ERGP Report on specific issues related to cost allocation

November 2013

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FOREWORD

This report has been submitted to public consultation from 19 July to 30 August 2013.The ERGP received one response to the public consultation, by UNI Europa[1]*.*

Overall, UNI considers that cost allocation systems are "administrative exercises where the benefit is doubtable". UNI is therefore critical with the approach used by universal service providers (USP) and national regulatory authorities (NRA) regarding cost allocation issues and net cost calculation. UNI mentions staff training and quality of service improvements as ways to limit volume declines.

The ERGP takes note of this position. The ERGP considers that ensuring appropriate cost allocation is essential for effective regulation, especially regarding the cost orientation of tariffs, the allocation of resources (labour cost and cost of capital), and for competitive issues.

The ERGP reminds that this report is providing a state of play as regards different cost allocation issues. It does not intend to provide a guidance to ensure the sustainability of the universal service or a methodology for net cost calculation.

On traffic measurement, UNI suggests that "systems for measuring traffic volume are inadequate and volumes are often not recorded accurately"*. The ERGP is aware of potential problems regarding this issue.*

[1] This response is available at the following address: http://ec.europa.eu/internal_market/ergp/docs/documentation/2013/public-consultation-on-specific-issues-related-to-cost-allocation_en.pdf

EXECUTIVE SUMMARY

Building on the 2011 ERGP report on common cost allocation[2] and the 2012 ERGP common position on cost allocation rules[3], this report is providing some insights about specific issues related to cost allocation.

Chapter 1 provides a state of play as regards the use of cost of capital and rates of return standards in the postal sector in Europe. Around half of the USPs is using a cost of capital concept, mainly estimated by the weighted average cost of capital (WACC) methodology, but other concepts are also used. When the WACC concept is used, most NRAs are using book values for capital but others are relying on market values.

Chapter 2 provides some elements about cost allocation for delivery. Urgency is a cost driver in a majority of countries where first class and second class mail are provided. In some cases, urgency is taken into account through an index giving more weight to first class mail. In a limited number of other cases, a more sophisticated approach is used, based on stand alone cost for different groups of products as the allocation key.

Chapter 3 provides a state of play as regards the retail network of post offices. In some countries, the retail network represents a substantial part of total costs. In some others, it is fully outsourced to third parties. In most case, normal minutes are used for cost allocation of counters. In most countries, requirements to ensure an adequate number of postal outlets are set, but this has led in a very limited number of countries to the actual identification of a specific cost within the accounting system related to those requirements.

Chapter 4 covers the traffic measurement practices by the different Universal service providers (USPs). Traffic measurement is used for different purposes: Regulatory accounting, Price cap mechanism, Quality of service, internal management and Company accounts. Different methodologies are used: Sampling, Machine recording, Track and tracing, Deposit recording, Revenue based. Examination of discrepancies takes place in 60% of the countries. Sampling is subject to several controls, especially when it is used for ensuring appropriate measurement of quality of service: standard EN 13850, independent audit with control by the NRA applies.

[2] http://ec.europa.eu/internal_market/ergp/docs/documentation/ergp-11-16-rev-1_en.pdf
[3] http://ec.europa.eu/internal_market/ergp/docs/documentation/2012/ergp-12-28rev1-common-position-on-cost-allocation-rules_en.pdf

I. COST OF CAPITAL

1 Introduction

The ERGP used a questionnaire to evaluate the state of play regarding the cost of capital and the different concepts of rate of return in place in the different countries.

NRAs from 29 countries (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, former Yugoslav Republic of Macedonia, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, United Kingdom) answered. Please note that the statistics mentioned hereafter corresponds to the situation as of June 2013.

2 Rate of return

The Directive 2008/6/EC amending Directive 97/67/EC (hereafter Directive) acknowledges, within the concept of net costs presented in Annex I of the Directive, the entitlement of the universal service provider to a reasonable profit. Although the concept of reasonable profit is not specified further, reasonable profit could be defined as the reasonable rate of return on capital invested. The right to a "reasonable profit" is also mentioned in competition law.[4]

Within regulated industries in general, the method of the weighted average cost of capital (WACC), usually based on the capital asset pricing model (CAPM) has more or less become the standard method for calculating a reasonable return on investment. This method has a sound foundation in academic research and literature and is widely used within the financial sector worldwide.

However, the WACC-method, when used to calculate a reasonable rate of return, may be more appropriate in capital intensive industries with tangible assets. Also, in practice, estimation of the parameters needed to calculate the WACC gives rise to a lot of debate. In particular, some regulated postal service operators are not listed on stock exchanges and/or are owned by the Government. In these cases, it would be more difficult to accurately estimate an appropriate WACC.

[4] In the case oft he compensation for SGEI, see Commission Decision of 20 December on the application of Article 106(2) of the Treaty on the Functioning of the European Union to State aid in the form of public service compensation granted to certain undertakings entrusted with the operation of services of general economic interest, Official Journal L7, 11.01.2012, pp. 3-10.

Therefore, in the postal sector whilst WACC may provide a sound mechanism to assess reasonable profit, other measures, such as profit benchmarks like return on sales (ROS) also provide a practical and/or appropriate solution.

3 Basic theoretical background on WACC

The purpose of this chapter is to give an overview on the calculation of cost of capital based on WACC often calculated with the "Capital Asset Pricing Model" (CAPM)[5]. Setting an appropriate rate of return for a regulated firm is necessary to ensure the recovery of opportunity cost of the capital employed. If the rate of return is set below opportunity costs, investments would become unattractive to potential investors. In contrast, a rate of return set too high would lead to excessive return and therefore cause inefficient market entries.

The WACC methodology is a widely accepted method for calculating cost of capital, which is used by a number of regulators to define the cost of capital for regulated companies.

The WACC is the weighted average of a company´s cost of debt and its cost of equity. A widely used formula to calculate WACC is the formula described in the table below[6].

[5] Other (rarely used) methods are for example: Dividend Growth Method, Arbitrage Pricing Theory, Real Option Theory

[6] This formula e.g. does not account for non-interest bearing debt as this is not very common in practice.

Parameter	Formula
risk free rate	R_f
unlevered beta	β_u
market value of equity	E
market value of debt	D
gearing	$\frac{D}{D+E}$
relevered beta	$\beta_l = \beta_u\left(1+(1-t)\frac{D}{E}\right)$
return on market portfolio	R_m
market risk premium	$R_m - R_f$
rate of return on equity	$R_e = R_f + \beta_l (R_m - R_f)$
rate of return on debt	R_d
debt premium	$R_d - R_m$
tax rate	t
WACC after tax	$WACC_{aftertax} = R_e\left(\frac{E}{E+D}\right) + R_d(1-t)\left(\frac{D}{E+D}\right)$
WACC before tax	$WACC_{beforetax} = WACC_{after\,tax}/(1-t)$

In order to calculate WACC several decisions on the parameters have to be taken.

Risk free rate

The risk free rate is the expected return on an asset which bears no risk at all. In practice it is difficult to define an investment, which is free of all risks (some types of risk free rates are quoted by banks, e.g. EURIBOR). In addition to this a relevant market has to be found (national vs. international) and the investment horizon has to be taken into account. Therefore the maturity of the risk free investment is relevant and there might be discussions about whether the risk free rate of a single date is a good proxy for the future or whether an

average over a certain period of time fits better. Benchmarking can be used to determine the risk free rate in times of financial instability or crisis.

Market risk premium

The market (or equity) risk premium is the additional return over the risk free rate as compensation for the risk in investment in equity markets. The market risk premium may be calculated based (and adjusted) on historical data, or estimated for the future. In case the calculation is based on historical data the time horizon taken into account is one of the major topics to be discussed. Anyway, this leaves open the question of how far historical economic developments can be used to predict the future. Also the market underlying the estimation has to be determined; it can be a national or international market.

Beta

The Beta coefficient is the correlation between the volatility of an asset and the volatility of the financial market. It is the measure of the risk of a risky asset relative to the financial market. It is, in theory, the risk which cannot be eliminated by the investor through diversification. The higher the value of beta, the greater is the risk of the investors. Beta can be calculated based on figures of the regulated company itself or based on a peer group. In the case of the postal sector where the regulated operators are often state owned, the determination of the beta of the USP is not possible in many cases from financial market data. This implies the use of a benchmark, but the peer group would be limited in any case. In calculating beta the time horizon which is regarded relevant has to be defined.

Gearing

The gearing is a measure of the ratio of debt to entire capital (which is the sum of debt plus equity). Gearing can be calculated based on market values or based on book values, also an optimal/efficient gearing can be used for WACC calculation. Book values are the values as stated in the accounts of the company, they are transparent, easy to check and audit, but are not forward-looking and do not reflect the true economic value of the company. They depend to a large degree on the company´s accounting policies and on the accounting rules used. Market values in theory reflect the company´s true economic value. The market value of equity of listed companies is comparably easy to calculate by multiplying the number of outstanding shares with their current market price. The market value of debt is more difficult to measure if the debt is held by banks. As the equity, it is influenced by volatility, investor´s expectations for the company and speculation. In practice in most cases book values are used as a proxy for the market value of debt.

Tax rate

For the calculation of WACC either the nominal tax rate or the effective tax rate can be used. In case of multinational companies a decision has to be taken on how to account for different nominal tax rates in different countries.

Other topics

Benchmarking may be an appropriate way to calculate rate of return or to determine some of the parameters if data are not available or there are temporarily extraordinary circumstances (e.g. government bonds are not rated as “risk-free” by the capital market in some countries due to the financial crisis).

Inflation has to be taken into account in a way that inflation is not allocated twice. As most NRAs use book values based on historical values and not at current value, the mostly used nominal WACC is the appropriate one.

When calculating WACC, it is necessary to determine whether WACC shall be calculated for the company as a whole (or a group of companies) or for the separate businesses of a company.

4 Market Position of USP

Preliminarily it has to be pointed out, that in analysing and interpreting the answers and the results it is important to keep in mind the very different situation of the USP in each country. The risk and therefore the cost of capital should be different due to the very different situation of some USPs. Therefore one part of the questionnaire asked for different circumstances in each country.

It could be observed that the majority of the USPs is still state owned (100%) and some of them are limited to offer services only in their local market. A few other USPs are privatised and listed companies (either with a majority by the state or by private investors) which offer a wide spectrum of services additional to postal services and operate in foreign countries (mainly in Europe, rarely outside Europe). Many USPs are offering financial services either in cooperation with a bank or the bank is part of the company. Other services offered by the USP outside the USO are for example parcel and express services, unaddressed mail, transport and logistics, storage and telecommunications.

The following figures show the number of countries and the percentage (see appendix for detailed answers).

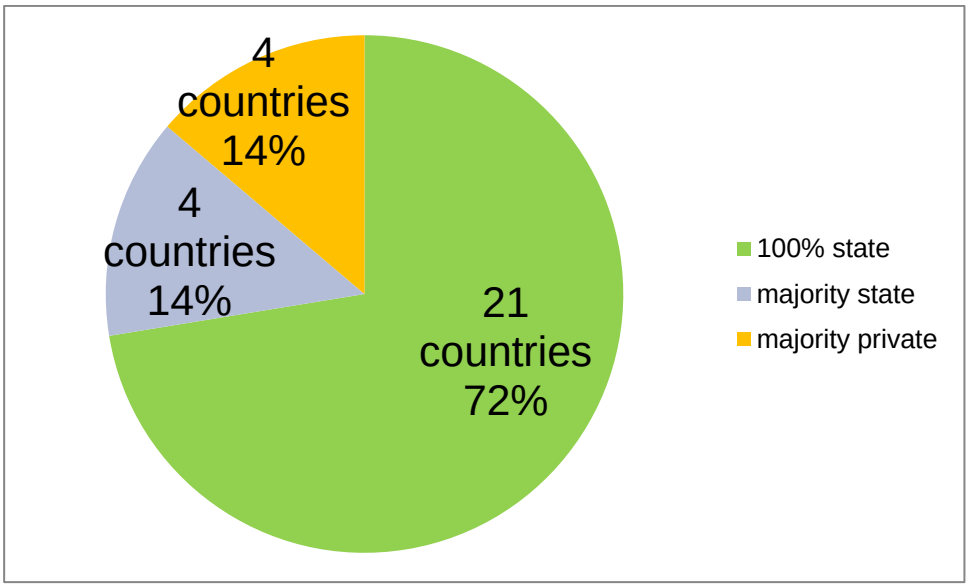


Figure 1 Ownership USP

5 General Principles

The questionnaire shows that there are three main concepts in place at the moment for regulatory accounting purposes. In some countries no rate of return is taken into account at all at this time. In some countries the cost of capital concept is implemented, in others an alternative profitability standard is implemented (mark-up on total cost, EBIT over sales target, return on sales target).

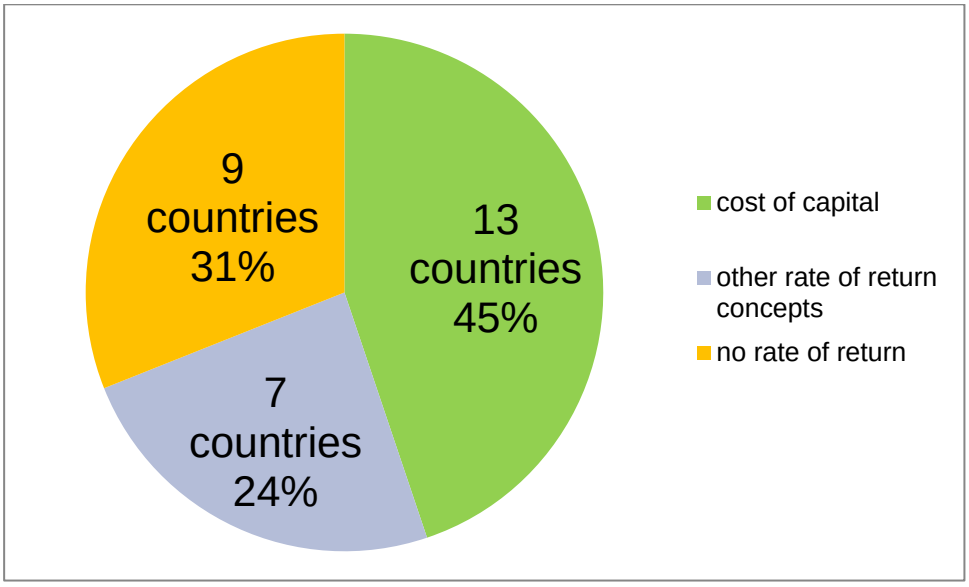


Figure 2 RoR concepts

The reason for calculating a rate of return is in most cases price regulation including price cap (15 countries). Rate of return is also used for calculating the net cost of USO and may be part of the regulatory accounting.

In almost all countries the calculation of the rate of return refers to the USP. In one case it refers to an efficient operator and in one case to licensed operators.

6 Cost of Capital

In 10 countries the cost of capital has been calculated, either on a yearly basis or in case of proceedings.

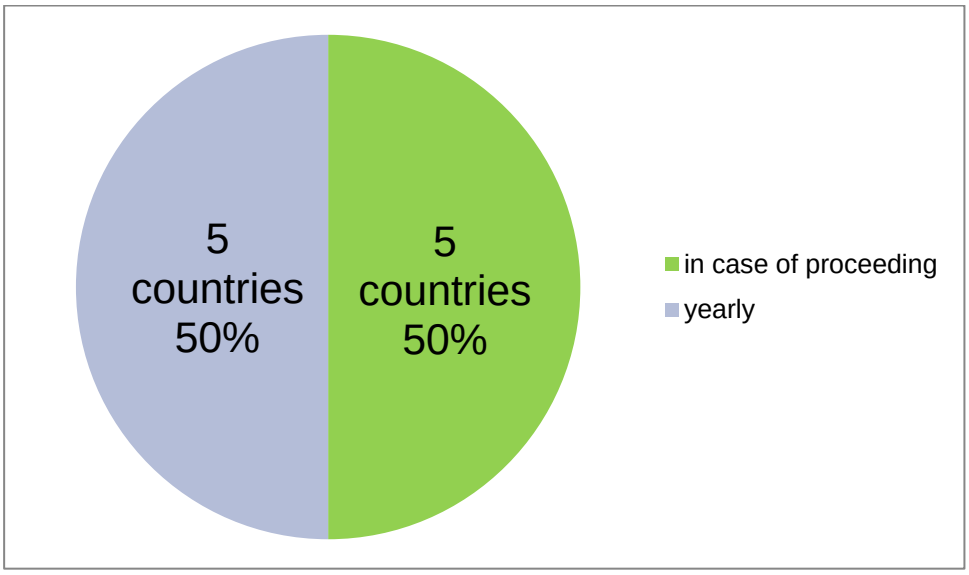


Figure 3 frequency of calculation

As mentioned in section 1 the situation of the USP is very different from country to country. This has to be taken into account when comparing the different parameters of the cost of capital calculation. Basically the beta could be different as well as the debt premium. Beside the scale and scope of the business of the USP as stated in section 1 the degree of competition and the overall economic situation in each country should be taken into account. These topics are not covered by this report, as to analyse these parameters would be a challenging task in its own.

Parameters are often taken from the USP and verified by the NRA. Due to the different situation for each USP the parameters to calculate the costs of capital diverge. Some common approaches are to use a nominal pre-tax WACC and a peer group for determining the beta and not to take into account interest-free debts. These methods are also common in regulation of other industries like telecommunication for good reasons. The concept of CAPM is based on market values for equity and debt. Book values for debts are widely accepted as estimation for market value. Regarding equity it seems necessary for the postal sector to discuss whether book values are appropriate to determine the basis for calculating the cost of equity in a market with relatively low share of capital costs and the market value. This however implies that regulators in this case would not use the CAPM for the calculation of the WACC.

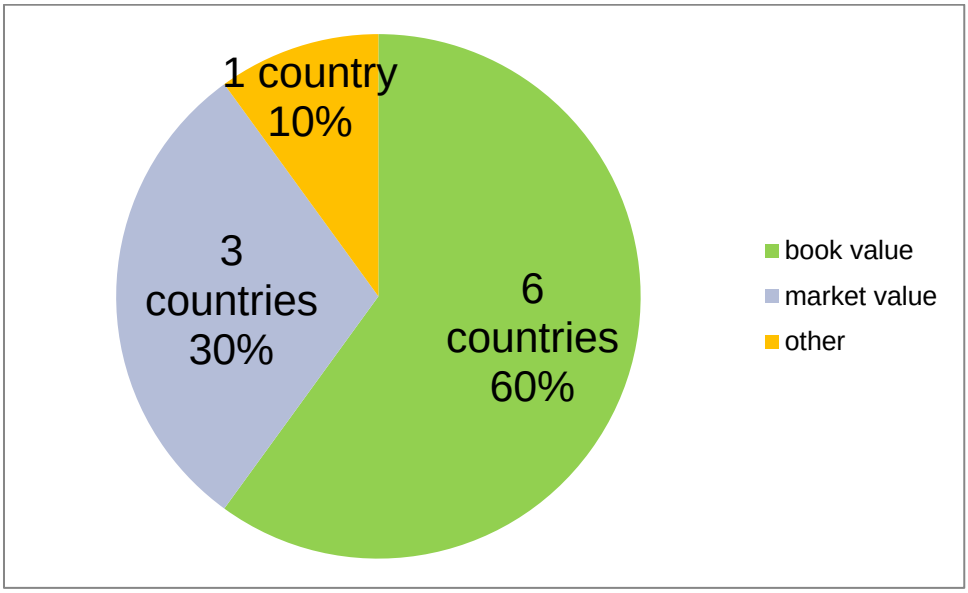


Figure 4 market versus book value

Out of the 29 answers collected by the ERGP, WACC value is available for 9 countries. 8 countries use nominal pre-tax WACC and one country uses real post-tax WACC. In most cases, the WACC value in a given country is not public. Nevertheless, the anonymised data is available in figure 5. Given the limited size of the sample, no specific conclusion should be drawn from the results.

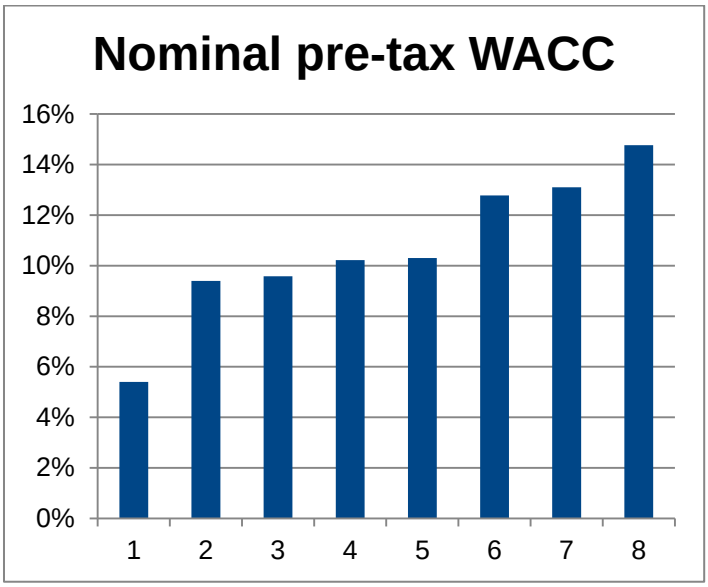


Figure 5 WACC value in member States using nominal pre-tax WACC

7 Summary

The collected data give an overview on the different situations across Europe regarding the relevant rate of return. The comparison of the collected data is a good tool for each NRA to compare its recent approach against other NRAs approaches.

8 References

Modigliani, F.; Miller, M. (1958). "The Cost of Capital, Corporation Finance and the Theory of Investment". American Economic Review 48, 261 – 297, 1958

IRG-PIB: ERG (07) 05 – PIBs on WACC, http://www.irg.eu/template20.jsp?categoryId=260350&contentId=543313 (please note, that this is an IRG and not an ERG paper, despite the name)

Aswath Damodaran: Teacher corporate finance and valuation at the Stern School of Business at New York University: You will find a lot of statistical data on his website: http://pages.stern.nyu.edu/~adamodar/

II. COST OF DELIVERY

1 The delivery activity

Delivery is one of the crucial postal activities. It is the last step in the postal process. Along with the retail network of post offices, it is also the only part of the postal process which implies a direct contact with the consumer.

Delivery is also the largest activity in the postal conveyance process. It represents a substantial part of total cost for postal providers. Based on the answers from 11 NRAs, it represents on average 42% of total USP costs.

Delivery is also an activity with substantial economies of scale/density and scope, as part of the routes is often considered as “fixed” by the USPs.

Delivery can be done by foot, by bicycle, by car, depending on the volumes to be carried and the local geography.

In the context of this report, the delivery process deals with all activities related to the delivery of mails, packets and parcels, done by postmen outside the delivery centre, after the preparatory sorting and other handling activity for delivery. Preparation to delivery can be included in delivery cost in some countries, as this activity is often done by the postmen before leaving to their routes.

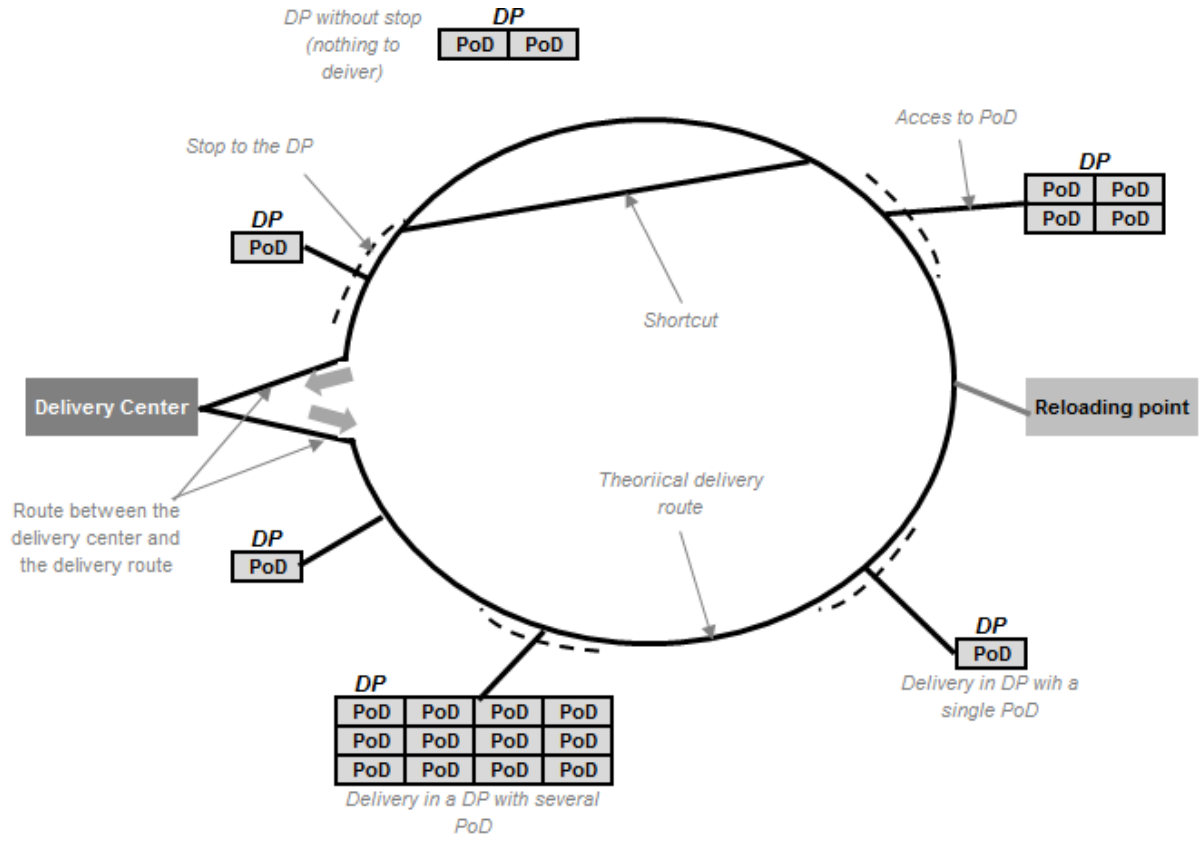
Outdoor delivery itself is still a significant part of cost, as it represents on average 18% of total USP cost (based on the answers from 6 NRAs).

Following Roy (1999) and a study done by Tera Consultants for ARCEP, the distribution process can be broken down into the following basic activities:

- Non-revenue travel: the path of the postman from the delivery centre to the first to the first point of delivery of his route and then the last path from the last delivery point of the route back to the delivery centre.
- Active route: the delivery route required to pass all addresses (Delivery Points “DP”). Required time to slow down before arriving at a delivery point where the postman has one or more items to deliver, and start again from the delivery point

(acceleration) can be included in the active route. Depending on the volume to be delivered, a stop at each delivery point might not be required. If this is the case, the route can be shortened.

- Stop: Access to delivery points which corresponds to the time required to access mailboxes as soon as the postman is in front of the delivery point (address). It comprises the action of going out of the car (if any) or to go down the bicycle or motorcycle (if any) and to join the mailboxes. This is especially significant in the case of residential buildings with secure access, airlock, dedicated access roads, etc. The access time is however much shorter for individual houses where mailboxes are usually located near the route of the street.
- Drop: the delivery in mailboxes or personal delivery. Three cases may be distinguished: (i) delivery into a single mailbox of an individual house (addresses with a single mailbox); (ii) delivery into mailboxes of an apartment building (addresses with multiple mailboxes) and (iii) personal delivery.
    - In the first case, the postman shall deliver one or more sets of objects in the mailbox (handle objects).
    - In the case of delivery into mailboxes of a building (address with more than one mailbox) the postman performs a manual sorting into mailboxes. When possible, the completion of a pre-sorting in the order of mailboxes would avoid this sort before the mailbox and lead him to, in the case of distribution points with a single point of delivery, deliver a handful of objects in each mailbox.
    - The case of personal delivery to the recipient includes: items that must be delivered against signature and items too large to be put into a mailbox and the absence of mailboxes.
- Relay boxes: the reloading of the delivery route may occur when the mode of transport limits the initial carrying capacity (pedestrian, bicycle, motorbike): the postman takes new items that he would be unable to carry with him without being overloaded. The most usual way consists in having several reloading points along the delivery routes.
- The supply of reloading points with a van. This is a logistics activity related to the delivery process.



Source: ARCEP/TERA Consultants

DP: Delivery Point = address

PoD: Point of Delivery = mailbox

Figure 6 Schematic representation of the delivery process

2 Cost accounting rules

Against this theoretical background, the ERGP has circulated questionnaires in 2012 and 2013 to investigate the practices related to the cost accounting of delivery.

Identification of travelling time

One joint cost to all products delivered during the route is the travel between the delivery center and the first point of delivery (sometimes called non-revenue travel).

This part is often not identified within the regulatory accounting system.

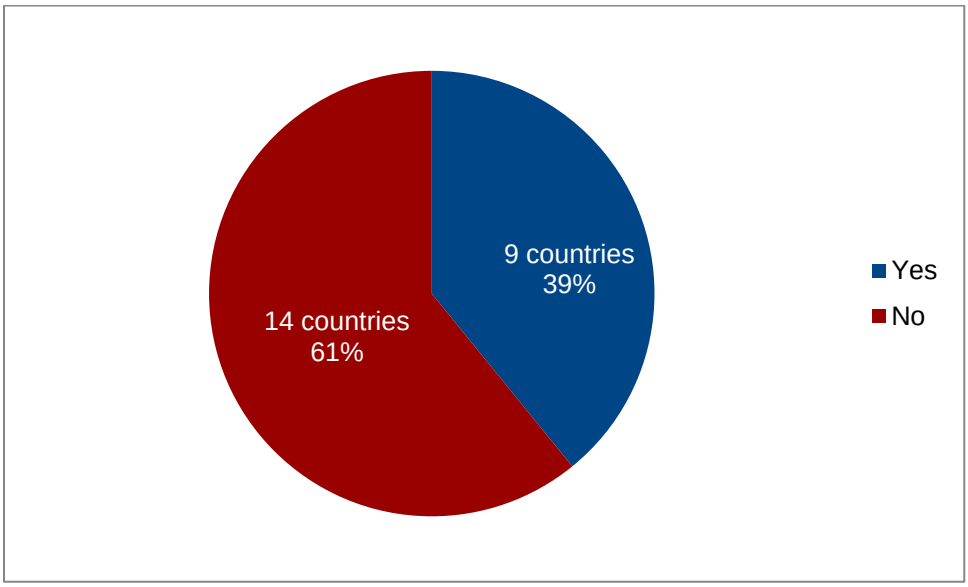


Figure 7 Distinction between route time and travelling time

Cost drivers

Weight / format as well as mail volumes and the structure between sender and receiver (e.g. degree of urbanization and other demographic factors, dwelling structure etc.) are most often mentioned as cost drivers. The type of delivery (mailman or motorized) is also often mentioned.

Urgency is mentioned as a cost driver in around half of the country where several classes of mail are offered by the USP. When this is the case, it means the mail equivalent unit for D+1 differs from D+3 mail equivalent unit.

In some cases, the urgency is taken into account through a specific index compared to other mail (specific mark-up). In those cases, costs are allocated based on the product traffic volumes adjusted using a mail equivalent unit (the standard delivery time in comparison with the standard delivery time of a reference product).

In some other cases, urgent mail ends up bearing extra costs which are identified. In particular, those costs can come from an allocation rule based on stand-alone costs for different groups of services. For example, this is the case for France where the joint costs of delivery (i.e. excluding the dropping cost which are directly allocated to the products), are allocated to different classes of transit time (D+1, D+3, and D+7) proportionally to stand alone costs, where 6 deliveries per week are required for D+1 products, 3 deliveries per week are required for D+3 products, and 1 delivery per week is required for D+7 products.

In the end, those methods effectively allocate more costs to urgent mail, but the underlying mechanisms can be significantly different.

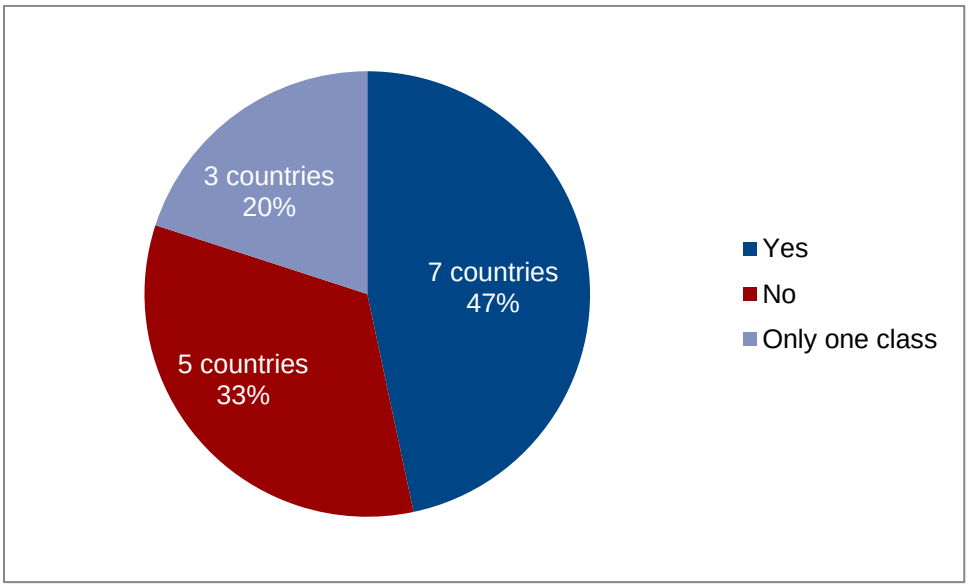


Figure 8 Urgency as a cost driver

3 Conclusion

From the evidence gathered so far, it appears that some piece of information about the joint part of outdoor delivery is not available within the regulatory accounting in several countries. This might be a limitation for a refined cost allocation.

Another example is the case of urgency as a cost driver. A majority of USPs seems to use urgency as a cost driver, but the methods to take urgency into account can be significantly different between countries, with the use of indexes in some cases and the identification of specific costs (e.g. from stand-alone models) in some other cases.

4 Reference

Roy, B., “Technico-Economic Analysis of the Costs of Outside Work in Postal Delivery”, Emerging Competition in Postal and Delivery Services, Series: Topics in Regulatory Economics and Policy, Vol. 31, Crew, Michael A.; Kleindorfer, Paul R. (Eds.), 1999.

III. RETAIL NETWORK OF POINTS OF CONTACT

1 Introduction

Along with the postman, the retail network of the USP is in direct relationship with the consumers. Those outlets are essential to get access to the service for residential consumers, but they can be of less relevance for the postal processing of industrial mail, which can be presorted and directly delivered by the sender to the sorting centre.

The cost of the retail network can be identified differently, depending on the country. In some cases, the cost of the counter activity is identified within the regulatory accounting system. In some other cases, the cost of the post offices is identified.

In any case, this retail network represents a substantial cost of the USP (19% on average, from the answers of 16 NRAs), with a large variability.

2 The structure of the retail network

As identified by the ERGP report on quality of service and end-user satisfaction7, the organization of the retail network can be very different from country to country.

In some countries, the retail network consists of a network of post offices owned by the USP. In some other countries, outlets are managed by independent third parties. The scope of products and services that are offered by the USP partly explained those differences.

[7] http://ec.europa.eu/internal_market/ergp/docs/documentation/2012/121130_ergp-12-30-quality-service-end-users-draft-report_en.pdf

	Permanent PO full range of services	Permanent PO limited range of services	Mobile post office (PO)	Mailman (full range of service	mailman (basic services)	Seasonal post office	Permanent PO managed by 3rd party
Austria	28%						72%
Belgium	50%						50%
Bulgaria	51%	2%		47%			
Croatia	99%	1%				0%	
Cyprus	6%						94%
Czech Republic	33%	1%			65%		1%
Denmark	65%						35%
Estonia	83%	8%	0%				9%
Finland	14%	6%					80%
France	60%						40%
Germany	65%	35%					
Greece	33%	1%	0%	34%		0%	31%
Hungary	89%		12%				
Iceland							
Ireland	4%						96%
Italy	100%						
Latvia	97%		0%	3%			
Lithuania	82%	2%	16%				
Luxembourg	79%	15%					6%
Macedonia							
Malta	54%		2%				44%
Netherlands	99%	1%					100%
Norway	6%		54%				40%
Poland	75%						35%
Portugal	29%		0%				71%
Roumanie	54%	21%	25%				
Serbia	64%	20%					16%
Slovakia	92%	5%	0%			0%	3%
Slovenia	95%	0%		4%		0%	0%
Spain	24%	8%		68%			
Sweden	0%	7%	0%		55%		38%
Switzerland	50%	0%	0%	36%			14%
UK							

3 The constraint on the network

According to the postal directive, some accessibility standards regarding the network of points of contact can be set by the member states. This is the case in most countries (see appendix for detailed answers).

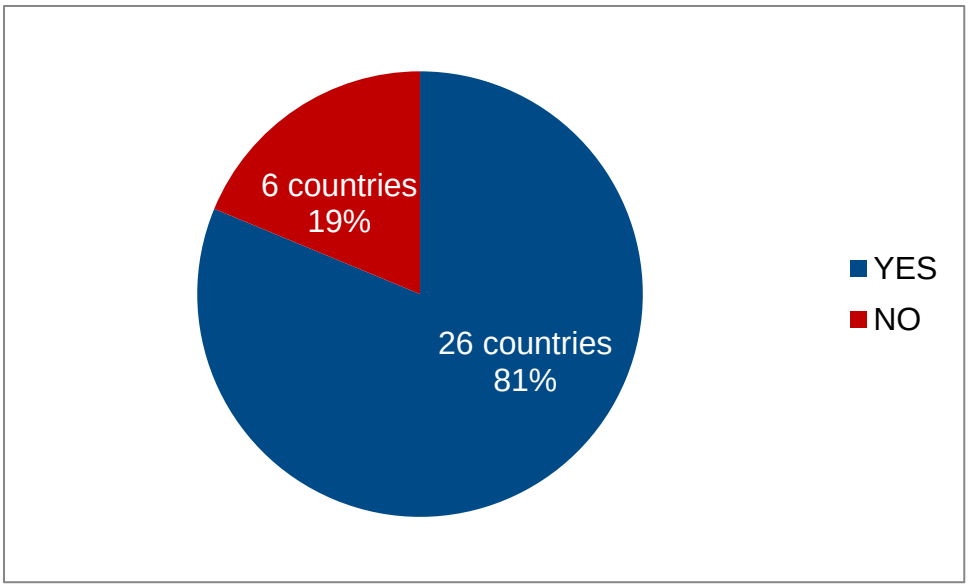


Figure 9 Requirement/standards to ensure an adequate number of point of contact/postal establishments

4 Allocating the cost of counters

In most countries, normal minutes (or standardized time) are used for the allocation of the cost of operations taking place at counters.

A different time is used depending on the operation. Using this allocation key, the total cost of clerks is allocated to the different operations, and to the different products.

This relies requires measuring those normal minutes. In some cases, they can be differentiated depending on the type of post office.

Furthermore, they need to be updated regularly, to ensure they are representing adequately the operations.

The total time of operation is different from the total time of presence of clerks within post offices. First, because some frictional vacancy is almost unavoidable, if the counters are to treat the client within a short timing, as it implies to have some “free” counters to take care of new customers.

Second, if the post offices are covering areas with limited activities, they might have some “free” time from presence constraint, not justified on a commercial basis.

Only a very limited set of USPs is identifying a specific cost linked to requirements related to the number or the density of points of contact (see appendix for detailed answers).

In the case of France, the USP is subject to a service of general economic interest of territorial presence.

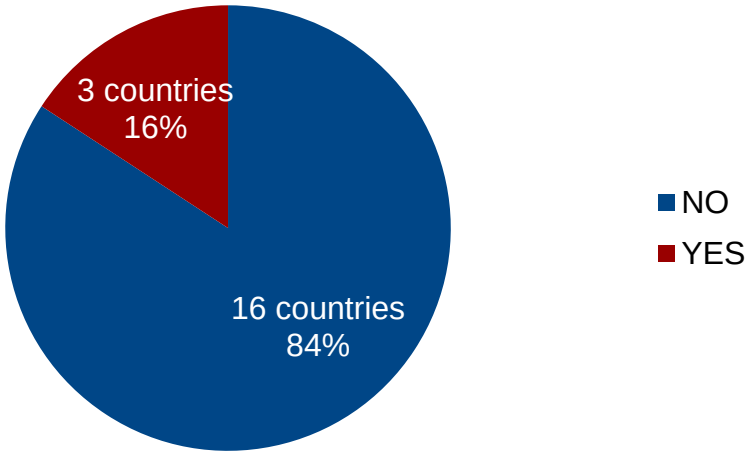


Figure 10 Existence of a specific cost linked to the requirements

It can happen the USP is not identifying any specific cost related to requirements related to points of contact, because such requirements are differed to an alternative body. This is the case in the UK where Post Office Limited is responsible for maintaining a network of point of contact, whereas Royal Mail is only contracting to this company.

IV. TRAFFIC MEASUREMENT

1 Introduction

Measuring traffic is a key issue in the postal sector, especially for cost allocation, as traffic is used for cost allocation in most activities.

It is also a characteristic of the postal process that the traffic is not readily available from information system, as most postal items are not track-and-trace, meaning that are not automatically identified within an information system. Furthermore, due to the prepayment by stamp implemented since Rowland Hill, there is no immediate and one-to-one match between sales, which are recorded in the financial accounts of the company, and traffic, which can be partly recorded by technical meters at different stages of the mail process.

The ERGP has relied on a questionnaire to examine the current practices related to traffic measurement. It received answers from 17 NRAs (Austria, Bulgaria, Cyprus, Czech Republic, France, Hungary, Ireland, Latvia, Malta, Netherlands, Norway, Portugal, Romania, Slovakia, Spain, Sweden, and Switzerland).

2 Reason for measuring traffic

Different reasons have been considered for measuring traffic, from regulatory purposes to internal management of the postal provider.

1. For the purpose of regulatory accounting, measuring traffic can be required for the allocation of revenues
2. When a price regulation system is used (e.g. price cap mechanism), traffic data can be required
3. For ensuring an adequate measuring of quality of service, traffic surveys are required in general to ensure representative samples. Standard EN 13850 used for measuring the quality of service (transit time) for priority letter requires real mail studies to be performed to ensure that the panel data of test mail is weighted appropriately.
4. For internal management: traffic being a key parameter in the dimensioning of the different processes (sorting, delivery), it can be necessary for the postal service provider to develop for its own use specific measuring tools. Meters at different stages of the postal process can be used.
5. For the company accounts.

Two NRAs also mentioned that traffic measurements are also used for statistical purposes.

3 Methodologies

As explained in the introduction, there is no automatic recording of traffic in the postal sector. Therefore, different methodologies can be used for measuring traffic for cost allocation:

1. Sampling of mail at a given stage of the processing of the mail (e.g. before delivery) is a methodology used in all countries. This methodology requires a large enough panel to ensure the statistical validity of the estimates. It should provide a good estimate of the volumes that are actually delivered.
2. Machine recording can also be used. This methodology is appropriate for automated operations (machine sorting). Machine recording is used for regulatory accounting purposes in several countries.
3. Track and tracing system can also provide some traffic data: when any identification is read (bare code, data matrix or other system), either manually with some smartphone or in the sorting machines. It is appropriate for specific type of postal items subject to track and tracing. When it is available, it is often used.
4. deposit recording would refer to the fact that volumes can be measured when a bulk deposit is made, either through some sampling or through a weight measurement. It is often used
5. Revenue based measurements can also be used, by dividing the revenues available from the accounts by the appropriate price. This methodology requires a good estimate of the product mix to provide good estimates. It is often used, but not in all countries.

As there are different methodologies, it might be necessary to try to reconcile the discrepancies that might exist. In 60% of the countries, such examination of potential discrepancies is done. In 36% of the countries, this reconciliation is part of the audit of the regulatory accounts by an independent body.

As regards the regulatory accounts, the basis for traffic measurement is mixed. In general, the best estimate available is used, depending on the type of items. In 35% of the countries, the NRA is setting the basis for revenue allocation. In 65%, the USP is responsible for that.

Sampling

In all countries, sampling is used to follow the quantity of mail and the split of mail type. In general, the sampling follows the mail characteristics:

- Format
- Weight step (from 2 to 12)
- Priority (when appropriate)
- Domestic vs international

In around half of the countries, the sampling also follows the payment method and the payment value.

In 71% of the cases, the USP is responsible for the design of the sample. It can also be outsourced to a third party in 23%. In most cases, the implementation of the sampling is done by the USP.

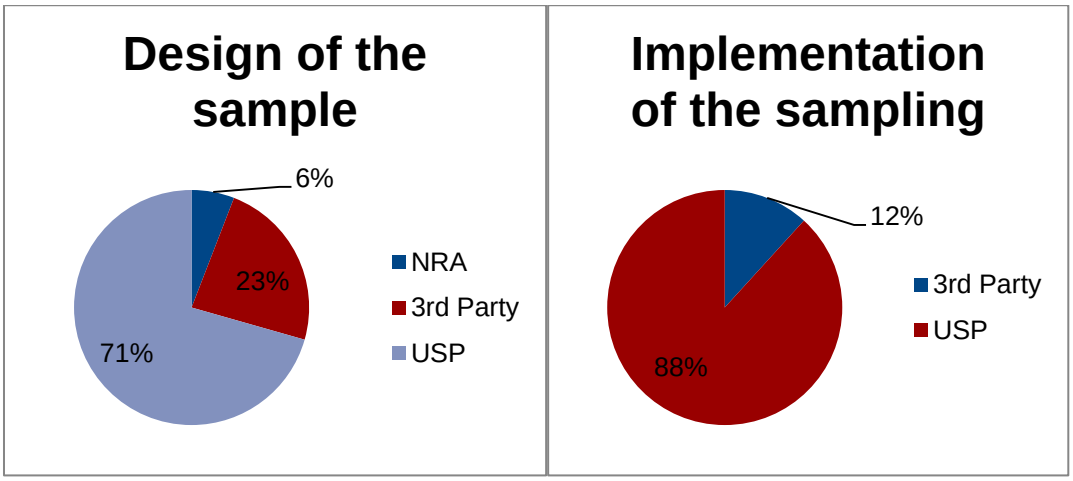


Figure 11 Design and implementation of the sampling

Sampling period is different from country to country. In some countries, it can be continuous. It others, it can take place once a year.

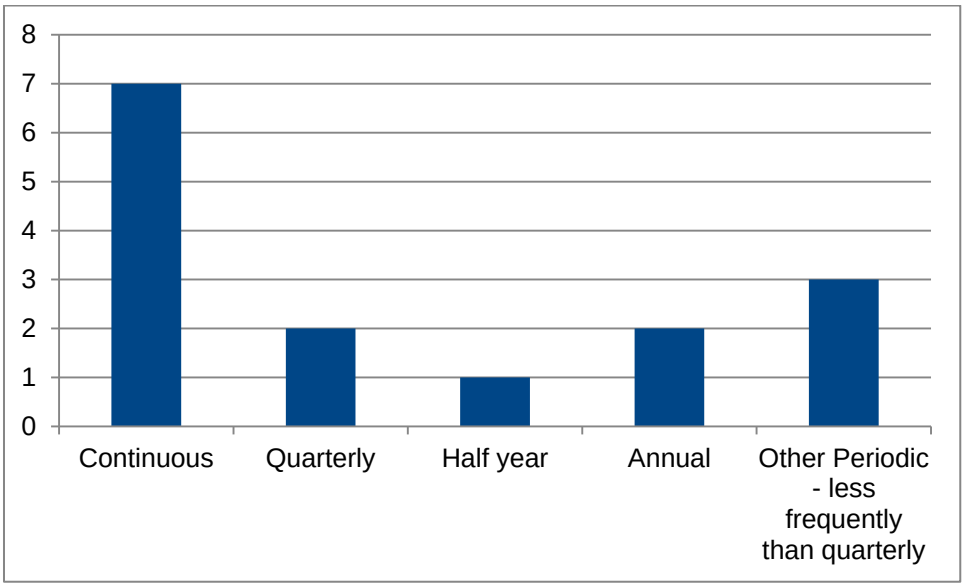


Figure 12 How often is the sample conducted

In most cases, the sampling follows CEN standard EN 13850: 2010 or 2012. A level of statistical accuracy is required. It is set by the NRA in 55% of the cases.

In 59% of the countries, there is an independent audit of the sample data. In almost all cases, the independent audit has duty of care to NRA.

In 56% of the countries, approval of the NRA is required for any changes to actual sampling versus sampling that should be conducted according to sample design.

Appendix

Country	Ownership of Universal Service Provider	Method to determine the rate of return
Austria	listed company; 52,8% state-owned 47,2% private	Cost of capital
Belgium	50% + 1 stock Belgium state, 50% CVC (private)	
Bulgaria	100% state-owned	
Croatia	100% state-owned	
Cyprus	100% state owned	Other rate of return concept
Czech Republic	100% state owned	Other rate of return concept
Denmark	Listed company, 40% state-owned	
France	state-owned company 77,1% of shares are directly owned by the French state, and 22,9% by a state bank.	Other rate of return concept
Germany	on November 20, 2000 Deutsche Post goes public; listed company (Aktiengesellschaft); insitutional investors (67%); KfW bank (24.89%); private investors (7.5%)	Cost of capital
Greece	public company; 90% state-owned and 10% Hellenic Postbank which is a public bank	
Hungary	100% state-owned	Cost of capital
Ireland	100% state-owned	
Italy	100% state-owned	Cost of capital
Latvia	100 % state owned	Cost of capital
Lithuania	100 % state-owned	Cost of capital
Macedonia		
Malta	listed company; 67% owned by a private bank	Other rate of return concept
Netherlands	100% private	Other rate of return concept
Norway	100% state-owned	Cost of capital
Poland	100% state-owned	Cost of capital
Portugal	100% state-owned	Cost of capital
Romania	state-owned: 75%, private ownership: 25%	Cost of capital
Serbia	100% state-owned	
Slovakia	100% state-owned	Other rate of return concept
Slovenia	100% state owned	Cost of capital
Spain	100% state-owned	
Sweden	60% Swedish state; 40% Danish state.	Cost of capital
Switzerland	100% state-owned	Cost of capital
UK	100% owned by government. IPO autumn 2013.	Other rate of return concept

Country	Requirements/standards to ensure an adequate number of point of contact/postal establishments/retail network	Existence of a fixed cost for Post Offices
Austria	YES	NO
Belgium	YES	NO
Bulgaria	YES	NO
Croatia	YES	
Cyprus	YES	
Czech Republic	YES	
Denmark	YES	
Estonia	YES	NO
Finland	YES	
France	YES	YES
Germany	YES	
Greece	YES	NO
Hungary	YES	
Ireland	NO	
Italy	YES	NO
Latvia	YES	
Lithuania	YES	NO
Luxembourg	NO	
Macedonia	YES	
Malta	YES	NO
Netherlands	YES	YES
Norway	YES	
Poland	YES	YES
Portugal	NO	NO
Romania	YES	NO
Serbia	YES	NO
Slovakia	YES	NO
Slovenia	YES	NO
Spain	NO	
Sweden	NO	NO
Switzerland	YES	NO
UK	NO	NO