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# NAVIGATING COST ALLOCATION IN POSTAL STATE AID CASES

A STUDY PREPARED FOR UPS  
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AUTHORS

Mindaugas Cerpickis

Kalle Kantanen

Stephanie Spahn

Dr Bruno Basalisco

Dr Henrik Ballebye Okholm

## PREFACE

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The purpose of this study is to review the use of cost allocation methods in postal state aid applications in the European Union (EU). This is an important topic because many recent postal state aid assessments by the European Commission (EC) came down to scrutinising cost allocation. Hence, this study is primarily directed to experts at regulators, competition authorities, ministries, postal operators, and policymakers in Europe.

Cost allocation carried out by economists can often become very complex very quickly, involving the use of complicated “techniques” and industry jargon that can make the net cost calculation evidence hard to understand and evaluate, even for fellow economic experts. This can lead to two different types of problems:

- The first is that complex cost allocation models that are hard to evaluate can lead to state aid enforcement authorities coming to the wrong conclusions on a particular case if they incorrectly evaluate complex evidence.
- The second is that the complexity of cost allocation can lead to authorities simply choosing to ignore the evidence and decline a state aid application.

The purpose of this study is not to explain to readers how to apply cost allocation methods themselves. This would require far more detail than we can give in this study. Instead, the aim is to allow readers to do two things:

- To understand the economic logic of the cost incrementality principle so that they can understand why it is so important to apply it to the calculation of the net costs of the universal service obligation (USO). This will be useful for those who need to make decisions about how to assess state aid applications, either as the responsible authority or as an interested third party.
- To allow readers to understand the implications of indirect costing methods, such as the fully allocated costs (FAC), presented to them in terms of why such methods are used and their limitations.

Regulatory reports based on fully allocated costing (FAC) models can yield important insights and provide the analyst with testable propositions, but it is the correct appraisal of the *incrementality* of costs that allows one to mitigate the risk of overcompensation and in consequence, cross-subsidisation of non-USO services. We start with the conceptual framework of the commercial scenario – a comparison of factual and counterfactual situations with and without the universal services obligation – which is underpinned both in the Annex 1 of the EU Postal Services Directive as well as in the EU State Aid guidelines. Then we turn to the issue of cost allocation and provide practical tools to ensure that all costs pertinent to the commercial services provision were appropriately allocated. We focus on the key criterion of incrementality that net cost calculation analysis should adhere to as well as various limitations related to fully allocated costing methods in more detail.

The study was conducted for UPS by Copenhagen Economics. All the findings and conclusions are our own.

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## EXECUTIVE SUMMARY

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The European postal sector benefits from substantial amounts of state aid from national governments. In recent years, the European Commission (EC) has approved direct aid to individual postal operators ranging from around €15 million up to €335 million annually for the provision of the postal universal service obligation with the total value of annual aid to postal service operators amounting to around €1.5 billion in 2020.

With increasing amounts of state aid being granted to postal service operators, the risks of competitive distortions arising from granted aid may increase. This risk is further exacerbated by recent developments in the postal markets:

1. An expanding number of sources of funding complicates the oversight of funding granted to universal services providers (USP) and creates a risk of double compensation (see Section 1.1).
2. Overlapping regulatory frameworks increase the risk of methodological misconceptions in net cost calculations (see Section 1.2). For instance, both the postal regulation and state aid control refer to the NAC methodology – which despite similar titles have different meanings and often result in misunderstandings.
3. Letter volume decline, increasing competition for e-commerce parcel deliveries, and expanding USPs' product mix all complicate net cost calculations and increase the potential harm of overcompensation (see Sections 1.3 and 2).

Based on our review of postal state aid cases handled by the European Commission, we find that the correct appraisal of cost allocation used in net cost calculation plays an increasingly important role. This is evident from both complaints by competitors and decisions made by the European Commission. Cost allocation is an important topic in postal state aid cases because ultimately, most assessments come down to scrutinising cost allocation:

- Will the use of fully allocated costs (versus incremental costs) lead to overcompensation?
- Will the allocation of common costs lead to overcompensation?
- Will the synergies between regulated and commercial services lead to overcompensation?
- Will the reliance on fixed and variable cost definitions used in tariff regulation contexts lead to overcompensation?

In Section 3, we address each of the four methodological challenges related to cost allocation:

The first challenge relates to *the choice of a cost estimation method*. Based on state aid economic literature and EC state aid cases, only the costs that are incremental to the USO should be included in the net costs. This means that, ideally, net cost calculations should be based on incremental cost methods such as long-run incremental costs (LRIC). However, in practice, claimants often attempt to utilise their existing product costing data based on a fully allocated cost methodology under their regulatory accounting obligations without further adaptations. Regulatory reports based on fully allocated costing (FAC) models can yield important insights and provide analyst with testable propositions. However, full reliance on FAC models risks deviating from the application of the incrementality principle. We discuss the superiority of the incrementality principle and its application in state aid cases in detail in Section 3.2.

The second challenge concerns the *allocation of common costs*.<sup>1</sup> Fully allocated costing models, without appropriate adjustments when calculating the net cost of the USO, typically yield a different result than applying the appropriate incrementality principle and might overstate the need for compensation. Consequently, in Section 3.3.1 we focus on

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<sup>1</sup> i.e., costs shared between all products in the business.

this divergence in outcomes, how regulators can detect it, and how to apply the incrementality principle in the case of common costs.

The third challenge concerns the *allocation of joint costs*.<sup>2</sup> Fully allocated costing models dismiss the synergies between regulated and non-regulated activities performed by USPs. We show in Section 3.3.2 how applying the principles of cost incrementality and cost causality yields a more realistic estimate of joint costs in the net cost calculation.

The fourth challenge concerns the application of the incrementality principle when *estimating the avoided costs of the scenario without the USO*. In addition to common and joint costs, fully allocated costing models typically also identify which costs are fixed and variable with output. While costs might be fixed in the accounting sense,<sup>3</sup> this does not directly imply that they cannot be avoided in the counterfactual scenario. We discuss the clear conceptual difference and a simple method to gain some understanding of the treatment of fixed costs in the net cost calculation in Section 3.3.3.

Altogether, based on an overview of current developments in the postal sector, a review of state aid cases, and an in-depth study of four potential pitfalls when calculating compensation for postal USPs, we derive three key policy implications.

First, we observe that **a changing postal sector warrants extra care from the relevant authorities** when assessing state aid applications and in particular, calculations of net costs. While the ongoing decline in letter volumes might raise the need for governmental support, the increasing relevance of parcels in operators' product mix and resulting operational transformations complicate the identification of the amount of aid needed. Consequently, a heightened awareness of (i) sector-specific changes, (ii) simultaneously existing funding sources, and (iii) diverging methods to calculate compensation is required from regulators and competition authorities to avoid the negative consequences of over- or undercompensation.

Second, **the importance of constructing a plausible counterfactual scenario** for net cost calculations cannot be overstated. Historically, postal USPs have applied a range of different net cost methodologies. However, some of these methods seem to deviate from the standards set out in the EU State Aid Framework and the Postal Services Directive, which require operators to set up a plausible counterfactual scenario with financially sustainable services. It is therefore important for state aid practitioners and relevant authorities to look beyond the mere definition of the methodology applied for net cost calculations and assess the plausibility of the counterfactual scenario. For instance, ex ante (national) regulation could provide guidelines to operators on how to ensure the plausibility of the counterfactual scenario.

Third, the **correct appraisal of the incrementality principle allows practitioners to cut through the complexity of cost allocation**. Despite the identified limitations of fully allocated costing systems regarding their adherence to the incrementality principle, these systems offer guidance and significant efficiency advantages in cases where long run incremental costing modelling is too burdensome. Hence, this paper does not advocate against using fully allocated costing in postal state aid applications. Instead, we focus on identifying specific issues and mitigating methods related to allocating and interpreting the incrementality of common, joint, and fixed costs. In practice, it is up to the individual postal USPs to be aware of the limitations raised in this paper and to ensure the correct application of mitigating methods. The fundamental principle of incrementality shall then guide competition authorities in their state aid reviews.

Overall, careful assessment of postal state aid applications and awareness of changes in the industry are becoming even more important as competition authorities and state aid practitioners face a complex regulatory environment. Abstracting from the calculation methodology and costing standard used, the decision to grant aid to postal universal service providers should be informed by a plausible counterfactual and the correct application of the incrementality principle to avoid any adverse effects of miscalculated state aid.

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<sup>2</sup> i.e., costs shared between some (but not all) products in the business.

<sup>3</sup> i.e., costs don't vary with output in the short/ medium run.

## CHAPTER 1

**THE VALUE AND COMPLEXITY OF POSTAL STATE AID APPLICATIONS ARE GROWING**

The European postal sector benefits from substantial amounts of state aid from national governments. In recent years, the European Commission has approved direct aid to postal operators ranging from around €15 million up to €335 million annually for the provision of the postal universal service obligation (USO).<sup>4</sup> Moreover, the number and total value of state aid cases handled by the European Commission has been growing consistently until 2020 and has increased from €1.1 billion in 2015 to around €1.5 billion in 2020 (see Section 1.1). In 2021 and 2022, fewer state aid applications for USPs were approved, or these have not yet been made public by the European Commission.<sup>5</sup>

The provision of state aid to postal universal service providers (USPs) is common in various European Member States and primarily materialises through two channels:

- Compensation for the net cost of the universal service obligation (USO). The USO may restrict postal operators from adapting their operations in response to market developments, such as declining letter mail volumes. This increases the cost of providing universal services.<sup>6</sup> The Postal Services Directive specifies that operators can be compensated if the so-called net cost of the USO represents an unfair financial burden. In recent years, between three and five European countries per year have made use of this mechanism and provided state aid to USPs for the provision of accessible and affordable postal services throughout the country.
- Compensation for services of general economic interest (SGEI). Under the 2012 SGEI Framework, governments are entitled to grant aid to alleviate the burden of providing other SGEIs promoting social cohesion in their respective countries.<sup>7</sup> While up to six European Member States have recently compensated their USP for the provision of additional SGEIs, there is great variation between countries in terms of what is included in these services of general economic interest. In countries such as Belgium or France, the scope of SGEIs is fairly broad, covering multiple services,<sup>8</sup> while in others only one service is included, for instance, the Czech Republic (data boxes information system).

A potential third channel for state financial support to the USPs is *ad hoc funding*, for example, capital injections for restructuring support or pension payments. This funding channel is less commonly used and was most recently used in Denmark where the Danish and Swedish governments provided capital injection for the restructuring of the Danish operations of PostNord.

For this study, we do not differentiate between state aid granted for postal universal service obligation and other services of general economic interest but focus on all state aid granted to postal service operators.

It is also noteworthy that there are several potential sources of funding for postal state aid. The Postal Services Directive identifies three types of compensation mechanisms: (i) public funds, (ii) a compensation fund, and/or (iii) public procurement, see Box 1.<sup>9</sup> In 2021, 23 European national regulatory authorities (NRAs) authorised different forms of compensation by law.<sup>10</sup> Out of the 16 countries that have established a compensation mechanism, five use

<sup>4</sup> See state aid cases (SA.35608 (2014/N - 2014/C) - Greece, 2014) ; (see also (Hellenic Republic Ministry of Finance, SGEI Report for the year 2020, Greece, 2020), (Hellenic Republic Ministry of Finance, 2022)) and (SA.43243 (2015/N) - Italy, 2015).

<sup>5</sup> We note that the USPs may have received support through other state aid measures accepted by the European Commission during the Covid-19 pandemic, thus needing less targeted aid.

<sup>6</sup> (European Commission, 2014).

<sup>7</sup> Apart from the postal universal service obligation.

<sup>8</sup> In France, La Poste has four SGEI public services, for which it is compensated by the State, which include (i) ensuring stable universal postal service quality, (ii) having at least 17.000 points of contact throughout France, (iii) distributing the press with privileged postal rates granted to newspaper publishers and (iv) making banking accessible to all.

<sup>9</sup> European Commission, 2008a Alternative means for funding are also possible, see source paragraph 26.

<sup>10</sup> Copenhagen Economics, 2022.



direct compensation from public funds, three use a compensation fund, and eight use other compensation mechanisms, which in most cases mean direct compensation from public funds.

**Table 1**  
**Evolution of postal state aid handled by DG COMP, 2015-2020**

		2015	2016	2017	2018	2019	2020	2021	2022
<b>USO FUNDING</b>	Number of USP recipients	4	3	4	5	5	5	3	2
	Annual aid amount (million)	€501	€405	€458	€514	€514	€489	€331	€316
<b>OTHER SGEI FUNDING</b>	Number of USP recipients	2	4	5	6	6	5	5	3
	Annual aid amount (million)	€602	€862	€920	€1,028	€1,028	€971	€683	€594
<b>Total</b>		<b>€1,103</b>	<b>€1,267</b>	<b>€1,378</b>	<b>€1,542</b>	<b>€1,542</b>	<b>€1,459</b>	<b>€1,013</b>	<b>€909</b>

Note: The table does not include aid granted to Posten Norge in Norway, whose aid is approved by EFTA Surveillance Authority as Norway is not an EU member state.

Source: CE research based on state aid cases handled by the European Commission.

State aid may have both positive and negative effects. On the one hand, aid may be aimed at correcting a market failure, and increasing welfare through the provision of universal affordable public services. On the other hand, state aid may also have the potential to distort competition and trade between Member States, which eventually decreases societal benefits.

As a result, state aid must be compatible with EU State Aid legislation.<sup>11</sup> The EC, after confirming that public funding constitutes state aid, assesses whether it can be considered compatible with the Treaty of the Functioning of the European Union (TFEU). This assessment involves weighing the positive effects of state aid against the potential negative effects on competition and trade.

In the case of SGEIs, the EC assesses the compatibility of universal service compensation on the basis of the 2012 SGEI Framework.<sup>12</sup> In this assessment, the EC balances the positive and negative effects of the aid and verifies whether the aid is compatible with the TFEU. A key component in compatibility assessment is the assessment of the amount of compensation for the SGEI. To avoid overcompensation, and potential cross-subsidisation between SGEIs and non-regulated, commercial activities carried out by postal operators<sup>13</sup>, the amount of compensation should not exceed the net costs of delivering the SGEI.<sup>14</sup>

In the case of compensation for the net costs of the USO, the Postal Services Directive contains specific rules that follow similar principles as in the case of SGEIs. We discuss considerations related to the compensation of net costs for delivering universal services further in Section 3.

<sup>11</sup> Article 106(2) of the Consolidated Version of the Treaty on the Functioning of the European Union, 2008, which provides the legal basis for assessing the compatibility of state aid for SGEIs.

<sup>12</sup> European Commission, 2012.

<sup>13</sup> Cross-subsidisation refers to the potential misuse of public funding for universal services to strengthen market position in delivery of commercial services.

<sup>14</sup> European Commission, 2012, point 21 of the Framework.

**Box 1 Compensation mechanisms for the funding of the USO net cost**

European Member States may establish external financing mechanisms to support their universal service provider with the burden of the net cost of the USO. The Postal Services Directive specifically mentions three mechanisms.

- **Direct compensation from public funds:** In this case, universal service providers receive direct subsidies from the state, financed by tax revenues. This mechanism is most used in practice due to its administrative simplicity, but it is also highly sensitive to public scrutiny as it utilises taxpayers' contributions.
- **Compensation fund:** Member States can establish a fund that is financed "by service providers and/or users' fees"<sup>15</sup> and thus shares the USO net cost among the various postal delivery operators and/or postal users in the market.<sup>16</sup> Although compensation funds are legally authorised,<sup>17</sup> this mechanism has hardly been used in practice.
- **Public procurement:** USO services may also be procured without the usual public procurement process. Following the Postal Services Directive, Member States can use "public procurement procedures including [...] competitive dialogue or negotiated procedures with or without the publication of a contract notice".<sup>18</sup>

Source: Postal Services Directive 2008

## 1.1 Numerous sources of funding complicate the oversight of funding granted to the USPs and create a risk of double compensation

Postal operators can benefit from both direct and indirect funding.<sup>19</sup> When assessing the amount of support granted to a USP, it is crucial to consider the benefits generated for the USP through all types of funding. To add further complexity, funding may be granted and monitored by different governmental and EU organisations that may lack oversight of each other's activities. For instance, USO net cost calculations are verified by NRAs<sup>20</sup> and subsequently must be approved by the European Commission, while direct funding under the SGEI Framework and other state aid measures falls within the competences of the European Commission. Transparency is key to pre-empting the risk of overcompensation.

As pointed out above, some postal operators receive financial support from the state for postal universal services (under the USO) but also for other SGEIs.<sup>21</sup> Other SGEIs provided by postal operators include the provision of banking or other services aimed at, for example, vulnerable groups of users. Given that all these services are typically provided in shared facilities and may benefit from the same resources, this runs the risk of double compensation. As the overall magnitude and complexity of funding granted to USPs increase, so does the risk of double compensation.

The risk of double compensation is specifically addressed in the Postal Services Directive, which calls for attention when calculating the net costs of different parts of universal service obligations.<sup>22</sup> Where the USP receives funding both for its USO as well as for other services of general economic interest, it is key that same level of attention and

<sup>15</sup> European Commission, 2008a.

<sup>16</sup> Romito, Gori, & Scarfiglieri, 2017.

<sup>17</sup> European Commission, 2008b.

<sup>18</sup> European Commission, 2008a.

<sup>19</sup> Postal operators may for instance receive funding in cash, VAT exemptions or be directly procured to provide certain USO tasks.

<sup>20</sup> European Commission, 2008a.

<sup>21</sup> We highlight that postal USO is a specific type of SGEI.

<sup>22</sup> According to Annex I Part B of the Postal Services Directive: "The **calculation of the net cost of specific aspects of universal service obligations is to be made separately and so as to avoid the double counting of any direct or indirect benefits and costs.** The overall net cost of universal service obligations to any designated universal service provider is to be calculated as the sum of the net costs arising from the specific components of universal service obligations, taking account of any intangible benefits." [Bolding added by Copenhagen Economics].

scrutiny remains. The approach taken by the Belgian authorities, where the impact of each SGEI-induced constraint is appraised sequentially for the overall net cost of several SGEIs, has been accepted by the European Commission.<sup>23</sup>

## 1.2 Overlapping regulatory frameworks increase the risk of methodological misconceptions in net cost calculations

Compared to many other sectors, the postal sector remains heavily regulated due to its societal importance and the fundamental human right to communications. On a national level, the functioning of the designated universal service providers is supervised by each Member States' NRA, which ensures that requirements set for, e.g., quality of service under the Postal Services Directive are met. These NRAs are also responsible for making sure that separate accounts between USO and non-USO services are maintained and that the cost allocation there is done appropriately.

The existence of sectoral regulation for postal services has two types of effects. On the one hand, it provides a unique opportunity to leverage existing reporting flows and know-how at NRAs to assess state aid applications in the postal sector at a greater scrutiny and faster pace than in other non-regulated industries where such data and experience is unavailable. On the other hand, there is a risk of miscommunication between parallel regulatory principles of sector regulation (and the Postal Services Directive) and state aid control (Article 107 and Guidelines) and different regulatory concepts and inadvertent use of incorrectly defined measures (e.g., taking cost allocation data originally designed for price regulation and applying it for net cost calculation).

For instance, both the postal regulation and state aid control make reference to the NAC methodology – which in postal contexts refers to “net *avoidable* cost” methodology, while in state aid control refers to “net *avoided* cost” methodology. The net avoidable cost methodology originates from telecommunications sector regulation and may suit services provided over fixed physical infrastructure. However, it rarely provides a plausible counterfactual scenario for labour-intensive postal services.<sup>24</sup> Hence, it should not be confused with the net avoided cost methodology used in state aid, which more closely corresponds to “*the commercial approach*” of the postal sector regulation.

More profoundly, confusion may arise where the NRA makes use of, for example, cost allocation data originally designed for price regulation or regulatory accounting and uses these costs to evaluate the net cost calculations for the USO. While both require a detailed understanding of the USPs' costs, the very framework in which these are appraised is different. We explore the implications of such misconceptions in detail in Section 3.

## 1.3 The potential harm of overcompensation is higher in current competitive postal markets than in the past

Regulatory complexity and the resulting uncertainty increase the risk of an incorrect assessment of the need for compensation. If compensation is calculated incorrectly, it results in either under-compensation or over-compensation. Under-compensation, while not resulting in a short-term tax burden to taxpayers, may harm consumer welfare in the long run. Overcompensation, however, may cause short-term consumer harm, both directly from the financial burden to the taxpayers and indirectly through the risk of competitive distortions in the adjacent non-USO markets.

In the past, if the USP was overcompensated it was likely just to be inefficient. However, owing to the modern complexities of the postal sector, discussed in detail in Section 2, and the overlapping interests of USPs and fully commercial operators, the risk of competitive distortions and state aid investigations by the EC increases.

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<sup>23</sup> The European Commission Case SA.42366 (2016/N) – Belgium, 2016 describes the approach as: “The NAC methodology used by the Belgian authorities is built step-by-step and takes into account all cross-effects on revenues and costs. The step-by-step approach sequentially removes the SGEI-induced constraints that the operator faces, that is to say, it assumes the adoption of an alternative business model for one SGEI at a time. It is only when the full impact (including direct, cross- and collateral effects) of a particular step is computed that the analysis continues, and the constraints linked to another SGEI are lifted.”

<sup>24</sup> Poste Italiane presentation at the EUI Postal and Delivery Regulatory Economics conference in Gdansk, 24-26 May 2023.

## CHAPTER 2

**RECENT DYNAMICS IN THE POSTAL SECTOR  
CHALLENGE THE STATE AID MECHANISM**

Digitalisation and the rise of e-commerce have shifted the focus of the postal and delivery sector from letters to parcels, fundamentally changing the product mix handled by universal service providers (USPs). This ongoing market development further complicates the compensation regime on top of the complex regulatory environment discussed in Chapter 1 and should be carefully considered when calculating the net cost of the universal service obligation (USO). To do so, we first identified the two key developments in the postal sector driving the change.<sup>25</sup>

*First*, the substitution of letter mail for electronic alternatives has resulted in declining letter mail volumes. As the letter mail industry is characterised by large economies of scale, this development has led to the cost per delivered item increasing substantially. To ensure the financial sustainability of their letter mail business, many European USPs have increased prices and introduced cost reductions. The declining demand for letter mail has had a negative impact on the profitability of USPs, increasing the need for cost compensation for delivering these services.

*Second*, the rise of e-commerce, further boosted by the Covid-19 pandemic, has resulted in a substantially increased demand for parcel and e-commerce-related mail services. The subsequent increase in parcel volumes has increased the attractiveness of the postal and delivery sector for new operators, increasing competition. At the same time, USPs have diversified their businesses by increasing commercial activities not required by the universal service obligations imposed on them.<sup>26</sup>

These developments are substantiated by postal operators' revenue trends across the EU: Revenues of the EU parcel sector increased strongly from €42.4 billion in 2013 to €65.3 billion in 2021, while revenues in the EU letter sector fell from €41.1 billion to €33.7 billion over the same period.<sup>27</sup>

In response to market developments, USPs adjust their operational models and, for example, integrate the delivery streams of parcels and letters, especially in rural areas. As a result, there are substantial overlaps between the fully commercial and non-commercial activities of USPs, and considerable synergies arise from these overlaps. The increasingly blurred lines between commercial and non-commercial activities, the jointly used infrastructure, and the resulting cost synergies complicate the isolation of the true net cost of the USO.

In this chapter, we discuss how the changing product mix impacts USPs' operations and cost structure (Sections 2.1 and 2.2), and how this relates to the calculation of net cost compensation for the provision of the universal service obligation (Section 2.3).

**2.1 Fewer letters increase the cost of the universal service**

Across Europe, letter volumes are declining steadily as technological progress unlocks a large variety of alternative, more cost-efficient methods for electronic communication among private households, as well as between governments and their citizens. Domestic letter mail volumes in Europe declined by 7 per cent annually between 2017 and 2021, compared to an annual decline of 4.3 per cent between 2013 and 2017.<sup>28</sup> Although this overarching statistic hides some national differences regarding the extent of the structural decline, letter mail volumes did decrease in each European country over the 2013-2021 period.<sup>29</sup>

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<sup>25</sup> Copenhagen Economics, 2022.

<sup>26</sup> In this report, we refer to non-USO activities also as commercial activities. Similarly, USO activities are referred to as non-commercial activities, which does not imply that they are not profitable, but that they are part of the USO requirements.

<sup>27</sup> Based on data from 23 National regulatory authorities (NRAs) from the EU-27, collected as part of Copenhagen Economics, 2022.

<sup>28</sup> *ibid*, Figure 1, p.39.

<sup>29</sup> Copenhagen Economics, 2022, Table 1, p.40.

As the letter mail industry is characterised by significant economies of scale, the continuous decline in letter mail volumes is detrimental to profitability. With fewer letters, USPs are less and less able to distribute the (largely fixed) costs of their network across these letters, meaning that their cost per delivered letter increases substantially.

This sector-specific development challenges the traditional business model of USPs. In response, the USPs may change (and some have changed) their business strategies by i) adjusting letter prices, ii) reducing the quality of service, or iii) reducing the number of postal outlets, as described in Box 2.

### Box 2 USP means to mitigate the impact of decreasing letter volumes

Universal service providers can attempt to mitigate the effects of the decreasing letter volumes on their costs through different methods.

1. USPs can tackle **increasing unit costs by reflecting these changes in their pricing**. In the 2017-2021 period, 26 European USPs adjusted their letter prices upwards to offset the increased letter unit costs. However, USPs may often be limited in their pricing freedom by regulatory price caps such that price adjustments alone cannot make up for the loss in economies of scale.<sup>30</sup>
2. USPs may attempt to reduce their unit costs through **a reduction in quality of service**. USPs may have the incentive to reduce the speed of standard delivery services (e.g., from D+1 to D+2) and/or reduce the quality of service as a means to reduce costs. However, across Europe, only eight USPs reduced the speed of their fastest letter product due to limitations by national and European postal regulations.<sup>31</sup>
3. USPs may want to **reduce the number of postal outlets to lower their network costs**. This cost-saving strategy is limited by postal regulation, which includes density requirements for the postal network in most European countries.<sup>32</sup> This follows the Postal Services Directive which requires Member States "to ensure that the density of the points of contact and of the access points takes account of the needs of users".<sup>33</sup>

Source: Copenhagen Economics. (2022), *A study for the European Commission, Main developments in the postal sector (2017-2021)*

However, due to limitations placed by current postal regulation, USPs have not been able to adapt their letter business strategy in a financially sustainable way, at least not to the extent necessitated by the market changes. Without the possibility of adjusting the letter business sufficiently to the decline in letter volumes, economies of scale decrease, resulting in the observed increased letter unit cost.

This lowers the USP's profitability and thus might increase the need for compensation from the government. The USP is providing an increasingly costly universal service. To incentivise the USP to continue providing these services, the Postal Services Directive allows compensation to the USP for the unfair burden that the USO represents.<sup>34</sup> This burden increases as the USP benefits from fewer economies of scale.

However, we cannot analyse the decline of letter mail volumes and their impact on USP profitability and compensation in isolation. This development must be put into context with other changes in the postal sector.

## 2.2 The new postal product mix results in cost synergies beneficial for society

In the face of the steady letter volume decline in most European countries, USPs have taken a step back to assess how to counteract the increasing letter unit costs while fulfilling the USO requirements posed by national regulatory

<sup>30</sup> *ibid*, Table 45, pp.137. Exceptions are the cases of Sweden and Ireland. In Sweden, the price cap regulation was adjusted in 2019 to consider the USP's increased unit costs from a letter volume decline. In Ireland, the price cap was removed entirely. (Copenhagen Economics, 2022, p.27. The exact mechanism of how the price cap is defined determines how pricing can be adjusted in response to unit cost changes.

<sup>31</sup> *ibid*, Table 20 p.89.

<sup>32</sup> *ibid*, Table 29 p.101.

<sup>33</sup> European Commission, 1997, art. 3 paragraph (2).

<sup>34</sup> European Commission, 2008a, Annex 1.

authorities (NRAs) and the European Commission.<sup>35</sup> As established, the ongoing letter decline trend is accompanied by an increase in parcel volumes, shifting the product mix handled by USPs towards parcels.

To ensure their profitability, USPs are making use of these parallel market developments by adjusting their delivery networks to the new product mix. In the 2017-2021 period, USPs in 19 European countries carried out major reorganisations of their logistics network to ensure their operations were suitable for the changing market conditions,<sup>36</sup> and in 2019, 73 per cent of USPs operated either a fully joint network for letters and parcels or did so at least in rural areas.<sup>37</sup> Integrating the letter and parcel delivery networks allows the USP to benefit from economies of scope and scale,<sup>38</sup> which are declining in a network delivering letters alone.<sup>39</sup>

The parallel market developments regarding letters and parcels force the pursuit of synergies, so that USPs' provision of USO services (often letters) and commercial services (primarily parcels) are increasingly integrated. Integrated production gives rise to efficiencies and economies of scale and scope and thus reduces the unit costs per item to the USP, presenting the first benefit of network integration. However, the increasingly blurred lines between commercial and non-commercial activities raise the question: How do cost synergies interact with the net cost of the USO and the need for compensation?

When assessing the net cost of the USO, the Postal Services Directive<sup>40</sup> and the 2012 SGEI Framework<sup>41</sup> require a comparison of the USP's actual profits with the profit it would earn in a hypothetical scenario free of the universal service obligation. To estimate the profit in the alternative hypothetical scenario, the USP must evaluate which of its costs can be fully avoided without the USO and are thus incremental to the USO.<sup>42</sup> With (fully) integrated delivery networks, the share of costs that can be avoided in the absence of the USO is smaller, as the shared infrastructure is still needed to provide the services that remain in the hypothetical scenario.<sup>43</sup>

Utilising cost synergies via network integration reduces the cost incremental to the USO, which, in turn, lowers the net cost of the USO. Cashing in the synergies arising from commercial and USO activities creates societal value, as it reduces the need for compensation and saves taxpayers' money. Simultaneously, the efficiencies gained from increased network integration complicate the assessment of the need for compensation itself, increasing the risk of overcompensation. We discuss this in Section 2.3.

### **2.3 The new postal product mix complicates the calculation of net costs and resulting compensation**

The increasing integration of commercial and non-commercial services by the USP, promoted by the changing postal product mix, aggravates the identification of the true net cost of the USO. Calculating the USO net cost accurately requires determining the costs that the operator can avoid in the absence of the USO. While taking advantage of synergies from the joint delivery of different products can reduce the net cost of the USO, see Section 2.2, the interwoven production of multiple products simultaneously complicates the assessment of a hypothetical scenario where the USP operates without the USO and can thus avoid certain costs.

Identifying the costs incremental to the USO, in other words, the costs the USP can avoid without the USO, is more complex when resources and (cost) activities are jointly used by various products of which only some are discontinued in the hypothetical scenario. The devil is in the detail and an incorrect assessment of costs incremental to the

<sup>35</sup> Regarding price caps, quality of service, and network density, see Section 2.1.

<sup>36</sup> Copenhagen Economics, 2022, Table 15 p.77.

<sup>37</sup> European Regulators Group for Postal Services, 2019, Figure 11 p.20.

<sup>38</sup> Frezza, 2022.

<sup>39</sup> Utilising shared infrastructure and resources, such as sorting centres, delivery vans, and the working hours of the postal workers gives rise to efficiencies, cost reductions, and operational flexibility that counteract the negative impact the declining letter volumes have on USPs' profitability.

<sup>40</sup> European Commission, 2008a.

<sup>41</sup> European Commission, 2012.

<sup>42</sup> We discuss the method to calculate the net cost of the USO and the role of the incrementality principle in detail in Chapter 3.

<sup>43</sup> Alternatively, assume that a USP is operating two separate delivery networks for letters and parcels. Without the universal service obligation, the USP might decide to discontinue the loss-making letter delivery. As delivery networks are not integrated, all costs of the letter delivery network can be avoided in the hypothetical scenario.

USO is directly harmful to the taxpayer as i) the USP can be overcompensated for its USO activities and ii) this can cause competitive distortions resulting in a societally suboptimal market.

Allowing USPs to provide both non-commercial USO and commercial activities is therefore a balancing act between increased societal value through cost synergies and risk of competitive distortions through overcompensation. When USPs carry out both non-commercial USO and commercial activities, the synergies arising reduce the incremental cost of providing the USO services – but at a risk of competitive distortions if the costs of USO are miscalculated.

The method applied to calculate the net cost of the USO must be particularly sensitive to the impact that the continued integration of parcel and letter delivery networks has on the need for compensation and its accurate identification. In Chapter 3, we discuss extensively how the *commercial approach* handles this complication and how USPs' accounting cost allocation can interfere with or support the net cost calculation with increasingly integrated delivery networks.



## CHAPTER 3

# THE CORRECT APPRAISAL OF INCREMENTALITY OF COSTS MITIGATES THE RISK OF OVERCOMPENSATION

This chapter provides a review of recent state aid cases in the postal sector with a particular focus on cost allocation methods. We find that the correct appraisal of cost allocation used in net cost calculation plays an increasingly important role. This is evident from both complaints by competitors and decisions made by the European Commission. We find that postal state aid cases often come down to scrutinising cost allocation:

- Will the use of fully allocated costs (versus incremental costs) lead to overcompensation?
- Will the allocation of common costs lead to overcompensation?
- Will the synergies between regulated and commercial services lead to overcompensation?
- Will the reliance on fixed and variable cost definitions used in tariff regulation contexts lead to overcompensation?

Cost allocation carried out by economists can often become very complex very quickly, involving the use of complicated “techniques” and industry jargon that can make the net cost calculation evidence hard to understand and evaluate, even for fellow economic experts. This can lead to two different types of problems:

- The first is that complex cost allocation models that are hard to evaluate can lead to state aid enforcement authorities coming to the wrong conclusions on a particular case if they incorrectly evaluate complex evidence.
- The second is that the complexity of cost allocation can lead to authorities simply choosing to ignore the evidence and declining a state aid application.

The purpose of this chapter is not to explain to readers how to apply cost allocation methods themselves. This would require far more detail than we can give in this study. Instead, the aim is to allow readers to do two things:

- To understand the economic logic of the cost incrementality principle so that they can understand why it is so important to apply it to the calculation of the net costs of the USO. This will be useful for those who need to make decisions about how to assess state aid applications, either as the responsible authority or as an interested third party.
- To allow readers to understand the implications of indirect costing methods, such as the fully allocated costs (FAC), presented to them in terms of why such methods are used and their limitations.

Regulatory reports based on fully allocated costing (FAC) models can yield important insights and provide the analyst with testable propositions, but it is the correct appraisal of the *incrementality* of costs that allows one to mitigate the risk of overcompensation. Hence, in this study, we discuss the key criterion of incrementality that net cost calculation analysis should adhere to, as well as various limitations related to fully allocated costing methods, in more detail.

## 3.1 Cost allocation is at the core of the postal State Aid cases

Across Europe, postal universal service providers (USPs) are applying for compensation from their government for the burden that the universal service obligation (USO) or services of general economic importance (SGEI) imposes on their business.<sup>44</sup> Once approved by the national regulatory authority, state aid must be accepted by the European Commission (EC) and is subject to potential third-party complaints.

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<sup>44</sup> The observations in this chapter focus on net cost calculations and the importance of cost allocation, with no differentiation between the aid granted for USO or SGEI.



A common concern raised by competing delivery operators in state aid investigations is overcompensation linked to faulty calculations of the USO net cost. Other (often related) concerns raised by delivery competitors include the lack of transparency in the net cost calculation, non-credible counterfactual scenarios, and cross-subsidisation.<sup>45</sup>

Based on our review of postal state aid cases handled by the EC, we found that formal complaints by delivery competitors often specifically address the USP's internal cost allocation and its allegedly flawed use as the basis for the net cost calculation. Apart from complaints by competitors, the EC itself has also directly addressed the role of cost allocation for net cost compensation in various state aid cases, most notably in the Italian and French services of general economic interest (SGEI) cases.<sup>46</sup>

Based on these state aid cases, we identified four core topics that focus on the interconnection of USPs' cost allocation, the net cost calculation, and the risk of overcompensation. For a list of related state aid cases, see Table 2.

**Table 2**  
**State aid cases reveal four key cost allocation challenges in net cost calculations**

CHALLENGE	RELATED CASES
The economics behind the net cost calculation and the <b>incrementality principle</b>	SA.57991 (DK), SA.48492 (IT), SA.48883 (FR)
The allocation (and incrementality) of <b>common costs</b>	SA.47707 (DK), SA.57991 (DK), SA.48492 (IT), SA.48883 (FR)
The allocation (and incrementality) of <b>joint costs</b>	SA.57991 (DK), SA.55208 (CZ), SA.48492 (IT), SA.48883 (FR)
The allocation (and incrementality) of <b>fixed and variable costs</b>	SA.50872 (ES), SA.48492 (IT), SA.48883 (FR)

Note: Based on third-party complaints, comments, and EC considerations.

Source: Copenhagen Economics

The first challenge relates to *the choice of a cost estimation method*. Based on state aid economic literature and EC state aid cases, only the costs that are incremental to the USO should be included in the net costs.<sup>47</sup> This means that, ideally, net cost calculations should be based on incremental cost methods such as long-run incremental costs (LRIC). However, in practice, claimants often attempt to utilise their existing product costing data based on a fully allocated cost methodology under their regulatory accounting obligations without further adaptations. This risks deviating from the application of the incrementality principle. We discuss the superiority of the incrementality principle and its application in state aid cases in detail in Section 3.2.

The second challenge concerns the *allocation of common costs*.<sup>48</sup> Fully allocated costing models, without appropriate adjustments when calculating the net cost of the USO, typically yield a different result than applying the appropriate incrementality principle and might overstate the need for compensation. Consequently, in Section 3.3.1 we focus on this divergence in outcomes, how regulators can detect it, and how to apply the incrementality principle in the case of common costs.

The third challenge concerns the *allocation of joint costs*.<sup>49</sup> Fully allocated costing models dismiss the synergies between regulated and non-regulated activities performed by USPs. We show in Section 3.3.2 how applying the principles of cost incrementality and cost causality yields a more realistic estimate of joint costs in the net cost calculation.

The fourth challenge concerns the application of the incrementality principle when *estimating the avoided costs of the counterfactual scenario*. In addition to common and joint costs, fully allocated costing models typically also

<sup>45</sup> Complaints (or comments) on the topics of (i) Lack of transparency: SA.55208 (CZ), SA.57991 (DK), SA.57538 (EL); (ii) Non-credible counterfactual scenario: SA.55208 (CZ), SA.45281 (CZ), SA.57991 (DK), SA.47707 (DK); (iii) Cross-subsidisation: SA.50872 (ES), SA.57538 (EL).

<sup>46</sup> Case SA.48492 (2019/NN) – Italy, 2019 & Case SA.48883 (2018/N) – France, 2019.

<sup>47</sup> Case SA.48492 (2019/NN) – Italy, 2019, para (113).

<sup>48</sup> i.e., costs shared between all products in the business.

<sup>49</sup> i.e., costs shared between some (but not all) products in the business.

identify which costs are fixed and variable with output. While costs might be fixed in the accounting sense,<sup>50</sup> this does not directly imply that they cannot be avoided in the counterfactual scenario. We discuss the clear conceptual difference and a simple method to gain some understanding of the treatment of fixed costs in the net cost calculation in Section 3.3.3.

### 3.2 The principle of cost incrementality is the key focal point in postal State Aid cases

One of the fundamental principles of state aid rules is that the compensation amount should not exceed the net cost of the universal service or the services of general economic interest (SGEI). Otherwise, there is a risk of overcompensation, which is harmful to competition and ultimately, final consumers. Hence, the importance of net cost measurement cannot be overstated. For the sake of simplicity, we only refer to universal service in the forthcoming, but the same general principles of funding also apply to SGEI.

The Postal Services Directive does not directly name the methodology that should be used for calculating the net cost of the universal service obligation, but instead provides the following description:

*“The net cost of universal service obligations is to be calculated, as the difference between the net cost for a designated universal service provider of operating with the universal service obligations and the same postal service provider operating without the universal service obligations.”<sup>51</sup>*

In other words, the Postal Services Directive instructs that the net cost of providing universal service should be based on a counterfactual scenario in which the universal service obligation(s) do not exist and the postal service operator would act on a commercial basis.

In practice, postal operators and sector regulators use three types of quantitative methods to calculate the net costs of universal services. These methods differ in the way they define counterfactual scenarios. Importantly, only the “*commercial approach*” method explicitly defines the counterfactual scenario and all related cost and demand consequences in a given case. Other methods either simply presume that the cost accounting result matches the counterfactual scenario (fully allocated cost method) or presume that in the counterfactual scenario, the postal operator would stop serving loss-making areas (net avoided cost method), see Box 3.

Hence, the *commercial approach* is best aligned with the abovementioned principle set out in the Postal Services Directive. It is also best aligned with state aid case law, where the *net avoided cost* methodology employs identical principles as the commercial approach.<sup>52</sup>

The commercial approach directly compares profits in two scenarios: the current state as-is (the *factual scenario*) and the hypothetical state, where the same postal operator operates without any of the constraints put in place by the universal service obligation(s) (the *counterfactual scenario*).<sup>53</sup> Put simply, the net cost of the universal service obligation is calculated as the difference in profits between the counterfactual scenario and the factual scenario, see Figure 1 below.

<sup>50</sup> i.e., don't vary with output in the short/medium run.

<sup>51</sup> European Commission, 2008a, Annex 1.

<sup>52</sup> See e.g., Pesaresi, Sinnaeve, Guigue-Koepfen, & Wiemann, 2012 and European Commission, 2012. We note that the *net avoided cost* methodology in state aid literature should not be confused with the *net avoidable cost method* used by postal service operators for regulatory accounting. For clarity, we refer to 1) commercial approach, 2) profitability approach, and 3) net avoided cost methodology simply as the “*commercial approach*”.

<sup>53</sup> The counterfactual scenario is a hypothetical scenario where the USP is acting without constraints and makes business decisions solely based on commercial considerations. It is thus also often referred to as the *commercial scenario*. We will refer to this hypothetical, alternative scenario as the counterfactual scenario throughout this report.

**Box 3 Approaches to estimate the net cost of universal service obligations**

A 2021 survey of European universal service providers conducted by Copenhagen Economics for the EC showed that postal operators in Europe used several different methods for developing their own estimates of the USO net cost.<sup>54</sup> The most commonly used methods were based on the net avoidable cost method and the commercial approach. Further, the fully allocated cost method is sometimes used.<sup>55</sup>

**The fully allocated cost method:**<sup>56</sup> The fully allocated cost method is based on accounting methodology and does not include a counterfactual scenario. Thus, it fails to comply with the definition of USO net costs as the difference in profit between the status quo and the counterfactual scenario without the USO.

Instead of defining the net cost as the difference in costs for the universal service provider operating with and without the USO, the fully allocated cost method calculates the total cost of the USO according to the status quo.

An advantage of the fully allocated cost method is that it allows the calculation of all losses that are associated with the USO. However, the losses resulting from the USO are not the same as the net costs of the USO. As a direct result, the main disadvantage of the method is that it does not comply with the net cost definition in the Postal Directive.

**The net avoidable cost method:** The net avoidable cost method calculates the net cost of the USO as the savings that the postal operator could achieve if there was no USO and the operator could discontinue all loss-making activities. The underlying assumption is that a profit-maximising commercial operator without any USO would not serve unprofitable market segments.

The net avoidable cost method leaves out effects on the revenue side, ignoring demand effects, and assumes that all services provided at a loss will discontinue in the absence of a USO. Thus, the reduction in service level in the counterfactual situation will, in this case, be overestimated and yield excessive net costs.

**The commercial approach:**<sup>57</sup> The commercial approach was constructed to tackle the weaknesses of the two previous approaches. This method applies the correct net cost definition and calculates the difference in profit with and without the USO (i.e., compares the actual profit under the USO and the profit in the counterfactual situation without the USO).

The commercial approach is explicitly based on two scenarios: the current situation where the universal service provider provides the USO services under the current legal framework, including requirements as well as possible legal benefits, and a counterfactual situation, where the former universal service provider acts on a purely commercial basis, without any USO. That is, the commercial approach estimates the total commercial effect of discontinuing a given USO element in terms of both cost and revenue effects.

For further detail on each approach and their strengths and weaknesses, please see **Main Developments in the Postal Sector (2017-2021)**, Table 53.

Source: Copenhagen Economics

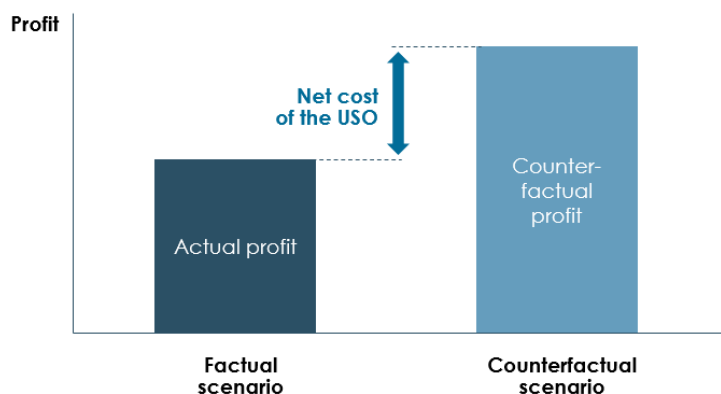
<sup>54</sup> Copenhagen Economics, 2022, Table 53 p.153.

<sup>55</sup> Frontier Economics, 2012, table 16, p.51.

<sup>56</sup> Also known as the *deficit approach*, see Frontier Economics, 2012, p.35.

<sup>57</sup> Also known as the *profitability (cost) approach*, see Frontier Economics, 2012, p.35.

**Figure 1**  
**The net cost of the USO is the difference between actual and counterfactual profit**



Source: Copenhagen Economics

Defining a plausible counterfactual scenario can be a complex exercise, as the postal operator's revenues and costs in the counterfactual scenario are not readily available. In practice, the counterfactual scenario can be developed in two alternative ways:

- The additive approach constructs the whole business of the postal service operator from scratch keeping in mind that none of the obligations arising from the universal service obligation restrains the development of the postal operator's business. This employs *incremental costs*.
- The subtractive approach takes the existing factual scenario as the starting point and assumes profit-maximising adjustments to services, operations, and pricing. This employs *avoidable costs*.

Based on our review of postal state aid cases, in the majority of cases net cost calculations imply counterfactual scenarios based on the subtractive approach, i.e., taking the existing factual scenario as a starting point. This may be explained by practical reasons – the subtractive approach allows leveraging USPS' vast existing cost allocation data, which pertain to the factual scenario.

Irrespective of the calculation method chosen, the estimate of net costs of the USO should always adhere to the principle of *incrementality*.<sup>58</sup> When evaluating whether a cost should be part of the net cost of the universal service obligation, one should ask whether that cost is incremental to providing the universal service or not. The cost should only be considered as part of the calculation if it is caused by the USO and if it would be avoided in the absence of the service obligation in the counterfactual scenario.<sup>59</sup> Alternatively, a cost in the factual scenario with the USO that would also remain in the commercial counterfactual scenario without the USO is not incremental to the USO.

The 2012 SGEI Framework calls for particular "*attention [...] to correctly assessing the costs that the service provider is expected to avoid and the revenues it is expected not to receive, in the absence of the public service obligation*". Under the 2012 SGEI Framework, the commercial approach<sup>60</sup> is considered the primary method for net cost calculation, as it correctly captures only costs incremental to the compensated product or service. Only in cases where the commercial approach is non-applicable does the SGEI Framework consider a "methodology based on cost allocation" (i.e., FAC) acceptable.

<sup>58</sup> Case SA.48492 (2019/NN) – Italy, 2019: "The NAC applies a logic of incrementality: only those costs that are incremental to the public service mission, i.e., which would not be incurred at all in its absence, should be taken into account for the calculation of the NAC."

<sup>59</sup> For example, while the USO might define a five-day delivery frequency, the postal operator might in the absence of the USO still provide a three-day delivery frequency, in which case only the cost of the two "excess" days should be considered incremental to the USO instead of the total cost of the five-day delivery frequency.

<sup>60</sup> Referred as "net avoided cost" in the SGEI Framework. Please note, that this is different from the net avoidable cost concept in the postal sector.

The existing actual costs of providing both commercial and universal services can act as proxies when determining the share of costs incremental to the USO. The level of estimation accuracy depends on the chosen costing method. The first-best method to estimate incremental or avoidable costs is the long-run incremental costing (LRIC) standard. However, in practice, claimants often rely on the second-best option, i.e., the fully allocated costing (FAC) standard<sup>61</sup>, see Box 4.

#### Box 4 Long run incremental costs and fully allocated costs

**Long-run incremental costing (LRIC)** is a cost concept commonly used in network industries.<sup>62</sup> The LRIC of a certain “increment of output is the additional cost that an operator would incur for providing that increment in the long run”.<sup>63</sup> Due to its long-run nature, LRIC also includes any (sunk) fixed costs related to the provision of the increment and thus reflects the full incremental cost from additionally producing the increment in the long run.<sup>64</sup> While LRIC can refer to unit-level increments, the LRIC for a whole product would be the average of all costs (fixed and variable) the company incurs in producing the product.<sup>65</sup>

**Fully allocated costing (FAC)**, also known as ‘fully distributed costing’, takes a more practical approach to the costs a company incurs during a given period. FAC establishes the cost of a product or service by allocating direct, indirect, and common costs to the product using different methodologies.<sup>66</sup> As a result, “the fully allocated cost of a service includes all costs that have a causal relationship with that service [...] but also a share of the operator’s common [and joint] costs.”<sup>67</sup>

### 3.2.1 The best method to reach incrementality: Commercial approach based on long-run incremental costs (LRIC)

The first best approach to reaching the incrementality principle is to use the LRIC costing standard to calculate costs in the factual and counterfactual scenarios and the resulting net cost.<sup>68</sup> LRIC captures all (long-run) fixed and variable costs related to the production of a certain increment. The increment can be a unit of output, a whole service or product, or the entire basket of USO services.

LRIC directly incorporates the principle of incrementality, which requires the net cost calculation to only consider costs that are fully avoidable in the counterfactual scenario. Once the USP identifies which (non-profitable) services would be changed without the USO constraints, the LRIC associated with those increments/ services directly informs about what (long-run) costs can be avoided in their absence. This includes both variable costs and fixed infrastructure avoidable with lower volumes.

LRIC has three main benefits making it “a more accurate measure of the ‘avoidable’ costs relating to the removal of the USO than FAC-based unit costs”:<sup>69</sup>

1. LRIC takes a longer time perspective and includes relevant sunk costs.<sup>70</sup>
2. LRIC values assets at their current cost<sup>71</sup> and may even consider any expected future cost changes.<sup>72</sup>

<sup>61</sup> Frontier Economics, 2012, p.75.

<sup>62</sup> Niels, Jenkins, & Kavanagh, 2016, p.195.

<sup>63</sup> Frontier Economics, 2012, p.73.

<sup>64</sup> In the context of postal services, this could be, for instance, additional investments into sorting or delivery facilities over time.

<sup>65</sup> European Commission, 2008c.

<sup>66</sup> European Committee for Postal Regulation, 2009, p.55.

<sup>67</sup> Frontier Economics, 2012, p.73. Note on joint costs in brackets added by Copenhagen Economics for clarity, as the same applies to both common and joint costs.

<sup>68</sup> Frontier Economics, 2012, p.146.

<sup>69</sup> Frontier Economics, 2012, p.149.

<sup>70</sup> Holt, 2011, p.17.

<sup>71</sup> As noted by Frontier Economics, “The LRIC and the FAC concept also diverge because of asset valuation. Whilst the LRIC concept implicitly assumes that assets are valued at current cost, the FAC may value assets at current or historic cost (although according to the responses received to the questionnaire, the latter is used more frequently). Absent common costs, broadly speaking if asset prices increase over time, FAC estimates based on historic costs will tend to produce lower values than LRIC estimates”, Frontier Economics, 2012, p.74/75.

<sup>72</sup> Niels, Jenkins, & Kavanagh, 2016, p.194.

3. LRIC focuses solely on the incremental effect and, as such, avoids common challenges linked to the distinction between direct, joint, and common costs and their respective allocation. Compared to alternative methods, this makes the LRIC approach less error-prone and less controversial.<sup>73</sup>

The EC and the Court of Justice of the European Union have not explicitly promoted the use of LRIC as the basis for net cost calculation. However, the strong critique of the use of FAC and the clear benefits of LRIC<sup>74</sup> may indicate that the role of LRIC will increase in the future.

Despite its benefits, only a few USPs apply the long-run incremental costing standard. The review of recent state aid cases presented in Section 3.1 reveals that, in practice, postal operators prefer the FAC method over LRIC owing to its simplicity. For instance, the cost data required for LRIC cannot generally be sourced directly from the cost accounting system.<sup>75</sup> As far as we are aware, in 2012, only three out of 28 surveyed USPs relied on the use of LRIC when assessing the net costs of universal service obligations via the commercial approach.<sup>76</sup>

### **3.2.2 Other methods rely on fully allocated costs due to their simplicity and availability, but risk deviating from the incrementality principle**

Despite the clear benefits of using LRIC as the basis of the net cost calculation, postal operators typically use their fully allocated costs (FAC) as a starting point for identifying incremental costs to the USO that can be avoided in the scenario without the USO.

Regulators and postal operators tend towards the FAC measure due to its simplicity and heavy reliance on readily available accounting data. Furthermore, the Postal Services Directive calls for the use of FAC for cost accounting.<sup>77</sup> In 2012, around 25 USPs stated that they were using FAC for cost accounting in their regulatory accounts.<sup>78</sup> As a consequence, FAC measures are established at USPs and offer a natural starting point for the net cost calculation without having to go through the labour-intensive exercise of setting up LRIC costs.<sup>79</sup>

Different from LRIC, FAC does not identify all long-run costs associated with a certain increment of output or product, but rather considers the accounting costs incurred during a given year and separates them into different categories: First, direct costs, which include costs directly, causally linked to a certain product. Second, joint costs, which capture costs caused and shared by multiple (but not all) products. Third, common costs refer to overhead costs shared by all products and services in the company. For further details, please see Box 5.

However, it is not straightforward to learn about costs incremental to the USO from FAC-based measures. FAC might be a common way to allocate actual costs in day-to-day operations, but the fully allocated costs cannot directly be used to conclude the net cost of the USO by simply removing the costs allocated to the services/products that would be discontinued without the USO.<sup>80</sup>

The greatest risk when using the FAC as the basis for the net cost calculation is to presume incrementality. One should not confuse the costs allocated to different services using the FAC method with the costs that would be

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<sup>73</sup> As we illustrate in the stylised, simplified example in Section 3.2.2, basing the net cost calculation on fully allocated costing information can lead to overcompensation. If the USP had instead used the long-run incremental costing standard, the cost of letter delivery would have explicitly stated the cost of providing letter delivery services in addition to parcel delivery in the long-run, i.e., the cost of additional stops to deliver letters alone, resulting in slightly higher van and personnel costs. These long-run incremental costs are equivalent to the costs that can be avoided if letter delivery were discontinued in the absence the USO.

<sup>74</sup> (Case SA.48492 (2019/NN) – Italy, 2019) and Case SA.48883 (2018/N) – France, 2019.

<sup>75</sup> Frontier Economics, 2012, p.152.

<sup>76</sup> Frontier Economics, 2012, p.147 // Another questionnaire in 2012 found that “Three USPs, however, also use long run average incremental costs as the basis for the regulatory accounts.” - Cost allocation according to the Postal Directive – a useful multi-tool for all regulatory purposes? Copenhagen Economics, 2013.

<sup>77</sup> Frontier Economics, 2012, p.145.

<sup>78</sup> Copenhagen Economics, 2013.

<sup>79</sup> European Commission, 2008a.

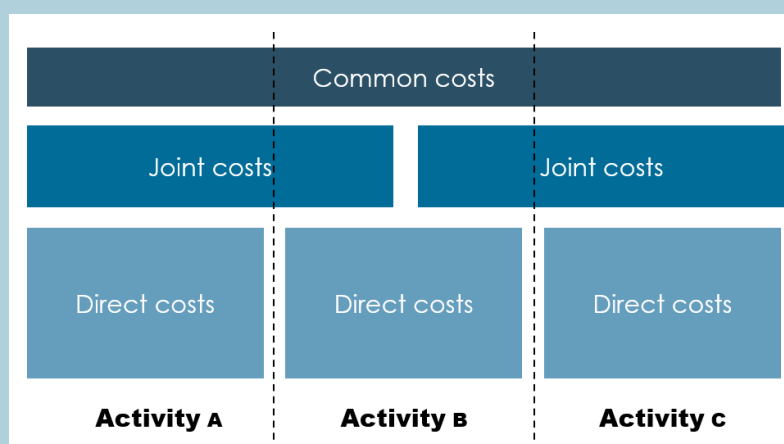
<sup>80</sup> One should note that the service is not necessarily discontinued in full, but e.g., the frequency of delivery may be reduced.

avoidable in the absence of those services.<sup>81</sup> The relevant analysis rarely is what would happen if the USP stopped providing a whole service. The question is what would happen if, for instance, the quality of service was reduced from five to two deliveries per week. Hence, net cost calculations typically require data on dimensions other than what FAC normally gives.

### Box 5 Fully allocated costing distinguishes different types of costs

As stated above, the fully allocated costs (FAC) of a product include all costs that can directly, causally be linked to the product as well as a share of the costs that can in part be linked to the product. This becomes clearer when explicitly defining the different types of costs: FAC distinguishes direct costs from “non-direct” costs, which can again be split into joint costs and common costs.

The different cost categories and their relations can be displayed visually:



**Direct costs:** These costs “can be directly assigned to a service or product.”<sup>82</sup> Consequently, they require a direct link between the provision of a certain product and the resource that is needed to provide it. “Examples of such costs are advertisement for bulk letter, specific envelope/forms for a specific products or services, terminal dues for cross-border mail.”<sup>83</sup>

**“Non-direct” costs:** Refers to costs “that cannot be directly allocated to a single product or service but”<sup>84</sup> “are common to a number of products or services”.<sup>85</sup> The Postal Services Directive refers to these costs as *common costs*,<sup>86</sup> which can in turn be split into two categories:

- **Joint costs:** These are “costs incurred in joint usage and, therefore, difficult to assign to or identify with a specific cost object or cost centre.”<sup>87</sup> These refer to costs that are needed for the provision of not just one but several (but not all) types of postal products, such as a sorting machine or line haul transport, and are often subject to economics of scale and scope, also often including a fixed component.<sup>88</sup> Other examples could be postal office costs such as rent or electricity, or a postal services office worker.<sup>89</sup> These costs are also referred to as *indirect costs* or *attributable common costs*.<sup>90</sup>

<sup>81</sup> This risk is also highlighted by the European Commission, which notes that “cost data from the accounts (cost allocation based on some allocation keys and cost drivers) does not always match the avoidable/non-avoidable categories” in its presentation Association of Competition Economics, 2019 .

<sup>82</sup> European Commission, 2008a, art.14.

<sup>83</sup> The European Regulators Group for Postal Services, 2011, p.13.

<sup>84</sup> Frontier Economics, 2012, p.226.

<sup>85</sup> European Committee for Postal Regulation, 2009.

<sup>86</sup> This is not the expression used in cost accounting. In this paper, we thus use the word “common costs” in the accounting sense (costs shared among all products in the firm) and use the word “non-direct” costs for what the PSD calls “common costs”.

<sup>87</sup> European Committee for Postal Regulation, 2009.

<sup>88</sup> The European Regulators Group for Postal Services, 2012, p.20 and The European Regulators Group for Postal Services, 2011, p.13.

<sup>89</sup> The European Regulators Group for Postal Services, 2011, p.13.

<sup>90</sup> European Committee for Postal Regulation, 2009.



- **Common costs:** “Costs a firm incurs as a whole, and which cannot be assigned directly or indirectly to any specific cost object (product or service) or cost centre.”<sup>91</sup> Typically, this sums up all resources that relate to the general management and support in postal services (i.e., overheads), such as headquarters costs or management personnel. These costs can neither be assigned to a particular product nor a specific set of products. If no measure of cost allocation can be found, the Postal Directive prescribes the use of a general allocator, corresponding to an equi-proportionate mark-up over already attributed cost (EPMU).<sup>92</sup> These costs are also referred to as *non-attributable common costs*.<sup>93</sup>

Source: Copenhagen Economics

The costs that should remain in the counterfactual scenario are the total costs that the USP incurs when only providing services that make commercial sense. Compared to the factual scenario, the costs that can be avoided in the counterfactual scenario are those that are truly incremental to the USO, in other words, costs that are only incurred due to non-commercial services required by the USO.

However, not all costs allocated to a service on a fully allocated basis can be immediately avoided when the USO is discontinued. The distinction between fully allocated costs and costs incremental to the USO (and thus avoidable costs) becomes clearer with a stylised, simplified example:

*Consider a USP delivering both letters and parcels with a postal worker driving a delivery van. If the van contains as many parcels as letters, and the postal worker spends as much time on parcels as letters, the fully allocated costing method could distribute the van and wage costs between letter and parcel services on an equal basis.<sup>94</sup>*

*Now assume that without the universal service obligation the USP would no longer deliver letters. Directly using the FAC measure of costs for the net cost calculation implies that discontinuing letter delivery in the counterfactual scenario results in saving 50 per cent of van and wage costs. However, this clearly ignores the principle of incrementality as it does not consider which costs would actually be avoided in the absence of the USO. In the counterfactual, the postal worker still has to drive a postal round and still has to use the van to deliver parcels as this service remains. The round takes less time, resulting in lower wages and van costs.*

*Based solely on the FAC method, the net cost calculation would assume that costs fall by the full amount allocated to letters. This disregards the synergies that the USP benefitted from when delivering both services. In the factual scenario, the postal worker delivers letters and parcels simultaneously. The worker either stops at a house to deliver i) only parcels, ii) parcels and letters, or iii) only letters. Hence, in the true counterfactual scenario without the letter delivery service, the postal worker still needs to do the first and second types of stops and only the third type of stop can fully be avoided. As a result, only the costs associated with that third part of the delivery route can fully be avoided in the counterfactual scenario and are thus incremental to the USO. This is likely a smaller share of costs than the 50 per cent predicted by the FAC method.*

*Overall, under these very simplified assumptions, the FAC method will generally overstate the true amount of costs that can be avoided in the counterfactual scenario as long as there exist synergies in delivering letters and parcels, in other words, addresses where both products are delivered.*

This simple example reveals why directly using fully allocated costs from cost accounting for the net cost calculation does not incorporate the concept of incrementality and the basic idea of the commercial scenario. This arises from cost accounting and net cost calculation pursuing different objectives: cost accounting focuses on understanding

<sup>91</sup> *ibid.*

<sup>92</sup> European Commission, 2008a, art.14.

<sup>93</sup> European Committee for Postal Regulation, 2009.

<sup>94</sup> Joint cost allocation here has been simplified significantly. Likely, other cost drivers such as weight would also play a role in allocation. Still, the stylised example allows conveying the key intuition. For more details, please see Section 3.3.2.

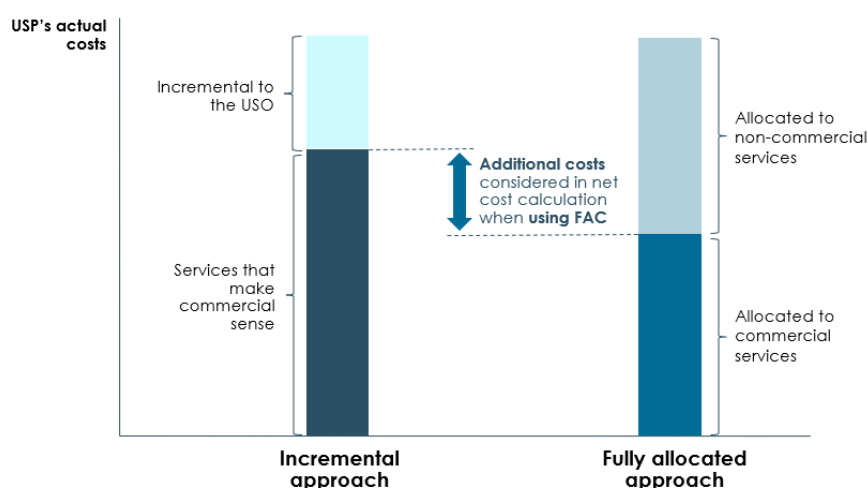


how indirect costs are distributed across different products while net cost calculation aims to understand the change in indirect costs following an incremental change in service.<sup>95</sup>

Simply considering the fully allocated costs of the discontinued service as avoidable ignores the loss of synergies between multiple services. The costs are not fully avoidable, since some of the shared infrastructure will continue to be used by the remaining services in the scenario without the USO – despite part of the infrastructure’s costs being “accounting-wise” allocated to the discontinued service. Thus, basing the net cost calculation on fully allocated costs rather than the incrementality principle can lead to overcompensation, see Figure 2.

**Figure 2**  
**Difference between incrementality and fully allocated costs**

Level of costs



Source: Copenhagen Economics

The extent to which cost accounting can support the net cost calculation depends on which type of costs we look at. While direct costs can be considered avoidable<sup>96</sup> (see also the next section), Sections 3.3.1 and 3.3.2 elaborate in depth why common and joint costs, respectively, require more scrutiny when identifying costs incremental to the USO based on FAC cost allocation. This is corroborated by decisions of the EC, which highlight that cost allocation based on analytical accounting systems is unlikely to adequately identify whether common (or joint) costs are avoidable, warranting a more detailed assessment of costs.<sup>97</sup>

### *Direct costs do not pose an issue in net cost calculation even if using fully allocated costs*

The example above also highlights that it is not the direct costs that cause a disparity between FAC cost allocation and the costs incremental to the USO. By definition, direct costs can be directly attributed to a certain activity and as such can be avoided if the activity driving these costs is discontinued or altered in the counterfactual scenario.<sup>98</sup> In other words, the direct costs of universal service activities are considered incremental to the universal service and avoidable in the commercial scenario without the USO.

This incrementality, while non-disputable accounting-wise, is also confirmed under the case law of the EC and the Court of Justice of the European Union, which confirms that “*direct costs and direct production costs were considered to be incremental*”.<sup>99</sup> However, despite the nature of direct costs being undisputed, the ERGP notes the

<sup>95</sup> See Case SA.48492 (2019/NN) – Italy, 2019: “*The NAC applies a logic of incrementality: only those costs that are incremental to the public service mission, i.e., which would not be incurred at all in its absence, should be taken into account for the calculation of the NAC. Cost accounting based on a separation of accounts works differently: pursuant to the Postal Directive, for example, costs that are common to various services can be allocated to each by use of a certain allocation key*”.

<sup>96</sup> Utilities Regulation & Competition Authority of the Bahamas, 2015.

<sup>97</sup> (Kotzeva, et al., 2019).

<sup>98</sup> Direct costs are typically considered as variable costs and are discussed in further detail in Section 3.3.3.

<sup>99</sup> See (Nicolaidis, 2020) regarding the Italian state aid case SA.48492.

importance of scrutinising the assumptions of whether a specific cost is truly a direct cost, or whether the cost should be treated as a joint cost, in which case further considerations should be warranted.<sup>100</sup>

However, as it is rarely the case that the USO activity ceases in full, without the USO, only direct costs related to the change in products or services should be taken into account in the net cost calculation.

### 3.3 Assessing the incrementality of fully allocated costs

As discussed above, postal operators commonly use fully allocated costs as basis for the net cost calculation. When fully allocated cost methods are used instead of incremental cost methods, there is a risk of deviation from the fundamental principle of incrementality of costs. As we explain further, this is more likely to lead to overcompensation than otherwise. This risk is particularly high in the postal sector, where overlaps between commercial and regulated activities are large and where joint and common costs represent a remarkably large share of the total costs of operations.<sup>101</sup> Hence, special care needs to be taken to ensure that fully allocated costs in postal state aid cases are truly incremental to the USO.

In this section, we explain three common methodological pitfalls of using fully allocated costs to calculate the net cost of the USO. First, we discuss the extent to which common costs could be considered incremental to the universal service. Second, we discuss the incrementality of joint costs. Third, we discuss the incrementality of fixed costs. We also discuss mitigating approaches that reduce the risk of overcompensation. Our analysis in this section is based on a thorough review of recent state aid cases (cf. Section 3.1), as well as our hands-on experience in cost allocation and net cost calculations in the postal sector.

#### 3.3.1 To what extent are the common costs incremental to the universal service obligation?

With common costs, a large part of the complexity arises from the lack of a clear relationship between the actual service provided by the postal operator and the costs incurred. With common costs, the use of the FAC method deviates from incrementality and runs the risk of overcompensation. In the FAC method, common costs are allocated proportionally to the known cost structure using a so-called “general allocator”, which is also known as the *equi-proportionate mark up* (EPMU), see Box 6 for more details.

#### Box 6 Equi-proportionate mark up (EPMU) method

The Postal Services Directive prescribes the use of a general allocator, corresponding to an **equi-proportionate mark up (EPMU)**, in cases where neither direct nor indirect measures of cost allocation can be found.

The EPMU involves allocating common costs between USO and non-USO services using a general allocator, such as the **ratio between allocated and total direct and joint (indirect) costs**.<sup>102</sup>

Consider an example<sup>103</sup> where €20,000 of common costs need to be allocated between USO and non-USO services, and the direct and joint costs allocated to the USO and non-USO services correspond to €10,000 and €30,000 respectively. In that setting, €5,000 of common costs would be allocated to the USO services ( $20.000 * [10,000 / (10,000 + 30,000)]$ ) and the remaining €15,000 would be allocated to the non-USO services ( $20.000 * [30,000 / (10,000 + 30,000)]$ ). The total costs allocated to the USO service would then amount to €15,000 and the total costs allocated to the non-USO services would amount to €45,000. This implies that the **direct and joint costs allocated to the USO are “marked up”** by 50 per cent.

<sup>100</sup> The European Regulators Group for Postal Services, 2011.

<sup>101</sup> (Copenhagen Economics, 2013), p.6.

<sup>102</sup> European Committee for Postal Regulation, 2009, p.55.

<sup>103</sup> Oxera, 2005, p.2.

The EPMU method is generally accepted for the allocation of common costs for regulatory accounting purposes. Indeed, the use of EPMU is required by the Postal Services Directive: “When neither direct nor indirect measures of cost allocation can be found, the cost category shall be allocated on the basis of a general allocator computed by using the ratio of all expenses directly or indirectly assigned or allocated, on the one hand, to each of the universal services and, on the other hand, to the other services”.<sup>104</sup> This makes EPMU easily available for postal operators and sector regulators; hence, it is sometimes applied when calculating the net costs of the USO.

However, as we explain below, the allocation of common costs using the FAC method (which applies to the EPMU allocation) does not follow the incrementality approach, and it can lead to overcompensation.

### *Allocation of common costs based on the FAC method disregards incrementality*

Synergies in common (and joint) costs are one of the reasons why universal service obligations are not carried out by operators focusing only on fulfilling the USO.<sup>105</sup> For instance, providing universal postal services is a labour-intensive process that requires significant labour management resources (e.g., for salary calculations). Such resources can cover employees engaged in both universal service and other activities. This results in synergy in common costs between both types of activities. As a result, synergies must also be reflected when the postal operators are setting up the counterfactual scenario.

However, the FAC method ignores such synergies in common costs. The FAC method assumes that in the absence of the USO, the full share of common costs allocated to the regulated service would be avoided. This would imply that common costs vary proportionately with direct and joint costs. However, the incrementality approach asks which of the common costs the postal operator must still incur in the counterfactual scenario.

As a result, postal operators must clearly distinguish between common cost allocation based on accounting and incrementality principles.<sup>106</sup> This is also in line with the decisions of the EC. For example, in the case of Poste Italiane's press distribution mission, the EC noted that one cannot draw conclusions from cost allocation to incrementality, stating that “*indirect production costs and central costs are not so clearly incremental to the press distribution mission*”.<sup>107</sup> Thus, the postal operator must clearly and unambiguously demonstrate the full incrementality of the common cost to be included in the net cost calculation.

However, in practice, it may be very difficult to demonstrate that any common costs are fully incremental to the USO. The demonstration becomes even more convoluted when a postal operator suggests basing the calculation only on part of the USP's business, see Box 7.

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<sup>104</sup> European Commission, 2008a, art.14.

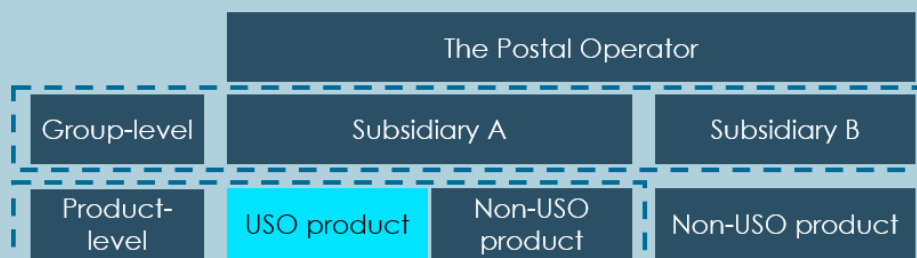
<sup>105</sup> For instance, the EC has noted that “Undertakings that operate simultaneously within and outside the scope of a PSO may exploit economies of scope and optimise their cost structure, sharing assets and procedures across services to avoid inefficient duplication of efforts. Common costs are often significant.” Kotzeva, et al., 2019.

<sup>106</sup> Poste Italiane decision 113 in Case SA.48492 (2019/NN) – Italy, 2019.

<sup>107</sup> *ibid.*

**Box 7 Special case: Excluding parts of the USP's business when calculating the net cost of the USO**

Consider a situation where the USP is engaging in postal activities (incl. USO) and simultaneously operates a subsidiary solely concerned with commercial parcel deliveries. The postal and commercial activities share certain overhead costs such as a common CEO, the same marketing department, and so on.



When calculating the net cost of the USO, the company might propose to consider only its postal subsidiary in the calculation, as the commercial business will continue to exist in the counterfactual scenario as-is and can thus be disregarded. Due to the common costs of the postal and commercial subsidiaries, the operator makes some initial allocation, assigning a share of the common costs to the postal business, which will then contribute to the "factual scenario cost basis" in the net cost calculation. This **group-level** allocation could be based on EPMU or another allocation method.

Taking a closer look at the postal subsidiary, a large share of direct and joint costs are likely allocated to non-profitable USO activities as the postal subsidiary itself was designed to separate the commercial business from the USO business.<sup>108</sup> Applying the EPMU allocation method at this **product-level**, a large share of common costs will be allocated to the USO and – when using FAC and only the postal subsidiary as the basis for net cost calculation – considered incremental to the USO.<sup>109</sup>

Two key takeaways from this example hint at pitfalls related to common cost allocation:

- First, **unless EPMU is applied correctly and consistently both the on group-level** (when splitting costs across business units) **and the on product-level** (when allocating costs within the postal business unit), **cost allocation is likely to be inconsistent**. Assume, for example, that at the group-level costs are allocated based on some other allocator, resulting in an under allocation (relative to EPMU) of common costs to the commercial subsidiary. Then applying EPMU (correctly) at group-level where a large share of direct and joint costs is related to the USO, results in a strong overallocation of common costs to the USO. Consequently, applying EPMU accurately across all levels is key to obtaining more accurate cost allocation results.
- However, as Section 3.3.1 shows, the pre-existing cost allocation used for accounting should not be the focus. Instead, **the incrementality principle should be at the core of handling common costs at the group and product levels**. At the group-level, considering that the commercial subsidiary would continue as-is in the counterfactual scenario, likely a large share of common costs also remains in the counterfactual. This reduces the common costs considered in the net cost calculation based on the postal subsidiary to a level below the EPMU cost allocation. At the product-level, incrementality must be applied again.

Overall, incrementality as the determinant of how to handle common costs matters not only in the net cost calculation itself, but also when deciding on what cost basis to consider in the factual scenario.

<sup>108</sup> For simplicity, we assume that all USO services are non-profitable and would be discontinued in the counterfactual scenario. Furthermore, the postal business unit includes all USO services.

<sup>109</sup> On the product-level, costs are allocated only within the business unit which includes the USO services.

*Allocation of common costs based on the FAC method typically leads to higher net costs than under the incremental costing method*

In the following, we provide a simplified example of how the choice of FAC method or incremental costing method affects the allocation of common costs. Importantly, we show that the FAC method leads to a higher estimate of net costs than the incremental costing method.

Consider the following example:<sup>110</sup>

*A hypothetical postal operator, PostOp, provides both USO and non-USO services. In the absence of the universal service obligation, PostOp would discontinue the USO services entirely.<sup>111</sup> The costs and revenues related to the provision of these services are presented in Table 3.*

**Table 3**  
**Example: Costs and revenues of the postal operator**

	<b>USO</b>	<b>COMMERCIAL</b>
Units sold (pcs)	1,000	3,000
Price per unit sold (€)	8	15
<b>Revenue (€)</b>	<b>8,000</b>	<b>45,000</b>
Direct cost per unit sold (€)	10	10
Direct costs (€)	10,000	30,000
<b>Gross Margin (€)</b>	<b>-2,000</b>	<b>15,000</b>
Common costs (€)		10,000

Note: (Holt, 2011) referred to variable costs instead of direct costs. We consider only direct costs and disregard joint (indirect) costs for simplicity.

Source: Copenhagen Economics based on (Holt, 2011).

*In the **factual scenario**, where PostOp provides both USO and non-USO services, its total revenue amounts to €53,000, of which €8,000 come from PostOp's USO services and €45,000 come from the non-USO services. In addition to common costs of €10,000, PostOp incurs direct costs of €10,000 and €30,000 for the USO and non-USO services, respectively and its total costs equal to €50,000. While PostOp as a company is profitable, making a profit of €3,000, the direct costs of the USO service exceed the revenues, meaning that the provision of the USO services is non-profitable.*

*Due to the financial losses of its USO business, PostOp is entitled to compensation. The level of compensation it receives depends on the method used to estimate the net costs of the USO. Consider two cases for the counterfactual scenario:*

- 1. Estimating net costs using the **incrementality principle**, assuming no common costs can be avoided in the counterfactual scenario (no USO), as they are not incremental to the USO.<sup>112</sup>*
- 2. Estimating net costs using the **FAC method** and allocating common costs to commercial services according to EPMU in the counterfactual scenario.*

<sup>110</sup> This example is based on Holt (2011).

<sup>111</sup> This is a drastic simplification, assuming that none of the USO services are profitable and thus none of the USO services would be continued in the counterfactual, commercial scenario. It is more realistic that some USO services are profitable for the USP and would be continued in the counterfactual scenario. This is disregarded here for the sake of simplicity.

<sup>112</sup> We assume that the USP cannot credibly demonstrate that common costs are (to some extent) reduced in the absence of the USO.

In both cases, PostOp's total revenues in the counterfactual amount to €45,000 – the revenue from its commercial services. However, due to differences in how the costs of the counterfactual scenario are calculated, the costs and, consequently, profits of PostOp in the counterfactual scenario will differ.

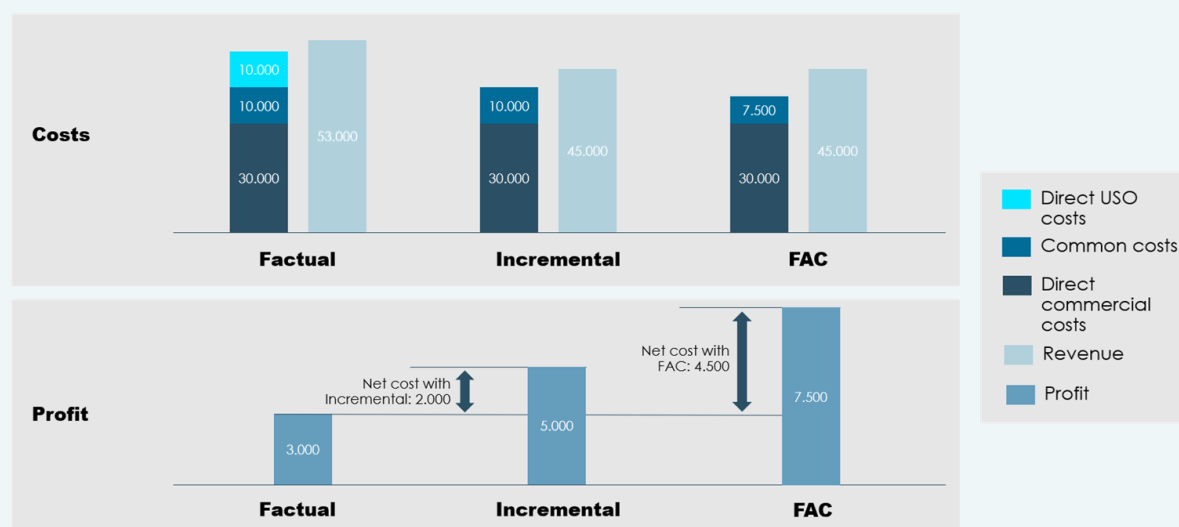
**Under the incrementality principle**, total costs amount to €40,000, as PostOp still has to carry the direct cost of the non-USO service as well as all of its common costs – only avoiding the direct costs associated with the USO services. This results in PostOp making a profit of €5,000 in the counterfactual scenario. The net cost of the USO for which PostOp is compensated amounts to **€2,000**.<sup>113</sup> This corresponds to the difference in profits in the factual and counterfactual scenarios.

**Under the FAC method**, the total costs for PostOp consist of direct cost for the commercial services and a share of the common costs allocated to the commercial services. The latter is calculated according to EPMU based on direct costs, as follows:

- Commercial services have a direct cost of €30,000, which corresponds to 75 per cent of total direct costs;<sup>114</sup>
- 75 per cent of common costs correspond to €7,500;
- Hence, the sum of commercial services' direct costs and their allocated share of common costs amount to a total allocated cost of €37,500.<sup>115</sup>

PostOp's implied profit in the counterfactual thus equals €7,500. The net cost of the USO therefore amounts to **€4,500**.<sup>116</sup> Figure 3 below illustrates the two cases.

**Figure 3**  
**Example: Net costs using the incrementality principle and the FAC method**



Note: All amounts in €.

Source: Copenhagen Economics based on Holt et al.

The net costs using the FAC method are more than double compared to those using the incrementality needed. This is because the FAC method considers a share of common costs to be incremental to the USO, and hence, the postal operator does not incur all common costs in the absence of the USO. This leads to a higher level of compensation for the USP.

<sup>113</sup> Calculated as the difference in profit of the counterfactual scenario and the factual scenario.  $5,000 - 3,000 = 2,000$ .

<sup>114</sup>  $30,000 / (10,000 + 30,000) = 0.75$ .

<sup>115</sup> This result is mathematically equivalent to using the "mark-up" method: This method allocates the common costs using a mark-up on the direct cost per unit. Common costs represent 25 per cent of the total direct costs for the USO and commercial services ( $10,000 / (10,000 + 30,000) = 0.25$ ). Hence, the "marked up" direct cost per unit sold is €12.5 ( $10 * (1 + 0.25) = 12.5$ ), and the total costs amount to €37,500 ( $12.5 * 3,000 = 37,000$ ).

<sup>116</sup>  $7,500 - 2,000 = 4,500$ .

While the example above does not make considerations of any substitution effects, it sufficiently demonstrates how overlooking the incrementality logic when considering the common costs results in overcompensation for the USP.<sup>117</sup> As we discuss next, on some occasions, the USP may demonstrate that part of the common costs is incremental to the USO, in which case, considering those costs for the net cost calculation would be appropriate.

### *Situations when common costs may be incremental to the universal service obligation*

Based on the EC's and some national regulators' practices, common costs are typically regarded as non-incremental to the USO. In the Poste Italiane's press distribution case (SA.48492), the EC noted that considering common costs (in part) incremental must be accompanied by sound economic reasoning.<sup>118</sup> When there is insufficient proof that (a certain share of) common costs allocated to the discontinued services are truly incremental to the USO, the EC has taken a conservative approach by following the general principle and considering all common costs to be non-incremental to the USO.<sup>119</sup>

However, if the counterfactual scenario implies significant changes compared to the factual scenario, some share of common costs may indeed be incremental to the USO.<sup>120</sup> For instance, if the total volume handled by the postal operator is expected to decrease significantly without the USO, overheads such as HR, IT, or legal services<sup>121</sup> may decrease with business activity.<sup>122</sup> However, overhead costs are unlikely to decrease proportionally to the reduction in joint and direct costs (the basis for EPMU allocation), as would be assumed based on the FAC method.<sup>123</sup> Moreover, even costs typically considered fixed, such as headquarters and other real estate, may be partially avoidable and thus incremental to the USO.<sup>124</sup> The incrementality of fixed costs is discussed in detail in Section 3.3.3.

Accepting that some common costs may be incremental to the USO raises the question of how these should be measured to capture the incrementality principle. The EC and national regulators appear to place substantial weight on demonstrating the existence of savings rather than assuming savings based on cost accounting. It is up to the details of the "*cost saving plan*" whether the incrementality of part of common costs is demonstrated.<sup>125</sup> For instance, if the postal operator can demonstrate that separating the regulatory cost accounts (which is required under the universal service obligation by the Postal Services Directive) requires quite a lot of time from the finance team, a share of the finance team (measured in FTEs) can be considered incremental to the USO and avoided in the counterfactual.

<sup>117</sup> The example disregards the possibility that when in the counterfactual scenario all USO services are discontinued, some customers who used to buy USO products switch to non-USO products. This would imply an increase in direct costs and revenues for non-USO products. Further, it would imply that volumes are not dropping as much as expected when discontinuing USO services, so that the need for overhead functions is also not decreasing as much as expected/argued when using FAC.

<sup>118</sup> Case SA.48492 (2019/NN) – Italy, 2019. In the decision, commission notes about common costs that these "in the absence of a clear and unambiguous demonstration of their full incrementality" should be disregarded.

<sup>119</sup> *ibid.*

<sup>120</sup> Kotzeva, et al., 2019, "The net cost of a PSO may or may not include a share of these common costs, depending on whether they could have been avoided absent the PSO."

<sup>121</sup> Holt, 2011, p.17.

<sup>122</sup> I.e., the discontinued non-profitable services are not fully substituted by other products of the postal operator. Consider the following substitution effect: If the USP drops the delivery service of first-class letters this is likely to reduce common costs a little as a large volume is removed from the USP's activity scope (but reduction in common costs is less than proportional to direct and joint costs). However, absent the first-class mail service, people will switch to using the second-class mail service. So, overall volumes handled by the USP might actually not drop as much as the drop in first-class volumes, as this is substituted by an increase in second-class volumes. As a consequence, common costs also do not increase as much as initially assumed.

<sup>123</sup> The European Regulators Group for Postal Services, 2011.

<sup>124</sup> Belgian State Aid case where building costs were deemed variable as these relate directly to headcount at headquarters. Note that if we had built up the counterfactual scenario from scratch rather than starting from the factual scenario, the USP would have chosen appropriately sized headquarters for the counterfactual scenario business activity level. The question of whether accounting-wise these (real estate) costs are considered fixed or not would have been irrelevant.

<sup>125</sup> For instance, if the postal operator is able to demonstrate that separating the regulatory cost accounts requires a certain number of FTEs to be part of the overhead finance team, these FTE can be considered incremental to the USO.



### 3.3.2 To what extent are the joint costs incremental to the USO?

Many USPs integrate postal networks and processes of USO and non-USO services to cut costs. To compensate for lower scale economies due to letter volume decline, postal operators have made the pursuit of economies of scope a key target, leading to the integration of activities, for instance, merging letter and parcel delivery networks, and using post office networks for financial services.<sup>126</sup> The level of integration between USO and non-USO services varies among postal operators, but they are virtually never provided in isolation.<sup>127</sup>

The costs of activities and resources used jointly by more than one (but not all) of the products of the company are called *joint costs*; see also Box 5 above. Within the postal sector, joint costs typically include but are not limited to sorting centres, customer service points, and delivery facilities.

Below, we first explain the accounting principles of allocating joint costs, before addressing why these methods do not adhere to the incrementality principle and consequently risk inadvertently overcompensating for the net cost of USO.

The EC's review of recent developments at the DG Competition in 2018/19 captures the key divergence between the accounting cost allocation of the joint costs using the FAC method and the incrementality concept:

*“Note that this principle of avoidability typically leads to a different split of common costs [author’s correction – joint costs<sup>128</sup>] than the accounting cost allocation approach that is used for other applications. The latter involves assigning “cost keys” to different services that are proportional to some observed variable, such as volume or sales value. As these keys are a priori arbitrary from the point of view of avoidability, **such accounting keys that are based on allocation of common costs across different services cannot be used for the calculation of the net avoidable costs.**”<sup>129</sup>*

The allocation of joint costs in general cost accounting models diverges from the incrementality principle primarily because cost causality is either completely ignored or only partially addressed. This extent of divergence depends on the cost calculation model applied for joint costs. Conceptually, there are two main approaches to allocating joint costs: (a) activity-based costing, and (b) standalone costing. Furthermore, we discuss the implications of using either of these two methods.

#### *Activity-based costing*

The most common method of allocating joint costs in the postal sector “Activity-based costing” (ABC) employs arbitrary cost drivers that ignore cost causality and hence, incrementality of costs. The use of the ABC method for regulatory accounting purposes is advised by the EC in the Postal Services Directive.<sup>130</sup> In ABC models, each product is considered to consume certain activities (e.g., sorting, transportation), which in turn consumes resources (e.g., labour and equipment).<sup>131</sup> When a set of products consumes the same activity (and its resources), then the costs for these resources are joint to the set of products.

To determine how the cost of the resources is shared between the different products, cost drivers are used to distribute the cost. These cost drivers, in the context of postal operators, are commonly related to weight, quantity, metric volume, or time used per item. More than one cost driver may be considered for cost allocation.<sup>132</sup> Each product is considered to consume the activity relative to its cost drivers and this consumption of the activity serves as the basis for the allocation of the cost of resources. Figure 4 illustrates the above.

<sup>126</sup> Copenhagen Economics, 2018, p.27.

<sup>127</sup> Ibid., figure 26 p.61.

<sup>128</sup> We note that while the EC uses the term “common costs”, the mention of “cost keys” implies that the Commission refers to joint costs rather than pure common costs which are allocated based on the EPMU principle.

<sup>129</sup> Kotzeva, et al., 2019, p.570 footnote 48. Emphasis added to highlight that the European Commission recognises that FAC joint cost allocation is not equivalent to the net cost calculation based on avoidability and incrementality.

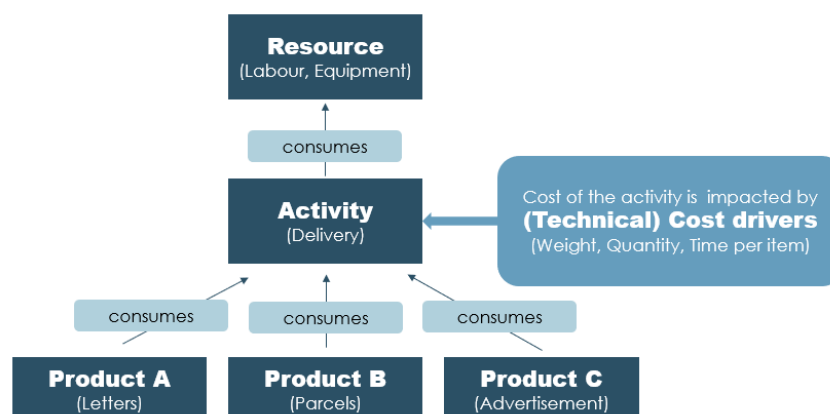
<sup>130</sup> As stated in European Commission, 2008a: “indirect linkage to another cost category or group of cost categories for which direct assignment of allocation is possible”.

<sup>131</sup> European Committee for Postal Regulation, 2009.

<sup>132</sup> Ibid.



**Figure 4**  
**Illustration of the activity-based costing model**



Source: Copenhagen Economics

Based on the ABC method, the costs for all the joint activities are allocated relative to their consumption with the use of cost drivers.<sup>133</sup> Cost drivers are inherently arbitrary. While the use of specific cost drivers is subject to the approval of the regulatory authority, different cost drivers could be applied for the same activity, and seemingly small differences between drivers used can result in notable differences in cost allocation.<sup>134</sup>

While two products may consume some activity in clearly defined proportions, they can *cause* that activity to a different extent. To illustrate this, consider the following three examples:

- *Peak load demand.* Some services are characterised by significant demand volatility, e.g., parcel deliveries after Black Friday or before Christmas. As a result, postal operators set up their sorting capacities to match peak load demand. This means that, on average, they may have quite significant idle capacities. Based on the causality principle, the cost of such idle capacity should be assigned to parcel deliveries. However, based on the consumption approach, some of the idle capacity costs would be allocated to other services using sorting facilities, but not prone to fluctuations in demand.
- *Regulatory constraints on delivery.* Regulations may force an operator to deliver certain postal items at the recipient's doorstep. This allows for economies of scope by delivering other services to the doorstep. However, in the absence of the regulation, such other services might be fulfilled more efficiently, for instance, delivery to a pick-up location.
- *Regulatory constraints on network density.* Regulations may force an operator to maintain a certain density of post offices. In the post offices, however, the operator may sell and provide both regulated and non-regulated services. However, if in the absence of the regulation the operator would decide to have a smaller or different type of network (e.g., post-in-shops), then the cost of the network is first and foremost causally related to the regulated side of the business.

As a result, cost incrementality rests on the causation of costs, not consumption. To reflect the incrementality principle, costing data originating from the ABC models must be supplemented with additional economic considerations. In particular, each joint cost has to be addressed with one fundamental (network) decision:

*Will the postal operator incur this cost (infrastructure/activity resource) in the absence of the USO in a commercial scenario?<sup>135</sup>*

<sup>133</sup> See European Committee for Postal Regulation, 2009, Table 6.5 on p.45 for an overview of which cost drivers are considered most appropriate for which activity.

<sup>134</sup> CERP notes that “Depending on the **choice** of allocation methods and **relevant cost drivers**\*, the **results** for the business units, services and products **can be very different**.” European Committee for Postal Regulation, 2009, p.10.

<sup>135</sup> Based on Pesaresi, Sinnaeve, Guigue-Koepfen, & Wiemann, 2012: “Under the net avoided cost methodology, to determine the costs of the sorting centre attributable to the SGEL, it is necessary to determine whether the centre would have had to be kept in place if the undertaking no longer had a public service obligation”

To illustrate the magnitude of potential deviations between using the consumption and causality approaches, consider the illustration provided in Box 8.

### Box 6 Allocation of joint costs based on cost drivers

Consider the case of a USP owning a sorting centre which processes both USO and non-USO products and where, according to cost drivers approved by the NRA, 70 per cent of the sorting centre's costs are caused by USO products, while 30 per cent of the costs are caused by non-USO products.

If the cost allocation based on cost drivers is used as a starting point, this would imply that in the commercial scenario, where all USO activities are discontinued<sup>136</sup>, 70 per cent of the distribution centre costs could be avoided. This would completely disregard the synergies that currently arise from having both USO and non-USO activities under the same roof. These costs must now be carried only by the remaining commercial products.

It is much more in line with the principle of incrementality and the underlying thought of the commercial approach to pose the fundamental question: **In the absence of the USO in a commercial scenario, would the sorting centre be maintained?**

This question informs whether sorting centre costs are (at least to some extent), incremental to the USO.

### *Standalone costing*

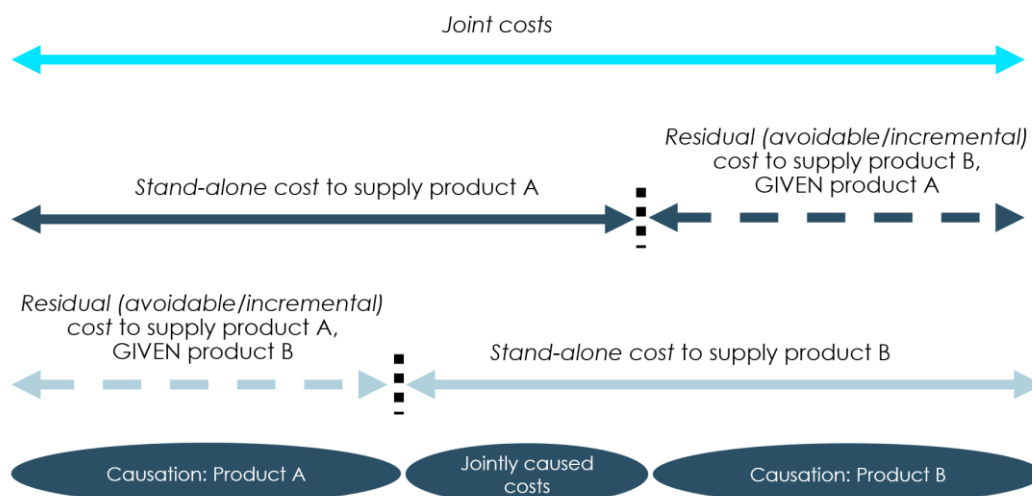
As an alternative to the ABC method, the standalone costing (SAC) method incorporates cost causality, but it does not specifically address the incrementality of costs jointly caused by the USO and non-USO services. The SAC method uses a counterfactual scenario in which the postal operator supplies individual products by dedicated networks performing that function on a standalone basis. This requires unpacking the multi-production process and asking a simple conceptual question to determine what costs are caused by a product category:

*What network would a postal operator need to supply only product category A (or only B) on a standalone basis?*

Hence, the SAC method incorporates a similar question that is missing from the ABC method discussed above. The SAC method must employ such a counterfactual scenario that it can fulfil the real-world provision of the product. This means that the hypothetical standalone provision must be resourced so that the product meets the current standards of the integrated multi-product operator. When used for a simple two-product setting, the SAC method provides standalone costs for providing products A and B respectively, see Figure 5.

<sup>136</sup> This is a simplified assumption. In the real world, it is likely that the USP would also want to continue some of the activities that were part of the USO in the commercial scenario.

**Figure 5**  
**Illustration of the standalone costing model**



Source: Copenhagen Economics

Instead of allocating the joint cost between products A and B using a cost driver, the SAC method allows for identifying part of the cost that is incremental to either of the products, subject to the other product already being provided, see Figure 5 above. What remains are the costs caused jointly by both activities. The jointly caused costs (caused by both activities) are calculated as follows:

- Standalone (product category A), plus
- Standalone (product category B), minus
- Cost of integrated supply (of product categories A and B), i.e., standalone (A&B)<sup>137</sup>

When the joint costs are allocated based on the cost causality principle using SAC, *the part of joint costs caused by the USO service alone can also be considered incremental to the USO*. However, the question remains whether the cost considered “jointly caused” by both the USO and non-USO services (see Figure 5) could be avoided in part in the absence of the USO. On the one hand, the postal operator incurs these costs regardless of whether it provides the incremental service. This would suggest that these costs should not be considered incremental to the USO. On the other hand, there might be specific considerations as to why some part of these joint costs could be avoided in the absence of the USO, see the example in Box 7.

<sup>137</sup> Another way to look at the jointly caused cost is to consider that it is by definition equal to the value of the synergies (i.e., cost savings) that are achieved via the integrated supply – compared to the separate, stand-alone supplies of the different product categories.

**Box 7 Allocation of joint standalone costs**

Continuing from the example above, let us now assume that the USP has decided to keep the sorting centre without the USO. Based on this fundamental decision, more fine-tuning can be done as to what shape and to what extent the sorting centre will be maintained.

If cost allocation is done in accordance with the causality principle, it is clear that the costs “caused by the USO” can be avoided in the sorting centre. For the remaining jointly caused costs or the total joint costs of the sorting centre if cost allocation was done following the simpler ABC method a more nuanced approach must be taken.

It is likely that overarching costs such as rent, and electricity will remain unchanged given the fixed nature of these costs. However, without USO activities, volumes will likely decrease to such an extent that some employment costs can be reduced.

However, this still calls for reasoning on how much these costs can be reduced and understanding the cost drivers behind the ABC methodology can prove helpful. Here the cost allocation information can be useful. If 70 per cent of the employment resources are consumed by the USO services, the USP can argue for potential saving of (at least most) of these employment costs.

The outcome here differs from relying only on the ABC cost allocation, as only some part of the jointly caused costs is considered incremental to the USO and thus avoidable.

*Conclusion: when calculating net costs, it is important to specifically address the shortcomings of existing cost allocation methods to ensure incrementality of joint costs*

While the correct use of cost causality principle and the consequent notion of incrementality help in determining to what extent joint costs are incremental to the USO, some of the joint costs cannot be attributed to a specific product based on causality. As discussed above, the fundamental question “Do we keep this resource in the commercial scenario?” must be asked to implement the concept of incrementality.

This question may lead to three types of answers:

- Yes, the resource would be kept in the absence of the USO. Then the cost is not incremental to the USO.
- Yes, to some extent the resource would be kept. It may be reasonable to assume that following an overall reduction in the services provided by the postal operator, some of its joint costs would decrease.<sup>138</sup> These costs can be either variable or fixed in nature. We discuss the latter in detail in the Section 3.3.3.
- No, the resources would not be kept. Then the cost is incremental to the USO.

Moreover, second order volume and substitution effects are important to consider when fine-tuning the costs that remain in the scenario without the USO. Consider a situation where, free from the USO, the postal operator stops offering priority letters. The volume of priority letters will disappear, but consumers will likely still want to send some letters such that volumes of non-priority letters might increase. This second order effect should be considered as well when arguing for how many costs remain in the commercial scenario.

<sup>138</sup> Case SA.48492 (2019/NN) – Italy, 2019, para. 115. Also stated in Nicolaidis, 2020.

### 3.3.3 To what extent are the fixed costs incremental to the USO?

When allocating costs using the FAC approach, firms distinguish direct, joint, and common costs based on how directly the costs can be allocated to products or services. Within each of these categories, some costs are fixed while others are variable.<sup>139</sup> Whether a cost is variable or fixed must, however, not be confused with whether a cost is avoidable in the counterfactual scenario. Indeed, both fixed and variable costs can be at least partially incremental to the USO and thus avoidable in the commercial scenario without the USO.<sup>140</sup>

Variable costs per definition vary with the output of a certain product or service and can thus often be directly associated with that product or service. In this case, variable costs can be considered direct costs, incremental to the said product. These costs can be fully avoided without this product or service in the counterfactual scenario. This is reflected in the decisions of the EC, which consider direct variable costs of services – discontinued in the counterfactual scenario – avoidable and incremental to the USO.<sup>141</sup>

However, some variable costs may not necessarily be incremental to the USO. For instance, certain variable joint costs, such as fuel or labour, which are shared across various activities may not be fully incremental. The incrementality of joint costs is discussed in Section 3.3.2. Furthermore, if the service provided by the postal operator benefits from economies of scale, the incremental variable cost must be considered carefully. In such a case, using the average variable cost of the product would result in overcompensation.

#### *Fixed costs can be incremental depending on the activity causing the costs*

When assessing the incrementality of fixed costs, one should look beyond pure semantics. Based on commonly accepted cost accounting standards, costs that do not vary *per individual unit of output* are considered fixed. However, incremental costs used in net cost calculations are defined at a much larger level of increment – the basket of all universal services. Hence, *fixed* costs might well be incremental to the USO.

For example, fixed costs can be considered fully incremental if they are directly linked to a specific product which without the USO would be discontinued. For instance, the cost of a machine for printing stamps is fixed and could be fully avoided if the postal operator discontinued stamp sales in the absence of the USO, making the fixed cost fully incremental to the USO. Similarly, some investments in the network could be considered incremental to the USO if these investments were made only to provide commercially non-viable services to remote areas.<sup>142</sup>

However, unlike the example provided above, an increasing share of fixed costs is joint costs covering both USO and non-USO services. Postal operators are building increasingly integrated collection, transportation and sometimes even sortation networks where both USO and non-USO services are produced using the same resources. In Section 3.3.2, we discuss the intricacies of the incrementality and joint costs.

The assessment of incrementality of fixed joint costs requires particular attention to the causality principle. The key concern when using FAC models to estimate net costs is that a postal operator may attribute the full cost of a fixed joint investment to the universal service obligation by, for example, claiming that substantial parts (if not all) of its network exist only as a consequence of their status as the universal service provider. If the postal operator allocates the entire fixed cost of its joint network to the universal service obligation, this likely results in overcompensation.

To mitigate the abovementioned risk, the regulator could revert to the principle of incrementality by asking the following question: Which fixed costs are truly incremental to the USO (or can be avoided in the absence of the

<sup>139</sup> By definition, fixed costs do not change with changes in output while variable costs change in output. In reality, no cost is purely fixed in the long run.

<sup>140</sup> As stated in (Association of Competition Economics, 2019): “avoidable costs can include fixed and variable costs”.

<sup>141</sup> Case SA.48492 (2019/NN) – Italy, 2019; Case SA.48883 (2018/N) – France, 2019; Case SA.42366 (2016/N) – Belgium, 2016.

<sup>142</sup> An example provided by Kotzeva, et al., 2019; “[...] when a PSO requires (for instance) delivery of services in remote areas, then additional infrastructure may be required. This leads the operator to incur additional fixed costs that would not be incurred in the absence of such obligation. Here the cost of the additional infrastructure is incremental—while being at the same time a fixed cost, in the sense that it is not proportional to output”.

USO) in the counterfactual scenario? Would this investment also have been done without the USO? There can be three types of answers:

- If the answer is *no*, then fixed costs are incremental to the USO.
- If the answer is *yes*, then fixed costs are not incremental to the USO.
- If the answer is *partly yes and partly no*, then the fixed costs are partly incremental to the USO.

In practice, this is quite often the third answer. For example, even if the investment in delivery vans would also have been made without the USO, it may have involved different types of vans and hence different costs. Thus, the appropriate counterfactual should reflect the possible “level change” in terms of fixed assets to reflect the extent to which a commercially operating postal service provider would have invested in these assets without a universal service obligation. This in turn depends on the activity done by the USP. Besides more apparent flexible resources, such as delivery vans, headquarters building, and ICT costs can be in part incremental to the USO, as these depend on the headcount at the headquarters.<sup>143</sup>

*Comparing unit costs in the factual and counterfactual scenario can help assess whether fixed costs have been treated correctly*

A comparison of the postal operators' unit costs between the factual and counterfactual scenarios can help to understand the underlying assumptions regarding fixed costs in the counterfactual scenario. The unit cost of a product is calculated as the sum of its variable and fixed costs divided by the total volume. Since variable costs decline in proportion to volumes, differences in unit cost between the factual and counterfactual scenarios must be driven by fixed costs.

When volumes in the counterfactual scenario decrease, the unit cost of a product may:

- Increase, if fixed costs decrease less than proportional to change in volume.
- Remain constant, if fixed costs decrease proportional to change in volume.
- Decrease, if fixed costs are reduced more than proportional to change in volume.

Lower unit costs in the counterfactual scenario, unless carefully explained and reasoned, may serve as a warning sign for the flawed application of the incrementality principle for fixed costs.<sup>144</sup> When volumes decline, it is generally expected to find increasing unit costs due to lower economies of scale and/or scope.<sup>145</sup>

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<sup>143</sup> Case SA.31006 (2013/N) – Belgium, 2013. The Commission considered that “[F]or example, headquarter building costs and ICT costs related to workstation support are fully variable because they depend on the number of FTEs in the headquarters.”

<sup>144</sup> Lower unit costs in the counterfactual scenario than in the factual scenario imply that fixed costs decreased more than proportional to the change in volume.

<sup>145</sup> For instance, the lower the number of vans acquired by the postal operator, the higher the price per van should be expected, and vice versa.

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## **About Copenhagen Economics**

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