



Separating State Aid

A Conceptual Study to Evaluate the Use of Accounting Separation as a Tool for Preventing Cross-Subsidization in the Current Legal Framework for State Aid

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Abstract

Issues arising from public authorities competing in markets have been somewhat overlooked, despite the OECD's emphasis on the need for equal terms in the competition between public and private undertakings (Honoré, 2017). If a single entity is engaged in both economic and non-economic activities, public resources flow within the organization, making it difficult to ascertain which resources are used for which purposes. To prevent undertakings from using public resources to subsidize competitive activities, the EU has imposed requirements to keep separate accounts between economic and non-economic activities. The Commission considers this to be *“the most efficient means by which fair and effective application of the rules of competition [...] can be assured.”*¹

The requirement to keep separate accounts is meant to prevent States from circumventing State aid rules using legislative techniques, for example by organizing the public undertaking as part of a municipal body (Honoré, 2017). This thesis studies the requirements set out in the regulation on how a separation of accounts is implemented. Further, a selection of cases is reviewed to see how the requirements are applied by the ESA as a supervisory body. The thesis finds that the requirements are very broad and unspecific, and inconsistent application by the ESA results in uncertainty as to acceptable methods of allocating cost. The legal framework could be improved by imposing more specific requirements such as those proposed by Hjelmeng et al. (2018, p. 236).

¹ Paragraph 16 of the Transparency Directive (European Commission, 2006).

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Bergen, 20 June 2018

A handwritten signature in blue ink that reads "Mikael Kråkenes Lund". The signature is written in a cursive style with a long horizontal stroke at the end.

Mikael Kråkenes Lund

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1 Introduction

1.1 Motivation

The European Union (EU) has developed extensive regulation related to competition within the European Economic Area (EEA), which also applies to members of the European Free Trade Association (EFTA). The rules on competition are meant to prevent distortion of competition (Honnefelder & Silvestri, 2018). In a free market, businesses should compete to the benefit of consumers (European Commission, 2012d). The rules on competition should ensure that businesses compete fairly, which reduces prices, increases quality and gives a wider choice for consumers, as well as encouraging innovation and efficiency (European Commission, 2012e). State aid is a subsection of the rules on competition, and is generally prohibited because a company gains an advantage over its competitors if it receives government support (European Commission, 2016c).

One way for undertakings to receive advantages from the State, is by receiving some form of financing from public resources in order to provide services which are not subject to competition, and using these to cross-subsidize services for which the undertaking competes in a market (Honoré, 2017; Hjelmeng, et al., 2018).² Cross-subsidization is central to the issue of competitive terms between public and private undertakings. However, even the starting point of defining cross-subsidization is not trivial, as demonstrated by the classification framework by Fjell (A Cross-Subsidy Classification Framework, 2001). Heald (1996) points out that cross-subsidization is difficult to measure because it is difficult to define, and it is difficult to define because it is difficult to measure.

If State resources are used to subsidize the State's own competitive activities, private actors will be at a serious (or even impossible) disadvantage. Therefore, if the State decides to compete in a market, it must ensure that it does so on equal terms with private actors.³ One measure the EU has introduced to regulate State aid is separation of accounts. This refers to keeping separate accounts between economic and non-economic activities. The Commission considers this to be "*the most efficient means by which fair and effective application of the*

² See also Commission Notice on the notion of State aid as referred to in Article 107(1) of the Treaty on the Functioning of the European Union (European Commission, 2016b), in particular section 4.

³ See the State aid notice, particularly section 4.2 (European Commission, 2016b).

rules of competition [...] can be assured.”⁴ The concept of economic activity will be explained in section 2 but, in short, means offering services on a market⁵ or, in other words, competing in a market. Examples of non-economic activities may include public health care, public transport, or waste collection. Whether an activity is considered to be economic or non-economic under EU law depends on several factors, *inter alia* how the service is organized in a given Member State.⁶

The purpose of keeping separate accounts is to ensure that funds meant to finance non-economic activities are not used to subsidize products or services offered in a competitive market, thereby favoring one (or a few) market actor(s) over others. This not only applies to the State’s own competitive activities, but also to private actors charged with performing some obligations on the State’s behalf.⁷ An undertaking may not receive benefits due to its proximity to the State. The main rule is therefore that transactions between a publicly owned parent entity and its subsidiary must be made at market conditions. While it is contested that transactions between the economic and non-economic sphere of a single entity should also be made at market conditions, there is currently no clear case-law on this (Honoré, 2017). The requirement to keep separate accounts is meant to prevent States from circumventing State aid rules using legislative techniques, for example by organizing the public undertaking as part of a municipal body (Honoré, 2017).

There are two related issues regarding subsidization of commercial activities. Certain services are deemed to be of public interest, but are not offered at normal market conditions. Such services are referred to as services of general economic interest (SGEIs).⁸ This is elaborated upon in section 2.3. To ensure that such services are offered to the public, the State may offer compensation to undertakings for providing the services. This compensation must not exceed the cost of providing the service,⁹ or else the undertaking will receive funds it can use to

⁴ Paragraph 16 of the Transparency Directive (European Commission, 2006).

⁵ Paragraphs 9-11 of Communication 2012/C 8/02 (European Commission, 2012c).

⁶ Section 2.1. of the State aid notice (European Commission, 2016b).

⁷ See for example Commission Notice on the notion of State aid as referred to in Article 107(1) of the Treaty on the Functioning of the European Union (European Commission, 2016b), or the regulation on services of general economic interest, which is elaborated upon in section 2.3.

⁸ See, for example, paragraphs 45-48 of Communication from the Commission on the application of the European Union State aid rules to compensation granted for the provision of services of general economic interest (European Commission, 2012a).

⁹ Article 5(1) of the SGEI Decision (European Commission, 2012a); Paragraph 21 of the SGEI framework (European Commission, 2012b).

cross-subsidize its other activities, giving it an advantage over its competitors. The other major issue is accounting for different activities to ensure that economic (i.e. competitive) activities are not subsidized by State resources. This is a broader topic than the first issue, and encompasses both the *ex post* control that overcompensation for providing SGEIs is not taking place, as well as controlling that public undertakings do not receive advantages due to their proximity to the State. The issues are related, but separate. This thesis will be limited to the second issue regarding accounting separation.

Despite the OECD emphasising the need for competition on equal terms between public and private undertakings, issues arising from public authorities competing in markets have been somewhat overlooked (Honoré, 2017). The Norwegian Ministry of Trade, Industry and Fisheries appointed an expert panel to assess the competitive terms between private and public undertakings, and to suggest measures to ensure competition on equal terms (Hjelmeng, et al., 2018). A majority of the panel concluded that keeping separate accounts between economic and non-economic activities is necessary to ensure that no cross-subsidization from non-economic to economic activities is taking place (Hjelmeng, et al., 2018, p. 190). The panel also points out that how costs should be allocated is usually not very precisely described (Hjelmeng, et al., 2018, p. 236). There are strict requirements which must be met for cost approximations to yield reliable results, and several sources of error (Noreen, 1991; Datar & Gupta, 1994; Labro, 2007). Furthermore, there is ambiguity as to the allocation of common costs, which could be a substantial part of the cost base (Heald, 1996; Bjørnenak, Dalen, Mørch von der Fehr, Olsen, & Torsvik, 2005; Horngren, Datar, & Rajan, 2012; Hjelmeng, et al., 2018). Because cross-subsidization is both difficult to define and difficult to measure, it is important to be as precise as possible when regulating it.

1.2 Purpose and research question

This thesis is a conceptual study of the use of accounting separation as a tool in the European State aid regulation to prevent cross-subsidization from non-economic activities to economic activities. The purpose of the thesis is to examine where and when accounting separation is used as a tool for preventing cross-subsidization between economic and non-economic activities, i.e. preventing State resources from being used to favor one or a limited number of entities, public or private, in a competitive market. Further, this thesis will examine which requirements are imposed on the implementation of such accounting systems, and compare

this with accounting literature to assess the appropriateness of these requirements. The objective of this thesis is to answer the following research question:

Which requirements are imposed on the use of accounting separation in European State aid regulation, and to what degree do these requirements correspond to a theoretical framework based on economic literature on cross-subsidization, cost estimation and cost allocation?

The thesis attempts to address this question by studying the legal framework currently regulating State aid, and comparing it with a theoretical framework based on economics and accounting literature on cost estimation and cost allocation. This is done in four steps. First, the legal framework is studied, to see what the regulation says about the use and implementation of accounting separation. Second, four cases are reviewed to study how the ESA as a supervisory body applies the regulation of State aid in practice and, in particular, which requirements are imposed on the use of accounting separation. The selection of cases and their representativeness is discussed in the introduction to part 3. Third, a theoretical framework is established using relevant theory on cross-subsidization, cost estimation and cost allocation. Fourth, the theoretical framework is used to analyze the legal framework and its implementation in the cases, and evaluate whether insights from the literature can help improve the requirements set out in the regulation.

1.3 Outline

Part 2 examines the legal framework of State aid regulation and section 2.1 accounts for the legal basis of State aid regulation, as well as the six requirements which must be met for a measure to constitute State aid under EU law. Section 2.2 examines which entities are affected by a requirement to keep separate accounts, and subsection 2.3 and the two subsections thereof accounts for the requirements set out on how activities should be accounted for. Based on the review of the regulation, part 3 examines four cases where the EFTA Surveillance Authority (ESA) has evaluated separations between economic and non-economic activities, i.e. the practical implementation of the legal framework.

Part 4 establishes a theoretical framework for analyzing the legal framework. Section 4.1 accounts for definitions of relevant costs, which are necessary to understand the different definitions of cross-subsidization, which are examined in section 4.2. Section 4.3 presents literature on cost estimation and cost allocation, and where cost approximations can go

wrong. Part 5 uses the theoretical framework to analyze the legal framework and assess the implications of the requirements set out in the legal framework. Finally, part 6 concludes.

2 Legal framework

This thesis is limited to the general regulation of State aid. The primary interest of this thesis is in the general principles applied, and the challenges associated with broad regulation. Sector specific regulation, where requirements can be adapted to the sector's specific characteristics, is therefore of limited interest, and is outside the scope of this thesis. Relevant documents have been found through searches in EUR-Lex, a comprehensive database over EU law and case law. The same documents were highlighted by Hjelmeng et al. (2018). Further, the regulation on services of general economic interest cross-reference each other. The requirements in the regulation is justified with reference to previous case law in the EU courts, and are as such representative for how the State aid regulation should be interpreted.

Part 2 is structured as follows. The legal basis for the regulation of State aid is accounted for in section 2.1, as well as the six requirements which must be met for a measure or State intervention to be considered State aid. Section 2.2 accounts for which entities are required to keep separate accounts and whether there are any limitations or exemptions to such requirements. The only description of which requirements are imposed on how activities should be accounted for is found in the regulation of services of general economic interest. Section 2.3 and two subsections thereof describe the requirements laid down in the regulation. Finally, there is the market economy operator test, which is the principle that when a State competes in the markets, it should do so on terms that a private investor would accept. These principles are relevant to the issue of accounting separation, and are described in section 2.4.

2.1 Legal basis and what constitutes state aid

The legal basis for regulating State aid is provided by the Treaty on the Functioning of the European Union (the Treaty) Title VII, Chapter 1: Rules on competition. Section 2 of this chapter concerns "*Aids provided by States*" (State aid). The corresponding legal basis in the Agreement on the European Economic Area (the EEA agreement) is Part IV: Competition and other common rules, Chapter 2: State aid. The interpretation of the provisions therein has been expanded upon by the European Commission and the Court of Justice of the European Union (CJEU). A central provision regarding State aid is Article 107(1):

Save as otherwise provided in the Treaties, any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market.

Pursuant to this provision, there is a general prohibition against State aid, with some exceptions given by Articles 106(2), 107(2) and 107(3) TFEU¹⁰ (Hjelmeng, et al., 2018, p. 71). It follows from this article that six cumulative requirements¹¹ must be met for a measure to constitute State aid (Hjelmeng, et al., 2018, p. 72)¹²:

1. The aid must be given through state resources.
2. The recipient must be an undertaking.
3. The aid must confer an advantage on the recipient.
4. The aid must selectively benefit some undertakings or products.
5. The aid must distort or threaten to distort competition.
6. The aid must affect trade between Member States.

Not all of the six requirements are pertinent to the problems discussed in this thesis. A short explanation of the requirements is given below. For further details, refer to the State aid notice (European Commission, 2016b).

1. *The aid must be given through State resources.* State aid comes in many forms. This is illustrated by the Commission having to publish an explanatory notice on the notion of State aid (European Commission, 2016b) (referred to as the State aid notice). According to section 3.2. of this notice, State aid may exist only where an advantage is granted directly or indirectly through State resources. All resources of the public sector, and in some cases private bodies, constitute State resources and may give rise to State aid. Particularly, paragraph 51 states that the form of the State aid is not important and makes explicit that

¹⁰ The corresponding articles in the EEA agreement are 59(2), 61(2), and 61(3), respectively.

¹¹ The ESA considers four requirements, where they have contracted number 2 and 3 into one requirement, and number 5 and 6 into one requirement. See, for example, paragraph 51 of ESA Decision 460/13/COL (EFTA Surveillance Authority Decision of 20 November 2013 to propose appropriate measures with regard to state aid granted to publicly owned hospital pharmacies in Norway, 2013) or paragraph 17 of ESA Decision 113/14/COL (EFTA Surveillance Authority Decision of 12 March 2014 on the financing of Norwegian public dental health care services (“DOT”), 2014)

¹² For details on the six requirements, refer to the State aid notice (European Commission, 2016b) or Hjelmeng et al. (Like konkurransevilkår for offentlige og private aktører, 2018, pp. 72-73)

foregoing revenue also constitutes transfer of resources. Further, the origin of the resources is irrelevant, cf. paragraph 57.

2. *The recipient must be an undertaking.* What constitutes an undertaking has not been defined by law, but case law has established it to mean an entity engaged in economic activity (Hjelmeng, et al., 2018, p. 72). Whether an entity can be classified as an undertaking depends entirely on its activities. The legal status or the way the entity is financed is not decisive, and the application of State aid rules does not depend on whether the entity is meant to generate profit. Further, if the entity engages in both economic and non-economic activities, it is only considered an undertaking with respect to the former. An undertaking may comprise multiple legal entities. In EU law, economic activity entails offering goods or services in a market¹³ (Hjelmeng, et al., 2018, p. 72). Economists may argue that economic activity encompasses more than offering goods or services in a market. What constitutes an economic activity according to EU regulation depends *inter alia* on how the activity is organized in the Member State and may vary between Member States. Further, market closure does not rule out the existence of an economic activity.¹⁴ However, debating the content of the term is beyond the scope of this thesis. This thesis will therefore take the EU's definition as given.

3. *The aid must confer an advantage on the recipient.* The notion of advantage is interpreted widely and includes both subsidies and exemption from burdens (Hjelmeng, et al., 2018, p. 72). An advantage in the meaning of Article 107(1) TFEU is any economic benefit which would not be available to the undertaking under normal market conditions.¹⁵ In other words, the undertaking is put in a more favorable position than it would be absent State intervention. The form of the intervention is irrelevant in the assessment of whether an advantage is conferred on the undertaking, nor is the cause or objective of the intervention; only the effect of the measure matters.¹⁶

4. *The aid must selectively benefit some undertakings or products.* The selectivity criterion means that benefits that are available to all undertakings on non-discriminatory, objective and

¹³ Paragraphs 9-11 of Communication 2012/C 8/02 (European Commission, 2012c)

¹⁴ Section 2.1. of the State aid notice (European Commission, 2016b)

¹⁵ Paragraph 66 of the State aid notice (European Commission, 2016b)

¹⁶ Paragraphs 67-68 of the State aid notice (European Commission, 2016b)

transparent terms does not entail State aid in the meaning of Article 107(1) TFEU (Hjelmeng, et al., 2018, p. 73). The advantage must not necessarily be aimed at one or a few specific undertakings in order to constitute State aid within the meaning of Article 107(1). Benefits which are not available to all undertakings may be selective, even if all undertakings within a certain sector are encompassed.¹⁷

5. *The aid must distort or threaten to distort competition.* A State intervention is considered to distort or threaten to distort competition if it is liable to improve the competitive position of the recipient compared to its competitors. The measure may distort or threaten to distort competition even if the recipient does not expand or gain market shares. It is sufficient that the undertaking is enabled to maintain a stronger market position than it would be able to without the aid.¹⁸

6. *The aid must affect trade between Member States.* This criterion is met if the aid is liable to affect trade between Member States. It is not necessary to show that the aid has an actual effect on trade. The amount of aid is not decisive, and the recipient does not itself have to engage in cross-border trade for the measure to be able to affect trade between Member States. However, a merely hypothetical effect is not sufficient; why the measure may affect trade must be established.¹⁹ The prohibition against State aid may apply even if the aid is given to a third country outside of the EEA, if it is liable to affect a competitor within the EEA (Hjelmeng, et al., 2018, p. 73).

When planning to grant or alter aid, Article 108(3) of the Treaty requires that the State informs the Commission beforehand, and may not implement the aid until the Commission has made its decision on whether the aid is compatible with the internal market (Dyrberg & Magnúsdóttir, 2013). This is referred to as the prior notification requirement.

2.2 Accounting separation

Accounting separation refers to keeping separate accounts for an undertaking's different activities, and is a tool used for multiple purposes in the EU State aid regulation. There is no

¹⁷ Paragraph 118 of the State aid notice (European Commission, 2016b)

¹⁸ Paragraphs 187 and 189 (European Commission, 2016b)

¹⁹ Paragraphs 190-195 (European Commission, 2016b)

general requirement to keep separate accounts for economic and non-economic activities, but it is required by some specific regulation. This section will account for which entities are required by EU law to keep separate accounts between economic and non-economic activities. This thesis is concerned with the general principles used in European State aid regulation. Sector specific regulation is therefore outside the scope of this thesis insofar as it does not shed light on these principles. The central difficulty of accounting separation is allocation of common cost which cannot be unambiguously attributed to a single product, service or activity. The Commission therefore typically uses phrases such as “appropriate contribution to common cost”. The regulation of services of general economic interest is the only place where the Commission provides guidance on how activities should be accounted for, as well as what is considered a reasonable profit. This is accounted for in sections 2.3.1 and 2.3.2, respectively.

State aid is incompatible with the internal market only insofar as it distorts or threatens to distort competition. In its Notice on the notion of State aid (European Commission, 2016b), the Commission states in paragraph 188 that a possible distortion of competition can be ruled out if four cumulative conditions are met:

- (a) a service is subject to a legal monopoly (established in compliance with EU law);*
- (b) the legal monopoly not only excludes competition on the market, but also for the market, in that it excludes any possible competition to become the exclusive provider of the service in question;*
- (c) the service is not in competition with other services; and*
- (d) if the service provider is active in another (geographical or product) market that is open to competition, cross-subsidisation has to be excluded. This requires that separate accounts are used, costs and revenues are allocated in an appropriate way and public funding provided for the service subject to the legal monopoly cannot benefit other activities.*

This means that if an operator of a legal monopoly, which is a non-economic activity because there is no market (provided there is also no competition for the market), also engages in economic activities, it is required to keep separate accounts between the non-economic and economic activities in order to prevent cross-subsidization.

In the case of infrastructure, the Commission makes a distinction between the developer/owner of the infrastructure, the operator, and the end-users. The owner includes any entity exercising the effective ownership rights over the infrastructure and receives the economic benefits thereof. The operator is an entity making use of the infrastructure to provide services to end-users. The three functions of developer/owner, operator and end-user may overlap.²⁰ If an infrastructure is used both for economic and non-economic activities, the developer/owner must keep separate accounts between these activities in order to prevent the non-economic activities from subsidizing the economic activities.²¹ However, if the economic activity is merely ancillary, i.e. directly related to and necessary for the operation of the infrastructure, or closely linked to the infrastructure's primary non-economic use, all funding of the infrastructure may fall outside the State aid rules.²² Presumably, this means that the owner is not required to keep account for non-economic and economic activities separately if the economic activities are purely ancillary. To be considered ancillary, these activities must also be limited in scope, which the Commission regards them to be if these activities use less than 20 percent of the infrastructure's annual capacity.²³ The Commission does not define annual capacity, which allows for discretion as to how the capacity should be calculated. This threshold is binding for the Commission and the ESA, but the courts may disregard this guideline, which they did in the case of a school operated by a Spanish religious organization (Hjelmeng, et al., 2018, p. 119). In that case, the CJEU stated that an establishment must keep separate accounts if it engages in both economic and non-economic activities.²⁴ The court's conclusion seems to be that keeping separate accounts is necessary to ensure that aid only benefits the non-economic activity (Hjelmeng, et al., 2018, p. 119). Operators of aided infrastructure must do so under normal market conditions, which must be documented using the market economy operator test.²⁵ In other words, preventing operators of infrastructure from receiving incompatible State aid must be done at the level of developer/owner, because the owner is the one in a position to grant an advantage by making the infrastructure available below market prices.

²⁰ Paragraph 200 of Communication 2016/C 262/01 (European Commission, 2016b)

²¹ Section 7.2, particularly paragraphs 206 and 202 of Communication 2016/C 262/01 (European Commission, 2016b)

²² Paragraph 207 of Communication 2016/C 262/01 (European Commission, 2016b)

²³ Footnote 305 to paragraph 207 of Communication 2016/C 262/01 (European Commission, 2016b)

²⁴ Paragraph 51 (Congregación de Escuelas Pías Provincia Betania, 2017)

²⁵ Paragraph 223 of Communication 2016/C 262/01 (European Commission, 2016b)

The Transparency Directive²⁶ requires Member States to ensure that financial relations between public authorities and public undertakings are transparent. Pursuant to Article 1, it must emerge clearly the public funds made available directly or indirectly to the undertaking, as well as the use to which the funds are put. The EFTA Surveillance Authority (ESA) has consistently held in its decisional practice that this means keeping separate accounts, particularly between economic and non-economic activities.²⁷ The Transparency Directive only applies directly to public undertakings with annual net turnover exceeding EUR 40 million, cf. Article 5(2)(b). However, the ESA is of the opinion that the same principles of transparency, i.e. accounting separation between economic and non-economic activities, still applies even if the Transparency Directive does not apply directly.²⁸

Pursuant to Article 2(d) of the Transparency Directive,²⁹ any undertaking which enjoys a special or exclusive right granted by a Member State, or is entrusted with the provision of an SGEI, is required to maintain separate accounts. Article 4(1) of the Directive goes as follows:

To ensure the transparency referred to in Article 1(2), the Member States shall take the measures necessary to ensure that for any undertaking required to maintain separate accounts:

- (a) the internal accounts corresponding to different activities are separate;*
- (b) all costs and revenues are correctly assigned or allocated on the basis of consistently applied and objectively justifiable cost accounting principles;*
- (c) the cost accounting principles according to which separate accounts are maintained are clearly established.*

²⁶ Commission Directive 2006/111/EC of 16 November 2006 on the transparency of financial relations between Member States and public undertakings as well as on financial transparency within certain undertakings (European Commission, 2006)

²⁷ See, for example, (EFTA Surveillance Authority Decision of 12 March 2014 on the financing of Norwegian public dental health care services (“DOT”), 2014; EFTA Surveillance Authority Decision of 18 March 2015 concerning the alleged cross-subsidisation of BRM/ERM courses provided by Redningselskapet and the University of Tromsø, 2015; EFTA Surveillance Authority Decision of 20 November 2013 to propose appropriate measures with regard to state aid granted to publicly owned hospital pharmacies in Norway, 2013; EFTA Surveillance Authority Decision of 27 February 2013 on the financing of municipal waste collectors, 2013; EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningselskapet for its provision of ambulance transport services by maritime vessel, 2013). These cases will be examined more closely in section 0.

²⁸ See the same cases as above, as well as the comments on the case law in section 0.

²⁹ Commission Directive 2006/111/EC of 16 November 2006 on the transparency of financial relations between Member States and public undertakings as well as on financial transparency within certain undertakings (European Commission, 2006)

Article 1(2), which is referred to in Article 4(1), states that undertakings required to maintain separate accounts should do so in a manner in which the following both emerge clearly: (a) the costs and revenues associated with different activities; and (b) full details of the methods by which costs and revenues are assigned or allocated to different activities. Both Article 1(2) and 4(1) apply without prejudice to specific provisions. Special or exclusive rights, as referred to in Article 4(1), are defined by Article 2(g) and 2(f), respectively, as rights granted to a limited number of undertakings (special rights) or a single undertaking (exclusive rights), authorizing them to undertake an activity or provide a service within a limited geographical area. There does not seem to be a lower limit in the Transparency Directive on turnover for this requirement to apply to undertakings required to maintain separate accounts.

In addition to the cases accounted for in this section, undertakings charged with operating services of general economic interest, and also performs activities outside the scope of that service, is required to keep separate accounts between each service. This case is elaborated in section 2.3 below.

While there is no general requirement to keep separate accounts between economic and non-economic activities,³⁰ aside from the situations accounted for above, it is considered necessary to keep separate accounts in order to maintain satisfactory control that cross-subsidization is not taking place (Hjelmeng, et al., 2018, p. 190; Honoré, 2017). In multiple cases, the ESA has decided that accounting separation is a necessary control measure to prevent cross-subsidization. Alternatively, the economic activity may be organized in a separate legal entity. In recent case law, the CJEU has ruled that a single establishment may perform both economic and non-economic activities provided that they are accounted for separately (Hjelmeng, et al., 2018, pp. 85-88, 190-191).

Table 1 summarizes where accounting separation is used, the conditions for the requirement and the legal basis for it.

³⁰ The Transparency Directive is tantamount to a general requirement, were it not for the exception of public undertakings with annual turnover below EUR 40 million.

Which entities	When	Legal basis
Public undertakings	If total annual turnover exceeds EUR 40 million	The Transparency Directive Articles 1(1) and 5(1)(d).
Undertakings charged with operating services of general economic interest.	If they also engage in economic activities outside the scope of the service of general interest.	The regulation on services of general economic interest, see section 2.3; and the Transparency Directive Article 2(d).
Undertakings enjoying special or exclusive rights granted by a Member State	If they receive public service compensation in any form, and also carry out other activities.	The Transparency Directive Articles 1(2) and 2(d).
Operators of legal monopolies.	If they also engage in economic activities outside the scope of the legal monopoly.	The State aid notice, which has its basis in Article 107(1) TFEU.
Operators of infrastructure.	If they also perform economic activities. This does not apply if the economic activities are ancillary to the operation of the infrastructure and are limited in scope.	The State aid notice, which has its basis in Article 107(1) TFEU.

Table 1: Summary of where accounting separation is used.

2.3 Services of general economic interest (SGEI)

The EU has not provided a definition of an SGEI, but it is generally understood to be a service of public interest which would not be provided under market conditions. What constitutes a service of general economic interest varies with the needs of citizens as well as technological developments and changes in markets, and Member States have wide discretion

in defining services to be of general economic interest.³¹ Potential examples include bus routes in rural areas and the provision of dental services in sparsely populated areas. The latter was part of the case in section 3.3.

The provision of SGEIs is regulated by four legal acts:

- Commission Decision 2012/21/EU on the application of Article 106(2) of the Treaty on the Functioning of the European Union to State aid in the form of public service compensation granted to certain undertakings entrusted with the operation of services of general economic interest (European Commission, 2012a) (henceforth referred to as the SGEI Decision)
- Commission Regulation No 1407/2013 on the application of Articles 107 and 108 of the Treaty on the Functioning of the European Union to de minimis aid (European Commission, 2013)
- Communication 2012/C 8/03 from the Commission – European Union framework for State aid in the form of public service compensation (European Commission, 2012b) (henceforth referred to as the SGEI framework)
- Communication 2012/C 8/02 from the Commission on the application of the European Union State aid rules to compensation granted for the provision of services of general economic interest (European Commission, 2012c)

Undertakings charged with providing services of general economic interest in addition to other activities are required to keep separate accounts for the SGEI and for other activities. This is imposed by Article 5(9) of The SGEI Decision (European Commission, 2012a) and paragraph 44 of Communication 2012/C 8/03 (European Commission, 2012b). According to the latter, in instances where the undertaking is entrusted with more than one SGEI, each service must be accounted for separately. It follows from section 2.8 of the SGEI framework (European Commission, 2012b) and Article 5(9) of Decision 2012/21/EU (European Commission, 2012a) that the purpose of accounting for SGEIs separately from other activities is to prevent overcompensation and, consequently, cross-subsidization.

³¹ See, for example, paragraphs 45-48 of Communication from the Commission on the application of the European Union State aid rules to compensation granted for the provision of services of general economic interest (European Commission, 2012a).

2.3.1 Accounting separation for SGEIs

Paragraph 44 of the SGEI framework (European Commission, 2012b) requires that undertakings carrying out activities beside an SGEI must account for the SGEI separately from other activities. In the case of multiple SGEIs being provided by the same undertaking, each SGEI must be accounted for separately. That is, the undertaking must keep one set of accounts for each SGEI it is entrusted with, and one set of accounts for all other activities. The non-SGEI activities do not need to be separated from each other. Paragraph 44 refers to paragraph 31 in the same Communication, which lies under the heading “Methodology based on cost allocation”, which is part of section 2.8. “Amount of compensation”. How to calculate compensation for the provision of SGEIs is not the topic of this thesis. However, it is relevant because the section on methods for calculating compensation in the SGEI framework provides guidance on how cost allocation as a method for controlling that cross-subsidization is not taking place should be implemented.

The regulation of SGEI provision is generally preoccupied with the cost of providing the service. Article 5(1) of The SGEI Decision (European Commission, 2012a) states “[t]he amount of compensation shall not exceed what is necessary to cover the net cost incurred in discharging the public service obligations, including a reasonable profit.” Paragraph 21 of the SGEI framework (European Commission, 2012b) contains a nearly identical statement. Paragraph 28 of the SGEI framework states that under the cost allocation method, the net cost can be calculated as the difference between costs and revenues of fulfilling the public service obligation as specified in the entrustment act (European Commission, 2012b). All costs necessary to operate the SGEI is to be included, cf. paragraph 29. The difficulty arises when the undertaking performs activities other than the provision of the SGEI, or provides more than one SGEI.

When performing multiple activities, the issue of common costs becomes important. Paragraph 31 of the SGEI framework (European Commission, 2012b) and Article 5(3)(c) of the SGEI Decision (European Commission, 2012a) state that activities outside the scope of the SGEI should cover an appropriate contribution to common costs. In paragraph 31 of the SGEI framework (European Commission, 2012b), the Commission further proposes that common costs are allocated by using market prices for the use of resources as a benchmark. If no market prices are available, the Commission proposes that the appropriate contribution

to common costs can be determined with reference to the “reasonable profit” the undertaking expects to make on its activities outside the scope of the SGEI in question. Other methods of allocating common costs may be used where appropriate.

2.3.2 Reasonable profit

The operator of a service of general economic interest is allowed a “reasonable” profit.³² The Commission takes reasonable profit to mean the rate of return on capital which would be required by a typical firm considering whether to provide the SGEI for the duration set out in the entrustment act. The profit allowed should take into account the level of risk considering factors such as the sector, type of service and characteristics of the compensation mechanism.³³ The Commission holds that a return on capital equal to the relevant swap rate plus 100 basis points should always be considered reasonable. At the same time, if providing the SGEI is not connected with a substantial commercial or contractual risk, the reasonable profit may not exceed the relevant swap rate plus 100 basis points.³⁴ This is, in other words, a reasonable profit for a risk-free investment. In one case regarding the application of the market economy operator test (see section 2.4), however, the Commission used long-term government bonds as a risk-free reference rate.³⁵ What constitutes a reasonable profit should be determined, where possible, with reference to returns obtained on similar contracts awarded under competition, for example a tender.³⁶ If no comparable undertaking exists in the sector, other methods may be used, for example referring to undertakings in other Member States, or in other sectors, provided that the characteristics of each sector is taken into account.³⁷

The expected profit should be calculated as the internal rate of return (IRR) the undertaking receives on its investment over the duration of the public service obligation.³⁸ According to

³² Paragraph 21 of the SGEI framework (European Commission, 2012b); Article 5(1) of the SGEI Decision (European Commission, 2012a)

³³ Paragraph 33 of the SGEI framework (European Commission, 2012b); Article 5(5) of the SGEI Decision (European Commission, 2012a); Paragraphs 61 and 77 of Communication 2012/C 8/02 (European Commission, 2012c)

³⁴ Paragraphs 36 and 38 of the SGEI framework (European Commission, 2012b); Paragraph 19 and Article 5(7) of the SGEI Decision (European Commission, 2012a)

³⁵ Paragraph 158 (European Commission, 2016a)

³⁶ Paragraph 35 of the SGEI framework (European Commission, 2012b); Article 5(8) of the SGEI Decision (European Commission, 2012a); Paragraph 61 of Communication 2012/C 8/02 (European Commission, 2012c)

³⁷ Paragraph 37 of the SGEI framework (European Commission, 2012b); Paragraph 61 of Communication 2012/C 8/02 (European Commission, 2012c)

³⁸ Footnote 18 of the SGEI framework (European Commission, 2012b); Paragraph 18 of the SGEI Decision (European Commission, 2012a)

Article 5(8) of the SGEI Decision (European Commission, 2012a), other methods of calculating profit may be used where it is not appropriate to use the rate of return on capital. Paragraph 34 of the SGEI framework (European Commission, 2012b) says other methods may be used if “duly justified”. This could suggest a less strict threshold for using other methods, but the Commission does not elaborate in the framework what the threshold for duly justified is. Seen in context with the SGEI Decision, the threshold may be the same.

Alternative profit level indicators proposed by the Commission³⁹ include the average return on equity (ROE) over the entrustment period, return on capital employed (ROCE), return on assets, or return on sales. The average annual return should be calculated over the duration of the entrustment period using whichever discount rate is more appropriate of the firm’s cost of capital or the Commission Reference rate Communication, but the Commission does not provide guidance on when either is appropriate to use. ROE is defined as the ratio between earnings before interest and taxes and equity capital that year:⁴⁰ $\frac{EBIT}{Equity}$. The Commission does not address whether the equity at the start of the year, the end of the year, or an average level should be used. In the SGEI Decision, the return is generally defined as earnings before interest and taxes (EBIT),⁴¹ implying that all profit level indicators should use EBIT as the numerator. Aside from this, none of the suggested profit level indicators are defined.

States may introduce incentive criteria meant to improve efficiency and the quality of the service. Article 5(6) of the SGEI Decision (European Commission, 2012a) implies that this is optional, while paragraph 39 of the SGEI framework (European Commission, 2012b) says that incentive criteria must be introduced unless the Member State can document that using incentives is not feasible. Efficiency gains must not negatively affect the quality of service.⁴² For example, the entrustment act can define “productive efficiency targets” where the undertaking’s compensation is made dependent upon the degree to which these targets are met. Such variable compensation should be set in a way that results in balanced sharing of the efficiency gains between the undertaking and the Member State. Further, any incentive criteria must be objective and measurable.⁴³

³⁹ Paragraph 34 of the SGEI framework (European Commission, 2012b)

⁴⁰ Paragraph 34 of the SGEI framework (European Commission, 2012b)

⁴¹ Article 5(8) of the SGEI Decision (European Commission, 2012a)

⁴² Paragraph 43 of the SGEI framework (European Commission, 2012b); Article 5(6) of the SGEI Decision (European Commission, 2012a); Paragraph 61 of Communication 2012/C 8/02 (European Commission, 2012c)

⁴³ Paragraph 41 and 42 of the SGEI framework (European Commission, 2012b)

2.4 The market economy operator (MEO) test

Whenever public authorities directly or indirectly carry out any form of economic transaction, they are subject to EU State aid rules. The general principle is that transactions carried out by public bodies do not constitute State aid if they are carried out in line with normal market conditions. The Union courts have developed different tests for different types of transactions, such as investment, lending and sales. The concept is to compare the behavior of public bodies with similar private economic operators under normal market conditions.⁴⁴ For this thesis, the relevant test is for public authorities in the role of investor: the “market economy investor principle”. The various tests are generally referred to as the market economy operator (MEO) test.

The purpose of the MEO test is to assess whether the State, by not acting like a market economy operator, has granted an advantage to an undertaking. The test is not applicable if the State is exercising public power, e.g. an intervention is driven by public policy considerations. Any assessment of whether an intervention by the State is in line with market conditions must be made *ex ante*. Observing *ex post* that an investment was in fact profitable is not sufficient. The Member State must be able to prove that its actions were based on economic evaluations comparable to those a rational market economy operator would perform before making a transaction.⁴⁵ The Commission may disregard evidence established after the decision to make the investment is made.⁴⁶ Complementarily, the CJEU has stated that relying solely on economic evaluations made *ex post* is not sufficient.⁴⁷ In fact, the Commission has held that the lack of economic evaluations made *ex ante*, i.e. before the decision to make the investment was made, is in itself evidence indicating that the Member State was not acting in compliance with the MEO test.⁴⁸ This means that the Member State must document before it decides to make an investment that a prudent private investor would be willing to make that same investment. Establishing compliance with market conditions can be done directly, through public-private partnerships or tendering procedures, or indirectly

⁴⁴ Section 4.2.1. of the State aid notice (European Commission, 2016b)

⁴⁵ Section 4.2.2. of the State aid notice (European Commission, 2016b)

⁴⁶ Paragraph 126 (European Commission, 2016a), paragraph 104 (Commission v EDF, 2012)

⁴⁷ Paragraph 84-85 (Commission v EDF, 2012)

⁴⁸ Paragraph 144 (European Commission, 2016a)

through other methods, for example a benchmarking process.⁴⁹ The former is not relevant for this thesis because direct methods do not enlighten the questions addressed herein.

Benchmarking involves comparing the transaction in question with similar transactions carried out by private actors.⁵⁰ This is similar to the regulation of the provision of SGEIs, where benchmarking against similar undertakings is encouraged both when determining reasonable profit and when calculating compensation, e.g. where market prices are not available. Which method is appropriate to assess compliance with market conditions depends on market situation, data availability and the type of transaction. For the type of transaction relevant to this thesis, where the State invests in an undertaking, the Commission holds that computing the internal rate of return (IRR) or the net present value (NPV) is likely the most appropriate.⁵¹ If an investment is not expected to yield a normal market return, it would likely not be pursued on normal market conditions. A normal expected return (or the cost of capital) can be defined as the average expected return required by the market based on generally accepted criteria, taking into account the characteristics of the sector, region or country, the financial position of the company, and in particular the risk of the investment. The cost of capital increases with higher risk.⁵² The Commission recognizes that the most common method used to determine the cost of capital is the capital asset pricing model (CAPM).⁵³ This model is explained in section 4.3.1. When using the NPV or IRRR approach, an investment should only be pursued if the NPV is greater than or equal to zero, or the IRRR is greater than or equal to the cost of capital.⁵⁴ In other words, when a Member State is acting as an investor, it should at least cover its costs, including the cost of capital.

The Commission acknowledges that estimating expected return from an investment is an approximation exercise, and that such approximations typically result in a range of possible values. As such, it is normally appropriate to consider measures of central tendency, for example the average or median of a set of comparable transactions. Further, multiple valuation methodologies should be employed to corroborate the results and document that a transaction is carried out in line with market conditions.⁵⁵

⁴⁹ Section 4.2.3 of the State aid notice (European Commission, 2016b)

⁵⁰ Paragraph 97 of the State aid notice (European Commission, 2016b)

⁵¹ Paragraph 103 of the State aid notice (European Commission, 2016b)

⁵² Paragraph 102 of the State aid notice (European Commission, 2016b)

⁵³ Paragraph 183-184 (European Commission, 2016a)

⁵⁴ Endnote 160 of the State aid notice (European Commission, 2016b)

⁵⁵ Paragraph 104-105 of the State aid notice (European Commission, 2016b)

3 Case law

As became apparent from the review of the regulation above, little guidance is provided on how accounting separation should be implemented in practice, and the regulation is very broad and general. Therefore, this section will review cases dealing with accounting separation. Based on the review of the regulation, the case review will seek to answer several questions:

- How to allocate common costs
 - Is a specific method proposed or required? If yes, which?
- Level of profit
 - Which profit level indicator is used?
 - What is considered a reasonable level of profit?

All four selected cases were highlighted by Hjelmeng et al. (Like konkurransevilkår for offentlige og private aktører, 2018), which was an expert panel appointed by the Norwegian Ministry of Trade, Industry and Fisheries, mandated to suggest measures to ensure equal competitive terms between public and private market actors. The cases are all relatively recent decisions by the EFTA Surveillance Authority regarding Norwegian entities where a primary concern is the separation of accounts between economic and non-economic activities. Three cases pertain to public undertakings, while one case pertains to a private undertaking which receives funds from the Norwegian state. While this is a narrow selection, limited to one EFTA country, the subject matter and decisional practice is relevant for all EU countries because the same rules on competition apply to all members of the EEA. One of the main objectives of the EEA Agreement is to ensure a “dynamic and homogeneous European Economic Area”,⁵⁶ which necessitates uniform interpretation and practice between the Commission, the ESA and the EFTA and EU courts. Hence, the ESA and the Commission both base their decisions on the same case law, and the ESA frequently refers to decisional practice of the Commission and the EU Courts, which is in accordance with Article 6 of the EEA Agreement. The principle of uniform interpretation is also expressed in Articles 105 and 106 of the EEA Agreement.

⁵⁶ Preamble of the Agreement of the European Economic Area.

3.1 Norwegian public hospital pharmacies

A private chain of pharmacies complained to the ESA, contending that Norwegian publicly owned hospital pharmacies may be receiving State aid incompatible with the EEA Agreement. The complaint drew attention to three potential aid measures:⁵⁷ 1) the State is forgoing profit because the public hospital pharmacies are non-profit; 2) public hospital pharmacies may be paying rent below market prices; and 3) the public hospital pharmacies may be receiving an unlawful advantage through a general tax exemption. The third point is outside the scope of this thesis and the ESA's assessments and conclusion on it will not be addressed herein.⁵⁸

Public hospital pharmacies in Norway have four primary activities:⁵⁹ 1) supplying the hospital with pharmaceutical products; 2) producing tailor-made specialist pharmaceutical products for public hospital patients; 3) providing advisory services on pharmaceutical products to public hospitals; and 4) retailing pharmaceutical products and non-pharmaceutical products on public hospital premises, i.e. retail sale of products 'over-the-counter' to discharged patients and out-patients of the hospital and to the general public.

The first three activities are part of the public specialist health care system and are as such non-economic activities. The fourth activity is an economic activity conducted in competition with private undertakings and must be separated from the pharmacies' other activities.⁶⁰ Following the complaint, ESA Decision 460/13/COL addressed three measures through which hospital pharmacies may receive State aid:⁶¹ (i) cross-subsidisation of retail activities of public hospital pharmacies with funds meant for non-commercial activities of the public hospital pharmacies (payment of rent is addressed under this point); (ii) profits foregone through the non-profit orientation of the commercial activities of the public hospital pharmacies; and (iii) exemption from income tax for public hospital pharmacies.

⁵⁷ Paragraphs 1, 4 and 5 (EFTA Surveillance Authority Decision of 20 November 2013 to propose appropriate measures with regard to state aid granted to publicly owned hospital pharmacies in Norway, 2013)

⁵⁸ See Hjelmeng et al. (2018) for a thorough review of the aid perspective of tax exemptions for public undertakings.

⁵⁹ Paragraph 21 (EFTA Surveillance Authority Decision of 20 November 2013 to propose appropriate measures with regard to state aid granted to publicly owned hospital pharmacies in Norway, 2013)

⁶⁰ Paragraph 22 (EFTA Surveillance Authority Decision of 20 November 2013 to propose appropriate measures with regard to state aid granted to publicly owned hospital pharmacies in Norway, 2013)

⁶¹ Paragraphs 29-30 (EFTA Surveillance Authority Decision of 20 November 2013 to propose appropriate measures with regard to state aid granted to publicly owned hospital pharmacies in Norway, 2013)

In its assessment of whether public hospital pharmacies are receiving an advantage, the ESA states that objective and transparent cost allocation mechanisms need to be in place to ensure that no advantage is conferred on the pharmacies' commercial activities. The ESA specifically addresses rent, writing that the State can cover rent for non-commercial activities, while the commercial activities must pay rent at market rates.⁶² Regarding the non-profit orientation of the public hospital pharmacies, the ESA finds that this does not comply with the market economy operator test, as a return on investment represents a normal cost of doing business for any private investor. By not requiring any profits from the commercial activities, the public hospital pharmacies are provided capital at below the market rate, and therefore the non-profit orientation amounts to an advantage.⁶³

The ESA concluded that the assessed measures constitute incompatible State aid and proposed the following to ensure that aid is not granted in the future.⁶⁴

- *In accordance with the Authority's practice, separate accounts should be kept for the retail activities of the public hospital pharmacies (retail sale of pharmaceutical products and non-pharmaceutical products 'over-the-counter' to discharged patients and out-patients of the hospital and to the general public).*
- *The accounting principles according to which separate accounts are maintained shall be clearly established.*
- *All costs, both direct and indirect, as well as an appropriate contribution to the common costs and revenues shall be correctly assigned or allocated on the basis of consistently applied and objectively justifiable cost accounting principles. This shall also apply to the costs for rental of the retail premises.*
- *The retail activities of public hospital pharmacies should be required to achieve profits comparable to what a private investor would expect from a similar undertaking.*
- *The tax exemption for the activities of the public hospital pharmacies should be modified so that the tax exemption does not cover the retail activities of the public hospital pharmacies.*

⁶² Paragraphs 67-68 (EFTA Surveillance Authority Decision of 20 November 2013 to propose appropriate measures with regard to state aid granted to publicly owned hospital pharmacies in Norway, 2013)

⁶³ Paragraphs 71-75 (EFTA Surveillance Authority Decision of 20 November 2013 to propose appropriate measures with regard to state aid granted to publicly owned hospital pharmacies in Norway, 2013)

⁶⁴ Paragraphs 130-131 (EFTA Surveillance Authority Decision of 20 November 2013 to propose appropriate measures with regard to state aid granted to publicly owned hospital pharmacies in Norway, 2013)

3.1.1 Comments

The ESA does not provide guidance on how public hospital pharmacies specifically should allocate costs beyond stating that costs should be accounted for using clearly defined, consistently applied and objectively justifiable cost accounting principles. Regarding the level of profit, the ESA does not indicate which profit level indicator or indicators are appropriate. As to the level of profit, the pharmacies should refer to what a private investor would expect from a similar undertaking.

3.2 Waste collection in Norwegian municipalities

Norwegian authorities have made a separation between the collection of household waste, which is a legal monopoly in each municipality, and the collection of industrial waste, which is subject to competition.⁶⁵ The municipalities choose whether they want to collect household waste themselves, or if private operators should be allowed to collect household waste through a tender.⁶⁶ Regardless of whether the municipality performs the service itself, or the service is tendered out, the costs of collecting household waste is covered through a waste collection fee levied on the inhabitants of the municipality. The fee shall cover all costs of operating the service.⁶⁷ Municipal waste collectors compete in the market by submitting bids when the collection of household waste is tendered out, or by providing services related to industrial waste.⁶⁸

Norwegian authorities have issued guidelines on how the waste collection fee should be calculated based on the full cost principle, and how costs should be allocated between the municipal waste collectors' activities. Guidelines have also been issued on the use of the full cost principle. However, neither of these guidelines were legally binding on the municipalities.⁶⁹

⁶⁵ Paragraphs 5 and 9 (EFTA Surveillance Authority Decision of 27 February 2013 on the financing of municipal waste collectors, 2013)

⁶⁶ Paragraph 5 (EFTA Surveillance Authority Decision of 27 February 2013 on the financing of municipal waste collectors, 2013)

⁶⁷ Paragraphs 6-7 (EFTA Surveillance Authority Decision of 27 February 2013 on the financing of municipal waste collectors, 2013)

⁶⁸ Paragraph 10 (EFTA Surveillance Authority Decision of 27 February 2013 on the financing of municipal waste collectors, 2013)

⁶⁹ Paragraph 8 (EFTA Surveillance Authority Decision of 27 February 2013 on the financing of municipal waste collectors, 2013)

Two potential aid measures were assessed by the ESA.⁷⁰

1. The waste collection fee which finances the collection of household waste.
2. The income tax exemption for municipal waste collectors.

Measure number two is outside the scope of this thesis and will not be addressed further.

The ESA found that municipal waste collectors are not undertakings with regard to the collection of household waste within their own municipal monopoly, provided that there is no competition for the market (i.e. the service is not put out to tender). They are, however, undertakings insofar as they provide services related to industrial waste and compete for contracts in public tenders for household waste. Whether the municipal waste collectors are organized as separate legal entities or are an integral part of the municipality is not decisive for their nature as undertakings.⁷¹

In order to ensure that the waste collection fee does not entail State aid (by cross-subsidizing the economic activity, i.e. industrial waste collection, with funds meant for the non-economic activity, i.e. household waste collection), the ESA found three cumulative measures to be appropriate:⁷²

- *First, the Norwegian authorities should introduce a legally binding obligation requiring municipal waste collectors carrying out economic and non-economic activities to keep separate accounts for the two types of activities. The Norwegian authorities should ensure that the waste collection fee will be calculated on the basis of the costs directly related to the non-economic activity as well as a proportionate share of fixed common costs.*
- *Second, the Norwegian authorities should introduce an adequate system of control that prevents any form of cross subsidisation between the non-economic and economic activities of the municipal waste collectors.*
- *Third, the Norwegian authorities should ensure that municipal waste collectors carrying out economic and non-economic activities are not empowered to set their*

⁷⁰ Paragraph 4 (EFTA Surveillance Authority Decision of 27 February 2013 on the financing of municipal waste collectors, 2013)

⁷¹ Paragraphs 29-32 (EFTA Surveillance Authority Decision of 27 February 2013 on the financing of municipal waste collectors, 2013)

⁷² Paragraph 68 (EFTA Surveillance Authority Decision of 27 February 2013 on the financing of municipal waste collectors, 2013)

own waste collection fees without approval by a state body (i.e. the municipality or central government).

3.2.1 Comments

The ESA requires that municipal waste collectors keep separate accounts between economic and non-economic activities, but does not provide guidance as to how costs should be allocated. The waste collection fee, through which the non-economic activities are financed, must be calculated based on costs directly related to the non-economic activities as well as a proportionate share of fixed common costs. Further, an adequate system of control should be implemented to prevent cross-subsidization, possibly implying that proper separation of accounts is not sufficient. Norwegian authorities have issued guidelines both on how costs should be allocated between different activities and on how the waste collection fee should be calculated, but the ESA did not consider the appropriateness or adequacy of these guidelines.

The ESA does not expressly impose a requirement on the municipalities to require their waste collectors to turn a profit. However, Norwegian authorities did address the issue of profit and assured the ESA that the municipalities would start requiring a reasonable return on capital from waste collectors engaging in economic activities.⁷³

3.3 Norwegian public dental health care

Following complaints from two private parties, the ESA investigated potential cross-subsidization in the Norwegian public dental health care services.⁷⁴ Through DOT,⁷⁵ Norwegian counties fulfill a responsibility to provide free or discounted dental health care services to children and other groups, defined in the Act on public health care services (DHSA). DOT refers to separate administrative units in each of the 19 counties, which are part of the counties' legal persons. DOTs are also required to ensure that adequate dental health care services are available to all citizens permanently residing in a county, either by

⁷³ Paragraph 65 (EFTA Surveillance Authority Decision of 27 February 2013 on the financing of municipal waste collectors, 2013)

⁷⁴ Paragraph 1 (EFTA Surveillance Authority Decision of 12 March 2014 on the financing of Norwegian public dental health care services ("DOT"), 2014)

⁷⁵ In Norwegian: "Den Offentlige Tannhelsetjeneste», cf. paragraph 1 (EFTA Surveillance Authority Decision of 12 March 2014 on the financing of Norwegian public dental health care services ("DOT"), 2014)

way of permanent clinics or travelling dentists in areas where dental services are not offered by private practitioners.⁷⁶

DOT engages in three activities. First, they provide free dental health care to children, youth (discounted prices for youth aged 18-20), the elderly, the long term ill, mentally handicapped people, and handicapped people in institutions or home care. This is provided for in Section 1-3(1)(a)-(d) of the DHSA, and the ESA collectively refers to this group as the “Section 1-3(1) group.”⁷⁷ The ESA does not consider the provision of health care to the Section 1-3(1) group to be an economic activity.⁷⁸

Second, DOTs provide subsidized dental health care in remote and sparsely populated areas where there is a lack of private practitioners. The ESA refers to this as the “Section 1-3(2) group”.⁷⁹ Subsidized dental health care means that dental care should be available to at a reasonable price and within reasonable proximity to all citizens. According to the Norwegian authorities, the fees DOT charges in these areas do not reflect the full cost of providing treatment, because the costs for providing dental health are in these areas are higher due to smaller practices and travelling dentists. The prices DOT charges for these services reflects the cost of providing them in less sparsely populated areas. The prices are not symbolic, and the ESA finds that DOT is carrying out an economic activity when providing health care to the Section 1-3(2) group.⁸⁰

Third, DOT provides dental care services to patients who are not part of the groups described above, i.e. adults residing in areas with readily available private dental services. These services are provided for remuneration and, as of the time of the ESA’s decision, Norwegian authorities do not require DOT to maintain separate accounts between its three activities. The

⁷⁶ Paragraph 4 (EFTA Surveillance Authority Decision of 12 March 2014 on the financing of Norwegian public dental health care services (“DOT”), 2014)

⁷⁷ Paragraph 5 (EFTA Surveillance Authority Decision of 12 March 2014 on the financing of Norwegian public dental health care services (“DOT”), 2014)

⁷⁸ Paragraph 20 (EFTA Surveillance Authority Decision of 12 March 2014 on the financing of Norwegian public dental health care services (“DOT”), 2014)

⁷⁹ Paragraph 6 (EFTA Surveillance Authority Decision of 12 March 2014 on the financing of Norwegian public dental health care services (“DOT”), 2014)

⁸⁰ Paragraphs 21-23 (EFTA Surveillance Authority Decision of 12 March 2014 on the financing of Norwegian public dental health care services (“DOT”), 2014)

ESA finds that this constitutes offering services in a competitive market, and is as such an economic activity.⁸¹

When assessing whether the economic activities are conferred an advantage, the ESA notes that in the absence of a cost-accounting system to ensure that the economic activities are not financed through state resources (i.e. separation of accounts), it is not possible to verify the absence of cross-subsidy. Accordingly, the presence of an advantage can not be ruled out. The ESA refers to its own decisional practice, as well as the Transparency Directive as the legal basis for this principle.⁸² Further, the ESA considers the provision of dental care to the Section 1-3(2) group to be a service of general economic interest.⁸³ As such, the legal basis for separation of accounts is provided for by the SGEI decision, which again stems from Article 106(2) TFEU (Article 59(2) EEA).

The ESA concluded the following:⁸⁴

- *In accordance with the Authority's practice, separate accounts should be kept for the three following activities:*
 - i. *the non-economic activities (in accordance with Section 1-3(1)(a)-(e) of the DHSA);*
 - ii. *the services provided to paying patients in remote and sparsely populated areas with a market failure, classified as an SGEI; and*
 - iii. *the services provided to paying patients in areas with sufficient private alternatives.*
- *All costs, both direct and indirect, as well as an appropriate contribution to the common costs (such as rent, equipment and personnel) and revenues should be allocated on the basis of clearly established, consistently applied and objectively justifiable cost accounting principles.*
- *In addition, the commercial activities of DOT (point (iii) above) should be required to generate a reasonable return on capital (comparable to what a private investor would expect from a similar undertaking).*

⁸¹ Paragraphs 7 and 24-26 (EFTA Surveillance Authority Decision of 12 March 2014 on the financing of Norwegian public dental health care services ("DOT"), 2014)

⁸² Paragraph 33 (EFTA Surveillance Authority Decision of 12 March 2014 on the financing of Norwegian public dental health care services ("DOT"), 2014)

⁸³ Paragraph 28, 50

⁸⁴ Paragraph 63 (EFTA Surveillance Authority Decision of 12 March 2014 on the financing of Norwegian public dental health care services ("DOT"), 2014)

- *the compensation system for dental services in areas with insufficient provision of dental care must comply with the SGEI Decision as set out in Chapter II.5 above.*

3.3.1 Comments

The ESA refers to articles 5 and 6 of the SGEI decision regarding how DOT specifically should allocate costs. Beyond that, it does not provide guidance other than stating that costs should be accounted for using clearly defined, consistently applied and objectively justifiable cost accounting principles. Regarding the level of profit, the ESA does not indicate which profit level indicator or indicators are appropriate. As to the level of profit, DOT should refer to what a private investor would expect from a similar undertaking. Presumably, DOT should require a return which is compliant with article 5 of the SGEI decision.

3.4 Redningsselskapet

Two private companies filed a complaint with the ESA, alleging that Redningsselskapet could not have submitted a competitive bid in a tender for ambulance transport services by maritime vessel without cross-subsidization with public funds. The public funds in question are annual grants from the Norwegian Ministry of Fisheries and Coastal Affairs under a Framework Agreement between the Norwegian State and Redningsselskapet; annual grants from gaming profits of Norsk Tipping AS; and an exemption from VAT for the purchase of maritime vessels.⁸⁵ The ESA describes Redningsselskapet as follows:⁸⁶

Redningsselskapet was established in 1891. It is a Norwegian humanitarian, voluntary, membership-based organisation with the following objectives: to save lives, to protect material assets, to safeguard the coastal environment and to pursue information activities concerning safety matters at sea. To perform its tasks, Redningsselskapet is dependent on membership fees, private gifts, contributions, support and donations. In 2012, Redningsselskapet had 42 rescue vessels operating along the Norwegian coast.

⁸⁵ Paragraphs 4 and 7 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningsselskapet for its provision of ambulance transport services by maritime vessel, 2013)

⁸⁶ Paragraph 8 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningsselskapet for its provision of ambulance transport services by maritime vessel, 2013)

Search and rescue operations are in Norway organized through the Norwegian Search and Rescue Service (the “SAR Service”). Many voluntary organizations participate in the SAR Service, including Redningsselskapet. The Framework Agreement involves a yearly grant through which the Norwegian State finances a proportion of Redningsselskapet’s costs relating to search and rescue operations, as well as other tasks such as oil protection and inner coastal surveillance. The Norwegian State also sets performance measures and operational goals for Redningsselskapet. The grant amounted in 2012 to NOK 54 400 000, or about 10% of Redningsselskapet’s operating costs, and has been gradually reduced relative to the company’s level of activity. Under the Framework Agreement, Redningsselskapet is permitted to use its spare capacity for other income-generating activities, provided that these are accounted for separately, and under the presumption that rescue and coastal administration tasks take priority.⁸⁷

Redningsselskapet also receives funding through annual grants from the gaming profits of the Norwegian state-owned company Norsk Tipping AS. Revenues from Norsk Tipping’s gaming activities are distributed using a fixed formula. As of the time of the ESA’s Decision on this case, 18% of these profits are allocated to organizations promoting humanitarian or socially beneficial causes, and of these 18%, Redningsselskapet is entitled to 21.5%. This amounted to NOK 132 547 000 in 2012.⁸⁸

The ESA finds it clear that Redningsselskapet is partly financed by State resources through its grants from the Norwegian Ministry of Fisheries and Coastal Affairs and from the gaming profits of Norsk Tipping AS.⁸⁹ Regarding the allegation that Redningsselskapet is in receipt of illegal State aid due to an individual exemption for VAT on the purchase of vessels, the ESA found that it had not been proved that this involves State aid because the complainants had not filed for the same kind of exemption. Further, the boat used for the tender in question was not encompassed by the exemption.⁹⁰ As to the nature of its activities, the ESA finds that Redningsselskapet’s search and rescue activities are non-economic in nature, while it carries

⁸⁷ Paragraphs 9-14 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningsselskapet for its provision of ambulance transport services by maritime vessel, 2013)

⁸⁸ Paragraph 15 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningsselskapet for its provision of ambulance transport services by maritime vessel, 2013)

⁸⁹ Paragraph 17 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningsselskapet for its provision of ambulance transport services by maritime vessel, 2013)

⁹⁰ Paragraphs 27-36 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningsselskapet for its provision of ambulance transport services by maritime vessel, 2013)

out economic activities *inter alia* when participating in public tenders for the provision of ambulance services by maritime vessel.⁹¹

When assessing whether Redningssselskapet received an advantage, the ESA holds that when performing both economic and non-economic activities, a cost-accounting system must be in place to ensure that financing for the non-economic activities does not benefit the economic activities. The ESA does not explicitly provide a legal basis for this, but states that a “similar principle” follows from the Transparency Directive.⁹²

Redningssselskapet has an accounting system in place in which commercial revenues are entered into a separate ledger of accounts for each vessel. All costs are entered as non-commercial costs in the books kept for each vessel. The cost of commercial activities is then calculated as average operational cost per running hour per vessel class plus estimated bunker consumption. Further, the ESA describes Redningssselskapet’s pricing guidelines as follows:⁹³

- i. *Commercial activities that are “time flexible” (i.e., activities that can be abandoned in case of an emergency call), are priced so that all variable costs (basically bunkers) incurred by the activity are paid for, plus a net contribution equal to twice⁹⁴ the total cost of running a rescue vessel for the same hours. The total cost is equal to all variable and fixed costs, including an appropriate share of the depreciation, management and overheads related to the running of a rescue vessel.*
- ii. *Commercial activities that require the rescue vessel to be unavailable for the emergency response service are priced in such a way that the price for such a task covers all the variable costs incurred by the activity, plus a net contribution equal to three⁹⁵ times the total cost of running a rescue vessel for the same hours.*
- iii. *No rescue vessel should on average use more than 10% of its available time in connection with commercial activities.*

⁹¹ Paragraphs 19-20 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningssselskapet for its provision of ambulance transport services by maritime vessel, 2013)

⁹² Paragraph 22 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningssselskapet for its provision of ambulance transport services by maritime vessel, 2013)

⁹³ Paragraph 23 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningssselskapet for its provision of ambulance transport services by maritime vessel, 2013)

⁹⁴ This number was redacted from the decision due to professional secrecy. The number comes from the case’s document 664217, which was made available after a request for public access, and can be found here:

<http://www.eftasurv.int/da/DocumentDirectAction/outputDocument?docId=4384>.

⁹⁵ Ibid.

The ESA refers to document 664217⁹⁶ where Redningsselskapet provides more information about the application of their pricing guidelines. Redningsselskapet operates with an average of 350 running days per year for the class of vessel used in the tender. The total cost of the vessel, NOK 9.9 million including depreciation and management, is divided by 350 days to find a daily rate of NOK 28 191. They then divide the daily cost by 24 hours to obtain an hourly rate of NOK 1 175. Add to this the average hourly consumption of fuel to find what Redningsselskapet calls a variable cost of NOK 2 800. The hourly rate is calculated as:

$$\text{Hour rate} = \text{trip incurred cost (basically bunkers)} + (3 \times 1\,175) = 2\,800 + 3\,525 = 6\,325$$

No explanation is given for why the price is set at variable cost plus two times the hourly rate of running the vessel (trip incurred cost). The hourly rate is higher, NOK 7 425, at night and during weekends to compensate for crew overtime payment.

Based on the description of how these principles were applied to the vessel used in the tender for ambulance services, the ESA had no reason to question the validity of Redningsselskapet's assertion that its commercial activities provide a significant net contribution to the running of rescue vessels,⁹⁷ i.e. its non-economic activities. Further, the Norwegian Ministry of Fisheries and Coastal Affairs requires a separate auditor's statement on Redningsselskapet's use of the funds from the Framework Agreement. Therefore, Redningsselskapet's external auditor issues a statement to the Ministry each year, describing whether the company spends the grant in accordance with the terms of the Framework Agreement.⁹⁸

On the basis of the above, the ESA concluded that the public funds Redningsselskapet receives for its non-economic activities do not provide an advantage to its economic (commercial) activities and, consequently, does not constitute incompatible State aid.⁹⁹

⁹⁶ The document is available at:

<http://www.eftasurv.int/da/DocumentDirectAction/outputDocument?docId=4384>

⁹⁷ Paragraph 24 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningsselskapet for its provision of ambulance transport services by maritime vessel, 2013)

⁹⁸ Paragraph 25 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningsselskapet for its provision of ambulance transport services by maritime vessel, 2013)

⁹⁹ Paragraph 26 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningsselskapet for its provision of ambulance transport services by maritime vessel, 2013)

3.4.1 Comments

The ESA holds that an appropriate cost-accounting system is necessary to ensure that economic activities are not cross-subsidized with funds from non-economic activities. It does not provide a legal basis for this principle in this case, but refers to a “similar principle” contained in the Transparency Directive. It is not clear from the description in the ESA’s decision whether a reasonable profit is required of Redningsselskapet’s commercial activities, only that they should provide a “net contribution” to Redningsselskapet’s main goals. The ESA writes that Redningsselskapet will formalize its routines for calculating net income of commercial activities in 2013,¹⁰⁰ implying that such routines had not been formalized as of the time of the ESA’s decision. There is no indication that the ESA questioned Redningsselskapet’s method of cost allocation.

The ESA made another decision on a different matter concerning unrelated allegations that Redningsselskapet was cross-subsidizing economic activities with public funds. It stated in that case that “[e]ven if the Transparency Directive applies only to certain undertakings, the same general principles of transparency are imposed on companies providing non-economic services financed by public funds and, at the same time, economic services.”¹⁰¹ It goes on to specify in the next paragraph there must be a sufficient separation of accounts between economic and non-economic activities must be in place. Furthermore, State resources are not involved if a full-cost pricing is adopted to cover total costs, which is specified as “additional, variable, and fixed costs”, plus a mark-up to compensate equity capital.¹⁰²

¹⁰⁰ Paragraph 22 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningsselskapet for its provision of ambulance transport services by maritime vessel, 2013)

¹⁰¹ Paragraph 60 (EFTA Surveillance Authority Decision of 18 March 2015 concerning the alleged cross-subsidisation of BRM/ERM courses provided by Redningsselskapet and the University of Tromsø, 2015)

¹⁰² Paragraph 61 (EFTA Surveillance Authority Decision of 18 March 2015 concerning the alleged cross-subsidisation of BRM/ERM courses provided by Redningsselskapet and the University of Tromsø, 2015)

4 Theoretical framework

“An agency relationship exists whenever one party (the principal) hires another party (the agent) to perform a service that requires the principal to delegate some decision-making authority to the agent” (Kaplan & Atkinson, 2014, p. 677). There are two levels of principal-agent relations. On the one hand, the EU is the principal and the individual Member States are the agents, while on the other hand, the Member State is the principal, and the undertaking is the agent. Both public undertakings as well as private undertakings charged with the operation of services of general economic interest are agents for the State in this regard.

Diverging interests between the principal and the agent arises from two issues. Adverse selection, or problems of hidden information, refers to relevant characteristics of the agent being hidden from the principal. Moral hazard, or hidden action, refers to situations where the principal cannot monitor the agent’s actions (Bolton & Dewatripont, 2005, p. 15). Adverse selection problems arise from informational asymmetry *ex ante*, i.e. before signing the contract. Moral hazard problems arise *ex post*, i.e. after signing the contract. (Bolton & Dewatripont, 2005, p. 20). In other words, adverse selection leads to problems selecting the best agent for the task, while moral hazard leads to problems making the selected agent act in the principal’s interests. In the absence of contracting frictions, the principal’s interests can be perfectly aligned with the agent’s, and the principal can extract all surplus (Sappington, 1991).

Due to moral hazard problems, the agent may be inclined to pursue objectives which are not in line with the principal’s interests (Kaplan & Atkinson, 2014, p. 678). One such objective is engaging in activities which are not profitable on their own. Two motives are central for a manager’s desire to pursue objectives which are not profitable: empire building (making the company bigger) and preserving the manager’s own position. These motives stem from the manager’s compensation being closely linked to size, as well as the manager’s limited ability to diversify personal risk because most of his or her wealth is tied to the company (Boye, 2008, p. 30). The principal is not fully informed about the agent’s actions. To mitigate this problem of moral hazard, the principal can incur monitoring costs (Kaplan & Atkinson, 2014, p. 678). Sections 0 and 0 showed that two types of monitoring costs are incurred: accounting separation to prevent State resources from financing competitive activities and, in the case of

Redningsselskapet (section 3.4), a separate auditor's statement on how the State resources are being used. The primary concern of this thesis is accounting separation, so the theoretical framework will pertain to issues relevant to accounting separation.

This rest of part 4 organized as follows. In order to determine when cross-subsidization is taking place, section 4.1 will discuss decision relevant costs. Section 4.2 will account for different definitions of cross-subsidization. Section 4.3 will review literature on the cost of capital, cost estimation and cost allocation, and how cost approximation can go wrong. These three parts form the theoretical framework for analyzing the use of accounting separation in the State aid regulation.

4.1 Relevant costs

Which costs are relevant depends on the decision which is being considered. When considering cross-subsidization, which is discussed in the next section, four cost concepts are particularly important: stand-alone cost, incremental cost, avoidable cost and opportunity cost.

Stand-alone cost is the hypothetical cost of providing a service independently of other services (Heald, 1996; Fjell, 2001). The fact that the cost is hypothetical, gives rise to asymmetric information: the incumbent firm will likely have more information about the cost functions of both existing and alternative technologies than regulators or potential entrants do (Heald, 1996). Further, because cost is evaluated against the hypothetical cost of providing the service alone based on the best available technology, there are two potential problems if regulation is based on a definition of cross-subsidization where an output is not a source of subsidy if the price of that output is less than its stand-alone cost. One, if technology changes slowly and there are strong economies of scale and scope, the stand-alone cost for each activity may become very high, which may give the incumbent firm very wide discretion in setting prices. Two, if technology changes rapidly such that stand-alone cost is reduced, an incumbent firm with high sunk cost may experience weakening economies of scope, which would prohibit the firm from covering its accounting costs (Heald, 1996).

Some authors make a distinction between avoidable cost and incremental cost (Baumol, 1996; Heald, 1996). They argue that incremental cost is the cost incurred when expanding an

operation (e.g. adding another service), while avoidable cost is the cost that can be avoided when contracting (e.g. removing an existing service). In this perspective, incremental cost will normally be larger than avoidable cost, because the firm must incur some sunk costs when expanding, which can not be avoided when contracting. This can be shown with a simple example. A firm is considering whether to start producing a new product. In order to do so, it must hire additional workers at a cost of 100 and invest in a new machine. This machine can not be used for alternative purposes, is not readily available on the market, and is therefore difficult to dispose of without incurring a loss. Maintaining the machine costs 100. Suppose the acquisition cost of the machine is 1 000, while it can only be sold for 300. This results in a sunk, or irreversible, cost of 700, which can not be recovered if the firm decides to stop producing the product. This sunk cost is the difference between incremental cost and avoidable cost.

	Incremental cost	Avoidable cost
Workers	100	100
Machine	1 000	300
Maintainance	100	100
Total	1 200	500

Table 2: Simple example demonstrating the difference between incremental and avoidable cost.

Opportunity cost results from employing limited resources for one use, thereby foregoing another alternative. There are various ways to define opportunity cost.¹⁰³ A common type of definition is that opportunity cost is the value of resources in their next-best use (McRae, 1970; Burch & Henry, 1974; Horngren, Datar, & Rajan, 2012). Opportunity cost is often included in calculations as the value of the best alternative besides the one being considered. How “value” is defined in this context is sometimes unclear, but is often taken to mean net income from the decision, i.e. accounting profit of the decision. Authors differ in whether this next-best use is in a constant or relative reference frame. That is, whether opportunity cost

¹⁰³ McRae (1970), Burch and Henry (1974) Leininger (1977), Demski (1997), Horngren et al. (2012), and Pindyck and Rubinfeld (2013) all have different definitions, some more different than others. A few examples: “The opportunity cost of a decision is the sacrifice of alternatives required by the decision. [...] If a decision requires no sacrifice, it is cost free.” (Burch & Henry, 1974)

“The opportunity cost of confining our search to [a subset of alternatives] is the best we could do by selecting from among [the remaining alternatives].” (Demski, 1997, p. 266)

“Opportunity cost is the contribution to operating income that is forgone by not using a limited resource in its next-best alternative use.” (Horngren, Datar, & Rajan, 2012, p. 424)

“Opportunity cost is the cost associated with opportunities that are forgone by not putting the firm’s resources to their best alternative use.” (Pindyck & Rubinfeld, 2013, p. 230)

stems from the next best alternative of all possible ones, implying that the next-best alternative itself has an opportunity cost of zero; or whether opportunity cost stems from the next-best alternative to the one currently being considered. If resources are not limited, and no alternative needs to be foregone, there is no opportunity cost (Burch & Henry, 1974; Horngren, Datar, & Rajan, 2012).

There is a distinction between accounting costs used in financial reporting and the opportunity costs relevant to decision making (Heald, 1996). Opportunity cost reflects alternatives that were rejected, while the financial accounting system only records transactions which were actually selected (Horngren, Datar, & Rajan, 2012, p. 425). Pindyck and Rubinfeld (2013, p. 230) define accounting cost as “actual expenses plus depreciation charges for capital equipment” and economic cost as “cost to a firm of utilizing economic resources in production”, where opportunity cost is included in economic cost. Note that management accountants, as well as economists, are also concerned with decision relevant costs. That is, not all costs recorded in the accounting system are relevant for all decisions, and costs not recorded in the accounting system may be relevant for a given decision.

A simple example illustrates the concept.¹⁰⁴ A firm has a machine which can be used to produce widgets or to produce wankels. A third option is to sell the machine. The revenue and income for each alternative is given in Table 3. The machine has limited capacity and can only be used for one purpose. Also assume that the machine is not readily available in the market or that the firm has financial constraints, so that acquiring a second machine and producing both widgets and wankels is not a viable option.

¹⁰⁴ This is a slightly reworked version of the example from Burch and Henry (1974). However, they use a method of pairwise comparison when calculating opportunity cost. In this rendition, the opportunity cost for each alternative is the accounting profit of the next-best alternative.

Alternative 1		Alternative 2		Alternative 3	
Revenue		Revenue		Revenue	
Sale of widgets	6100	Sale of wankels	8500	Sale of machine	2900
Costs		Costs		Costs	
Electricity	100	Electricity	100	Selling expenses	100
Materials	1000	Materials	1500	Materials	0
Labor	2000	Labor	2500	Labor	0
Accounting profit	3000	Accounting profit	4400	Accounting profit	2800
Opportunity cost	4400	Opportunity cost	3000	Opportunity cost	4400
Economic profit	-1400	Economic profit	1400	Economic profit	-1600

Table 3: Example illustrating opportunity cost.

Take the revenue and subtract the (accounting) costs to arrive at (accounting) profit. The opportunity cost is the value (i.e. accounting profit) of the next-best alternative. For alternatives 1 and 3, that is the value of alternative 2. The opportunity cost for alternative 2 is 3000, i.e. the the accounting profit of alternative 1 – the next-best alternative.¹⁰⁵ This method uses a relative frame of reference. That is, the opportunity cost is equal to the value of the best alternative to the one being considered.

Opportunity cost must be included in any legitimate cost calculation (Baumol, 1996). In using the Areeda-Turner test of predation, opportunity cost relating to owner-supplied inputs (basically cost of capital) should be included, opportunity cost relating to reduced price should not. Reduced price does constitute opportunity cost but is not relevant when testing for predatory prices (Baumol, 1996).

4.2 Cross-subsidization

There are numerous ways to define cross-subsidization. Fjell (2001) provides a framework for classifying different types of definitions. Definitions are classified into three types: cost transfer, temporary loss and permanent loss definitions. Each definition opens for different motives, which could be (non)-profit oriented, and (non)-predatory.

¹⁰⁵ The “next-best” alternative is somewhat imprecise. The term implies that the best alternative is being considered. In practice, opportunity cost is often taken to mean the value of the best alternative to the one currently being considered. It follows that the opportunity cost can exceed the net income from the decision – in fact, only the best alternative will have an economic profit greater than or equal to 0.

A cost transfer definition of cross-subsidization is the most general definition and simply requires that costs pertaining to one product or service are transferred to another. Cost transfer definitions could be wide or narrow (Fjell, 2001). A wide definition would include any shifting of common costs away from an arbitrary algorithm. A narrow definition restricts cross-subsidization to the shifting of incremental cost. Incremental cost is the increase in cost from adding an extra service to existing services (Fjell, 2001). Cost transfer definitions include predatory behavior. Shifting common costs away from one service may allow the undertaking to set prices for that service below the unit cost and thereby force competitors out of the market (Baumol, 1996). However, which unit cost to use has been debated (Fjell, 2001). Cost transfer definitions also include non-predatory behavior. The undertaking may shift costs toward regulated markets while maintaining market prices in the competitive market. This would enable the undertaking to reap abnormal profits or hide that the undertaking is operating inefficiently (Fjell, 2001).

Faulhaber (1975) proposes a definition in which a price structure is deemed to be subsidy free if the addition of one extra service does not lead to higher prices for existing services than they would otherwise charge. This indirect definition of cross-subsidization implies that each service must cover its incremental cost, so as not to receive subsidization, but must not cover more than its stand-alone cost, so as not to be a source of subsidization. He does not address whether incremental or stand-alone cost should include opportunity cost, the examples in the article only deals with accounting costs. However, the service does not really cover its costs unless opportunity cost is included. As Baumol (1996) pointed out, any legitimate cost calculation must include opportunity cost.

Temporary loss definitions seem to focus on net revenue. One example of such a definition is that temporary losses in one line of business are financed by profits made elsewhere (Fjell, 2001). This example can be interpreted to be very wide, and encompass legitimate business decisions, such as establishing new lines of business. A central point is that these losses are temporary and are expected to be recovered. Fjell (2001) refers to stricter definitions which are inextricably linked to predation. One such definition limits cross-subsidization to be relevant only if predation is profitable, the loss-making business generates negative cash-flows (i.e. economic losses are not sufficient), and the losses are financed by current profits in other lines of business. In other words, if the undertaking is able to finance the losses by use

of cash on hand or loans, it is not cross-subsidization. However, all three conditions could be satisfied without the pricing being predatory. The first condition merely requires that the short-run loss be recouped later. As Baumol (1996) points out, most undertakings will make decisions entail short-run profits being foregone. He proposes that average avoidable cost is the relevant benchmark for assessing predation, which could be much lower than the point at which negative cash flows are generated.

A permanent loss definition requires that the line of business being subsidized is permanently loss-making based on a discounted cash flow analysis (Fjell, 2001). This should presumably include any externalities, such as complementarity with other services or products. Predatory and profit-making motives for cross-subsidization are precluded, and no private profit maximizing firm would engage in cross-subsidization under this definition. Consequently, existence of cross-subsidization in a private enterprise would indicate principal-agent problems, i.e. management pursuing goals contrary to the owners' interests, or poor cost control. Private firms would also risk being outperformed by profit maximizing competitors (Fjell, 2001).

Both the temporary loss and permanent loss definitions raise a question: which costs are relevant? Further, what is the threshold for saying that a service or product is loss-making? Is it only loss-making if revenues are insufficient to cover costs which can unambiguously be allocated to the service, i.e. direct costs? Such a threshold would likely lie much lower than incremental cost, which is the threshold under which a service is receiving subsidy under a Faulhaber-type of definition.

Cost transfer definitions of cross-subsidization are criticized because there is no objective way to allocate common costs (Fjell, 2001). Heald (1996) points out that cost allocation schemes are essentially arbitrary and that they invite opportunistic behavior in that decision makers may choose a menu of procedures and algorithms which serves their self-interest. He further makes a point that accountants stress verifiability, tending to focus on actual transactions, while economists more readily work with the hypothetical and counterfactual, which must frequently be based on less than ideal data. There is naturally considerable uncertainty when considering what could or would have happened if a certain choice was or was not made.

4.3 Potential problems with accounting separation

In order to limit agents' ability to pursue commercial activities and subsidizing them with public resources, the EU authorities require that economic and non-economic activities are accounting for separately. There are two aspects of this which this section will examine. One is the cost of capital, or the required rate of return (or profit, if you will), which is examined in section 4.3.1. As the ESA stated in the Norwegian public hospital pharmacy case, a return on investment is a normal cost of doing business. However, determining what is a reasonable profit is not straightforward. The other is the estimation and allocation of costs. Several sources of error exist, which is examined in section 4.3.3.

4.3.1 Cost of capital

Because capital has alternative uses, there is an opportunity cost of using capital. The cost of capital is also referred to as the required rate of return (Horngren, Datar, & Rajan, 2012, p. 764). Any investment should yield a return at least equal to the cost of capital (Kaplan & Atkinson, 2014, p. 499). The cost of capital is used as the discount rate when calculating the net present value (NPV). An investment with a positive NPV is worth undertaking, given the cost of capital. When using the internal rate of return (IRR), the cost of capital is the benchmark against which the IRR is assessed – if the IRR exceeds the cost of capital, the investment is worth undertaking (Horngren, Datar, & Rajan, 2012, pp. 763-768). A higher cost of capital raises the bar for an investment to be profitable. Bear in mind that each division of a company may have different costs of capital, due to different risk characteristics (Horngren, Datar, & Rajan, 2012, pp. 763-768). The terms required rate of return, cost of capital and discount rate is used interchangeably.

The most common method used by practitioners to determine the required rate of return is the capital asset pricing model (CAPM) (Kaldestad & Møller, 2016, p. 154; Brealey, Myers, & Marcus, 2018, p. 378). The CAPM results in a required rate of return for equity, and is calculated as follows:

$$R_E = R_f + \beta \cdot R_m$$

Where R_E is the required rate of return for equity, R_f is the risk-free rate of return, R_m is the market's risk premium. Government bonds are often used as approximations of the risk-free rate of return (Kaldestad & Møller, 2016, p. 156; Brealey, Myers, & Marcus, 2018, p. 371),

and this is also accepted by the Commission.¹⁰⁶ The duration of the government bond should be similar to the duration of the investment.¹⁰⁷ In practice, 10-year government bonds are frequently used (Kaldestad & Møller, 2016, pp. 156-159). The market risk premium is sometimes given as $R_m = R_M - R_f$ where R_M is the market return. Beta, β , is a measure of an asset's risk, typically a stock, relative to the market. An investment's required rate of return depends on its risk – the beta. Further, every investment has a different beta depending on its risk, and consequently different discount rates (Brealey, Myers, & Marcus, 2018, pp. 371-381). There are two types of beta – asset (also called unlevered) beta, is the beta of an unlevered investment, i.e. with no debt. The equity beta, which is used in the CAPM, depends on the level of equity relative to the company's value (Kaldestad & Møller, 2016, pp. 159-165).

The CAPM assumes that investors are well-diversified (Brealey, Myers, & Marcus, 2018, p. 373). Investors sometimes add additional premiums to the required rate of return, such as country risk, liquidity risk and small cap premium. Such risks are diversifiable, firm-specific risks and should be accounted for in the cash-flow analysis of the investment (Kaldestad & Møller, 2016, pp. 275-290; Brealey, Myers, & Marcus, 2018, p. 381). There is also a risk of double- or even triple-counting, as the same risk factors may be implicitly included in multiple adjustments to the discount rate and may, additionally, be accounted for in the cash flow analysis (Kaldestad & Møller, 2016, pp. 275-290). The discount rate should only reflect the investment's systematic market risk (Brealey, Myers, & Marcus, 2018, p. 381). However, the Commission holds that a premium should be added to the cost of capital to compensate for liquidity risk when the asset has very low liquidity.¹⁰⁸

The CAPM gives a required return on equity. This is a component in the weighted average cost of capital (WACC), which is a required return on total capital (Kaldestad & Møller, 2016, pp. 152-154). The WACC is given by:

$$R_T = R_E \cdot \frac{E}{EV} + R_D \cdot (1 - t) \cdot \frac{D}{EV}$$

¹⁰⁶ Paragraph 183 with corresponding footnote (European Commission, 2016a)

¹⁰⁷ The theoretically appropriate approach is to use a different rate for each year, i.e. 1-year bond for the first year's cash flow, 2-year bond for the second year's cash flow, and so on. This is impractical and is rarely used in practice (Kaldestad & Møller, 2016, p. 157).

¹⁰⁸ Paragraph 183 (European Commission, 2016a)

Where R_T is the WACC or required return on total capital, E is equity, D is net financial assets (real value of financial assets minus financial debt), EV is enterprise value ($EV = E + D$), R_D is the required return on debt (i.e. the cost of debt), and t is the tax rate. Basically, the WACC is the cost of equity and the cost of debt, weighted by their relative shares of the company's value.

In some cases, the capital recorded in the undertaking's balance can be very low, and not reflect the actual investments made (Hjelmeng, et al., 2018, p. 235). For example, a substantial share of the capital for professional service providers is in employment contracts, which can not be recorded in the balance. When capital cannot be reliably measured, alternative measures of profit must be used.

4.3.2 Cost approximation and terminology

There are some frequently used cost terms in the regulation and decisional practice of the EU authorities. They often use terms such as direct and indirect costs, variable and fixed costs, and common costs. Some of these terms are used more or less interchangeably.

Direct costs can be traced to a cost object in an economically feasible way (Horngren, Datar, & Rajan, 2012, p. 50). Indirect costs cannot be directly attributed to a product or a service, either because the cost is not separable, or because it is not economically feasible to allocate. Direct costs can be fixed, and indirect costs can be variable (Bjørnenak, Dalen, Mørch von der Fehr, Olsen, & Torsvik, 2005, p. 41). Common costs are costs of operating a facility, an activity or other cost objects which are shared between two or more users. Each user has a lower cost by sharing than they would individually (Horngren, Datar, & Rajan, 2012, p. 579).

The ABC literature has attempted to reconcile the practice of full costing (allocating all costs to cost objects) by claiming that all costs are variable in the long run (Labro, 2007). More costs do become variable when a decision spans a longer time perspective, and many costs which traditionally have been considered fixed are initiated by products or the product structure. Still, not all costs are variable in the long run; some costs do not vary depending on the level of activity (Bjørnenak, Dalen, Mørch von der Fehr, Olsen, & Torsvik, 2005, p. 42). In this perspective it is not meaningful to separate variable and fixed cost without defining the period for which a decision is made. Costs also become variable at different levels in the

hierarchy. That is, not all costs vary with the number of units produced, but rather with the number of batches or products, while some costs are facility sustaining, e.g. management (Labro, 2007; Kaplan & Atkinson, 2014, pp. 104-106). This difference in perspective between ABC and traditional costing systems is illustrated in Table 4.

ABC	Traditional costing
Facility level costs	Fixed costs
Product-sustaining costs	
Batch level costs	
Unit level costs	Variable costs

Table 4: Cost hierarchies in ABC vs traditional costing (Labro, 2007, p. 220)

The ABC literature is more concerned with direct and indirect costs than with variable and fixed costs. To allocate costs using the ABC method, first, the cost of each activity is estimated based on how they lay claim to resources by partitioning costs into cost pools, and these cost pools are connected to activities using resource cost drivers (Labro, 2007). Then, a cost driver must be identified for each activity. Cost drivers are an attempt to identify causal relationships between a level of activity and the resources that the activity uses (Labro, 2007; Horngren, Datar, & Rajan, 2012, p. 378). The selection of cost drivers is a trade-off between accuracy and the cost of measurement (Kaplan & Atkinson, 2014, p. 108). The cost allocated to a cost object is determined by the cost object's consumption of related activities.

4.3.3 Where cost approximation can go wrong

A cost function is a mathematical description of how costs change when the level of activity (for example output) changes. A cost object's¹⁰⁹ true cost function is usually unknown and must therefore be estimated, and management accountants seek to derive a linear function which approximates the true cost function in a relevant range (Labro, 2007). Because costing is an approximation exercise, the estimated cost function will typically not yield accurate results if activity levels deviate from the range for which the cost was estimated.

¹⁰⁹ A cost object is that to which costs are allocated, typically a product or service, but may also be e.g. clients or distribution channels (Labro, 2007).

Three stringent conditions need to be (approximately) satisfied in order for accounting systems to provide accurate approximations of costs (Noreen, 1991; Labro, 2007). First, cost can be partitioned into cost pools where each cost pool only depends upon one activity: separability. In other words, there must be one unique cost pool for each activity. Second, the cost of each cost pool must be strictly proportional to the level of the activity in that cost pool, and it must have a zero intercept: linearity. This means that the cost increases proportionally to the use of cost driver units, and if no units of that activity are used, the cost is zero. Third, activity drivers can be simply summed to find the total activity level, and each activity can be divided among products such that the level of activity attributed to each product is only dependent on that product.

The first condition does not impose restrictions on the cost functions which can be estimated, but it does expose the system to error. I will return to this below. The second condition rules out economies of scale, where the unit cost decreases with increased production. In fact, all forms of non-linear cost functions, or even linear cost functions with a non-zero intercept, will result in inaccurate approximations. For example, quantity discounts when purchasing materials will violate this condition. Figure 1 illustrates a non-linear cost function which violates the linearity condition due to incremental unit discounts.

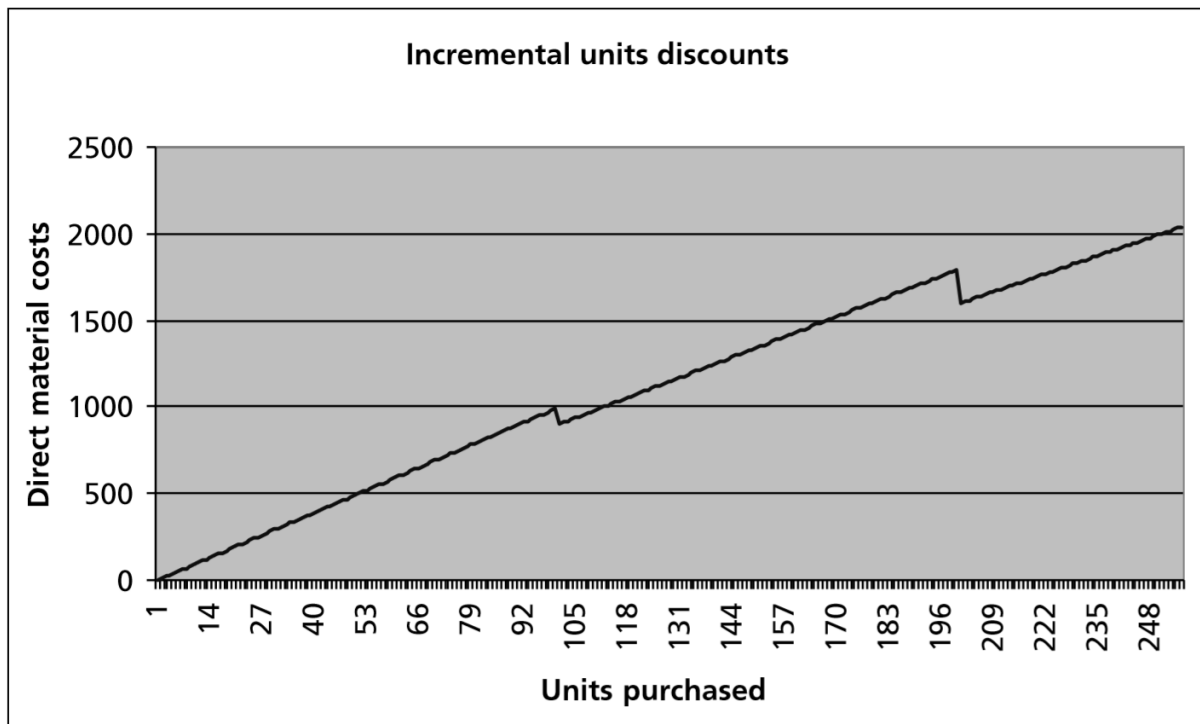


Figure 1: Non-linear cost function (Labro, 2007, p. 225).

The third condition rules out economies of scope. Any dependencies between products will violate this condition. Joint costs and congestion are also incompatible with this condition. Joint costs are costs from production processes where inputs yield multiple outputs (Horngren, Datar, & Rajan, 2012, p. 599). An example of this is production of meat, where a single animal, e.g. a pig, yields multiple products. To increase the production of tenderloin, one must necessarily also get more ribs and other cuts of meat. In other words, the demands on a resource (the pig in this example) is determined by the maximum demand on one product (e.g. tenderloin), not by the sum of products (Noreen, 1991). Joint costs also refer to resources which can be simultaneously used for multiple purposes because the quantity available is not reduced by its use (Labro, 2007). An example of this is capacity in IT systems. Congestion violates the third condition because bottlenecks caused by one product lead to delays and increased costs for all products. In other words, products become dependent on each other.

There are three types of errors which can be made when designing costing systems: aggregation error, specification error and measurement error (Datar & Gupta, 1994; Labro, 2007). Aggregation error means that you are looking at cost pools aggregated over heterogenous activities and end up with a single cost allocation rate. For example, the cost of setting up a machine may require engineer labor as well as unskilled labor, and the two types of labor have different costs. If you merely measure the number of hours used to set up the machine without distinguishing between the types of labor used, you have aggregation error. Specification error occurs when a cost driver does not exhibit a causal relationship. An example of this is allocating set-up costs based on the number of hours used, rather than the number of set-ups. Measurement error can happen in two places. First, costs can be allocated to the incorrect cost pool. For example, the cost of an engineer may accidentally be allocated to the unskilled labor cost pool. The latter cost pool would then be too big, while the engineer cost pool would be too small. Second, the number of units of a resource consumed by a cost object can be incorrectly measured, e.g. errors in registering the number of hours an engineer spends on a particular activity. Decreasing aggregation and specification error may increase measurement error, and the net effect may be negative (Datar & Gupta, 1994; Labro, 2007).

According to Labro (2007), more accuracy may not always be desired. She presents two reasons why this may be the case. The first reason is that more information may not add useful insight to decision making. She refers to an example with a traffic light, in which a

careful driver could make do with only red and green lights. The careful driver makes the same decision regardless of whether the light is yellow or red. The yellow light therefore does not contribute useful information to the decision and could be aggregated within the red light without altering the decision. The second reason is that increased accuracy is not always needed because alternative information is available and that decision makers can use heuristics to achieve more or less the same result as they would have with increased accuracy.

5 Analysis

The analysis is based on the regulation and requirements therein as accounted for in part 2, as well as the cases reviewed in part 3. This is not an empirical study of case law on how accounting separation should be implemented. Rather, it is a conceptual study meant to evaluate the legal framework, discuss potential problems with the requirements on the use of accounting separation as a control method, and evaluate how the legal framework compares to the theoretical framework. As will become apparent, the selection of cases serves to illustrate problems of inconsistency with the ESA's decisions. Because the ESA bases its decisions on the same case law as the Commission does, as well as on the Commission's own decisions, the cases should be sufficiently representative to draw conclusions on the general requirements.

Sections 5.1 and 5.2 analyze the regulation as described in part 2. Section 5.1 assesses the Commission's recommended methods of determining the cost of an activity, and discusses the implications of these potentially conflicting recommendations. The concepts of incremental cost and stand-alone cost, and the consequences of which activity is considered to be incremental, are discussed in section 5.2, and compared with the discussion in section 5.1. Section 5.3 considers the difficulties associated with cost of capital, and discusses the ESA's decisions on reasonable profits. In section 5.4, the threshold for the Transparency Directive's application is discussed, and compared with measures that were imposed in *Redningsselskapet's* case from section 5.4. Section 5.5 discusses the ESA's use of terminology regarding cost concepts and highlights potential issues resulting from their inconsistency and lack of definition. Section 5.6 discusses the *Redningsselskapet* case, which is the only case reviewed where the ESA actually assesses an existing system accounting separation.

5.1 Inconsistent requirements in the Commission's regulation of SGEIs

EU lawmakers have spent considerable attention to the issue of overcompensation and cross-subsidization. The purpose of this is to prevent States from favoring one or a limited number of undertakings and harming competition across borders within the internal market. There are two major obstacles to achieving this objective. First, the cost of performing an activity, for

example providing a service, typically can not be determined precisely. As discussed in section 4.3, cost accounting is an approximation exercise because the true cost function is unknown. Second, assuming that costs are adequately accounted for, determining whether cross-subsidization is taking place is not trivial. Section 4.2 accounted for several proposed definitions of cross-subsidization, each with its own implications for regulation and effects on competition. Neither the Transparency Directive, nor the State aid notice contains guidance on how activities should be accounted for separately. As described in part 2, only the regulation of services of general economic interest contains information on accounting separation should be implemented. It is a reasonable expectation that the same principles of accounting separation should apply to all separation of economic and non-economic activities.

The regulation of public service compensation is preoccupied with the cost of providing a service, so as to preclude the public service compensation from being used to improve the undertaking's position in other competitive markets. The Commission therefore seems to favor a cost transfer definition, as was also pointed out by Fjell (2001). Methods for calculating compensation for the provision of SGEIs is not the topic for this thesis. However, the Commission expresses a preference for the net avoided cost methodology, which implies that they consider an incremental approach to be appropriate. How does the net avoided cost methodology compare to the cost allocation methodology, which is the prescribed method of controlling for overcompensation *ex post*?

In its framework for public service compensation, the Commission explicitly states that it considers the net avoided cost methodology to be the most appropriate method for determining the cost of providing an SGEI.¹¹⁰ The method is to assess which costs the undertaking would choose to avoid if it does not provide the SGEI, or equivalently, which costs are added if it assumes the public service, i.e. the incremental cost. The undertaking may not receive compensation in excess of its costs of providing the service, including a reasonable profit. This approach to cross-subsidization requires considering hypothetical alternative courses of action. Heald (1996) pointed out that economists readily work with hypotheticals, while accountants prefer more reliable data. Recall that according to Faulhaber's definition of cross-subsidization, a product or service is neither the source nor the

¹¹⁰ Paragraph 27 of the SGEI framework (European Commission, 2012b)

recipient of subsidy if its revenues cover at least its incremental cost and at most its stand-alone cost (Faulhaber, 1975). This means that under the net avoided cost methodology, the upper bound for compensation equals the lower bound below which the SGEI would be subsidized by the undertaking's other activities, according to a Faulhaber-type definition. In light of this, the Commission implicitly accepts that non-economic activities are subsidized by economic activities. This is unproblematic with respect to competition. Potential effects on incentives for providing SGEIs is another discussion which is outside the scope of this thesis.

Recall the distinction some authors make between avoidable cost and incremental cost (Baumol, 1996; Heald, 1996). They argue that incremental cost is the cost incurred when expanding an operation (e.g. adding another service), while avoidable cost is the cost that can be avoided when contracting (e.g. removing an existing service). In this perspective, incremental cost will normally be larger than avoidable cost, because the firm must incur some sunk costs when expanding, which can not be avoided when contracting. In the case of the net avoided cost methodology, the avoidable cost becomes dependent on whether the undertaking is already providing the service and is considering whether to keep providing it (typically because the contract expires and a new one is being tendered), or if it is considering whether or not to provide a new SGEI. In the latter case, the net avoidable cost methodology will yield what Baumol and Heald consider to be the incremental cost. In the former case, the net avoidable cost methodology will be in line with their definition of avoidable cost, which will be lower than the incremental cost. From this perspective, the cost of providing the SGEI is dependent on whether or not the undertaking is already providing the service (and has made specific, non-recoverable investments, which is what makes the two terms differ).

Under the cost allocation method, when an undertaking also performs economic activities outside the scope of the SGEI, the compensation should take into account all direct costs as well as an appropriate share of common costs. The appropriate share should be determined, where possible, by reference to market prices for the use of common resources.¹¹¹

Consider a building. To keep this simple, assume that the building has no spare capacity, i.e. the entity uses the entire building. Assume further that the market price for renting the entire capacity of the building (measured in square meters) is higher than the entity's total cost of

¹¹¹ Paragraph 31 of the SGEI framework (European Commission, 2012b)

maintaining the capacity. It follows that if one activity should pay market prices for its consumption of the common resource which is the building, at least one other activity must necessarily pay less than market prices, or else the sum of costs for each activity will exceed the total cost which was distributed. So, when using market prices, which activity should pay market prices, to the benefit of other activities? Pursuant to the SGEI framework, it is the SGEI, i.e. the service for which the entity receives State resources, which should pay market prices. This implies that for a public entity, it is the non-economic activity which should pay market prices, to the benefit of its economic activities. This is at odds with Honoré's (2017) assertion that economic activities should pay market prices for their use of common resources.

Assume that the building has a capacity of 1 000 m², and the cost is 1 000 000. If this cost were to be allocated based on use, activities would be charged 1 000 per m². The entity carries out an economic activity which uses 500 m² of the building, and a non-economic activity which uses the other 500 m². The market price, if the entity were to rent a similar building, is 1 500 per m². If the non-economic activity was charged market prices, it would carry a cost of 750 000. That leaves a cost of 250 000 to be carried by the economic activity.

Suppose that the building can have its capacity increased to 1 500 m² at a cost of 500 000. The economic activity uses all 500 m² of extra capacity, using 1 000 m² in total. Given that the non-economic activity is still charged market prices for its use of the building, the economic activity is left with a cost of 750 000, the same as the non-economic activity, even though the economic activity uses twice as much capacity. What happens if the non-economic activity uses the extra 500 m² and pays market prices for it? Then it is allocated a cost of 1 500 000, leaving nothing for the economic activity. Suppose the non-economic activity is an SGEI instead. When the SGEI carries the cost based on market price, as is the Commission's clear recommendation, it is in this case clearly allocated a cost above incremental cost. In fact, with a price difference of 50% between market prices and what one could call "internal price", if the activity which should pay market prices uses $\frac{2}{3}$ of the capacity or more, it must carry the entire cost.

This example demonstrates that using market prices as a benchmark for the cost of an activity is not unproblematic, given a simple assumption that owning the resource costs less than

renting it. This assumption may be unreasonable in some settings, but certainly not all. Note, in particular, that the assumption leads the Commission's preferred method of cost allocation based on market prices to result in cost above incremental. This is difficult to reconcile with the Commission's view that the net avoided cost methodology is the most appropriate method of estimating the cost of an activity (in the case of SGEIs), compensation for which should not exceed the incremental cost.

Using market prices for consumption of common resources implies that it is possible to measure the use of those common resources. An alternative approach is then to allocate costs based on how much each activity consumes of the resources. This share may well exceed the incremental cost, as the addition of an SGEI likely does not increase common costs proportionately to the SGEI's consumption of those resources. *Ceteris paribus*, a ship with a capacity for 300 passengers does not cost 50% more than a ship with a capacity for 200 passengers. It follows that a method of allocating common costs based on consumption of common resources by will exceed incremental cost. Thus, regardless of whether common cost is allocated using market prices or based on use, the cost allocation methodology appears to allow for compensation exceeding the incremental cost, which was the upper bound under the net avoided cost methodology.

When determining the appropriate share of common costs, the Commission alternatively proposes that reference may be made to the reasonable profit of the undertaking's other activities. The reasonable profit should be evaluated *ex ante*, to not remove the undertaking's incentives to improve its efficiency when operating activities besides the SGEI.¹¹² This implies that if the undertaking has achieved some form of competitive advantage in performing its non-SGEI activities, these activities should subsidize the SGEI by increasing their share of common costs and thereby reducing the profit. Requiring the reasonable profit to be evaluated *ex ante* is meant to preserve incentive for improving efficiency. However, any (likely temporary) advantage the undertaking may have gained on its other activities before assuming the SGEI is removed. Moreover, if the advantage is temporary, say two or three years before competitors catch up, the undertaking will be at a disadvantage because the improvements made before taking on the SGEI will be used to subsidize the SGEI. By using such a method for determining how to allocate common costs, the Member State risks

¹¹² Paragraph 31 and endnote 17 of the SGEI framework (European Commission, 2012b)

excluding the most efficient undertakings from competing for the SGEI, because their efficiency will be used against them when determining compensation. Their willingness to compete will then depend on the magnitude of the efficiency improvements they expect to achieve when operating the SGEI.

The *ex ante* evaluation makes this method somewhat difficult to apply to public undertakings – when is the starting point? Regardless of when the starting point is set, or if common costs are allocated based on the activities’ profit each year, the problem remains that the undertaking’s incentives for operating other activities efficiently is diminished when using this method. Furthermore, which activity should common costs allocated to it based on other activities’ profitability? The natural choice seems to be the non-economic activities, because economic activities must be profit oriented, while non-economic activities may have other primary concerns. The problem with this, however, is that it would potentially allow the undertaking to reduce the cost base of its economic activities in two ways – by reducing their profit, they also reduce the common costs, effectively shifting costs over to the non-economic activity.

The Commission opens for other methods for allocating common costs than the two discussed above where appropriate. It consistently writes that the mentioned methods “can” be used, suggesting that the Member State is able to choose at their discretion. Compared with the ESA’s decisions in all four cases reviewed in part 3, it may be sufficient that the method of choice is clearly established, consistently applied and objectively justifiable.

5.2 Incremental cost versus stand-alone cost

A cost transfer definition of cross-subsidization merely requires that some costs are shifted away from an activity. Heald (1996) pointed out that cost allocation is essentially arbitrary. Because there is no objective and unambiguous way to allocate common costs, determining the cost of an activity can be a matter of perspective. As discussed in section 5.1, the Commission considers an incremental approach to be appropriate when determining the compensation for providing an SGEI. In the case of SGEIs, the Commission implicitly states that the SGEI should be the incremental activity. If the incremental approach is applied to public undertakings, or to an undertaking which provides more than one SGEI, which activities are incremental?

Bear in mind that when considering a public undertaking, the focus is on the economic activity, which must cover its own costs, including the cost of capital. For a private undertaking, the focus is on the state-funded activity (which may still be economic in nature, such as an SGEL), to ensure that the undertaking is not overcompensated. The objective is the same – prevent activities which are carried out in free competition from benefiting unfairly from State resources.

Per a Faulhaber-type of definition of cross-subsidization, an activity is neither a source nor a recipient of subsidy if it at least covers its incremental cost, and no more than its stand-alone cost. The difference between incremental cost and stand-alone cost is the common cost. Depending on what kind of activities are carried out, the proportion of common costs could be significant. This includes costs which are necessary to sustain a minimum level of activity, but does not necessarily increase proportionately with activity level. If a public entity only carries out non-economic activities, the State will pay for all of its costs. If the public entity then chooses to carry out an economic activity in addition, which costs should that activity carry? The direct incremental costs could be very small if the entity has spare capacity. It is unlikely that spare capacity does not have opportunity costs, as there are usually alternative uses for the capacity. Spare capacity can *inter alia* be used for maintenance or training staff. However, even if opportunity costs are included, incremental costs can potentially be on a very different scale than the stand-alone costs.

Consider a public entity that carries out non-economic activities consisting of building and maintaining water pipelines. In addition, it builds and maintains internet infrastructure, which it rents out to internet service providers (ISPs). Suppose the entity is digging a ditch to lay pipes. In the same ditch it lays fiber-optic cables. Digging the ditch costs 1000, laying pipes costs 50, and laying fiber-optic cables costs 1. Digging the ditch is a common cost utilized by both activities, while laying pipes and fiber-optic cables are incremental costs to the non-economic activities and economic activities, respectively. The stand-alone cost is the sum of common and incremental costs. Laying pipes has a stand-alone cost of 1050, and the incremental cost is 50. The stand-alone cost of laying fiber-optic cables is 1001, and the

incremental cost is 1. This example serves to illustrate that the interval between incremental cost and stand-alone cost can be very wide.¹¹³

Public undertakings may not receive benefits due to their proximity to the state (Honoré, 2017). Therefore, any resources made available to the undertaking (i.e. the economic sphere) from the non-economic sphere, must be made available on market terms. A logical interpretation of this is that the public undertaking should be in the same situation regardless of whether it acquires resources from the non-economic sphere (i.e. the State), or whether it acquires them from the market. Given that, one can argue that the economic sphere (gathering all economic activities into one group) should be considered on a stand-alone basis. This would mean that the non-economic activities are incremental to the economic activities. Only if the economic activities are considered on a stand-alone basis, synergies with the non-economic sphere is not available to the economic sphere. This is in line with Honoré's (2017) argument that any synergies must be generated inside the economic sphere. This corresponds to the regulation of SGEIs – the Commission's view that SGEIs should only carry their incremental cost implies that the SGEI provider's economic activities should cover their stand-alone cost. However, provided that the SGEI regulation's rules on accounting separation also applies to public undertakings subject to a requirement to keep separate accounts, the same issues of allocating common costs as were discussed in section 5.1 remains. Furthermore, stand-alone cost and incremental cost are in practice both hypothetical, because it is difficult to determine how much it would cost to carry out just one activity. Additional activities can lead to increased common costs, such as a need for more administrative staff, larger office space, etc. Determining how much of these costs would be needed to sustain just one activity is difficult, whether it is considered on a stand-alone or incremental basis.

5.3 Cost of capital and measuring the capital base

The ESA acknowledges that a required rate of return on investment is a normal and expected cost for an undertaking,¹¹⁴ and in the State aid notice, the Commission recognizes that the

¹¹³ Including opportunity cost could make the interval wider or narrower. Suppose the undertaking can sell the right to lay fiber-optic cables for 200. The incremental cost, including opportunity cost, of laying fiber-optic cables would then be 201 and, *ceteris paribus*, the interval narrows. However, if the other activities have higher opportunity costs, the interval would widen.

¹¹⁴ Section 1.3.2, paragraphs 71-75 (EFTA Surveillance Authority Decision of 20 November 2013 to propose appropriate measures with regard to state aid granted to publicly owned hospital pharmacies in Norway, 2013)

required rate of return reflects the opportunity cost of capital.¹¹⁵ If a public undertaking does not require a reasonable return on its economic activities, the economic activities are effectively being subsidized because they do not cover the cost of capital. So for a public undertaking, the cost of capital must not be set too low. For an undertaking providing an SGEI, the issue is reversed: the cost of capital must not be set too high, otherwise the undertaking is permitted a superprofit. There are three interrelated issues to consider regarding cost of capital, or a reasonable profit.

One issue is to determine the cost of capital. This is most commonly done by using the CAPM, as discussed in section 4.3.1, which is also approved by the Commission. The fact that the Commission applied the CAPM on a State's investment implies that it considers the State to be a well-diversified investor, which is reasonable. The second issue is measuring the capital. For different reasons, the capital recorded in a company's balance sheet may not accurately reflect the actual level of capital. For example, professional service providers have most of their capital tied to employment contracts and leases (Hjelmeng, et al., 2018, p. 235), as well as brand names and reputation, none of which is recorded in the balance.

When capital is hard to measure, it also becomes difficult to establish the cost of capital. The level of equity is needed to determine the cost of capital using the CAPM, because the equity is needed to determine the beta. Therefore, the equity is also needed to determine the WACC. Measuring equity can also be problematic even if the level of capital can be reasonably accurately measured, if the same assets are employed by multiple activities. For example, in the case of municipal waste collectors – how should the capital employed in vehicles be allocated between economic and non-economic activities? There is no clear answer to that.

A third issue also arises from the difficulty of measuring capital: how should profit be measured? In the absence of a reasonable measure of capital, alternative profit indicators must be used. For example, one could require a normalized profit margin (profit as a percentage of revenue). That is, require a profit margin based on what kind of activity is carried out, for example with reference to the normal profit margin in the sector in question (Hjelmeng, et al., 2018, p. 238). Recall from the discussion in section 2.3.2 that the Commission holds that the reasonable profit should be established with reference to returns

¹¹⁵ Section 4.2.3.2, particularly endnote 160 of the State aid notice (European Commission, 2016b)

made on similar contracts. That was in relation to SGEIs, but it is reasonable that the same should apply to a public undertaking. The Commission proposed various alternative measures of profit, but did not define them, nor made any mention of when either measure would be appropriate to use.

As seen in section 3.4, Redningssselskapet uses a cost plus-pricing where they require a net contribution of twice the “variable”¹¹⁶ cost of using the boat for time flexible activities (i.e. activities which can be abandoned), and three times the “variable” cost of using the boat for time inflexible activities. The ESA did not assess whether this cost plus-pricing could be expected to give a reasonable profit. Redningssselskapet asserted that the prices resulted in a “net contribution”, but a net contribution is not equivalent to a reasonable profit. A net contribution could very well be insufficient to cover the cost of capital. The ESA did not question Redningssselskapet’s assertion.¹¹⁷

In the Norwegian public hospital pharmacy case (section 3.1), the ESA concluded that the pharmacies should be required to achieve profits similar to what a private investor would expect from a similar undertaking. In the Norwegian public dental health care case (section 3.3), the ESA concluded that DOT should require a reasonable return on capital similar to what a private investor would require from a similar undertaking. Note that in the latter case, the ESA explicitly mentioned a return on capital, while in the former case, it merely said profits. Despite the different requirements, in neither case did the ESA assess what is an appropriate measure of profit, or whether capital can be expected to be reliably measured. As a curiosity, one can also note that the return was required to be reasonable in only one case. However, because the profits or returns should be similar to what a private investor would expect (which must be the substantive part of the requirement), the difference can hardly be construed as anything but semantic, although it does highlight an inconsistent use of terminology by the ESA.

¹¹⁶ A considerable part of these costs is in fact common costs allocated to the vessel, the variability of which is highly debatable. See section 5.5 for a further discussion of this.

¹¹⁷ Paragraph 24 (EFTA Surveillance Authority Decision of 30 April 2013 on alleged state aid to Redningssselskapet for its provision of ambulance transport services by maritime vessel, 2013)

5.4 Preventing cross-subsidization: monitoring costs

Pursuant to Article 5(2)(b), the Transparency Directive only applies directly to public undertakings with annual turnover exceeding EUR 40 million. According to paragraph 18 of the directive, the administrative burden of ensuring transparency is not justified for public undertakings whose business is conducted on a smaller scale. The transparency essentially consists of keeping track of where the entity receives its funds from, and the use to which they are put, cf. Article 1(1). Documenting how the funds are used essentially means keeping accounts of the entity's various activities. Accounting for the cost of activities is not an all-or-nothing endeavor. Cost accounting is not an exact science, and the accuracy of cost approximations are affected by the resources spent on the accounting system. There are also additional control measures which can be taken to ensure that costs have been appropriately accounted for, such as requiring an audit of the cost allocation.

Recall that direct costs are costs which can be traced to a cost object in an economically feasible way (Horngren, Datar, & Rajan, 2012, p. 50). The share of direct costs relative to indirect costs can be increased by spending more resources on the accounting system (Bjørnenak, Dalen, Mørch von der Fehr, Olsen, & Torsvik, 2005, p. 41). Consider, for example, the cost of fuel for Redningsselskapet's boats. Recall that fuel was treated as an indirect cost, and was allocated based on how many hours the boat was used for each activity. It would be possible to measure the fuel used for each mission the boat is used for, e.g. the boat could return to port and refuel after each mission and record how much fuel was spent. Fuel would then become a direct cost.

Section 3.2.1 pointed out that the ESA required Norwegian municipal waste collectors to keep separate accounts between economic and non-economic activities, and as a separate requirement, that Norwegian authorities implement an adequate system of control to prevent any form of cross-subsidization between economic and non-economic activities. The essence of this seems to be that the State must control that costs are properly accounted for.

Presumably, it is not of great importance whether the State performs this control itself, through some sort of regulatory body, or whether the State requires that an independent auditor be engaged to check the appropriateness of the undertaking's cost accounting.

Interestingly, this specific requirement was not imposed in the public hospital pharmacy case, nor in the public dental health care case. In Redningsselskapet's case, Norwegian authorities

required that Redningselskapet's external auditor also issue a separate audit statement confirming the use to which the State's funds had been put. The ESA did not comment specifically on that control measure, but found that there were sufficient controls to satisfy that no cross-subsidization was taking place.

Considering that there are a range of options and measures available for ensuring transparency, the EUR 40 million threshold for requiring any transparency is very high. An alternative approach could be to differentiate between the requirements imposed in terms of how detailed and accurately costs must be accounted for depending on the scale of the undertaking's business. Additional monitoring measures could be imposed as the scale of operations increased, such as requiring an external auditor's statement. Note that The Norwegian Ministry of Fisheries and Coastal Affairs considered accounting separation and a separate statement from the external auditor to be appropriate control measures to ensure that NOK 54.4 million (EUR 7.3 million¹¹⁸) was put to appropriate use. Hjelmeng et al. (2018, p. 191) also stated that a general requirement to keep separate accounts cannot be held to be particularly burdensome on public undertakings.

When discussing whether public hospital pharmacies are receiving advantages, the ESA acknowledges that the Transparency Directive does not apply directly to all public hospital pharmacies because of the minimum threshold for annual turnover. However, the ESA is of the opinion that the principles of the Directive still apply; the undertakings should keep separate accounts using clearly established cost accounting principles.¹¹⁹ Honoré (2017) believes that keeping separate accounts between economic and non-economic activities is necessary to document that the market economy operator test is complied with, even if it not directly required by law. The ESA appears to be of the same opinion¹²⁰ and also implies, when referring to its previous decisional practice, that a requirement of keeping separate accounts has been established through case law. This suggests that although the ESA refers to the Transparency Directive as the source of the principles for accounting separation, it is the

¹¹⁸ Both amounts are nominal in 2012, conversion is based on the average exchange rate between NOK and EUR in 2012, retrieved from DNB: <https://www.dnb.no/bedrift/markets/valuta-renter/valutakurser-og-renter/historiske/hovedvalutaer/2012.html>

¹¹⁹ Paragraph 66 and Footnote 27 (EFTA Surveillance Authority Decision of 20 November 2013 to propose appropriate measures with regard to state aid granted to publicly owned hospital pharmacies in Norway, 2013)

¹²⁰ Paragraph 67 (EFTA Surveillance Authority Decision of 20 November 2013 to propose appropriate measures with regard to state aid granted to publicly owned hospital pharmacies in Norway, 2013)

need to document compliance with the market economy operator test which forms the basis for the requirement to keep separate accounts.

5.5 Implications of unclear use of terminology

In both the public hospital pharmacy case and the public dental health care case, the ESA requires that the economic activities shall cover its direct and indirect costs, as well as an appropriate contribution to common costs. In the waste collection case, the ESA stated that the non-economic activity shall cover its direct costs, as well as proportionate share of fixed common cost. There are two notable differences between these requirements. First, an “appropriate contribution to” common cost and a “proportionate share of” fixed common cost can have very different implications. A proportionate share implies that common costs should be allocated based on consumption of resources, or some other measure for which a proportion can be calculated. Such a measure of proportions may not exist, for example for administrative costs, where it may be impossible to determine how much time is spent on each activity. An appropriate contribution is much more open. One can argue that both stand-alone cost and incremental cost is an appropriate contribution, both of which could be highly unproportional. In the regulation of SGEIs, the Commission consistently writes that activities must cover an “appropriate contribution to common cost”. It is peculiar that the ESA would deviate from this, seeing as their decisions are based on the same rules.

Second, in two cases the ESA makes a distinction between direct and indirect costs. However, in the waste collection case, no mention is made of indirect costs. Instead, the ESA requires that the waste collection fee (which finances the non-economic activity) should cover direct costs, as well as a proportionate share of fixed common cost. Common costs are indirect, in that they cannot be directly traced to a cost object. However, indirect costs are a larger category of costs, consisting of more than common costs. Recall the discussion in section 5.4, that the share of direct costs relative to indirect costs depends on the resources spent on the registration system. By omitting indirect costs, the undertaking appears to be left with considerable discretion in determining its cost base by choosing which costs are traced directly, and which costs are not traced, but rather allocated as indirect costs. In this specific case, where the requirement is imposed on the non-economic activity, this is not a problem with respect to competition. The omission of indirect costs exposes the municipal waste collectors to considerable downside, in that they are not permitted to cover costs that are very

much attributable to the non-economic activity, but are prohibitively expensive or impossible to trace directly. If the municipal waste collectors are not permitted to cover the full cost of the non-economic activity, cross-subsidization in favor of the economic activity is impossible. Further, note that the ESA specify *fixed* common costs and omit indirect costs. Does this imply that variable common costs must be allocated to the economic activity, or do they believe that all common costs are fixed? Recall from section 4.3.2 that direct costs can be fixed, and indirect costs can be variable.

Even though competition can not be harmed in this specific case as a result of the ESA's omission of a potentially considerable share of a service's cost base, requiring a service to carry only its direct costs and a proportional share of fixed common cost cannot be said to be based on clearly established, consistently applied and objectively justifiable cost accounting principles. If the same requirement was imposed on an economic activity, the undertaking could potentially reduce its cost base considerably by directly tracing as few costs as possible. Reducing the cost base of the economic activity in such a way is equivalent to shifting costs away, thereby cross-subsidizing another activity per a cost transfer definition of cross-subsidization.

The issue of inconsistent use of terminology also becomes apparent in Redningssekskapet's case. They take the total cost of running a vessel, the primary components of which are likely maintenance costs, depreciation and management overheads, and allocate these costs by an hourly rate. This hourly rate is called variable cost, even though it contains depreciation and management overheads, which are typically considered fixed (at least for the duration of the ambulance transport tender, which was the decision at hand).

The Commission never defines the terms direct and indirect cost, variable and fixed cost, or common cost in its regulation of State aid. Neither does the ESA define these terms in its decisions. In light of the ESA's inconsistent use of the terms, and the potential implications of this as discussed herein, there may be uncertainty regarding what the ESA requires of undertakings' separation of accounts.

5.6 How to allocate costs to separate accounts

Despite the fact that Norwegian authorities had issued non-binding guidelines on how to allocate costs when keeping separate accounts, the ESA did not assess these guidelines. It only stated that separate accounts must be kept, without discussing whether the existing guidelines would be appropriate if they had only been made mandatory. Redningsselskapet is the only case reviewed where the ESA considers the appropriateness of how costs are allocated between activities. The allocation is described in some detail, with the exception of common costs, which is mentioned almost as a side thought. Redningsselskapet did not provide information on how common costs had been allocated to the vessel, but merely stated that an appropriate share of the depreciation, management and overheads related to running a vessel is allocated. These costs were then presumably grouped together with maintenance and other costs of running the vessel. The total cost of running the vessel was divided by 350 days, which was the average running time for that class of vessels. In other words, the vessels have an estimated practical capacity of operating 350 days per year. The daily rate was then divided by 24 hours. It is unlikely that the vessels operate 24 hours per day, 350 days per year. This implies that Redningsselskapet is separating the cost of spare capacity. Rather, the cost of spare capacity is carried by the non-economic activities; recall that Redningsselskapet records all costs as non-economic, and then allocates these costs to economic activities based on time spent.

The cases reviewed in section 3 show that the ESA generally imposes very broad and unspecific requirements regarding separation of accounts. They repeatedly state that separation of accounts should be based on clearly established, consistently applied and objectively justifiable cost accounting principles. That is also the case in the Commission's regulation. In Redningsselskapet's case, the ESA approved of their cost accounting, and did not discuss the appropriateness of it or question any part of the cost allocation or choice of cost drivers. It appears that the ESA did not even know how common costs had been allocated; it was satisfied by Redningsselskapet's assertion that the cost object had been allocated an appropriate share of the common cost. This suggests that the ESA is satisfied by confirming that there is in fact a separation of accounts, which is based on clearly established and consistently applied cost accounting principles. Strictly speaking, the ESA did not know whether the principles were consistently applied either, because they were only given an example of application on one vessel. To their defense on this point, the complaint only

involved the one vessel. The ESA does not appear to have assessed whether the principles were objectively justifiable.

As the discussions in part 5 has shown, the requirements imposed by the Commission and the ESA on how to allocate costs when keeping separate accounts are very unspecific. Further, to the degree that they are specific, they are somewhat inconsistent. Hjelmeng et al. (2018, p. 236) proposes three principles for accounting separation which are more specific, and therefore to some degree reduces the agent's ability to manipulate its cost base, but flexible enough to be applicable to a broad range of undertakings. The three principles are (author's translation):

- 1. Revenues and costs should be traced directly to the economic activity where this is economically feasible. [...]*
- 2. Indirect revenues and costs should be allocated between activities based on causal relationships. Typically, the cost of personnel will be allocated based on time spent, and the cost of real estate is allocated based on the area used by each activity.*
- 3. Revenues and costs which can not be allocated based on causal relationships must be allocated in a consistent and as neutral way as possible. One possibility is to allocate these costs as a mark-up on direct costs. Consistent means that any change of principle must be specifically justified.*

As it stands today, the ESA's appears unwilling to assess the appropriateness of existing systems of cost allocation, and it even approved of Redningssekskapet's cost allocation without being informed of important aspects of it, and without discussing their choice of cost drivers. Consequently, undertakings appear to be given wider discretion in choosing cost drivers and methods of allocating common cost than strictly necessary, potentially allowing them to manipulate their cost bases without sufficient intervention from the ESA. Imposing these requirements would alleviate some of these issues. The requirements should also entail that an undertaking must justify why it would deviate from the recommended principles. If regulators take a more active position on how it is appropriate to allocate costs, supervisory bodies such as the ESA should also be able to challenge undertakings on their choice of cost drivers and allocation mechanisms. Clearer guidelines would also reduce the uncertainty for undertakings subject to the requirement to keep separate accounts.

6 Summary and conclusion

This thesis set out to answer the following research question:

Which requirements are imposed on the use of accounting separation in European State aid regulation, and to what degree do these requirements correspond to a theoretical framework based on economic literature on cross-subsidization, cost estimation and cost allocation?

Part 5 demonstrated that there are considerable challenges associated with broad and general regulation of State aid. Different businesses and different sectors have different cost structures, each with their own implications of how costs can and should be allocated between activities. It would be impossible to develop regulatory cost accounting standards which takes account of all minutiae of different sectors etc. Some sector specific regulation exists, such as the Postal Directive, but the bureaucracy would be quite daunting if every sector and every conceivable variation were to be addressed in the regulation. However, that is not to say that the current legal framework need be as unspecific as it is today. Regulators could make more specific recommendations on appropriate methods of cost allocation, as Hjelmeng et al. (2018) did. The requirements they proposed would reduce uncertainty regarding what the supervisory bodies would consider appropriate, and also reduce undertakings' discretion with respect to affecting their cost base. Some discretion remains in their ability to select cost drivers, which is why the ESA and the Commission should be willing to assess the substance of undertakings' implemented scheme of cost allocation, rather than sufficing to say that separate accounts must be kept.

On several points, the legal framework corresponds reasonably well to the theoretical framework. For example, the Commission accepts the Capital Asset Pricing Model as a reasonable method of determining an undertaking's cost of capital, which is the most common method used by practitioners. The Commission's insistence on adding a liquidity premium to the discount rate, however, is not in line with the theory. The Commission's guidelines acknowledge that measuring profit relative to capital is not always appropriate, but it does not define alternative measures of profit or discuss when they would be appropriate to use. In much the same way, the discussion showed that the ESA is not specific when it imposes requirements on undertakings that they must be expected to turn a profit. It is also a sound principle that a separation of accounts should be based on generally accepted cost accounting principles, and must be clearly established, consistently applied and objectively

justifiable. However, the legal framework does not address potential shortcomings of the methods proposed, nor alternatives in situations where the proposed methods are inappropriate, even though the Commission acknowledges that the few specific requirements it does propose may be inappropriate in some settings. Furthermore, the Commission is somewhat inconsistent in its requirements on how to account for different activities. On the one hand, it considers the net avoided cost methodology to be the most appropriate method of determining the cost of a service, and the compensation cannot exceed the incremental cost. On the other hand, the cost allocation methodology, which must be used when controlling for overcompensation, allows more than incremental cost to be allocated to the activity. In general, the requirements are unnecessarily broad and unspecific, and the ESA demonstrates an unwillingness to make actual assessments in order to clarify the matter. All in all, the current legal framework does not correspond as well to the theoretical framework as it could have.

7 References

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