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The Economics of State Aid for the Rescue and Restructuring of Firms in Difficulty: Theoretical Considerations, Empirical Analysis and Proposals for Reform

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The Economics of State Aid for the Rescue and Restructuring of Firms in Difficulty: Theoretical Considerations, Empirical Analysis and Proposals for Reform

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Abstract

State aid for rescue and restructuring (R&R) of companies in difficulty causes a significant distortion of competition. It prevents the market from eliminating inefficient companies. Because of this, the European Commission has to be specially strict when it assesses rescue or restructuring aid. This paper examines recent cases of corporate restructuring partly funded with public money. It explains the main aspects of the current guidelines which are applicable to R&R State Aid and establishes a theoretical framework for the economic assessment of R&R aid. It then analyses decisions adopted by the European Commission concerning R&R state aid during the period 2000-2013. It finds that there is little economic rationale in the granting of R&R aid. The paper concludes by applying the lessons drawn from the empirical analysis to the anticipated revision of the R&R guidelines in the context of the State Aid Modernisation process.

Keywords: European Union, Competition Policy, State Aid, Rescue and Restructuring, State Aid Modernisation, Economic Assessment

JEL codes: F15; O 52.

1. Introduction

State aid is in principle prohibited in the European Union because it distorts competition in the internal market. However, this prohibition is not absolute. EU rules on state aid correctly acknowledge that in certain situations public subsidies may be necessary to remedy market failure. Therefore, state aid for such policy objectives as environmental protection or encouragement of research and training is allowed under certain conditions. In this context, the purpose of state aid is to fill a gap left by the market.

However, in the case of state aid for the rescue or restructuring of firms there is no obvious market failure. In fact, one may reasonably argue that the market is working too well. It eliminates inefficient firms. After all, this is the ultimate consequence of competition. Those who cannot compete must either exit the market or simply go bankrupt. Therefore, rescue and restructuring aid is one of the most distortionary types of aid because it counteracts the normal functioning of the market mechanism.

So why do governments intervene to rescue firms or bear some of the costs of their restructuring? Their ostensible aim is to avoid the consequences of firm failure, which are unemployment and loss of output. Occasionally it is also claimed that the failure of an especially large company would allow the creation of monopoly or oligopoly with detrimental effects on consumers. Although these claims may be aired frequently, it is rather doubtful that monopoly or oligopoly is the outcome of the failure of a single company. In fact, such a claim has not been documented in Europe, nor is there credible evidence that the rescue or restructuring of a company has prevented the emergence of monopoly or oligopoly. Therefore, the avoidance of local unemployment and loss of output appear to be more tenable policy objectives.

The purpose of this paper is to examine the efficiency of restructuring aid (we ignore rescue aid because it is granted only for six months until a restructuring plan is put in place). A number of studies have already assessed the effectiveness of rescue and restructuring aid by investigating whether the aid has been successful in ensuring the long-term viability of the aid recipient companies. Their findings are mixed. A significant proportion of the aid beneficiaries have not managed to escape bankruptcy. The reasons for the failure of aid to prevent bankruptcy are not known. Perhaps the aid was granted too late. Or perhaps the aid recipients were already in such dire condition that no aid could have helped them.

An issue that has not been sufficiently investigated in the literature is whether governments are justified in intervening in the first place. Intervention is in principle justified when the benefits from protecting jobs exceed the costs of job losses. Using data we have gathered from Commission decisions concerning restructuring measures during the past decade, we calculate both the costs of intervention and the expected benefits in terms of the value of the jobs which are saved.

We find that a significant proportion of these measures are inefficient in the sense that they cost more than the output they save. These findings cast doubt on the economic rationality of restructuring aid and suggest that governments are guided by political objectives.

At the same time, these findings provide support for a more active role by the Commission and a more rigorous assessment of restructuring aid. In this connection, we make a number of proposals for the forthcoming reform of the Rescue and Restructuring Guidelines. The Commission has already launched a public consultation on the reform of those Guidelines. This reform takes place in the broader revision of all the state aid rules for the period 2014-20. One of the main aims of the revision, which was formally initiated with the Commission communication on the State Aid Modernisation in May 2012, is to inject more economic analysis of the necessity of aid. Our proposals are very much in line with this increased emphasis on proper economic evaluation of state aid.

2. Objectives and conditions of the state aid rules on rescue & restructuring

Why should firms in difficulty be assisted and how? Current rules on state aid for rescue & restructuring (RR) provide answers to these two questions. We will explain in the following sections that these answers are not satisfactory.

The Guidelines on Aid for Rescue & Restructuring (RRG) are based on the premise that such aid “may only be regarded as legitimate subject to certain conditions (...) for instance”:¹

- 1) for social or regional policy considerations (such as local unemployment);
- 2) because of the beneficial role played by SMEs in the economy;
- 3) or to maintain a competitive market structure (for example if the bankruptcy of the firm generates a monopoly or an oligopoly in the market).

Aid has to comply with five cumulative conditions.

- 1) it may be granted only to a firm in difficulty;²
- 2) the restructuring plan must ensure the restoration of the long-term viability of the ailing firm in a reasonable period of time;³
- 3) it has to avoid undue distortions of competition.⁴ The ailing company has to offer “compensatory measures” such as reduction of capacity, withdrawal from certain market segments or sale of assets;

¹ European Commission (2004), paragraph 8

² European Commission (2004), paragraph 33. Although it does not exist a European Union definition of what we understand by “firm in difficulty”, the Guidelines establish a number of conditions that in case of been fulfilled, a firm will be considered “firm in difficulty” to the effects of the Guidelines and thus eligible for R&R State Aid.

³ European Commission (2004), paragraphs 34-37

⁴ European Commission (2004), paragraphs 38-42

4) the aid has to be the minimum necessary.⁵ The beneficiary has to bear a substantial part of the restructuring costs (“own contribution”). The percentage of own contribution depends on the size of the company: 50% for large firms, 40% for medium-sized firms, and 25% for small firms.⁶

5) Aid is granted once (“one-time-last-time” rule). In practice this means only once per 10 years.⁷

3. The economics of rescue & restructuring aid

R&R aid is perceived as one the “most distortive type of aid” by the European Commission. It interrupts the normal functioning of the market system, whereby firms less efficient than their competitors are driven out of the market.⁸ This assures an efficient allocation of resources.

It is also the most important source of increase in competitiveness, as explained by Lyons et al (2008). Public intervention generates both direct and indirect negative effects:

The direct effect is the prevention of bankruptcy. This means that the State manipulates market shares and employment levels. If one firm does not disappear, it does so at the expense of its competitors, which may be more efficient.

There are also indirect negative effects, which are generated by the mere existence of an R&R aid. Less efficient firms know that the government would rescue them. This creates moral hazard and willingness to undertake riskier investments. Correspondingly more efficient firms are discouraged from investing when they know that the government will rescue their competitors.

In view of these concerns, should state aid for R&R be allowed and, if so, under which conditions? We ignore in our analysis below moral hazard issues and other opportunistic kind of behaviour on the part of potential aid beneficiaries. This is because it is not necessary to make our analysis more realistic in order, first, to explain its logic and, second, to identify the risks in the granting of state aid for R&R purposes.

As with all kinds of aid, government intervention is in principle warranted when it addresses a market failure. This is a necessary but not sufficient condition. In addition, the social benefits from intervention should outweigh its costs.

⁵ European Commission (2004), paragraphs 43-45

⁶ The 2004 Guidelines specify for the first time these percentages. Before the current Guidelines, the 1999 Guidelines contained only the ambiguous expression “a significant own contribution”.

⁷ European Commission (2004), paragraphs 72-77

⁸ See Nicolaides and Kekelekis (2003), and Lyons et al (2008)

To determine whether aid is needed and how much is needed, a counterfactual must first be established. The counterfactual indicates what would happen without the aid.

If a company goes bankrupt, it is reasonable to assume that the counterfactual is a situation where the workers of the firm become unemployed. If the market would function smoothly, they would find another job with a wage that reflects the social value of their output. But if the market fails, they remain unemployed and society loses the value of that output.

Let, V , indicate the value of forgone output. This is the cost of non-intervention or, correspondingly, the benefit from intervention. But intervention is actually warranted only when the benefit exceeds the cost from intervention. What is this cost?

The process of intervention itself generates costs, C_i : administrative costs (indicated by A), the deadweight loss of taxation (indicated by T), the risk of regulatory capture where the final beneficiary is not the most worthy but the one with the most effective lobbying (indicated by G).

But the biggest negative effect of intervention is, as mentioned above, the impact on competitors of the aid recipient, C_c . More efficient competitors are not allowed to expand their output. If their costs are lower than those of the aid recipient by ΔC and the output of the aid recipient is Q , then intervention implies that at a minimum society pays $\Delta C * Q$ in extra costs.

It follows that intervention is in principle justified when:

$V \geq C_i + C_c$ or, in expanded form,

$V \geq A + T + G + \Delta C * Q$

Then comes the question of how much aid. There are two ceilings here to the maximum amount of aid should not exceed.

First and most obviously, aid, S , should not exceed the difference between social value and social costs; i.e.

$S \leq V - (C_i + C_c)$.

Second, aid should not exceed the minimum needed to bring back the recipient firm to viability. To understand this point, consider first the following puzzle. If R&R aid is granted on condition that the firm is returned to viability (i.e. it can operate without any public assistance), then why is aid needed at all? A rational investor would put money in a firm only if the net present value (NPV) exceeds the cost of capital. The cost of capital is the return, R , that can be obtained by the investor in an alternative investment. In other words,

$NPV \geq R$.

However, an existing shareholder may have an extra motivation to put additional money in the firm. He may save costs from avoiding the closure of the firm such as redundancy payments, etc. Therefore, a shareholder who may have liabilities, L , not faced by an ordinary investor would be willing to invest in the restructuring of the firm he already owns when

$$NPV + L \geq R.$$

It follows that the solution to the puzzle is that if

$$R \geq NPV + L,$$

then the shareholders would not want to invest additional money and would rather let the firm go bankrupt. This means that the maximum amount of aid, S , should not exceed the difference between the cost of restructuring and the sum of expected revenue (NPV) and avoided liabilities (L) or

$$S \leq R - (NPV + L).$$

We can define now the conditions that must be satisfied in order for R&R to be socially optimum:

1) $V \geq A + T + G + C_c = C_i + C_c$

2) $S \leq V - (C_i + C_c)$

3) $S \leq R - (NPV + L)$

Since the first condition is subsumed in the second, it is enough that conditions (2) and (3) are satisfied. The optimum amount of state aid must be subject to two constraints.

Empirical analysis

While the conditions derived above are theoretically easy to explain and justify, it is much harder to ascertain whether they are satisfied in practice and whether the R&R aid that is approved by the Commission can be regarded as an approximation of the socially optimum amount of aid.

It is impossible to know, for example, the NPV of restructuring plans because they are commercial secrets and are not revealed in Commission decisions authorising R&R aid. It is also very difficult to know the costs of competitors of the aid recipients. Public authorities which grant aid or the Commission which assesses such aid may request information from competitors but we cannot. Therefore, we have devised a simpler test to find out whether too much R&R aid is granted.

Our second condition indicates that state aid should not exceed the difference between the social value and the social cost of the aid. If we assume that the granting of R&R aid itself has no cost, which is an extreme assumption, then R&R aid may at the very maximum not exceed the value from preventing firms going bankrupt. As explained in the previous section, this value is the lost labour output from firm closure. The amount of the lost output depends on how long workers remain idle. Therefore the question is how long laid off workers stay unemployed. Eurostat statistics indicate that the average duration for most of the

decade has been less than 12 months. Therefore, we take a year as a high benchmark.

We postulate that the value of lost output is given by the average annual salary (i.e. we ignore possible upstream or downstream job losses at suppliers or customers, respectively). Where it is possible we use information on sectoral salaries to evaluate R&R aid.

Is this postulate realistic? We believe it is for the following reasons. The RRG and the broader policy for assisting restructuring is based on two assumptions which we doubt accurately reflect reality:

- i) The company will not survive without the aid. This is partly intrinsic in the definition of firm in “difficulty”; i.e. it is destined to go bankrupt if it does not receive outside funds.
- ii) The company will certainly survive once aid is granted (indeed, a fundamental requirement of the RRG is ability to return the assisted firm back to long-term viability).

However, studies such as Oxera (2009) or Glowicka (2008) on the counterfactual of the state aid provision have indicated that many laid workers are hired by competitors, that failing companies are taken over by other companies and that not all recipients of state aid survive. The latter finding suggests that state resources are wasted. Indeed about 50% of firms that receive rescue aid, eventually go bankrupt. About 20-30% of firms that receive restructuring aid, eventually go bankrupt and about 70% of firms in difficulty are taken over.

It is obvious that not all of the workers of a firm facing financial trouble will remain unemployed. This suggests that intervention should be limited. At the same time, intervention has a non-trivial rate of failure. This too suggests that intervention should be limited. By taking as the cost of non-intervention the amount of annual output of workers in ailing firms in fact we set a very onerous benchmark that favours R&R interventions.

The next section explains the data base we have constructed to test the optimality of R&R aid.

4. The reality of state aid for rescue & restructuring purposes: Measures examined in Commission decisions, 2000-2013

London Economics (2004) developed a database of R&R aid granted from 1995 to 2003. The same period was studied afterwards by Chindooroy et al (2005) and Glowicka (2008). This database covered 9 years and included 71 cases of which 42 referred to restructuring aid (London Economics, 2004, p.7-9).

Our database extends over almost 14 years (13 years plus January-April 2013) and includes 114 cases of restructuring aid.

More information on the data base is given in the document that is on the website of the College of Europe and can be accessed via this link: <https://www.coleurope.eu/beer27annex>

	Period	Restructuring aid observations
London Economics (2004)	1995-2003 (9 years)	42
Our database (2013)	2000-2013 (14 years)	114

The data have been extracted from the case search engine of the European Commission's website devoted to state aid.⁹ We have used only those cases that were related to "one-time" aid. Therefore, we have excluded state aid schemes (which were very numerous, especially for SMEs). We have also excluded all the cases related to the financial sector (banks, insurance companies, etc) because they have been the subject of much recent research already and because non-financial firms have been relatively neglected.

Total number of measures obtained from search engine	236	(100%)
State Aid schemes for SME or for entire sectors.	-60	(-25%)
State Aid for Financial Institutions	-23	(-10%)
Repeated companies (e.g. modification of a restructuring plan)	-19	(-8%)
Other reasons	-20	(-8%)
Total number of measures analysed	114	(49%)

⁹ <http://ec.europa.eu/competition/elojade/isef/index.cfm>

Public policy objectives that may justify R&R aid

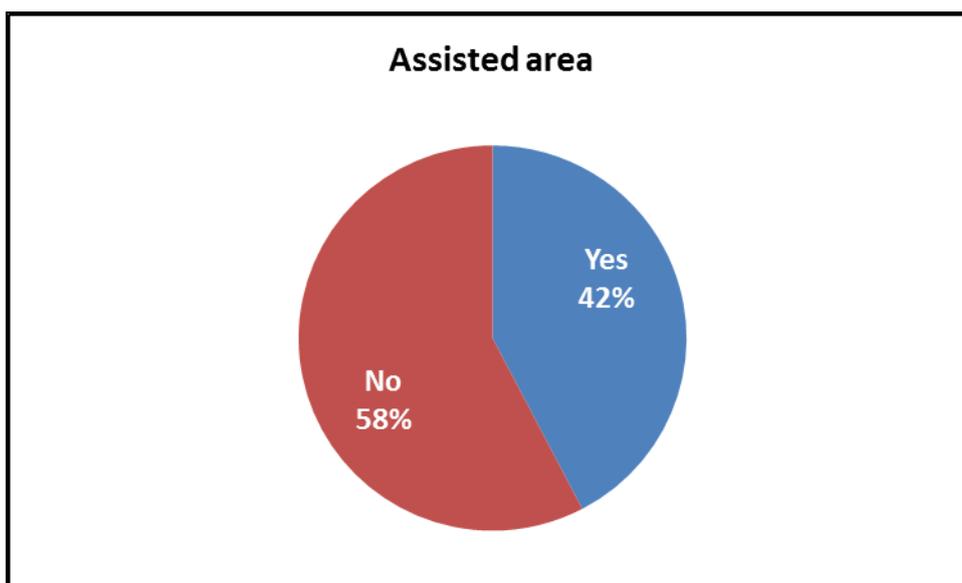
It may appear surprising but in most decisions the Commission did not specify what was the objective (of the three explicitly defined in the RRG) that justified the granting of state aid. Furthermore, the four cumulative conditions for the compatibility of R&R aid do not require that Member States specify their policy objective, apart, of course, of the intention to rescue or restructure the aid recipients.

Of all the cases in our database, only 22 (28% of cases where the Commission approved state Aid) contained a clear statement on the policy objective of the aid. Perhaps it is assumed as self-evident that SMEs have a “beneficial role in the economy”. This would add 32 more observations, raising the percentage to 68% of cases. This leaves us with almost a third of cases where it is impossible to determine the policy objective pursued by the aid.

Companies located in assisted areas

According to the RRG, “the Commission must take the needs of regional development into account when assessing restructuring aid in assisted areas. The fact that an ailing firm is located in an assisted area does not, however, justify a permissive approach to aid for restructuring; (...).”¹⁰

Regional policy concerns (or equity objectives, as opposed to efficiency objectives) may be used to justify R&R aid. So the question that arises is whether firm failure tends to affect more under-developed regions. The information we can extract from the data base indicates the opposite. About 60% of R&R cases were not in assisted areas.

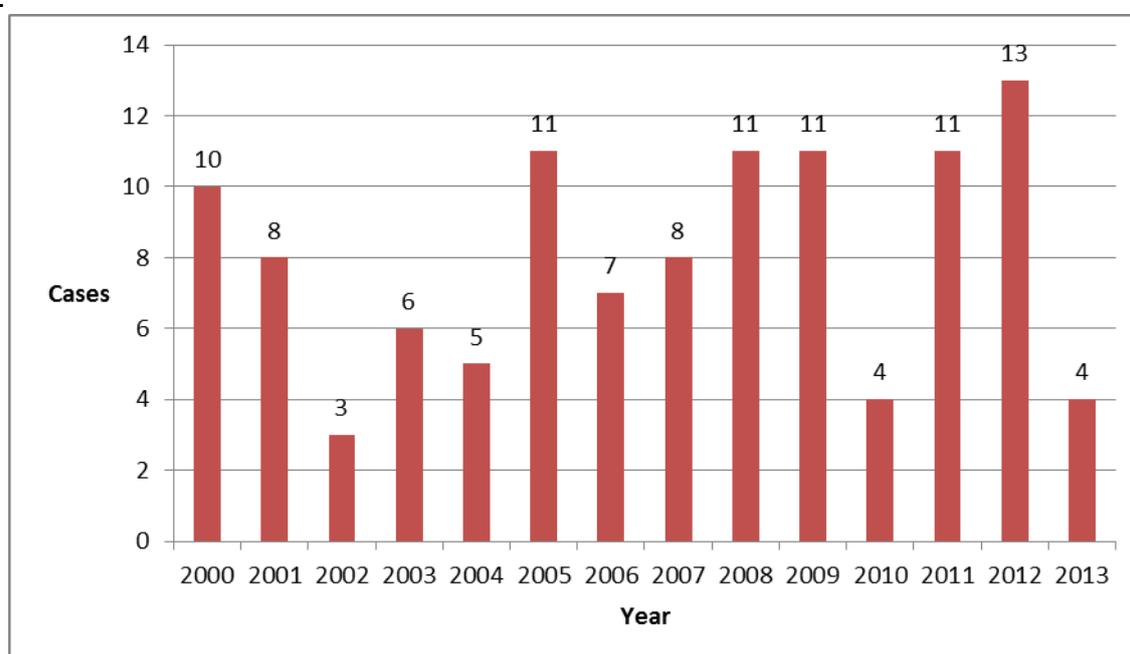


¹⁰ European Commission (2004), paragraph 55

We see that the number of companies restructured in non-assisted areas is higher than the ones in assisted areas. It is difficult to argue in favour of R&R aid as a remedy to unemployment problems in non-assisted areas. In these areas, even if a large firm goes bankrupt, its workers are more likely to find a new job. It appears, therefore, that a policy objective that may have some legitimacy – preventing bankruptcy from worsening unemployment in assisted areas with few job opportunities – is used geographically far wider than what can be justified in principle.

Number of state aid measures over time

The following graph shows the number of cases concerning restructuring aid



The average annual number of cases is 8.46 (a total of 110 cases for 13 years). Although the numbers for some years are very similar, over the period there is significant annual variation.

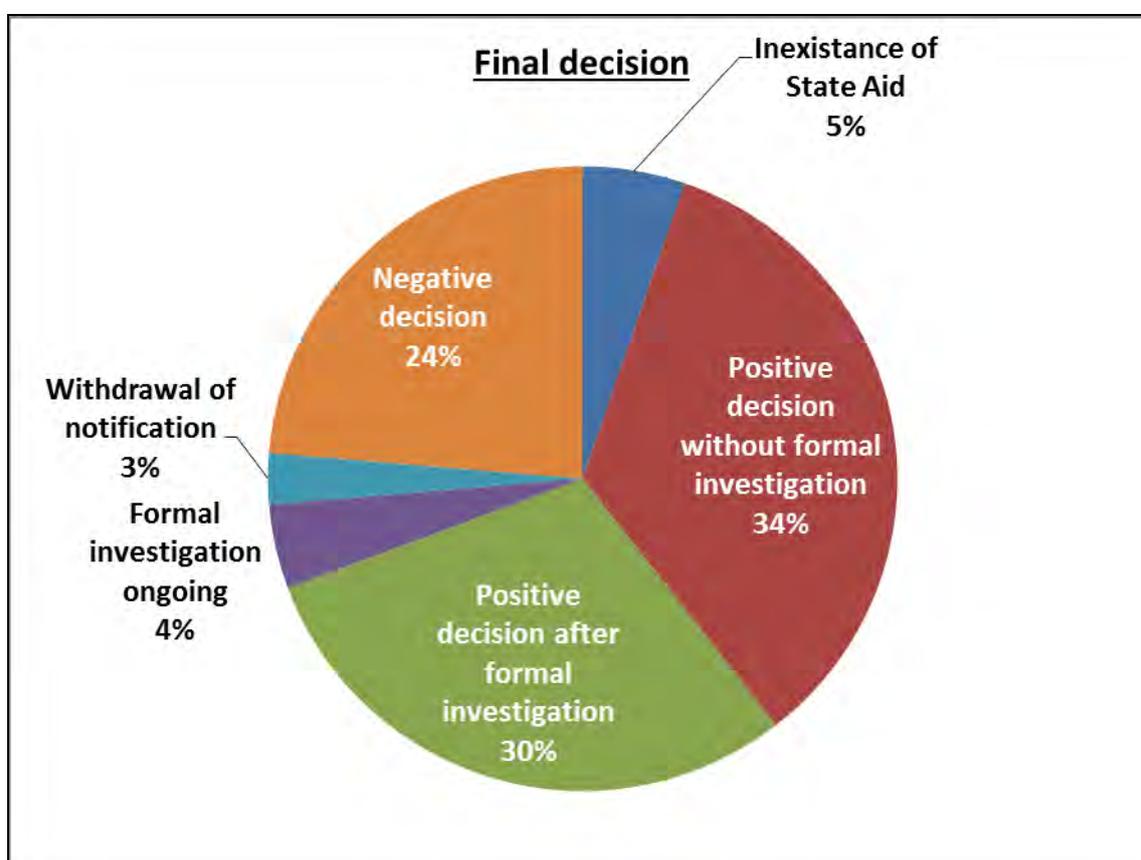
In 34% of the cases, the Commission had “no objections”. These are the simplest cases, where the Commission considers with no serious doubt that the public measures comply with all the requirements established in the RRG and therefore a formal investigation is not needed. In another 5% of the cases, the Commission found no state aid. Taken together, for 39% of the cases the Commission decided not to open a formal investigation.

By contrast, in 61% of notifications received, the Commission expressed its doubts about the compatibility of the aid with the internal market and decided to

open a formal investigation. In half of these cases, or 30% of the total, the Commission closed the investigation with a finding of compatibility and conformity with the RRG.

On the contrary, in 40% of the cases formally investigated, or 24% of the total, the conclusion was negative with a finding of incompatibility. This is a very high proportion. Given that about 85% of notified cases is approved, the level of 24% of prohibited restructuring aid is twice as high. However, when considering that of all formally investigated cases, about 40% are prohibited or conditionally approved, then the 40% level is fairly comparable.

During the period, restructuring cases have been closed with the following outcomes:

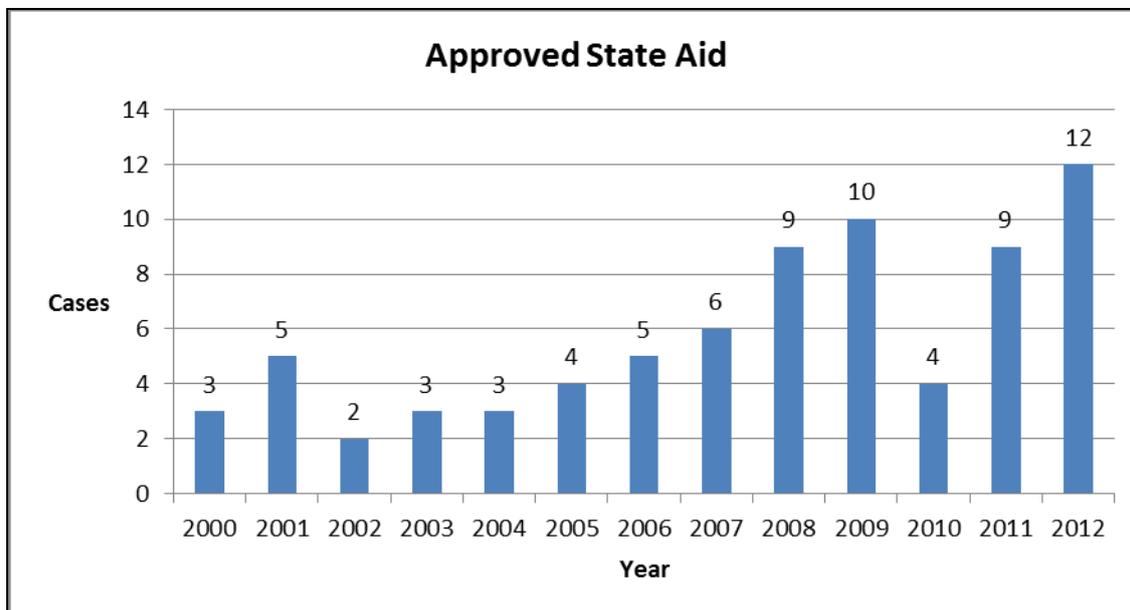


If we focus only on state aid (see figure below) that was approved by the Commission, we can see a more explicit upward pattern over time.

The dip in 2010 may be the result of the application of the so-called “Temporary Framework” to address the economic crisis, which expired at the end of 2011. Under that Framework, Member States were allowed to grant aid to firms in difficulty, provided that their difficulty started after July 2008.¹¹

¹¹ OJ C 83, p.1 (7.4.2009) and C 6, p.5 (11.1.2011)

It is rather obvious that the adoption of the current RRG in 2004 has not resulted in a reduction of the number of cases

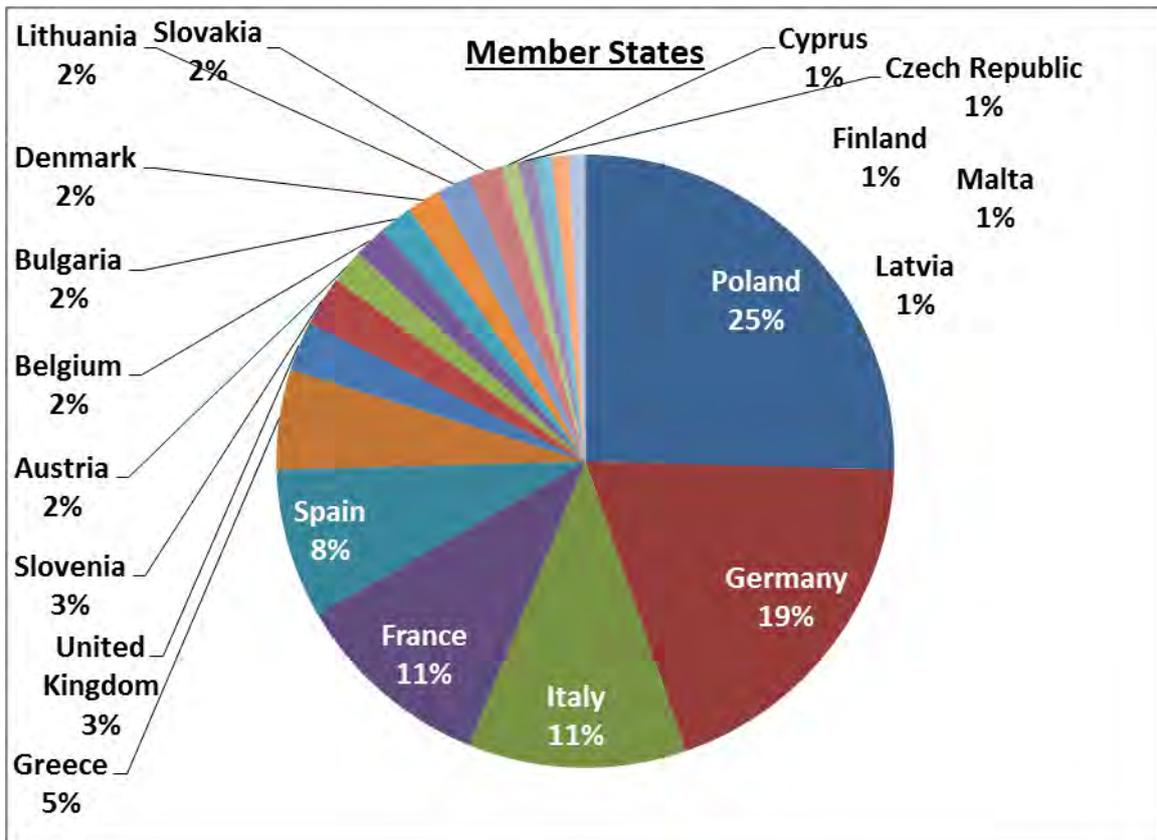


Member States granting state aid

During the period 2000-2013 only 19 out of 27 Member States notified measures of restructuring aid. They are shown in the graph below and then with more detail in the table that follows.

Poland is the country with the highest number of measures. This is rather surprising because Poland has a middle-sized economy with fewer firms. Germany was indeed the second largest state aid provider over the period. Other countries that have regularly made use of restructuring aid are Italy (13 measures, 11 authorised), France (12 measures, 8 authorised), Spain (9 measures, 6 authorised) and Greece (6 measures, 3 authorised).

These six countries account for over 80% of all cases in the EU! One might say, then, that restructuring aid is a minority phenomenon (22%) among Member States. Of those six countries, the most successful in terms of having its aid approved was Italy with a success rate of 85%.

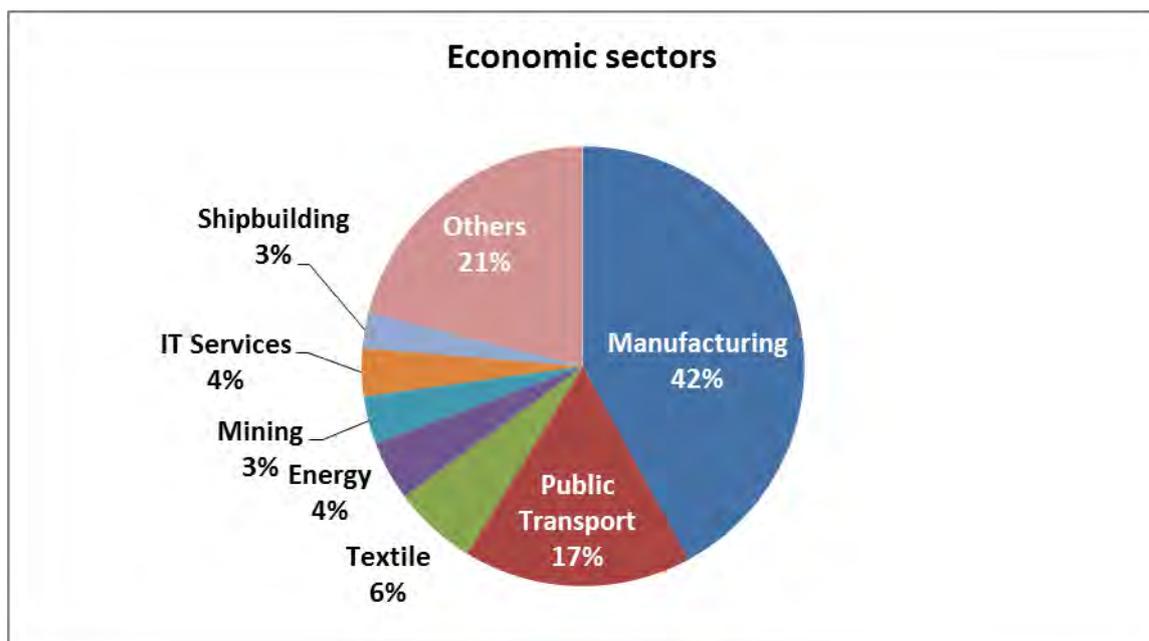


Member State	Total	Permitted	Prohibited	Ongoing	Ratio
1. Poland	29	24	5	0	83%
2. Germany	22	11	11	0	50%
3. Italy	13	11	2	0	85%
4. France	12	8	4	0	67%
5. Spain	9	6	3	0	67%
6. Greece	6	3	2	1	50-66%
7. UK	3	3	0	0	100%
8. Slovenia	3	2	0	1	67-100%
9. Austria	2	2	0	0	100%
10. Belgium	2	1	0	1	50-100%

11. Bulgaria	2	0	1	1	0-50%
12. Denmark	2	1	1	0	50%
13. Lithuania	2	2	0	0	100%
14. Slovakia	2	1	1	0	50%
15. Cyprus	1	1	0	0	100%
16. Czech Republic	1	1	0	0	100%
17. Finland	1	1	0	0	100%
18. Latvia	1	0	0	1	0-100%
19. Malta	1	1	0	0	100%

Economic sectors

Although over the 114 cases that we have studied there are companies of practically every economic sector, we can find some sectors whose presence is more prominent and regular. Manufacturing is by far the most represented sector benefitting from about 42% of public interventions. Within this sector we can find very different companies.

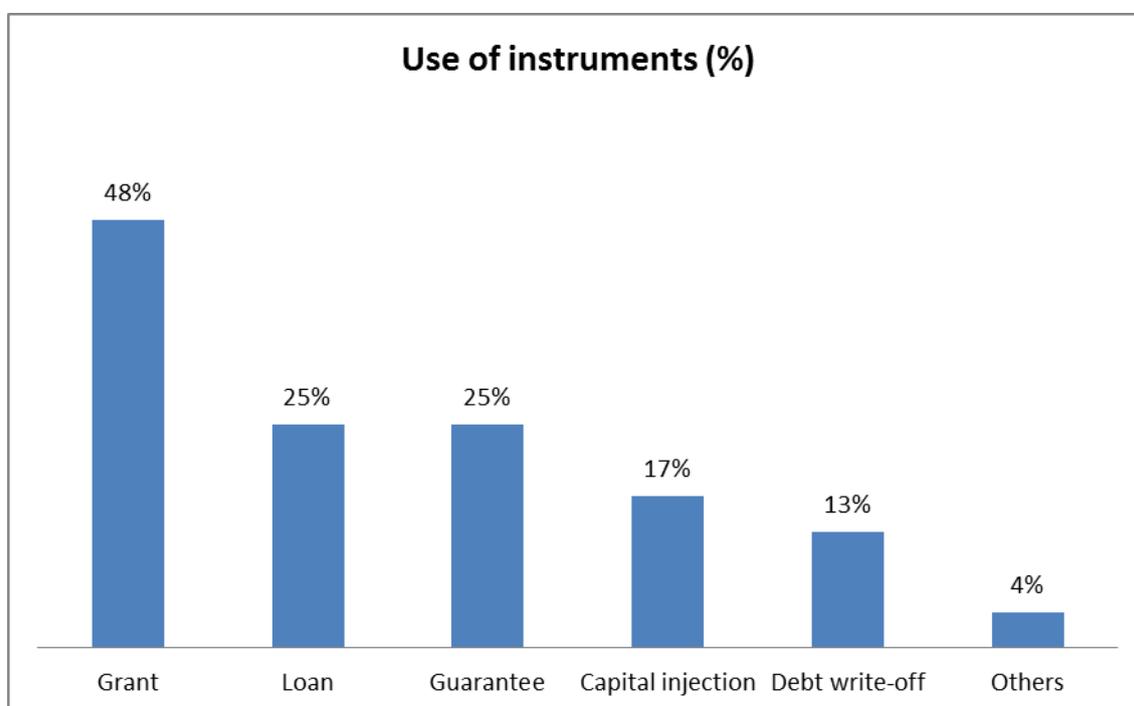


Amount and instrument of aid

We can distinguish six different instruments: grants, capital injections, loans, debt write-offs, public guarantees on loans granted by private banks, lower than market prices in the sale of public assets in the context of restructuring (so that they can be acquired more cheaply by the new owners) or higher than market prices in the purchase of private assets in the context of restructuring (so that they can generate more revenue for the companies that sell them).

Firms undergoing restructuring may also obtain other advantages such as permission to dispose assets through expedited legal process. This, however, does not constitute state aid as long as there is no transfer of state resources or no assumption of liability by the state.

The following graph shows the different instruments used by Member States to support their ailing companies:¹²



As we see, the most used instrument is a direct grant. Almost half of the companies restructured receive some kind of grant from the state. Loans and guarantees together are also used by about 50% of the aid recipients.

If we combine the analysis of instruments and Member States, we can determine what is the “favourite” instrument used by each Member State.

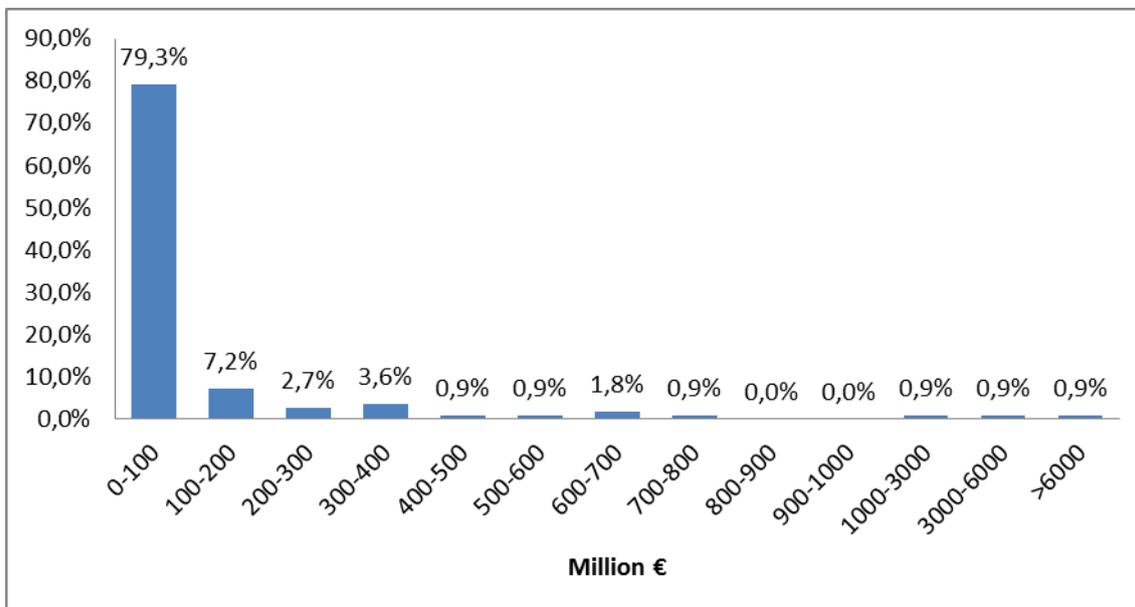
¹² To correctly interpret this graph, it is important to bear in mind that usually several instruments are used to help the same company, and this is why the sum of percentages is greater than 100%.

As can be seen, for most of the countries, grants are the most often used instrument. Some countries, such as Belgium, Cyprus, the Czech Republic and Malta have only used capital injections, although the very low number of cases for these countries does not allow us to generalise.

Member State	Most used instrument	% of cases	Times used
Austria	Grant	50%	1
Belgium	Capital Injection	100%	1
Cyprus	Capital Injection + Guarantee	100%	1
Czech Republic	Capital Injection	100%	1
Denmark	Loan + Guarantee	100%	1
Finland	Loan	100%	1
France	Grant	50%	4
Germany	Grant	64%	7
Greece	Grant	67%	2
Italy	Grant	77%	8
Lithuania	Write-off	100%	2
Malta	Capital Injection	100%	1
Poland	Grant	46%	11
Slovakia	Write-off	100%	1
Slovenia	Grant	100%	2
Spain	Guarantee	50%	3
UK	Grant	67%	2

When the aid is in the form of a grant, it is fairly easy to calculate the amount of aid, in terms of the gross grant equivalent (GGE). If the aid is a loan, the GGE is the difference between the interest that should be required by the creditor in market conditions, and the interest actually charged by the state. Often, the Commission argues correctly that although a loan is given at a market rate of interest and terms, such rate and terms apply to healthy companies and that no rational private investor would give a loan on these conditions to an ailing firm. The GGE of aid in guarantees is the difference between the often free guarantee and the commercial premium that would have been paid for an equivalent loan.

The average amount of aid in our database is €162,000 and the median aid is €8.5 million. This clearly indicates a very skewed distribution, as can be observed in the following graphs which are expressed in millions of euro. About 80% public interventions involve amounts of less than €100 million.



During the period 2000-2013, the largest interventions have been the following: London and Continental Railways (UK, 2008).¹³ This was a package of grants, loans and loan guarantees provided by the British government with an astonishing total value of more than €6,000 million. This aid was approved by the Commission without even opening a formal investigation.

Alstom (France, 2004).¹⁴ Alstom manages nuclear plants in France and it needed public support to carry out its restructuring process. The aid, more than €3,000 million, was granted through capital injections, loans and guarantees. This aid was finally approved by the Commission after formal investigation.

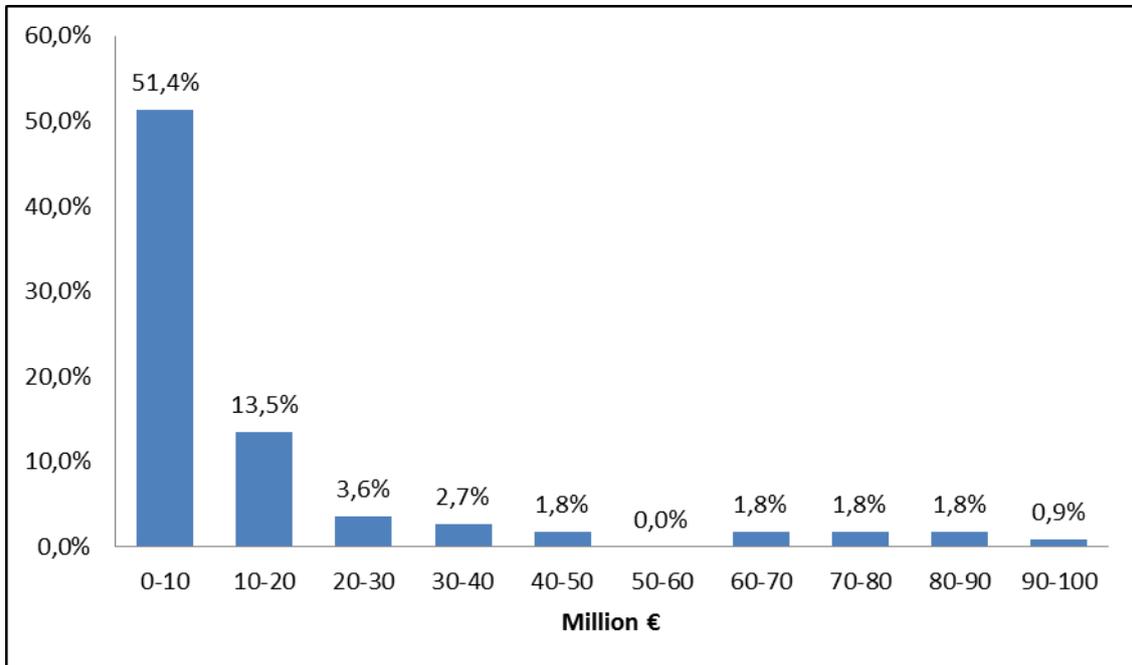
Trainose (Greece, 2011).¹⁵ As a consequence of the deep recession that Greece is currently suffering, the national railway company is almost bankrupt. In order to partially support the restructuring of the company, the Greek government has proposed a package combining public debt write-offs and injections in equity, with a total value of €1,070 million. The Commission has already expressed its concerns and has opened a formal in-depth investigation which is not yet concluded.

¹³ Press release: http://europa.eu/rapid/press-release_IP-09-761_en.htm

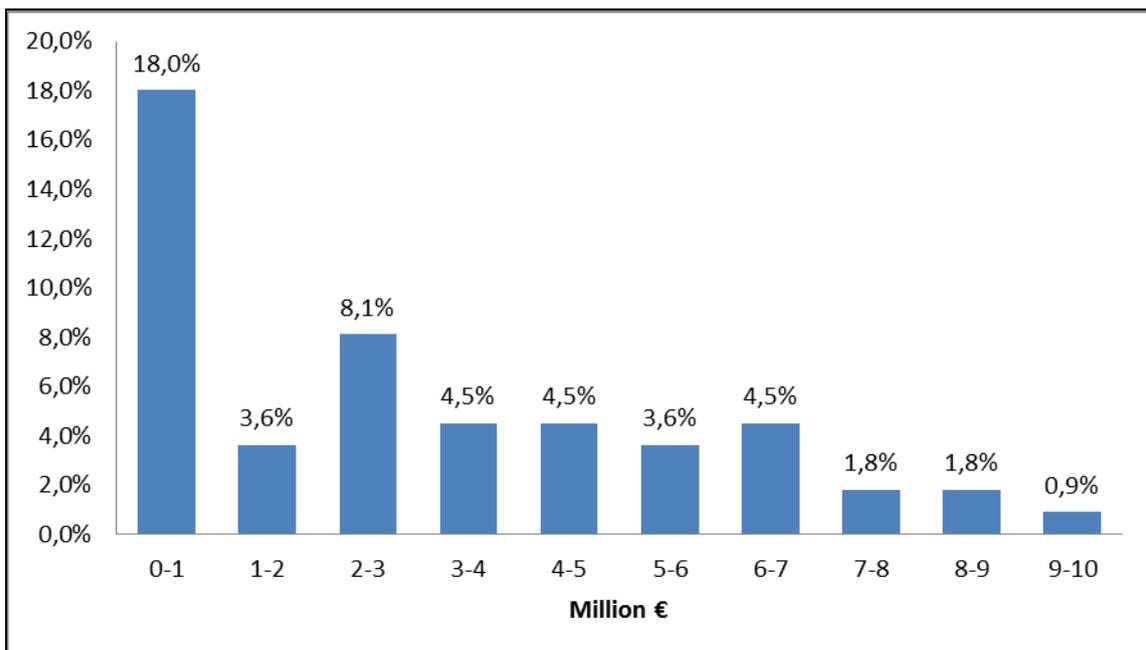
¹⁴ Press release: http://europa.eu/rapid/press-release_IP-04-859_en.htm#PR_metaPressRelease_bottom

¹⁵ Press release: http://europa.eu/rapid/press-release_IP-11-866_en.htm

However, these large amounts of aid are exceptional. Yet, if we examine in more detail the group below €100 million, the pattern is still very similar.



More than half of all companies (51.4%) receive less than €10 million, and only a 13.5% of the cases involve aid between €10 million and €20 million. If we focus on the smaller group of aid below €10 million, we derive the following distribution:



In summary, 18% of public support has been smaller than €1 million; 51% of the total has been smaller than €10 million; and 79% of the total has been smaller than €100 million.

There still remains a non-negligible 21% of the total interventions above €100 million, some of which are truly large (2.7% of the total interventions surpass €1,000 million).

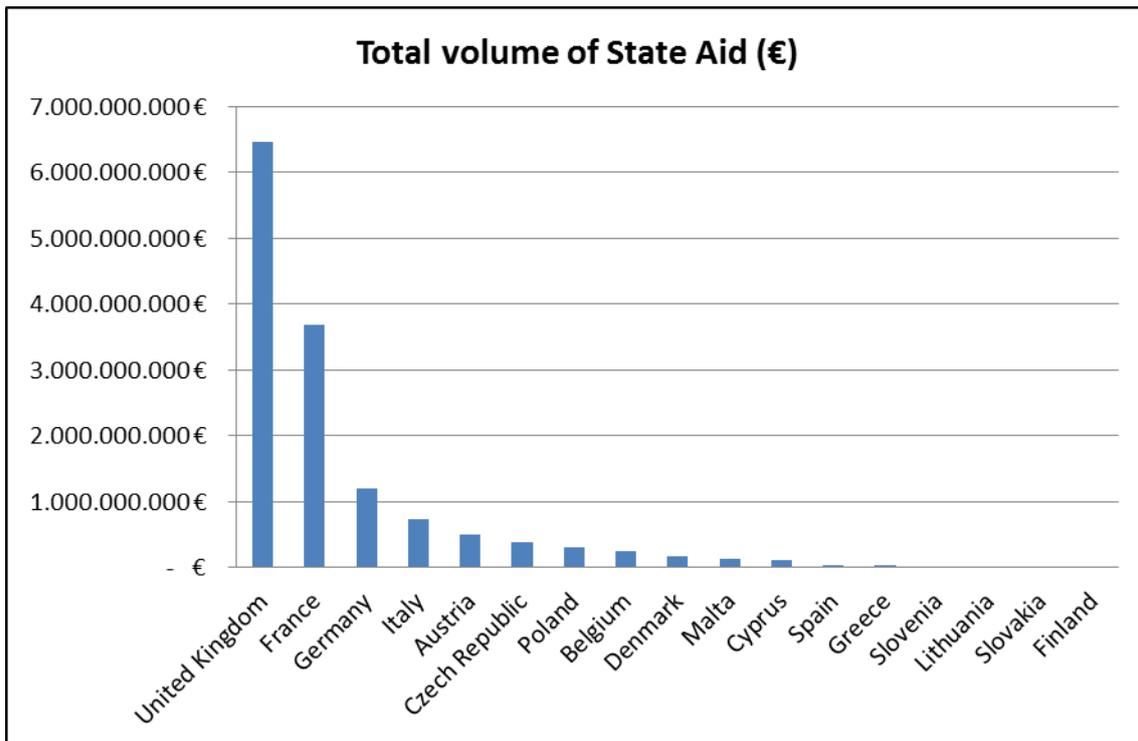
We can also look at the average amount of aid per Member State.

Member State	Total aid (€)	Observations	Average aid (€)
UK	6,466,212,994	2	3,233,106,497
France	3,694,530,000	8	461,816,250
Germany	1,199,289,100	11	109,026,282
Italy	731,019,972	11	66,456,361
Austria	500,400,000	2	250,200,000
Czech Republic	385,000,000	1	385,000,000
Poland	303,670,990	23	13,203,087
Belgium	240,000,000	1	240,000,000
Denmark	178,750,000	1	178,750,000
Malta	130,000,000	1	130,000,000
Cyprus	113,000,000	1	113,000,000
Spain	41,736,512	6	6,956,085
Greece	31,320,000	3	10,440,000
Slovenia	12,000,000	2	6,000,000
Lithuania	8,460,000	2	4,230,000
Slovakia	440,000	1	440,000
Finland	300,000	1	300,000

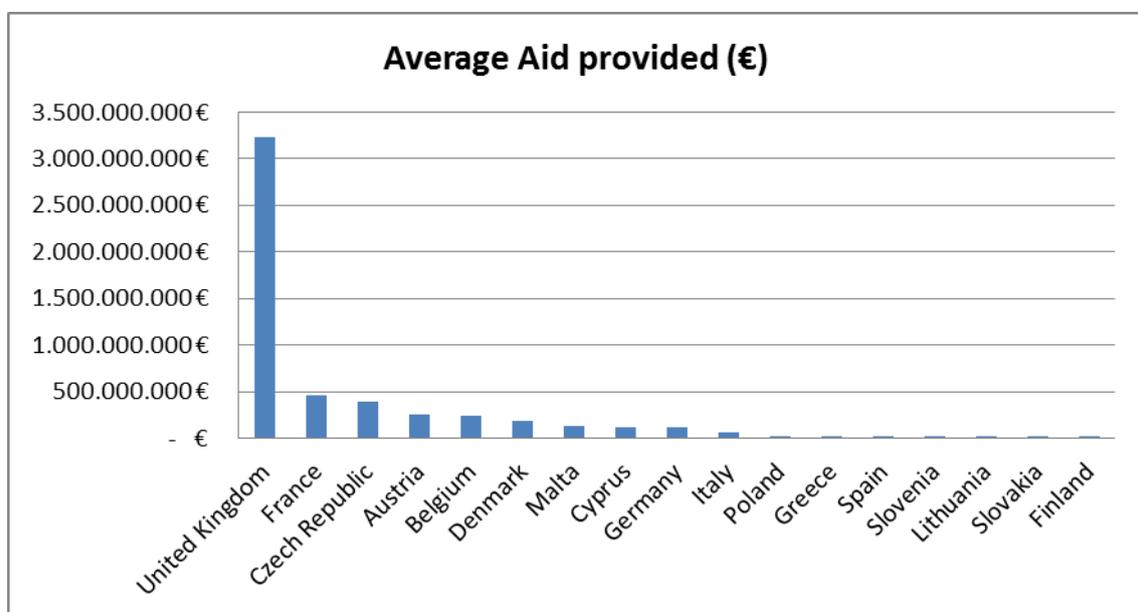
It is also interesting to examine the total amount of aid granted per Member State. We can see that the ranking changes significantly.

The UK has granted the largest total volume of aid in the period. However, this is only due to the restructuring of London Continental Railways (2008), which has been the largest state aid registered in our database. The second Member State in terms of total aid is France where the restructuring of Alstom (2004) has also been a major case. France is followed by Germany, Italy and Austria.

By contrast, Poland, which is the country with the higher number of interventions, ranks only seventh in terms of volume of aid. This shows that the typical intervention of Poland involves smaller amounts.



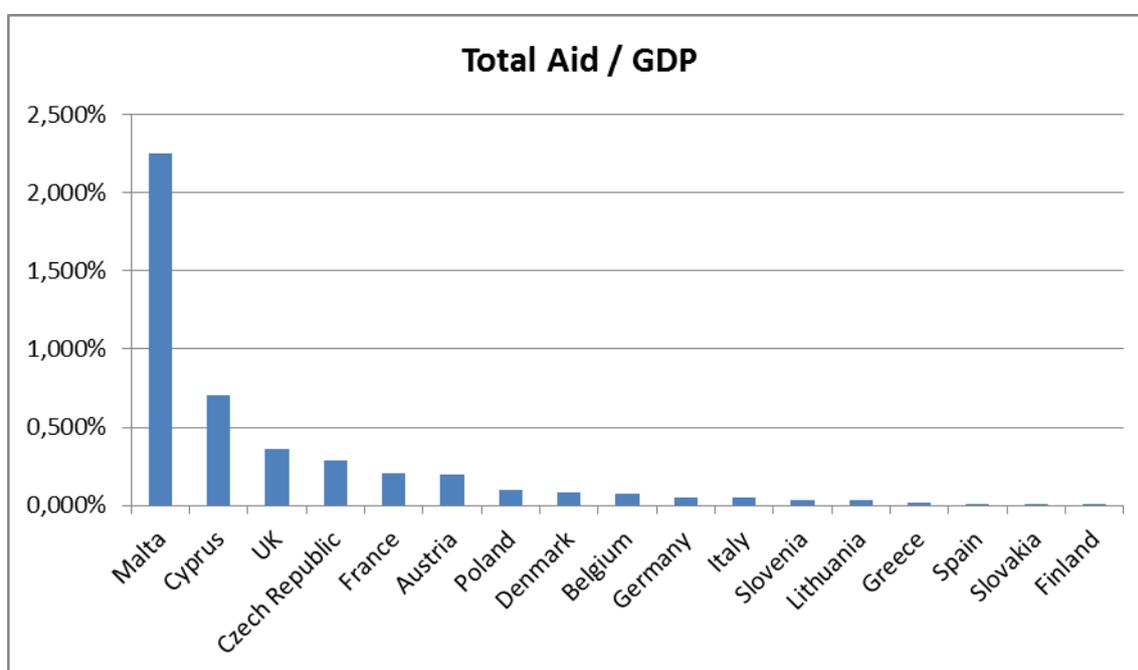
If we plot the average intervention we obtain the following ranking:



The UK is the country with the largest average intervention, again because of London Continental Railways. France is still second, but very far from the UK. France has implemented numerous measures, with an average of €500 million. Not far from France we find the Czech Republic and Austria.

Germany, Italy and Poland, countries with a large number of companies that have undergone restructuring with public support, use lower amounts of aid on average and come after smaller countries such as Belgium or Denmark.

This variation in the average amount of aid, that seems unrelated to the size of the country, suggests that aid is not optimised to remedy market failure. Indeed, when we measure the amount of aid as a proportion of the GDP of the country a very different ranking emerges. It is very small states that come at the top. This is most likely the result of the restructuring of a company that was large in proportion to the size of the national economy. However, with the exception of the UK, the largest grantors of aid, Germany, France and Italy, now come in the middle of the ranking.



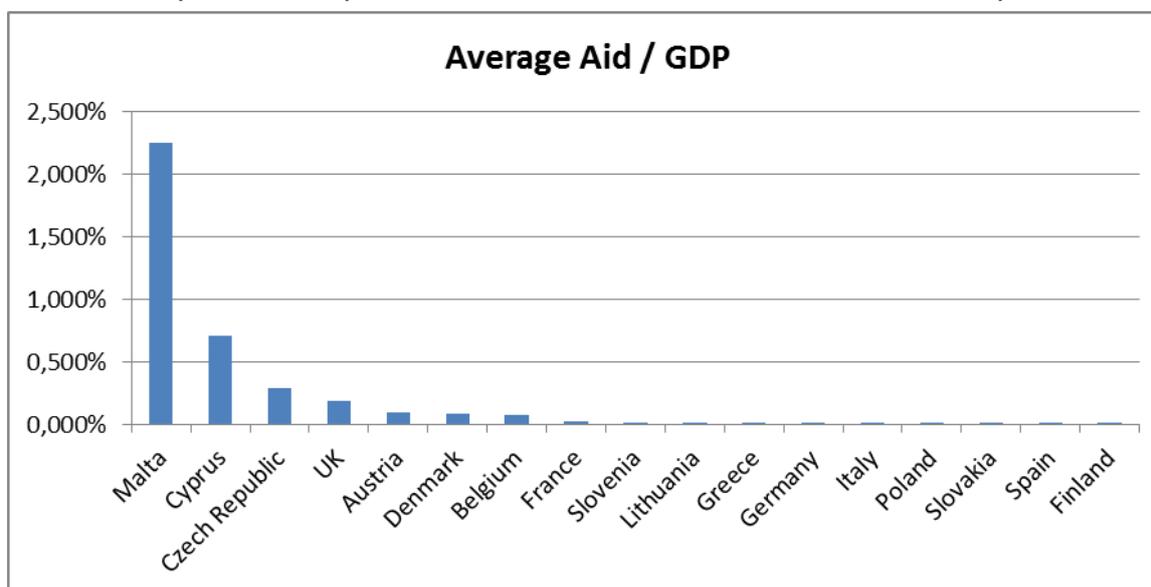
The next table shows the results of taking the average aid amount as a proportion of GDP.

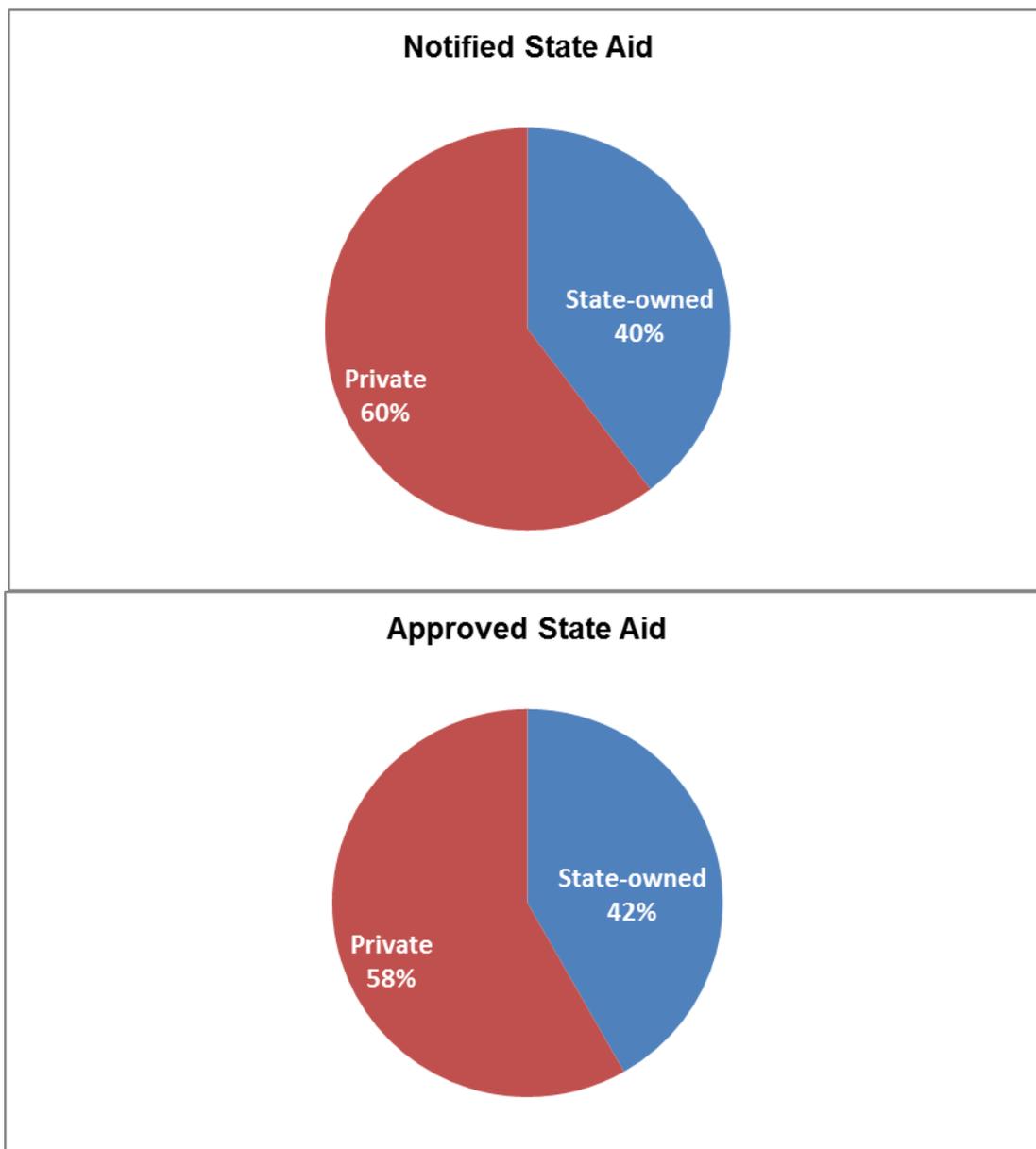
Member State	Observations	Average aid (€)	GDP (€million)	Average aid / GDP
Malta	1	130,000,000	5,771.60	2.252%
Cyprus	1	113,000,000	16,005.43	0.706%
Czech Republic	1	385,000,000	133,430.37	0.289%

UK	2	3,233,106,497	1,765,838.08	0.183%
Austria	2	250,200,000	256,700.82	0.097%
Denmark	1	178,750,000	212,073.83	0.084%
Belgium	1	240,000,000	315,067.85	0.076%
France	8	461,816,250	1,762,606.47	0.026%
Slovenia	2	6,000,000	33,516.48	0.018%
Lithuania	2	4,230,000	26,933.73	0.016%
Greece	3	10,440,000	193,247.13	0.005%
Germany	11	109,026,282	2,320,992.31	0.005%
Italy	11	66,456,361	1,443,863.74	0.005%
Poland	23	13,203,087	312,344.37	0.004%
Slovakia	1	440,000	56,160.54	0.001%
Spain	6	6,956,085	916,119.62	0.001%
Finland	1	300,000	164,360.92	0.000%

Ownership of aid recipients

In the period 2000-2013, 60% of the notifications from Member States concerned private companies and 40% were about state-owned companies.





If we compare the profile of state-owned and private companies, we find that subsidised state-owned companies are usually much bigger than private companies, both in terms of workers (4,233 workers on average for state-owned companies, against 828 workers for private companies) and in terms of turnover (€655.8 million against €86.7 million). They also receive a larger amount of aid (an average subsidy of €183 million for state-owned companies against €148 million for private companies).

Poland is definitely the Member State with the highest share of subsidised state-owned companies, with 22 out of 29 (76%). This contrasts with the other big countries, where the share is much lower (Germany: 15%, Italy: 15%, France: 25%).

It is also noticeable that many of the countries that have intervened in favour of only one or two companies, have done so for state-owned companies, such as the Czech Republic, Denmark, Latvia or Malta. None of these countries have contributed in the restructuring of any private company.

Market share of ailing companies

As would be expected, aid recipients are important employers in their region. This is shown in the table below where the average regional share is almost twice as large as the national share. This is also why regional organisations and authorities lobby hard in favour of R&R aid [see, for example, the views of the Committee of the Regions on the reform of the RRG, OJ C 139, 17/5/2013, p. 17].

Relevant Market	Average Market Share
Regional	38.6%
National	21.1%
European	1.5%

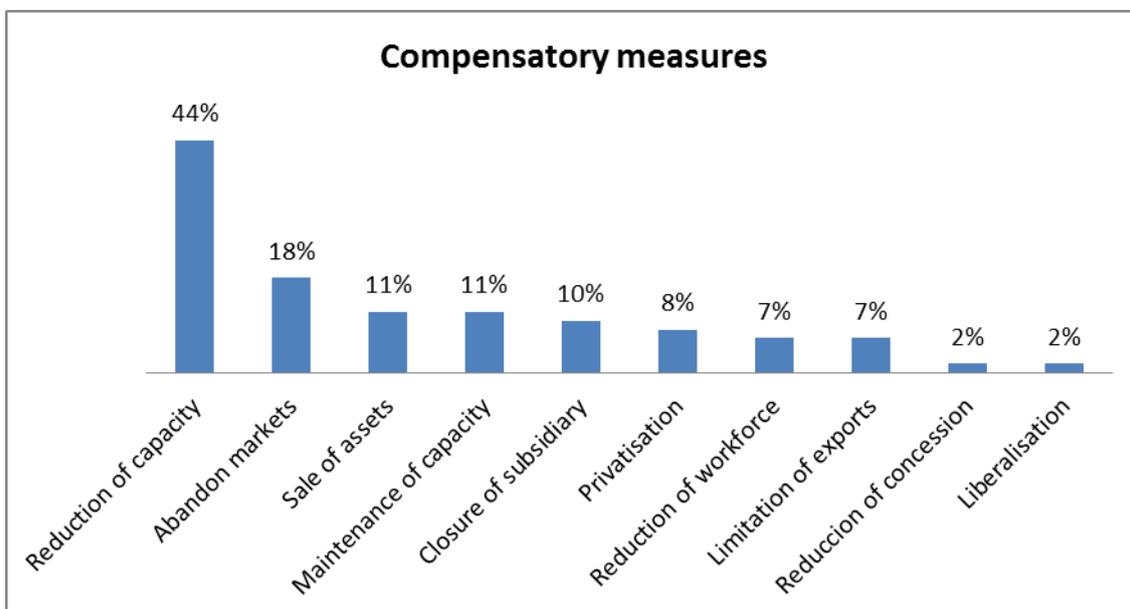
The typical firm that receives restructuring aid is quite large, with an average market share in its region of more than 38%. Nationally, the average share is also quite large and exceeds 20%. These shares suggest that companies receiving restructuring aid do have a non-negligible impact on their local economies. This may justify government intervention to prevent their bankruptcy. At the same time, however, such large market shares indicate that R&R aid is also more likely to have a non-negligible effect on competition. In this connection, it is right that the RRG impose on aid recipients the obligation to offer compensatory measures to mitigate the distortion of competition caused by R&R aid.

Compensatory measures

The compensatory measures offered by restructuring firms are one of the principal requirements of the RRG, and one of the more interesting economic aspects of R&R aid.

Small firms benefit from more favourable treatment, since the 2004 RRG do not require compensatory measures by them. This is due to the belief that state aid for these companies causes only a small distortion of competition.

During the period 2000-2013 our database indicates that the most frequent types of compensatory measures are the following:¹⁶



By far the most frequent compensatory measure is reduction of capacity. It is used in 44% of cases. In 18% of cases, companies exited one or several market segments where they were operating before the restructuring. These can be either geographical (i.e. another Member State) or product markets. In the literature this has also been developed as somehow contrary to the idea of the single market (see for example, Lyons et al (2008)).

Own contribution

In order to ensure that R&R aid is limited to the minimum necessary, the RRG require beneficiaries to assume a large enough share of the restructuring costs. This is the so-called “own contribution”. Large firms have to contribute at least 50%, medium-sized and small firms are only required to contribute 40% and 25%, respectively.¹⁷

According to the data in our database, the average own-contribution during the period 2000-2013 was 53%. By grouping companies according to their size and dividing each group into two periods – before and after the adoption of the current RRG – we can observe a substantial increase in own-contributions.

¹⁶ Since for the same company the Commission sometimes requires or the Member States propose several compensatory measures, the sum of percentages equals more than 100%.

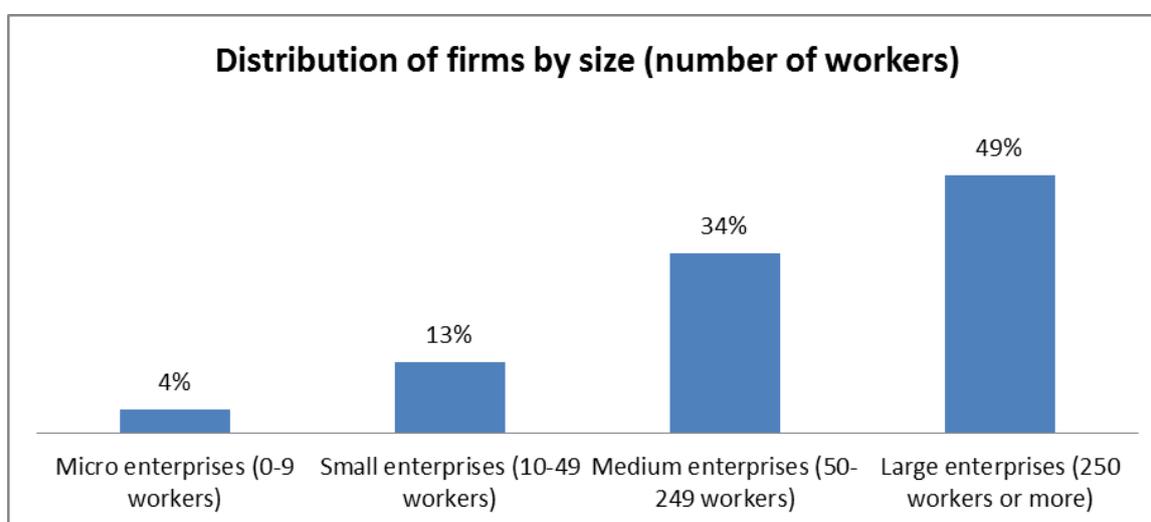
¹⁷ European Commission (2004), paragraph 44.

Average own contribution	2000-2004	2005-2013
Small firms	17%	47%
Medium-sized firms	40%	51%
Large firms	56%	63%

Not only are the own-contributions mostly larger than the minimum required by the RRG but they also rise in the second part of the period 2000-2013. This increase across the board reduces the amount of state aid and that must be good for avoiding distortions to competition. In some cases in the period 2000-2004 the contributions were very low [e.g. see KHK Verbindetechnik (Germany, 2001)¹⁸, where the Commission permitted a restructuring aid with own-contribution of only 11.5%].¹⁹

5. Economic value of subsidising employment in ailing firms

The distribution of firms according to their number of workers is also highly uneven, as can be noted in the following graphs:

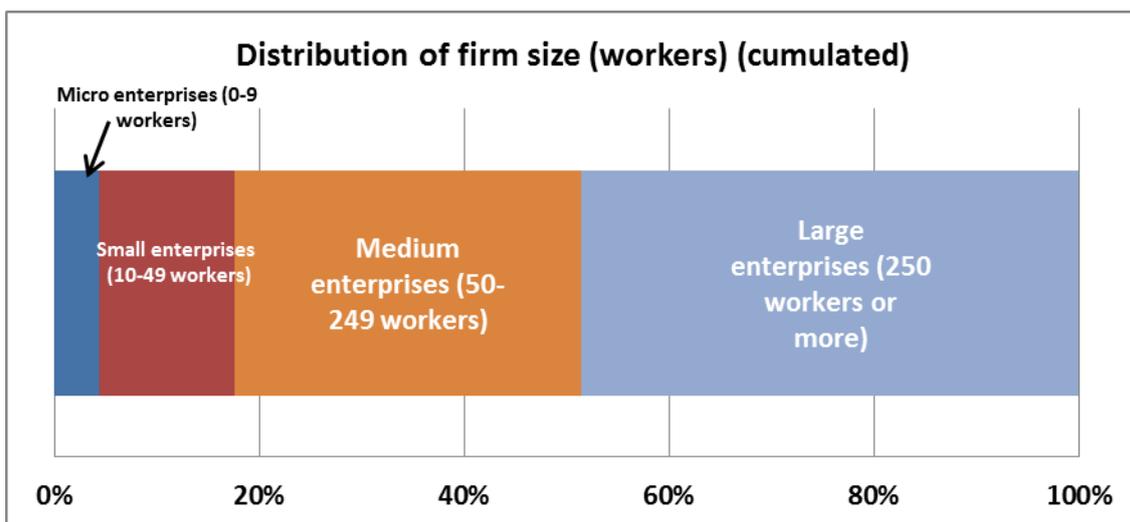


Small firms with fewer than 50 workers made up 17% of the total number of firms that received aid. Medium-sized firms with 50 to 250 workers made up 34% of the total. Together SMEs account for 51% of the firms that received aid.

¹⁸ Commission Decision C(2001)1781.

¹⁹ The Commission justifies this because the firm was a SME and it was located in an assisted area.

We have data on employment of about 67 firms that received state aid (about 85% of the total). The overall number of jobs of these firms is 137,963. The total amount of aid granted to these firms is €5,946 million. A simple division shows that the amount of aid per job saved is €49,293. It is important to note that this amount is likely to be an underestimate because the number of jobs that are eventually saved is likely to be lower.



Firms undergoing restructuring always reduce their workforce, as overstaffing is one of the typical causes of high operating costs and low liquidity. This means that the initial number of 137,963 is eventually lower, which entails that the amount of aid per job that is eventually saved is higher than €49,293.

According to Eurostat²⁰, the average gross salary in Europe is €29,400²¹. Economic theory indicates that the value of output per worker is equal to the wage plus a proportion of the returns to capital. That is, $pQ/L = (wL + rk)/L = wL/L + rk/L = w + rk/L$. We do not have data on the second part of the equation [i.e. the proportion of the returns to capital]. We can surmise, however, that the value of a worker to the employer is equal to the total cost of employing that worker. This is equal to the gross salary plus the employer's social insurance and pension contributions. These are likely to be about 20% of the gross salary. Therefore, by multiplying the average gross salary by 1.2 we obtain a benchmark number of €35,280 as the cost to society from lost output. This implies that state aid of €49,293 is 1.4 times larger than the value of saved jobs or 40% larger than what is needed.

²⁰ http://epp.eurostat.ec.europa.eu/portal/page/portal/labour_market/earnings/main_tables or http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Earnings_statistics_at_regional_level

²¹ Data of 2006

However, there are several important caveats. First, we assume that all jobs are saved, which is unrealistic. Second, we also assume that the workers who lose their jobs do not find another one, at least for a year. This would be a rather pessimistic view for the part of the period before the crisis started in 2008. Moreover, and most importantly, we are not taking into account the costs generated by state aid in terms of distortion of competition in the market.

At any rate, the salary of €29,400 is only the average across sectors. We can refine this benchmark by using data provided by the International Labour Organisation²² and the French Institute Molinari²³ on Average Gross Wages in different manufacturing sectors. We can then compare the actual amount of aid per job where our data permit us to do so. This is indicated in the table below.

The table contains information on 28 cases in the manufacturing sector. These firms come from 8 Member States: France, Germany, Italy, Lithuania, Poland, Slovakia, Slovenia and Spain. The third column shows the number of workers that the company had when it began its restructuring. The fourth column shows the amount of state aid received and the fifth column provides the amount of aid per worker or “cost per worker”. We compare the derived ratios with the average value of saved jobs in the manufacturing sector for each Member State concerned. As we see, there are significant differences among Member States.

Firm	MS	Workers	State Aid (€)	Aid per worker (€)	Average gross salary + employer's social insurance & pension contribution (€)	Aid per worker / (average gross salary + employer's social contribution)
Fagor Brandt	France	2,038	31,000,000	15,211	47,177	32%
Trèves	France	6,500	73,400,000	11,292	47,177	24%
Ilka Mafa	Germ.	45	14,460,500	321,344	50,604	635%
Kaltetechnik						
Wildauer	Germ.	293	23,089,000	78,802	50,604	156%
Kurbelwelle						
KHK Ver-	Germ.	27	1,175,000	43,519	50,604	86%
bindetechnik						
Gothaer Fahr-	Germ.	175	3,948,000	22,560	50,604	45%
zeugtechnik						

²² <http://laborsta.ilo.org/STP/guest>

²³ http://www.langlophone.com/20100526_edition/20100526_EU27_data_table_flipped.pdf

Jahnke Stahlbau	Germ.	60	820,000	13,667	50,604	27%
Gotze Natur- steinwerk	Germ.	8	157,600	19,700	50,604	39%
Lintra Beteiligungs- holding	Germ.	1,000	319,487,000	319,487	50,604	631%
Fiem	Italy	40	2,500,000	62,500	30,256	207%
Keller	Italy	530	15,000,000	28,302	30,256	94%
AB Kauno Ketaus	Lithu.	455	6,460,000	14,198	6,326	224%
AB Vingriai	Lithu.	240	2,000,000	8,333	6,326	132%
FLK Krasnik	Poland	1,898	8,568,000	4,514	8,966	50%
Fabryka Samochodow	Poland	2,236	82,000,000	36,673	8,966	409%
Mesko	Poland	101	500,000	4,950	8,966	55%
KZG	Poland	85	4,052,000	47,671	8,966	531%
Diora	Poland	160	2,125,000	13,281	8,966	148%
Huta Stalowa Wola	Poland	2,400	162,165,700	67,569	8,966	754%
Bison-Bial	Poland	950	7,600,000	8,000	8,966	89%
ZNMR	Poland	80	91,000	1,138	8,966	13%
Sedziszow	Poland	443	2,750,000	6,208	8,966	69%
PZL Debica	Poland	426	3,375,000	7,923	8,966	88%
Stomil	Poland	437	750,000	1,716	8,966	19%
Compel Rail	Slovak.	130	440,000	3,385	9,518	36%
Novoles Straza	Slove.	650	6,000,000	9,231	15,664	59%
Javor Pivka	Slove.	800	6,000,000	7,500	15,664	48%
Porcelanas Principado	Spain	150	3,277,000	21,847	27,506	79%

In about a third of all cases, the aid clearly exceeds 100% of the annual salary such as for example Ilka Mafa (Germany, 2000), Lintra (Germany, 2001), Fabryka Samochodow (Poland, 2005), Huta Stalowa (Poland, 2005) and KZG (Poland, 2010). We find ratios reaching up to 750%, which means that the amount of state aid used to save a job is larger than the production that one of the saved jobs could generate in 7.5 years. Surely, any worker could be retrained and gainfully employed elsewhere in a period of seven years. And for those workers over 57 years of age, it would be cheaper for society to pay them to take early retirement and avoid the distortions of competition from keeping their otherwise inefficient employer artificially live.

What is more revealing is that large and very large absolute amounts of aid result in much higher amounts of aid per worker. This can be the result of the fact that larger firms employ more capital and their restructuring requires significantly larger investment in upgrading outdated technology. But then the inadvertent effect of aid is to assist shareholders and the owners of capital rather than workers. This result is contrary to the formal objectives of R&R aid.

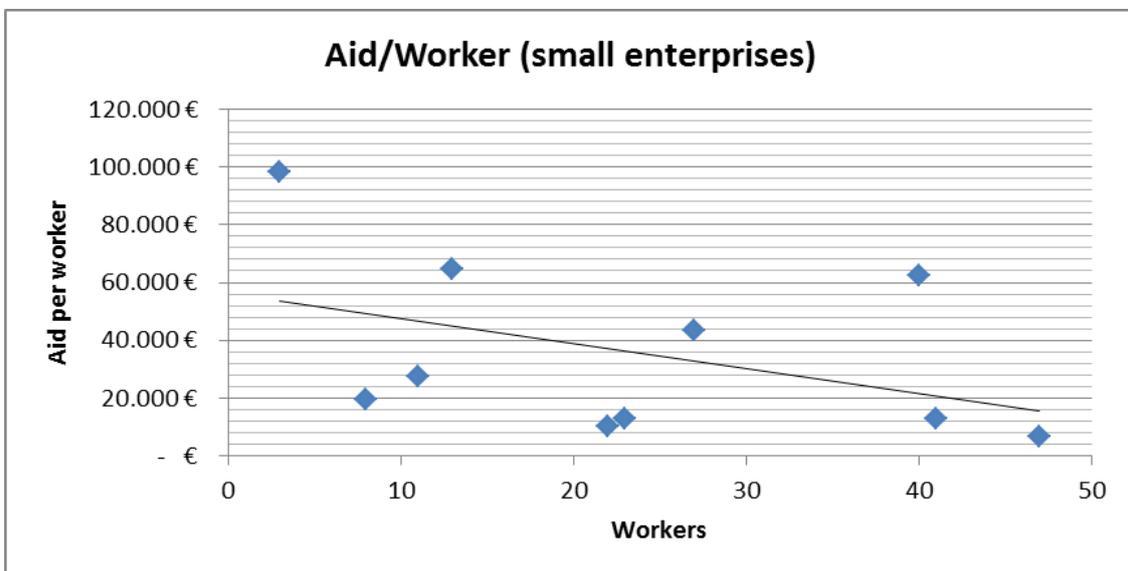
	Average cost per worker (Amount of aid / Worker)
If State Aid < €10 million	€ 26,937
If €10 million < State Aid < €100 million	€ 77,932
If State Aid > €100 million	€ 129,636

However, if we focus on the size of the beneficiary companies, instead of the size of the absolute amounts of aid, then the picture changes. The average amount of aid per worker in small firms is much larger than the average amount of aid in medium-sized or large firms. This does not make much policy sense either. The closure of a small firm is unlikely to have a significant impact on the local economy, so government intervention in such cases is less warranted. The fact that the average amount of aid for small firms is a multiple of annual salaries casts more doubt on the efficiency of intervention to save small firms.

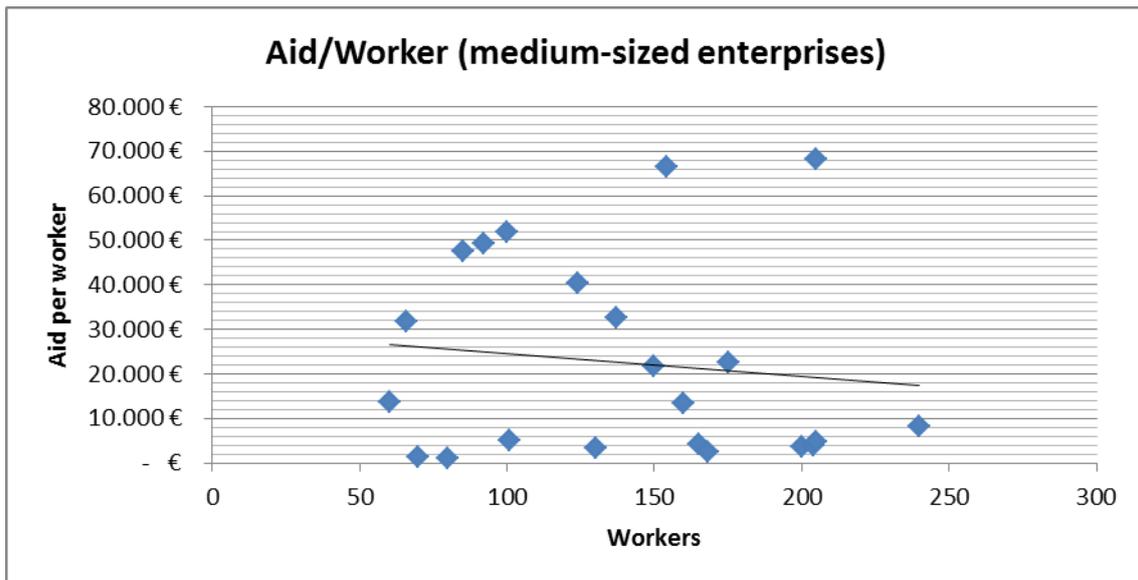
Given these variations, we have also run regressions of the amount of aid per worker against the number of workers in each of the three categories of companies (small, medium-sized and large).

	Average cost per worker (Amount of aid / Worker)
Small enterprises (0-49 workers)	€ 87,916
Medium-size enterprises (50-249 workers)	€ 33,424
Large enterprises (250 or more workers)	€ 43,351

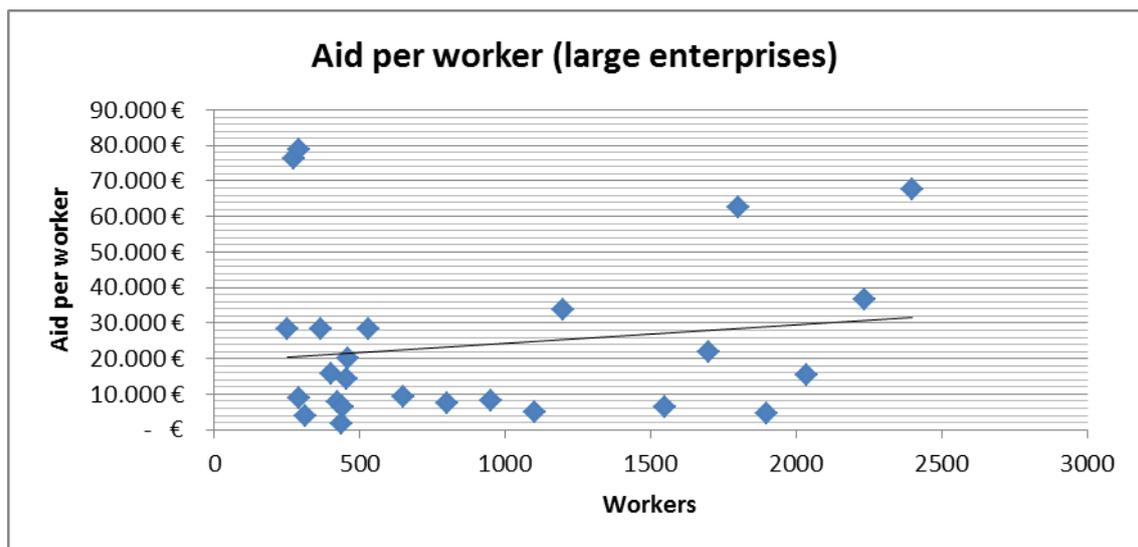
The regression results are indicated below. They show a fairly flat relationship [with low R2] between the average amount of aid and the number of workers. This is indeed more consistent with the formal purpose of R&R aid. What is also interesting is that in the case of small and medium-sized companies the average declines as the size of the company increases. This would suggest that something like economies of scale come into play whereby the effectiveness of one euro of aid increases as the absolute amount of aid increases.



Aid per worker = 56,155 - 863 *workers. R² = 0,1845



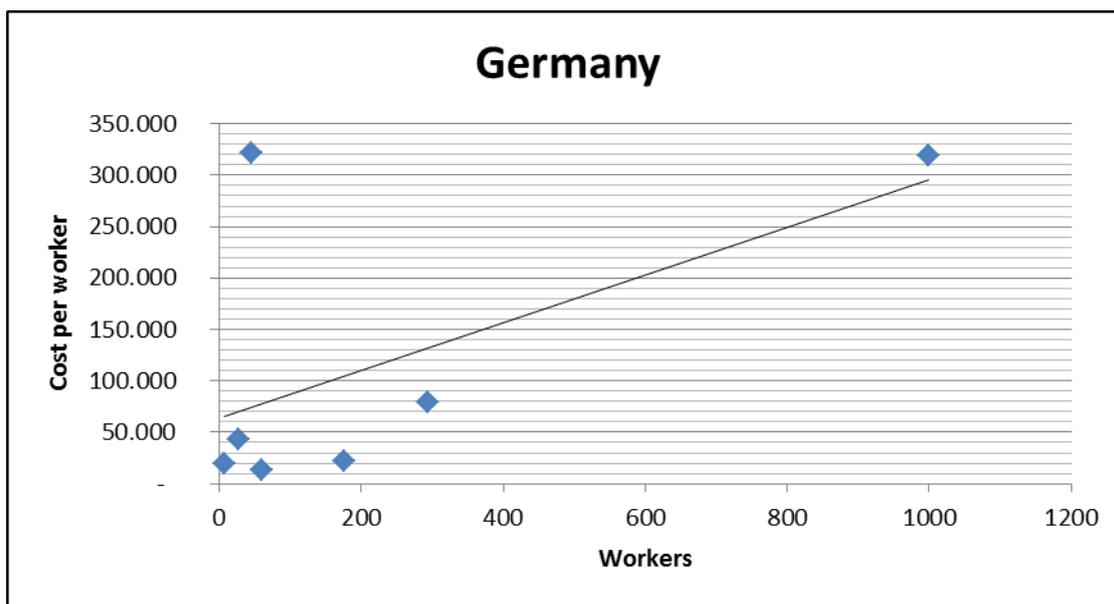
Aid per worker = 29,755 - 51 * workers. R² = 0.0146



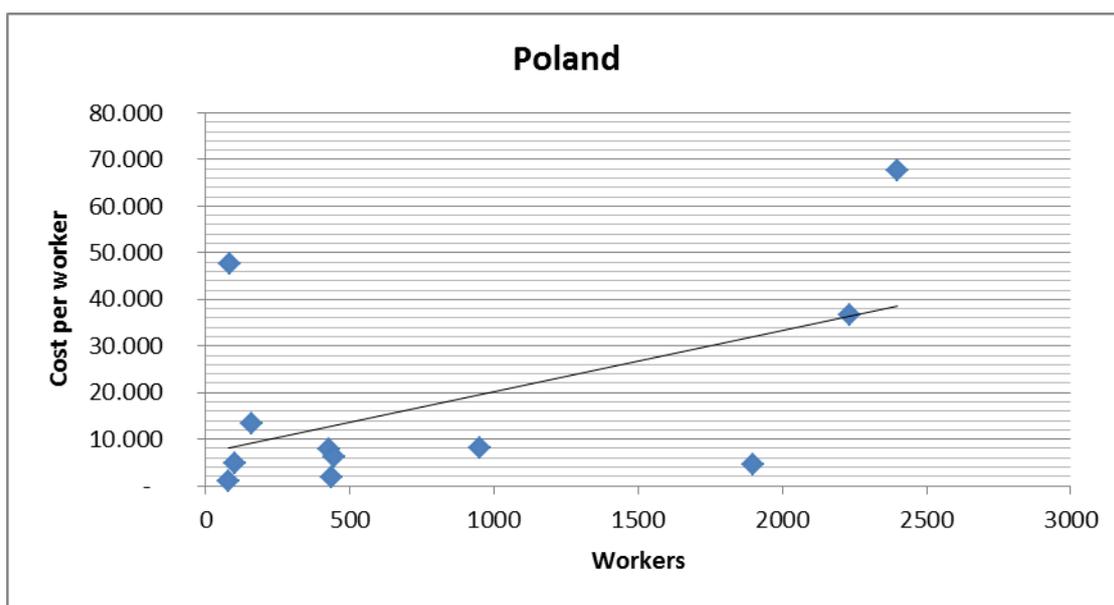
Aid per worker = 19,048 + 5.2 * workers. R² = 0.0247

However, what is far more disturbing, as far as the rationality of the R&R policy is concerned, is the wide variation of the actual amounts of aid per worker around the predicted average (indicated by the straight line). Because these results can be influenced by the variations in salaries across Member States, we have also run regressions for each Member State for which we had several observations. This excluded countries like France, Italy, Lithuania or Slovenia. We were left with just two countries with a sufficient number of observations: Germany and Poland.

In both cases, there is positive relationship between cost per worker and the number of workers in aided firms. These results provide strong indication that relatively more aid goes to large capital-intensive companies. However, as already mentioned above, this runs contrary to the logic of R&R aid which is to prevent loss of output from unemployed workers. The assets of companies can always be sold to competitors, so such aid benefits the owners of capital rather than society at large. In fact if the outliers are excluded, then the lines become flatter, as we would expect.



$y = 63,666 + 232.22 * \text{workers. } R^2 = 0.3424$



$y = 7194,5 + 13.08 * \text{workers. } R^2 = 0.2819$

In summary, these findings cast serious doubt on the efficiency of R&R aid. In more than half of the cases we have examined, too much aid is granted. Irrespective of how the data are analysed, there appears to be no consistent policy of targeting aid to the number and value of jobs saved. In fact, the picture that emerges is one of granting rather random amounts of aid (from a policy perspective).

6. Three proposals for the new Rescue and Restructuring Guidelines

The European Commission initiated on December 2010²⁴ a public consultation to gauge the views of Member States and stakeholders on possible revision of the RRG. The results of the consultation will underpin the new RRG which will be revised in the context of the State Aid Modernisation initiative that was launched in May 2012.

The main objectives of State Aid Modernisation are to streamline procedures, make the rules more user-friendly, reduce the distortionary effects of state aid through more rigorous economic analysis and ensure that aid does have an incentive effect; i.e. it is necessary and has the capacity to change the behaviour of the beneficiary companies.

The Commission Communication on State Aid Modernisation makes specific mention of R&R aid. It qualifies such aid as “very distortive” and mentions that the objective of the new guidelines should be “controlling that very distortive type of aid in order to ensure that the market process of exit is interrupted by State intervention only when truly justified”.²⁵

It follows, in this connection, that the objectives of R&R aid should be clarified. Currently they are too broad. The “beneficial role of SMEs” and “loss of unemployment” are almost always present. In other words, together they cover almost every situation. If a company is small or medium-sized, then intervention is justified because of the “beneficial role of SMEs”. If a company is large, on the other hand, its bankruptcy will always entail some non-trivial loss of employment.

The “beneficial role” of SMEs is not, moreover, defined in the RRG. At any rate, there is a puzzle here. SMEs make up of more than 95% of companies in European economies. There is nothing special about them. It is indeed unclear why they deserve special treatment in the context of the RRG.

²⁴ http://ec.europa.eu/competition/consultations/2010_restructuring_aid/index.html

²⁵ European Commission (2012), paragraph 18

With respect to loss of employment caused by the failure of large firms, we remain sceptical. Only in high-unemployment regions this could potentially create a problem. Yet, 60% of cases are not in assisted areas which typically have higher unemployment rates. Member States are currently not required to provide evidence as to what will happen to workers who are laid off.

So are there any relevant lessons that can be drawn from our research? We believe that the following proposals can be formulated on the basis of our findings to ensure that R&R aid is “truly justified”.

i) Well-defined public policy objective

Member States need to justify more thoroughly the use of R&R aid. It is not just that R&R aid is used without a clear public policy objective – apart from the wish to assist the aid recipient. More importantly, the amount of aid should be limited to what is warranted by the specific public policy objective pursued. In this paper we have defined the public policy objective to be the avoidance of lost output of workers who remain unemployed over a long period of time. There is significant evidence that Member States in several cases spend much more than the value of lost output. The Commission should consider the introduction of maximum ceilings of permissible aid that reflect the value of economic output in each Member State.

ii) Credible counterfactual

Given the wide variation in the amounts of R&R aid, Member States should be required to provide credible evidence of the likely counterfactual. How much money shareholders would be willing to invest, what would happen to the firm if it would suspend its operations (close down permanently, taken over, etc) and how long would laid off workers remain unemployed?

iii) Quantifiable distortion

Aid recipients are required to offer compensatory measures which, however, are not rigorously linked to the kind and magnitude of the expected distortion of competition. The experience with aid to financial institutions has proven the benefits of a more direct connection between the expected distortion and the remedial measures that should be required of the aid recipients.

7. Conclusions

State aid for rescue & restructuring of ailing firms is very distortionary. The aid recipients do nothing of what is typically required of state aid beneficiaries such as extra investment in underdeveloped regions, extra training, extra research or extra protection of the environment. Therefore, the social benefits from R&R aid are less visible and more questionable because they are presumed to emanate from the mere survival of the aided firms.

In order to obtain a better understanding of the impact of R&R aid, we have carried out an empirical analysis of relevant Commission decisions during the period 2000-2013. We have found the following.

- 1) The number of R&R measures has been increasing over the period.
- 2) Not all Member States use R&R aid.
- 3) The Member States that use R&R aid most often are Poland, Germany, Italy and France. Six Member States account for 80% of the measures. Some Member States do not use R&R aid at all.
- 4) The highest number of R&R measures are in the manufacturing sector.
- 5) The most frequently used aid instruments are direct grants, followed by loans and guarantees.
- 6) The majority of restructuring measures are below €10 million, although more than 20% are over €100 million.
- 7) 51% of aided companies are SMEs (17% small ones) and 49% are large companies.
- 8) Aided companies have an average regional market share of 38% and an average national market share of 21%.
- 9) Only 42% of the supported companies were located in assisted areas.
- 10) The most frequently used compensatory measures are reduction of capacity and sale of assets.
- 11) More than half of the measures can be considered without any doubt highly inefficient, at least in terms of the amount of aid per job saved.
- 12) Both across Member States and within Member States there is wide variation in the amount of aid per worker. This is inconsistent with a rational R&R policy.

In order to reduce the distortionary effect of R&R aid we propose that the new RRG define more rigorously the public policy objectives that should be pursued by R&R aid and define upper limits for the amount of aid that may be granted. Such limits should be linked to the public policy objectives in question.

Moreover, we propose that the new RRG should require the identification of a credible counterfactual, more thorough analysis of the likely distortion of competition and closer linking of compensatory measures with the type and magnitude of the likely distortion.

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+ All the Decisions included in the Database (114 Decisions): The list of all the Decisions studied can be consulted in the Annex.

Internet

European Commission Competition Policy Search Engine:

<http://ec.europa.eu/competition/elojade/isef/index.cfm>

European Commission's Public Consultation on the modification of the Rescue and Restructuring State Aid Guidelines:

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<http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/sme-definition/>

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