Is the EU Funding White Elephants in Transport?*

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Public funding of transport infrastructure needs to be spent in a better way. For some projects, more private investment should have been mobilised instead of entirely committing public money to bridge the funding gap. Examining four Commission Decisions on funding of port infrastructure, this article will explore the assessment practice of the European Commission and demonstrate shortcomings of a proper financial analysis. Furthermore, it will be shown that the cost-benefit methodology borrowed from regional policy is not sufficient for State aid purposes as it does not indicate the proportionality of public funding.

I. Introduction

In September 2013, Johannes Hahn, Member of the European Commission responsible for regional policy, made the following remarks: "More than ever before, the policy framework is encouraging investments in line with the 'better spending' principle. We have a duty to ensure that taxpayers' money is invested in an efficient and effective way. We have to ensure that we make the best use of these funds. This is even more imperative at these times of tight fiscal constraints. These principles are at the heart of our new Cohesion Policy. The emphasis is on results and not on spending."[1] Commissioner Hahn truly pointed to an important issue. Yet, barely a couple of months later, the Financial Times reported that Spain put up for sale, with a price tag of €100 million, an airport that had cost ten times as much to build. The airport never became operational.[2] This is a waste of public money on a huge scale. The unavoidable conclusion is that occasionally projects are undertaken because Structural Funds have to be absorbed. Whether public money should be invested in these projects seems to be of secondary concern. Indeed, with sufficient injection of public money, many projects can appear successful. But the question is whether the public money is spent well.

The purpose of this article is to show that at least in some transport projects less public money should have been committed and more private money should have been mobilised. After all, this extra leveraging of the private sector is itself one of the objectives of cohesion policy. The cases which are analysed in this article provide examples of how not to fund long-term projects, at least in the area of transport.

Article 90 TFEU refers to a "common transport policy". The word "common" attests to the importance that the EU attributes to actions in the field of transport. In addition to the general internal market principles, the EU has specific rules that constrain national policies and seek to remove any barriers to the provision of transport services and establishment of transport undertakings. The EU also extensively finances transport infrastructure. A primary objective of the Structural Fund is to provide financial support to Member States to improve, expand and integrate national transport networks.

In the *Leipzig/Halle* judgement, the Court of Justice of the European Union has ruled that operators of ports and airports perform an economic activity. The Court has also ruled that public funding of transport infrastructure which is used together with an economic activity such as a port or an airport

* Comments on earlier drafts by Dr Mihalis Kekelekis, the editors and two anonymous referees are gratefully acknowledged. Any remaining errors are solely my responsibility.

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1 Remarks at an Informal ECOFIN by Johannes HAHN, Commissioner for Regional Policy Vilnius, 13 September 2013. Accessed at: http://ec.europa.eu/regional_policy/upload/documents/Commissioner/13092013_ECOFIN-speech_delivered.pdf

2 Financial Times, Spain's airport that never took off up for sale at €100m, by Tobias Buck, 9 December 2013.

3 See ECJ judgement C288/11 P Mitteldeutsche Flughafen and Flughafen Leipzig-Halle v Commission.

terminal is itself economic in nature.[3] The classification of the operation of ports and airports and the construction of related infrastructure as economic activity implies that they fall within the scope of Article 107(1) TFEU – in other words, they involve State aid. Consequently, public funding for ports and airports is in principle prohibited unless it can be exempted or it satisfies the market economy investor principle.

The European Commission assesses the compatibility of State aid with the internal market primarily on the basis of its guidelines. When aid falls outside the scope of these guidelines it is assessed directly on the basis of the Treaty, particularly Article 107(3). When the Commission considers the compatibility of aid directly on the basis of Article 107(3), it performs a "detailed economic assessment" which primarily seeks to determine whether the aid promotes an objective of common interest, whether the aid is necessary and proportional and whether it avoids undue distortion of competition.

Recently, the Commission [i.e. DG Competition] has assessed a number of measures involving public funding of port infrastructure. It has approved State aid using financial indicators borrowed from the methodology of project cost-benefit analysis developed by DG Regional Policy.

This article explains that the cost-benefit methodology borrowed from regional policy is not completely coherent with the State aid methodology for determining the need for public intervention and the minimum required amount of public funding. If the assessment of the port projects reviewed in this article are representative of how funding of infrastructure in general is evaluated, then the financial indicators used in fact cast serious doubt on the desirability of EU funding for such projects. The article reviews only four Commission Decisions concerning funding of port infrastructure because earlier Decisions do not provide enough detail of the financial indicators to allow adequate independent appraisal.

It should be acknowledged at this point that the analysis in this article is based on the information which is publicly available in the State aid Decisions of the Commission. Information which is not in the public domain may lead to different conclusions. However, the Commission is obliged to provide enough information so that competitors or the public can understand its reasoning. However, the reasoning in the cases reviewed in this article is not robust enough, as will be shown in this paper.

II. The Cost-benefit Methodology for Investment Projects co-financed by Structural & Cohesion Funds

Large infrastructure projects which are co-financed by EU Structural and Cohesion Funds are supposed to be designed and assessed according to the methodology developed in the Commission's Guide to the Cost-Benefit Analysis of Investment Projects.[4]

One of the purposes of this methodology is to show how the maximum amount of EU financial assistance can be calculated. The Guide derives a formula for the so-called "funding gap"[5], which is the difference between the costs and revenues from the project. This difference determines the amount of money that should be contributed by public sources. More formally, the necessary public contribution is calculated as follows.

Funding gap: Investment costs (I) – Net revenues (N). Since investment normally takes place at the beginning of a project and revenue follows in later stages, the various costs and revenues are also discounted to present values using an appropriate rate of discount. Then the funding gap is expressed in terms of the net present value (NPV).

Funding gap rate: $r = (I - N)/I = NPV/I$
Eligible costs : E
EU grant : $G = E \times r$

If we assume that I = E, i.e. that all investment costs are eligible costs, which is what normally happens in practice, then the formula implies that the grant is equal to the difference between investment costs and net revenue. That is, $G = E \times r = I \times (I - N)/I = I - N$. In other words, EU funding ensures that the project breaks even and, as a result, it can be carried out.

This appears to be compatible with the logic of EU intervention. It adds value by enabling Member States to do things that they would not otherwise do on their own. The question, however, remains whether in fact it makes sense for the EU, or the Member States, to fund those projects at all.

4 Cost-benefit analysis has to be carried out for projects costing more than €50 million, if co-financed by Structural Funds and €10 million, if co-financed by Cohesion Funds. The Commission's Guide on cost-benefit analysis can be accessed at: http://ec.europa.eu/regional_policy/sources/docgener/guides/cost/guide02_en.pdf

5 Ibid., page 106.

Table 1: Summary of Commission assessment

Objective of common interest	Necessity and proportionality of aid	Undue distortion of competition
SA.36223: Spain, Port of Santa Cruz of Tenerife[6]		
Yes, it falls within EU transport and maritime policies. It is also on the north-south transport axis.	Yes, NPV is negative, port invests €177m of its own money and aid is equal to the funding gap.	No, the port in Santa Cruz is in direct competition with the Port of Las Palmas (on the island of Las Palmas), which also hosts merchandise and international container traffic and is the fifth largest Spanish port.[7]
SA.35738 : Greece, Port of Katakolo[8]		
Yes, it falls within EU transport and maritime policies.	Yes, NPV is negative, aid is equal to the funding gap.	No, little competition with other ports in the region.
SA.34940: Italy, Port of Augusta[9]		
Yes, it falls within EU transport and maritime policies.	Yes, NPV is negative, aid is equal to the funding gap.	No, the overall share of the Port of Augusta in the container traffic in the Mediterranean by 2025 will be less than 2%.[10]
SA.36953: Spain, Port of Bahía de Cádiz[11]		
Yes, it falls within EU transport and maritime policies. It also contributes to regional growth.	Yes, NPV is negative and aid is less than funding gap [aid intensity: 51%].	No, little competition with other ports.

III. But, is State Intervention Truly Justified?

According to well established practice, when the Commission assesses the compatibility of State aid with the internal market it requests Member States to submit proof that the aid remedies a market failure or pursues an equity objective. In addition, Member States have to show how State aid is a suitable instrument for achieving a legitimate public policy objective such as market failure.

Although all of the four port projects were co-financed by EU Structural Funds, in none of the projects there was any real proof of market failure, as could be evident for example, by the presence of large external benefits for the local community, which would not be "captured" by the calculations on the financial viability of the projects. Table 1 provides a very short summary of the main issues considered by the Commission with respect to the four projects. Much effort was put into demonstrating that the projects fell within the overall framework of EU transport policy, but no robust proof was given of genuine market failure. *see Table 1*

In fact, as indicated in Table 2 on the following page, the NPVs of all four cases are negative to the tune of millions of euros. Indeed a private investor would not invest in these projects because they are commercially not viable. Perhaps this may be taken as an indication of market failure. However, market unwillingness to invest can also be an indication that in fact the market functions very well and that such projects are not economically sound. In the Commission Decisions on these four cases there were several claims about how the projects fell within the scope of transport policy, but no credible explanation of whether social benefits exceeded private benefits – which is the correct defi-

6 The Commission Decision can be accessed at: *http://ec.europa.eu/competition/state_aid/cases/248020/248020_1453836_60_2.pdf*

7 The Commission goes on in the very next paragraph to state "however, given that the freight transport capacities of the Port of Las Palmas are largely utilised at present by one shipping company, with this project the Port of Santa Cruz is not only a competitor to the Port of Las Palmas, but also aims to become an alternative for shipping companies whose access to the Port of Las Palmas is limited." (paragraph 70) But if the root of the problem is that the Port of Las Palmas is monopolised, then the best solution is to relieve the congestion at that port rather than build an alternative port.

8 The Commission Decision can be accessed at: *http://ec.europa.eu/competition/state_aid/cases/246700/246700_1444527_188_2.pdf*

9 The Commission Decision can be accessed at: *http://ec.europa.eu/competition/state_aid/cases/246189/246189_1407362_66_2.pdf*

10 This is another example of faulty competition analysis. The quoted statistic is irrelevant in two respects. First, the mention of the year 2025 is arbitrary. What matters is the impact on competition today. Second, the whole of the Mediterranean Sea may or may not be the relevant market. It is never established in the Decision.

11 The Commission Decision can be accessed at: *http://ec.europa.eu/competition/state_aid/cases/249217/249217_1481221_99_2.pdf*

Table 2: Port infrastructure co-financed by the EU: NPV & funding gap

	Investment	NPV	Funding gap ratio
SA.36223: Spain, Port of Santa Cruz of Tenerife	Container terminal Total cost: €244m EU: €67m Port: €177m [bank loan: €120m; own revenue: €57m]	– €151m [25 years] IRR: – 1.58%	73.5% [discounted investment costs €204m]
SA.35738: Greece, Port of Katakolo	Pier and buildings Total cost: €12.27m EU: €9.51m GR: €1.68m Port: €1.08m	– €10.17m [25 years] IRR: ...[12]	91.23% [discounted investment costs E€11.14m]
SA.34940: Italy, Port of Augusta	Docks and storage facilities Total cost: €145.3m EU &IT: €100.1m Port: €45.2m	– €83.8m [25 years] IRR: 0.13%	68.9% [discounted investment costs €121.7m]
SA. 36953: Spain, Port of Bahía de Cádiz	Freight terminal Total cost : €118.5m EU: €60.1m Port: €58.5m	– €67.7m [29 years] IRR : – 2.02%	...[13] [discounted investment costs not given]

nition of market failure.[14] Even if it is assumed that somehow the market fails when it comes to the construction and management of port infrastructure, it cannot be automatically presumed that every public investment in these projects is socially desirable. Spain, for example, has 46 ports. Does it need more port facilities? Lastly, it should be observed that there is nothing in the nature or size of these projects that would automatically discourage the involvement of the private sector. The private sector is in many cases involved both in the construction and operation of larger ports and airports without needing State aid [e.g. Bremen port, Rotterdam port, Munich airport]. *see Table 2*

These cases also reveal a serious weakness in the current practice of assessing the compatibility of State aid. Even when there is genuine market failure the Commission does not require Member States to demonstrate that the benefits from state intervention outweigh the costs of intervention. In principle, intervention is justified only when benefits outweigh costs. As regards the four projects, demonstration of the necessity and proportionality of aid does not prove that social benefits exceed social costs. Since under current practice, this justification is not required, Member States may be excused for committing EU and their own funds to these infrastructure projects despite the fact that the need for public intervention is not proven.

It is also worth noting how easy it is for the Commission and perhaps for the national authorities to commit a logical fallacy. In general, construction or improvement of port infrastructure and facilities falls within the scope of EU transport policy. However, it does not necessarily follow that these four projects in particular satisfy the objectives of integrating and expanding EU transport networks, given the fact that projected revenues will be significantly less than investment costs. The value from the utilisation of these ports will be less than the resources invested in them. This is an indication that alternative investments could be more profitable and could add more value to EU networks.

Moreover, if the projects are important, then they must have an impact on transport networks and on transport markets. If their impact is insignificant, as claimed in the Commission decisions, then their importance must be correspondingly lower.

Lastly, the question concerning the impact of the projects on transport markets reveals another weakness in the justification of these projects. Each one considered individually may cause an insignificant

12 Not mentioned in the Commission Decision.

13 The Commission Decision only mentions that the aid intensity of 51% (= 60.1/118.5) is less than the funding gap ratio.

14 All four projects may have been justified by their contribution to regional development. In fact, in all four cases, national authorities made such claims. However, regional development is an equity concern which is not considered in the context of this paper. Nonetheless, it is worth noting that, say, in the case of the Port of Bahia de Cadiz the public investment of €60m was expected to create 1200 jobs. This is equivalent to EUR 50,000 per new job. If equity objectives are to be considered then it must also be asked whether it is worth spending EUR 50,000 of public money to create a new job.

Table 3: Derived operating profit

	Port of Santa Cruz	Port of Katakolo	Port of Augusta	Port of Bahía de Cádiz
Funding gap ratio [r]	73.5%	91.23%	68.9%	67.7%
Investment costs [I]	€244m	€12.27m	€145.3m	€118.5m
Derived net operating revenue [N = I x (1 – r)]	€64.66m	€1.08m	€45.19m	€38.28m
Own investments [V]	€177m	€1.08m	€45.2m	€58.5m
% of own investment recouped [N/V]	37%	100%	100%	65%

distortion to competition. But all of them considered together may indeed have a non-negligible impact on competition. The cumulative effect of these projects, and that of several other similar projects also approved by the Commission, was not an issue that was critically examined in the Commission decisions.

IV. Why Were the Port Operators Investing?

In other fields of State aid, such as urban development (for which guidelines do not exist either), public funding is allowed up to the point where a project becomes commercially viable for the private investor. That is, State aid increases the rate of profitability to an acceptable level or raises the NPV to a value above zero. With this approach, the project is ensured to be commercially viable for the private investor, while the amount of public intervention is kept to the minimum necessary for achieving that objective.

However, there is no indication in the Commission Decisions on the four port projects that the amount of profit of the port operators was capped not to exceed an acceptable level. By contrast, in the case of the Port of Santa Cruz, in particular, the amount of State aid does not even cover the calculated NPV. This means that the port operator expects to make losses. But this also implies that a likely future consequence is that the project may eventually be abandoned to stop the losses incurred by the port operator. In the case of the other two ports, there is a real possibility that operators can make substantial profits.

To understand this point, the following needs to be considered. A private investor is willing to invest in a project only when he can recoup the invested money and make enough profit to cover the cost of capital. This profit is generated by the operating revenue, R, net of operating costs, C. In other words, profit is equal to net revenue or N = R – C. Neither the profit (net revenue) of the port operators, nor their cost of capital is known. But it is known that the funding gap is the difference between the cost of the investment, I, and the net operating revenue, N. The Commission Decisions provide the numbers for the NPVs. However, the NPV figures are discounted. If it is assumed that the funding gap ratios are the same for the nominal figures as for the discounted figures, then it may be possible to obtain some idea of the magnitude of the net operating revenue, N, of the port operators.

The derived figures are shown in Table 3 below. The last row of Table 3 shows the percentage of the investment that is recouped. An investor makes an investment only when at least 100 % of the money can be recouped. For the Ports of Katakolo and Augusta, the percentage is 100 %, while for the Ports of Santa Cruz and Bahía de Cádiz the percentage is only 37 % and 65 %, respectively. Bearing in mind that revenue figures are discounted over a period of 25 years, it is likely that the actual figures will be higher [because over time there will be gains in efficiency]. This implies that the operators of the Ports of Katakolo and Augusta will break even or make profits. By contrast, it also appears that the operators of the Ports of Santa Cruz and Bahía de Cádiz will make losses.

These results are both puzzling and troubling. They are puzzling because they indicate that for the ports of Katakolo and Augusta public intervention appears to be too generous and therefore, partly unnecessary. They are troubling because for the ports of Santa Cruz and Bahía de Cádiz public intervention appears to be backing projects that are unlikely to be commercially sustainable in the medium to long-term. *see Table 3*

V. Necessity v Proportionality of State Aid

The financial analysis of the four port projects confuses the necessity of aid with the proportionality of aid. The fact that the NPVs are negative proves that the projects would not be undertaken without aid. But the funding gap established by the financial analysis does not prove that the aid is proportional, i.e. the minimum necessary. The following example clarifies this subtle but very important point.

Assume that the investment cost, I, of a project is 100. The lifetime operating cost of the project, C, is 30 and the lifetime operating revenue, R, is 50. Also, for the time being, assume for simplicity that these are discounted figures. Therefore, the funding gap, FG, expressed in NPV is FG = – I + N = – I + (R – C) = – 100 + (50 – 30) = – 80. The funding gap ratio, r, is r = FG/I = 80/100 = 80 %.

Certainly this project is not commercially viable. It has a funding shortfall of 80 %. But this ratio says nothing about how this funding gap can be shared between the government and the port operator. At the extreme, the government can cover the full gap and put in 80. This means that the port operator will have to contribute the remaining 20 and over the life of the project it will earn back 20. With these results it only breaks even. However, any additional revenue will be pure profit. If the net revenue, N, is derived after the cost of capital and other financial charges are subtracted, then the port operator will be making excess profit and the State aid will clearly be disproportionately large.

Now we can add real-life complexity to our example by considering the purpose of discounting future streams of revenue and costs. Financial results which occur in the future are discounted not only in order to take away the effect of inflation but also to find out how much they return above or below the initial investment. Indeed, the discount rate is the required rate of return. For instance, if the required rate of return is 5 %, then future earnings must be discounted by 5 % to determine the value of those earnings today. If in a year's time an amount of 105 is earned, then the present value of that future sum is 100. If we invest 100, then we know that it will earn a sufficient rate of return. If we invest less we will make excess profit. If we invest 103, for example, the future amount of 105 will be insufficient return. If we invest 106, we will make a loss of 1.

If the normal rate of return of port projects is, say 20 %, and for the port project in our example the relevant figures are as follows, I = 100, R = 50, C = 26, then N = 24. If the life of the project is, for simplicity, just a year, then N is discounted once at 20 % and gives 20. Then FG = – 80 and r = 80 %. The private investor who contributes 20 to this project will earn 20 % on top of his initial investment.

The discount rate that is used in these calculations is crucial. It must match the investor's required rate of return. Let's say that the private investor is satisfied with just 5 % return but a discount rate of 20 % is used instead. This means that although on an initial contribution of 20, the investor will only have to earn in the future just 1,in fact he earns 4, which implies that he makes excess profit of 3. To take away that excess profit of 3, the funding gap must be reduced by 2.86 to 77.14, instead of 80. This is because 24 discounted at 5 % gives 22.86 which implies a funding gap of 77.14.

It should be now clear that State aid which is calculated on the basis of the funding gap methodology is not necessarily proportional. Whether it is proportional or not depends on how the net revenue is calculated (whether it includes or not financial charges) and on the discount rate that is used to derive the present value of the net revenue. The methodology that has been borrowed from Structural Funds ensures that projects are not "over-financed". It can only indicate the necessity of aid but not the proportionality of the aid received by the beneficiaries.

VI. Conclusions

This article has shown that the financial analysis used to assess port infrastructure merely proves that assisted projects are not commercially viable without public support. The methodology of this financial analysis has been borrowed from Structural Funds. However, it is not sufficient for state aid purposes. This is because it does not show that the public funding is proportional. More broadly, it does not show that projects are socially desirable or that government intervention remedies market failure.

As the examination has shown, for two of the projects, public funding appears to be too generous and therefore partly unnecessary, while for the other two projects, public funding appears to be insufficient because the projects are unlikely to make a return that covers both their investment and operating costs. If

funding is insufficient, then the question arises as to whether the projects will eventually be successful so that the public money is not wasted.

For State aid purposes, the financial analysis used to assess the projects does not prove that the State aid is proportional because the gap funding cannot in itself establish the minimum amount of resources that should be committed by the aid beneficiaries themselves (i.e. the ports and their operators). These conclusions apply to both the funds committed by the European Union and the funds from national sources.