,000 dinars. However, by canceling addressed direct mail, part of the items would go to unregistered letters, the price of which is significantly higher than the price of addressed direct mail, and therefore there would probably not be a decrease in income, but perhaps an increase;
- Parcels of larger sizes generated an income of 65,752,000 dinars. However, this revenue would flow from the universal postal service to other services.

A1.3 (This alternative is described in chapter 2.2, page 57)

The new hybrid services and services for "vulnerable" users that would be provided by the Post of Serbia will not significantly affect the income from the universal service. The increase in income can only be influenced by the hybrid service of scanning returns and envelopes of undelivered items, whose income in 2023 was 4,954,000 dinars as part of the increase in income from other postal services.

A1.4 (This alternative is described in chapter 2.2, page 57)

The introduction of public services that would be an addition to the universal service will lead to an increase in income within the universal postal service in the amount (estimates):

- paid money orders TR 10 (pension, social assistance and other benefits that are paid to the co-signer address) 1,295,016,000 dinars;

-
- income based on business cooperation and realized services with eGovernment 59,498,000 dinars;
 - generation of payment instructions (issuance of identity cards, passports...): 17,153,000 dinars.

K1.3. Expected investments (min)

A1.1 (This alternative is described in chapter 2.2, page 56)

Based on the Public Procurement Plan of the Post of Serbia for the year 2023, financial resources in the amount of 2,247,107,000.00 dinars were foreseen for investments, while 1,944,361,382.00 dinars (86.53%) were realized. This level of investment describes the situation under alternative A1.1 where there are no changes in the scope of the universal postal service. However, in the current circumstances, it is necessary to significantly raise the level of resources in order to achieve the prescribed quality standards in the transmission of items, especially priority ones, as well as in connection with the delivery of parcels to all recipient addresses, it is to be expected that the level of investments will increase significantly in this purpose.

A1.2 (This alternative is described in chapter 2.2, page 57)

The mentioned items that would be excluded from the universal service according to alternative A1.2 have an insignificant share in relation to the total volume of letter-carrying services (0.12% priority, 3.4% addressed direct mail). Also, bulky parcels account for 1.25% of the total volume of parcels. Based on the opinion of experts, possible changes in technology would not require additional investments.

A1.3 (This alternative is described in chapter 2.2, page 57)

The Post of Serbia does not have data on the number of "vulnerable" users (elderly persons - households in which everyone is over 80 years of age, as well as persons with disabilities, primarily in rural areas). Experts assume from experience that services for the category of "vulnerable" users will not significantly affect the level of investments, i.e. can have a very small effect. The eventual introduction of a hybrid letter implies minor investments and technological changes. In both cases, investments are expected in the part of developing application solutions.

A1.4 (This alternative is described in chapter 2.2, page 57)

The introduction of public services that would be an addition to the universal service, such as the introduction of certain postal and financial services, the introduction of e-services as support for state projects could be realized to a large extent by relying on existing technical and technological capacities and would not significantly affect investments.

1. Payment of pensions, social assistance and other benefits - already developed technology (no additional investments in the reception phase)
2. e-services would be provided through the website of the Office for IT - it is necessary to provide access to the Internet, login to the electronic administration portal, develop the

application possibility so that an employee of the Post of Serbia can carry out transactions instead of the user, print receipts for the user, scan documentation.

K1.4. Expected operating cost (min)

A1.1 (This alternative is described in chapter 2.2, page 56)

The public procurement plan of the Post of Serbia for the year 2024 defined funds in the amount of 1,102,252,000.00 dinars (the transfer of funds from 2023 is in the amount of 336,794,618.00 dinars), while 723,537 were realized in the first three months. 744.00 dinars (65.60%). In order to meet the quality standards, if the existing scope of universal service were to be maintained, operating costs would increase, since it is to be expected that significant resources will be committed to achieve the current standards.

A1.2 (This alternative is described in chapter 2.2, page 57)

The specified items that would be excluded from the universal service according to alternative A1.2 have a minor share in relation to the total volume of letter carrier services, as stated in the description of the previous criterion. It can be concluded that by canceling the considered services, the operating cost remains at the same level or decreases slightly.

A1.3 (This alternative is described in chapter 2.2, page 57)

The introduction of the hybrid letter service, as well as the service for vulnerable users, does not entail significant additional costs. Certainly, any introduction of a group of users that has a privileged position in the provision of services contributes to an increase in costs, but they would be negligible in relation to the overall postal network and at this moment it is not possible to determine them more precisely.

A1.4 (This alternative is described in chapter 2.2, page 57)

1. There is already developed technology for the payment of pensions, social assistance and other benefits. No significant increase in costs is expected, except for a small increase in the employment of the workforce.
2. E-services would be provided through the e-government portal. It is necessary to enable access to the Internet, login to the electronic administration portal, and develop the application possibility so that an employee of the Post of Serbia can carry out transactions on behalf of the user, print receipts for the user, and scan documents. No significant additional costs in exploitation are expected.

K1.5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources (max)

A1.1 (This alternative is described in chapter 2.2, page 56)

The ratio of expected income and invested resources would be in accordance with the already valid budget items. The current financial usefulness of the universal postal service is not satisfactory because the operating costs are higher in relation to the generated income.

A1.2 (This alternative is described in chapter 2.2, page 57)

The ratio of expected income and invested resources would be similar to the current situation. This can be explained by the fact that the reduction of the scope of services within the framework of the universal service may result in an increase in prices and reduced territorial availability if some services are transferred to other postal services. However, if the priority letter overflows into an unregistered letter, it would not affect territorial availability. If addressed direct mail is poured into non-registered mail for the most part, it would lead to an increase in revenue considering the cost of these services. According to the existing price list, addressed direct mail up to 20 grams is 24 dinars, and an unregistered letter is 48 dinars. The delivery of oversized parcels, if it was carried out at the address, required significant costs in terms of mileage and fuel consumption, the abolition of which would reduce part of the cost, and on the other hand, there would be a reduction in the income of the universal service as it would spill over to other postal services.

A1.3 (This alternative is described in chapter 2.2, page 57)

A somewhat more favorable ratio of income and invested resources can be expected compared to the current situation. The starting point here is the assumption that the state should financially support services for "vulnerable users" by financing the net cost of the universal postal service.

A1.4 (This alternative is described in chapter 2.2, page 57)

The introduction of public services that would be an addition to the universal service would contribute to a more favorable ratio of income and invested resources compared to the current situation. This could be explained by the fact that these services do not require significant investments, nor do they imply large operating costs, and on the other hand, they are expected to generate income, both from the users of the services and from the state budget.

ENVIRONMENTAL FACTORS

K1.6. Impact on air pollution, e mission CO₂ (min)

A1.1 (This alternative is described in chapter 2.2, page 56)

To see the current situation when it comes to the impact of the transport means of the Post of Serbia on air pollution, it is useful to see the number and type of vehicles used. Table 1.1 presents data on the state of vehicles of the Post of Serbia as of March 25, 2024. This table contains the number of vehicles by category, as well as the number of electric vehicles.

Table 1.1. *Number and types of vehicles in operation*

R. no.	Type of vehicle	Total vehicles	
		Internal combustion engines	Electric motors
1	Low-class passenger vehicles	109	0

2	Passenger vehicles of medium and high-class	81	0
3	Delivery vehicles - pickups	1,232	36
4	Vans - vans	451	95
5	Heavy goods vehicles - trucks	104	0
6	Special purpose vehicles	25	0
7	Total vehicles	2,002	131

Table 1.2 shows the number of lines of the General Schedule of Transportation and the Schedule of Transportation and the distance traveled on the lines of the General Schedule of Transportation, i.e. the distance traveled on the lines of the Schedule of Transportation, on March 26, 2024. year.

Table 1.2. *Number of lines of the General Transport Schedule/Transport Schedule and distance traveled*

	Lines of the General Schedule of Transportation		Lines of the Transportation Order	
	Working day	The weekend	Working day	The weekend
Number of lines	111	33	921	242
Traveled a day (km.)	14,759	5,043	50,370	13,567

Trucks are used as means of transport on the lines of the General Order of Transportation, while on the lines of the Order of Transportation, vans and possibly trucks are used where conditions allow.

Regular delivery is currently carried out in 3,498 regions, and in order to improve the efficiency of the work, different types of vehicles are used, as shown in Table number 1.3. In addition to the type of vehicle used, the table also contains data on the average daily mileage.

Table 1.3. *Number of vehicles and average daily distance traveled*

Vehicle	Vehicle number	The road traveled
A car	262	8,707
No vehicle	1,070	
A bicycle	824	10,594
Moped	1,342	31,844
In total	2,428	51,145

Table 1.4 shows the daily journey recorded by TAK, i.e. the sum of the recorded distance traveled by all TAKs in the Postman's Travel List.

Table 1.4. *The daily distance traveled by postmen in PAK*

Distance covered by PAK (m)		Distance traveled between PAK (m)	
On foot	By vehicle	On foot	By vehicle
PAKs with parcel delivery 129,321			
6,576,808	97,586,617	10,137,173	11,234,096
PAKs total 142,652			
7,101,758	111,556,849	10,262,189	12,493,431

In order to reach the prescribed level of priority letter service quality, one of the measures is to increase the number of delivery days in the widest and widest delivery area (from the current once a week to twice a week in the widest and from the current twice a week to three times in the widest). In that case, the distance covered in the widest and widest delivery area would increase by about 19%. On a monthly basis, the increase in the distance traveled by car would be 325 kilometers, and the distance traveled by moped would be 252 kilometers. Based on the estimate, the new organization of parcel delivery to every household would increase mileage by about 1,260 kilometers (11%). Therefore, the aforementioned would affect the increase in CO₂ emissions.

A1.2 (This alternative is described in chapter 2.2, page 57)

Taking into account the total number of lines on the General Transportation Order and the Transportation Order and the type of vehicles involved, it can be concluded that the considered reduction in the scope of the universal postal service can have a very small effect on the change in CO₂ emissions. Also, priority letters and addressed direct mail participate with less than 1.5% in the total volume of services from the domain of universal postal service (data from 2022), and the abolition of the mentioned services would not have an impact on the reduction of mileage and CO₂ emissions.

A1.3 (This alternative is described in chapter 2.2, page 57)

Alternative A1.3, which implies a certain expansion of the scope within the universal postal service, would not significantly change the existing organization of the transport of postal items. Introduction of services for "vulnerable" users, i.e. old people where everyone in the household is over 80 years old and for people with disabilities in rural areas, it can to some extent affect the increase in the distance traveled. In this sense, a minimally increased impact on air pollution can be expected.

The introduction of a hybrid letter would not have an impact on the mileage traveled, that is, the CO₂ emission that is achieved by the implementation of existing services from the domain of the universal postal service.

A1.4 (This alternative is described in chapter 2.2, page 57)

The introduction of public services that would be an addition to the universal service would not have an impact on the existing organization of the transport of postal items. Depending on the scope of the new services, there may be an impact on the distance covered during delivery, possibly on a change in the type of vehicle, and therefore on CO₂ emissions. In relation to the total postal traffic of the public postal operator, a minor negative impact is expected.

K1.7. Impact on traffic congestion in the city (min)

A1.1 (This alternative is described in chapter 2.2, page 56)

Bearing in mind the mentioned number of lines on the General Transportation Order and the Transportation Order that include cities and larger settlements, engaged vehicles to a certain extent affect traffic congestion in the city. Given that the proposed measure for improving the quality of the priority letter service (increasing the number of delivery days) implies greater

involvement of postal network resources, it can be concluded that compliance with quality standards would have a certain impact on increasing traffic congestion in the city.

A1.2 (This alternative is described in chapter 2.2, page 57)

proposed alternative would not significantly change the existing organization of transportation and delivery of postal items, therefore it would not significantly contribute to the change in terms of the impact on traffic congestion in the city. Considering that priority letters and addressed direct mail participate with less than 1.5% in the total volume of services from the domain of universal postal service (data from 2022), the cancellation of the mentioned services would not have a major impact on the reduction of mileage and traffic congestion in the city.

A1.3 (This alternative is described in chapter 2.2, page 57)

Bearing in mind that the proposed alternative implies the introduction of new services for the category of vulnerable users, primarily in rural areas, in this sense no significant impact on traffic congestion in the city is expected. The introduction of a hybrid letter and services for the category of "vulnerable" users would have a minimal impact on the increase in mileage, which is achieved by the implementation of existing services from the domain of the universal postal service.

A1.4 (This alternative is described in chapter 2.2, page 57)

The introduction of e-services would not have a major impact on congestion in the city, which is a consequence of the movement of Post of Serbia vehicles. However, bearing in mind that these services would imply usefulness for citizens because they can obtain certain documentation through the postal operator instead of visiting the institutions themselves, it can be concluded that this alternative generally affects the reduction of traffic congestion in the city.

K1.8. Impact on noise level (min)

A1.1 (This alternative is described in chapter 2.2, page 56)

Considering the mentioned number of lines on the General Transportation Order and the Transportation Order and the type of engaged vehicles, it can be concluded that improving the quality of the priority letter service to a certain extent can have a small impact on the increased noise level.

A1.2 (This alternative is described in chapter 2.2, page 57)

Bearing in mind that the proposed alternative would not significantly change the existing organization of transportation and delivery of postal items, therefore it would not significantly contribute to changing the impact on the noise level. Considering that priority letters and direct mail participate with less than 1.5% in the total volume of services from the domain of the universal postal service, the abolition of the mentioned services would not have an impact on the reduction of mileage and noise level.

A1.3 (This alternative is described in chapter 2.2, page 57)

The introduction of hybrid letters and services for the category of "vulnerable" users would have a minimal impact on the mileage that is achieved through the implementation of existing services from the domain of the universal postal service, and therefore on the noise level.

A1.4 (This alternative is described in chapter 2.2, page 57)

As previously explained, the introduction of certain e-services that would help citizens obtain the necessary documentation from the post office closest to them and thus reduce their participation in traffic in the city would also contribute to noise reduction.

SOCIAL FACTORS

K1.9. Fulfillment of user needs (max)

A1.1 (This alternative is described in chapter 2.2, page 56)

When it comes to the RATEL study from 2024, which refers to the research on user satisfaction, natural persons declared that they were mostly satisfied with the scope of services offered by the Post of Serbia. Namely, 3/4 of those surveyed, 76% to be exact, are satisfied with the scope of services provided by Post of Serbia, and only 6% are dissatisfied. 46% of them see the need for new services. When it comes to legal entities, the result is similar, as 74% of those surveyed are satisfied with the scope of services provided by Post Serbia. One of the main problems in maintaining the current situation when it comes to scope could be the existence of priority items for which high quality in terms of transmission speed is prescribed, but in reality, it has not been achieved.

A1.2 (This alternative is described in chapter 2.2, page 57)

The results of the previously mentioned study show that the majority of natural persons (74% of the respondents, to be more precise) wish to continue the priority letter service, although it is rarely used. Regardless of the estimated importance of the priority letter service, it is important to point out that it is rarely used, which calls into question the importance of continuing to provide this service. Additionally, it is possible that the public may have a perception that priority mail is the same or similar to express service, which may have led to an assessment of greater importance. On the other hand, 34% of respondents declared that the addressed direct mail service should be maintained. Also, 87% of respondents believe that the Post of Serbia should deliver large-sized parcels. Interestingly, a priority letter is less important to legal entities than to natural persons. Only 37% declared that there is a desire to continue the priority letter service, and when it comes to addressed direct mail, only 17% of them believe that it should be kept. A slightly smaller number of legal entities (58%) compared to natural persons (87%) believe that large parcels should be kept. Based on these results, it can be concluded that the majority of users are only in favor of large-sized parcels when individuals and legal entities are taken into account.

A1.3 (This alternative is described in chapter 2.2, page 57)

The aforementioned research also reveals that almost half of natural persons (46% of respondents) see the need for new services, and more as an improvement of the functioning of existing ones. The most frequently mentioned suggestion of respondents under the age of 29 is to introduce more parcel machines. 60% of the respondents voted for the hybrid letter service, and 92% for services for vulnerable categories. On the other hand, only 24% of legal entities see the need for new services. The improvement of existing services and packet machines is

mainly important to them. The hybrid letter service is seen as necessary by 42% of surveyed legal entities, while services for "vulnerable" categories are supported by 84%. Based on these results, it can be concluded that the users, both natural and legal persons, overwhelmingly believe that services for "vulnerable" categories should be introduced.

A1.4 (This alternative is described in chapter 2.2, page 57)

A high percentage of respondents support e-services. In the case of natural persons, 89% of respondents declared that they are interested in e-services. Postal and financial services (payments and withdrawals) are very popular, i.e. 97% of respondents believe that they should be kept, everywhere, not just in rural areas.

K1.10. Impact on the category of "vulnerable" users (min)

A1.1 (This alternative is described in chapter 2.2, page 56)

The existing Law on Postal Services does not recognize the category of "vulnerable" users, and they cannot be distinguished from other users. Based on this, it can be concluded that maintaining the existing situation would have a bad impact on the category of "vulnerable" users.

A1.2 (This alternative is described in chapter 2.2, page 57)

Since the second alternative refers to the reduction of the scope, and the existing Law on Postal Services does not recognize the category of "vulnerable" users, it can be concluded that this alternative would also have a bad impact on these users.

A1.3 (This alternative is described in chapter 2.2, page 57)

By amending the Law and by-laws, a set of services for the category of "vulnerable" users would be formally introduced, which would be performed under special conditions. Therefore, this alternative would imply a positive impact on these users. The European Regulatory Group for Postal Services (ERGP) provided for the preparation of a study on vulnerable users in its Work Plan for 2024. In this regard, research was started by RATEL in which other relevant institutions such as competent ministries, consumer associations and associations of special categories of users were included, in order to define groups that can be considered vulnerable users, services that correspond to their needs, as well as other aspects related to postal services, such as the availability of postal services in reception and delivery.

A1.4 (This alternative is described in chapter 2.2, page 57)

The introduction of new services can have a cumulative positive impact if public services are also provided to the category of "vulnerable" users, which would be the case. A special advantage of e-services is that they imply less physical mobility of the user. In the event that users do not use the service from home via the Internet, but instead go to the nearest post office, this implies less mobility compared to the current situation because they do not have to go to a state institution in the seat of the municipality or further away.

K1.11. Expected quality level (max)

A1.1 (This alternative is described in chapter 2.2, page 56)

By maintaining the current situation, especially when it comes to the priority letter service, it can be concluded that in terms of the expected level of quality and reputation of the public postal operator, the situation is not favorable. In the existing system, users expect high quality and pay an adequate price for it, but in reality, they do not receive the expected level of service.

A1.2 (This alternative is described in chapter 2.2, page 57)

By reducing the scope of the universal postal service, as prices for larger parcels and addressed direct mail are expected to rise, and because parcels that should have the appropriate priority in transmission will most likely be transmitted as express (which is a more expensive option for the user), it can be concluded that the level of quality is decreasing to a certain extent. When looking at the abolition of priority letters, the quality would not decrease significantly, except for a small percentage of priority letters ($D+2=64.11\%$) which were delivered with higher quality than unregistered letters ($D+2=55.4\%$) in 2023 (transit times based on correction, Article 15 of the Rulebook on quality parameters for the performance of postal services), but on the other hand, users would not be misled, and items that are urgent would be sent via Post Express, which would not damage the reputation of the public postal operator.

A1.3 (This alternative is described in chapter 2.2, page 57)

Expanding the scope of the universal postal service leads to greater opportunities for users throughout the country, especially when it comes to "vulnerable" users. Based on that, it can be said that this alternative leads to a moderate increase in quality, as well as a positive reputation of the public postal operator in relation to social responsibility, i.e. taking greater care of the impact of its own business on the social community.

A1.4 (This alternative is described in chapter 2.2, page 57)

Expanding the scope of the universal postal service to include postal financial and e-services certainly contributes to a better image of the public postal operator, but on the other hand, to a better quality of user service and preserving the territorial availability of these services, especially in rural areas. Therefore, this alternative contributes significantly to the level of quality.

K1.12. Employee satisfaction (max)

A1.1 (This alternative is described in chapter 2.2, page 56)

The personnel management function of the Post of Serbia conducted a satisfaction survey of its employees on a sample of 825 respondents. The research was conducted during 2024. According to the results, 84% of employees are satisfied with the scope of services currently provided by Post Serbia. Therefore, for the vast majority of employees, the current situation is acceptable.

A1.2 (This alternative is described in chapter 2.2, page 57)

When it comes to reducing the scope of the universal postal service, 51% of those surveyed believe that it is important for the Post of Serbia to continue providing the priority letter service, but it is indicative that as many as 24% believe that this existing service is not important at all. Furthermore, when asked whether it is important to continue providing the addressed direct mail service, 47% of the respondents declared that it is important, and 19% that it is not important at all. Carrying large parcels (over 60x50x50 cm) throughout the territory of Serbia is important for 77% of employees, while according to 6% of them, it is not important at all. Therefore, it can be concluded that there is a divided opinion regarding the cancellation of priority letters and addressed direct mail, while for large parcels, for about 77% of employees, it is important to continue providing this service.

A1.3 (This alternative is described in chapter 2.2, page 57)

According to the satisfaction survey of the employees of the Post of Serbia, 61% of the respondents believe that the introduction of the hybrid letter is important. In addition, when it comes to services for "vulnerable" users, 60% said that these services are important. Therefore, some expansion of the scope of the universal postal service would be acceptable to employees.

A1.4 (This alternative is described in chapter 2.2, page 57)

When the employees of the Post of Serbia were asked about the need to introduce new services in order to meet the new needs of citizens, 56% of respondents answered that they see the need to introduce these services. Especially when it comes to electronic services, where citizens can exercise various rights, order important documents, etc., 70% of employees declared that these services are important. As for postal and financial services, 84% of employees believe that the Post of Serbia should provide these services throughout the territory because it is important for the majority of citizens. It could be concluded that the expansion of the scope of the universal postal service is acceptable to the employees, even to a greater extent than is the case when analyzing the alternative A1.3.

TECHNICAL FACTORS

K1.13. Complexity of regulation (min)

A1.1 (This alternative is described in chapter 2.2, page 56)

Alternative A1.1 implies maintaining the existing situation in terms of the scope of the universal postal service, and bearing in mind that the quality of the provision of letter transmission is significantly below the prescribed, as well as that the Law on Postal Services does not provide for penal provisions if the prescribed quality is not achieved, when amendment of the Law may be proposed penal provisions. A change could only be expected if the process of harmonizing the existing quality standards in the transmission of items and the real achieved quality is started. Or, on the other hand, if a penal policy is introduced for non-compliance with transfer deadlines.

A1.2 (This alternative is described in chapter 2.2, page 57)

Reducing the scope of the universal postal service requires appropriate interventions in regulation, which should not be a major problem because according to the Strategy for the Development of Postal Services in the Republic of Serbia for the period 2021-2025. the year of the planned amendment of the Law at the end of 2024.

A1.3 (This alternative is described in chapter 2.2, page 57)

The addition of new services to the set of services that make up the universal postal service, in the segment of the introduction of hybrid letters and services for the category of "vulnerable" users, would also imply an appropriate foundation in the regulation, which should not represent a major problem because they are already according to the Strategy for the Development of Postal Services in the Republic of Serbia for the period 2021-2025. the year of the planned amendment of the Law at the end of 2024.

A1.4 (This alternative is described in chapter 2.2, page 57)

The introduction of public services that would be an addition to the universal service would also imply the adjustment of laws and by-laws, which should not be a major problem because according to the Strategy for the Development of Postal Services in the Republic of Serbia for the Period 2021-2025, there are already planned amendments of the Law at the end of 2024.

K1.14 . The complexity of the organization of the technical-technological process (min)

A1.1 (This alternative is described in chapter 2.2, page 56)

At the end of 2023, the Post of Serbia had 14,002 engaged employees (2,574 employees were engaged in administration, while 11,428 employees were engaged in technology). A total of 12,870 employees are employed within RJ/RRJ/PJ, of which 1,442 employees are employed in administration, and 11,428 employees are employed in post offices and RPLC in technological workplaces. 1,132 employees were employed in other organizational units (Functions, Supporting Functions, Cabinet,...).

The means of transport at the disposal of the Post of Serbia are 1,495 mopeds, 1,710 bicycles, 2 trailers, 205 passenger cars, 1,234 cargo delivery vehicles, 461 van cargo vehicles and 105 heavy cargo vehicles - trucks.

In the territory of the Republic of Serbia, the Post of Serbia in 2023 operated with 1,558 post offices (1,350 corporate post offices and 208 contractual post offices). The total number of counters in manipulation in 2023 was 3,298 counters places, namely:

- 2,829 in corporate post offices,
- 233 in contractual post offices,
- 146 in separate corporate counters,
- 90 in contract counters.

The total number of access points in 2023 is 1,679 (1,558 post offices and 121 corporate counters). The counter, depending on the type of services it provides, is equipped with the appropriate equipment: computer, printer, counter, manual scanner, OCR reader, and scale. The

Post of Serbia has 3,300 calibrated scales (letter and parcel scales and parcel scales), 800 banknote detectors, 2,055 money counters, and 970 wireless scanners.

The Post of Serbia also has 1,858 automatic mailboxes. Mailboxes are placed at the facilities of all post offices in places accessible to users, as well as in the most frequented places in the city (bus and railway stations, pedestrian zones, squares, shopping centers, public institutions) and in every populated place in the rural area that has more than 400 households.

Given that there is a possibility of delivering postal items to the recipient through a post box, the Post of Serbia has 18,351 post boxes at its disposal.

The delivery of postal items is organized on the territory of the Republic of Serbia for 6,647,003 inhabitants, 2,589,344 households and 412,140 legal entities. The delivery area includes a total of 3,496 delivery areas.

3 regional and 15 local postal and logistics centers function as part of the Post of Serbia. Within the processing centers, automated sorting is performed on 5 sorting machines, namely one MMS machine in Belgrade and four LSM machines (two in Belgrade, one in Novi Sad and one in Niš).

Bearing in mind the above data, the conclusion is that the Post of Serbia, as a provider of universal postal services in the Republic of Serbia, has an extremely complex task of providing postal services throughout the country. In terms of the implementation of alternative A1.1, it can be said that a significant degree of improvement in the technical-technological process is expected in order to achieve the prescribed quality standards of item transmission.

A1.2 (This alternative is described in chapter 2.2, page 57)

Out of the total number of parcel items in 2023, only 1.25% are bulky parcels. Also, priority letters are represented by 0.12%, and direct mail by 3.4% in the total volume of letter services in 2023. Bearing in mind the insignificant participation in the structure of items: bulky parcels, priority letters and direct mail, we conclude that defining a limit for parcel dimensions (maximum 60x50x50 cm), canceling priority letter services, as well as direct mail from the universal service would not matter influenced the complexity of the organization of technical and technological processes.

A1.3 (This alternative is described in chapter 2.2, page 57)

When it comes to the introduction of the hybrid script, a very low impact on the change in the organization of the technical-technological process is expected. The organization of delivery for "vulnerable" groups of users would require new instructions and training of employees in the way of delivery and dealing with this group of users.

A1.4 (This alternative is described in chapter 2.2, page 57)

The organization of delivery for the payment of pensions is already regulated by existing acts. When it comes to the introduction of e-services for the state administration, the complexity of the organization would be reflected in the development of new instructions and regulations and the training of employees, which could be implemented in a relatively short period of time.

K1.15. Security and reliability of item transmission (max)

A1.1 (This alternative is described in chapter 2.2, page 56)

If the existing scope of the universal service is maintained, the security of items can be monitored and improved, while it is necessary to work on affirming the principle of secrecy and integrity of items among employees. This activity could be valid for all four alternatives, ie. bearing in mind the aspiration of postal companies to improve their operations, employee training on this topic could be continuous. When it comes to transmission reliability, it can be concluded that the current quality standards are not respected at this time, which results in a modest level of service reliability from the user's point of view.

A1.2 (This alternative is described in chapter 2.2, page 57)

When considering the second alternative, the problems described in alternative A1.1 apply here as well, except that by canceling the priority letter, the situation, in terms of reliability, would be slightly better for users due to a lower level of unfulfilled expectations.

A1.3 (This alternative is described in chapter 2.2, page 57)

The introduction of a hybrid letter would imply the introduction of appropriate security protocols in IT, as well as the definition of security procedures for printing and enveloping such items. The service for "vulnerable" users does not generate special security risks.

A1.4 (This alternative is described in chapter 2.2, page 57)

The introduction of e-services that would support state projects carries a corresponding security risk, especially if the product of the e-service is a postal item in the form of official state documents. In this sense, it would be necessary to define appropriate security protocols within the IT system, as well as to implement adequate training of employees.

K1.16. Employee safety (max)

A1.1 (This alternative is described in chapter 2.2, page 56)

The Rulebook on occupational safety and health of employees in the public company "Pošta Srbije" ("Official Gazette of the RS", no. 1396 of May 7, 2021) regulates the rights, obligations and responsibilities related to occupational safety and health, established by law which regulates the implementation and improvement of safety and health at work and which ensures the safety and health of employees, as well as other issues related to the safety and health at work of employees of the Post of Serbia.

At the Post of Serbia, injuries at work are regularly monitored and analyzed in order to take adequate preventive measures to reduce the risk of injury to employees through the implementation of preventive measures, examination of work equipment and working environment conditions, provision and control of the use of personal protective equipment at work. The number of work-related injuries in the Post of Serbia according to the severity of the work-related injury and the number of days absent from work due to the work-related injury is shown in table number 1.5.

Table 1.5. Number of injuries at work, according to severity of injury at work and number of days absent from work due to injury at work

YEAR	NUMBER OF MINOR INJURIES AT WORK		NUMBER OF SERIOUS INJURIES AT WORK		TOTAL NUMBER OF INJURIES AT WORK		NUMBER OF DAYS OF ABSENCE FROM WORK DUE TO INJURY AT WORK
	at work	outside the place of work	at work	outside the place of work	at work	outside the place of work	
in 2019	384	101	27	29	411	130	11,866
	485		56		541		
in 2020	294	59	16	22	310	81	8,720
	353		38		391		
in 2021	360	52	21	15	380	68	13,676
	411		37		448		
in 2022	394	57	24	19	418	76	11,180
	451		43		494		
in 2023	294	79	27	8	321	87	11,156
	373		35		408		

In order to take preventive action and undertake appropriate safety and health measures at work, injuries at work are monitored and analyzed according to the cause of injury (table number 1.6) and the number of injuries during the day, week and month.

Table 1.6. Number of injuries by cause of injury

NUMBER OF INJURIES AT WORK PER CAUSE OF INJURY	CAUSE OF INJURY	in 2019	in 2020	in 2021	in 2022	in 2023
	traffic accident	23	29	39	27	36
	banditry	41	17	23	20	16
	stress due to attacks by unknown persons, users, colleagues	16	12	25	21	16
	dog bite	151	115	124	129	144
	falling off a moped	30	14	20	29	23
	falling off a bicycle	12	20	5	21	10
	fall, trip, slip	183	132	111	178	123
	the rest ³	75	52	103	69	40

A1.2 (This alternative is described in chapter 2.2, page 57)

When handling parcels of larger dimensions (bulky and non-standard parcels), there may be problems that would endanger the safety of employees because these are parcels that require separate handling. Some of the problems could be: falling into the space between the loading ramp and the cargo space of the vehicle, inadequate storage space for parcels can lead to problems when handling parcels – falling on employees, injuries during loading or unloading with smaller delivery vehicles, etc. Reducing the scope of the universal service and changing

³ under other causes of injuries, the following injuries are implied as a result of : cat bite, lung tissue burst, bee bite, finger pinched when changing a tire on a company vehicle, rack falling on an employee, crow 's attack on an employee, falling into the space between the loading ramp and cargo area of the vehicle, etc.

the defined limit for parcel dimensions reduce the probability of these unwanted events, which means that the safety of employees when handling certain items is less threatened. As for the abolition of priority mail, as well as direct mail, it would not affect the safety of employees.

A1.3 (This alternative is described in chapter 2.2, page 57)

Bearing in mind that the Post of Serbia already provides a hybrid letter service and if that service were in the domain of the universal postal service, providing it would not significantly affect the safety of employees. As for the "vulnerable users" service, it is not possible to assess the impact because these services have not yet been defined, as well as the activities within these services.

A1.4 (This alternative is described in chapter 2.2, page 57)

Bearing in mind that the Post of Serbia already performs a certain set of these services, if these services were in the domain of the universal postal service, their provision would not significantly affect the safety of employees.

1.2 The data collected for the evaluation of the sustainability of the universal postal service in the segment of the service quality

As in the case of consideration of the scope of universal service, the collected data are structured according to the criteria on the basis of which each of the alternatives is evaluated, and the criteria themselves are grouped into four clusters: economic factors, environmental factors, social factors and technical factors.

ECONOMIC FACTORS

K2.1. Expected scope of services (max)

A2.1 (This alternative is described in chapter 3.2, page 70)

Alternative A2.1 does not include delivery every working day, which results in the provision of postal services of a lower quality in relation to existing standards. However, we should take into account the fact that this alternative proposes deadlines that are D+2=50%, D+3=70%, D+5=99%, and the mentioned deadlines are lower than the currently prescribed ones, but they are higher than the deadlines which Posta Serbia achieves according to independent measurement in the last 3 years (for example, in 2022: D+2=46.97%, D+3=68.38% and D+5=89.54%). If the above is taken into account, the users would get a slightly higher level of quality than was achieved. Looking at the graphs describing the scope of individual postal services (figures 1.1 to 1.9), one can expect a scenario in the lower confidence interval, although looking at the experiences of countries that have applied this concept, no significant deviations from the current situation should be expected.

A2.2 (This alternative is described in chapter 3.2, page 71)

The second alternative refers to the existing situation, which would mean that the public postal operator should increase the quality of its services to the level of currently valid standards. The current discrepancy between the current standards and the achieved transmission quality can be seen on the basis of the following data. The achieved results in 2023 based on independent measurement are: for non-priority letters D+2=49.51%, D+3=67.98%, D+5=88.69%, for priority letters D+1=32.07%, D+2=59.04%, D+3=74.05%. The rulebook on quality parameters prescribes the standard for non-priority letters as minimum D+2=80%, D+3=85%, D+5=90%, and for priority letters as minimum D+1=85%, D+2=90%, D+3=95%. If the current situation were to be maintained in terms of the large difference between the achieved and prescribed quality, the Post of Serbia could face punitive provisions that would be proposed through the amendment of the Law on Postal Services. On the other hand, if a higher quality of service is achieved, it usually leads to the attraction of users, i.e. towards a greater volume of services. Considering the above, if the prescribed quality standards were to be reached, a scenario in the upper confidence interval can be expected, when looking at figures 1.1 to 1.9, although still closer to the main line of the forecast because there is a general trend of decreasing letter items, regardless of the quality level.

A2.3 (This alternative is described in chapter 3.2, page 72)

With the abolition of priority mail, no significant changes in the scope of services are expected, as there will be an overflow into unregistered mail. The achieved results in 2023 based on independent measurement are: for non-priority letters D+2=49.51%, D+3=67.98%, D+5=88.69%. The proposed quality standards within this alternative, D+2=60%, D+3=75%, D+5=99%, without priority letter service, represent an intermediate level compared to the previous two alternatives, and the scope of services can be estimated as some value between the previously described.

K2.2. Expected income (max)

A2.1 (This alternative is described in chapter 3.2, page 70)

As alternative A2.1 implies a slightly smaller volume of services, it would also lead to a proportionally lower income. Looking at the graphs illustrating the revenue from the universal postal service, a scenario in the lower confidence interval can be expected.

A2.2 (This alternative is described in chapter 3.2, page 71)

In accordance with the expected higher volume of services for alternative A2.2 compared to the other considered alternatives (slowing down the trend of the decline in the volume of letter-carrying services), a proportionally higher income from the universal postal service is also expected. A scenario in the upper confidence interval can be expected when it comes to graphs related to income.

A2.3 (This alternative is described in chapter 3.2, page 72)

By abolishing the priority letter, the revenue would be reduced by the difference in price between the priority letter and the unregistered letter. At the unit level, this difference amounts to 24 dinars, because the price for a priority letter is 72, and for an unregistered first-rate letter,

it is 48 dinars. Bearing in mind that in 2023, about 278,000 priority letter services were implemented, the total reduction of income on this basis would amount to 6,672,000 dinars. Following the total volume of services, it can be said that the income would be at an average level compared to the previous two alternatives. Therefore, the increase in quality in relation to the existing state of quality could certainly have a positive impact on the increase in income, regardless of the cancellation of the priority letter.

K2.3. Expected investments (min)

A2.1 (This alternative is described in chapter 3.2, page 70)

A delivery organization that implies that postmen visit one group of users one day, and another group the next, would require investments in the development of new technical solutions and accompanying applications. Existing applications would not be able to support this way of organization of delivery.

A2.2 (This alternative is described in chapter 3.2, page 71)

Achieving the level of quality provided by the current standards would require additional investments. In order to reach the expected quality parameters, the processing of all mail items would have to be organized in the night shift, and the salaries of employees should be increased due to the realization of the right to compensation for night work and in order to keep experienced employees in the post office.

A2.3 (This alternative is described in chapter 3.2, page 72)

The deadlines defined in this alternative for non-priority letter items are acceptable for the existing organization and resources, which would mean that no additional investments are expected.

K2.4. Expected operating cost (min)

A2.1 (This alternative is described in chapter 3.2, page 70)

The total daily distance traveled by postmen in the region is 63,996 km. Postmen cover 11,729 km on foot, 51,100 km by vehicle and 1,167 km by public transport. In an urban area, where it is possible to organize delivery every other day, postmen cover 8,812 km on foot and 18,066 km by vehicle, and it can be expected that such an organization would halve the distance traveled on foot and by vehicle. Costs would be reduced in the part of vehicle use, i.e. fuel consumption would be lower for a daily consumption of 9,000 km. In the urban area, where it is possible to apply the organization every other day, there are 2,056 districts. The average mileage on foot and by vehicle brings savings of approximately 1 hour per postman. The new Rulebook on the organization of regular delivery defines that the reorganization of the region is carried out when the average productivity of the region is below 70%. In order to achieve savings on this basis alone, it is necessary that the post office or the territory of the post office group has more than 8 regions. Analyzing the territory in detail, it is estimated that savings in the number of regions would not exceed 140, that is, savings would certainly be achieved in at least 95 regions. Given that the Serbian Post has 3,489 regions at the moment, the savings would be significant and would amount to approximately 2.7% to 4%.

A2.2 (This alternative is described in chapter 3.2, page 71)

The costs would be higher for about 200 employees who would exercise the right to compensation for night work and an increase in the salary of employees.

A2.3 (This alternative is described in chapter 3.2, page 72)

The costs would be in line with the already planned costs and significantly lower than if night work were introduced in the processing of letter items.

K2.5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources (max)

A2.1 (This alternative is described in chapter 3.2, page 70)

The assessment is that the effects would be positive due to the possibility of optimizing the number of postmen. It is expected that the total number of postmen will decrease from 2.7 to 4%. The reduction in the number of employees would cover the costs of developing the new applications needed for the new delivery organization.

A2.2 (This alternative is described in chapter 3.2, page 71)

The assessment is that the invested resources would be greater than the financial benefit, but the expected level of quality would be reached.

A2.3 (This alternative is described in chapter 3.2, page 72)

The ratio of expected income and invested resources would be within the plan. Resources would be at the current level.

ENVIRONMENTAL FACTORS

K2.6. Impact on air pollution, CO₂ emission (min)

A2.1 (This alternative is described in chapter 3.2, page 70)

Considering the alternative, it is proposed that delivery for one group of users (one part of the territory) is done on one day, and delivery for another group of users (another part of the territory) on another day in urban areas would not have an impact on the phase of transportation of postal items. From the aspect of delivery, the proposed alternative would halve the distance traveled in places where regular deliveries are made by vehicles, which would also approximately halve CO₂ emissions in those places.

Currently, in urban areas, regular delivery is made by car in 55 regions with a mileage of 1,100 kilometers, while in 427 regions delivery is made by moped with a mileage of 9,076 kilometers. The proposed alternative would reduce the distance traveled by around 50% in urban areas:

- about 500 kilometers by car and
- about 4,500 kilometers by moped.

A2.2 (This alternative is described in chapter 3.2, page 71)

In order to reach the prescribed minimum, one of the measures is to increase the number of delivery days in the widest and widest delivery area (from the current once a week to twice a week in the widest and from the current twice a week to three times in the widest).

In that case, the distance traveled in the widest and widest delivery area would increase by 19%. On a monthly basis, the increase in distance covered would amount to 23,449 kilometers (by car - 9,141 kilometers, and by moped - 14,308 kilometers), which could affect the increase in CO₂ emissions.

A2.3 (This alternative is described in chapter 3.2, page 72)

Optimizing the deadlines for the transmission of letter items, without the priority letter service, would not have a significant impact on the existing organization of the transportation of postal items, while it could affect the relaxation of delivery in areas where it is carried out by vehicles. In this way, the aforementioned optimization could contribute to the reduction of the distance traveled, that is, CO₂ emissions.

In order to achieve the optimized deadlines, one of the measures is to increase the number of delivery days in the wider delivery area, in areas where deliveries are made by moped, from twice to three times a week, as a result of which the distance covered would increase by 4% compared to the total distance covered in the widest and widest delivery area. On a monthly basis, the increase in the distance traveled by moped in the wider delivery area would amount to 13,328 kilometers.

K2.7. Impact on traffic congestion in the city (min)

A2.1 (This alternative is described in chapter 3.2, page 70)

The organization of delivery every other day in urban areas where deliveries are made by vehicles would have a significant impact on reducing congestion in the mentioned areas.

A2.2 (This alternative is described in chapter 3.2, page 71)

Since the existing quality level of item transmission is not satisfactory, it is necessary to engage resources in order to reach the prescribed standards. To some extent, this would affect the increase in traffic congestion in the city.

A2.3 (This alternative is described in chapter 3.2, page 72)

Since the existing quality level of item transmission is not satisfactory, it is necessary to engage resources in order to reach the standards provided by alternative A2.3. To a certain extent, this would affect the increase in traffic congestion in the city, but somewhat less than that predicted by alternative A2.2.

K2.8. Impact on noise level (min)

A2.1 (This alternative is described in chapter 3.2, page 70)

The organization of deliveries every other day in urban areas where deliveries are made by vehicles would have a significant impact on the reduction of noise levels in the aforementioned areas.

A2.2 (This alternative is described in chapter 3.2, page 71)

Since the existing quality level of item transmission is not satisfactory, it is necessary to engage resources in order to reach the prescribed standards. This would have the effect of increasing the noise level to some extent.

A2.3 (This alternative is described in chapter 3.2, page 72)

Since the existing quality level of item transmission is not satisfactory, it is necessary to engage resources in order to reach the standards provided by alternative A2.3. It would affect the increase of the noise level to a certain extent, but somewhat less than that envisaged by the alternative A2.2.

SOCIAL FACTORS

K2.9. Fulfillment of user needs (max)

A2.1 (This alternative is described in chapter 3.2, page 70)

Based on the RATEL study from 2024, which refers to the research of user satisfaction, 4/5 (80%) natural persons as users from urban areas declared that the delivery does not have to be the same, but can be the next day after arrival to the post office. On the other hand, 58% of respondents in rural areas declare that it is enough to deliver letters at least once a week. For 90% of the respondents of legal entities (when cumulatively including the respondents for whom the deadlines D+3, D+4, and D+5 are acceptable), the delivery deadline of 2 days is acceptable.

A2.2 (This alternative is described in chapter 3.2, page 71)

Based on the mentioned study, 3/5 (59%) of natural persons reported the delay of letters/parcels. For legal entities, this percentage is 50%. Companies that cannot be classified in the activities of production, trade, and services more often had a problem with the delay of the letters and parcels they send (75%), but at the same time, they more often state that a delivery time of 5 days is acceptable for them.

A2.3 (This alternative is described in chapter 3.2, page 72)

When it comes to the expectations of legal entities in terms of the quality of item transmission, the following transmission deadlines are acceptable: D+1=10%; D+2=56.3%; D+3=27%; D+4=1.3%; D+5=4.3%. The proposed delivery deadline in this alternative, D+2=60%, is in line with the expectations of service users (D+2=56.3%).

K2.10. Impact on the category of "vulnerable" users (min)

A2.1 (This alternative is described in chapter 3.2, page 70)

Currently, there is no identifiable category of "vulnerable" users. After the Post of Serbia defines this category, a possible negative impact may appear, e.g. due to missing some deadlines due to reduced transmission quality, etc.

A2.2 (This alternative is described in chapter 3.2, page 71)

Since a higher level of quality is expected within this alternative, it also contributes to a better position for "vulnerable" users.

A2.3 (This alternative is described in chapter 3.2, page 72)

Bearing in mind that the third alternative implies a medium level of quality compared to the previous two considered alternatives, a medium impact on "vulnerable" users can also be expected.

K2.11. Expected quality level (max)

A2.1 (This alternative is described in chapter 3.2, page 70)

This alternative proposes deadlines $D+2=50\%$, $D+3=70\%$, and $D+5=99\%$, which represent deadlines that are lower than currently prescribed, but they are still higher than the deadlines achieved by the Post of Serbia according to independent measurements in the last 3 years (for example, in 2022: $D+2=46.97\%$, $D+3=68.38\%$, and $D+5=89.54\%$). If the above is taken into account and the Post of Serbia makes changes in the organization and complies with those deadlines, the users would receive a slightly higher level of quality than the existing one. However, compared to the other considered alternatives, this alternative foresees the most relaxed transfer deadlines, i.e. it implies potentially the lowest level of quality.

A2.2 (This alternative is described in chapter 3.2, page 71)

In relation to the existing situation, the level of quality is raised to the level of valid regulations. The achieved results in 2023 based on independent measurement are: for non-priority letters $D+2=49.51\%$, $D+3=67.98\%$, $D+5=88.69\%$, for priority letters $D+1=32.07\%$, $D+2=59.04\%$, $D+3=74.05\%$. The rulebook on quality parameters prescribes the standard for non-priority letters as minimum $D+2=80\%$, $D+3=85\%$, $D+5=90\%$, and for priority letters as minimum $D+1=85\%$, $D+2=90\%$, $D+3=95\%$. If the current situation were to be maintained in terms of the large difference between the achieved and prescribed quality, the Post of Serbia could face punitive provisions that would be proposed through the amendment of the Law on Postal Services. Therefore, the Post of Serbia should make a significant effort and resources in order to reach the prescribed deadlines.

A2.3 (This alternative is described in chapter 3.2, page 72)

The third alternative implies a medium level of quality compared to the previous two considered alternatives. The optimization of the deadlines for the transmission of letter items is analyzed so that the deadlines are $D+2=60\%$, $D+3=75\%$, $D+5=99\%$, without priority letter service (the results achieved in 2023 based on independent measurement are for non-priority letters $D+2=49.51\%$, $D+3=67.98\%$, $D+5=88.69\%$). Serbian Post is expected to make a relatively large effort and take steps to reach this level of quality.

K2.12. Employee satisfaction (max)

A2.1 (This alternative is described in chapter 3.2, page 70)

The Post of Serbia conducted a satisfaction survey of its employees on a sample of 825 respondents. The research was conducted during 2024. According to the results, 29% of

employees believe that in urban areas the delivery does not have to be the same, but can be the next day after arriving at the post office. In rural areas, 59% of employees believe that the number of delivery days for letters and parcels should be increased, while 41% of employees believe that the number of delivery days should be reduced, that is, it is enough to organize the delivery of letters and parcels at least once a week. Currently, 82.96% of the territory is covered by delivery every day, 2 to 4 days 12.09% and at least once a week 4.95% of the territory.

A2.2 (This alternative is described in chapter 3.2, page 71)

According to a survey by the Post of Serbia, 76% of employees believe that the achieved transmission quality is satisfactory.

A2.3 (This alternative is described in chapter 3.2, page 72)

Since the majority of employees are satisfied with the existing quality of item transmission, it is believed that the third alternative would have a similar level of satisfaction.

TECHNICAL FACTORS

K2.13. The complexity of the organization of the technical-technological process (min)

A2.1 (This alternative is described in chapter 3.2, page 70)

The organization of delivery every other day would require the complexity of the organization in terms of the exact recognition of which part of the region the delivery is made in order to convey the correct information to the users. The complexity would also be reflected in the background in terms of the quality of the production of Travel Documents. There would be no difference in the part of debiting money and items and existing insurance policies would not have to be changed.

A2.2 (This alternative is described in chapter 3.2, page 71)

The complexity of the organization would be in the part of organizing employees in the processing of postal items in the night mode, in order to achieve a higher level of quality of the transmission of items.

A2.3 (This alternative is described in chapter 3.2, page 72)

There would be no significant changes in the organization of technical-technological processes except in the part of greater control of technological discipline.

K2.14. Complexity of regulation (min)

A2.1 (This alternative is described in chapter 3.2, page 70)

This alternative would imply certain interventions in terms of changes in legal and by-laws. Bearing in mind that the existing Law on Postal Services does not provide for penal provisions for non-compliance with prescribed quality, penal provisions for non-compliance with deadlines will be proposed.

A2.2 (This alternative is described in chapter 3.2, page 71)

Alternative A2.1 refers to the existing situation and thus relies on the existing regulations. Bearing in mind that the existing Law on Postal Services does not provide for penal provisions for non-compliance with prescribed quality, penal provisions for non-compliance with deadlines will be proposed.

A2.3 (This alternative is described in chapter 3.2, page 72)

This alternative would imply certain interventions in the sense of amending by-laws. Bearing in mind that the existing Law on Postal Services does not provide for penal provisions for non-compliance with prescribed quality, penal provisions for non-compliance with deadlines will be proposed.

K2.15. Security and reliability of item transmission (max)

A2.1 (This alternative is described in chapter 3.2, page 70)

By organizing delivery every other day, there would be an increase in the number of pensions, remittances and valuable items that are delivered to the region at the same time, which could harm the security of the items.

A2.2 (This alternative is described in chapter 3.2, page 71)

Given that alternative A2.2 implies a high level of quality, and therefore a high level of control of the technological process, it can be said that it contributes to better reliability of item transmission.

A2.3 (This alternative is described in chapter 3.2, page 72)

It is estimated that this alternative will not have a significant impact on the safety and reliability of item transmission because it is a medium level of quality.

K2.16. Employee safety (max)

A2.1 (This alternative is described in chapter 3.2, page 70)

By organizing deliveries every other day, there would be an increase in the number of pensions, remittances and valuables sent to the region at the same time, which could have a negative impact on the safety of employees.

A2.2 (This alternative is described in chapter 3.2, page 71)

By organizing the delivery of a high level of quality, the existing level of employee safety would be maintained.

A2.3 (This alternative is described in chapter 3.2, page 72)

Optimizing the deadlines for the transmission of letter items so that the deadlines are D+2=60%, D+3=75%, and D+5=99%, without the priority letter service, should not affect the safety of employees.

1.3 The data collected for the evaluation of the sustainability of the universal postal service in the segment of the availability of postal network units

Identical to the previously discussed two segments, in the segment of the availability of postal network units, the collected data is structured according to the criteria on the basis of which each of the alternatives is evaluated, and the criteria are grouped into four clusters: economic factors, environmental factors, social factors and technical factors.

ECONOMIC FACTORS

K3.1. Expected scope of services (max)

A3.1 (This alternative is described in chapter 4.3, page 83)

The alternative refers to the existing situation regarding the availability of postal network units, without any changes. An analysis of the quality of post office availability in terms of working hours, territorial availability, etc. was performed. The assessment is that the volume of services will remain unchanged and will follow the trend shown in Figures 1.1 to 1.9.

A3.2 (This alternative is described in chapter 4.3, page 83)

This alternative implies a reduction in the number of postal network units (by 10-20%) and a reduction in the minimally defined working hours of post offices. On the sample, ie. based on the current state of access points (1,558 post offices and 121 separate corporate counters), an analysis of the quality of the availability of postal services was performed in the event of a 10% to 20% reduction in the number of access points. The Post of Serbia made a proposal to reduce the number of access points by 11.2%. Namely, out of a total of 1,679 access points, a reduction of 188 access points (138 post offices and 50 separate counters) was proposed. Given that the units that were estimated to be closed are units of the postal network with a small volume, the opinion is that this alternative will not have a significant impact on the total volume and number of services provided and that users will reorient to the post offices that remain in the system, which are available to them in accordance with the prescribed criteria.

It is also proposed to reduce the working hours of non-profitable post offices in the urban area (fourth row, fifth row and separate post offices), which are not the main post offices in the municipality headquarters. Based on the above parameters, it is possible to reduce the working hours for 30 post offices in the urban area (1.93% of post offices in the urban area), so that the working hours will be 4 hours, with the fact that for 6 delivery post offices it would be necessary to introduce one working day in the afternoon classes, because they don't work on Saturdays.

If we look at rural areas, for post offices of the fourth row, fifth row and separate post offices, whose monthly profitability does not exceed 20,000.00 dinars, it is possible to shorten the working hours to 2 hours a day, whereby this time refers to the work of the post office with users at the counter (on days when the post office is organized). The stated reduction in the working hours of post offices in rural areas could be applied to 386 (24.77% of post offices in

rural areas) post offices. Of these, 382 (24.06%) post offices are delivered and do not work on Saturdays, so it is necessary to introduce a day to work in the afternoon, which would primarily apply to urban areas.

Based on the presented data, the conclusion is that the reduction in the number of post offices and working hours will not have a significant impact on the total volume of services.

A3.3 (This alternative is described in chapter 4.3, page 84)

The third alternative considers an increase in the number of post offices (5%) and an increase in the minimum defined working hours of the post office. On the sample, ie. the current state of access points (1,558 post offices and 121 separate corporate counters), an analysis of the impact on the quality of the availability of postal services was performed if the number of access points was to increase by 5%. The Post of Serbia proposed to increase the number of access points by 5.12%. Namely, out of a total of 1,679 access points, an increase of 86 access points was proposed.

It is estimated that this alternative will not have a significant impact on the total volume of services, as the volume will be transferred to the new post offices from the existing ones. It is possible to increase the volume of parcel services, to a maximum of up to 1%, it is estimated that this amount is 19,000.

K3.2. Expected income (max)

A3.1 (This alternative is described in chapter 4.3, page 83)

When looking at the expected income, according to the alternative that implies maintaining the current situation regarding the availability of postal network units, without any changes, the assessment is that the income remains unchanged. The movement of income in the case of this alternative corresponds to the situation shown in Figures 1.10 to 1.24.

A3.2 (This alternative is described in chapter 4.3, page 83)

Given that the units of the postal network that were estimated to be closed are units of the postal network with low income, it is estimated that this alternative will not have a significant impact on the total income and that users will reorient to the post offices that remain in the system, so therefore, the income from operating (now closed) post offices will be transferred to the existing ones.

A3.3 (This alternative is described in chapter 4.3, page 84)

It is estimated that this alternative will not have a significant impact on the total revenue because the volume of new post offices will flow from the existing ones, and thus the revenue from the existing ones to the new ones. It is possible to increase the income of parcel services by, a maximum of up to 1%, it is estimated that this amount is 4,300,000 dinars.

K3.3. Expected investments (min)

A3.1 (This alternative is described in chapter 4.3, page 83)

Based on the Public Procurement Plan of the Post of Serbia for 2023, funds in the amount of 2,247,107,000.00 dinars were defined, while 1,944,361,382.00 dinars (86.53%) were realized.

The public procurement plan of the Post of Serbia for the year 2024 defined funds in the amount of 1,102,252,000.00 dinars (the transfer from 2023 of funds in the amount of 336,794,618.00 dinars), while 723,537 were realized in the first three months. 744.00 dinars (65.64%). In Table 1.7. the Public Procurement Plan, as well as their implementation for 2023 and 2024, was presented.

Table 1.7. Public procurement plan and implementation for 2023

Year	Investments (with VAT)								
	Means of transport			Postal equipment			In total		
	Plan (in 000 din)	Realization (in 000 din)	%	Plan (in 000 din)	Realization (in 000 din)	%	Plan (in 000 din)	Realization (in 000 din)	%
in 2023	1,475,440	1,358,914	92.10	771,667	585,446	75.87	2,247,107	1,944,361	86.53
in 2024	789,710	717,516	90.9	312,542	6,021	1.93	1,102,252	723.537	65.64

Given that the alternative maintains the current situation regarding the availability of postal network units, it is expected that the Public Procurement Plan will remain unchanged as there is no need for additional investments.

A3.2 (This alternative is described in chapter 4.3, page 83)

Considering that this alternative refers to the reduction of the number of access points and the reduction of the working hours of post offices, it is to be expected that this situation will not significantly affect the expected investments, possibly the reduction of investment maintenance due to the closure of the specified number of post offices and counters, as well as the reduction of investments in terms of postal equipment. Investments in means of transport would not be reduced because the delivery would be made from other post offices, and means of transport were certainly engaged in that case.

A3.3 (This alternative is described in chapter 4.3, page 84)

Since the proposal is to increase the number of access points by 86 access points, it will affect the increase in investments. It is estimated that investments in postal equipment would increase by 2.85%. After the analysis, it was determined that the change in working hours will not have an impact on the expected investments.

K3.4. Expected operating cost (min)

A3.1 (This alternative is described in chapter 4.3, page 83)

Table 1.8. operating costs for the year 2023 are shown, which are expected to remain pretty much the same going forward because this alternative envisages maintaining the current state of network availability. Accordingly, the conclusion is that this alternative does not have a significant impact on the change in operating costs.

Table 1.8. Operating costs for 2023

Operating costs	Costs for 2023						
Work units	Employees (in 000 din)	Facilities and equipment (in 000 din)	Depreciation (in 000 din)	Vehicles (in 000 din)	Other expenses (in 000 din)	Official uniform (in 000 din)	In total (in 000 din)
In total	13,496,472	41,339	358.239	1,205,383	1,739,737	31,230	16,872,403

A3.2 (This alternative is described in chapter 4.3, page 83)

The alternative proposal envisages a reduction in the number of access points by 188 out of a total of 1,679 and refers to post offices with a small staff. Namely, the mentioned measure would reduce the number of employees by 219 (169 employees in post offices and 50 employees at separate counters) out of a total of 14,002 employees (1.6%).

Changing working hours in rural areas will not significantly affect the reduction of operating costs because all (386 post offices) already work in one shift and have operating costs that do not depend on working hours. Reducing the working hours of post offices in urban areas could be applied to a relatively small number of post offices, which would affect a relatively small reduction in employee costs due to a slight reduction in personnel capacities, that is, the number of engaged employees.

By reducing the number of access points by 188, the total costs of employees at the Post of Serbia would decrease by 1.6%. Bearing in mind that the costs of employees account for 80% of the total costs, the mentioned reduction in the number of access points would significantly affect the reduction of the total costs of the Post of Serbia. A reduction in working hours could be implemented in 30 post offices in the urban area, of which only 5 currently operate in two shifts. The cost reduction on this basis would be insignificant (0.07% of the total cost of employees).

A3.3 (This alternative is described in chapter 4.3, page 84)

The proposal to increase the number of access points by 86 access points would directly affect the increase in operating costs. After the analysis, it was determined that the change in working hours will not have an impact on the expected operational costs.

K3.5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources (max)

A3.1 (This alternative is described in chapter 4.3, page 83)

In table 1.9. the criteria are presented: realized volume of services, income, investments and expenses for 2023, on the basis of which the ratio of expected income and invested resources according to the A3.1 alternative can be seen.

Table 1.9. Values of economic criteria for alternative A3.1

QUALITY OF AVAILABILITY Criteria	A3.1
ECONOMIC FACTORS	
K3.1. Expected scope of services	226.272.647
K3.2. Expected income	13.445.506.208
K3.3. Expected investments	1,944,361,382
K3.4. Expected operating cost	16,872,403,944

A3.2 (This alternative is described in chapter 4.3, page 83)

The reduction in the number of access points will not affect the expected volume of services and revenue. The practice has shown that users of postal services, in the event of an access point's failure, move to the nearest access point in order to provide the service. It is expected that the reduction in the number of access points will have a low level of impact on the reduction of expected investments and a medium-low level of impact on the reduction of expected operating costs. Bearing in mind the above, as well as the fact that operating costs are significantly higher than investments (as much as 8.7 times), we come to the conclusion that the reduction in the number of access points will have a medium-low level of positive impact on the estimated financial efficiency.

A3.3 (This alternative is described in chapter 4.3, page 84)

In table 1.10. the criteria are shown: realized volume of services, income, investments and costs for the year 2023, as well as estimated data due to the increase in the number of access points.

Table 1.10. Comparison of the value of economic criteria for alternatives A3.1 and A3.3

QUALITY OF AVAILABILITY Criteria	A3.1	A3.3	Increase (%)
ECONOMIC FACTORS	1	2	(2-1)/1
K3.1. Expected scope of services	226,272,647	235,323,553	4%
K3.2. Expected income	13,445,506,208	13,579,961,270	1%
K3.3. Expected investments	1,944,361,382	Medium-low	Medium-low
K3.4. Expected operating cost	16,872,403,944	Medium-low	Medium-low

By observing the alternative A3.3, it is concluded that the increase in the number of access points would have a slight impact on the increase in the expected volume of services in the estimated amount of about 4% and the increase in the expected income in the estimated amount of about 1%, while it would have a medium-low impact on the expected investments and operating costs in a negative sense.

ENVIRONMENTAL FACTORS

K3.6. Impact on air pollution, CO₂ emission (min)

A3.1 (This alternative is described in chapter 4.3, page 83)

Bearing in mind that alternative A3.1 preserves the existing state of the number of post offices, thus preserving the existing organization of transport and delivery of postal items and the current impact on air pollution, i.e. on CO₂ emissions, and in accordance with the data for criterion K1.6 from alternative A1.1. The introduction of electric vehicles is expected to significantly reduce the harmful impact on the environment, that is, CO₂ emissions. In table 1.11. a representation of the mileage by type of vehicle and average consumption is given.

Table 1.11. *Mileage by vehicle type and average fuel consumption*

	Type of vehicle	Mileage (kilometers)	Average consumption (liter)
ORP	A truck	13,529	20.5
	Van	1,230	9.6
RP	Van	45,908	9.6
	Car	4,462	7.9
Delivery	Car	8,707	7.9
	Moped	31,844	4.4

A3.2 (This alternative is described in chapter 4.3, page 83)

Bearing in mind that the alternative is to reduce the number of units of the postal network, it can be concluded that by closing certain existing post offices, there would be a reduction in the distance traveled on the lines of the Transportation Order, savings in fuel consumption, and in some cases a change in the type of means of transport. This would also affect the reduction of air pollution and CO₂ emissions.

In addition to the above, it can be concluded that the closure of certain access points (post offices and separate counters) in some cases would not have an impact on changes to existing transport lines, while in some cases it would have an impact on shortening the distance traveled, changing means of transport, fuel consumption, and thus reducing CO₂ emissions. On the other hand, by closing certain proposed access points with organized regular delivery, the distance covered by postmen in arriving at the delivery area increases.

The distance traveled on the lines of the transportation order would be reduced by about 1,887 kilometers, which is accompanied by a reduction in fuel consumption by about 167 liters.

Percentage-wise, by reducing the number of access points, the total mileage on the lines of the transport queue would decrease by about 4%.

A3.3 (This alternative is described in chapter 4.3, page 84)

Bearing in mind that the alternative is to increase the number of units of the postal network, it can be concluded that the opening of access points would lead to an increase in the distance traveled on the lines of the Transportation Order, increased fuel consumption, and in some cases to a change in the type of transport. This would also affect the increase in air pollution and CO₂ emissions. Also, there are cases in which the opening of certain access points would not affect the previously mentioned factors. In cases where it is foreseen that the newly opened access point has an organized regular delivery, the distance traveled by the postman to arrive at the delivery area would be shortened.

The distance traveled on the lines of the transport order would increase by about 354 kilometers, which is accompanied by an increase in fuel consumption by about 40 liters.

Percentage-wise, by increasing the number of access points, the total mileage on the lines of the transport queue would increase slightly (0.7%).

K3.7. Impact on traffic congestion in the city (min)

A3.1 (This alternative is described in chapter 4.3, page 83)

Bearing in mind that alternative A3.1 preserves the existing state of the number of post offices and the organization of the postal network, thereby preserving the existing organization of transportation and delivery of postal items, as well as the existing impact on congestion in the city.

A3.2 (This alternative is described in chapter 4.3, page 83)

According to estimates, 27% of the access points of the postal network include urban areas, the closure of which would slightly reduce the impact on traffic congestion in the city. Also, increasing the distance traveled by postmen would not have too much impact on traffic jams.

A3.3 (This alternative is described in chapter 4.3, page 84)

According to the estimate, the distance traveled on the lines of the transport order would increase by about 354 kilometers, which is accompanied by an increase in fuel consumption by about 40 liters. Potential new access points are mostly located in rural areas and therefore would not have a significant impact on traffic congestion in the city.

K3.8. Impact on noise level (min)

A3.1 (This alternative is described in chapter 4.3, page 83)

Bearing in mind that alternative A3.1 preserves the existing state of the number of post offices and the organization of the postal network, thus the existing organization of transportation and delivery of postal items is preserved, as well as the existing impact on the noise level.

A3.2 (This alternative is described in chapter 4.3, page 83)

It is estimated that the distance traveled on the lines of the transportation order would be reduced by about 1,887 kilometers, which is accompanied by a reduction in fuel consumption by about 167 liters, while the distance traveled by postmen on the way from the second access point to the region would increase. Urban areas include 27% of access points, the closure of which would slightly reduce the impact on the noise level.

A3.3 (This alternative is described in chapter 4.3, page 84)

According to the estimate, the distance traveled on the lines of the transport order would increase by about 354 kilometers, which is accompanied by an increase in fuel consumption by about 40 liters. Potential new access points are mostly located in rural areas, and therefore would not have a significant impact on noise in the city.

SOCIAL FACTORS

K3.9. Fulfillment of user needs (max)

A3.1 (This alternative is described in chapter 4.3, page 83)

The study "The degree of satisfaction of the needs of users of postal services" from 2024 showed that in the case of natural persons, 85% of respondents are satisfied with the current

proximity to the post office. According to their estimation, the average time to their post office is about 10 minutes. The majority of users (60%) walk to the nearest post office, and the other 40% use some type of transport. In urban settlements, the post office is most often reached on foot, while in rural settlements it is more often reached by car or bus. Regarding the working hours, 76% of the respondents believe that the current working hours are adapted to the needs of the users. In the case of legal entities, 87% of respondents are satisfied with the current proximity to the post office. The obtained percentages show a significant level of user satisfaction with the existing availability of postal network units and the fulfillment of their needs. Based on these results, it can be concluded that the majority of users are in favor of maintaining the current availability of the postal network.

A3.2 (This alternative is described in chapter 4.3, page 83)

With the alternative that envisages reducing the number of post offices and reducing working hours, the research results show that in the case of natural persons, 47% of the urban population is acceptable to work on Mondays, Wednesdays, Fridays: 9.00-15.00, Tuesdays, Thursdays: 13.00-19.00, Saturdays: 9.00-13.00. For only 30% of the urban population, it is acceptable for the post office to work for 4 hours and one day until 5 p.m. without working Saturdays, and the option with 6 hours is acceptable for 50%. Working on Saturdays is important for 73% of respondents.

Residents of the Belgrade region are particularly against the shortening of working hours. In case there is no work on Saturdays, it is proposed to extend the work for at least one day from 5 pm to 7/8 pm.

In a rural environment, working only 1 or 2 days a week is poorly rated. In rural areas with less population density, 44% of physical persons accept a minimum of 2 days with a minimum of 2 hours of work during the day.

In the case of legal entities from the urban environment, working on Saturdays is important for 2/5 (40%) and also for 2/5 (39%) respondents working on Saturdays is not important. For 35% of respondents, it is acceptable to work on Mondays, Wednesdays, Fridays: 9.00-15.00, Tuesdays, Thursdays: 13.00-19.00, Saturdays: 9.00-13.00. For 45% of the respondents, the abolition of the working Saturday and the working day from 6 am (with one day until 5 pm) is acceptable. For only 28% of respondents, work of at least 4 hours is acceptable. 41% of respondents expect 8-hour work, and 27% even longer working hours. 50% of respondents expect the post office to work at least 1 day until 5 pm, and the rest of them to be open even longer until 6, 7 or 8 pm. Companies from rural areas are against working 2 days and two hours (79%) or 1 day and 3 hours (71%) a week, they expect 5 days a week (77%) with a minimum working time of 6 hours during the day (62%).

When considering reducing the number of postal network units, the maximum acceptable time the average time it takes users to get to the post office is 17 minutes.

A3.3 (This alternative is described in chapter 4.3, page 84)

With the alternative that predicts an increase in the number of post offices and an increase in working hours, the results of the research show that in the case of natural persons, 1/5 (20%) of users see the need to open a post office that would be closer to them (40% of respondents at

most in rural sparsely populated areas). Users who see the need to open a post office closer: now it takes them 15 min to get to the post office, and they prefer 7 min. 29% of users want an extension of working hours (an increase of 2-3 hours on average for both urban and rural areas, while 44% of respondents in urban areas believe that the post office should work until 8 or 9 p.m. Saturday work is important for 3/4 (73%) of the urban population.

In the case of legal entities, 87% of respondents do not see the need to open a closer post office (the average time to the post office is 6 minutes, and the maximum acceptable distance is 13 minutes). Users who see the need to open a closer post office: legal entities who want a closer post office now travel 11 minutes to the existing one, and would like their post office to be 5 minutes away. As for the working hours of the post office, only 11% of respondents want longer working hours, 1 or 2 hours longer than the current one.

K3.10. Expected quality level (max)

A3.1 (This alternative is described in chapter 4.3, page 83)

The assessment is that the alternative that envisages maintaining the existing state of availability of the postal network has no impact on the expected level of quality. In this case, services are provided with currently available resources and under-achieved quality levels of availability.

A3.2 (This alternative is described in chapter 4.3, page 83)

The decrease in the number of access points by 11% led to a decrease in the quality of availability by about 2%. At a distance of up to 2.5 km from the nearest access point, the quality of accessibility would decrease by 2.3%, up to 5 km by 2.2%, up to 10 km by 1.1%, and over 10 km by 1.1%. The stated results are at the national level, and there are greater deviations at the level of individual municipalities.

A3.3 (This alternative is described in chapter 4.3, page 84)

A 5% increase in the number of access points led to a slight increase in the quality of availability (less than 1%). At a distance of up to 2.5 km from the nearest access point, the quality of accessibility would increase by 0.4%, up to 5 km by 0.2%, up to 10 km by 0.03% and over 10 km by 0.03%.

K3.11. Employee satisfaction (max)

A3.1 (This alternative is described in chapter 4.3, page 83)

The Post of Serbia conducted a satisfaction survey of its employees on a sample of 825 respondents. The research was conducted during 2024. According to the results of the survey, 86% of employees are satisfied with the current proximity to the post office. The maximum acceptable mileage for users is 1 km (49%) and 2 km (24%). Regarding working hours, 90% of employees believe that the current working hours are adapted to the needs of the users.

A3.2 (This alternative is described in chapter 4.3, page 83)

The results of the research show that 23% of employees consider it rational if a post office were to close in their business environment. 51% of employees believe that the post office should work on Saturdays. For only 30% of employees (whose place of work is in an urban area) it is acceptable for the post office to work 4 hours and one day until 5 p.m. without working

Saturdays, and the option with 6 hours is acceptable for 48%. For 35% of employees (whose place of work is in an urban area) it is acceptable to work on Mondays, Wednesdays, Fridays: 9.00-15.00, Tuesdays, Thursdays: 13.00-19.00, Saturdays: 9.00-13.00.

For employees whose workplace is in a rural area, 21% of them accept a minimum of 2 days with a minimum of 2 hours of work during the day and 7% accept a minimum of 1 day with a minimum of 3 hours of work during the day.

A3.3 (This alternative is described in chapter 4.3, page 84)

The results of the survey show that 18% of employees believe that a new post office should be opened in their business environment. For 32% of employees (whose place of work is in an urban area), the minimum acceptable working time is 6 hours, that is, for 43% of employees, 8 hours is acceptable. For 58% of employees whose workplace is in a rural area, it is acceptable for the post office to be open 5 days, 24% for the post office to be open for 4 days, 12% for the post office to be open for 3 days and 6% for the post office to be open for 2 days.

K3.12. Impact on the category of "vulnerable" users (min)

A3.1 (This alternative is described in chapter 4.3, page 83)

Currently, there is no recognizable category of "vulnerable" users, and they cannot be distinguished from other users. Based on this, it can be assumed that maintaining the existing situation would have a neutral impact on the category of "vulnerable" users.

A3.2 (This alternative is described in chapter 4.3, page 83)

An alternative that involves reducing the number of post offices and working hours may have a negative impact on the category of "vulnerable" users.

A3.3 (This alternative is described in chapter 4.3, page 84)

An alternative that involves increasing the number of post offices and working hours can have a positive impact on the category of "vulnerable" users.

TECHNICAL FACTORS

K3.13. Distance traveled by the user to the nearest post office (min)

A3.1 (This alternative is described in chapter 4.3, page 83)

Currently, at the national level, 76.76% of the population is within 2.5 km of the nearest access point where they can access the universal postal service. 89.35% of residents are up to 5 km, that is, 98.43% of residents are up to 10 km from the access point. Over 10 km, 1.57% of the population is far from the nearest access point. If the results obtained at the municipal level are observed, significant deviations are observed, ie. big differences between municipalities. For example, for a distance of up to 2.5 km, the availability quality varies from 25% to 100%.

A3.2 (This alternative is described in chapter 4.3, page 83)

If the number of access points were to be reduced by 11%, at the national level 74.47% of the population would be at a distance of up to 2.5 km from the nearest access point where they can

access the universal postal service. 87.15% of residents are up to 5 km away, that is, 97.36% of residents are up to 10 km away from the access point. 2.64% of the population is more than 10 km away from the nearest access point. Note: if the results obtained at the municipal level are observed, significant deviations are observed, i.e. big differences between municipalities.

A3.3 (This alternative is described in chapter 4.3, page 84)

If the number of access points were to increase by 5%, at the national level 77.14% of the population would be at a distance of up to 2.5 km from the nearest access point where they can access the universal postal service. 89.52% of residents are up to 5 km, that is, 98.46% of residents are up to 10 km from the access point. 1.54% of the population is more than 10 km away from the nearest access point. Note: if the results obtained at the municipal level are observed, significant deviations are observed, i.e. big differences between municipalities.

K3.14. Number of inhabitants by post in urban and rural areas (min)

A3.1 (This alternative is described in chapter 4.3, page 83)

The current number of inhabitants per access point is 4,046. There are 6,349 in urban areas and 2,541 in rural areas.

A3.2 (This alternative is described in chapter 4.3, page 83)

By reducing the number of access points by 11%, the number of postal residents in urban areas would increase by 10.7% and in rural areas by 14.4%.

A3.3 (This alternative is described in chapter 4.3, page 84)

By increasing the number of access points by 5%, the number of post office residents in urban areas would decrease by 9.9% and in rural areas by 1.5%.

K3.15. Availability of post offices in terms of opening hours in urban and rural areas (max)

A3.1 (This alternative is described in chapter 4.3, page 83)

A total of 1,558 post offices operated in the territory of the Republic of Serbia in 2023 (1,350 corporate post offices and 208 contractual post offices).

- Out of a total of 1,558 post offices, 573 (36.78%) post offices operate in urban areas, while 985 (63.22%) post offices operate in rural areas.

- The time availability of the post office is defined by the working hours of the post office in one or two shifts, as well as by the number of days in the week. Out of a total of 1,558 post offices, 1,188 post offices work in one shift, which is 76.25%, 370 post offices work in two shifts (23.75%), and 9% of post offices work less than 5 days a week. Given that 63.22% of post offices operate in rural areas, it is expected that a large number of post offices operate in one shift, i.e. less than 8 hours a day. Table 1.12 shows the number of post offices by number of working days per week.

Table 1.12. Total number of post offices by number of working days in the week

	1 day	%	2 days	%	3 days	%	4 days	%	5 days	%	6 days	%	7 days	%	in total
Number of post offices	1	0.06	54	3.47	80	5.13	4	0.26	859	55.13	525	33.70	35	2.25	1 . 558
In total	1 . 558														

- Regarding delivery availability, out of a total of 1,558 post offices, 1,360 post offices deliver postal items, which is 87.29%. In relation to the area, in the urban area, 392 post offices make deliveries (28.82%), while in the rural area, deliveries are made in 968 (71.18%). According to the "Methodology of monitoring quality in postal traffic", ("Official PTT Gazette", number 1457 of October 8, 2021), delivery availability is of high quality. Tables 1.13 to 1.15 show all post offices that make deliveries by the number of working days in the week, followed by a presentation according to the specified criteria for post offices in urban and rural areas.

Table 1.13. Number of post offices that deliver by number of working days

	1 day	%	2 days	%	3 days	%	4 days	%	5 days	%	6 days	%	7 days	%	In total
Number of post offices	1	0.07	53	3.90	78	5.74	4	0.29	767	56.40	438	32.21	19	1.40	1360
In total	1360														

Table 1.14. Number of post offices delivering in urban areas by number of working days

	4 days	%	5 days	%	6 days	%	7 days	%	In total
Number of post offices	1	0.26	62	15.82	317	80.87	12	3.06	392
In total	392								

Table 1.15. Number of post offices delivering in rural areas by number of working days

	1 day	%	2 days	%	3 days	%	4 days	%	5 days	%	6 days	%	7 days	%	In total
Number of post offices	1	0.10	53	5.48	78	8.06	3	0.31	705	72.83	121	12.50	7	0.72	968
In total	968														

A3.2 (This alternative is described in chapter 4.3, page 83)

On the sample, ie. based on the current state of access points (1,558 post offices and 121 separate corporate counters), an analysis of the impact on the quality of postal services of reducing the number of access points by 10% to 20% was performed. The Post of Serbia proposed to reduce the number of access points by 11.2%. Namely, out of a total of 1,679 access points, a reduction of 188 access points (138 post offices and 50 separate counters) was proposed. In the urban area, working hours would be reduced in 30 post offices (5.3% of post offices in the urban area). In rural areas, working hours would be shortened in 386 post offices (39.18% of post offices in rural areas).

The reduction in the number of access points would be carried out in an area where there is already a number of access points that is significantly higher than the prescribed minimum and

that operate unprofitably or with low profitability. Also, shortening the working hours of post offices in urban and rural areas would cover a small number of users.

In this regard, it is estimated that the aforementioned restrictions would not significantly affect the availability of post offices in terms of working hours in urban and rural areas.

A3.3 (This alternative is described in chapter 4.3, page 84)

An increase in the number of access points by 5.12% would not significantly affect the increase in the availability of post offices, given that the number of access points operating on the territory of the Republic of Serbia is significantly higher than the prescribed criteria, except in the areas of certain municipalities where the quality of accessibility is extremely low.

Extending the working hours of post offices in urban and rural areas would not significantly affect the availability of post offices in terms of working hours in urban and rural areas.

There is a possibility to extend working hours by one hour in 112 post offices in the urban area (19.5%). In the rural area, for 365 post offices (37%), the working hours can be extended to 6 hours, but this is inappropriate from the point of view of profitability.

K3.16. Complexity of regulation (min)

A3.1 (This alternative is described in chapter 4.3, page 83)

Retention of the existing state of the number of post offices, criteria of territorial availability, as well as the minimum working hours of the postal network unit (minimum 4 hours, counting the time of providing service at the counter and on delivery), is regulated by valid acts, that is, there are no restrictions related to legal regulations.

A3.2 (This alternative is described in chapter 4.3, page 83)

The reduction in the number of post offices and the reduction of the minimum defined working hours of post offices is conditioned by the amendment of existing or the adoption of new legal and by-laws, which would regulate the criteria for the availability of post offices and the minimum defined working hours of post offices.

A3.3 (This alternative is described in chapter 4.3, page 84)

An increase in the number of post offices and an increase in the minimally defined working hours of the postal network unit is conditioned by the amendment of existing or the adoption of new legal and by-laws, which would regulate the criteria for the availability of post offices and the minimally defined working hours of post offices.

K3.17. Employee safety (max)

A3.1 (This alternative is described in chapter 4.3, page 83)

In accordance with the Rulebook on Occupational Safety and Health of Employees at the Post of Serbia, there is a continuous procurement of means and equipment for personal protection at work (protective vests-body armor, helmets for moped riders, suits and gloves for moped riders, protective gloves, protective footwear, lockers for first aid), which contributes to the improvement of employee safety at work - a positive impact on employee safety. Also, the Training Program for safe and healthy work of employees in the Public Enterprise "Pošta Srbije", Belgrade ("Official PTT Gazette " No. 1079 of November 29, 2016) defines the method

and procedure of training employees for safe work. In the case of maintaining the existing state of post offices, the criteria of territorial availability, as well as the existing minimum working hours of postal network units for providing services to users, the safety of employees remains the same.

A3.2 (This alternative is described in chapter 4.3, page 83)

Reducing the number of units of the postal network can increase the workload of employees (increases stress, fatigue, risk of equipment failure and congestion), which all together can negatively affect employee safety.

A3.3 (This alternative is described in chapter 4.3, page 84)

An increase in the number of post offices can lead to the relief of employees in nearby post offices, which will have a positive impact on the safety of employees.

2 ASSESSMENT OF THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE IN THE SCOPE SEGMENT - RESULTS OF THE APPLICATION OF THE PROPOSED METHODOLOGY

2.1 Introductory notes on the scope of the universal postal service in the European Union and Serbia

The Directive of the European Union (EU) on postal services in Article 3 stipulates the obligation of member states to protect the provision of certain basic postal services, i.e. universal postal services (UPS). The main goal is to ensure access to a certain set of postal services that are reliable and affordable for all users within the EU. As a minimum, Member States must provide a universal postal service that ensures reception, processing, transport and delivery at least five working days a week:

- 1) letter items weighing up to 2 kg,
- 2) parcels up to 10 kg,
- 3) as well as registered items and items with marked value in both categories.

Within these limits, member states have the flexibility to decide exactly what constitutes a universal service that suits their domestic circumstances and user needs. Universal service includes services in internal and international postal traffic (EU Directive Article 3, Paragraph 7).

The set of services included in UPS since the adoption of the EU Directive has generally remained unchanged in most EU member states. Letter and parcel items, registered letters, letters with a marked value in domestic postal traffic, as well as letters and parcels in international traffic are still part of the obligation to provide UPS in most countries. One of the most obvious divisions in the practice of countries is whether or not letters are widely included in the UPA. According to the answers, 18 out of 30 countries include letters in large numbers in the UPS ⁴.

However, looking at the individual specifications of the universal service, certain differences between countries can be observed. The main differences are in terms of:

- set standards related to the speed of item transmission,
- set standards in terms of transmission speed depending on the service category and
- restrictions on the mass of letters and parcels.

The most common standard weight for letter carriers within the UPS in almost all countries in Europe is 2 kg. In 28 countries, the upper limit for the weight of letters from the UPS is 2 kg. In Switzerland, the upper limit of mass for letter-borne items in domestic traffic is 1 kg, in Great Britain it is 750 grams, and in Ireland, it is 100 grams. When it comes to parcels, in 18 out of

⁴ Source: *Main developments in the postal sector (2017-2021) Study for the European Commission*

32 countries parcels weighing up to 20 kg fall under UPS, while in 13 countries parcels weighing up to 10 kg are covered. In Portugal, the universal postal service covers parcels weighing up to 2 kg.⁵

When it comes to countries that introduced certain changes in relation to the classically defined UPS, several examples can be singled out. Austria has included newspapers and magazines in the UPS scope, in the Czech Republic there are initiatives to no longer classify the parcel in the UPS scope, while a reduction has been adopted, both in the weight of UPS letters from 2 kg to 1 kg, as well as in the size of letter items. France abolished the priority letter with a deadline of D+1 and adopted the postponement of the deadline from D+2 to D+3, as well as the extension of the UPS to an electronic *online* letter. Denmark abolishes most letters and parcels from the UPS, while Poland introduces public electronic delivery services. Table 2.1 shows the European countries that introduced changes in the scope of UPS.

Table 2.1. *Changes to the scope of the UPS*

The changes in the scope of UPS		
	Scope expansion	Scope reduction
Austria	Newspapers and magazines in UPS	
Denmark		Proposes the cancellation of most letters and parcels from the USO scope, from 1.1.2024.
Czech Republic	Electronic mailbox - allows electronic documents to be sent to state authorities free of charge. Also, state bodies and agencies send documents to electronic mailboxes. This means that users use their mailbox to communicate with the public administration system anywhere and anytime.	Letter items up to 1 kg - letter size limit to 35.3x25x2 cm Parcels in national traffic up to 10 kg
France	Electronic online letter - electronic collection and physical delivery	From 1.1.2025 non-priority letters and parcels in outgoing international traffic will not be part of the UPS
Italy		Direct mail is excluded from the scope of the UPS
Portugal		Direct mail is excluded from the scope of the UPS Parcels in national traffic up to 10 kg

⁵ Source: *Main developments in the postal sector (2017-2021) Study for the European Commission* (on page 88 in Table 19, an overview of the scope of the universal postal service by European countries is given).

Poland	Electronic delivery of public services, mandatory provided for the state administration, as well as for companies and entities engaged in a profession of public importance
United Kingdom	Bulk items excluded from the scope of the UPS
Spain	The public postal operator has the exclusive right to provide election services

In addition to the above, it should be noted that some European countries have introduced public service obligations in addition to universal service, namely ⁶:

- services of general economic interest - which can be entrusted to an authorized postal operator, whereby the state prescribes and defines the conditions under which they must be performed. The provision of these services can be uneconomical for the provider and also requires public compensation, that is, assistance to the postal sector through the financing of services of general economic interest (Belgium);

- about public services - which can be trusted authorized postal operator, whereby the above requires specific contracts between the state and the service provider that provide for the rules and conditions for performing these activities of public interest, as well as specify the financial intervention of the state. Additional public obligations services can be within:

- postal services - usually related to the distribution of newspapers and periodicals (Belgium, Norway), then communication from and to the government (Belgium, Portugal, Spain), including electoral material (Spain), the introduction of electronic mailboxes (Portugal, France, Poland, Czech Republic and Norway) and e-wallets, services for the elderly (where everyone in the household is over 80) and for people with disabilities in rural areas (Sweden);

- postal networks - the role of the network in terms of social and territorial connectivity is recognized through: the minimum number of access points; requirements related to territorial coverage; requirements related to population coverage m; coverage requirements related to the distance from the nearest post office and rules for closing post offices, as shown in table 2.2.

⁶ Sources: *Definition of the USO: scope*, 2023, Cullen International

Modernization of the USO , 2023, Cullen International

Denmark proposes to remove USO for most letters and parcels , 2023, Cullen International

Poland introduces mandatory public e-delivery services , 2023, Cullen International

Public Service Obligations in addition to the Universal Service: related to the network , 2023, Cullen International

Public Service Obligations in addition to the Universal Service: overview , 2023, Cullen International

Public Service Obligations: related to financial and other services , 2023, Cullen International

Table 2.2. *Examples of six countries where special UPS requirements apply*

	Access points	Territorial coverage	Population coverage	Distance from the nearest post office	Rules for closing post offices
Belgium	YES	YES	YES	YES	YES
Denmark	NO	NO	NO	NO	YES
France	YES	YES	YES	YES	YES
Italy	NO	NO	NO	NO	YES
Portugal	NO	YES	NO	NO	NO
United Kingdom	YES	YES	YES	YES	NO

In addition to the above, it should be noted that some European countries have introduced public services in addition to the universal service, namely:

- financial and other services; payment of pensions and compensation to pensioners and persons with disabilities (Belgium, Denmark, Poland).

In the Republic of Serbia, the set of services that make up the universal postal service is defined by the Law on Postal Services. According to Article 18 of this Law, the universal postal service includes reception, processing, transportation and delivery:

1. letter items weighing up to two kilograms;
2. written in court, administrative and misdemeanor proceedings, regardless of limits;
3. reception of parcels weighing up to ten kilograms in domestic and international postal traffic;
4. delivery of parcels weighing up to 20 kilograms in international postal traffic;
5. per secogram weighing up to seven kilograms without charging postage in internal postal traffic.

Also, the universal postal service, in domestic and international postal traffic, includes the receipt, transmission and payment of postal orders.

2.2 Considered alternatives related to the scope of the universal postal service

Considering the EU practice regarding the redefined scope of UPS, the following alternatives are considered for the purposes of this study:

Alternative A.1.1 - Retention of the existing situation related to the scope of the universal postal service without any changes. The scope of the universal postal service includes the set of postal services defined by the current Law on Postal Services.

Alternative A.1.2 - Changes within the existing scope of the universal postal service, in the sense of considering the following changes: defining the limit for parcel dimensions (maximum 60x50x50 cm), abolishing priority mail items, as well as direct mail from the universal service, etc.

Alternative A.1.3 - Scope changes within the universal postal service, which refer to the addition of new services to the set of services that make up the universal postal service, by introducing a hybrid letter and service for the category of "vulnerable" users (services for the elderly - where everyone in the household has over 80 years and for people with disabilities in rural areas).

Alternative A.1. 4 - The introduction of public services that would be an addition to the universal service, such as, for example, the introduction of certain postal and financial services (payment of pensions, social assistance and other benefits), the introduction of e-services as support for state projects on the development of e-services of the state administration - submission requests for obtaining and downloading certain documents, certificates, certificates issued by certain state authorities, applications for school/kindergarten enrollment, scheduling appointments in state institutions, etc.

2.3 Considered criteria related to the scope of the universal postal service

Within the multi-criteria decision-making process between alternatives related to the scope of the universal postal service, the following factors (criteria) are observed:

ECONOMIC FACTORS

K2.1. Expected scope of services (max)

K2.2. Expected income (max)

K2.3. Expected investments (min)

K2.4. Expected operating cost (min)

K2.5. Estimated financial usefulness of the concept - a ratio of expected income and invested resources (max)

ENVIRONMENTAL FACTORS

K2.6. Impact on air pollution, CO₂ emission (min)

K2.7. Impact on traffic congestion in the city (min)

K2.8. Impact on noise level (min)

SOCIAL FACTORS

K2.9. Fulfillment of user needs (max)

K2.10. Impact on the "vulnerable " category of users (min)

K2.11. Expected quality level (max)

K2.12 . Employee satisfaction (max)

TECHNICAL FACTORS

K2.13. The complexity of the organization of the technical-technological process (min)

K2.14. Complexity of regulation (min)

K2.15 . Security and reliability of item transmission (max)

K2.16. Employee safety (max).

In order to evaluate the alternatives, the surveyed expert declares the level of fulfillment of the criteria for each of the alternatives based on the proposed methodology in *Phase I Studies on the sustainability of the universal postal service and defining its role in accordance with the changing needs of users*, by entering their answers in the survey form. The survey form that the expert in the field of postal traffic filled out during the analysis of the sustainability of the universal postal service in the scope segment is shown in Appendix I.A.

In addition, the experts are declaring the importance of each type of criteria (economic, environmental, social and technical), as well as the importance of each individual criterion for making a decision on the selection of the appropriate universal postal service concept in the segment of the scope of the universal postal service. These forms are given in Appendix I.B and I.C.

2.4 Results of application of the proposed methodology in the scope segment universal postal services

Below are the results of the researched and evaluated possible future concepts of sustainable universal service on the territory of the Republic of Serbia, in accordance with the defined steps for applying the methodology for assessing the sustainability of the universal postal service, which was presented as part of Phase I of the *Study on the Sustainability of the Universal Postal Service and defining its role in accordance with the changing needs of users*. Based on the data collected for the evaluation of the sustainability of the universal postal service in the scope segment, in the segment of the quality of transmission of items and in the segment of the availability of postal network units, in accordance with the defined steps for the application of the methodology for the evaluation of the sustainability of the universal postal service presented in Phase I *Studies on the sustainability of the universal postal service and defining its role in accordance with the changing needs of users*, the third phase of the Study includes:

- expert assessment of the importance of factors and criteria that affect each of the segments of the universal postal service ;
- collection of expert opinions from the field of postal traffic on the impact of each criterion on the sustainability of the universal postal service;
- application of the multi-criteria optimization method *FUZZY AROMAN*, which determines the relative priorities (ranks) of alternatives for each segment of the universal postal service;

-
- the opinion poll of experts in the field of postal traffic in connection with the universal postal service, which provides further guidelines for the interpretation of the results of the ranking of alternatives obtained by the *FUZZY AROMAN* method.

In order to realize the gathering of experts' opinions, a working group was formed from representatives of relevant institutions for the field of postal traffic. The members of the expert working group are representatives of the following institutions: Regulatory Authority for Electronic Communications and Postal Services (hereinafter: RATEL), JP "Post of Serbia" (hereinafter: Post of Serbia) and the Ministry of Information and Telecommunications (hereinafter: MIT). In addition, the opinions of experts from the University of Belgrade - Faculty of Traffic and the University of Novi Sad - Faculty of Technical Sciences (hereinafter: academic sector) were collected. Although there were several representatives of each of the mentioned institutions, one questionnaire from each institution was included in the final processing of the data, which contains the mean value of the answers of all experts belonging to the institution, with the aim of providing equal importance to the answers of each of the institutions, regardless of the numerical representation of experts from a certain institution in the working group itself.

In this chapter, the obtained results of the ranking of the alternatives in the scope segment of the universal postal service are presented.

By applying the *FUZZY AROMAN* method of multi-criteria optimization, which determines the relative priorities (ranks) of alternatives in the scope of the universal postal service, the following ranking of alternatives was obtained (Figure 2.1). The weight coefficients used are given in Annex V.

In Figure 2.1 it is noticeable that the proposed alternative A1.4 is the highest ranking alternative. As already mentioned, this alternative implies the introduction of public services that would be an addition to the universal service, such as, for example, the introduction of certain postal and financial services (payment of pensions, social assistance and other benefits), the introduction of e-services as support for state development projects e-services of the state administration - submission of requests for obtaining and downloading certain documents, certificates, certificates issued by individual state bodies, applications for school/kindergarten enrollment, scheduling appointments in state institutions, etc.

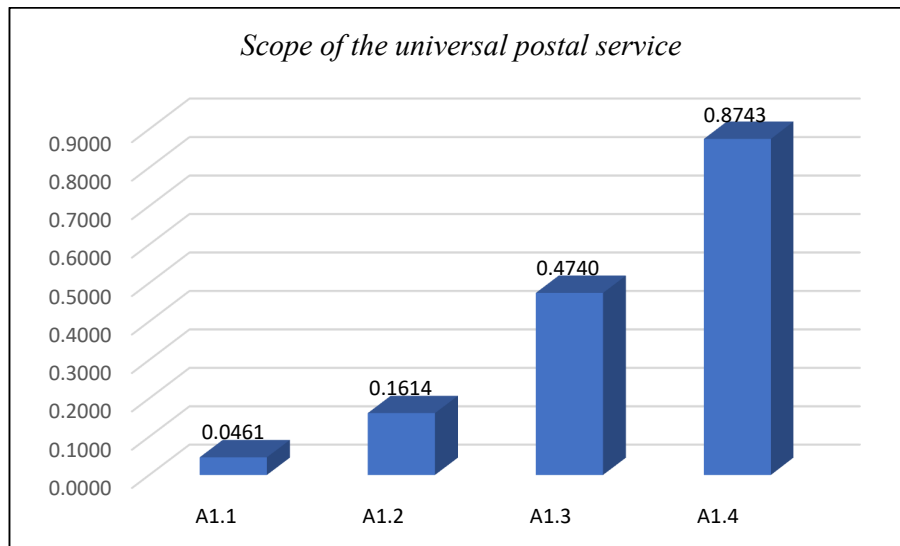


Figure 2.1. Rank of alternatives in the segment of the scope of the universal postal service

The eventual impossibility of applying this alternative in practice, or if another alternative is not in conflict with the first-placed one, does not exclude the application of the remaining considered and ranked alternatives. Next in rank are alternatives A1.3, A1.2, and A1.1, so, according to that order, it is possible to consider the implementation of those alternatives.

Within the obtained scope of alternatives, it is necessary to further consider certain modalities in order to more precisely determine certain parameters within those alternatives. In this sense, experts from the relevant institutions included in the research evaluated the importance of certain modalities of the considered alternatives within the scope of the universal postal service. The results of the RATEL study from 2024, which refers to the research of user satisfaction, were also taken into account. In general, 76% of natural persons as respondents are satisfied with the scope of services offered by the Post of Serbia. On the other hand, close to half (46%) see the need to introduce new services, which justifies the obtained ranking of alternatives. In the case of legal entities, 74% of respondents are satisfied with the scope of services offered by Post Serbia, while 24% see the need for the introduction of new services.

Within the best-ranked alternative A1.4, the importance of introducing services of public interest that would be an addition to the universal service by the Post of Serbia was assessed. These services include the introduction of e-services as support for state projects on the development of state administration e-services (submitting requests for obtaining and downloading certain documents, certificates, certificates issued by individual state bodies, applications for school/kindergarten enrollment, scheduling appointments in state institutions and the like). The experts gave the ratings shown in Figure 2.2. A score of 1 indicates that the considered issue is not at all important, while a score of 5 means that it is very important.

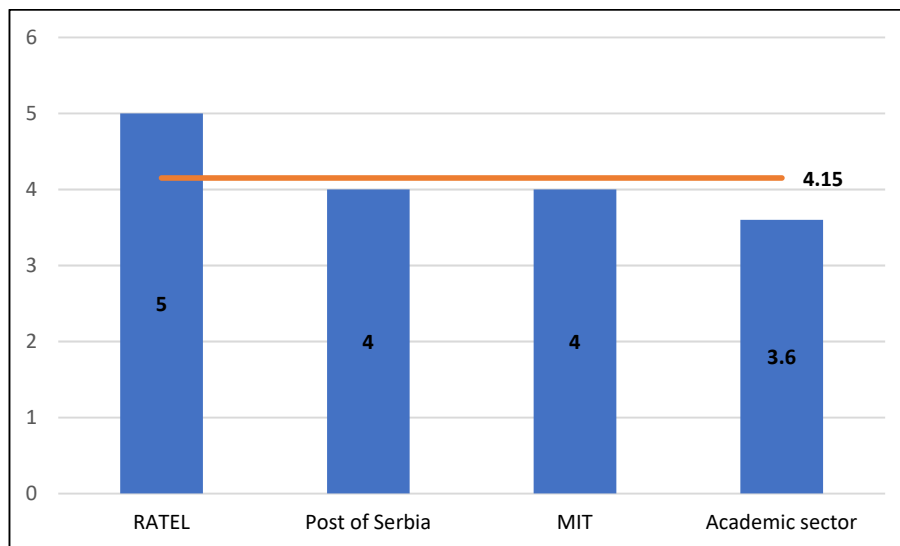


Figure 2.2. *The importance of introducing eServices of the state administration as a service of public interest*

Figure 2.2 indicates that the mean rating of the importance of introducing these services is high and amounts to 4.15. From the aspect of natural persons as potential users of these services, the average importance rating is 4.47, which also indicates the high importance of introducing this service into the UPS domain. According to the results of the user satisfaction survey, 89% of respondents consider this service important to introduce.

Furthermore, within the framework of alternative A1.4, the experts assessed the importance of introducing services such as payments and payments, pension payments, social assistance and the like as services of public interest that would be an addition to the universal service. The results are shown in Figure 2.3. As in the previous question, a score of 1 indicates that the considered issue is not at all important, while a score of 5 means that it is very important.

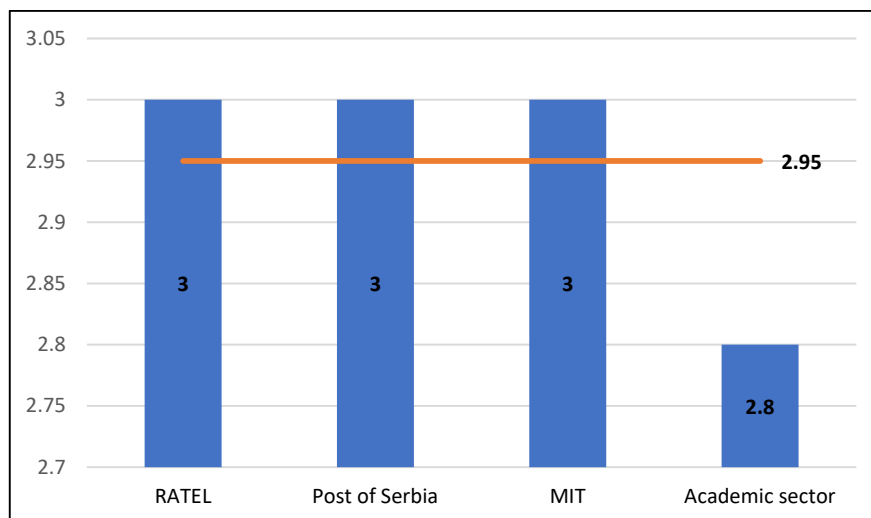


Figure 2.3. *The importance of introducing services such as payments and withdrawals, payments of pensions, social assistance and similar as services of public interest that would be an addition to the UPS*

The results indicate the medium importance of the introduction of such services in the UPS domain, where the average importance score is 2.95. On this issue, 97% of natural persons as users of these services are of the opinion that services such as payments and payments of pensions and social assistance, which do not belong to classic postal services, should be retained. It is more often argued that these services are important for the entire population than it is considered that they are important only for residents of rural settlements.

Within the framework of alternative A1.3, the significance of the introduction of the hybrid letter service in the domain of the universal postal service as one of the modalities of this alternative was evaluated and the result is shown in Figure 2.4.

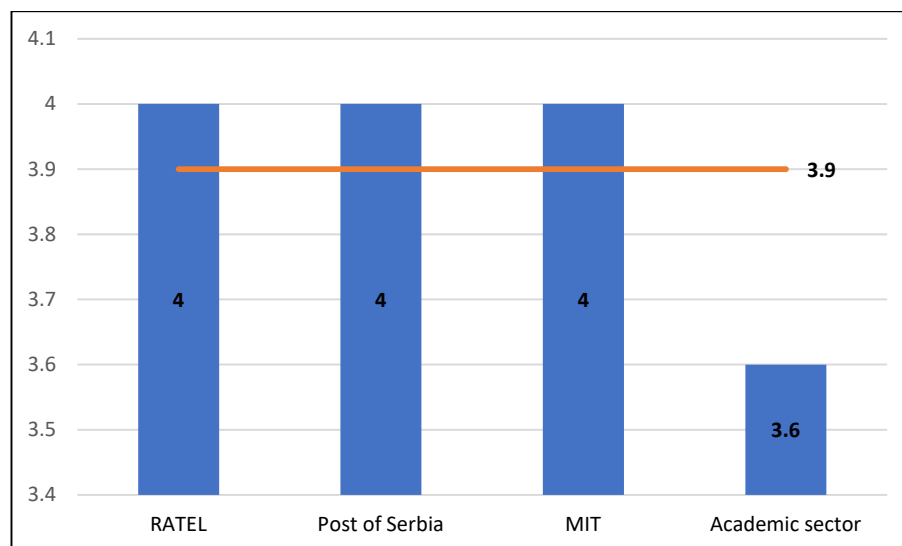


Figure 2.4. *The significance of the introduction of the hybrid letter service within the universal postal service*

It can be concluded that on a scale of 1 to 5, the average rating of the importance of introducing this service into the scope of the universal postal service is 3.9, which indicates the high importance of this alternative modality. From the perspective of natural persons as potential users of this service, the average importance rating is 3.56, which also indicates the high importance of introducing this service in the UPS domain (59% of respondents consider this service important for introduction). The introduction of a hybrid letter would be important for 42% of business subjects, with an average importance rating of 3.05.

The next modality of alternative A1.3 refers to the possibility of introducing some of the services (e.g. delivery of basic foodstuffs from shops, certain types of medicines from pharmacies, delivery of money from accounts, etc.) which are aimed at vulnerable categories of the population such as senior citizens (over 80), persons with disabilities and the like. The experts evaluated how important it would be for the Post of Serbia to introduce services intended for different vulnerable categories. The obtained results are shown in Figure 2.5.

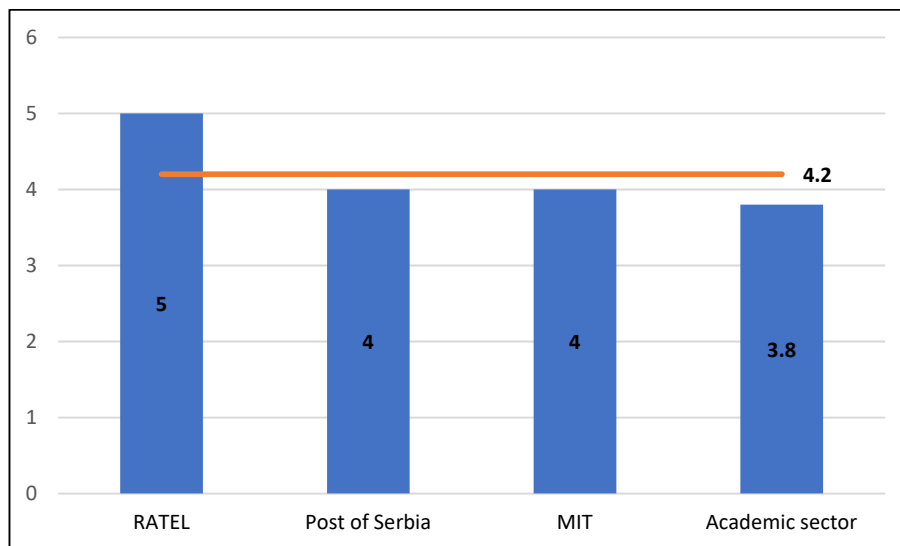


Figure 2.5. Importance of introducing services intended for different vulnerable categories

The obtained mean rating of the importance of introducing these services into the domain of the universal postal service is 4.2, which indicates the high importance of this alternative modality. From the aspect of natural persons as potential users of this service, the average importance rating is 4.53, which also indicates the high importance of introducing this service into the UPS domain. 92% of respondents consider this service important to introduce. The majority of legal entities consider it important to introduce services aimed at vulnerable categories of the population (84%), with an average importance rating of 4.29.

The obtained average ratings of the importance of the previous two modalities of alternative A1.3 support the justification of applying this alternative in practice due to the possible inapplicability of alternative A1.4 in its full form or if the considered alternatives are not in conflict.

Modalities whose importance was evaluated within the framework of alternative A1.2 are given below, along with the obtained mean ratings of their importance.

The importance of continuing to provide the priority letter service within the UPS by the Post of Serbia was evaluated by experts as shown in Figure 2.6.

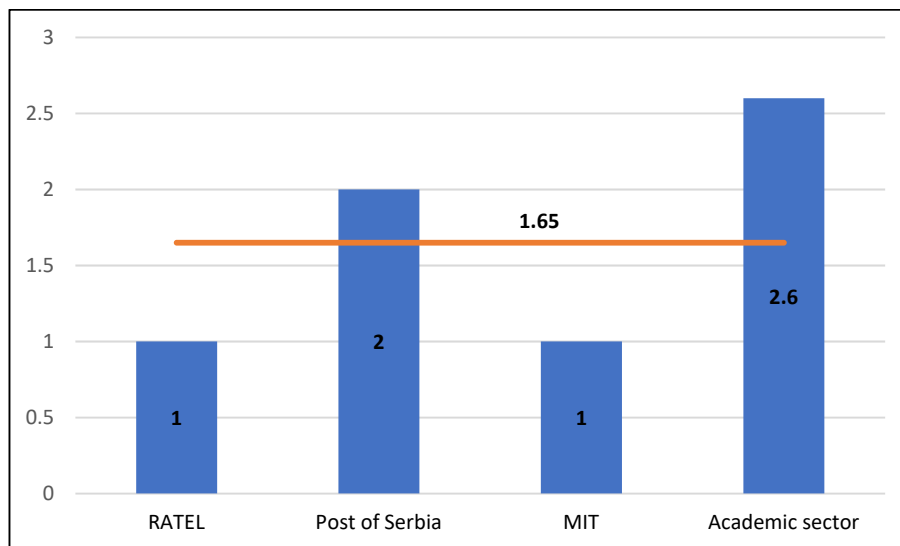


Figure 2.6. *The importance of continuing to provide the priority letter service within the UPS*

The obtained results indicate that the experts' ratings, as well as the average rating, are low on this issue, which implies the justification of the eventual cancellation of this type of service in the domain of UPS. When looking at the aspect of natural persons as users of this service, the results of the aforementioned study related to the research of user satisfaction show that the majority of natural persons (more precisely, 74% of respondents who give a mean importance rating of 3.96) wish to continue the priority letter service, although it is rarely used. Regardless of the estimated importance of the priority letter service, it is important to point out that it is rarely used, which calls into question the importance of continuing to provide this service. Additionally, it is possible that the public may have a perception that priority mail is the same or similar to express service, which may have led to an assessment of greater importance. Legal entities seem to be more rational than natural persons, so they consider the priority letter service (used by every fifth legal entity in the previous year) less important for retention (37% point out that retention is important), with an average importance rating of 2.85.

The importance of continuing to provide the service of addressed direct mail within the UPS by the Post of Serbia was also assessed. In this regard, the results shown in Figure 2.7 were obtained.

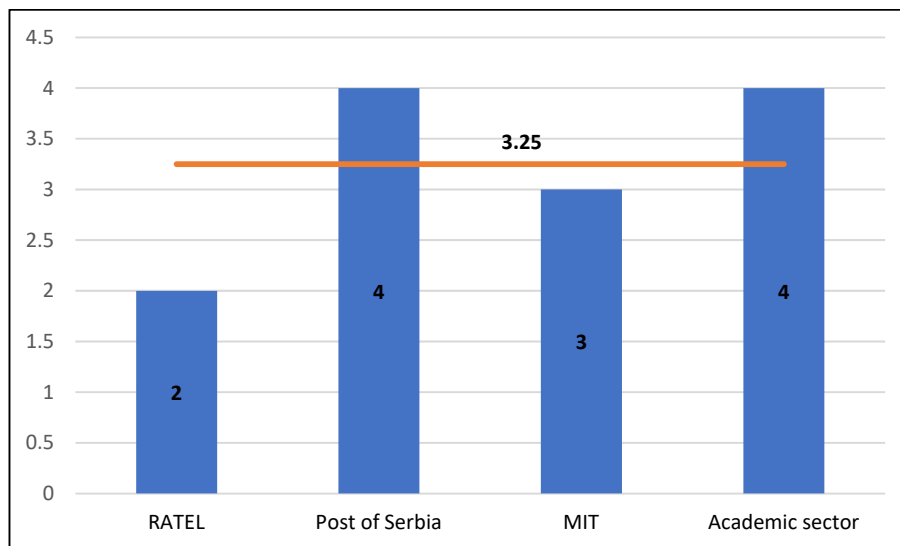


Figure 2.7. *The importance of continuing to provide addressed direct mail services within the UPS*

The average importance rating obtained by the experts is 3.25, which indicates the average importance of keeping this service in the UPS domain. From the aspect of natural persons as users of this service, the average importance score is 2.87, which also indicates the medium importance of keeping this service in the domain of UPS. Addressed advertising material is evaluated as less important for retention (34% point out that retention is important). Only 17% of legal entities consider the continuation of the service of addressed advertising material important, with an average rating of importance of 2.11.

Furthermore, the importance of the modality that involves the transfer of large-sized parcels (over 60x50x50 cm) within the UPS throughout the territory of Serbia by the Post of Serbia was evaluated. The results of the statement on this issue are given in Figure 2.8.

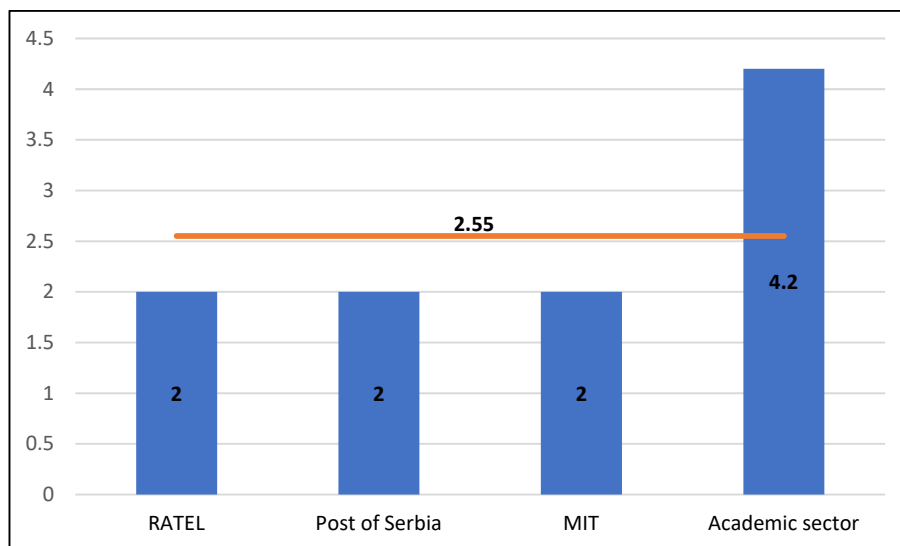


Figure 2.8. *Importance of transferring parcels of large dimensions (over 60x50x50 cm) within the UPS*

The average importance rating of 2.55 by the experts indicates the medium importance of keeping this service in the UPS domain. From the perspective of natural persons as users of this service, the average rating of importance is 4.32 and the transfer of large parcels (over 60x50x50 cm) is assessed as important for retention (86.6%) within the UPS throughout the territory of Serbia.

Approximately two out of five legal entities have delivered large parcels in the previous year, and three out of five consider it important that Posta Serbia continues to provide this service. For 58.3 % of legal entities, this service is important for retention, with an average importance rating of 3.65.

3 ASSESSMENT OF THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE IN THE SEGMENT OF THE QUALITY OF SERVICE IN TERMS OF TRANSIT TIMES - RESULTS OF THE APPLICATION OF THE PROPOSED METHODOLOGY

3.1 Introductory notes on the quality of service in the European Union and Serbia

In accordance with the EU Directive on postal services, it is prescribed that member countries should ensure that the quality standards of the universal postal service are determined and published, in order to guarantee a good quality postal service. Also, the member states will establish quality standards for items in internal postal traffic and will ensure that they are in line with the standards established for services between EU countries.

Member countries are obliged to carry out independent continuous measurement of the quality of transmission of consignments, in accordance with the standard EN13850 (priority consignments) and EN14508 (non-priority consignments), and they are also obliged to publish their results.

In this regard, table 3.1 shows the goals for D+1 for priority items of EU countries, as well as the achieved results, where it can be seen that 8 countries did not achieve the defined goal, while 6 countries do not have D+1 at all.⁷

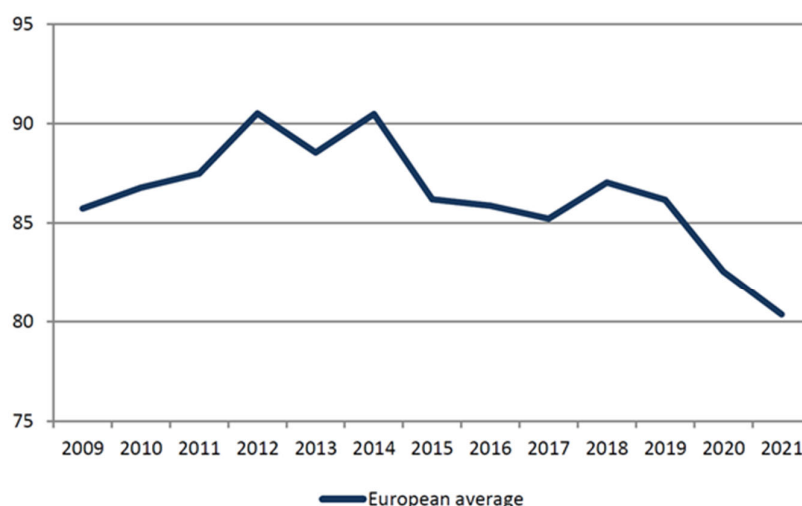
Table 3.1. *Realized quality of the transmission of priority letters from EU countries, Norway and the United Kingdom*

Earth	D+1	Accomplished	Comment
Austria	95%	95.77%	
Belgium	95%	94%	
Czech Republic	92%	93.03%	
Denmark	-	-	No D+1 as a target
Finland	-	-	No D+1 as a target
France	<85%	81.9%	
Germany	80%	80.4%	There is no monitoring obligation
Ireland	94%	84%	
Italy	90%	79.9%	
Luxembourg	-	-	No D+1 as a target

⁷ *Definition of the USO: quality transit times*, 2023, Cullen International

The Netherlands	95%	93.9%	
Norway	-	-	No D+1 as a target
Poland	82%	48.1%	
Portugal	94.5%	89.8%	
Spain	-	-	No D+1 as a target
Sweden	-	-	No D+1 as a target
United Kingdom	93%	73.7%	

On the other hand, and based on *the ERGP* report on the future needs of the UPS ⁸, the trend of reducing the quality of item transmission for EU countries, in the period from 2009 to 2021, is shown (Figure 3.1).



Source: ERGP Report on Quality of Service, Consumer Protection and Complaint Handling

Figure 3.1. The trend of decreasing quality of transmission of priority items for the term D+1

Bearing in mind the above, some EU countries relaxed their transfer deadlines for D+1 and moved them to D+2, D+3, D+4 to D+5 (table 3.2).⁹

Table 3.2. EU countries and Norway that have relaxed delivery deadlines

Earth	Letter items of the highest level of quality required within the UPS
Austria	D+4
Denmark	D+1 (daily press), D+5 (letters)
Finland	D+4
Luxembourg	D+3
Norway	D+3
Spain	D+3
Sweden	D+2
Romania	D+2

⁸ Report on the future needs of the USO, 2023, ERGP

⁹ Main developments in the postal sector (2017-2021) , 2022, Copenhagen Economics

For example, Finland has defined the following transfer deadlines:

- for priority letters: D+1: 80%,
- for non-priority letters D+2: 95% and D+3: 98%, which are relaxed to: D+4: 50%; D+5: 97%.

Sweden has relaxed the quality of transmission of items from D+1: 85% to D+2: 95%.

Portugal introduced the standard for non-priority items: D+3: 94.5% and D+5: 99.7%.

Regarding the Republic of Serbia, it is necessary to point out the results of the study Examination of the degree of satisfaction of the needs of users of postal services from the year 2021, where, based on the analysis of the surveyed users, it was concluded that they would be satisfied with the service, if the quality of delivery was as follows:

D +1: 9.63%,

D+2: 45.84%,

D+3: 95.01%,

D +4: 99%,

D+5: 100% .

It is also important to observe the frequency of delivery in terms of the day of the week when the delivery is made. Table 3.3 shows the frequency of delivery in EU countries, Norway and the United Kingdom.

Table 3.3. *Frequency of delivery in EU countries, Norway and the United Kingdom*

Earth	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Austria	YES	YES	YES	YES	YES	NO
Belgium	YES	YES	YES	YES	YES	NO
Czech Republic	YES	YES	YES	YES	YES	NO
Denmark	YES	YES	YES	YES	YES	NO
Finland	YES	YES	YES	YES	YES	NO
France	YES	YES	YES	YES	YES	YES
Germany	YES	YES	YES	YES	YES	YES
Ireland	YES	YES	YES	YES	YES	NO
Italy	YES	YES	YES	YES	YES	NO
Luxembourg	YES	YES	YES	YES	YES	NO
The Netherlands	NO	YES	YES	YES	YES	YES
Norway	YES	YES	YES	YES	YES	NO
Poland	YES	YES	YES	YES	YES	NO
Portugal	YES	YES	YES	YES	YES	NO
Spain	YES	YES	YES	YES	YES	NO
Sweden	YES	YES	YES	YES	NO	NO

United Kingdom	YES	YES	YES	YES	YES	YES
----------------	-----	-----	-----	-----	-----	-----

Based on the data presented, it is evident that the largest number of countries have five-day delivery. However, the biggest change was introduced by Norway, which alternates delivery: Monday, Wednesday, Friday of one week, and then Tuesday, Thursday of the second week. From 2023, further changes are introduced, where there are only two peak days per week when deliveries are made to 50% of delivery routes and two more days when deliveries are made to the remaining 50% of delivery routes. On Saturdays, only priority letters are delivered (Figure 3.2).

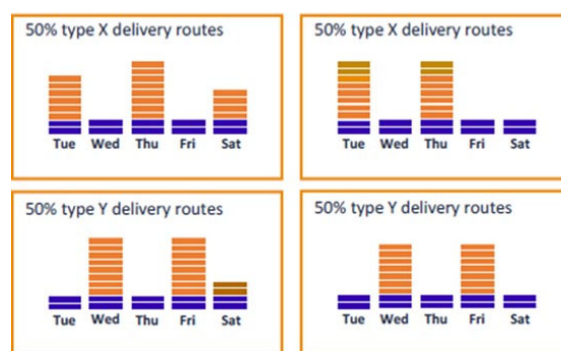


Figure 3.2. Norwegian delivery model

Belgium also introduced changes in the frequency of delivery of non-priority letters, from 5 days a week to two alternate days. In Finland, from 2023, the frequency of delivery has been reduced from 5 days a week to 3 days, while in Italy, delivery is every other day if there are special geographical and infrastructural conditions.

3.2 Considered alternatives in the segment of service quality

Taking into account the EU practice regarding the quality of transmission of items, the following alternatives are considered for the purposes of this study.

Alternative A.2.1 - This alternative implies postal services with reduced quality in terms of transmission speed compared to the existing prescribed quality. Therefore, delivery is not expected every working day, which gives the public postal operator the possibility of a more economic organization of delivery, e.g. delivery for one group of users (one part of the territory) is carried out on one day, and delivery for another group of users (another part of the territory) is carried out on another day, whereby the following week there would be a change in terms of rotating delivery days. The expected volume of items to be delivered by days is presented in Figure 3.3.

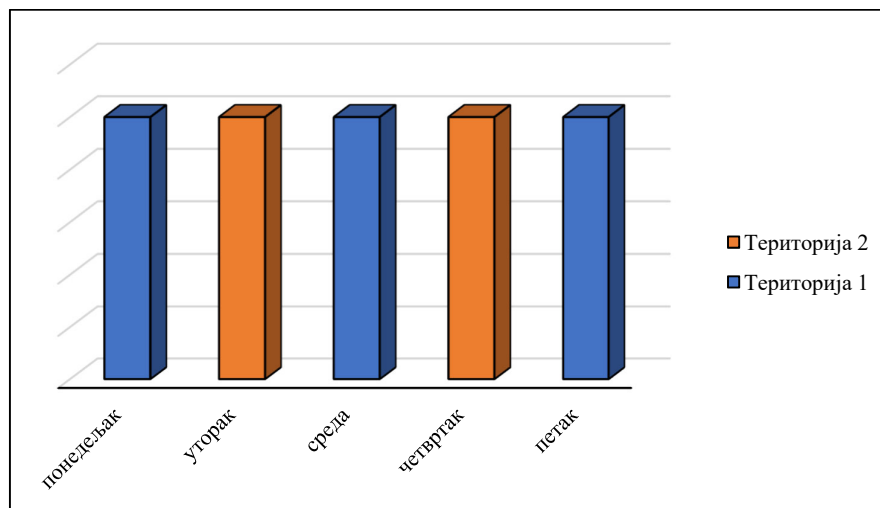


Figure 3.3. The volume of items on delivery by days in the case of alternative A.2.1

In this case, it would be necessary to define new transfer quality standards that would be milder than the existing ones and would refer to the percentage of items that are transferred within a certain period, and would not refer to an individual item. A lower quality is expected compared to the prescribed one, when it comes to the speed of transmission of items. Since in the current concept delivery is expected every working day in larger settlements (over 1,000 households), and within this alternative every other, the quality standards for this type of transmission could be, for example, as shown in Table 3.4, without priority letter service.

Table 3.4. Potential quality standards for the transmission of letter and parcel items under alternative A.2.1

	The prescribed minimum
D +2	50%
D +3	70 %
D+5	99 %

The prescribed minimum is presented without an "extended period" for rural areas. As for items in international postal traffic, they would be transported according to standards that are in accordance with international norms and obligations contracted by the public postal operator.

Alternative A.2.2 - The second alternative refers to the existing situation, without any changes. Postal services are provided on the basis of the transmission quality, which is tentatively expressed as shown in Tables 3.5 and 3.6, and on the basis of the results of an independent measurement organized by RATEL for the year 2022.

Table 3.5. Deadlines for the transfer of non-priority unregistered letter items in the internal postal traffic in the year 2022

	Achieved result	Achieved result (extended deadline)	The prescribed minimum
D +2	46.97 %	54.01 %	80%
D +3	68.38 %	73.78%	85%
D+5	89.54 %	91.19 %	90%

source :

https://www.ratel.rs/uploads/documents/empire_plugin/blob/645a0be425566_IzveÅtaj%20neprioritetne.pdf

Table 3.6. Deadlines for the transfer of priority unregistered letter items in the internal postal traffic in 2022

	Achieved result	Achieved result (extended deadline)	The prescribed minimum
D+1	31.88 %	38.17 %	80%
D+2	57.91 %	64.83%	85%
D+3	75.78 %	80.20 %	90%

source : <https://www.ratel.rs/sr/page/studije-iz-oblasti-postanskih-usluga>

Alternative A.2.3 - In the Rulebook on quality parameters for the performance of postal services ("Official Gazette of RS" No. 114, dated September 4, 2020), quality parameters are defined for priority unregistered letter items, non-priority unregistered letter items, parcels and money orders. Bearing in mind that the prescribed quality of transmission for priority and non-priority letter items is a big challenge for the Post of Serbia, data shown in table 3.5 and table 3.6, it is proposed to optimize the delivery time of letter items that have a five-day delivery as shown in table 3.7, without priority letter services.

Table 3.7. Potential quality parameters in terms of the speed of transmission of items in the internal postal traffic

	Unregistered mail items	P packets	Postal orders
D+1	/	/	90%
D+2	60 %	80%	/
D+3	75 %	90%	/
D+5	99 %	95%	/

The prescribed minimum is presented without an "extended period" for rural areas. As for items in international postal traffic, they would be transported according to standards that are in accordance with international norms and obligations contracted by the public postal operator.

3.3 Considered criteria in the segment of the service quality

Within the framework of multi-criteria decision-making, the following factors (criteria) are observed, on which the experts expressed their opinion according to the alternatives:

ECONOMIC FACTORS

K2.1. Expected scope of services (max)

K 2. 2. Expected income (max)

K2. 3 . Expected investments (min)

K2. 4. Expected operating cost (min)

K2. 5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources (max)

ENVIRONMENTAL FACTORS

K2.6 . Impact on air pollution, CO₂ emission (min)

K2.7 . Impact on traffic congestion in the city (min)

K2.8 . Impact on noise level (min)

SOCIAL FACTORS

K2.9. Fulfillment of user needs (max)

K2.10. Impact on the "vulnerable " category of users (min)

K2.11. Expected quality level (max)

K2.12. Employee satisfaction (max)

TECHNICAL FACTORS

K2.13. The complexity of the organization of the technical-technological process (min)

K2.14. Complexity of regulation (min)

K2.15. Security and reliability of item transmission (max)

K2.16. Employee safety (max).

In order to evaluate the alternatives, the interviewed expert declares the level of fulfillment of the criteria for each of the alternatives (postal service concept) based on the proposed methodology in Phase I of *the Study on the sustainability of the universal postal service and defining its role in accordance with the changing needs of users*, by writing your answers in the survey form. The survey form that was filled out by an expert in the field of postal traffic when analyzing the sustainability of the universal postal service in the segment of the quality of item transmission is shown in Appendix II.A.

In addition, the experts declared the importance of each type of criteria (economic, environmental, social and technical), as well as the importance of each individual criterion for deciding on the choice of the appropriate concept of universal postal service in the segment of the speed of transmission of items. These forms are given in Appendix II.B and II.C.

3.4 Results of application of the proposed methodology in the segment of the service quality

By applying *the FUZZY AROMAN* method of multi-criteria optimization, which determines the relative priorities (ranks) of alternatives in the segment of item transfer quality, the following ranking of alternatives was obtained (Figure 3.4). The weight coefficients used are given in Appendix V.

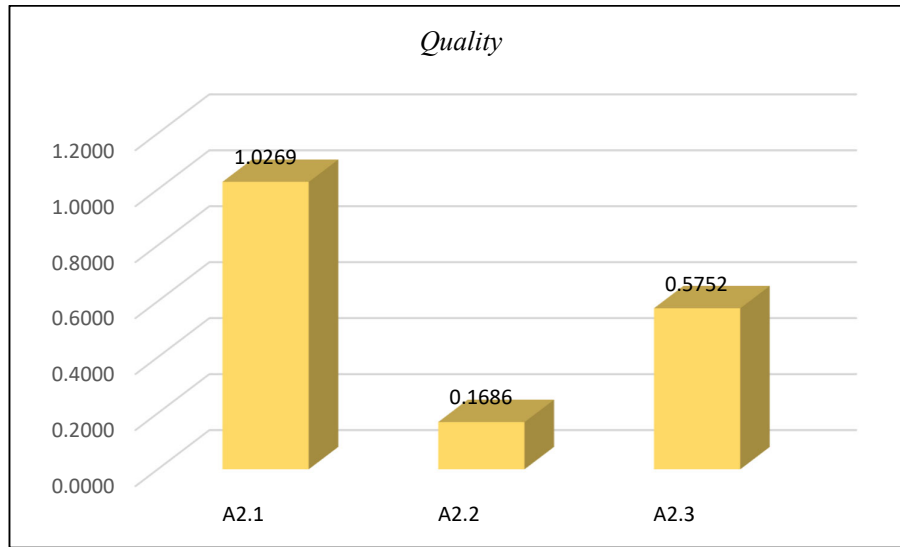


Figure 3.4. *The ranking of alternatives in the segment of service quality*

Figure 3.4 indicates that the proposed alternative A2.1 is the highest-ranking alternative. Then follow alternatives A2.3 and A2.2. The best-ranked alternative A2.1 implies a change in the universal postal service, which implies that postal services are performed with a reduced quality in terms of transmission speed compared to the existing prescribed quality. Delivery is not expected every working day, which gives the public postal operator the possibility of a more economical delivery organization, e.g. delivery for one group of users (one part of the territory) is made on one day, and delivery for another group of users (another part of the territory) is made on the second day, whereby the following week there would be a change in terms of rotating delivery days. Potential quality standards are D+2=50%, D+3=70%, D+5=99%.

Within the obtained scope of alternatives, it is necessary to further consider certain modalities in order to more precisely determine certain parameters within those alternatives. In this sense, the needs of users for a certain level of quality of transmission of postal items were examined. Experts from the relevant institutions included in the research evaluated the optimal deadlines for the transfer of unregistered mail and the deadlines for the transfer of unregistered priority mail. The results of the RATEL study from 2024, which refers to the research of user satisfaction, were also taken into account .

The experts' answers regarding the optimal deadlines for the transfer of unregistered mail are such that the experts believe that unregistered mail should be transferred in the following terms: D+1 36.25 % (figure 3.5), D+2 59.75 % (figure 3.6), D+3 75% (Figure 3.7); D+4 85.25 % (Figure 3.8); D+5 96.5 % (Figure 3.9).

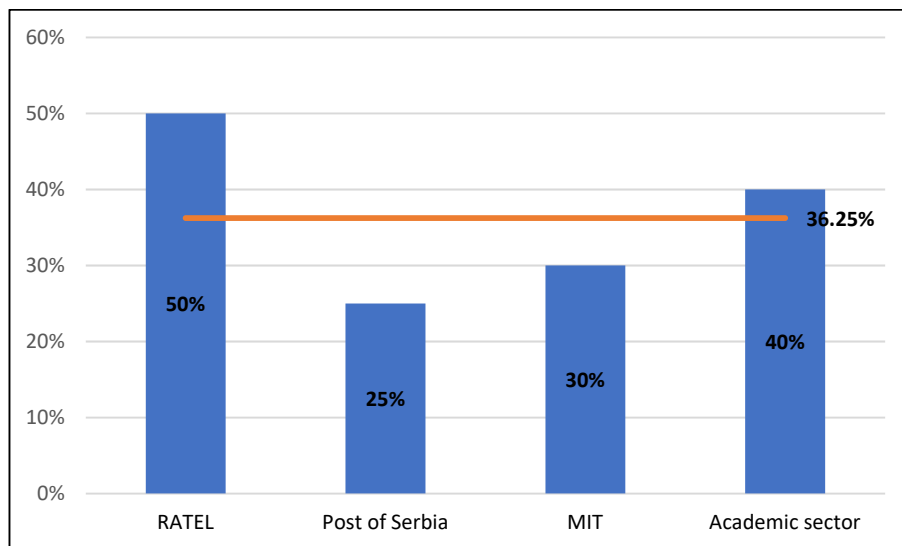


Figure 3.5. *Percentage of unregistered letter items to be transferred within D+1*

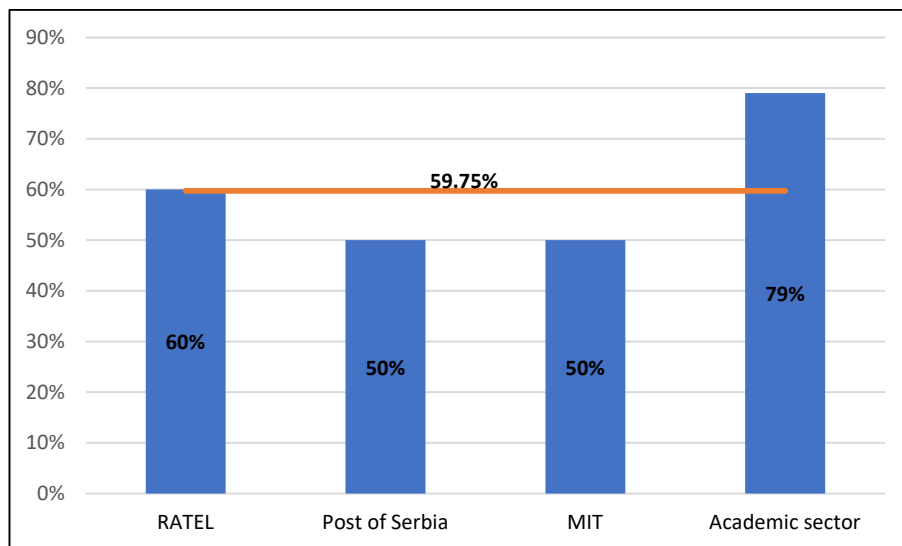


Figure 3.6. *Percentage of unregistered letter items to be delivered within D+2*

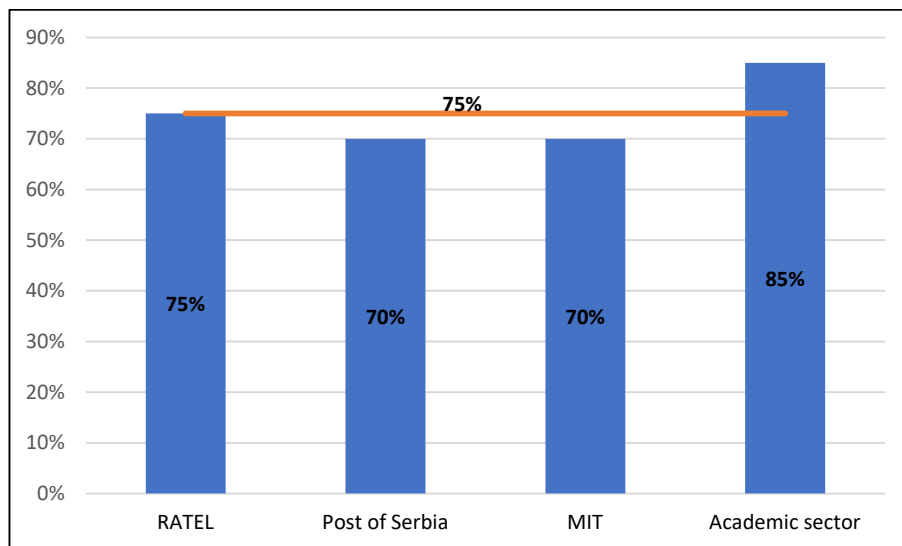


Figure 3.7. *Percentage of unregistered letter items to be transferred within D+3*

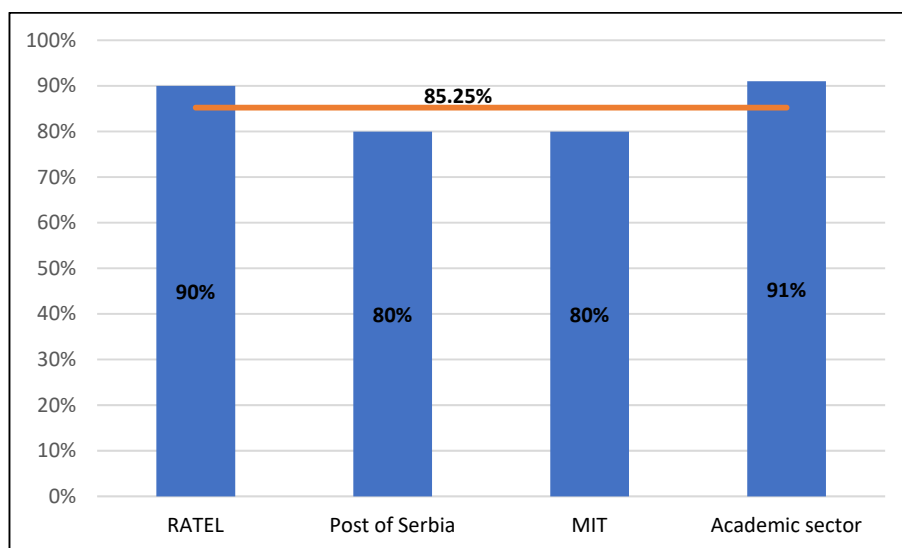


Figure 3.8. *Percentage of unregistered letter items to be transferred within D+4*

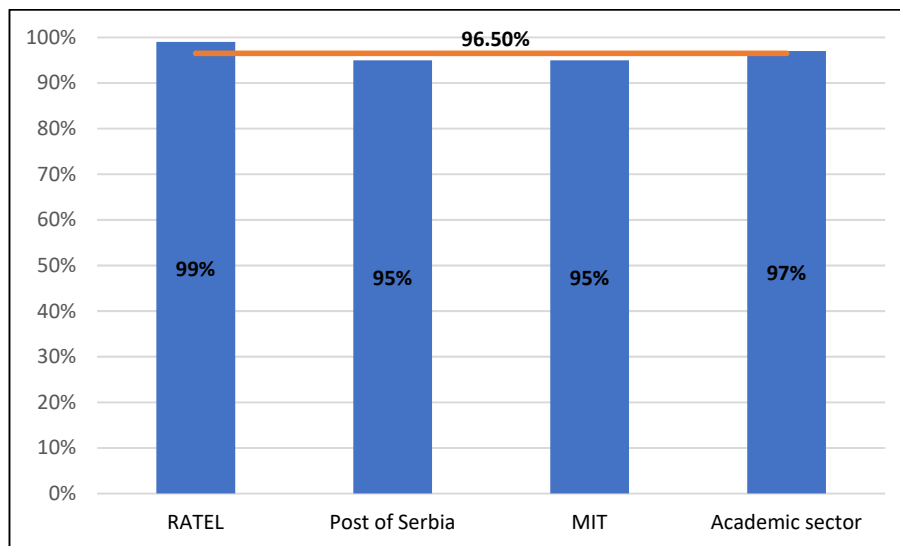


Figure 3.9. *Percentage of unregistered letter items to be transferred within D+5*

Regarding the assessment of optimal deadlines for the transfer of unregistered priority letter items, the experts estimated that 75% of unregistered priority letter items should be transferred within D+1 (Figure 3.10), 88.67 % of unregistered priority letter items should be transferred within D+2 (Figure 3.11), 95.67 % of unregistered priority letter items should be transferred within D+3 (Figure 3.12).

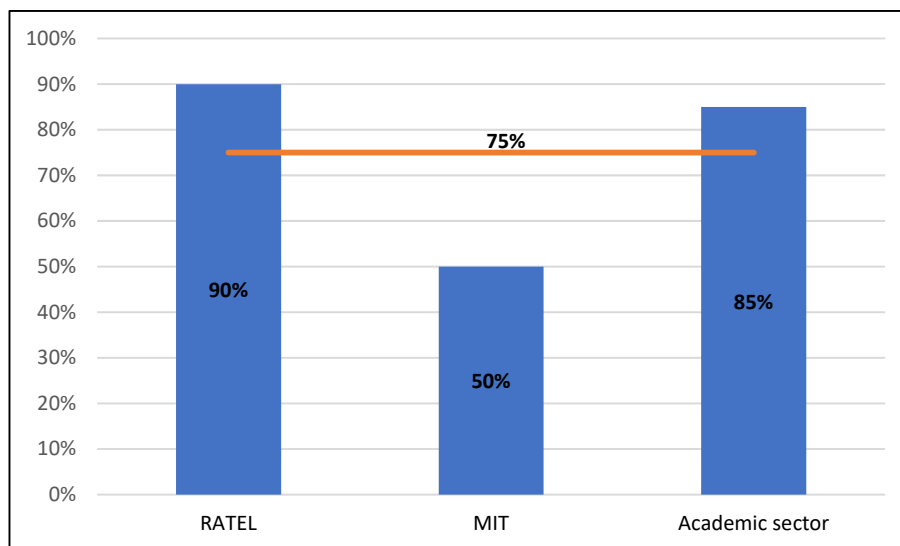


Figure 3.10. *Percentage of unregistered priority letter items to be transferred within D+1*

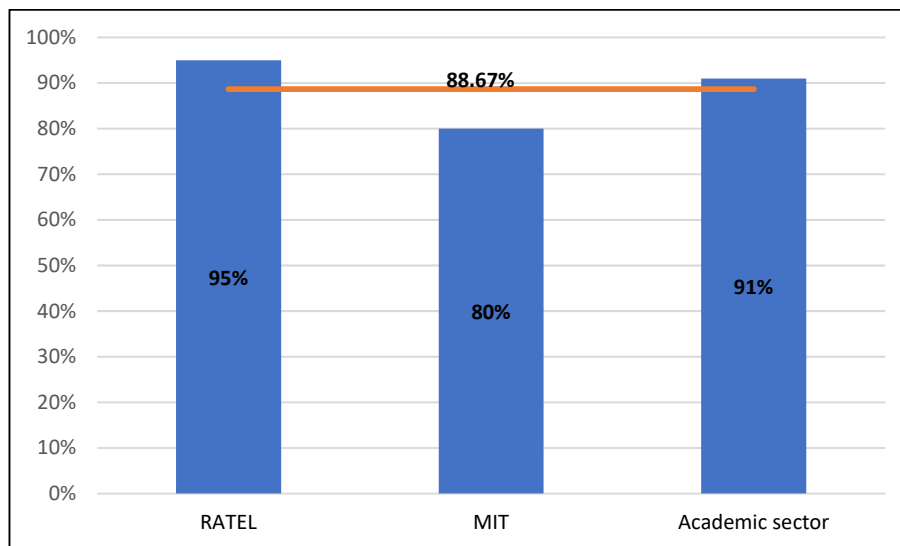


Figure 3.11. Percentage of unregistered priority letter items to be transferred within D+2

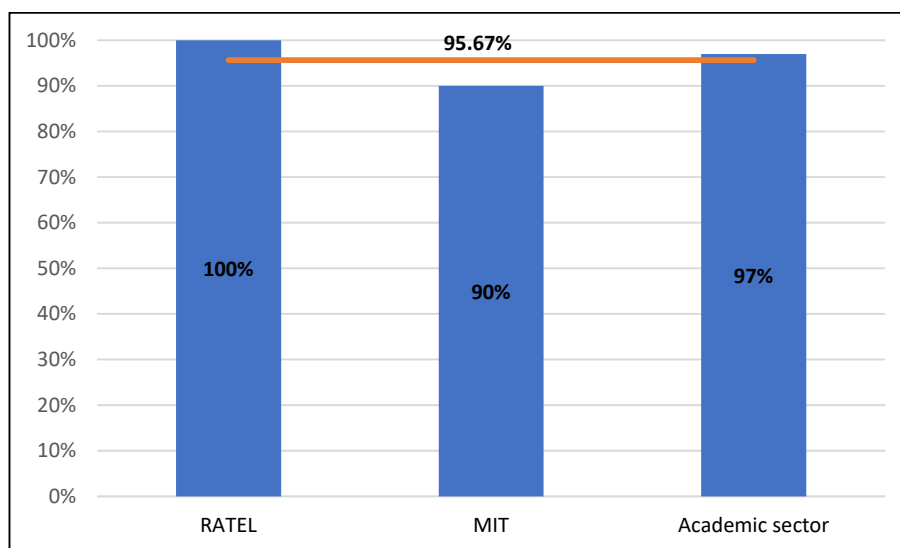


Figure 3.12. Percentage of unregistered priority letter items to be transferred within D+3

Taking into account natural persons as users of postal services and their satisfaction with the quality of the transmission of parcels, it can be pointed out that approximately 3 out of 5 users of postal services had a negative experience of delivering letters/parcels from the Post of Serbia due to their delivery late (59%) in the previous year. For the majority of urban residents (4/5), it would not be a problem if the delivery of the letter is not done on the same day when the postman receives the parcel for delivery, but on the next working day (taking into account the consequent reduction in the price of the service/more rational organization of work). Respondents from rural areas are divided when they have to choose between the price and the frequency of the postman's arrival - there are more who think that it is enough to deliver letters at least once a week (58%). This ratio remains similar regardless of whether it is sparsely or

densely populated rural settlements. It happened to half of the legal entities that the letters/parcels they sent via the Post of Serbia were delivered late in the previous year. For 56% of respondents, a delivery deadline of 2 days would be satisfactory, while only 10% believe that letters should be delivered within one day.

4 ASSESSMENT OF THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE IN THE SEGMENT AVAILABILITY OF POSTAL NETWORK UNITS - RESULTS OF THE APPLICATION OF THE PROPOSED METHODOLOGY

4.1 Availability of postal networks in Europe from the aspect of universal service

Article 2.3 of the Postal Services Directive defines access points as "physical facilities, including mailboxes, provided to the public either on a public road or on the premises of a postal service provider, where senders can deposit postal items for transmission through the postal network". The directive stipulates that Member States must also ensure that the density of access points takes into account the needs of users. The precise definition of the required network of access points is a matter for individual Member States. The network can be defined in terms of administrative area (e.g. minimum number of post offices per municipality), distance (e.g. maximum distance that users must travel to reach the nearest post office), and maximum time that users must travel on foot to reach the nearest post office.

Article 3, paragraph 2 of the Postal Services Directive requires that the universal postal service be provided ubiquitously: "Member States shall take steps to ensure that the density of contact and access points takes into account the needs of users".

European legislation defines that each member state is obliged to ensure that the density of access points meets the needs of users and to ensure the availability of the universal postal service as a service of general interest. In practice, postal operators organize access points as basic forms of units for providing services to users or as special organizational parts of these units. The importance of the existence of a universal postal service was especially confirmed in the period of crisis (Covid-19 pandemic). Postal services have enabled citizens to become socially involved and satisfy their basic needs, which indicates that postal services are still necessary for all citizens, especially in remote areas and despite new technologies.

The requirements to provide an adequate number of postal access points and the standards for opening them are very different in each country. In most countries, a combination of criteria that depend on geographic and demographic specificities is used. For this reason, these requirements are grouped into the most common criteria to get an overview at the European level:

- number of post offices per locality/municipality (EL, FI, MT, NO, PT, RO)
- one post office per population, which may depend on the size of the area and whether there are differences between rural and urban areas (BG, LV, PT, RS, TR)
- maximum distance to travel to the nearest post office (LT, IT, PT)
- minimum number of post offices that provide universal postal service or a complete scope of postal services (NL, PT)

-
- the density of mail and access points corresponds to the needs of users (CI, LU)
 - combination of criteria by population and maximum distance, especially in rural areas (CZ, DE, HR, PL, RS, SI, SK)
 - percentage of the population at a certain distance from the post office (AT, BE, FR, HU NL, PT, SI).

As examples of good practice at the level of the European Union, in terms of established criteria for the availability of the postal network, primarily the unit of the postal network for providing services to users (post office), the following can be highlighted ¹⁰:

- in terms of administrative availability:
 - at least one post office in each municipal place (urban and rural) (Belgium, Finland, Germany, Italy, Norway, Poland)
 - every municipal place with more than 10,000 inhabitants should have at least one post office for every 20,000 inhabitants (France)
 - closing post offices is prohibited in municipal areas with only one post office (Italy)
 - post offices must be open at least 3 days and 18 hours a week (Italy)
 - one post office per population in the scope of 2,500-6,000 (Spain, Portugal, Poland)
- in terms of distance to the nearest post office:
 - in municipal towns and capitals, more than 90% of the population must have a post office at a distance of up to 2 km (Germany)
 - 90% of the population must have a post office within 5 km (Netherlands)
 - 90% of the population must have a post office at a distance of up to 5 km and less than a 20-minute drive from the nearest point of contact (France)
 - 95% of the population must have a post office within 5 km and 98% of the population must have a post office within 10 km (Austria)
 - 75% of the population must have a post office within 3 km (Italy), 92.5% within 5 km (Italy), 97.5% within 6 km (Italy, Portugal)
 - in urban areas one post office at a minimum distance of up to 4 km for 95% of the population, in rural areas at least 11 km for 95% of the population (Portugal)
 - as far as Great Britain is concerned the situation is as follows:
 - at the national level, 90% of the population should have a post office at a distance of up to 1.6 km (one mile), that is, 99% of the population should have a post office at a distance of 4.8 km (three miles);
 - in an urban area, 95% of the population should have a post office within 1.6 km (one mile);
 - in a rural area: 95% of the population should have a post office within 4.8 km (three miles);
 - in each individual postcode district: 95% of the population should have a post office within 9.7 km (six miles).

¹⁰ Source: *Cullen International, Definition of Universal Service Obligation: access points*

A certain number of postal access points throughout the territory is also an additional criterion in several countries (AT, BE, CZ, DE, FR, HR, RS). In Italy, there is a ban on closing post offices located in rural and mountainous areas .

Packet machines are a relatively new solution presented on the market. However, it should be noted that the number of parcel machines in Europe, owned by the universal postal service provider , has a growing trend and that from 2017-2021. increased by 71% , (based on data published in Copenhagen Economics (2022)).

4.2 Overview of the state of the postal network in the Republic of Serbia

The planning and design of the postal network of the Post of Serbia is carried out in accordance with the "General Plan of the Postal Network" and the Law on Postal Services. The goal is the high-quality positioning of postal network units throughout the territory of the Republic of Serbia, increasing accessibility to users, providing universal service and improving the level of quality of postal services.

The Post of Serbia bases its basic activity on a wide network of postal units, which covers the entire territory of Serbia, and the structure of which is shown in Table 4.1.

Table 4.1. *Structure of the postal network of JP " Post of Serbia" ¹¹*

Postal network		Status 18.10.2022.	Balance on 12/31/2023.
POST OFFICE - total		1,535	1,700
	<i>automated</i>	1,535	1,700
CONTRACT POSTS		199	300
	<i>automated</i>	199	300
COUNTERS		3,925	4,172
	<i>automated</i>	3,226	3,473
SEPARATE COUNTERS		133	170
	<i>automated</i>	133	170
CONTRACT COUNTERS		125	120
	<i>automated</i>	125	120

Post of Serbia, as a provider of universal postal service, is obliged to organize and maintain the postal network in accordance with the Law and conditions that RATEL defines by a special act. According to the General conditions for the performance of the universal postal service, Article 47, the Post of Serbia is obliged to ensure the reception and delivery of postal items from the domain of the universal postal service, during the day, every working day, and not less than 5 (five) days a week, except in cases of national and religious holidays, force majeure and threats to the health and safety of employees, exceptions in terms of working hours, as well as exceptions in terms of delivery, defined in Article 10 of the General Conditions for the provision of the universal postal service.

Regarding the territorial availability of the universal postal service, the Post of Serbia ensures a sufficient number of post offices (or organizational parts of the post office) according to the

¹¹ Source: *Business program of JP "Pošta Srbije", Belgrade for the year 2023*

following criteria (source: General conditions for the performance of the universal postal service, Article 47):

1) in populated areas with more than 1,300 households, if the distance from the (administrative border) of the settlement to the nearest post office is greater than 2 km, the operation of one post office must be organized. In the event that a group of settlements has more than 1,300 households and the distance from the (administrative) border of the observed group of settlements to the nearest post office is greater than 5 km, as a rule, the post office is organized in the populated place that is the center of gravity of the observed group of settlements;

2) in populated areas between 3,000 and 12,000 households, a post office is organized for every 3,500 households, provided that the distance from the planned location of the new post office to the nearest post office is greater than 2 km;

3) in populated areas between 12,000 and 36,000 households, a post office is organized for every 4,000 households, provided that the distance from the planned location of the new post office to the nearest unit of the postal network is greater than 1.5 km;

4) in populated areas between 36,000 and 100,000 households, a post office is organized for every 6,000 households, provided that the distance from the planned location of the new post office to the nearest post office is greater than 1.25 km;

5) in populated areas with over 100,000 households, a post office is organized for every 7,500 households, with the distance from the planned location of the new post office being greater than 1 km.

4.3 Considered alternatives in the segment of availability of postal network units

Alternatives considered in the segment of availability of postal network units are:

Alternative A.3.1 - Retention of the existing state of the number of postal network units, territorial availability criteria, as well as the minimum working hours of the postal network unit (minimum 4 hours, counting the time of providing service at the counter and during delivery). The alternative refers to the existing situation, without any changes, as shown in Table 4.1. In this alternative, an analysis of the quality of post office availability in terms of working hours will be done, showing how many days per week the post office works (7, 6, 5, 4, 3, 2, 1), work in multiple shifts (how many post offices work in one shift i.e. two shifts), working hours of the post office (as long as the post office is open until 5 p.m.). Also, an analysis of territorial availability will be done, where it will be shown what percentage of the population is currently covered with a maximum distance of 2.5 km (30 min), 5 km (1 h) and 10 km (2 h).

Alternative A.3.2 - Reduction in the number of postal network units (from 10%-20%) and reducing the minimum defined working hours of the post office. This alternative would be defined on the basis of a GIS analysis of population coverage for 2.5 km, 5 km and 10 km in a way that would simulate how much the number of post offices would decrease if a certain percentage of coverage was reduced compared to the current one, whereby would take into account the examination of the satisfaction of the user's needs. Analyzes would be done at the

level of municipalities. In this alternative, the reduction of working hours should be analyzed so as to introduce a minimum working time in the urban area, for example 4 hours, with that, if it does not work on Saturdays, and the mail is delivered, ensure at least one day a week that it works in the afternoon until 5 pm. In rural areas, the post office is open for a minimum of 2 hours, if it is open at least 2 days a week, and if it is open 1 day - a minimum of 3 hours. The stated minimum working hours refer to the work of the post office with users at the counter.

Alternative A.3.3 - Increasing the number of post offices (5%) and increasing the minimum defined working hours of the post office. This alternative would be defined on the basis of a GIS analysis of population coverage for 2.5 km, 5 km and 10 km in a way that would simulate how much the number of post offices should be increased in order to increase a certain percentage of the population coverage compared to the current one, whereby would take into account the examination of the satisfaction of the user's needs. Analyzes would be done at the level of municipalities. In this alternative, longer working hours should be analyzed so as to introduce a minimum working time in the urban area, for example, 6 hours, with that, if it does not work on Saturdays and the mail is delivered, ensure that at least one day a week it works in the afternoon until 5 pm. Also introduce minimum working hours from 8 am to 5 pm for the main post office in the seat of the municipality (which has more than 5,000 inhabitants in the city part), to work on Saturdays. In rural areas, the post office should work at least 2 or 3 days a week, with a minimum of 3 hours.

4.4 Considered criteria in the segment of availability of postal network units

Within the framework of multi-criteria decision-making, the following factors (criteria) are observed, on which the experts expressed their opinion according to the alternatives:

ECONOMIC FACTORS

K3.1. Expected scope of services (max)

K 3. 2. Expected income (max)

K3. 3 . Expected investments (min)

K3. 4. Expected operating cost (min)

K3. 5. Estimated financial usefulness of the concept - a ratio of expected income and invested resources (max)

ENVIRONMENTAL FACTORS

K3.6 . Impact on air pollution, CO₂ emission (min)

K3.7 . Impact on traffic congestion in the city (min)

K3.8 . Influence on noise level (min)

SOCIAL FACTORS

K3.9 . Fulfillment of user needs (max)

K3.10. Expected quality level (max)

K3.11. Employee satisfaction (max)

K3.12. Impact on the category of "vulnerable" users (min)

TECHNICAL FACTORS

K3.13. Distance traveled by the user to the nearest post office (min)

K3.14. Number of inhabitants by post in urban and rural areas (min)

K3.15. Availability of post offices in terms of opening hours in urban and rural areas (max)

K3.16. Complexity of regulations (min)

K3.17. Employee safety (max).

In order to evaluate the alternatives, each surveyed expert declares the level of fulfillment of the criteria for each of the alternatives based on the proposed methodology in Phase I Study on the sustainability of the universal postal service and defining its role *in accordance with the changing needs of users*, by writing your answers in the survey form. The survey form filled out by an expert in the field of postal traffic in the analysis of the sustainability of the universal postal service in the segment of availability of postal network units is shown in Appendix III.A.

In addition, the expert declared the importance of each type of criteria (economic, environmental, social and technical), as well as the importance of each individual criterion for making a decision on choosing the appropriate concept of universal postal service in the segment of the availability of postal network units. These forms are given in Appendix III.B and III.C.

4.5 The results of the application of the proposed methodology in the segment of availability of postal network units

By applying the *FUZZY AROMAN* method of multi-criteria optimization, which determines the relative priorities (ranks) of alternatives in the segment of availability of postal network units, the following ranking of alternatives was obtained (Figure 4.1). The weight coefficients used are given in Appendix V.

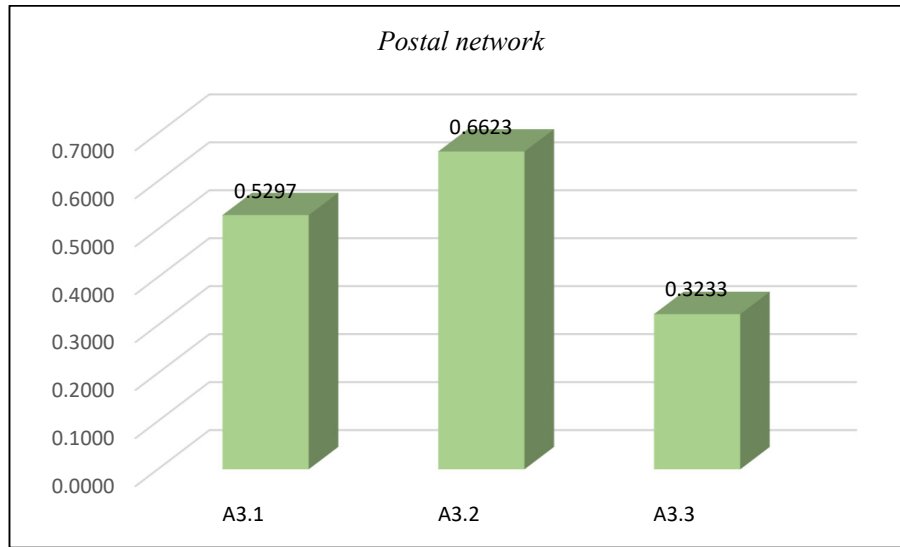


Figure 4.1. Rank of alternatives in the segment of availability of postal network units

From Figure 4.1, it can be concluded that the best-ranked alternative is A3.2, which implies a reduction in the number of postal network units (by 10-20%) and a reduction in the minimum defined working hours of the post office, as previously described in the section where the alternatives are listed. The next ranked alternative is alternative A3.1, followed by alternative A3.3.

Within this obtained scope of alternatives, it is necessary to further consider certain modalities in order to more precisely determine certain parameters within those alternatives. In this sense, the needs of users for a certain level of quality of the availability of the postal network were examined. Experts from the relevant institutions included in the research declared the minimum percentage of the population at the municipal and national level that should gravitate to the nearest post office according to indicators of the quality and availability of post offices at the level of Serbia, as well as the required working hours of post offices in urban and rural areas. Also taken into account were the results of the RATEL study from 2024, which refers to the research on user satisfaction considering these issues.

The determined quality of the availability of post offices at the level of Serbia is as follows: 76.76% of the population gravitates to 2.5 km, 89.35% to 5 km, and 98.43% to 10 km. According to the mentioned quality parameters of the availability of post offices, experts gave an estimate of the percentage of the population that should gravitate toward them.

Experts estimate that at least 48% of the population at the municipal level should gravitate to the nearest post office at a distance of 2.5 km (Figure 4.2).

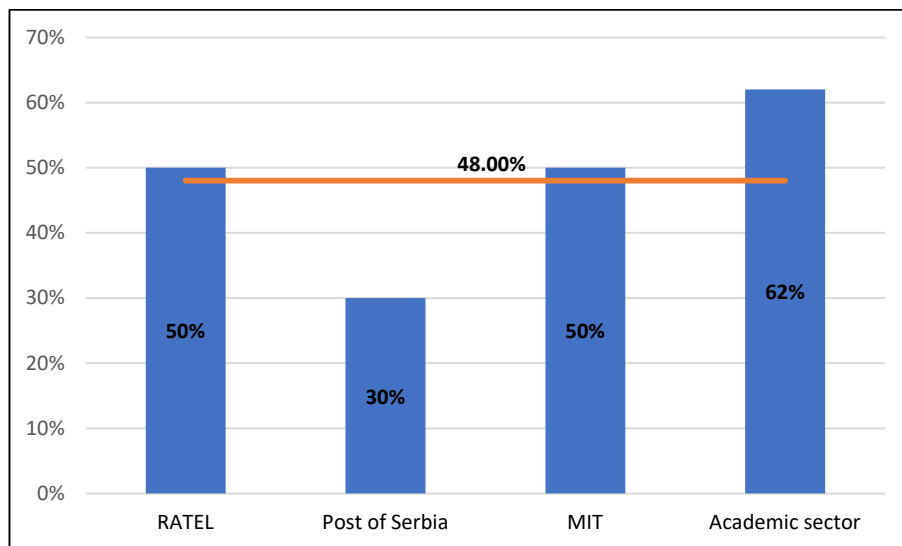


Figure 4.2. *The percentage of the population that is up to 2.5 km from the post office at the municipal level*

67% of the population should gravitate to a 5 km distance to the nearest post office (Figure 4.3), and 86% of the population should gravitate to a 10 km distance to the nearest post office (Figure 4.4).

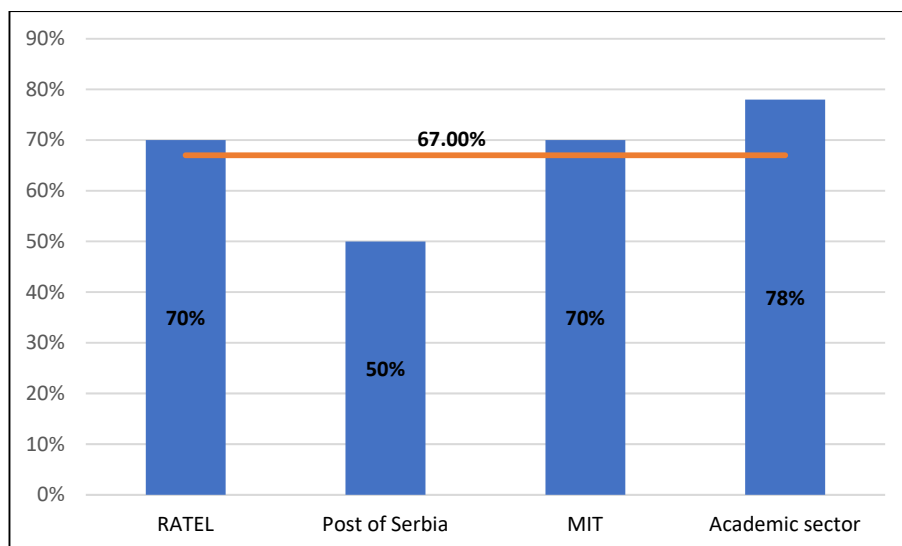


Figure 4.3. *The percentage of the population that is up to 5 km from the post office at the municipal level*

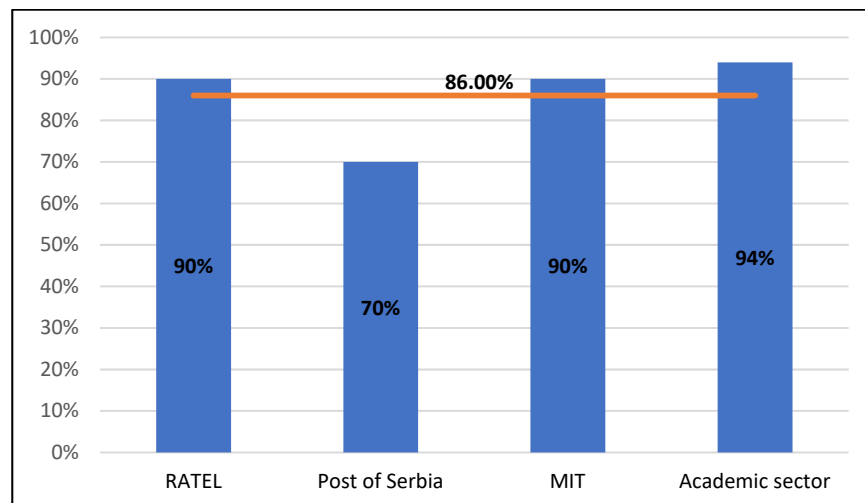


Figure 4.4. *The percentage of the population that is up to 10 km from the post office at the municipal level*

According to the results of the survey of users of postal services, the expectations of users are as follows: 65.45% of residents want to have mail within 2.5 km, 86.18% within 5 km, and 94.72% within 10 km. On the other hand, at the municipal level, there are greater deviations from the stated averages. The majority of physical persons as users of postal services expressed satisfaction with the proximity of the post office (85%), while one in five sees the need to open a new one, which would be closer to them. The majority of legal entities are satisfied with the proximity of their post office (87%) and an equal number of them do not see the need to open a closer post office.

At the national level, the minimum percentages of the population that should gravitate to the nearest post office up to a distance of 2.5 km, 5 km and 10 km were estimated by experts as follows: up to 2.5 km 71% of the population, up to 5 km 83% of the population and up to 10 km 94.2% of the population (pictures 4.5 to 4.7).

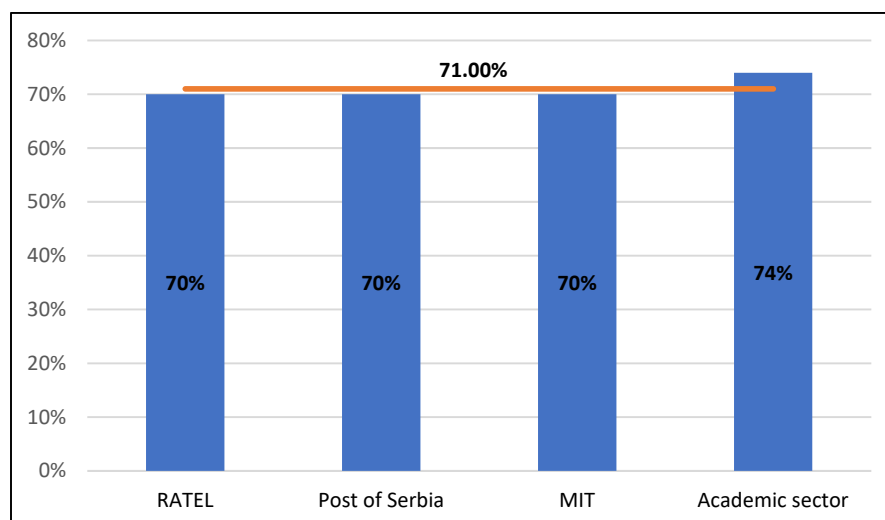


Figure 4.5. *The percentage of the population that is within 2.5 km from a post office at the national level*

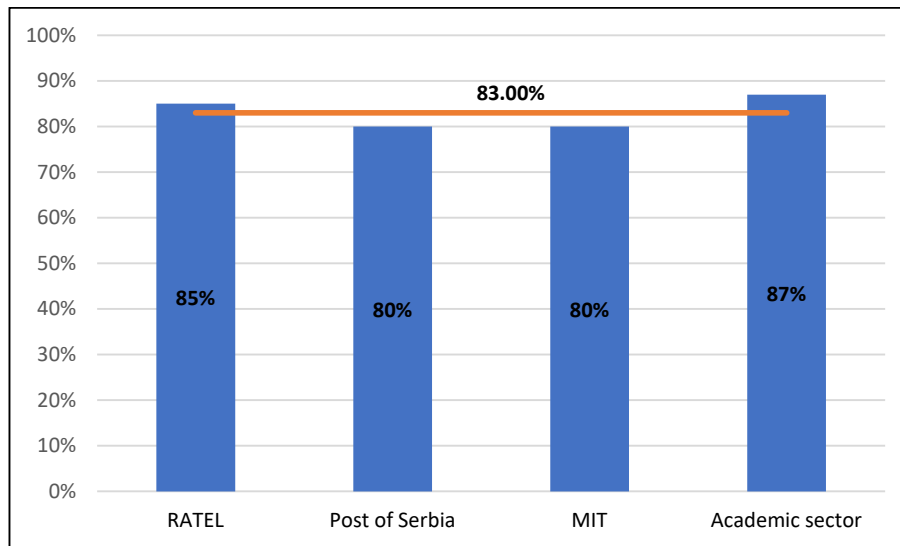


Figure 4.6. *The percentage of the population that is within 5 km from a post office at the national level*

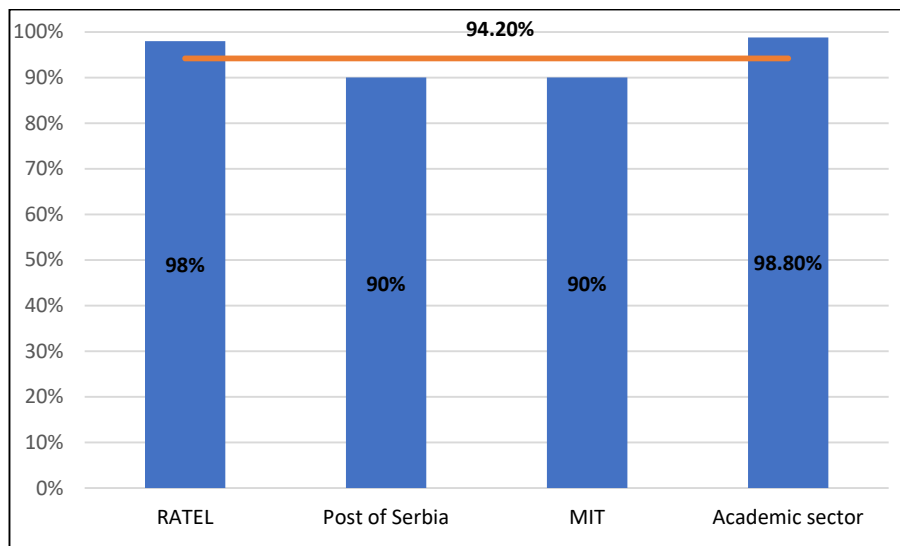


Figure 4.7. *The percentage of the population that is up to 10 km from a post office at the national level*

The experts also spoke about the working hours of post offices as an indicator of the quality of availability of UPS. Bearing in mind the results of the examination of the degree of satisfaction of users with postal services regarding the minimum working hours of post offices in the urban environment proposed alternatives, the experts declared that 4.5 hours could be the minimum working hours of the post office on a weekday (Figure 4.8).

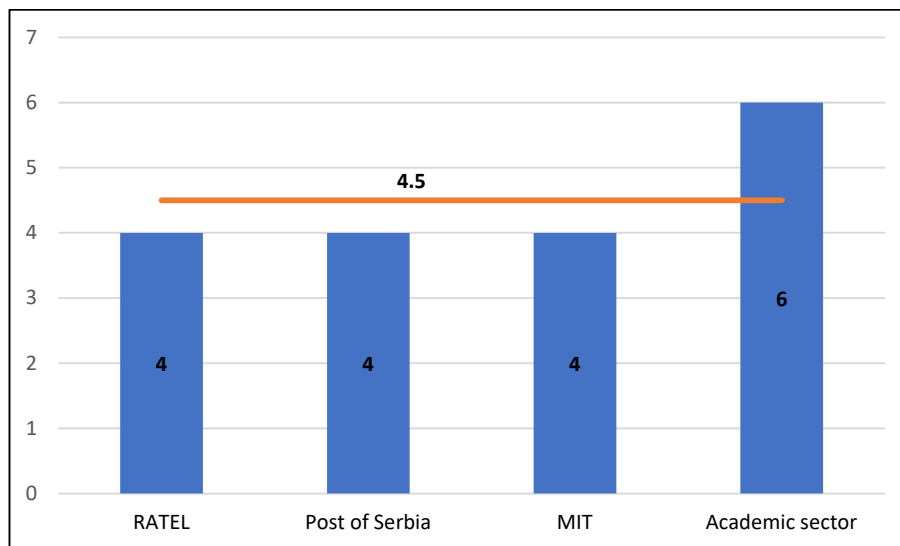


Figure 4.8. *Estimated minimum working hours of the post office on weekdays (in hours)*

In the case of a delivery post office that does not work on Saturdays, experts estimate that this type of post office should be open at least one day a week in an urban environment until at least 5:40 p.m. in the afternoon (Figure 4.9).

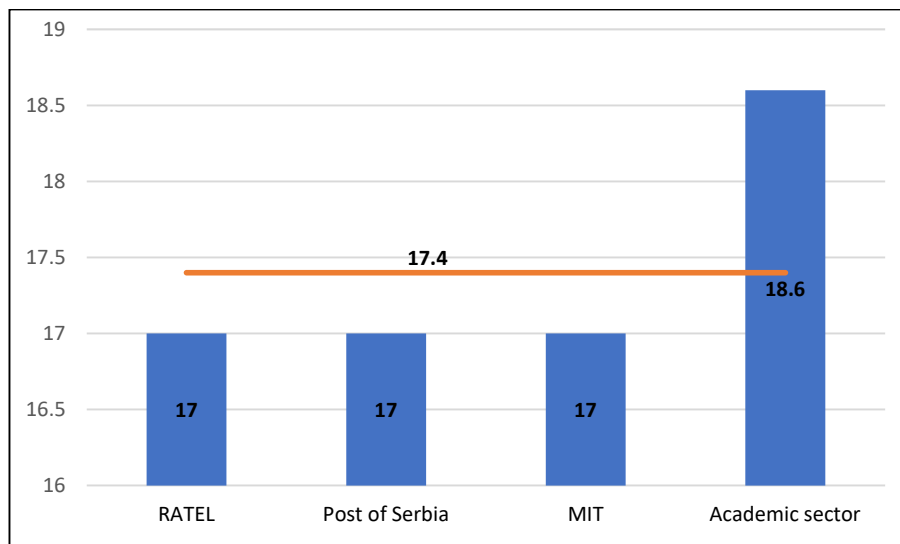


Figure 4.9. *Estimated afternoon minimum working hours for delivery mail at least once a week ("up to hours")*

Bearing in mind the results of the examination of the degree of satisfaction of users with postal services regarding the minimum working hours of the post office in rural areas with the proposed alternatives, the experts declared that the post office should work at least 2.6 days a week (Figure 4.10) in rural areas with minimum working hours of 3.2 hours per day (Figure 4.11).

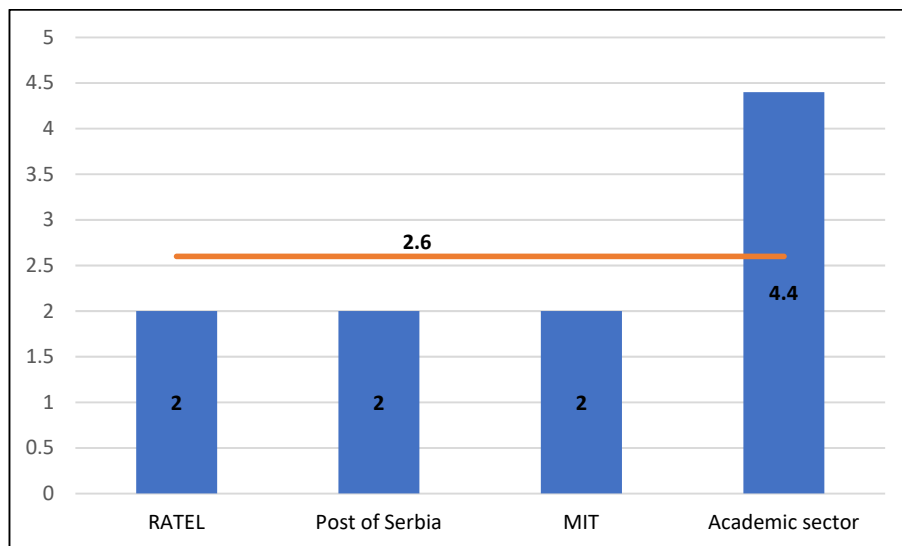


Figure 4.10. *Estimated minimum number of post office working days in rural areas (in days)*

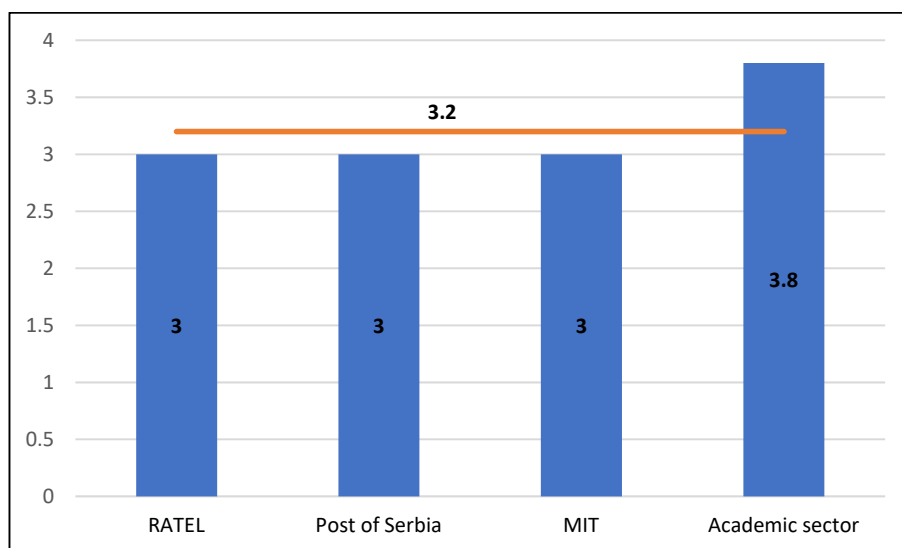


Figure 4.11. *Estimated minimum working hours of post offices in rural areas (in hours)*

5 FINANCIAL SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE – IMPACT OF MARKET LIBERALIZATION AND FINANCING MODELS

Regardless of the concept of universal postal service that is adopted, one of the basic questions that inevitably arises is the way of financing the universal postal service as a service of general social interest. The previous principle, which implied the existence of reserved services for the universal service provider, is being called into question for several reasons. On the one hand, we are talking about reasons related to the drop in the volume of items in the reserved sector, and on the other hand, the obligations facing the Republic of Serbia in the process of joining the European Union. European Union legislation implies the abolition of reserved postal services and the creation of a free market for postal services. This phenomenon entails financing the universal service in a different way, from a specific fund, and the possible financing models will be explained in more detail in the continuation of this study.

Therefore, the abolition of the reserved sector in the Republic of Serbia is expected and a matter of time, and thus the redirection of the financing of the universal postal service to some alternative fund, which is in the interest of the public postal operator, service users and the state itself, because in this way it is expected that a service of general interest - universal postal service - will be performed more reliably.

Almost all European countries went through this process of transformation from a reserved service to the financing of a universal service from a specific fund, and in this sense, in the continuation of this chapter, the experiences of other countries are given when it comes to the abolition of the reserved sector. Appendix IV shows more detailed data on individual countries when it comes to the movement of the volume of letter and parcel items, and the summarized results are presented in this chapter.

The fact is that each of the observed countries shown in Appendix IV, regardless of whether the postal market is liberalized or not, must establish an appropriate universal service financing model. In this regard, below are elaborated models that are present in European legislation and that are represented to a greater or lesser extent in EU member states and represent potential models for financing the universal postal service because this question remains open in case of choosing any defined scenario. sustainability of UPS . Financing models can only be introduced if it is determined that the provision of universal service generates a net cost and that this represents an unfair burden on the universal service provider.

5.1 Models for financing the universal postal service and the experience of other European countries

The process of complete liberalization of the market and abolition of reserved services is not simple because it raises the issue of establishing an appropriate level of universal service that will be compatible with the competition, and will not threaten the financial capacity of the

public operator. That is why there must be a clear price policy for universal service and a method of reimbursing costs, i.e. financing universal service.

In the territory of the European Union, the economic aspects of providing a universal service, i.e. aspects of the financial sustainability of the service are provided by Directive 2008/6/EC, which contains proposals for solutions to the issue of universal service financing in the conditions of a fully liberalized market, namely:

1. The reserved area as a financing model: the reserved area is the main mechanism of the traditional approach to the universal postal service obligation. This mechanism creates a monopoly so that the operator can set a single average price in a certain geographic area without competitive access. The reserved area allows various "spillovers" between low-cost and high-cost areas. Losses made in high-cost areas are offset by profits made in low-cost areas. An alternative could be to increase prices in the high-cost area, but this would be unsustainable due to the preservation of the uniqueness of universal service prices. The solution to this problem for the reserved area is to prevent the entry of competitors in the average-cost part of the market, so that the public operator can continuously overcome losses in the high-cost market;
2. Mechanism for compensating the net costs of the universal postal service from the state budget: through this mechanism, the universal service provider is financed by direct or indirect transfers from the state budget. State subsidies to the postal sector are present, for example, in Italy, France, Sweden, Great Britain, Croatia, the Czech Republic, Spain, Norway, Denmark, etc. In practice, this model is used in countries where universal service is financed from funds that are mainly filled by taxation of operators or users. Expenses are reimbursed at the request of the public postal operator, from the state budget, with the consent of the competent ministry. Some examples of state (budgetary) funding are given below.

Czech Republic : 25.07.2022. In 2018, the EC approved the compensation of the net cost of the obligation to provide universal postal service for the period 2018-2022. year, as state aid in the total amount of 305.91 million euros. Unfair financial burden is limited by law in the amount of 61.18 million euros per year. In February 2024, the Government proposed to delete these limits in the draft amendments to the postal law.

Denmark : The EC approved state aid of up to € 30.17 million, in August 2022, to compensate Denmark Post for providing a universal postal service for 2020. The net cost was changed from 52.83 million euros at 51.76 million euros. The compensation paid by the state amounts to 30.17 million euros for 2020.

France : In 2023, the French post office received financial compensation from the state in the amount of 500 million euros for providing universal postal service. This post office signed a contract with the state for 5 years, where the state undertook to provide this compensation every year.

Italy : The net cost, by year, is calculated to be: 2021: 480 million euros, 2020: 585 million euros, 2019: 175 million euros, 2018: 334.5 million euros, 2017: 354.5 million euros. Financial burden from providing universal postal service for the period 2017-2019. was defined as unfair by the regulator, but the compensation fund was not established. For the period 2019-2021. compensation was paid by the state, on an annual basis, in the amount of 262 million euros.

It is interesting that due to the principle of "territorial cohesion" in post offices in rural areas, the so-called e-corner for access to e-government services, for which the state approved compensation, thanks to which these post offices were renovated and improved. The European Commission approved this expenditure.

Norway : Compensation is granted annually through the state budget. The calculation for 2024 includes: 2.5 days of delivery to 100% of households (128.67 million euros), delivery of secograms (446,040 euros) , delivery of newspapers on Saturdays (5.4 million euros) , delivery of newspapers on alternative days during the week (10.93 million euros). The compensation paid by the state is in the amount of 144.11 million euros for 2024, which includes delivery of newspapers on Saturdays and alternative days of the week.

Spain : Net cost, defined in 2023 , in the amount of 194.41 million euros for 2011 ; defined in February 2024, in the amount of 120.47 million euros for 2012. The regulator verified the net cost and defined an unfair financial burden for the first time in December 2023, for the year 2011. The methodology for this calculation was approved in 2021, almost 11 years after the enactment of the postal law in 2010. Unfair financial burden: 159.32 million euros in 2011 and 103.4 million euros in 2012. A total compensation of 1.28 billion euros was paid to the Spanish post office by the state for the net cost for the period 2011-2020. year.

Croatia : In 2022, the amount of HRK 99,681,000 in compensation for unfair financial burden was reported as part of the income from state support . of the universal postal service provider (the so-called net cost) for 2021 (2021: HRK 95,056,000 for 2020), and according to the decision of the competent regulatory agency (HAKOM). When converted into euros , for 2022 year, the amount in question is 13.2 million euros , and in 2021 year, it is 12.6 million euros .

3. The mechanism for financing the net costs of the universal postal service through the application of the compensation fund: the financing of the actual costs of the universal service through various types of compensation fund is one of the most widespread forms of financing that is applied in several countries and sectors of the national economy (telecommunications, energy, etc.). For the implementation of compensatory financing, it is necessary to solve problems in terms of finding a source of financing, determining the tax base and the taxpayer. In practice, the dominant principle is the taxation of the operator's income, primarily due to the simplicity of application and easy implementation.

Some of the forms of compensation fund applicable in the postal sector are presented in more detail:

a) Compensation fund financed by tax on the income of individual operators: the most common conception of the compensation fund is reflected in the collection of taxes from postal operators in an amount corresponding to a certain percentage of their income. The fund is administered by a third party, usually a competent regulatory body. This model can face the problem of practical application in the sense that it is not easy to determine the operators who should contribute to the fund. The cases indicate that there are two options in defining the tax base, namely: tax on total income and tax on specific income. In practice, there are not many cases where compensatory financing with income tax has been used in the postal sector;

b) Compensation fund financed by the operator's profit tax: this concept of compensation fund has not yet been implemented in practice, but it is mentioned in studies as a possible solution to the problem of financing universal service. In this concept, the area related to the payment of taxes for the purpose of the compensation fund is defined in a wider scope (taxes are paid from the profits of all services, which means in the scope and outside the scope of universal service) and in a narrower scope (taxes are paid only from the profits of certain service, for example only services outside the scope of universal). The use of profit tax can lead to allocation difficulties due to the risk of adopting inconsistent accounting policies;

v) Compensation fund financed by a tax on each performed service: as in the case of the financing of public obligations by a tax on each unit product, which is widespread in all activities, this model also gives good results in the postal sector as long as the percentage level of taxes is much lower than the basic prices of the service and the total price reflect the competitive competition of the operators. The model can take the form of direct contributions in the form of payment of an additional unit tax on each service used by end users or a tax by the operator that is gradually transferred to end users in the form of unit taxes. From the user's point of view, this model may be unpopular because users are directly faced with additional costs. With other types of taxation, users have no idea that they are paying additional costs because the services are indirectly taxed. The reaction of users, their attitude and future attitude towards the services would be unpredictable and it can be assumed that it would lead to serious demand disturbances in the market of postal services. However, if operators want market success, they have to reduce the prices of their services, so that the introduction of a unit tax does not lead to a large impact on users. If the number of developed operators on the market is satisfactory, this model can be applied because it will not cause monopolization of the market due to the rise in service prices and the withdrawal of less efficient operators;

g) Compensation fund financed by a tax per unit on operators: the regulator will need to have the legal power and capacity to provide adequate monitoring of postal traffic and the funds going into the compensation fund, usually using adequate statistical methods of volume estimation. The part that each operator pays is generally proportional to the assessment of its market position. The problem that usually arises is the problem of determining the operator who will contribute to the fund, as well as assessing how much of the total sum will be paid, especially if it is new operators and operators who provide some of the less profitable services to a certain extent, and any additional burden can question their profitability and deter them from entering the market.

Of the mentioned variants, the most suitable is considered to be a compensation fund financed by taxes on the operator's income or a fund financed by taxes from each performed service. As already mentioned, identifying operators who should pay contributions to the fund is not easy at all. In addition, it may be difficult to monitor and verify revenues from services that fall within the area subject to payment of taxes or to obtain detailed data on the volume of items sent, especially in countries where regulatory bodies do not have a strong enough influence in terms of obtaining said information and where monitoring costs are high. .

Apart from the mechanisms for financing universal service, mentioned under points 1, 2 and 3, there are also the following two variants of mechanisms that can be considered at least theoretically:

4. The "pay or play" mechanism : in the simplest terms, the essence of this mechanism is that operators who deliver items only in areas with low costs must pay a certain amount into the compensation fund for not delivering items in areas with high costs. This approach has the same starting position as compensation fund models: in accordance with the needs of financing and provision of universal service in sectors with high fixed costs and average price levels, operators operating in exclusively highly profitable sectors (low costs/high volume of services) are obliged to pay additional fees into the compensation fund. It differs from the standard compensation fund, where only one operator is designated who provides a universal service and thus acquires the right to dispose of the entire fund, in that this model gives the right to any operator on the market to decide whether to provide a universal service ("play") or fill the fund ("pay"). In other words, the provider has the option to choose between partial provision of services subject to the area of universal or financial contribution to compensation for other providers providing universal service. Depending on the scope of provision of universal services, contributions to the fund may be reduced or completely written off to the operator.

This mechanism can be established in two versions:

- a " sharper " version of this mechanism implies that the choice is "pay or play" strict. If the operator agrees to provide a universal service, he must do so completely, he must cover all profitable and unprofitable sectors of the market. By providing the service, the operator gets the right to use part of the funds from the fund and is exempted from all payments to the fund,
- a " weaker " version of the mechanism allows the operator to decide to what extent he will provide the service in the unprofitable sector. Depending on that, the operator pays a larger or smaller amount into the fund and gets the right to part of the funds from the fund.

The biggest practical problem of this model is the amount of benefits for the fund and from the fund. A proper assessment of the market and the operator's position is important not only for determining the level of funds, but also for the operator's decisions whether to accept participation in the provision of universal service in an unprofitable sector. If the requirements are too strict, they may represent an entry barrier for new operators. Too lenient requirements will put operators providing universal service in an unequal position;

5. Increasing the charge for access to the network of the public postal operator: this universal service financing mechanism works on the principle of charging operators who pay on behalf of access to the public operator's network in the delivery segment. These paid debts are then used as a source of funding for the universal service, ie. to cover her expenses.

Increasing the charge for access to the public postal operator's network as a mechanism can be relatively simple and transparent, but only in countries where charging for access to the public operator's network is already functional.

Almost all member states of the European Union have defined in law or regulations how compensation will be paid in case of net cost as determined unfair burden. However, in practice, only a few universal service providers in the EU Member States have been compensated

(actually compensated). Of the observed countries, compensation was only paid in the Czech Republic, Denmark, Croatia, France, Italy, Norway and Spain (explained under enumeration 2). In each of these countries, payment was made directly by the state (from the state budget), and not through compensation funds. In the Netherlands, for example, no compensation method has been established, and the universal service obligation has been completely abolished in Denmark from 2024.

Appendix I of the Postal Services Directive lists a number of general provisions regarding the obligation to calculate the net cost of the universal service. According to Annex I, the net cost of the universal postal service should be calculated as the difference between the net cost of the selected universal service provider providing the universal service and the same postal service provider operating without the obligation to provide the universal service (the latter scenario is usually called the "reference scenario"). The total net cost of the universal postal service is the sum of the net costs arising from the specific components of the universal service, avoiding any double counting. However, the Directive left the Member States with the choice of how to introduce and implement the relevant methodologies. Of the observed countries, in nine the regulations or the national regulatory authority have determined the methodology by which the net cost of providing a universal service should be calculated.

Calculation of net costs should be based on costs attributable to:

- elements of universal service that can only be provided at a loss or under conditions outside normal commercial standards or
- certain users or groups of users who can only be served at a loss or under conditions that do not fall under normal commercial standards.

The chosen methodology for calculating net costs usually follows one of the following three approaches:

- deficit approach (a top-down approach based on the universal service provider completely ceasing to provide the universal service);
- the approach of net costs that can be avoided (under the assumption that the universal service provider would change the way it provides unprofitable services from the universal domain so that they are no longer unprofitable);
- profitability cost approach (assuming that the universal service provider would change the way it operates to maximize profits, assuming no universal service obligation and taking into account demand effects).

In practice, even where a net costing methodology is established, it is often not used.

5.2 Choice of universal service financing model

Decisions that need to be made when solving a real problem inevitably involve consideration of material based on several criteria rather than on consideration of only one dominant criterion. In order to overcome the mentioned difficulties, multi-criteria decision-making methods can be applied, which were developed with the aim of determining the global preference between the

offered options, that is, to make a final decision based on the output ranking of alternatives. Taking into account that parameter estimates can be associated with uncertainty, subjectivity, imprecision and ambiguity, the process of their evaluation is suitable in a *fuzzy* environment.

Universal service financing models can threaten the survival and development of operators in a given market. The models should provide contributions that compensate public operators for providing a universal service, allow efficient, competitive operators to enter the market and prevent the entry of inefficient operators. Operators should equally share the obligations arising from the necessity of providing a universal service. The financing model must be "well balanced", that is, it must meet the criterion of fair competition.

The criterion of social equality , in practice, is a normative concept on the basis of which the criteria are determined and it is estimated which layers of society should be more privileged compared to others, from the aspect of postal services. This assessment is generally made in relation to universal service. The criterion should answer the question of whether the financing model ensures that the strata of society with similar economic power receive universal service at approximately the same prices.

Any of the financing models that rely even the least on the financial assistance of the state must be **harmonized with national and other positive regulations of the financial sector** . This primarily refers to compensation funds that are filled by general or special taxation, and whose funds are used by the state to subsidize universal service. Any transfer of state resources, direct or indirect, that gives certain competitive advantages to the recipient or leads to disruptions in the liberalized market, is considered an illegal state act. This does not mean that any financial assistance from the state to the universal service provider will be interpreted as illegal intervention.

The budget must be **transparent** to avoid favoring the recipient over competitors. The amount of compensation should cover only the most basic costs that are created by providing a universal service, in special cases the minimum profit of the operator can be taken into account. When the selection of the public operator was not made through the public procurement procedure, the level of compensation must be determined by analyzing the costs that would theoretically arise in the case of efficient service provision. From the aspect of this criterion, the principle of functioning of the financing model should be accessible and clear to all market participants. All participants should be enabled to understand how the amount of compensation is determined, who pays the contributions to finance the universal service and how the amount of those contributions is determined. Information about the establishment of the fund and the entities that established it, the method of accessing funds from the fund and specific operators who have access to the fund at a given moment must also be available. All participants, if they wish, must be given the opportunity to meet the conditions for receiving funds from the fund. All information provided must be verified and made public.

The collection of contributions to small operators reduces the possibilities of new entries into the given market and in the long term leads to its polarization and harmful consequences for users. In accordance with that, the European Commission made a proposal that in the case of the entire coverage of the costs of providing a universal service with the funds collected by the contributions of other operators, the allocation of contributions should be made. Collection of

contributions should be non-discriminatory and **principle-based proportionality**, and if there is no greater degree of market presence, small operators should be released from this obligation. Proportionality implies that a given financing model achieves a reasonable balance between projected goals and global market goals. It should be ensured that the model minimally affects other market mechanisms and introduces minimal distortions on the global economic plan.

Feasibility is conditioned by the complexity of financial schemes and the information required for their establishment and management. Complex mechanisms with complex implementation and exploitation procedures require greater financial resources in practical use and the uncertainty of achieving the projected goals has increased. This criterion directly affects transparency, in terms of easier or more difficult access to information related to the current state and progress, from the aspect of achieving the goals projected by the funding model.

Sustainability is a key criterion for achieving the minimum costs of establishing a particular financing model. The main aspect of this criterion is that the model, first of all, should act on clearly defined goals that are to be achieved. Any action within the model should ensure a self-sustaining universal service.

A **reliable** financing model is one that guarantees the long-term sustainability of the universal service. A mechanism that provides long-term financing security is incomparably more convenient than those with shorter and unpredictable financing arrangements. It is important that the model is based on economic principles.

The application of a specific financing model should enable minimal distortion of economic efficiency, and increase the operator's profit. In practice, there are three basic aspects that can support the concept of efficiency: allocative, production and dynamic efficiency. Funding models that promote redistribution allow operators to set service prices at a level that will reflect the costs of providing services, including an appropriate return on investment. Despite the fact that allocative efficiency is directly contrary to the recognized principles of universal service, operators, especially large ones, are increasingly trying to prove its necessity. Production efficiency is based on the obligation of operators to provide services with the lowest possible costs, with optimal use of all available technological resources. In this context, financing mechanisms should provide relief during the procurement and introduction of optimal technology that will enable full utilization of the potential at acceptable costs. The model should also facilitate the selection of the optimal operator to whom the provision of the universal service will be entrusted and thus avoid an increase in the fixed costs of the service. Dynamic efficiency refers to enabling innovative processes, which leads to the emergence of improved and completely new services. The advantage of dynamic efficiency is the possibility of developing a universal service based on the applied mechanism, through new ways of providing services or introducing completely new services.

Taking into account the diversity of individual regions within the Republic of Serbia, there is a need for a separate consideration of each of them. Accordingly, it is necessary to observe the territorial units formed according to the NUTS 2 (*Nomenclature of Territorial Units for Statistics*) standard. In each of these observed units, depending on the characteristics of the postal market and the goal that the regulatory body wants to achieve, the weights of the criteria specified for the evaluation of certain alternatives for financing the universal service are

determined. Determining these weights is done using the *AHP* method. The core of the system is the performance matrix of individual criteria according to the proposed financing alternatives. The values of the matrix are obtained on the basis of questionnaires filled out by experts for financing models. By implementing the *TOPSIS* method, a ranking procedure is realized, where the financing model most similar to the ideal solution is selected. In the study "Analysis of the impact of gradual liberalization on the market of postal services in the Republic of Serbia" commissioned by RATEL in 2018, the ranking of financing models was carried out in the previously described manner. The following model ranking was obtained (Table 5.1):

Table 5.1. *Ranking of financing models*

Rank	Model	Similarity to the ideal solution
1	"pay or play"	0.8047
2	supplementary financing	0.7655
3	compensation fund	0.4144
4	reserved area	0.3299

It can be concluded that the reserved area on the territory of the Republic of Serbia is losing its importance because it achieves the lowest rank of alternative models of universal service financing. In this sense, it is necessary to consider how the market of postal services would behave if the reserved sector were abolished. Projections of market development in Europe in correlation with the market in Serbia are given below.

5.3 Projection of the development of the postal services market in accordance with liberalization

The advantages of this scenario are: up to 10 postal operators who would be interested in a license to perform UPS will appear on the market ¹². The reserved area is abolished and there will be a complete liberalization of the market in accordance with the Directive of the European Parliament and the Council 2008/6/EC.

The risks of this scenario are: reduction of income for financing the costs of carrying out UPS, which in other countries is most often solved by the introduction of compensation funds for co-financing the implementation of UPS or budget funds cover the operator's net costs. In many countries, the scope of UPS has been reduced, priority and non-priority items have been introduced, for a small percentage of items from the domain of UPS, D+1 quality standards apply, in some countries that percentage is only around 5%. For other items, delivery is made three times a week.

As for the volume of items that JPO in the Republic of Serbia would have in the circumstances of complete market liberalization, it is difficult to give a precise forecast. However, it is very useful to look at the experiences of other countries after the abolition of the reserved area and, with the analysis of the previous data on the volume of items, come to certain conclusions.

¹²Maria P. Unterberger (2016). Development of a postal network access model, doctoral dissertation, University of Novi Sad - Faculty of Technical Sciences, Novi Sad.

Figure 5.1 and Table 5.2 show the percentages of increase and decrease in the number of items in the next three years after the liberalization of the postal market in selected European countries that used to have a reserved area.

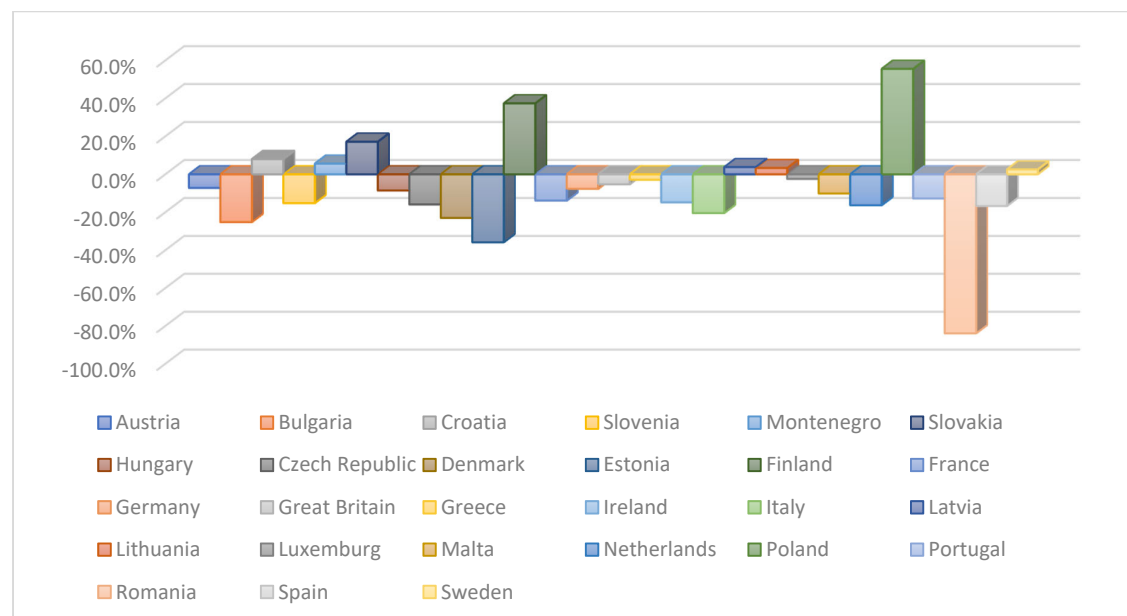


Figure 5.1. Ratio of changes in the volume of letter items after market liberalization in selected countries

Table 5.2. Change in the volume of letter items after the liberalization of the market

Earth	The year of liber.	No. letter items in the year of liber. [million]	1st year after liber. [million]	2nd year after Liber. [million]	3rd year after Liber. [million]	Percentage of change I	Percentage of change II	Percentage of change III	Average percentage of change
Austria	in 2011	6215	5966	5700	5637	-4.0%	-8.3%	-9.3%	-7.2%
Bulgaria	in 2011	19.2	16	14.6	12.5	-16.7%	-24.0%	-34.9%	-25.2%
Croatia	in 2013	273.8	278.4	306.7	302.3	1.7%	12.0%	10.4%	8.0%
Slovenia	in 2011	1013	929	875	878	-10.9%	-20.8%	-13.9%	-15.2%
Montenegro	in 2013	13.6	13.5	14.2	15.4	-0.7%	4.4%	13.2%	5.6%
Slovakia	in 2012	418.6	497.9	480	493.5	18.9%	14.7%	17.9%	17.2%
Hungary	in 2013	694.2	651.7	621.4	632.1	-6.1%	-10.5%	-8.9%	-8.5%
Czech Republic	in 2013	2546	2362	in 2013	1900	-4.0%	-19.6%	-24.0%	-15.9%
Denmark	in 2011	800	690	615	544	-13.8%	-23.1%	-32.0%	-23.0%
Estonia	in 2009	40.5	28.7	25.8	23.5	-29.1%	-36.3%	-42.0%	-35.8%
Finland	in 1994	1110	1140	1910	-	2.7%	72.1%	-	37.4%
France	in 2011	14900	13600	12900	12000	-8.7%	-13.4%	-19.5%	-13.9%
Germany	in 2008	21800	20700	19900	19800	-5.0%	-8.7%	-9.2%	-7.6%

Great Britain	in 2006	20300	19900	18700	19100	-2.0%	-7.9%	-5.9%	-5.3%
Greece	in 2013	350	340	-	-	-2.9%	-	-	-2.9%
Ireland	in 2011	610	530	520	0.51	-13.1%	-14.8%	-16.4%	-14.8%
Italy	in 2011	4934	4325	3923	3.5	-12.2%	-20.4%	-28.6%	-20.4%
Latvia	in 2013	26.5	29.8	-	25.2	12.5%	-	-4.9%	3.8%
Lithuania	in 2013	34.4	35	34.1	37.5	1.7%	-0.9%	9.0%	3.3%
Luxemburg	in 2013	105.7	106	104.3	99.1	0.3%	-1.3%	-6.2%	-2.4%
Malta	in 2013	33.1	30.6	29.3	29.4	-7.6%	-11.5%	-11.2%	-10.1%
The Netherlands	in 2009	4473	4070	3777	3,4	-8.9%	-15.6%	-24.4%	-16.3%
Poland	in 2013	857	1591	1032	1.6	77.8%	11.1%	77.8%	55.6%
Portugal	in 2011	868	799	756	718	-7.9%	-12.9%	-17.3%	-12.7%
Romania	in 2013	213	43	32	28	-79.8%	-85.0%	-86.9%	-83.9%
Spain	in 2011	4000	3640	3282	3.1	-10.0%	-17.5%	-22.5%	-16.7%
Sweden	in 1993	4190	4210	4320	4.36	0.5%	3.1%	4.1%	2.5%
Average									-7.6%

Table 5.2 shows the average decrease or increase in the volume of letter items where it is noted that the experiences are different. The average value of the change in the volume of letter items is -7.6%. Bearing in mind the diversity of data by country, which can be seen most easily by looking at the graph in Figure 5.1, the average percentage change will be calculated, but bearing in mind the similarity of the postal market of the observed countries with Serbia. This means that for each country a weighting factor will be applied that depends on the compatibility index previously calculated in the previously mentioned study from 2018. The results of the "weighted" averages and the final average value of the change are shown in Table 5.3.

Table 5.3. *Change in the volume of letter items after the liberalization of the market, taking into account the compatibility index of the observed countries with Serbia*

Earth	Average three-year change	Compatibility index	Normalized compatibility index	Weighted triennial changes
Austria	-7.2%	0.5945	0.513075722	-6.10%
Bulgaria	-25.2%	0.7194	0.756830601	-31.47%
Croatia	8.0%	0.844	1	13.27%
Slovenia	-15.2%	0.5868	0.4980484	-12.49%
Montenegro	5.6%	0.7922	0.898907104	8.37%
Slovakia	17.2%	0.7745	0.864363778	24.51%
Hungary	-8.5%	0.735	0.787275566	-11.08%
Czech Republic	-15.9%	0.6699	0.660226386	-17.31%
Denmark	-23.0%	0.6046	0.532786885	-20.21%
Estonia	-35.8%	0.6546	0.630366901	-37.28%
Finland	37.4%	0.5163	0.360460578	22.26%
France	-13.9%	0.4888	0.306791569	-7.03%
Germany	-7.6%	0.3581	0.051717408	-0.65%
Great Britain	-5.3%	0.3316	0	0.00%

Greece	-2.9%	0.7987	0.911592506	-4.30%
Ireland	-14.8%	0.5537	0.433450429	-10.56%
Italy	-20.4%	0.6452	0.612021858	-20.63%
Latvia	3.8%	0.6406	0.603044496	3.76%
Lithuania	3.3%	0.7089	0.736338798	4.01%
Luxembourg	-2.4%	0.4401	0.211748634	-0.85%
Malta	-10.1%	0.5527	0.431498829	-7.18%
The Netherlands	-16.3%	0.6331	0.588407494	-15.84%
Poland	55.6%	0.6801	0.680132709	62.42%
Portugal	-12.7%	0.7783	0.871779859	-18.31%
Romania	-83.9%	0.7574	0.830991413	-115.15%
Spain	-16.7%	0.757	0.830210773	-22.86%
Sweden	2.5%	0.6447	0.611046058	2.57%
Average				-8.08 %

Calculating the average three-year change in the volume of letter items led to a result of -8.08%, which represents the most probable value in the case of the scenario of liberalizing the postal market in Serbia. However, the stated value cannot be considered solely as a consequence of liberalization but should be taken into account as well as the general trend of the decline in the volume of letter-carrying services.

In order to get a better impression of the specific impact of liberalization exclusively on the decline in the volume of letter carrier services, the following analysis was performed. Tables 5.2 and 5.3 show changes in the volume of letter items in absolute amounts, i.e. in question are percentage changes in relation to the achieved eigenvalues of a certain postal operator in the analyzed time series. It is important to compare the values of the changes of a country that liberalized its postal market at a given moment, compared to countries that are not in such a situation. Thus, table 5.4 shows the relative differences between those countries (i.e. the volumes of items of designated postal operators that are universal service providers were observed) that implemented liberalization in a specific year and those that did not in the observed three-year averages in that situation. This compares the change in the volume of letter items of those countries that have undergone liberalization and those that have not at the observed moment in order to conclude whether the drop in volume is influenced by liberalization or is a general trend in the market of postal services.

Table 5.4. *Change in the volume of letter items after market liberalization in relative amount to the volume of letter items of other observed countries*

	Three-year average after the liberalization of other countries	Three-year average after liberalization of the observed country or group of countries that were liberalized in the same year	Relative difference
Austria	-5.63%	-16.24%	-10.60%
Bulgaria	-5.63%	-16.24%	-10.60%
Croatia	-8.86%	-5.34%	3.52%

Slovenia	-5.63%	-16.24%	-10.60%
Montenegro	-8.86%	-5.34%	3.52%
Slovakia	-11.16%	17.17%	28.33%
Hungary	-8.86%	-5.34%	3.52%
Czech Republic	-8.86%	-5.34%	3.52%
Denmark	-5.63%	-16.24%	-10.60%
Estonia	-9.56%	-26.05%	-16.49%
Finland	5.87%	37.39%	31.52%
France	-5.63%	-16.24%	-10.60%
Germany	-12.66%	-5.73%	6.93%
Great Britain	4.68%	-4.93%	-9.61%
Greece	-8.86%	-5.34%	3.52%
Ireland	-5.63%	-16.24%	-10.60%
Italy	-5.63%	-16.24%	-10.60%
Latvia	-8.86%	-5.34%	3.52%
Lithuania	-8.86%	-5.34%	3.52%
Luxembourg	-8.86%	-5.34%	3.52%
Malta	-8.86%	-5.34%	3.52%
The Netherlands	-9.56%	-26.05%	-16.49%
Poland	-8.86%	-5.34%	3.52%
Portugal	-5.63%	-16.24%	-10.60%
Romania	-8.86%	-5.34%	3.52%
Spain	-5.63%	-16.24%	-10.60%
Sweden	-0.86%	1.59%	2.45%
Average			-1.11%

This calculation provides information on the general trend in the postal sector in the analyzed time period, and the impact of market liberalization is calculated as a change in the volume of items calculated in relation to that trend. The analysis considered the three-year period after the liberalization of the postal market. The results of the relative differences between the state that implemented liberalization at the observed moment and the others are given in Table 5. 4 . It can be noted that this kind of calculation gives as a result that the impact of liberalization on the volume of letter items is only -1.11%, which is significantly less than in the case of differences in the absolute amount. This result indicates that the liberalization of the postal services market on average in the market of European countries did not lead to serious changes.

It is also interesting to observe the movement of the volume of parcels after the liberalization of the market. Although parcels do not belong to the domain of the reserved sector, it is important to analyze this segment of the postal market for two reasons. One is that a greater number of postal operators is expected on the market if it is liberalized compared to the situation if this is not the case. Therefore, a reduction in the volume of these services is expected at the public postal operator. And secondly, it is important to analyze parcels because they are part of the universal postal service, which means they are important for users and society.

Table 5.5 shows the average decrease or increase in the volume of parcel items where, as in the case of letter items, it is noted that the experiences are different. The average value of the change

in the volume of parcel items is -6.6%. Bearing in mind the diversity of data by country, this can be seen most easily by looking at the graph in Figure 5.2, the average percentage change will be calculated, however, taking into account the weighting factor that depends on the compatibility index. The results of the "weighted" averages and the final average value of the change are shown in Table 5.6.

Table 5.5. *Changes in the volume of parcel items after market liberalization*

	The year of liberalization	The number of parcels in the year of lib. [million]	1st year after liber. [million]	2nd year after liber. [million]	3rd year after liber. [million]	Percent age of change I	Percent age of change II	Percent age of change III	Average percentage of change
Austria	in 2011	59	65	70	74	10.2%	18.6%	25.4%	18.1%
Bulgaria	in 2011	0, 335	0, 286	0, 269	0, 249	-14.7%	-19.7%	-25.7%	-20.0%
Croatia	in 2013	0.82	0.85	0.88	1	-	7.3%	22.0%	14.6%
Slovenia	in 2011	0.071	0.073	0.075	0.081	2.8%	5.6%	14.1%	7.5%
Montenegro	in 2013	0.0 35	0.0 37	0.0 62	0.0 59	5.7%	77.1%	68.6%	50.5%
Slovakia	in 2012	2.8	2,2	2.1	3.6	-21.4%	-25.0%	28.6%	-6.0%
Hungary	in 2013	1,1	0.82	0.68	1.7	-25.5%	-38.2%	54.5%	-3.0%
Czech Republic	in 2013	1,3	0.9	2.1	1.4	-30.8%	61.5%	7.7%	12.8%
Denmark	in 2011	31.6	16.2	27.2	-	-48.7%	-13.9%	-	-31.3%
Estonia	in 2009	1.02	0.6	0.5	0.6	-41.2%	-51.0%	-41.2%	-44.4%
Finland	in 1994	22.9	24.2	25.5	-	5.7%	11.4%	-	8.5%
France	in 2011	266	-	330	269	-	24.1%	1.1%	12.6%
Germany	in 2008	77 0	76 0	79 0	87 0	-1.3%	2.6%	13.0%	4.8%
Greece	in 2013	0.5	0.9	0.3	-	80.0%	-40.0%	-	20.0%
Ireland	in 2011	0.61	0.53	0.52	0.51	-13.1%	-14.8%	-16.4%	-14.8%
Italy	in 2011	1.4	0.8	0.9	0.1	-42.9%	-35.7%	-92.9%	-57.1%
Latvia	in 2013	0, 90	0, 85	-	0, 66	-5.4%	-	-27.2%	-16.3%
Lithuania	in 2013	0, 145	0, 119	0, 113	0, 128	-18.0%	-21.9%	-11.6%	-17.2%
Luxembourg	in 2013	0.9	1,3	1.4	1.7	44.4%	55.6%	88.9%	63.0%
Malta	in 2013	0.00 3	0.00 2	0.00 03	0.00 02	-29.0%	-90.3%	-93.5%	-71.0%
Poland	in 2013	38.2		21.3	20.8	-	-44.2%	-45.5%	-44.9%
Portugal	in 2011	0.22	0.21	0.2	0.17	-4.5%	-9.1%	-22.7%	-12.1%
Romania	in 2013	1.5	1,2	1,1	1,2	-20.0%	-26.7%	-20.0%	-22.2%
Sweden	in 1993	43.6	43.7	43	44.9	0.2%	-1.4%	3.0%	0.6%
Average									-6.6%

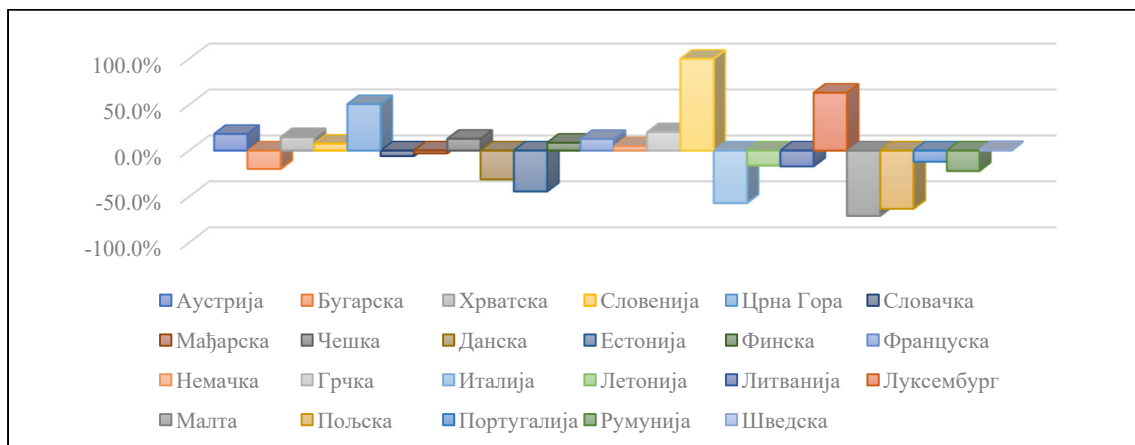


Figure 5.2. Ratio of changes in the volume of parcel items after market liberalization in selected countries

Table 5.6. Changes in the volume of parcel items after the liberalization of the market, taking into account the compatibility index of the observed countries with Serbia

Earth	Average three-year change	Compatibility index	Normalized compatibility index	Weighted triennial changes
Austria	18.1%	0.5945	0.4865	14.6%
Bulgaria	-20.0%	0.7194	0.7436	-24.8%
Croatia	14.6%	0.844	1.0000	24.4%
Slovenia	7.5%	0.5868	0.4707	5.9%
Montenegro	50.5%	0.7922	0.8934	75.1%
Slovakia	-6.0%	0.7745	0.8570	-8.5%
Hungary	-3.0%	0.735	0.7757	-3.9%
Czech Republic	12.8%	0.6699	0.6417	13.7%
Denmark	-31.3%	0.6046	0.5073	-26.5%
Estonia	-44.4%	0.6546	0.6102	-45.2%
Finland	8.5%	0.5163	0.3256	4.6%
France	12.6%	0.4888	0.2690	5.6%
Germany	4.8%	0.3581	0.0000	0.0%
Greece	20.0%	0.7987	0.9068	30.2%
Ireland	-14.8%	0.5537	0.4026	-9.9%
Italy	-57.1%	0.6452	0.5909	-56.2%
Latvia	-16.3%	0.6406	0.5814	-15.8%
Lithuania	-17.2%	0.7089	0.7220	-20.6%
Luxembourg	63.0%	0.4401	0.1688	17.7%
Malta	-71.0%	0.5527	0.4005	-47.3%
Poland	-44.9%	0.6801	0.6627	-49.5%
Portugal	-12.1%	0.7783	0.8648	-17.5%
Romania	-22.2%	0.7574	0.8218	-30.4%
Sweden	0.6%	0.6447	0.5898	0.6%
Average				-7.2%

As was done in the case of the analysis of the trend in the market for letter items, it is also important for parcel items to compare the values of changes in a country that has liberalized its postal market at a given moment, compared to countries that are not in such a situation. The results of the relative differences between the state that implemented liberalization at the observed moment and the others are given in table 5.7.

Table 5.7. *Changes in the volume of parcel items after market liberalization in relative amounts to the volume of parcel items in other observed countries*

	Three-year average after the liberalization of other countries	Three-year average after liberalization of the observed country or group of countries that were liberalized in the same year	Relative difference
Austria	-2.12%	-11.77%	-9.66%
Bulgaria	-2.12%	-11.77%	-9.66%
Croatia	27.21%	6.49%	-20.72%
Slovenia	-2.12%	-11.77%	-9.66%
Montenegro	27.21%	6.49%	-20.72%
Lithuania	27.21%	6.49%	-20.72%
Slovakia	18.76%	-5.95%	-24.72%
Hungary	27.21%	6.49%	-20.72%
Czech Republic	27.21%	6.49%	-20.72%
Denmark	-2.12%	-11.77%	-9.66%
Estonia	-10.77%	-41.06%	-30.29%
Finland	5.63%	8.52%	2.88%
France	-2.12%	-11.77%	-9.66%
Germany	21.21%	4.76%	-16.45%
Greece	27.21%	6.49%	-20.72%
Italy	-2.12%	-11.77%	-9.66%
Latvia	27.21%	6.49%	-20.72%
Luxembourg	27.21%	6.49%	-20.72%
Malta	27.21%	6.49%	-20.72%
Poland	27.21%	6.49%	-20.72%
Portugal	-2.12%	-11.77%	-9.66%
Romania	27.21%	6.49%	-20.72%
Sweden	9.20%	0.61%	-8.59%
Average			-16.20%

On the other hand, although parcel items were not part of the reserved service, a significant drop in their volume was noticeable after liberalization. The relative difference is -16.20%. A possible explanation for this phenomenon is that the liberalized market in itself attracts new investors, who are more interested in parcel items than letter carriers due to the expected higher income.

6 CONCLUSION AND RECOMMENDATIONS ON THE SUSTAINABILITY OF THE UNIVERSAL POSTAL SERVICE IN THE REPUBLIC OF SERBIA

Analyzing the situation on the postal services market, the experiences gained during the application of the current Law on Postal Services, as well as the further implementation of relevant postal directives, it can be concluded that the existing legal solutions do not fully follow the requirements of the postal services market, which is characterized by the appearance of growing and changing user demands and all a greater number of new postal operators in the commercial postal services sector, which inevitably led to the modification of market conditions , and therefore increased risks for the sustainability of the universal postal service .

By amending the legislation, the following improvements should be made in the coming period:

- In compliance with EU regulations;
- Ensuring the conditions for the sustainability of the universal postal service;
- Redefining the scope of the universal postal service in accordance with the needs of users of postal services, as well as the introduction of services of public interest that would be an addition to the universal service ;
- Redefining the parameters of the quality of the transmission of postal items, taking into account the needs of users of postal services and the costs of providing services ;
- Redefining the quality parameters of the availability of postal services, taking into account geographic and demographic specificities ;
- Ensuring greater availability of postal services to vulnerable users .

The existing legislation is not harmonized with the principle of free postal market provided for by the legislation of the European Union, i.e. the existence of the reserved postal service does not comply with the provisions of Directive 2008/6/EC. The Republic of Serbia should complete harmonization with the acquis of the EU on postal services and continue preparations for the implementation of new rules of the postal services market, with the aim of amending the Law on Postal Services. Therefore, in the coming period, it would be expected to implement the provisions of the EU acquis, i.e. to implement the complete liberalization of the postal market and abolish the non -reserved service , so that within two years, after the adoption of the law, the reserved service will be abolished, and until then, the reserved service will be reduced to 20 grams of letter mail items . However, the experts of the Serbian Post declared that complete liberalization should be postponed after the accession of the Republic of Serbia to the European Union.

The sustainability of the universal postal service on the territory of the Republic of Serbia implies, according to the research carried out so far, the transparent calculation and compensation of the net cost to the universal service provider, as well as the definition of the adequate scope and quality of the universal postal service.

With regard to the transparent calculation and compensation of the net cost to the universal service provider, it should be emphasized that the universal service provider has an unjustly

imposed cost within its business, which was considered to be compensated by the reserved area. After the abolition of the reserved area, it is necessary to determine the net cost of the universal postal service that would be reimbursed to the mentioned operator. The initial basis for this activity is the definition and adoption of a unique methodology for calculating the net cost .

In terms of defining the adequate scope , quality and availability of the universal postal service, it is necessary to repeat that the universal postal service as a service of general social interest has a number of useful aspects for the state and society. They refer, above all, to the transmission of information, announcements, invitations, solutions, etc. on the entire territory of the country, the transfer of goods and documentation between spatially separated subjects, and special attention is paid to the aspect that the postal service on the entire territory represents a factor of social and financial inclusion. Each country should assess to what extent UPS is needed in its territory. The results of the evaluation of the proposed alternatives related to the scope of the universal postal service, the quality of transmission and the availability of postal network units presented in this study, as well as the results of the conducted survey of the satisfaction of users of postal services, provide guidelines for the adoption of the future concept of UPS in the Republic of Serbia, whereby during the implementation of these changes, the adoption of appropriate regulations is expected, which will give legitimacy to the adoption of the proposed concepts.

Finally, based on what was presented in this study, appropriate recommendations could be defined that would contribute to the sustainability of the universal postal service in the Republic of Serbia.

6.1 Recommendations on the sustainability of the universal postal service in the scope segment

When it comes to the scope of the universal postal service, based on the results of the applied methodology, the following recommendations can be singled out:

- As part of the first-ranked alternative, it is recommended to introduce public services that would be an addition to the universal service, such as, for example, the introduction of certain postal and financial services (payment of pensions, social assistance and other benefits), e-services as support for state projects on the development of e-services state administration - submission of requests for obtaining and downloading certain documents, certificates, certificates issued by individual state bodies, applications for school/kindergarten enrollment, scheduling appointments in state institutions, etc.
- As part of the second-ranked alternative, it is recommended to add new services to the set of services that make up the universal postal service, and above all, services for the category of "vulnerable" users (services for the elderly - where everyone in the household is over 80 years old and for people with disabilities in rural areas). And a slightly lower level of priority is recommended to introduce the hybrid letter service.
- Within the third-ranked alternative, the cancellation of the priority letter was considered. In this sense, the results indicate the justification of the abolition of this type of service in the domain of UPS.

-
- Also, within the third-ranked alternative, the abolition of addressed direct mail was also considered. The results show the medium importance of keeping this service in the domain of the UPS, and it is possible to move in two directions, either towards the abolition of this service, or towards improvement, through the offer of a comprehensive service for users (conceptual solution of the item, determination of the target group, printing, enveloping and transmission), improving databases on potential recipients of items, introducing users to the potential of this service, but also creating a regulatory framework in terms of defining the right to provide these services, bearing in mind the current unregulated nature of this market with many participants working in the "grey" zone.
 - As part of the third-ranked alternative, the abolition and obligation to transfer large-sized parcels (over 60x50x50 cm) was considered, but bearing in mind the low ranking of this alternative, as well as the medium importance of keeping this service in the UPS domain, it can be said that abolition is not a priority.

6.2 Recommendations on the sustainability of the universal postal service in the segment of quality of service in terms of transit times

When it comes to the quality of the universal postal service in terms of the speed of transmission of parcels, based on the results of the applied methodology, the following recommendations can be singled out:

- The first-ranked alternative involves postal services with relaxed quality parameters in terms of delivery deadlines in relation to the existing prescribed quality. Therefore, delivery is not expected every working day, which gives the public postal operator the possibility of a more economic organization of delivery, e.g. delivery in the urban area, for one group of users (one part of the territory) it is done on one day, and delivery for another group of users (another part of the territory) is done on another day.
- Potential quality standards could be as follows:

D+2=50%,

D+3=70%,

D+5=97%.

Correction in the percentage related to the term D+5, in relation to the predicted percentage in the amount of 99% which is defined by the first-ranked alternative, was carried out after a subsequent evaluation by experts.

- If the priority letter is still retained, based on the opinion of the experts, the potential standards could be:

D+1=75%,

D+2=89%,

D+3=96%.

6.3 Recommendations on the sustainability of the universal postal service in the segment of the availability of the postal network

When it comes to the availability of postal network units, based on the results of the applied methodology, the following recommendations can be singled out:

- The first-ranked alternative implies a reduction in the number of postal network units (by 10-20%) and a reduction in the minimum defined working hours of post offices.
- Experts estimate that a minimum of 48% of the population at the municipal level should gravitate to the nearest post office at a distance of 2.5 km. Up to 5 km distance to the nearest post office, 67% of the population should gravitate, and up to 10 km distance to the nearest post office, at least 86% of the population should gravitate.
- At the national level, the minimum percentages of the population that should gravitate to the nearest post office up to a distance of 2.5 km, 5 km and 10 km were estimated by experts as follows: up to 2.5 km 71% of the population, up to 5 km 83% of the population and up to 10 km 94% of the population. The data related to the distance of the post office up to 10 km should still be viewed conditionally because it concerns residents in the most remote areas, who are the most vulnerable in terms of the availability of services. Currently, 98.43% of the population has a post office at a distance of up to 10 km, and it is recommended that this percentage not decrease in order to protect the most vulnerable users.
- The experts declared that in an urban environment, the minimum working hours of the post office on a weekday should be 4.5 hours, and it is proposed that it be a minimum of 5 hours, bearing in mind the more pronounced demands of the users that the working hours should be 6 compared to those who stated that it would be 4 o'clock. If the post office does not work on Saturdays, and the mail is delivered, the minimum working hours of the post office should be at least one day until 6 pm (experts stated that it should be 17.4 hours, and the majority of users also stated that it should be longer than 5 pm).
- The experts declared that the post office should work at least 2.6 days a week in rural areas. Bearing in mind that the considered alternatives were a minimum of 1 or 2 days, it is suggested that it be a minimum of 2 days. The minimum working time would be 3 hours per day (experts declared that it should be 3.2 hours, but since the alternatives stated 2 or 3 hours, 3 hours was proposed).

6.4 Recommendation on the financing model of the universal postal service

Bearing in mind the results of the effects of liberalization in European countries, as well as trends in the decline in the volume of letter services, it was estimated that the liberalization of the postal market would lead to a drop in the volume of letter services of -8.08%. Also, it should be taken into account that reserved postal services have been making losses for years, which indicates that it is necessary to ensure long-term financial sustainability planning, i.e. to switch from the regime of reserved postal services to the regime of financing from the appropriate fund. Based on the experience of the considered countries from Europe, the most common model is state (budgetary) financing, and it is also proposed in the case of the Republic of Serbia.

It should be borne in mind that the aforementioned financing model is necessary because the provision of universal postal service throughout the country, under equal conditions for all users, is by its nature non-commercial. This means that the provider of the universal postal service on this basis has a financial loss, not because of the poor organization of work, but because of the characteristics of this service of general social interest.

7 APPENDICES

Appendix I.A Questionnaire for experts on the evaluation of alternatives according to criteria regarding the scope of the universal postal service

		Expert assessment						
K1	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K2	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K3	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K4	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K5	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K6	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K7	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K8	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K9	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K10	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
K11	A1	VL	L	ML	M	MH	H	VH

	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
	A1	VL	L	ML	M	MH	H	VH
K12	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
	A1	VL	L	ML	M	MH	H	VH
K13	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
	A1	VL	L	ML	M	MH	H	VH
K14	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
	A1	VL	L	ML	M	MH	H	VH
K15	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
	A1	VL	L	ML	M	MH	H	VH
K16	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
	A4	VL	L	ML	M	MH	H	VH
	A1	VL	L	ML	M	MH	H	VH

Legend: Very Low (VL), Low (L), Medium-low (ML), Medium (M), Medium-High (MH), High (H), Very High (VH)

Appendix I.B. Questionnaire for experts on the assessment of the importance of each of the factors for deciding on the appropriate scope of the universal postal service

Factor	Expert assessment
ECONOMIC FACTORS	
ENVIRONMENTAL FACTORS	
SOCIAL FACTORS	
TECHNICAL FACTORS	

Note: The grade should be in the scope from 0 to 1 (with two decimal places), where the sum of all grades should be equal to one (1).

Appendix I.C. Questionnaire for experts on the assessment of the importance of each criterion for deciding on the appropriate scope of the universal postal service

Criteria	Expert assessment
ECONOMIC FACTORS	/
K1. Expected volumes of services (max)	
K2. Expected income (max)	
K3. Expected investments (min)	
K4. Expected operating cost (min)	
K5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources (max)	
ENVIRONMENTAL FACTORS	/
K6. Impact on air pollution, emission CO ₂ (min)	
K7. Impact on traffic congestion in the city (min)	
K8. Impact on noise level (min)	
SOCIAL FACTORS	/
K9. Fulfillment of user needs (max)	
K10. Impact on the category of " vulnerable " users (min)	
K11. Expected quality level (max)	
K12 . Employee satisfaction (max)	
TECHNICAL FACTORS	/
K13. Complexity of regulation (min)	
K14. The complexity of the organization of the technical-technological process (min)	
K15. Security and reliability of item transmission (max)	
K16. Employee safety (max)	

Note: The rating should be in the scope from 0 to 1 (with two decimal places), where the sum of all ratings in each type of criteria (economic, environmental, social and technical) should be equal to one (1).

**Appendix II.A Questionnaire for experts on the evaluation of alternatives
according to criteria regarding the quality of service in terms of transit times**

		Expert assessment						
K1	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K2	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K3	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K4	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K5	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K6	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K7	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K8	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K9	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K10	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K11	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K12	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K13	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K14	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K15	A1	VL	L	ML	M	MH	H	VH

	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K16	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH

Legend: Very Low (VL), Low (L), Medium-low (ML), Medium (M), Medium-High (MH), High (H), Very High (VH)

Appendix II.B. Questionnaire for experts on the assessment of the importance of each of the factors for deciding on the appropriate concept of universal postal service in the segment of the quality of service in terms of transit times

Factor	Expert assessment
ECONOMIC FACTORS	
ENVIRONMENTAL FACTORS	
SOCIAL FACTORS	
TECHNICAL FACTORS	

Note: The grade should be in the scope from 0 to 1 (with two decimal places), where the sum of all grades should be equal to one (1).

Appendix II.C. Questionnaire for experts on the assessment of the importance of each criterion for making a decision on the appropriate universal postal service concept in the segment of the quality of service in terms of transit times

Criteria	Expert assessment
ECONOMIC FACTORS	/
K1. Expected volumes of services (max)	
K2. Expected income (max)	
K3. Expected investments (min)	
K4. Expected operating cost (min)	
K5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources (max)	
ENVIRONMENTAL FACTORS	/
K6. Impact on air pollution, CO ₂ emission (min)	
K7. Impact on traffic congestion in the city (min)	
K8. Impact on noise level (min)	
SOCIAL FACTORS	/
K9 . Fulfillment of user needs (max)	
K10. Impact on the category of " vulnerable " users (min)	
K11. Expected quality level (max)	
K12. Employee satisfaction (max)	
TECHNICAL FACTORS	/
K13. The complexity of the organization of the technical-technological process (min)	
K14 . Complexity of regulation (min)	
K15 . Security and reliability of item transmission (max)	
K16. Employee safety (max)	

Note: The rating should be in the scope from 0 to 1 (with two decimal places), where the sum of all ratings in each type of criteria (economic, environmental, social and technical) should be equal to one (1).

Appendix III.A Questionnaire for experts on the evaluation of alternatives according to criteria regarding the concept of universal postal service in the segment of availability of postal network units

		Expert assessment						
K1	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K2	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K3	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K4	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K5	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K6	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K7	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K8	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K9	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K10	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K11	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K12	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K13	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K14	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH

K15	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K16	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH
K17	A1	VL	L	ML	M	MH	H	VH
	A2	VL	L	ML	M	MH	H	VH
	A3	VL	L	ML	M	MH	H	VH

Legend: Very Low (VL), Low (L), Medium-low (ML), Medium (M), Medium-High (MH), High (H), Very High (VH)

Appendix III.B. Questionnaire for experts on the assessment of the importance of each of the factors for deciding on the appropriate concept of universal postal service in the segment of availability of postal network units

Factor	Expert assessment
ECONOMIC FACTORS	
ENVIRONMENTAL FACTORS	
SOCIAL FACTORS	
TECHNICAL FACTORS	

Note : The grade should be in the scope from 0 to 1 (with two decimal places), where the sum of all grades should be equal to one (1).

Appendix III.C. Questionnaire for experts on the assessment of the importance of each criterion for deciding on the appropriate concept of universal postal service in the segment of availability of postal network units

Criteria	Expert assessment
ECONOMIC FACTORS	/
K1. Expected scope of services (max)	
K2. Expected income (max)	
K3. Expected investments (min)	
K4. Expected operating cost (min)	
K5. Estimated financial usefulness of the concept - the ratio of expected income and invested resources (max)	
ENVIRONMENTAL FACTORS	/
K6. Impact on air pollution, CO ₂ emission (min)	
K7. Impact on traffic congestion in the city (min)	
K8. Impact on noise level (min)	
SOCIAL FACTORS	/
K9. Fulfillment of user needs (max)	
K10. Expected quality level (max)	
K11. Employee satisfaction (max)	
K12. Impact on the category of " vulnerable " users (min)	
TECHNICAL FACTORS	/
K13. Distance traveled by the user to the nearest post office (min)	
K14. Number of inhabitants by post in urban and rural areas (min)	
K15. Availability of post offices in terms of opening hours in urban and rural areas (max)	
K16. Complexity of regulation (min)	
K17. Employee safety (max)	

Note: The rating should be in the scope from 0 to 1 (with two decimal places), where the sum of all ratings in each type of criteria (economic, environmental, social and technical) should be equal to one (1).

Appendix IV. Experiences of other postal operators, comparable to Post of Serbia, which have or had the concept of reserved service as a model of sustainability of universal postal service

Within this point, a set of selected European countries representing the concept of universal postal service on the liberalized or non-liberalized postal market will be presented. For each of the observed countries, the selected universal service operator is listed, along with information on (non)liberalization. Also, for each country, data are given on the number of letter and parcel items in internal traffic (the statistical database of the Universal Postal Union was used as a data source), with reference to the year of liberalization (marked in red color/line on the graphic) and the movement of the number of items in relation to it. The data were taken from the study "Analysis of the impact of gradual liberalization on the market of postal services in the Republic of Serbia" from 2018, ordered by the RATEL.

Austria

Austria Post (*Österreichische Post AG*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized postal services market since January 1, 2011, in accordance with the Directives on the development of the postal services market in the European Union.

Scope of the universal postal service in Austria: reception, processing, transport and delivery of letter items up to 2 kg; reception, processing, transportation and delivery of parcels weighing up to 10 kg; registered mail and value mail; newspapers and magazines are within the scope of UPS (press).

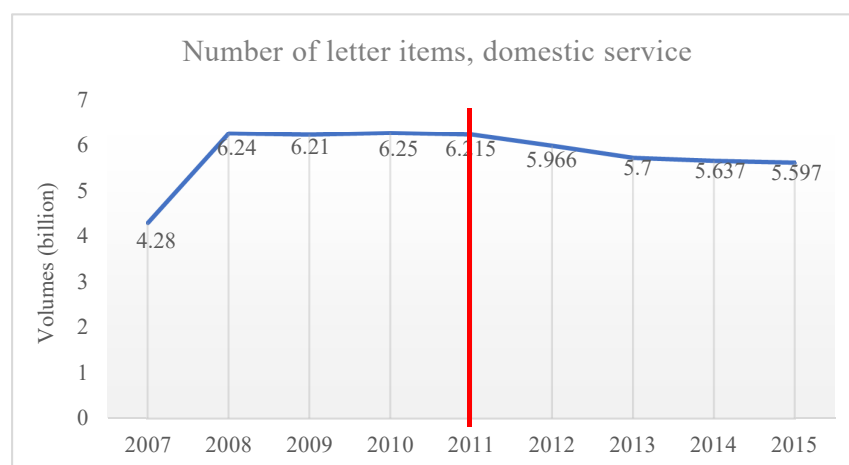


Figure 7.1. Number of letter items - Austria

Source: Universal Postal Union

From Figure 7.1, it can be observed that the number of letter items in UPS in relation to 2011, as the year of liberalization in Austria, behaves linearly. After liberalization in 2011, a slight

drop in the number of items was noticeable, but that did not disrupt the linearity of the number of items by year.

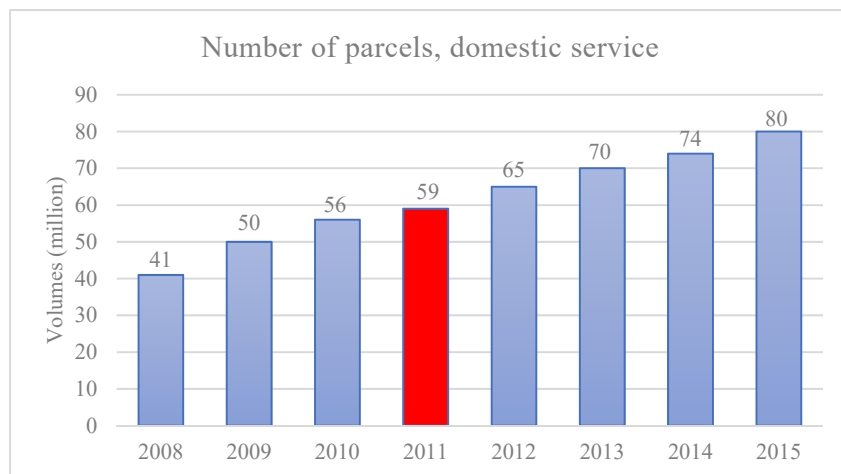


Figure 7.2. *Number of parcels - Austria*

Source: Universal Postal Union

It can be concluded from Figure 7.2 that the number of parcels in the observed years follows a logarithmic trend, i.e. the number of items grows from year to year, regardless of the moment of liberalization in 2011.

Bulgaria

Abandoning the monopoly regime by abolishing the reserved sector in 2011 created the conditions for the complete opening of the universal postal service market, so the Bulgarian Post (*Bulgarian Posts PLC*), as the designated operator for providing universal postal service, operates in the competitive conditions of the liberalized market.

Scope of the universal postal service in Bulgaria: reception, processing, transportation and delivery of letter items up to 2 kg; reception, processing, transportation and delivery of parcels weighing up to 10 kg in internal postal traffic; reception, processing, transportation and delivery of parcels weighing up to 20 kg in international postal traffic; registered mail and value mail.

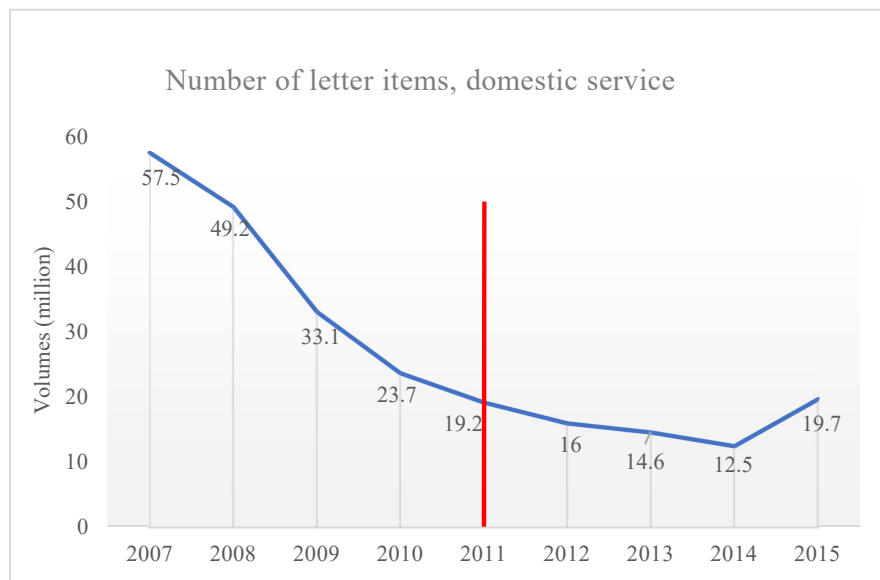


Figure 7.3. Number of letter items – Bulgaria

Source: Universal Postal Union

The number of letter items in Bulgaria was in decline from 2007 to 2014, including 2011 as the year of liberalization. The increase in the number of items followed from 2015, which leads to the conclusion that the moment of liberalization had no effect on the number of letter items. The number of parcels has a similar trend as the number of letter items.

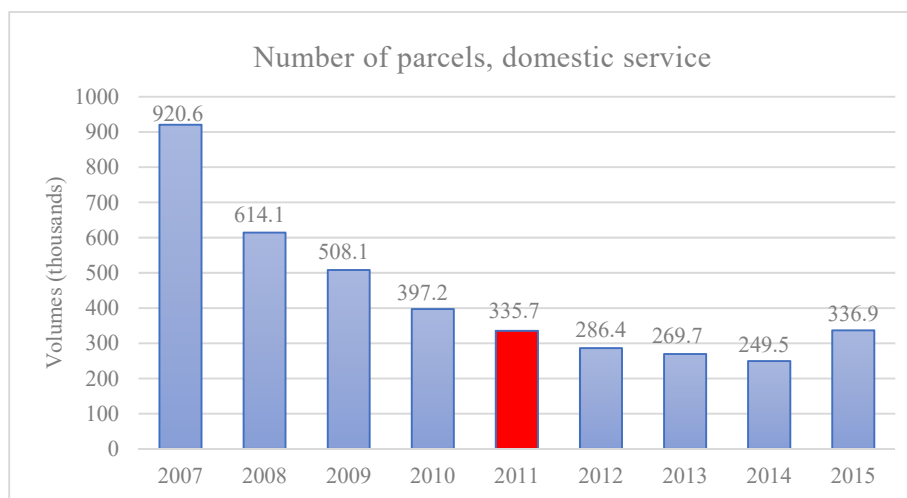


Figure 7.4. Number of parcels - Bulgaria

Source: Universal Postal Union

Croatia

Hrvatska pošta, as the designated operator for the provision of universal postal services (*Hrvatska pošta doo*), has been operating on the fully liberalized market of postal services since 2013.

Scope of universal postal service in Croatia: reception, processing, transport and delivery of letter items up to 2 kg; reception, processing, transportation and delivery of parcels weighing up to 10 kg in internal postal traffic; registered mail and value mail; reception, processing, transportation and delivery of secograms up to 7 kg; processing, transportation and delivery of parcels weighing up to 20 kg in international arrivals.



Figure 7.5. Number of letter items - Croatia

Source: Universal Postal Union

Figure 7.5 shows that the number of letter items was in decline until 2013, the year of liberalization, but after the year of liberalization, that number began to grow in the next three years. From the above, it can be concluded that the liberalization of the market in Croatia had a positive effect on the volume of letter items at the given time.

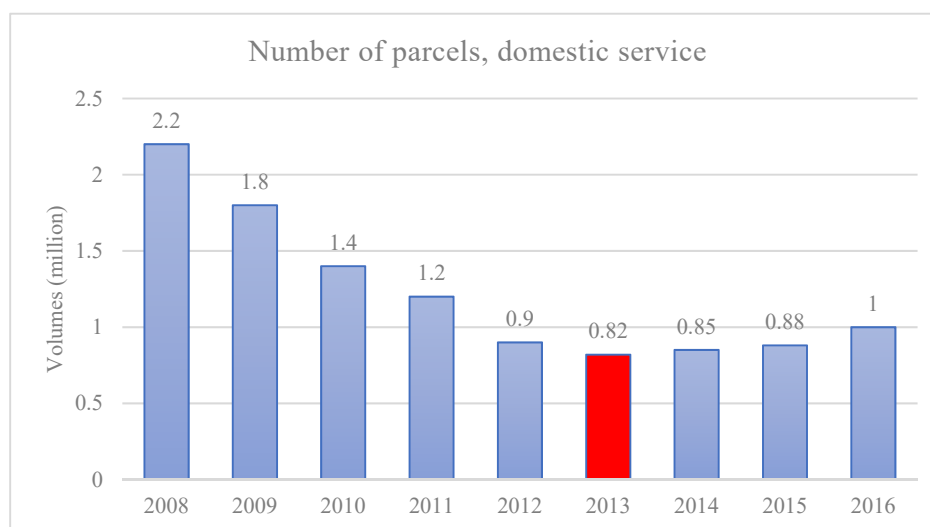


Figure 7.6. Number of parcels - Croatia

Source: Universal Postal Union

The volume of parcels in Croatia during the observed years follows the trend of letter items.

Slovenia

Since 2011, Pošta Slovenije, as the designated operator for the provision of universal postal services (*Pošta Slovenije doo .*), has been operating on the fully liberalized market of postal services.

Scope of the universal postal service in Slovenia: reception, processing, transport and delivery of letter items up to 2 kg; reception, processing, transportation and delivery of parcels weighing up to 10 kg; registered mail and value mail.

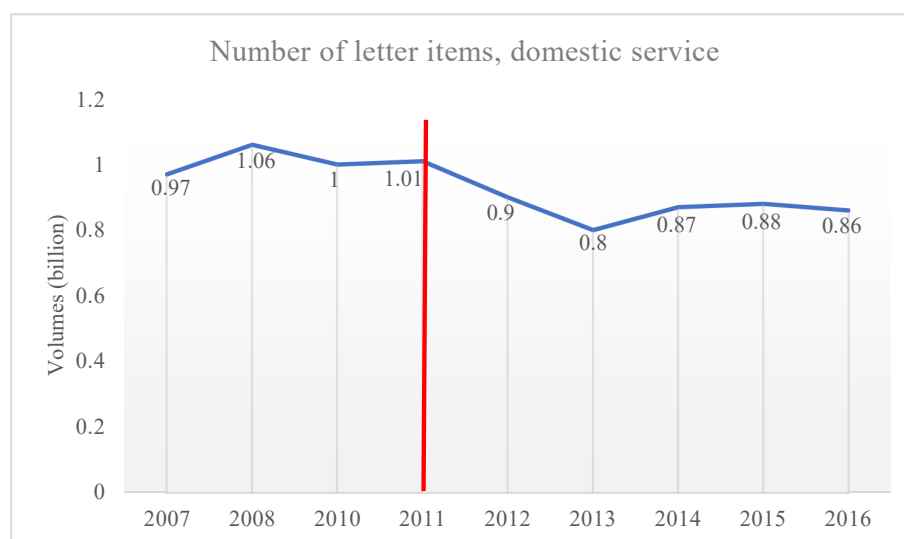


Figure 7.7. Number of letter items - Slovenia

Source: Universal Postal Union

The volume of letter items in Slovenia before the year of liberalization fluctuated in terms of increase and decrease, and after liberalization the volume was in decline for a few years, only to be followed by a slight increase from 2014.

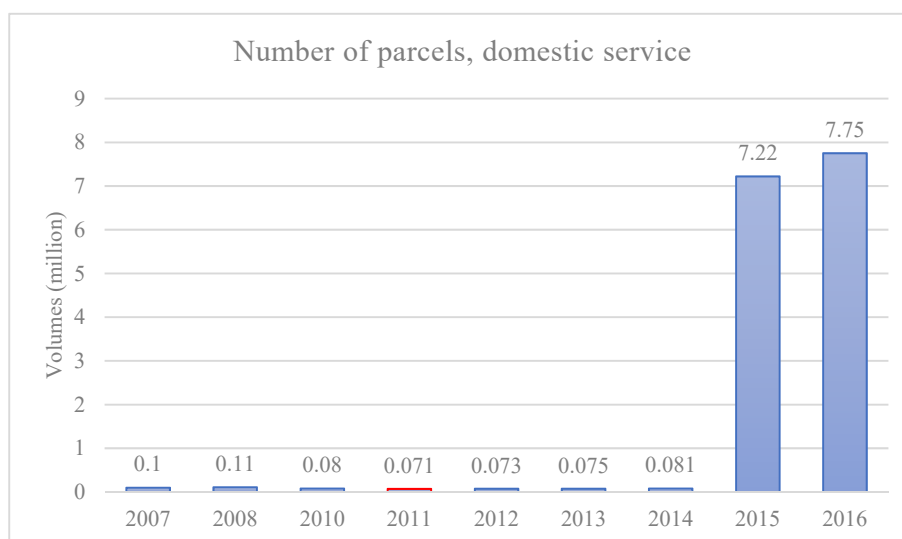


Figure 7.8. Number of parcels - Slovenia

Source: Universal Postal Union

Regarding the volume of parcels in Slovenia during the observed years, it can be noted that compared to 2011, there was a slight increase in volume after liberalization, but a significant increase occurred only in 2015 and 2016.

Montenegro

Since 2013, Pošta Crne Gore (*Pošta Crne Gore*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services.

Scope of universal postal service in Montenegro: universal postal service includes reception, sorting, transmission and delivery:

- 1) letter items weighing up to 2 kg;
- 2) parcels weighing up to 10 kg;
- 3) secograms weighing up to 7 kg without payment;
- 4) registered (registered and valuable) postal items;
- 5) court letters and letters in administrative proceedings.

The previously described universal postal service includes postal services in domestic and international postal traffic. The universal postal service includes the delivery of parcels weighing up to 20 kg in international postal traffic.

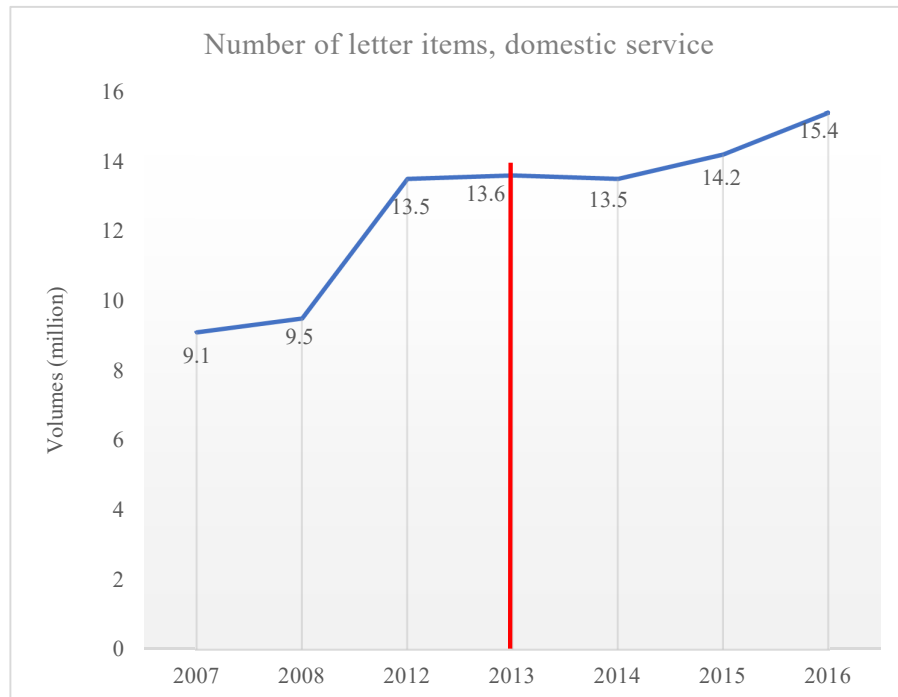


Figure 7.9. Number of letter items - Montenegro

Source: Universal Postal Union

The number of letter items is constantly increasing for the years shown.

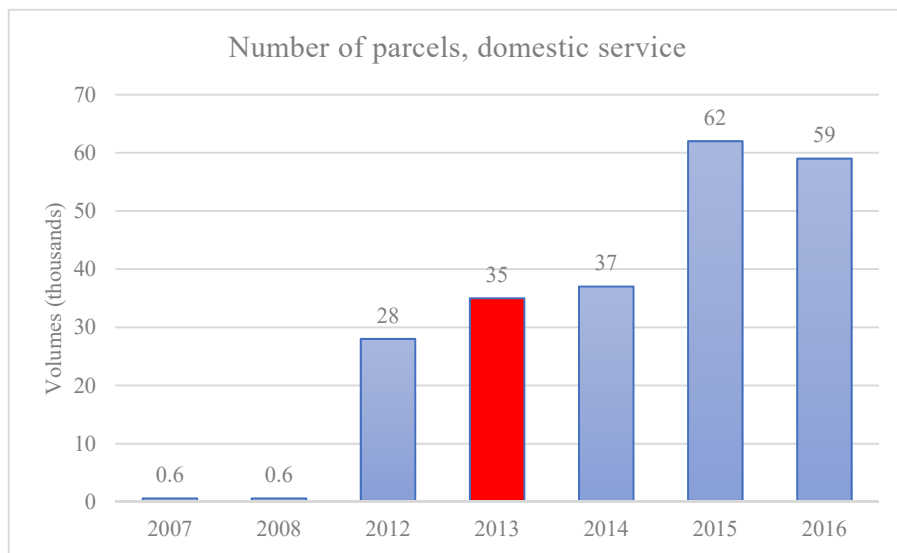


Figure 7.10. Number of parcels - Montenegro

Source: Universal Postal Union

The number of parcels is increasing, except in 2016 when there was a slight decrease in the number of parcels.

Switzerland

Swiss Post, as the designated operator for the provision of universal postal services, continues to operate on the non-liberalized market of postal services. The reserved sector includes letters weighing up to 50 grams and direct mail.

Scope of the universal postal service in Switzerland: reception, processing, transport and delivery of letter items up to 1 kg; reception, processing, transportation and delivery of parcels weighing up to 20 kg; secograms; small parcel; value added services.

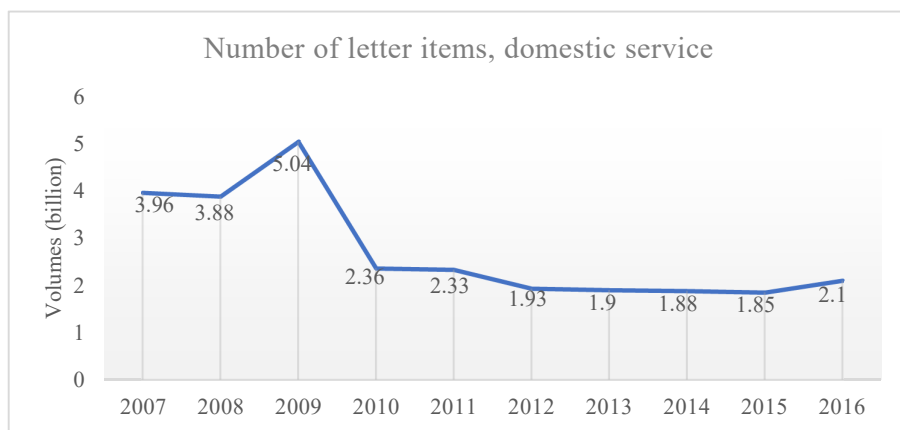


Figure 7.11. Number of letter items - Switzerland

Source: Universal Postal Union

The number of letter items in Switzerland follows a decreasing trend from year to year. It was only in 2016 that there was a slight increase.

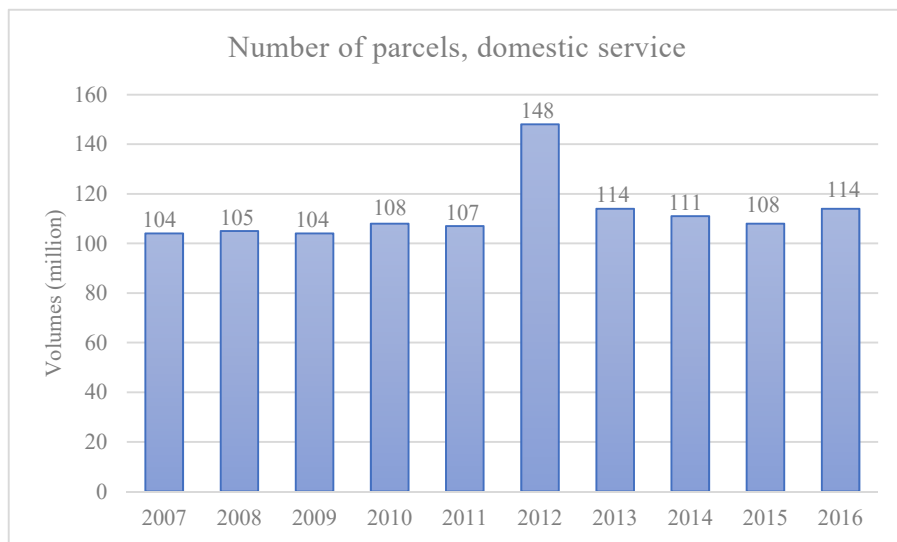


Figure 7.12. Number of parcels - Switzerland

Source: Universal Postal Union

The number of parcels in this country is constantly increasing with a peak of 148 million parcels in 2012. After that, the number decreased, but since 2016 there has been a noticeable increase.

Lithuania

The Lithuanian Post Office (*Lietuvos Paštas*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 2013.

Scope of universal postal service in Lithuania: reception, processing, transportation and delivery of letter items up to 2 kg; reception, processing, transportation and delivery of parcels weighing up to 10 kg in internal postal traffic; reception, processing, transportation and delivery of parcels weighing up to 20 kg in international postal traffic; registered mail and value mail.

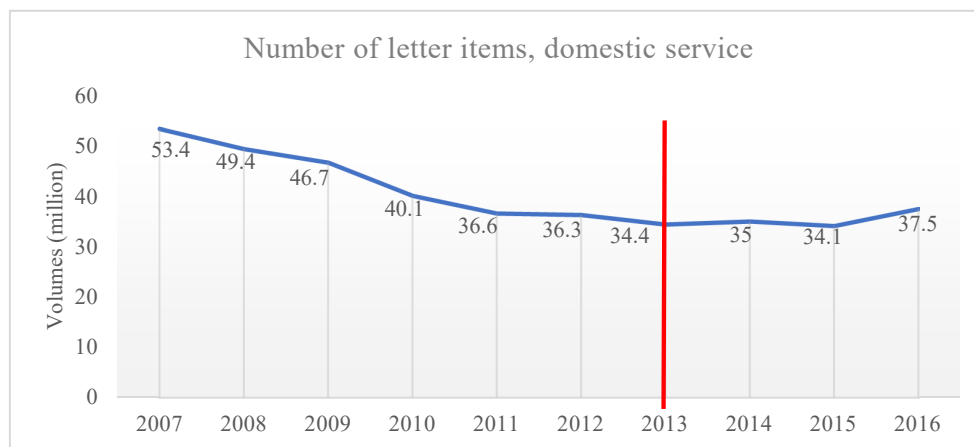


Figure 7.13. Number of letter items - Lithuania

Source: Universal Postal Union

The trend in the number of letter items in Lithuania is such that until 2013, when the market was liberalized, that number was in constant decline. After 2013, there is still a noticeable decline, and an increase occurs in 2016.

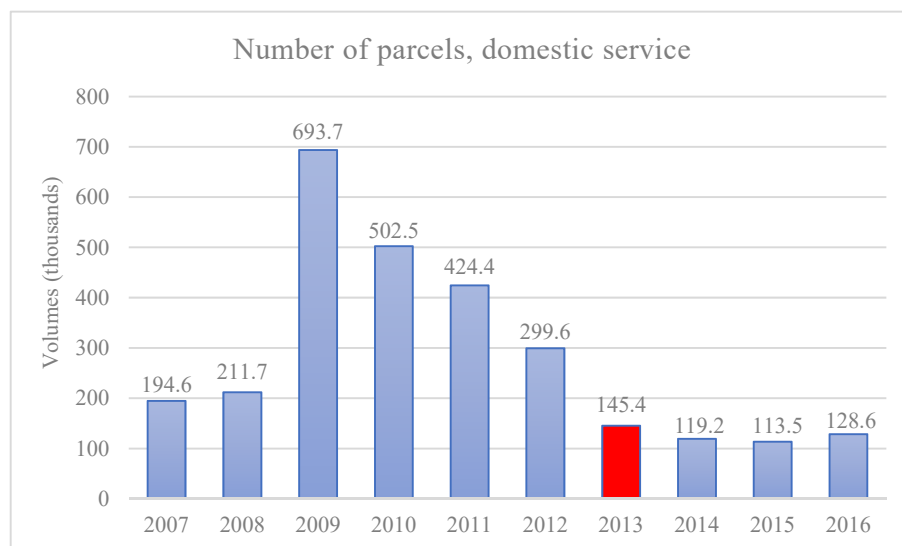


Figure 7.14. Number of parcels - Lithuania

Source: Universal Postal Union

In Lithuania, the number of parcels decreased from 2009 to 2015, while in 2016, the number increased.

Slovakia

Slovak Post (*Slovenská pošta, as*), as the designated operator for the provision of universal postal services, has been operating in the fully liberalized market of postal services since 2012.

Scope of the universal postal service in Slovakia: reception, processing, transportation and delivery of letter items up to 2 kg; reception, processing, transportation and delivery of parcels weighing up to 10 kg; registered items and valuable items, secograms, processing, transportation and delivery of parcels up to 20 kg in international arrival; official correspondence, postal orders.

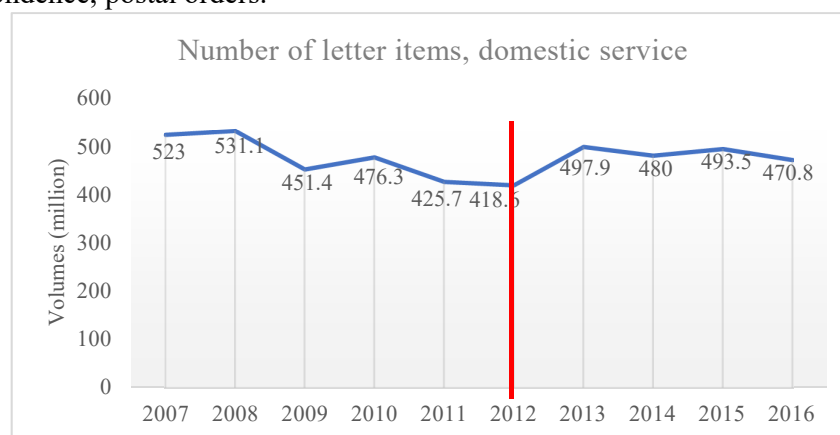


Figure 7.15. Number of letter items - Slovakia

Source: Universal Postal Union

Until 2012, the number of letter items was in decline, and after 2012, i.e. after the liberalization of the market, there was an increase in the number.

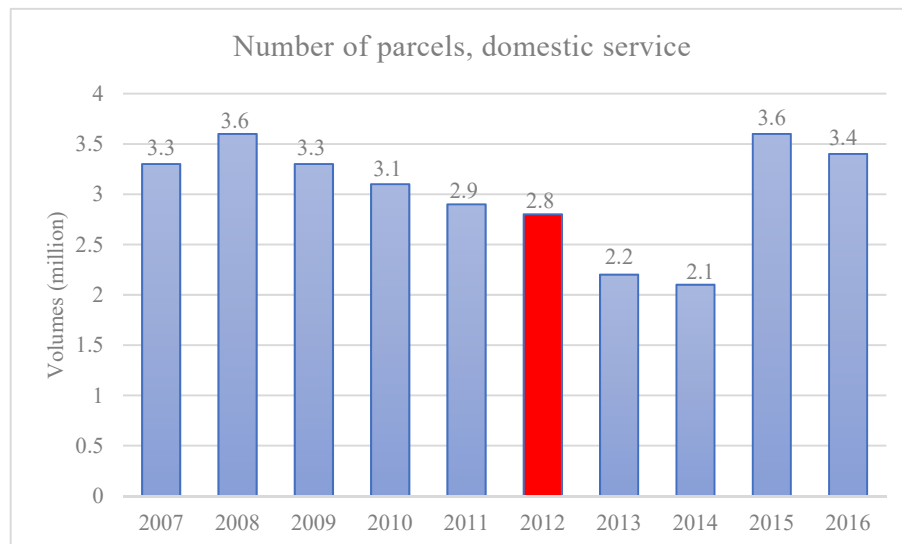


Figure 7.16. Number of parcels - Slovakia

Source: Universal Postal Union

Until 2012, the number of parcels was in decline, and a significant increase was evident from 2015.

Hungary

The Hungarian Post (*Magyar Posta*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized postal services market since 2013.

Scope of the universal postal service in Hungary: reception, processing, transportation and delivery of letter items up to 2 kg; reception, processing, transportation and delivery of parcels weighing up to 10 kg in internal postal traffic; reception, processing, transportation and delivery of parcels weighing up to 20 kg in international postal traffic; secograms weighing up to 7 kg.

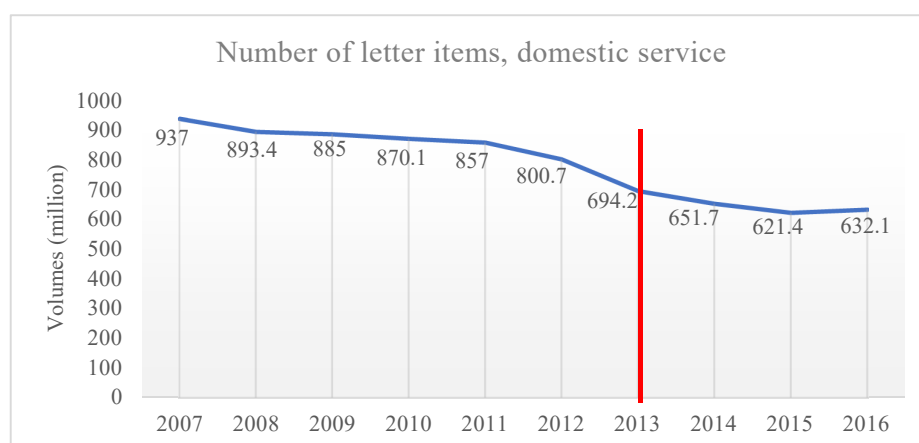


Figure 7.17. Number of letter items - Hungary

Source: Universal Postal Union

The analysis of the data leads to the conclusion that the number of letter items in Hungary has been trending downward for several years.

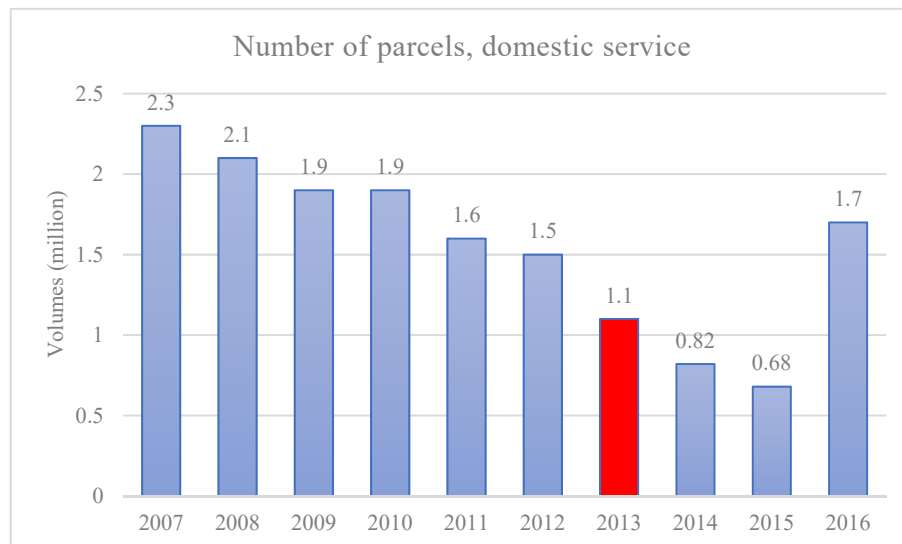


Figure 7.18. Number of parcels - Hungary

Source: Universal Postal Union

The downward trend is also evident in the number of parcels in Hungary, and the data from 2016 gives hope for the recovery of this segment of postal services.

Czech Republic

Czech Post, as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 2013.

Scope of the universal postal service in the Czech Republic: reception, processing, transportation and delivery of letter items up to 2 kg; reception, processing, transportation and delivery of parcels weighing up to 10 kg in internal postal traffic; registered mail and value mail; referrals.

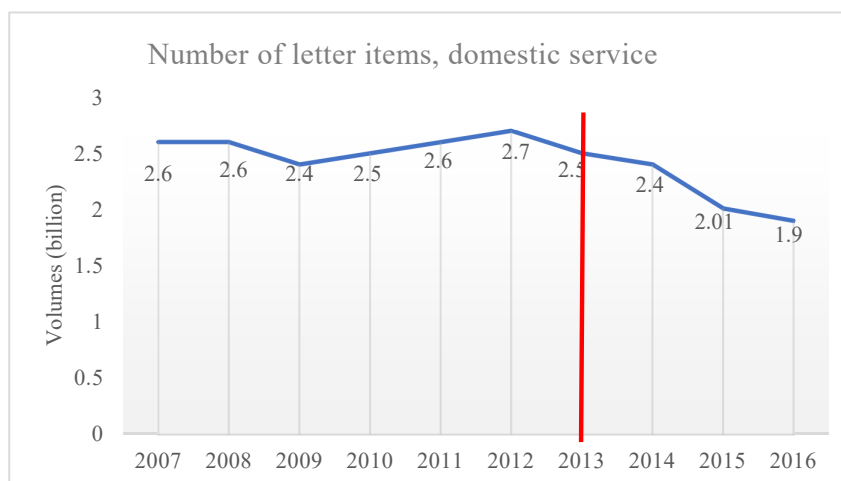


Figure 7.19. Number of letter items - Czech Republic

Source: Universal Postal Union

Before 2013, when liberalization took place, the number of letter items was increasing, and after 2013, that number is decreasing, which leads to the conclusion that liberalization may have influenced such a situation.

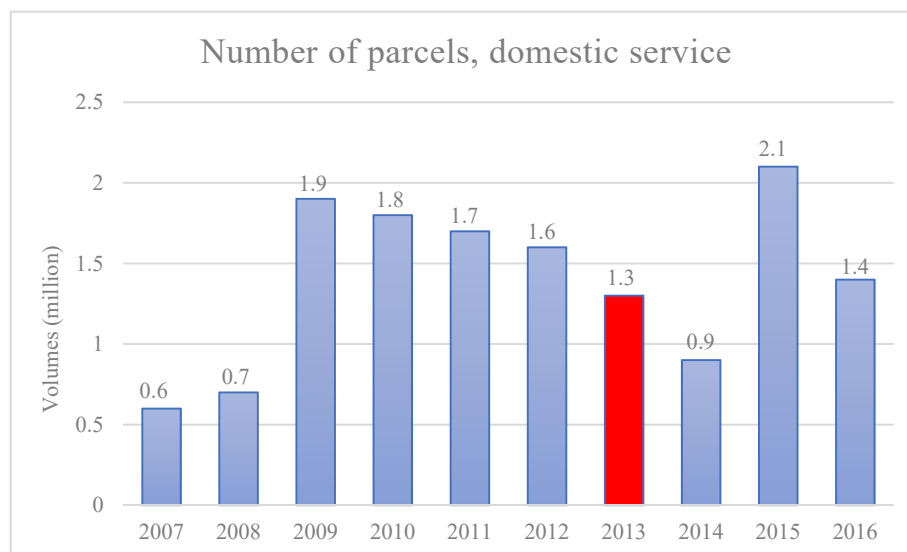


Figure 7.20. Number of parcels - Czech Republic

Source: Universal Postal Union

The situation with parcels is similar to the situation with letter items, with the fact that in 2015 there is a significant increase in the number of parcels, after which there is a decline again.

Ukraine

Ukrainian Post (*Ukrposhta*), as the designated operator for the provision of universal postal service, continues to operate in the non-liberalized market of postal services. The reserved sector includes letters weighing up to 50 grams and stationery.

Scope of universal postal service in Ukraine: reception, processing, transportation and delivery of letter items up to 2 kg; reception, processing, transportation and delivery of parcels weighing up to 10 kg in internal postal traffic; stationery.

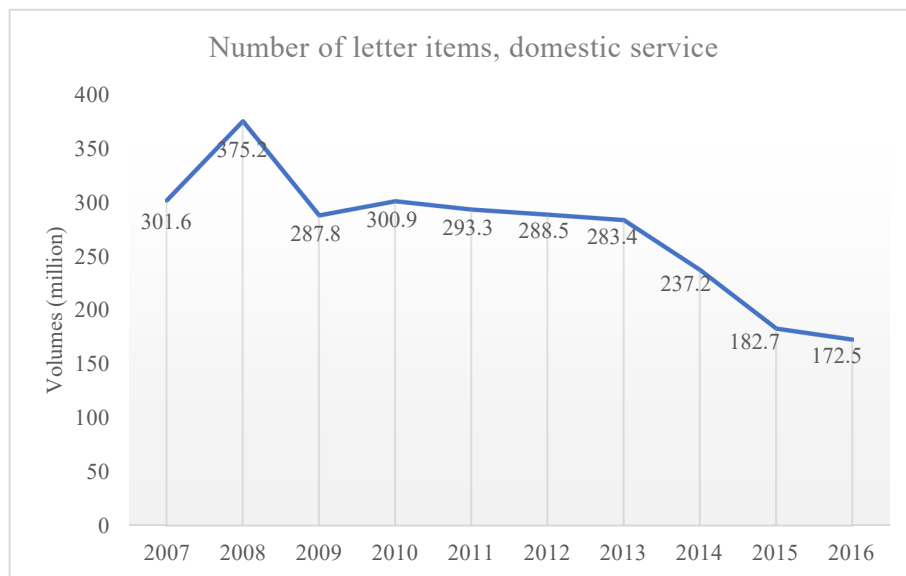


Figure 7.21. Number of letter items - Ukraine

Source: Universal Postal Union

The number of letter items in Ukraine has been on the decline over the observed years.

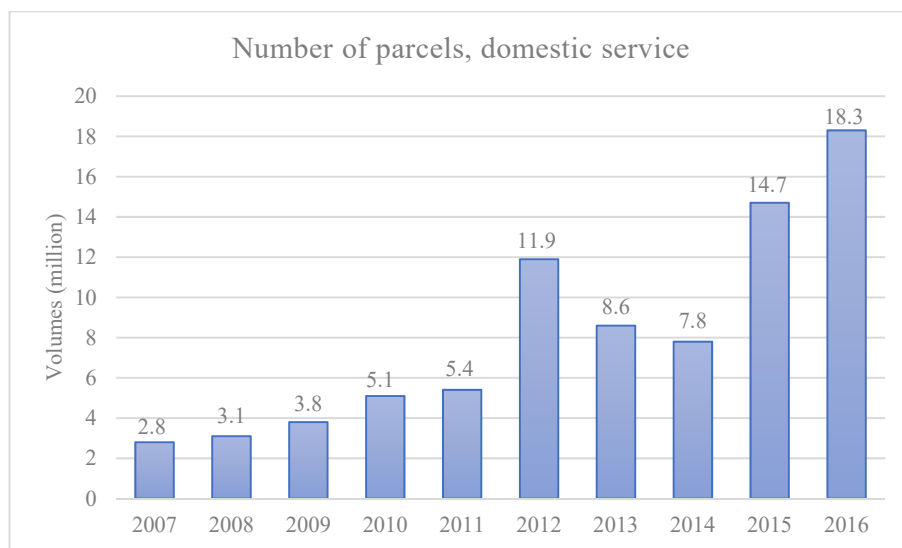


Figure 7.22. Number of parcels - Ukraine

Source: Universal Postal Union

The number of parcels in Ukraine has been increasing over the observed years and follows a positive trend.

Denmark

Danish Post (*Post Danmark A/S*), as the designated operator for the provision of universal postal services, has been operating in the fully liberalized market of postal services since 2011.

Scope of the universal postal service in Denmark: reception, processing, transport and delivery of letter items up to 2 kg; parcels up to 20 kg; printed matter up to 2 kg; registered and value items; secograms up to 7 kg.

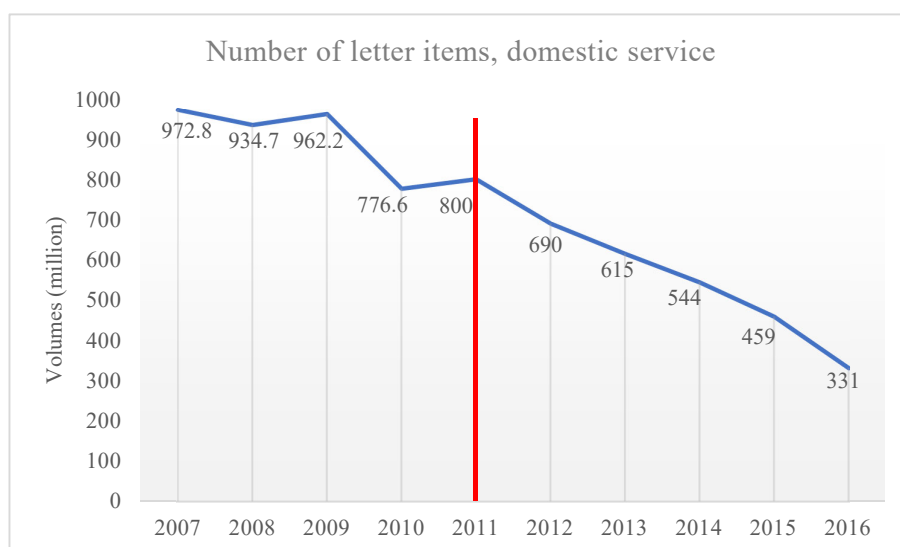


Figure 7.23. Number of letter items - Denmark

Source: Universal Postal Union

The number of letter items was decreasing even before the year of liberalization (2011), and that trend continued even after liberalization.

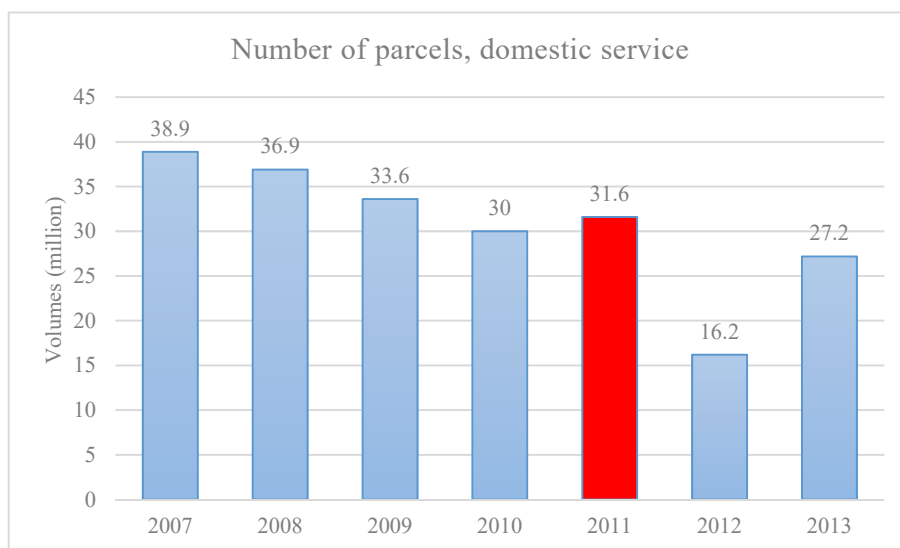


Figure 7.24. Number of parcels - Denmark

Source: Universal Postal Union

The conclusion drawn from the number of parcels in Denmark is that the number is, in principle, on the decline. Only in 2013 was there a significant increase.

Estonia

Estonian Post (*Eesti Post*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 2009.

Scope of the universal postal service in Estonia: letter items up to 2 kg; parcels up to 20 kg; printed matter up to 2 kg; registered and value items.

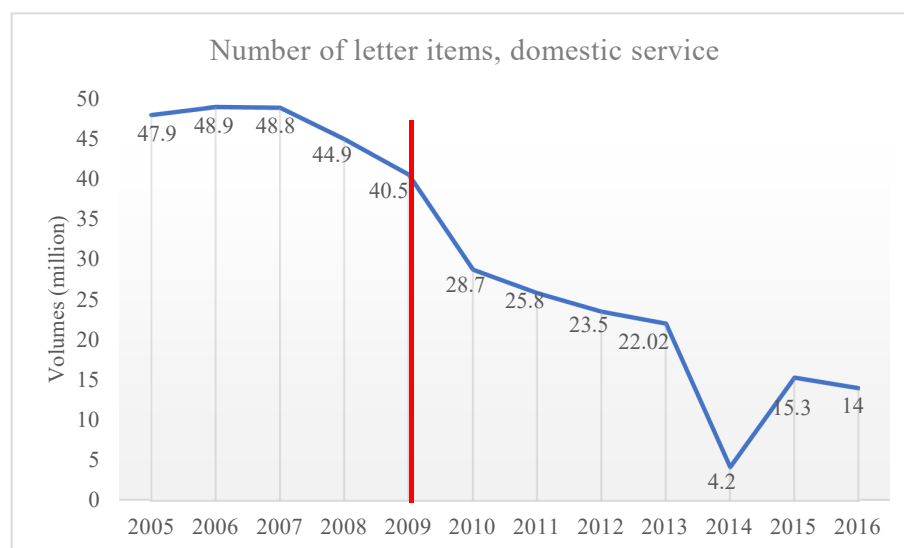


Figure 7.25. Number of letter items - Estonia

Source: Universal Postal Union

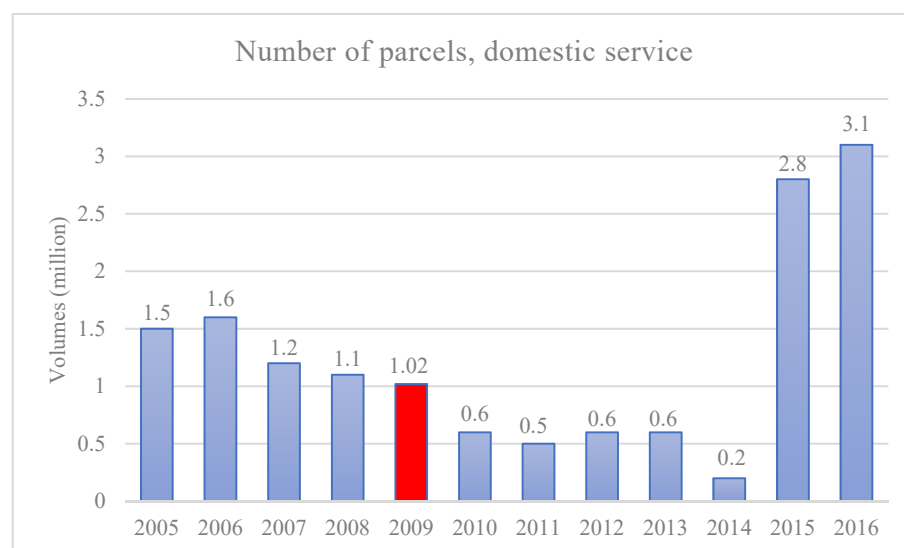


Figure 7.26. Number of parcels - Estonia

Source: Universal Postal Union

Both the number of letter items and the number of parcels follow the same trend. Until 2014, there is a decreasing trend, and from 2014, an increasing trend with a significant increase from 2014 to 2015.

Finland

Finnish Post (*Itella Posti Oy*), as the designated operator for the provision of universal postal service, has been operating in the fully liberalized market of postal services since 1994.

Scope of the universal postal service in Finland: letter items up to 2 kg; parcels up to 10 kg; transfer and delivery of incoming items weighing up to 30 kg; registered, express and value items.

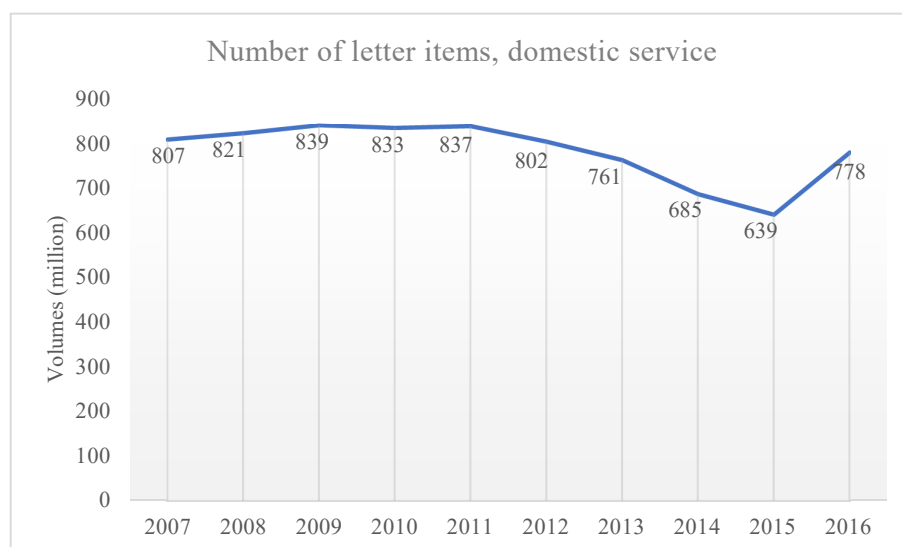


Figure 7.27. Number of letter items - Finland

Source: Universal Postal Union

The volume of letter items is decreasing in the observed years until 2016, when there is an increase.

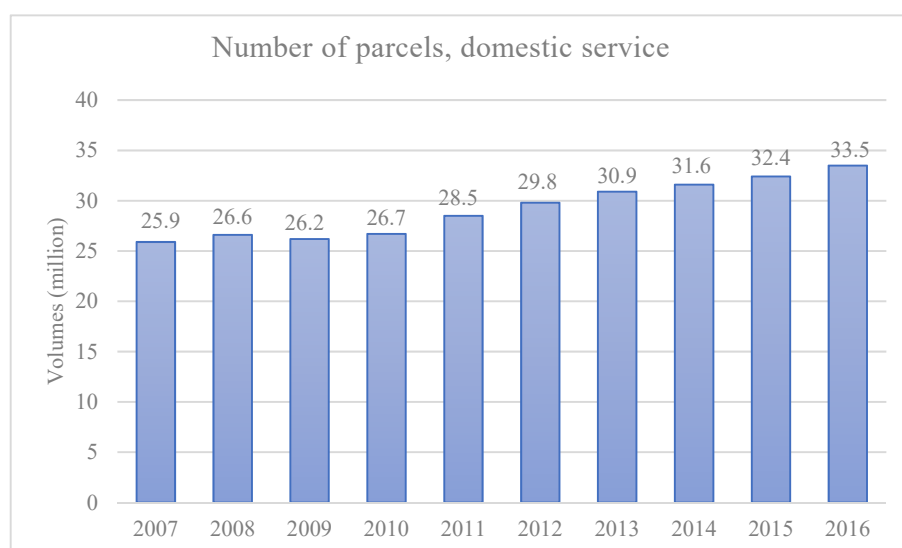


Figure 7.28. Number of parcels - Finland

Source: Universal Postal Union

The volume of parcels is constantly increasing for the set of observed years.

France

The French Post Office (*La Poste*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 2011.

Scope of the universal postal service in France: letter items up to 2 kg; reception, processing, transportation and delivery of parcels weighing up to 20 kg in international postal traffic; registered and value items; printed matter; secograms up to 7 kg.

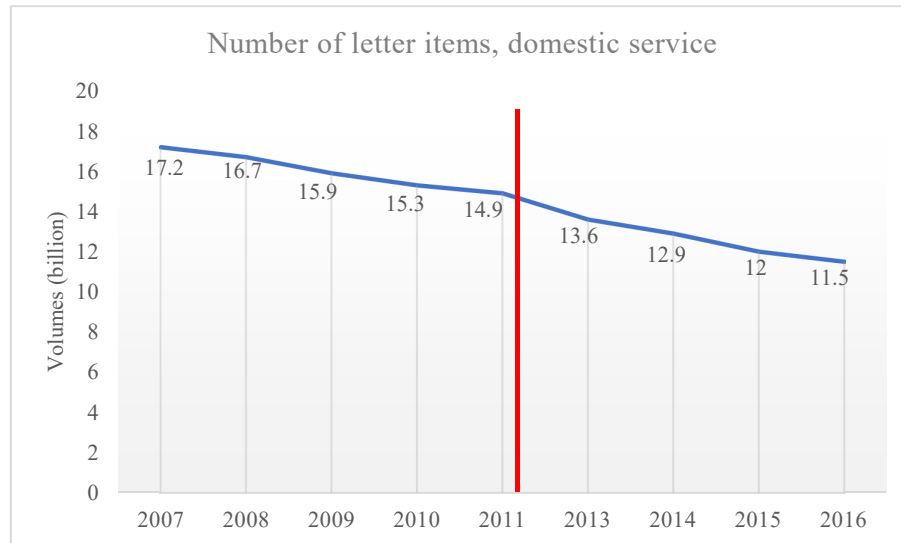


Figure 7.29. Number of letter items - France

Source: Universal Postal Union

The number of letter items is decreasing both before and after liberalization.

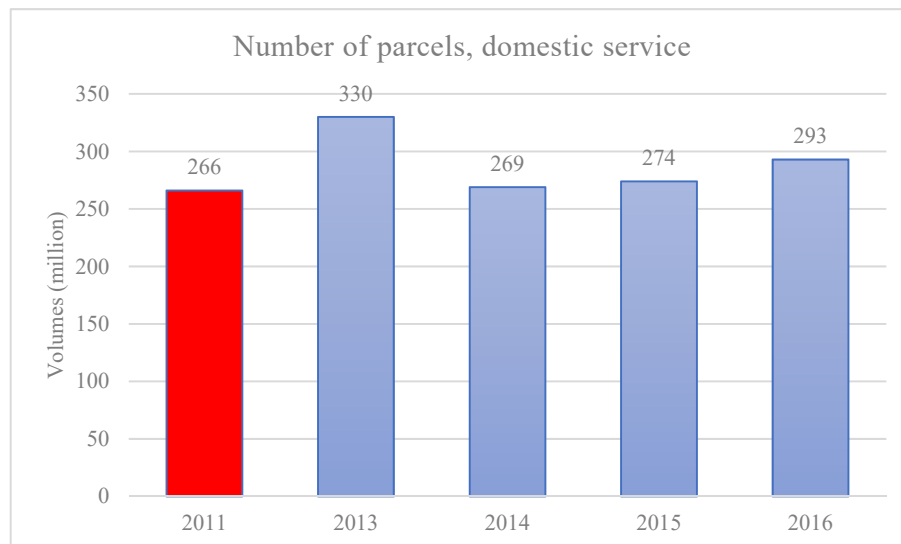


Figure 7.30. Number of parcels - France

Source: Universal Postal Union

The number of parcels is increasing after liberalization.

Germany

The German Post (*Deutsche Post*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 2008.

Scope of the universal postal service in Germany: letter items up to 2 kg; reception, processing, transportation and delivery of parcels weighing up to 10 kg in internal postal traffic; reception, transportation and delivery of parcels weighing up to 20 kg in international postal traffic; registered and value items; printed matter; secograms up to 7 kg; cash express.

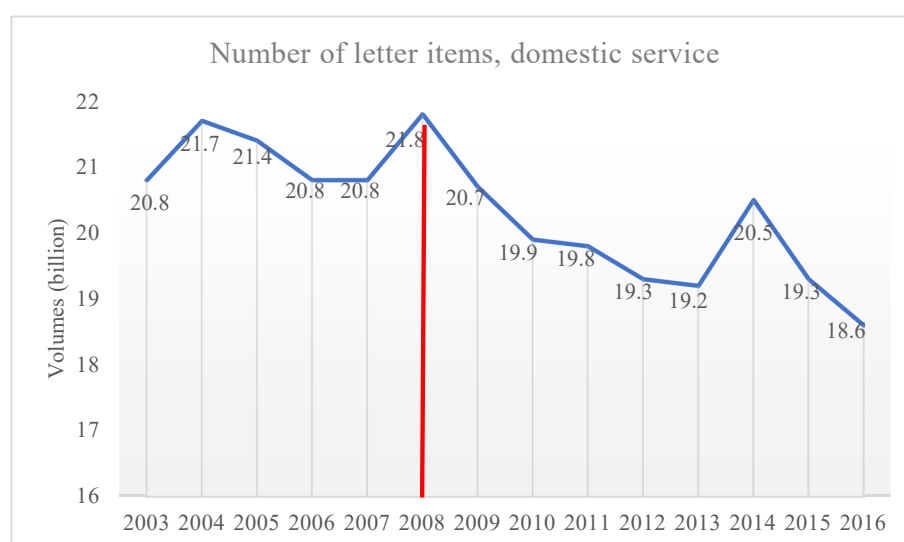


Figure 7.31. Number of letter items - Germany

Source: Universal Postal Union

The number of letter items before liberalization had ups and downs, and also after liberalization. The general trend that is represented is the trend of decreasing number of items.

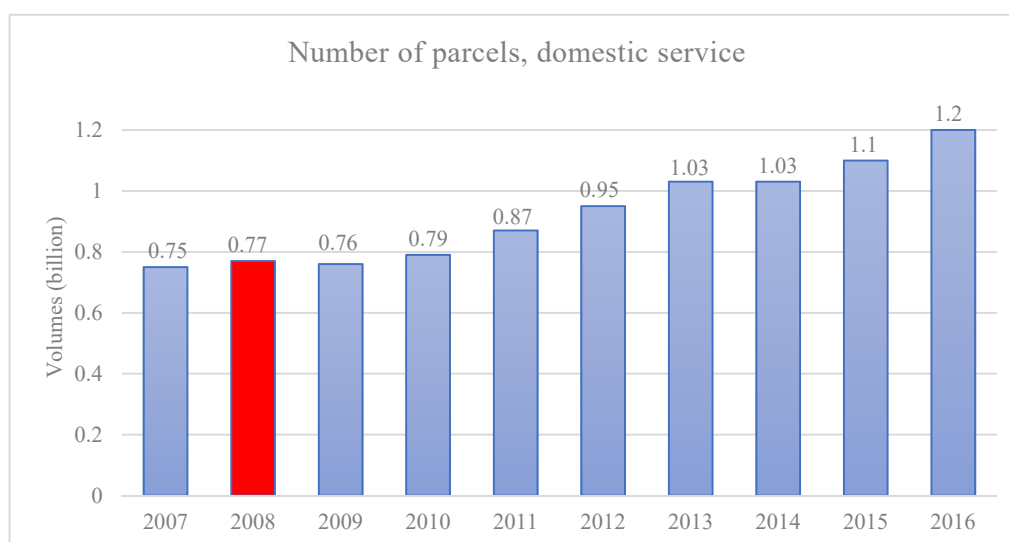


Figure 7.32. Number of parcels - Germany

Source: Universal Postal Union

The number of parcels is slightly increasing regardless of the moment of liberalization.

Great Britain

The Post Office of Great Britain (*Royal Mail Group plc*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 2006.

Scope of the universal postal service in Great Britain: letter items over 2 kg; parcels up to 20 kg; secograms; small parcels up to 2 kg; registered and value items.

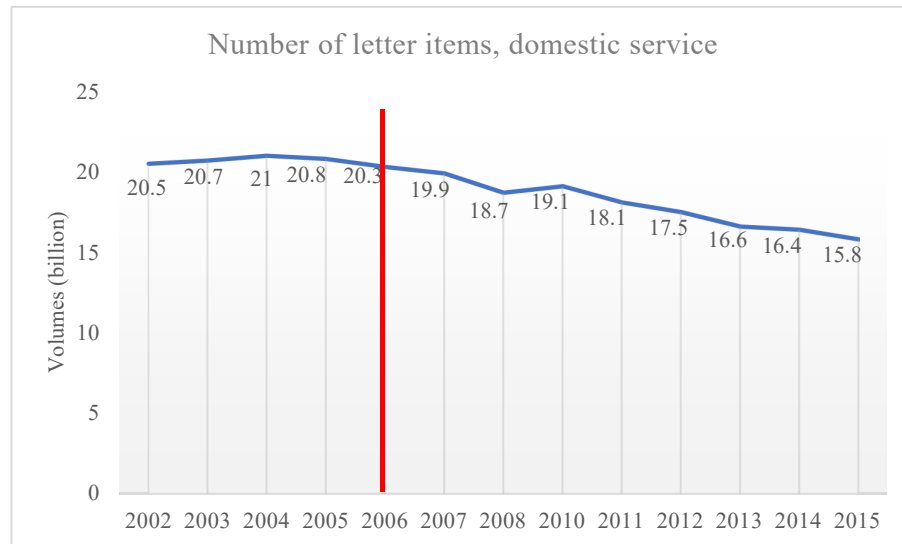


Figure 7.33. Number of letter items - Great Britain

Source: Universal Postal Union

The number of letter items, as in the previously described case of France, follows a downward trend regardless of the moment of liberalization.

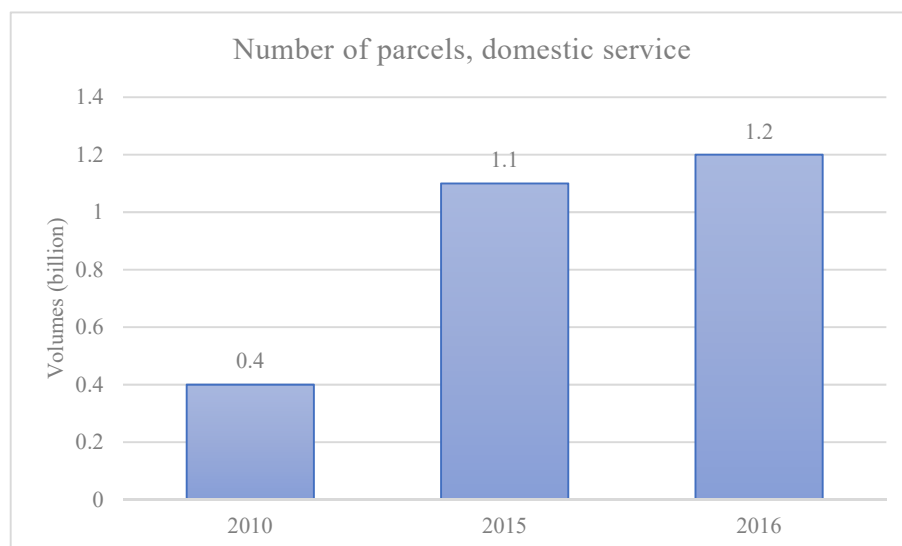


Figure 7.34. Number of parcels - Great Britain

Source: Universal Postal Union

Only three years are available for the analysis of the movement of the number of parcels (statistical database of the Universal Postal Union), so on the basis of the data for these years no conclusion can be drawn about the impact of liberalization on the number of parcels. During the years shown, the number of parcels increases.

Greece

Post *ELTA* , as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 2013.

Scope of the universal postal service in Greece: letter items up to 2 kg; printed matter; small parcels up to 2 kg; registered and value items; parcels up to 20 kg.

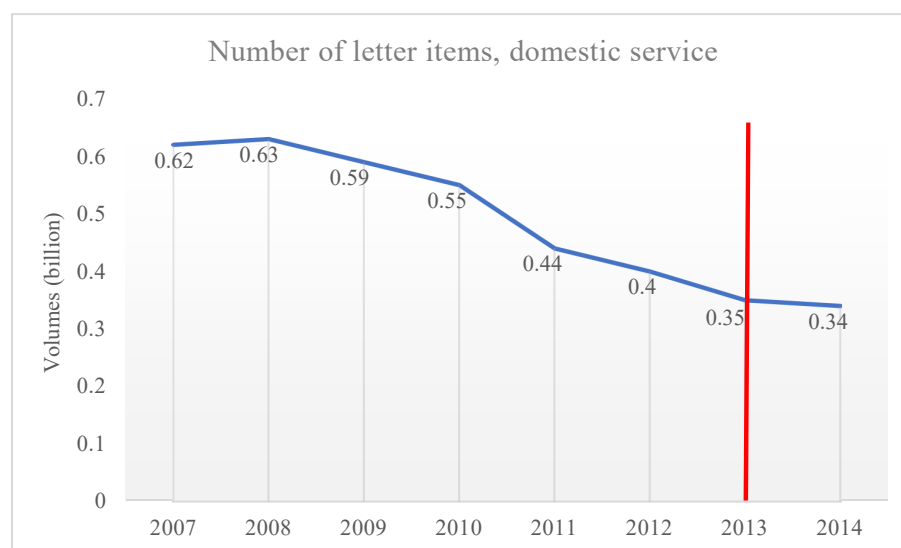


Figure 7.35. Number of letter items - Greece

Source: Universal Postal Union

The number of letter items has been declining during the years shown. Data for 2014 are the last available.

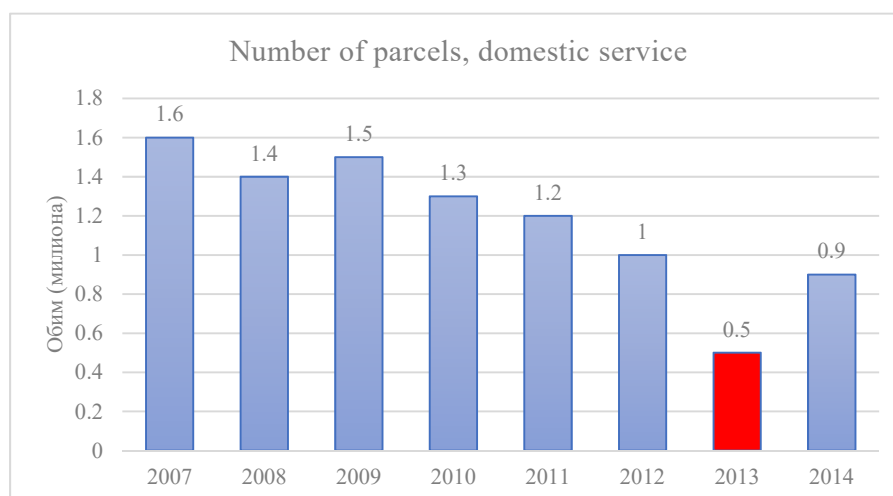


Figure 7.36. Number of parcels - Greece

Source: Universal Postal Union

The number of parcels is also in decline during the observed years, with the fact that in 2014 Greece recorded an increase in them, which can be connected with the positive impact of liberalization on the parcel market.

Ireland

Irish Post (*An Post*), as the designated operator for the provision of universal postal services, has been operating on a fully liberalized postal services market since 2011.

Scope of the universal postal service in Ireland: letter items up to 500 g; small parcels up to 2 kg; printed matter; secograms up to 7 kg; registered mail; parcels up to 20 kg; certain financial services.

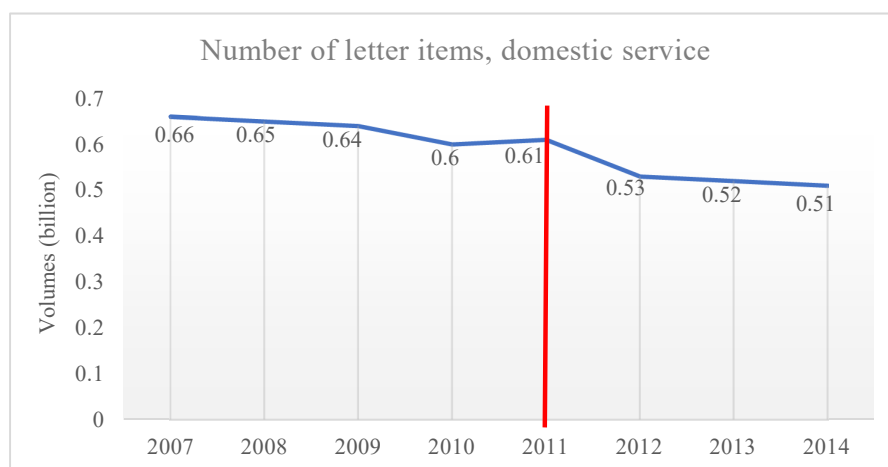


Figure 7.37. *Number of letter items - Ireland*

Source: Universal Postal Union

In Ireland, a slight drop in letter items was noticeable during the observed years, and this trend was maintained both before and after liberalization.

Italy

The Italian Post Office (*Poste Italiane*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 2011.

Scope of the universal postal service in Italy: letter items up to 2 kg; printed matter; small parcels up to 2 kg; registered and value items; parcels up to 20 kg.

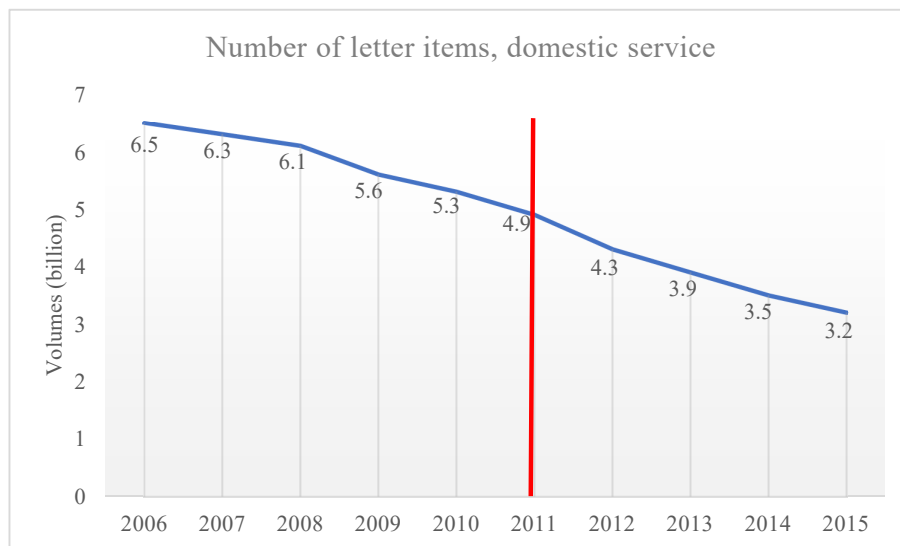


Figure 7.38. Number of letter items - Italy

Source: Universal Postal Union

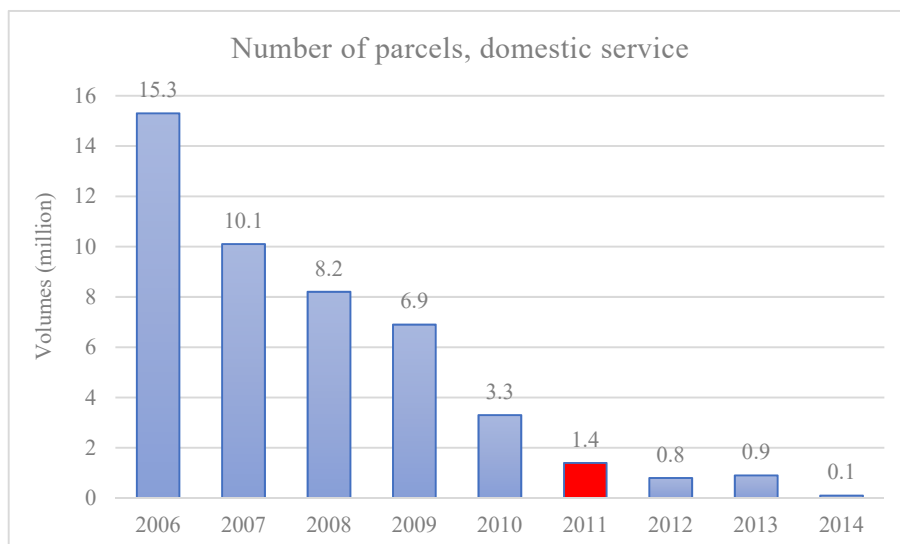


Figure 7.39. Number of parcels - Italy

Source: Universal Postal Union

According to the data for Italy, it can be concluded that the number of mail and parcels is in decline, regardless of market liberalization.

Latvia

Post of Latvia (*Latvijas Pasts*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 2013.

The scope of the universal postal service in Latvia: letter items in domestic and international traffic; registered and value items; parcels in domestic and international traffic up to 10 kg.

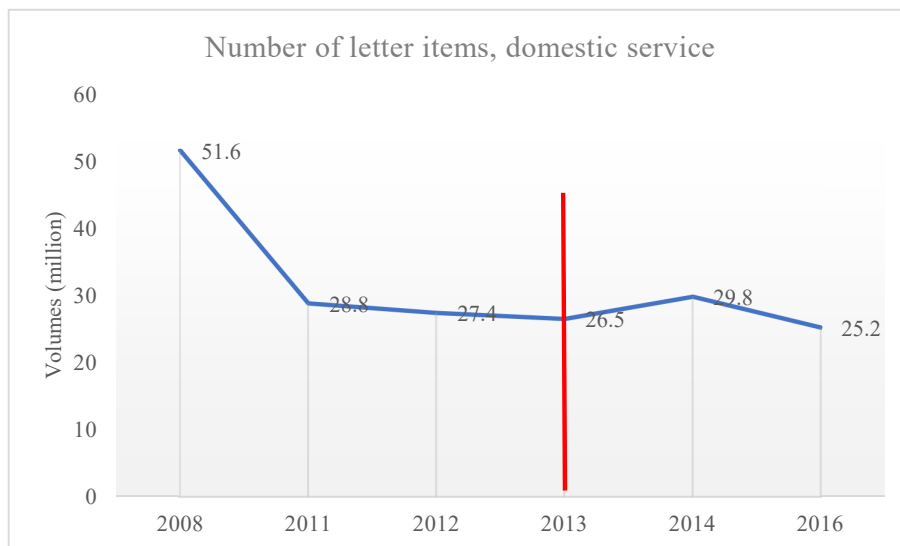


Figure 7.40. Number of letter items – Latvia

Source: Universal Postal Union

The number of letter items is in decline both before and after 2013 as the year of liberalization.

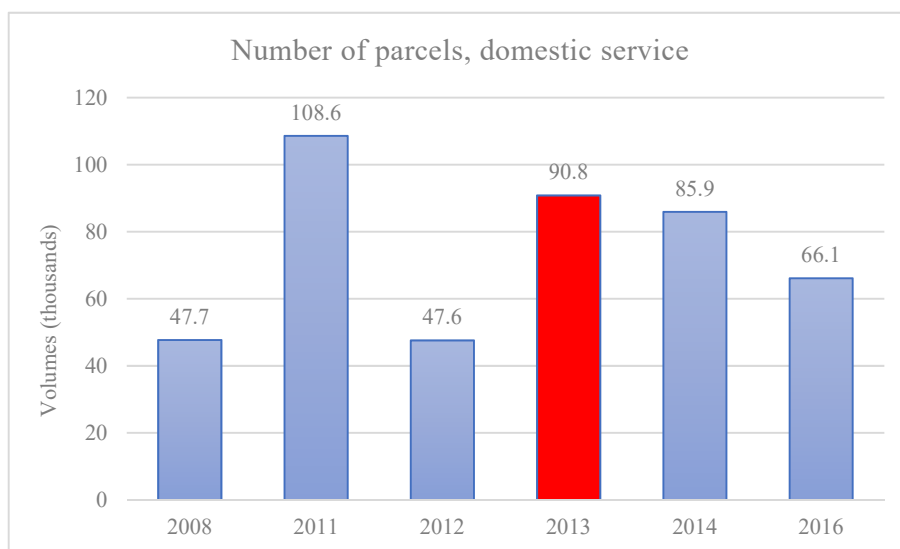


Figure 7.41. Number of parcels - Latvia

Source: Universal Postal Union

Until the liberalization of the market, the number of parcels recorded alternating increases and decreases, and after the liberalization it recorded a constant decrease.

Luxembourg

The Luxembourg Post (*P&T Luxembourg*), as the designated operator for the provision of universal postal services, has been operating on a fully liberalized postal services market since 2013.

Scope of the universal postal service in Luxembourg: reception, processing, transport and delivery of letter items up to 2 kg; reception, processing, transportation and delivery of parcels up to 10 kg; registered and value items.

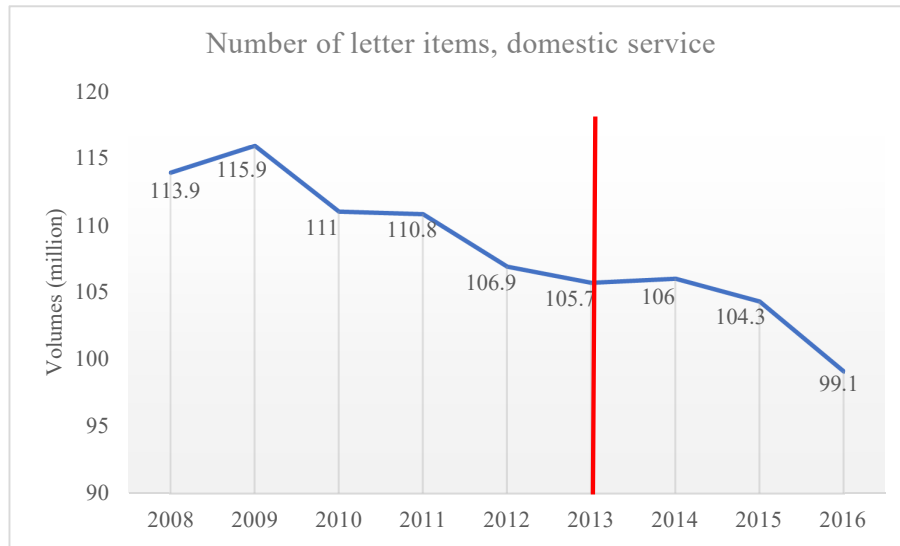


Figure 7.42. Number of letter items - Luxembourg

Source: Universal Postal Union

The number of letter items recorded a decline during all analyzed years, including the period before and after liberalization.

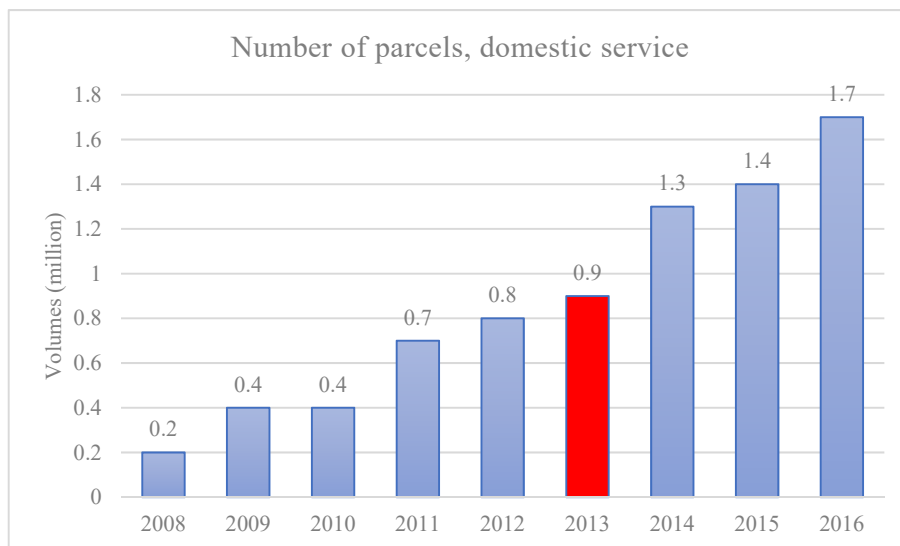


Figure 7.43. Number of parcels - Luxembourg

Source: Universal Postal Union

The number of parcels in Luxembourg is constantly increasing, as can be seen from Figure 5.43.

Malta

Malta Post, as the designated operator for the provision of universal postal services, has been operating on a fully liberalized postal services market since 2013.

Scope of the universal postal service in Malta: letter items up to 2 kg; parcels up to 20 kg; printed matter up to 2 kg; secograms up to 2 kg; small parcels up to 2 kg; registered and value items.

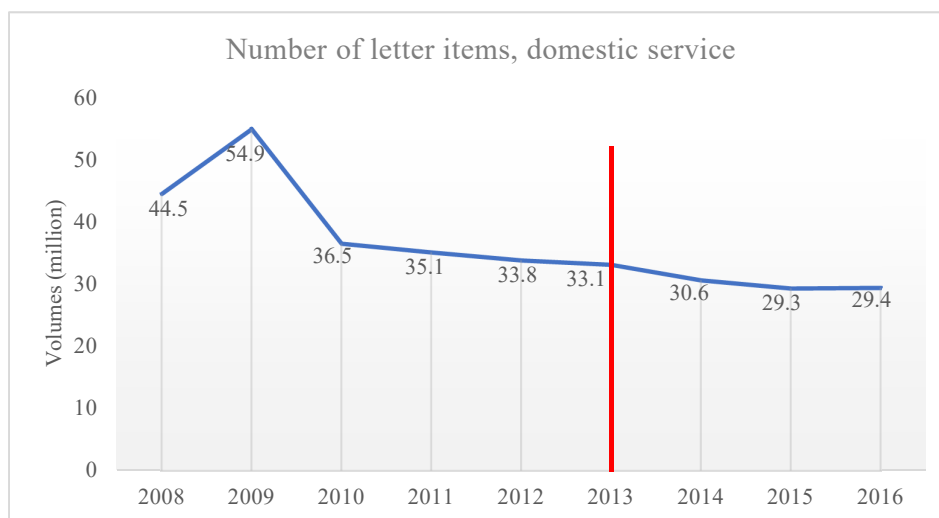


Figure 7.44. Number of letter items - Malta

Source: Universal Postal Union

The number of letter items follows a downward trend.

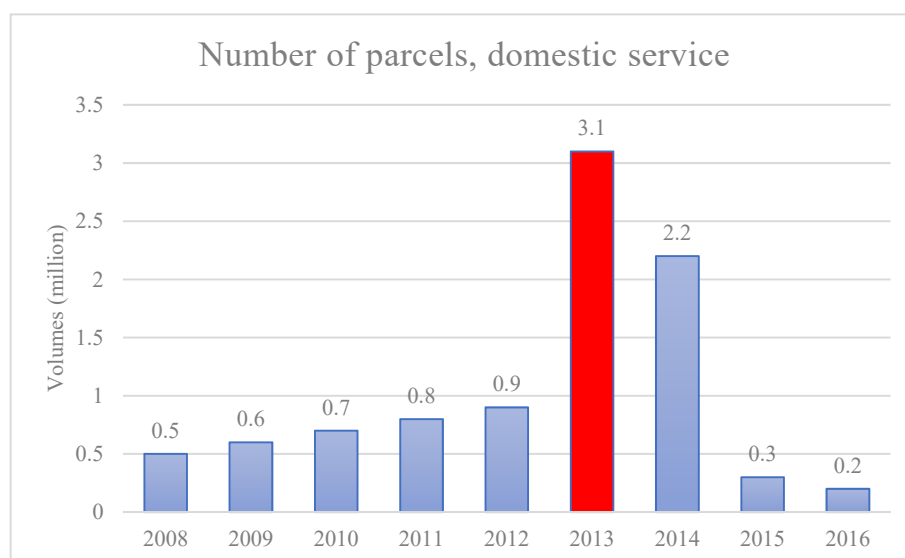


Figure 7.45. Number of parcels - Malta

Source: Universal Postal Union

The number of parcels followed the trend of growth until 2013, after which there was a significant decline, especially considering the period 2013-2016.

Netherlands

The Netherlands Post (*PostNL*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized postal services market since 2009.

The scope of the universal postal service in the Netherlands: mail items up to 2 kg in domestic and international traffic; printed matter up to 2 kg; small parcels up to 2 kg; parcels up to 10 kg in domestic and international traffic; registered and value items.

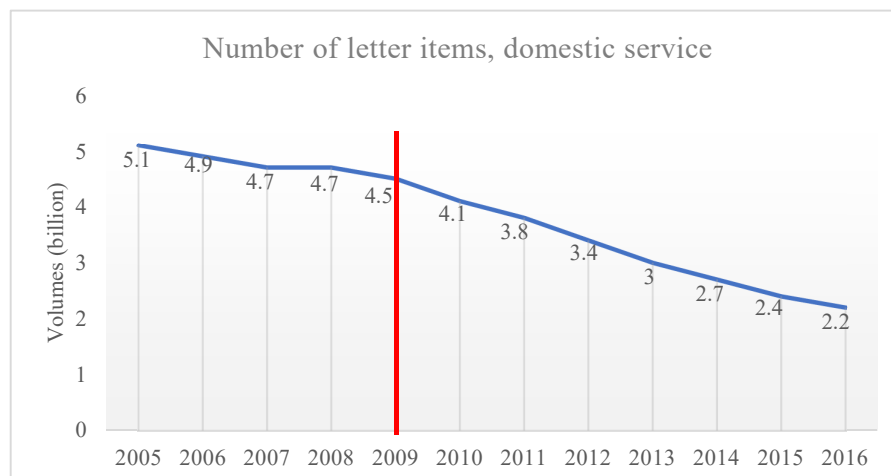


Figure 7.46. Number of letter items - Netherlands

Source: Universal Postal Union

The number of letter items is constantly decreasing. The number of parcels has been increasing over the observed years.



Figure 7.47. Number of parcels - Netherlands

Source: Universal Postal Union

Poland

The Polish Post Office (*Poczta Polska*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 2013.

Scope of universal postal service in Poland: reception, processing, transportation and delivery of letter items up to 2 kg; reception, processing, transportation and delivery of parcels weighing

up to 10 kg in internal postal traffic; processing, transportation and delivery of parcels weighing up to 20 kg in international arrivals; registered mail and value mail; secograms up to 7 kg.

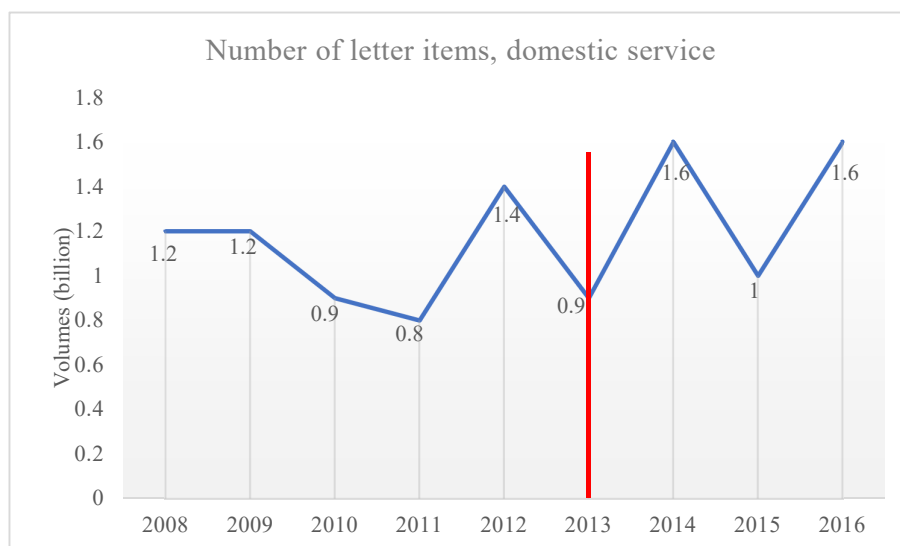


Figure 7.48. Number of letter items - Poland

Source: Universal Postal Union

The number of letter items moves according to the principle of growth and decline both before and after the year of liberalization.

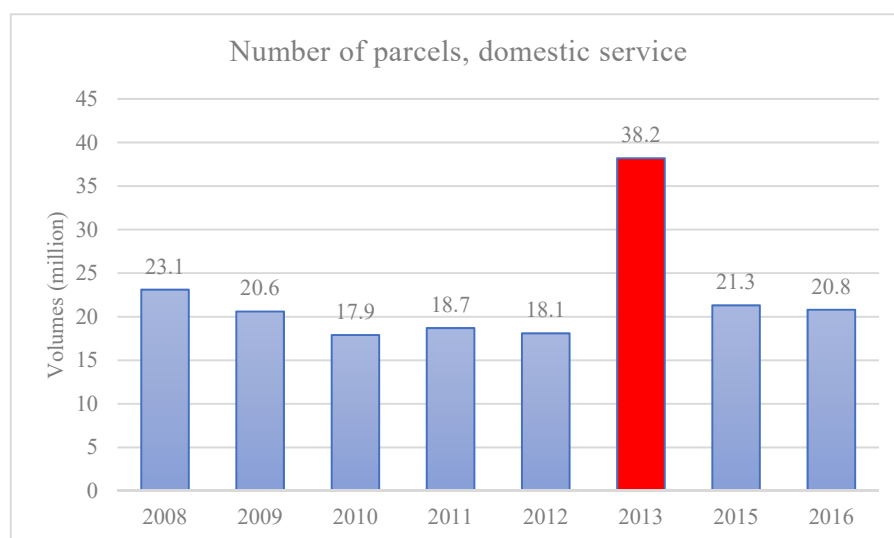


Figure 7.49. Number of parcels - Poland

Source: Universal Postal Union

The number of parcels was decreasing until the year of liberalization (2013), and that year it reached its maximum value. After the year of liberalization, the number of parcels is again in decline.

Portugal

The Post of Portugal (*CTT - Correios*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 2011.

Scope of the universal postal service in Portugal: reception, processing, transport and delivery of letter items up to 2 kg; reception, processing, transportation and delivery of parcels up to 10 kg; registered mail and value mail.

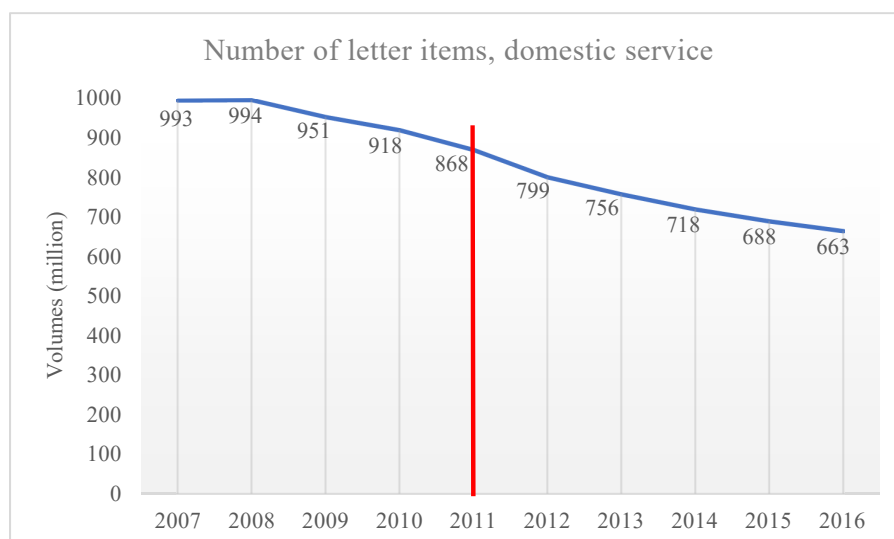


Figure 7.50. Number of letter items - Portugal

Source: Universal Postal Union

The number of letter items follows a downward trend.

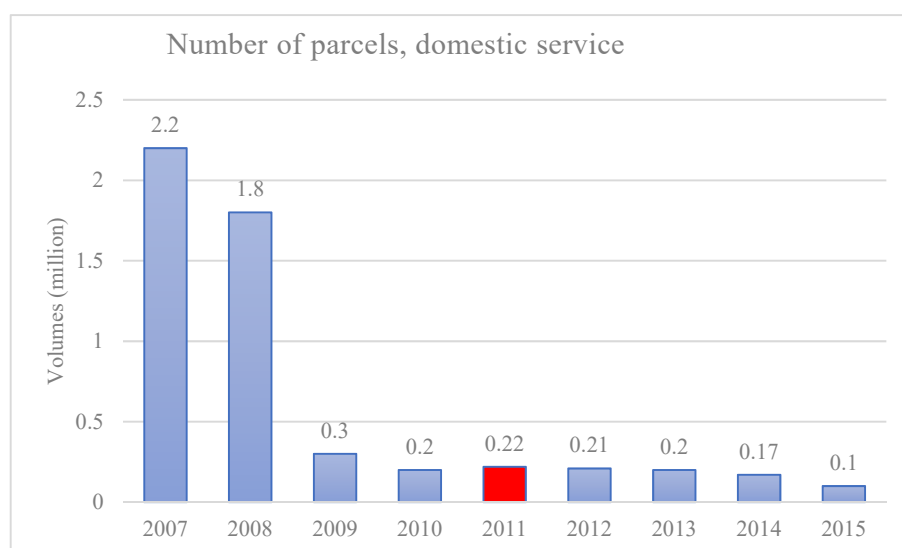


Figure 7.51. Number of parcels - Portugal

Source: Universal Postal Union

The number of parcels in Portugal recorded a significant decrease in the period before and after the abolition of the reserved sector.

Romania

The Romanian Post Office (*Posta Romana*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 2013.

Scope of the universal postal service in Romania: letter items up to 2 kg; printed matter and secograms up to 2 kg; registered and value items; parcels up to 10 kg.

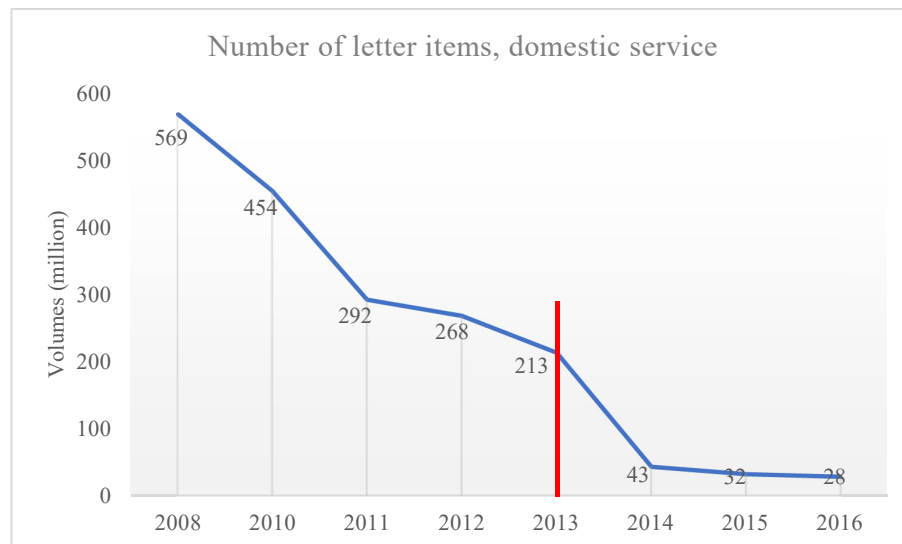


Figure 7.52. Number of letter items - Romania

Source: Universal Postal Union

The number of letter items is in constant decline.

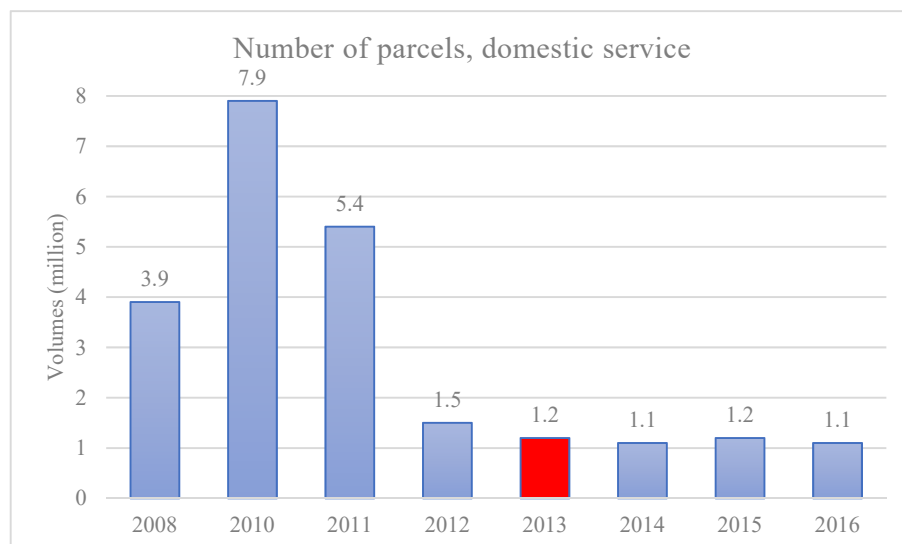


Figure 7.53. Number of parcels - Romania

Source: Universal Postal Union

The number of parcels is decreasing, with the volume remaining constant after the year of liberalization.

Spain

The Post of Spain (*Correos y Telégrafos*), as the designated operator for the provision of universal postal services, has been operating in the fully liberalized market of postal services since 2011.

The scope of the universal postal service in Spain: letters in domestic and international traffic up to 2 kg; parcels up to 20 kg; registered and value items.

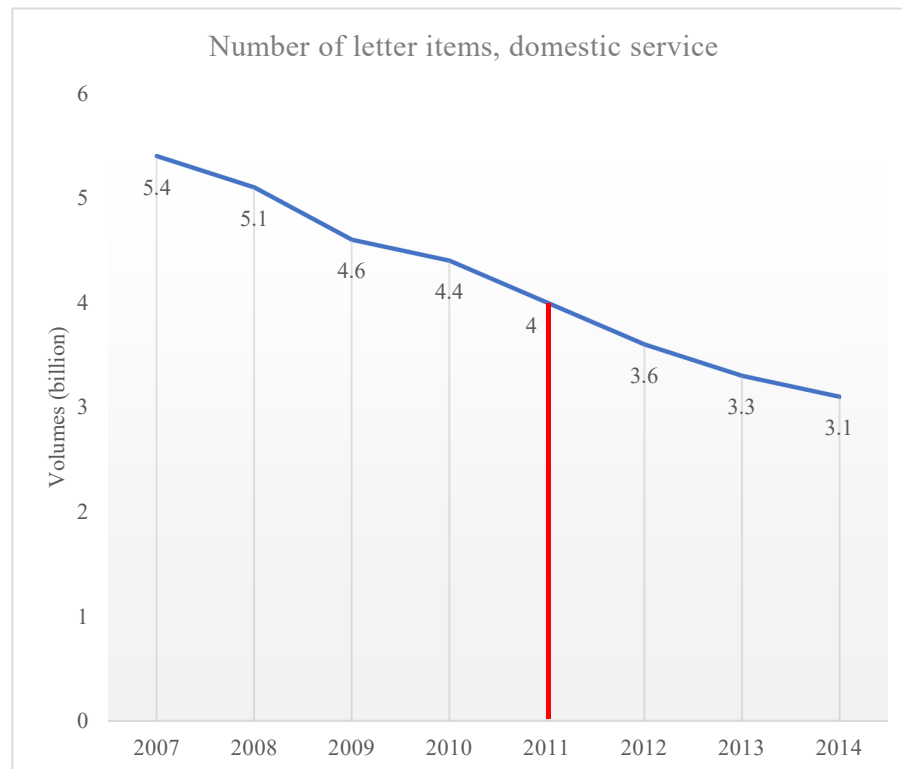


Figure 7.54. Number of letter items - Spain

Source: Universal Postal Union

The number of letter items is in decline, unrelated to the abolition of the reserved sector.

Sweden

Sweden Post (*Posten Sweden Post*), as the designated operator for the provision of universal postal services, has been operating on the fully liberalized market of postal services since 1993.

Scope of the universal postal service in Sweden: letter items up to 2 kg; printed matter.

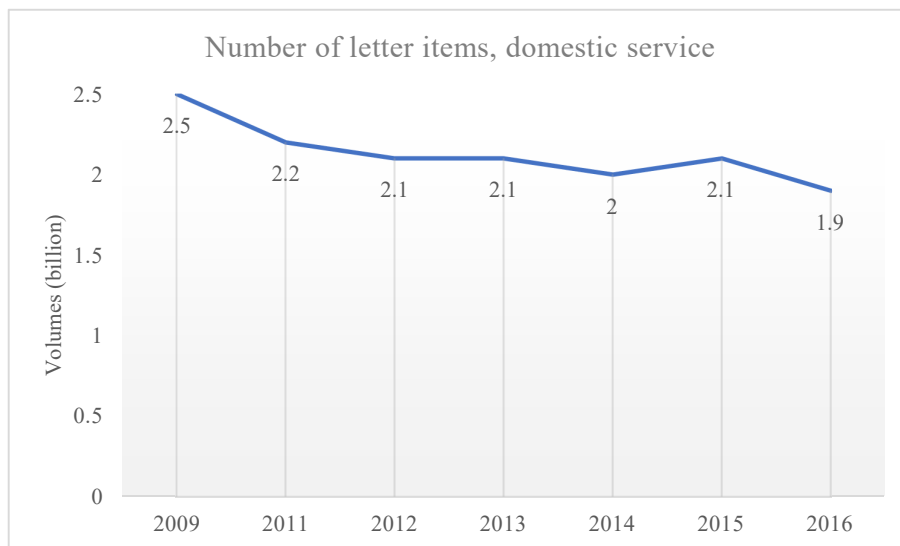


Figure 7.55. *Number of letter items - Sweden*

Source: Universal Postal Union

The number of letter items in Sweden maintains a fairly constant trend characterized by a slight decline.

Appendix V. Weighting coefficients used by the fuzzy AROMAN method, by segments of the sustainability of the universal postal service

Weighting coefficients in the scope segment of the universal postal service, according to criteria

	K 1	K 2	K 3	K 4	K 5	K 6	K 7	K 8	K 9	K 10	K 11	K 12	K 13	K 14	K 15	K 16
TK	0.065378	0.139284	0.054008	0.068221	0.241615	0.028845	0.024474	0.016607	0.068448	0.039113	0.041558	0.046447	0.035276	0.056026	0.029051	0.045651

Weighting coefficients in the segment of the quality scope of item transmission, by criteria

	K 1	K 2	K 3	K 4	K 5	K 6	K 7	K 8	K 9	K 10	K 11	K 12	K 13	K 14	K 15	K 16
TK	0.065378	0.139284	0.054008	0.068221	0.241615	0.027096	0.022726	0.020104	0.048778	0.024389	0.04315	0.033769	0.068732	0.042297	0.039653	0.060802

Weight coefficients in the segment of availability of postal network units, according to criteria

	K 1	K 2	K 3	K 4	K 5	K 6	K 7	K 8	K 9	K 10	K 11	K 12	K 13	K 14	K 15	K 16	K17
TK	0.05272	0.112318	0.043552	0.055013	0.194837	0.038636	0.028701	0.020974	0.051345	0.034841	0.033008	0.027506	0.059446	0.030824	0.041833	0.017614	0.156834