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State Aids: Economic Analysis and Practice in the European Union

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7.1. Introduction

Compared with the other branches of competition policy, state aid control has been the focus of little economic research until recently.¹ Part of the explanation probably lies with the lack of interest for this question in the United States, where state aid control does not exist. But a more fundamental reason is probably at play: an economic assessment of state aid control does not involve a small number of well-defined questions (like unilateral and coordinated effects in the case of merger analysis, or exclusionary strategies in the case of most abuses of a dominant position), but rather a broad array of fields of economic theory.

First, there are many different mechanisms by which aid can be beneficial or harmful: the possible benefits are related to the need to correct some form of market failure, which may result from informational asymmetries, positive externalities, or market power; as to the possible harm, it may be related to the risk of creating static inefficiencies in production (by encouraging production by inefficient firms), dynamic inefficiencies (by changing firms' expectations and thus their behaviour), or to the risk of making market structures less competitive. The overall weighing of all these effects also depends on the cost of public funds, itself a complex issue and the focus of a vast literature in the field of public finance.

Second, the assessment is made more complex by the fact that the economic analysis of state aid control is not the same thing as the analysis of state aid. State aid control is after all a control over the decisions of national governments, and an economic analysis must therefore address the determinants of national aid policies. Justifying state aid control by the possibly inefficient character of state aid is indeed not convincing. National governments can and

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sometimes do make inefficient choices in all branches of policy, but this obvious fact is not usually viewed as sufficient to warrant control at the Community level. In general, one may consider that the mere fact that a given policy is inefficient should deter a national government from following it; and even when this is not the case, there is no reason to assume that the European Commission would necessarily be better inspired than national governments. An economic analysis of European state aid control must therefore not only provide guidance as to the identification of the beneficial and harmful effects of state aid. It must also identify in which circumstances national governments are likely to grant state aid which should in fact not be granted. In other words, while the analysis of state aid tends to emphasize market failures, the analysis of state aid control must also account for the possibility of government failure.

7.2. Why Should State Aid be Prohibited?

7.2.1. *State aid control cannot be justified only by the inefficiency of state aid*

Even though the subsidiarity principle is not legally applicable to state aid control, the very existence of a Community control is sometimes justified on the grounds that the granting of aid entails significant negative cross-country externalities, which can be internalized only at a supranational level.² It can thus be helpful to distinguish, among the factors likely to induce governments to make inefficient decisions about the granting of state aid, between those resulting from cross-country externalities and those induced by purely internal effects. This distinction matters because the necessity of state aid control at the Community level is more obvious when the inefficiencies result from cross-country externalities than when they do not—although, even in the latter case, some convincing justifications for Community control exist (see below).

7.2.2. *Paternalistic justifications for state aid control*

Irrespective of any cross-country effects, governments can decide to grant inefficient state aid for a variety of reasons. The most obvious one is incompetence. But the possible (and, in some cases, no doubt very real!) incompetence of national governments falls short of justifying state aid control at the Community level, for two reasons. First, with all due respect, there is no reason to assume a priori that officials are systematically more competent at the European Commission than in national governments. Second, even if they were, this superior competence could in theory be applied to many fields of

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policy. It does not imply that state aid should be subjected to the control of the European Commission, while other branches of economic policy would remain entirely in the hands of possibly incompetent national governments. Two other sources of inefficiencies make for a more convincing justification for state aid control.

STATE AID CONTROL AS A TOOL TO HELP GOVERNMENTS RESIST INTEREST GROUPS

The ability of private interest groups to distort economic policy in their favour has been amply documented.³ For example, empirical studies in the United States have shown the degree of tariff protection enjoyed by various industries to be directly correlated to the level of donations to political parties.⁴ As for aid to private firms (which is not prohibited in the United States), their costs appear to be disproportionately large when assessed against their alleged benefits, especially if the latter are measured according to the number of jobs created. For instance, the aid granted in the 1990s by the State of Michigan to various firms on job-creation grounds cost more than 2 million dollars per job; the aid granted by the State of Alabama to Daimler-Benz amounted to 168,000 dollars per job.⁵ In particular, sector- or firm-specific public policy seems to be often tilted in favour of declining industries, in the United States at least.⁶

There is little doubt that similar inefficiencies can be found in European countries—for example, regarding trade policy. In the case of state aid, recent research has shown that the allocation of aid is largely determined by political rather than economic factors.⁷ Whether such inefficiencies, which reflect the imperfections of national political institutions, are enough to justify a control at the Community level is a moot point. One could argue that the Commission's role is not to prevent a government from engaging into wasteful public spending: the citizens of a democratic country should be left free to have their government spend public funds inefficiently if this pleases them, as long as there is no harm to other countries. Beyond this cynical view, one could also claim that countries willing to limit the power of interest groups can do so by using, for example, constitutional clauses constraining the ability of their governments or parliamentary majorities to favour arbitrarily selected private firms. Such clauses could be seen as an extension of the general anti-discrimination and equality clauses present in many constitutions.

If all state aid were inefficient, a constitutional prohibition in each country would be sufficient and there would be no need for supranational control. But this solution would be unsatisfactory because, in the real world, some state aid is desirable. The best solution may thus be an institutional set-up combining flexibility—that is, the possibility to grant state aid in some circumstances—with sufficient insulation from the pressures of domestic politics.

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European state aid control bears a striking similarity to this theoretical solution.⁸

A recent event, outside of the realm of state aid, casts light on the merits and limits of this justification. It regards the discussions between European countries about whether each country should be free to set VAT rates in the restaurant sector at the level of its choosing. In the name of the subsidiarity principle, France asked to have the right to lower its rate, claiming that, since restaurant meals are an immobile good, their taxation involves no cross-country externalities and should be left in the hands of national governments. The European Commission broadly agreed with this view. It claimed that, though the lowering of VAT rates on restaurants is not a good policy in its view, it had no problem in leaving the decision to national governments, and that European coordination should focus on mobile goods, for which cross-country tax externalities may be present. But several European countries successfully opposed this. In particular, the German minister of finances stressed that, if he were left free to set the rate of VAT, he would not be able to resist the lobbying of restaurant owners and would be forced to lower VAT, even though he viewed such a lowering as economically inefficient. In other words, he asked the European Commission to tie his hands in order to insulate a purely German economic policy decision from the pressures of German interest-group politics. The logic of this position is very similar to that justifying a European state aid control policy by the necessity to protect national governments from themselves, or at least from powerful domestic interest groups. Interestingly, as is revealed by its stance on the VAT front, the Commission seems to be reluctant to play such a role, presumably because it does not enjoy being scapegoated by national governments which happily shift the blame to 'Europe' in order to justify unpopular decisions. This understandable reluctance means that state aid control cannot be primarily justified by the need to overcome the imperfections of national politics.

STATE AID CONTROL AS A COMMITMENT DEVICE FOR NATIONAL GOVERNMENTS

Another possible justification for state aid control, unrelated to any cross-country externalities, is the existence of a commitment problem facing national governments. The problem is that if governments were free to grant aid as they pleased, the expectation of this possibility would affect firm behaviour even before any aid being effectively granted. For example, if it is expected that failing firms will be rescued by governments with some probability, companies may be encouraged to undertake overly risky investments, or to adopt lax management practices. More generally, a firm's incentives to become more efficient so as to cut costs, raise quality, or innovate are likely to be dampened if it expects that the resulting competitive advantage will be offset by the

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granting of aid to its lazier rivals. This idea has been formulated by the economist Janos Kornai when analysing attempts by the Hungarian government to partly liberalize the economy:

Although state-owned enterprises were vested with a moral and financial interest in maximizing their profits, the chronic loss-makers among them were not allowed to fail. They were always bailed out with financial subsidies or other instruments. Firms could count on surviving even after chronic losses, and this expectation left its mark on their behaviour.⁹

State aid thus has a diffuse and indirect cost, beyond the sector to which aid recipients belong. Every time an aid is granted, this confirms agents' belief that they live in an economy in which aid may be granted in the future. Irrespective of the criteria for receiving aid, this is likely to distort firm behaviour. If aid is granted in priority to failing firms, this is likely to decrease incentives to innovate; if it is channelled mostly to support R&D, this may lower incentives to undertake R&D out of private funds; more generally, the possibility of state aid encourages firms to divert resources away from productive uses into lobbying.

Since national governments typically have short horizons (that is, until the next election), they may be tempted to forego the benefits of not granting aid (that is, contributing slowly to changing firms' expectations and behaviour) in order to enjoy the short-term benefits of aid.

This type of problem is by no means limited to state aid. In the same spirit, governments approaching an election are often tempted to follow lax budget policies towards the end of their terms, because the benefits from a budgetary expansion are immediate, while the costs fall on future generations which will have to repay government debts—or, at the very least, to next year's taxpayers.¹⁰

In some American states, the constitution imposes a balanced-budget clause, precisely in order to prevent governments from succumbing to the temptation just before elections. Could the same be done about state aid, through a simple prohibition at the national level? The problem with this solution is, again, that some flexibility may be desirable if state aid is considered an efficient instrument in some circumstances. In this case, Community control may constitute a good compromise between insulation from domestic political cycles and the need for flexibility.

THE COST OF RENT-SEEKING

Firms' expectations that they could possibly benefit from state aid induces them to divert resources away from productive activities to unproductive rent-seeking ones.¹¹ According to various estimates, the cost of these rent-seeking activities is very high. In the United States, total expenditures on transfer activity have been estimated at 25 per cent of GDP.¹² Other estimates, based

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on regressions of gross national output on the relative number of lawyers (supposed to be a proxy for the magnitude of rent-seeking activities) and physicians or engineers (supposed to be a proxy for the magnitude of productive activity) point to similar or even higher costs of rent-seeking.¹³ Of course, lobbying to be granted state aid is but one of many forms of rent-seeking activities, and the above figures do not refer specifically to state aid. But they are sufficiently impressive to make one consider the costs of the induced rent-seeking activities as an important adverse effect of state aid.

Does this warrant supranational state aid control? The answer is quite similar to that in the previous section. On the one hand, the mechanism at play is purely national, in that if a country develops a reputation for granting state aid while its neighbours do not, the rent-seeking activities will take place in that country, and the corresponding costs will not be incurred abroad. This precise mechanism does not generate any cross-country externality. On the other hand, since it relies on a reputation effect unfolding over the long run, short-sighted national governments may lack the proper incentives, and supranational control may represent a substitute for a constitutional ban—maybe a slightly better one, given the flexibility it affords.

7.2.3. *Non-paternalistic justifications: internalizing cross-country externalities*

While purely domestic problems could, in theory at least, be dealt with at the national level, a pan-European policy is the only possible way of internalizing externalities. Accordingly, several economists have claimed that state aid control should focus on aid-inducing negative cross-country externalities—that is, on aid which has negative effects on the countries other than the one granting it.¹⁴ This view is also sometimes held by Commission officials.¹⁵ It is thus particularly important to identify in detail the mechanisms giving rise to negative cross-country externalities. Two of them can be singled out: wasteful subsidy races, and cross-country rent-shifting in oligopolistic markets. Interestingly, the notion of ‘distortion of competition’, which is so prominent in the law of state aid control and appears to be staging a comeback after years of oblivion, pertains only to the latter (see below).

STATE AID, LOCAL EXTERNALITIES, AND INEFFICIENT SUBSIDY RACES

The Nature of the Externality

A firm’s decision to set up, expand, or maintain a plant in a country often generates sizable benefits for the host country: tax revenues (levied directly, on the firm, or indirectly, on employees’ salaries), possibly a decrease in unemployment and in the associated costs, increased demand for the output of local

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suppliers, etc. It may also result into a transfer of skills to the local workforce, which can then benefit the economy more broadly as workers change firms. Each national government thus may have an interest in granting aid in order to lure firms into its territory. Absent state aid control, competition across governments wanting to attract the same firms might result into large volumes of aid, shifting the location of firms' activities rather than creating new ones.

If public funds had no 'deadweight cost', that is, if a transfer of €100 to a firm cost only €100 to the country granting the aid, state aid would raise distributional issues, but it would be neutral from an efficiency viewpoint. However, in reality, raising tax revenues is costly because taxes distort economic agents' incentives and decrease total wealth. According to some empirical estimates, raising €100 for the government entails a deadweight cost between €18 and €24: when the government raises €100, other economic agents lose not €100, but between €118 and €124.¹⁶

The existence of a sizable deadweight cost of government funds implies that competition across governments wanting to attract firms by means of financial incentives is likely to result into excessive aid, that is, into amounts of aid that reduce overall social welfare (including the recipient's welfare in the calculation). The following simple example illustrates this point. Assume that a firm hesitates between locating in countries A and B, and that the benefit derived from its presence is €1,200 for the country it chooses. Assume also that, for each government, raising €1,000 in taxes involves a deadweight cost of €200. Clearly, no government will want to offer more than €1,000 to the firm, because offering €1,000 involves a real cost of €1,200 (€1,000 transferred to the recipient of aid, plus a deadweight cost of €200): €1,000 is the absolute maximum that a rational government will want to offer. If the firm manages to exploit the rivalry between the two governments, it may succeed in obtaining this maximum amount. The outcome can thus be that one of the governments pays €1,000 to the firm. This aid reduces welfare because the loss to the country granting the aid (€1,200) is greater than the benefit to the recipient (€1,000). Notice that the benefit derived by the country from having the firm locate on its territory (€1,200) should not be taken into account when evaluating the impact of the aid because we assumed that the firm would have located in one of the two countries anyway, even without aid.

This reasoning is an illustration of the famous game-theoretic notion of the 'prisoner's dilemma'. It is by no means limited to state aid. It is in fact a simple instance of the far more general phenomenon of tax competition, which causes governments to cut taxes on mobile factors (such as corporate income) and to make up for these cuts by raising taxes on immobile factors (such as labour). In fact, the granting of aid can be interpreted as a selective cut in corporate taxes.

TWO CAVEATS

This analysis of state aid in terms of inefficient subsidy races lends itself to two criticisms—one economic, the other political. From an economic viewpoint, the criticism is based on the claim that, in some circumstances, competition between governments to attract firms may raise, rather than decrease welfare. This may be the case if two conditions are met: the deadweight cost of taxation is low and the benefit derived from a firm's presence varies greatly across locations. In such a case, the countries or regions in which the presence of a firm would yield the largest benefits are willing to 'bid' greater amounts than regions in which these benefits would be smaller. Just like price competition, cross-country competition thus reveals where the external benefits are greatest, and it causes firms to locate where their presence is most valuable, which is desirable. In addition, this comes at little cost if the deadweight cost of taxation is low.¹⁷

Which model is more relevant is an empirical question. The available literature about the United States, where aid is not prohibited, lends support to a rather negative view of competition across states to attract firms. States tend to engage into costly competition simply in order to shift activities from neighbouring states to themselves, without much creation of new activities.¹⁸ This destructive cross-state competition also seems to have intensified lately,¹⁹ and this has prompted some American authors to recommend a federal control over state aid.²⁰

The other caveat is that justifying European state aid control by the need to prevent inefficient competition between Member States for the attraction of firms is a bit paradoxical, given the absence of any coordination of corporate taxation. Governments can indeed compete in two ways in order to attract firms. One is to offer firm-specific aid, and the other is to cut corporate taxes across the board. If the inefficiencies generated by such competition are considered a serious problem, then the solution is to have some supranational control over both state aid and corporate tax rates. But this is not the case: there is no coordination over corporate taxation in Europe (if one excepts very recent progress towards harmonizing the definition of the tax base), and vigorous tax competition has led some EU countries to adopt zero corporate tax rates. This remark does not imply that the need to limit tax competition is not a convincing justification for state aid control, but rather that, if this is the case, there is some inconsistency between this justification and the lack of European-wide fiscal coordination. Of course, the symmetric paradox exists in the United States: while competition between States unleashes large volumes of often inefficient aid to firms, the existence of a federal tax on corporate profits, at a rate of 35 per cent, effectively solves the tax competition problem.

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STATE AID, DISTORTION OF COMPETITION, AND STRATEGIC TRADE POLICY

In oligopolistic markets, state aid may also generate cross-country externalities by having an impact on the investment decisions of the rivals of the aid recipient. The underlying mechanism has been studied in the economic models of strategic trade policy,²¹ and can be summarized as follows. In an oligopoly, in which firms earn rents derived from their market power, a firm's profit increases if its rivals decrease their investment (to be understood in a broad sense, including R&D, advertising, set-up costs in order to operate in a new country, etc.) Therefore, a national government may have an interest in inducing the foreign rivals of one of its national champions to scale down their investments. State aid may achieve this result in some circumstances. For example, if country A grants investment aid to a firm, competitors in country B may expect a capacity expansion by the recipient of the aid, and thus a reduction in the residual demand facing them. This expectation may in turn induce them to scale down their investment. The overall result is a shift of part of the oligopoly rents towards the recipient of the aid, at the expense of its rivals.²²

The granting of aid may thus allow the recipient to pre-empt a part of the demand which, absent any aid, would have been served by foreign rivals. This mechanism involves a cross-country negative externality because when a government grants aid, it fails to take into account the harm to foreign competitors.

However, the analysis should not stop there, because the granting of aid may also generate a positive cross-country externality: if the recipient of aid expands production or investment, consumers may benefit, not only in the country whose government granted the aid, but also abroad. A government caring only about the welfare of domestic economic agents would fail to take this effect into account. If this positive externality is more important than the abovementioned negative one, it could be the case that, even absent state aid control, governments grant too little, rather than too much aid!

Recent papers by David Collie²³ indeed show that if the deadweight cost of taxation is low, then the prohibition of state aid reduces social welfare. The reason is that the various governments' attempts to distort competition end up cancelling out, but welfare is increased in the process because subsidies cause firms to act on the basis of perceived costs that are lower than real costs, which induces them to expand output and cut prices. This partly counteracts the fact that under imperfect (that is, oligopolistic) competition, firms tend to choose inefficiently low output levels and/or set inefficiently high prices. However, if the deadweight cost of taxation is high, then governments are induced to grant too much state aid from a supranational viewpoint and a ban on state aid increases welfare.

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These analyses rely on a highly stylized model, and in particular they consider only some specific forms of aid. They are nevertheless important for several theoretical and empirical reasons.

First, they show that the very notion of distortion of competition, which lies at the core of state aid control policy, is quite ambiguous in economic terms. When state aid is motivated only by each national government's desire to induce foreign firms to produce less and shift production to domestic firms, it may in the end cause welfare to increase as long as the deadweight cost of taxation is small enough. In this sense, the very idea that distortion of competition is bad, and that state aid should be allowed only when this 'bad' is outweighed by some 'good', is not always justified.

Second, the resulting rationale for state aid (in cases where the deadweight cost of taxation is low) could be framed in terms of market failures, in accordance with the current wording of state aid control policy.²⁴ The market failure simply results from the presence of oligopolistic, rather than perfect, competition, which causes firms to base their decisions on marginal revenue rather than marginal cost calculations.

Finally, Collie's analyses show that the more differentiated a market is, the less likely it is that state aid might cause harm, at least if one assumes that national governments are rational and one does not take into account the various commitment problems mentioned above. The reason is that in a highly differentiated product market, aid to a firm does not cause much harm to foreign competitors, but it benefits foreign consumers, so that the overall net effect on foreign agents is likely to be positive. Since the overall net effect on domestic agents (including the government, taking the deadweight cost of taxation into account) is necessarily positive (otherwise the government would not grant the aid in the first place), this implies that the effect of aid on total welfare (that is, domestic and foreign combined) is positive as well. This points towards some practical guidance: the more differentiated a market is, the more lenient the assessment of aid should be.

STATE AID MAY DECREASE COMPETITION

Aid may be harmful because it risks making market structure less competitive in the long run. For example, an aid may allow a firm to engage into a predatory strategy which will cause rivals to exit or to be forced to merge with the recipient of the aid. Or, if the sector under consideration is subject to significant credit constraints, it may allow the recipient of the aid to gain access to a large volume of essential inputs, thereby raising rivals' costs and making them compete less aggressively. A variant of this effect is a situation in which the recipient of the aid ends up being the only one able to purchase smaller rivals and gain access to their assets, which may prevent a more balanced distribution of assets. This mechanism may in some cases entail a

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cross-border externality since the decrease in competition may generate a large transfer of surplus away from foreign consumers and competitors towards the recipient of the aid. Notice, however, that state aid may also change market structure in the opposite direction, making it more competitive (see below).

7.3. When Can State Aid be Beneficial?

7.3.1. *State aid may correct different types of market failure*

Just like other public policies, state aid may in some circumstances alleviate market failures, which may be caused by the presence of externalities (for example, in the case of public goods), by informational asymmetries, or by lack of competition. The various types of externalities justifying, in some circumstances, corrective aid measures are discussed in many excellent articles, and will thus be listed very briefly.

EXTERNALITIES AND PUBLIC GOODS

Externalities arise when a transaction has an impact on other agents than the parties to the transaction. Externalities can be negative—for example, in the case of pollution. Positive externalities may arise for a variety of reasons. One of them, in the case of R&D, is the presence of knowledge spillovers: a company's R&D efforts may benefit other companies because new knowledge diffuses outside the company undertaking R&D, through social and business interactions, or as a consequence of employees moving across companies. Several empirical studies have found the magnitude of such knowledge spillovers to be significant. They may explain, in particular, the success of clusters such as the Silicon Valley or its many imitations.²⁵ Another possible externality may result from the location of a firm in a region undergoing an economic crisis, through its impact on the regional unemployment rate as well as through possible 'Keynesian' effects. Public goods can be seen as a particular type of externality, since any potential consumer can enjoy the consumption of the good without being a party to any transaction, due to the non-exclusionary nature of the good.

Markets fail in the presence of externalities because the external effects (be they positive or negative) are not taken into account by economic agents, in the absence of a transaction by which the external gainers would pay or the external losers would be compensated. This may warrant a corrective public policy, which can take the form of a tax (in the case of pollution), or, symmetrically, a subsidy. In some cases, the most efficient subsidy may have to be explicitly or implicitly selective, when the activity generating a positive externality is due to one specific firm.

INFORMATIONAL ASYMMETRIES

Informational asymmetries may cause markets to unravel, in particular as regards the provision of insurance or credit to firms. For example, if firms or potential innovators are better informed than investors about the true prospects of their projects, firms may lack access to capital. Jumping to the conclusion that governments should then replace failing markets may seem naive at first glance, because the replacement of private investors and banks with a government would not cause the informational asymmetry to disappear: the government would not be better than private investors at distinguishing good projects from bad ones. However, this objection is only partly valid. Economic theory has shown that in the presence of asymmetric information, public intervention may raise overall welfare, even if the government is not better informed than private agents. In a nutshell, the reason is that private investors in general cannot appropriate the full value generated by the projects they fund—if they did, entrepreneurs would be left without any incentives to succeed, since they would not reap the benefits of success. As a result, subsidizing entrepreneurs may raise overall welfare even when it is not privately profitable. This type of consideration may justify subsidies to firms in nascent high-technology sectors, in which informational asymmetries are likely to be large.

STATE AID AS A MEANS TO CREATE COMPETITION

Finally, state aid may help a new company to get off the ground and create or increase competition, to the benefit of consumers. In some circumstances, it is conceivable that the creation of a second firm, in the case of a monopoly, is not privately profitable, because set-up costs are too high relative to the flow of future profits. But, when market structure shifts from monopoly to duopoly, consumers gain, and this gain is not taken into account when deciding whether to create a new company. This may in some cases justify the granting of state aid. A famous example is Airbus: it has been estimated that because of the increased competition in the aircraft sector fostered by the creation of Airbus, the corresponding subsidies significantly raised European welfare.²⁶

However, this argument lacks generality. Economic theory does not come to the conclusion that there is in general too little entry because of potential entrants' failure to internalize consumer welfare. The reason is that this positive externality of entry is compensated by a negative externality, called the 'business-stealing' effect: an entrant fails to take into account the decrease in incumbent profits induced by its potential entry.

STATE AID AS A MEANS TO ACHIEVE 'PERSONALIZED CORPORATE TAX RATES'

An additional possible justification for state aid is barely ever mentioned. Like all kinds of taxation, corporate taxation distorts firms' behaviour. For instance,

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corporate taxation affects the cost of capital (through quite complex channels²⁷), which has a strong impact on investment, with an elasticity estimated between -0.5 and -1 .²⁸ Corporate tax rates also appear to have a significant impact on firms' choices of organizational form.²⁹ The same could be said about other taxes paid by companies, such as taxes levied on firms' wage bills, which are known to have highly distortive effects.

But the impact of taxation on firms' investment, employment, or organization decisions varies a lot across sectors, and probably across firms in each sector—just like the impact of personal income taxation on labour supply varies a lot across individuals. This may justify in theory 'personalized' taxation. Rather than lower taxes on all firms, including those whose behaviour is little affected by them, it could be more efficient to target those most sensitive to taxation and offer tax breaks to these firms only. If they are granted with enough selectivity, such tax breaks would be considered as state aid.

Again, this rationale for state aid could be expressed in terms of the remedying of a market failure (albeit a government-created one) in that tax breaks targeted towards firms with the greatest sensitivity to taxation is justified by the divergence between socially and privately optimal decisions, which results from the existence of a tax wedge.

This justification for aid relying on the occasional superiority of 'personalized' tax rates over uniform ones implies that selectivity need not be bad by itself, even in the absence of any market failure beyond those induced by corporate taxation.

7.3.2. *Caveats*

The likely presence of market failures in the real world should not be construed as a blanket justification for state aid. To start with, almost no real-world market fits the textbook paradigm of perfect markets, and in that sense, market failures are ubiquitous. Some discipline is thus needed in order to assess whether the nature and the magnitude of a particular market failure, as well as the imperfections (for example, due to informational asymmetries) of policies, make state aid a suitable corrective measure. In particular, other tools are often more appropriate than state aid. For example, many externalities can be dealt with using general, non-selective instruments such as taxes or subsidies, and, similarly, public services may often be provided through transparent tender processes.

Second, asymmetric information may render public policy very inefficient. For example, aid to R&D may miss its goal and crowd out private R&D rather than stimulate new investment.³⁰ More generally, firms may misrepresent the

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extent to which the decisions supposedly generating positive externalities (that is, R&D, but also the choice to locate in a region undergoing economic hardship) are sensitive to the granting of aid, which may cause governments to grant inefficient aid.

Finally, as regards aid to R&D, much has been said about the inefficiencies of policies aimed at 'picking winners', and about the intrinsically unpredictable nature of innovation. This can be illustrated, *inter alia*, by a comparison of the identity of the largest private companies in Europe and in the United States. While the top companies in Europe today are, with a few exceptions, the same as twenty-five years ago, this is not true in the United States, where large companies (such as IBM) have been dethroned, while new companies in the high-technology sector were rising to prominence, such as Microsoft, Sun, or Google. This casual observation invites a lot a caution over the idea that governments can identify companies and technological endeavours worthy of state aid: if the largest and most sophisticated corporations failed to identify and produce the most path-breaking innovations in the last two decades, which came instead from unexpected quarters, why should we expect governments to be more enlightened?

7.3.3. Correcting geographic disparities

The goal of redressing economic disparities across regions figures prominently in Article 87(3) of the Treaty. 'Aid to promote the economic development of areas where the standard of living is abnormally low or where there is serious unemployment' (point (a)) and 'aid to facilitate the development of certain economic activities or of certain economic areas' (point (c)) may indeed be considered to be compatible with the common market.

Economic analysis cannot make a normative statement about the weight that public policy should put on the reduction in regional disparities, relative to other policy goals such as overall economic efficiency. It can, however, attempt to assess whether, and to what extent, state aid to companies is a proper tool to meet this goal.

Some empirical evidence shows that the knowledge spillovers flowing from efficient firms are very localized.³¹ In Europe, they seem to be much stronger within than across regions.³² This may provide a rationale for state aid as an instrument to reduce geographic inequalities.

However, according to a recent study, while regional policies aiming to attract firms to poor or peripheral locations apparently succeeded, they were very costly because the distortion of firms' location choices resulted into inefficiencies.³³ The case for state aid as a tool for the alleviation of regional inequalities might thus not be very strong, and alternative policies, such as direct income transfers could be more efficient in many cases.³⁴

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7.4. The Limits of Economic Analysis

7.4.1. Theoretical analyses offer few clear-cut prescriptions

THE ROLE OF MARKET POWER

Reflecting the variety of possible theories of harm and of the possible benefits of state aid, the various theoretical contributions described above cannot easily translate into a 'check-list', that is, into the identification of conditions making state aid more likely to be harmful, or, on the contrary, beneficial. Consider, for example, the issue of whether state aid should be considered more harmful when affecting markets in which firms have market power. Among the various theories of harm, the 'inefficient subsidy race' theory does not require the aid recipient to enjoy any market power. If a firm, even without any market power, is offered aid by a country willing to attract it in order to increase employment or tax revenues (even though the choice of location is neutral in terms of overall welfare and the firm would have located somewhere in the European Union even with no aid), then the granting of an aid entails an inefficiency from a European-wide viewpoint (if taxation has a deadweight cost, which is the case in practice). It would nevertheless be rational from the viewpoint of a benevolent national government. A rule authorizing aid as soon as the recipient enjoys little market power would fail to solve this inefficiency, even though it results from the lack of internalization of cross-border externalities by national governments and thus seems to be a prime candidate for supranational control.³⁵ Some other theories of harm, however, apply only if the recipient enjoys a lot of market power. This is the case, for instance, when the concern is that the recipient of aid might use its financial strength to engage into predatory strategies. This is also the case if aid is motivated by a national government's desire to shift rents from foreign to domestic firms. As seen above, such aid is not necessarily harmful from the overall European viewpoint. A necessary condition for it to be harmful is that the deadweight cost of taxation be high enough. Another one is the presence of some market power (for there would be no rents to start with otherwise). But the abovementioned theories offer complex guidance regarding the impact of market power, because they also stress that when product differentiation is maximal (a situation usually associated with a lot of market power), state aid is unlikely to be harmful. To sum up, according to the existing theories of state-aid-as-rent-shifting (one of many theories of harm, and one of several theories of harm-cum-cross-border-externalities), a ban is most likely to be justified (under a total welfare criterion) when the degree of competition is intermediate, that is, when the recipient enjoys market power (so that there are rents) but there is a significant amount of competition between it and its rivals (so that rents can be shifted).

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Also, since large firms (often—but not always—enjoying significant market power) are more likely than small ones to have political clout, the ‘interest group theory of harm’ would lead one to be wary of aid granted to large, politically powerful firms.³⁶ Finally, empirical studies of the link between market power and innovation do not provide firm guidance, since firms’ R&D efforts appear first to rise and then to fall with market power,³⁷ making it difficult to know for which level of market concentration there is the greatest lack of innovation, and thus the greatest need for public support.

SHOULD STATE AID CONTROL BE BIASED IN FAVOUR OF AID TO R&D?

All the praise lavished on aid to R&D notwithstanding, there is no compelling case for a particularly lenient control of aid to R&D, in the light of economic analysis, both theoretical and empirical. True, R&D combines externalities (due to knowledge spillovers) and informational asymmetries (which may result in underfunding). But these asymmetries, as noted above, also imply that aid to R&D may be inefficient for two reasons—namely, because of the crowding-out effect (governments may find it difficult to ascertain whether the subsidized R&D would have been undertaken without aid) and because of the possible inability of governments to pick winners effectively. This is not to say that aid to R&D is never desirable. The point is simply that economics offer no definitive argument to the effect that aid to R&D should be treated more favourably than, say, aid to a non-technological firm which could easily locate outside of Europe and conditions its presence (and the associated positive externalities, like, for example, tax revenues) on the granting of aid. To make matters even more confused, a recent theoretical model suggests, against much conventional wisdom, that the risk that unconstrained governments might grant too much aid is greater when the aid is targeted towards R&D than when it takes the form of a simple production subsidy.³⁸

7.4.2. Some of the effects of state aid do not lend themselves to measurement

The assessment of the impact of an aid bears some similarities to the assessment of mergers. In both cases, the goal is to assess how the market will be affected by a given change. However, in the case of state aid, this exercise is far more complex than in the case of mergers.

The assessment of unilateral effects, which lies at the heart of horizontal merger control, provides for a helpful comparison. Its ambition, compared with the scope of the questions raised by the analysis of state aid control, is relatively narrow: it is limited to short-run effects, and takes market structure as given (except for the merging parties, of course). It lends itself to the econometric

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technique of merger simulation, which yields quantitative predictions based on parsimonious data requests. Yet, even within this well-delineated framework, merger control is often seen as unpredictable, especially as regards the assessment of efficiencies.³⁹

But the questions which need to be addressed in order to assess a state aid measure are both more numerous, and often less liable to quantification than unilateral effects. Consider, for example, aid to R&D. One of the main justifications for the granting of aid to R&D is the existence of a positive externality due to knowledge spillovers. But how can the likelihood of such spillovers be proved in an individual case? The empirical research on this topic almost never proceeded by identifying the presence of spillovers in individual cases; but rather by studying large datasets and identifying the existence of knowledge spillovers on average, using sophisticated statistical techniques. Besides, even this approach fails to end up on firm ground, since the findings of the various studies are significantly divergent. In the case of mergers, the study of past mergers in the same market can often be considered to have some predictive value. But in the case of R&D, such an approach is less promising, because of the difficulty of finding relevant precedents, especially when the goal is to assess an innovation which has not yet occurred and the nature of which is uncertain by definition. This difficulty is reminiscent of the one faced by firms making efficiency claims when defending a merger. Such claims are often rejected for want of verifiability up to competition authorities' high standards. But the problem should be even more acute for state aid control, since the innovations purportedly encouraged are more radical, and thus more uncertain and less verifiable, than the incremental improvements representing the majority of efficiency claims in merger control. And even if spillovers could be shown to be likely, one should also ascertain whether the amount of R&D is sensitive to the volume of aid. Answering this question requires one to know not only the cost of funds available to the firm and the possible credit constraints facing it, but also the list of alternative possible investments for the recipient of the aid, the impact of the R&D effort on the firm's future production costs, as well as an estimate of market demand and rivals' marginal costs, so as to calculate how a given cost reduction, if achieved thanks to R&D, will affect profits. In many cases, the question is even more complex because R&D often aims to create new products rather than to decrease the cost of producing existing ones. Therefore, in order to calculate whether the firm's behaviour is likely to be impacted by the aid, one needs to make assumptions about the demand function in the hypothetical post-R&D world—that is, for example, about the elasticity of substitution between rivals' goods and the hypothetical, not-yet-existing new good which the subsidized R&D might—or might not—bring into existence.

This difficulty is by no means limited to R&D, as can be seen by moving to the question of dynamic inefficiencies—which is often, and probably rightly,

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mentioned as a justification for state aid control. There is simply no way of quantifying to what extent the granting of an aid will change economic agents' expectations in the long run, and thus their investment and innovation behaviour. Answering this question would require one to assess the impact of any given aid on other firms' expectations as to the likelihood of being granted state aid in the future under different types of circumstances, and to measure the impact on this change in expectations on firms' future behaviour (excessive risk-taking or 'X-inefficiency', diversion of resources from productive to rent-seeking activity, etc.)

Finally, any quantitative assessment of the welfare impact of a state aid must start by making an assumption about the cost of public funds, because, when calculating the overall impact of an aid on welfare, the loss to taxpayers is usually a major element. In fact, in all simple models of distortionary state aid, as well as in simple models of subsidy races, there is no harm at all unless this deadweight cost of taxation is large enough.

7.4.3. *The relationship between welfare standards and assessment rules*

The issue of the desirable welfare standard for state aid control has been discussed in several recent contributions.⁴⁰ For example, H. Friederiszick, L.-H. Röller, and V. Verouden recommend to focus on the combined surplus of consumers and taxpayers, on the grounds that these two categories of agents are politically less powerful than firms, so that omitting firms in the welfare criterion could offset this unbalance. In some cases, when all the relevant effects of the aid under scrutiny can be quantified, the welfare standard may offer precise guidance as to how to balance positive effects against distortionary ones. For example, in the case of a restructuring aid aimed at preventing a firm in an oligopolistic market from going bankrupt and exiting (legally falling under Article 87(3) point c), the abovementioned criterion would mandate a comparison between, on the one hand, the gain to consumers from a continuation of the recipient's activity (implying both an assessment of entry barriers, and an estimate of the remaining firms' behaviour after the recipient's exit, given the magnitude of entry barriers, cost structure, and demand characteristics) and the loss to taxpayers (measured with reference to a predetermined value for the deadweight cost of taxation). In principle, this comparison could be undertaken using the same market-estimation techniques as those routinely used for merger simulation.

However, in other, probably more frequent cases, the definition of a welfare standard cannot translate directly into predictable enforcement, because several important effects of state aid, both positive and negative, are difficult to measure. This problem can only be handled by complementing an abstract welfare standard with much more detailed policy rules defining filters, safe

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harbours, and ‘shortcuts’, and allowing the Commission to reach a decision without having to undertake a full-fledged balancing exercise in each case. In other words, the theoretical and practical limits of the economic analysis of any given state aid call for a ‘structured rule of reason’, which could be far easier to administer than a pure rule of reason.⁴¹

The proponents of the aforementioned welfare standard themselves acknowledge that it is more about general principles than about providing detailed guidance for enforcement, and they advocate a practical rule largely departing from a pure rule of reason guided only by the compass of the consumer-plus-taxpayer welfare criterion. First, they recommend a combination of block exemptions for low-intensity aid and *per se* prohibition for high-intensity aid, leaving economic analysis to play a role only in intermediate situations. Second, they stress that ‘state aid control should concentrate on a small set of well-defined market failures and specify those clearly in its guidelines’. This is exactly the agenda of the ongoing overhaul of state aid control, as exemplified, for instance, in the recent Community Framework for State Aid for Research and Development and Innovation (the ‘R&D&I Framework’),⁴² which lists specific types of market failures for the assessment of the positive effects of an aid and specific types of distortions for the assessment of the negative effects, leaving aside many, possibly important but hard-to-measure effects, such as, on the positive side, the increase in production due to a decrease in perceived costs, and, on the negative side, the cost to taxpayers or the impact on all firms’ expectations and future behaviour. Whichever welfare standard is chosen, if any, state aid control outcomes will continue to be determined primarily by detailed procedural rules, reflecting presumptions about the magnitude and likelihood of these unmeasurable effects.

7.5. Past Enforcement and the Current Overhaul

7.5.1. *The uncertain meaning of competition distortion and trade affectation in the case law*

In practice, up to the issuance of the state aid action plan (the SAAP), the Commission only rarely engaged into an economic, case-by-case, effects-based analysis of the justifications for specific aids. Whether a given measure met the definition of state aid, with reference to the two conditions of selectivity and transfer of state resources, was often the main issue. Presumptions about the likelihood of positive effects in different situations led to the definition of various thresholds. For example, industrial research, presumably generating greater spillovers (and thus prone to market failures) and fewer distortions, could be publicly funded according to the R&D Framework of 1996 up to 50 per cent, against 25 per cent for pre-competitive research.

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In contrast, the question which generated the most inconsistency in Commission enforcement and Court rulings has been, for decades, the exact meaning and importance of the ‘competition distortion’ and ‘trade affectation’ conditions.

THE EVOLUTION OF THE STANDARD OF PROOF ACCORDING TO THE CASE LAW

The Commission’s handling of the competition distortion and trade affectation criteria has notoriously been inconsistent. First, until the CFI’s *Philip Morris* ruling,⁴³ the Commission tended to consider that these conditions were necessarily met as soon as aid was granted and thus did not warrant a specific investigation—which is obviously false, since a pure lump-sum transfer to a firm facing no credit constraints is unlikely to have any impact on any market.

At first glance, the *Philip Morris* ruling brought some clarification, since it stressed that the Commission needed to address the criteria of competition distortion and affectation of trade between Member States. Moreover, the Court discussed the economics of the affected sector and the possible effect of the aid, in the following terms:

It is common ground that when the applicant has completed its planned investment it will account for nearly 50 per cent of cigarette production in the Netherlands and that it expects to export over 80 per cent of its production to other Member States. The ‘additional premium for major schemes’ which the Netherlands government proposed to grant the applicant amounted to HFL 6.2 million (2.3 million EUA) which is 3.8 per cent of the capital invested. When state financial aid strengthens the position of an undertaking compared with other undertakings competing in intra-community trade the latter must be regarded as affected by that aid. In this case the aid which the Netherlands government proposed to grant was for an undertaking organized for international trade and this is proved by the high percentage of its production which it intends to export to other Member State. The aid in question was to help to enlarge its production capacity and consequently to increase its capacity to maintain the flow of trade including that between Member States. On the other hand the aid is said to have reduced the cost of converting the production facilities and has thereby given the applicant a competitive advantage over manufacturers who have completed or intend to complete at their own expense a similar increase in the production capacity of their plant.⁴⁴

The above quotation gives the impression that a detailed assessment is in order. The Court indeed presented a detailed reasoning focusing on the likely impact of the aid. It mentioned that (i) the amount of the aid represented a significant percentage (3.8 per cent) of the planned investment; (ii) the aid was meant to have an impact on production capacities, and therefore on the market, as opposed to a pure lump-sum transfer that could in theory end up in the shareholders’ pockets without affecting the firm’s behaviour; and that (iii) this market impact was likely to affect trade between Member States, not

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only because of the cross-border flows of trade prior to the granting of the aid, but also because most of the additional production resulting from the investment benefiting from the aid was going to be exported.

It may seem a bit paradoxical, therefore, that the *Philip Morris* ruling has been interpreted as laying out an almost *per se* criterion according to which a selective measure benefiting a company is most of the time automatically presumed to distort competition and affect trade between member states. This interpretation relies on the focus on the single sentence claiming that ‘when state financial aid strengthens the position of an undertaking compared with other undertakings competing in intra-community trade the latter must be regarded as affected by that aid’. However, this restrictive interpretation is confirmed by most subsequent rulings.

In contrast to *Philip Morris*, the Court held in *Tubemeuse*⁴⁵ that neither the importance of intra-European trade in the affected market, nor the magnitude of the aid, mattered for the finding of a risk of trade distortion or affectation of trade between Member States. In that ruling, the Court confirmed a Commission’s decision prohibiting an aid granted by the Belgian government even though the recipient was selling mostly outside of the European Community. It also claimed that ‘the relatively small amount of aid . . . does not as such exclude the possibility that intra-Community trade might be affected’. The Court did not go as far as claiming that there was no need to pay attention to the economic mechanism by which competition distortion and trade affectation could occur. For instance, in *Maribel*, the Court explained that

when state aid strengthens the position of an undertaking compared with other undertakings competing in intra-Community trade, the latter must be regarded as affected by the aid, even if the beneficiary undertaking is itself not involved in exporting. . . . Domestic production may . . . be maintained or increased, with the result that undertakings established in other Member States have less chance of exporting their products to the market in that Member State.⁴⁶

The same point has been made in several subsequent decisions such as *Altmark*,⁴⁷ *Heiser*,⁴⁸ and *Xunta de Galicia*.⁴⁹

In a nutshell, the Court’s view, at least until very recent rulings discussed below, seems to have been that while the Commission needed formally to address the competition distortion and affectation of trade conditions, it was subject to a very low standard of proof, in that it was enough for the Commission to show that distortion of competition or affectation of trade could not be ruled out a priori. For instance, it stated in *Altmark* that ‘it is *not impossible* that a public subsidy granted to an undertaking which provides only local or regional transport services and does not provide any transport services outside its State of origin may none the less have an effect on trade between Member States.’⁵⁰ Similarly, it claimed in *Heiser* that it was ‘*not*

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inconceivable . . . that [dentists] may be in competition with their colleagues established in other Member States'.⁵¹ In *Ramondin*,⁵² the Court also concurred with the Commission's view that the distortion of competition and affectation of trade conditions did not have to be assessed under a demanding standard of proof.

It must be noted, however, that in several recent decisions such as *Dorsten*⁵³ and *Brighton Pier*,⁵⁴ the Commission considered that it could not prohibit an aid because the obviously local nature of the affected market implied that there was no affectation of trade between Member States. Based on the same type of reasoning, in a largely local market (in a French overseas territory), the Court's *Le Levant*⁵⁵ ruling annulled a Commission prohibition decision.

The recent *Wam*⁵⁶ ruling may represent a turning point. While it is not the first ruling annulling a prohibition decision by the Commission, it did so by setting a standard of proof that appears to be more demanding than in most of the abovementioned case law. The Court stated indeed that the fact that the aid recipient was engaged into intra-European trade was not by itself sufficient for the Commission to conclude that the aid was going to affect trade between Member States: 'The mere observation that Wam participates to intra-community trade is insufficient to conclude on trade affectation or distortion of competition, and an in-depth analysis of the effect of aids is necessary.'⁵⁷

THE FLUCTUATING ASSESSMENT CRITERIA ACCORDING TO THE CASE LAW

In addition to the uncertainty regarding the standard of proof, the Commission and the CFI have been using inconsistent criteria. First, the very definition of a distortion has been unstable. In *Philip Morris*, the CFI held that competition distortion relates to a change in the position of an undertaking compared with other undertakings in intra-Community trade. But in the R&D&I Framework, the Commission also mentions (in passing) changes in the location of economic activity as a possible distortion,⁵⁸ even though such changes may occur independently of any impact on competitors (for instance in the case of the granting of aid to a monopoly not threatened by potential entry). Similarly, the CFI broadened the definition of trade affectation in the *Tubemeuse* ruling⁵⁹ (relative to *Philip Morris*), as it held that Article 87(1) may be violated even though the recipient sells mostly outside of the European Community.

To make things even more complicated, even the 'narrow' definition in terms of an impact on rival undertakings can be interpreted in several ways, either in terms of the impact on profits, or in terms of the impact on sales. This makes a big difference in highly competitive markets, in which a large shift in sales need not be synonymous with a big shift in profits, since per-unit profits may be low.

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Beyond the definition of competition distortion and trade affectation, the Commission's views as to which market structures make competition distortion more likely have been contradictory. In many cases (e.g. *Imepiel*⁶⁰ and *Ramondin*⁶¹), distortion was considered more likely if the affected market was highly competitive. This was even stated as a point with general relevance in the motor vehicle guidelines, as the Commission recalled in the *DAF Trucks* Decision:

Under aid for modernization and innovation, the guidelines stipulate that 'in the context of a genuine internal market for motor vehicles, competition between producers will become even more intense and the distortive impact of aid will be greater. Therefore, the Commission will take a strict attitude towards aid for modernization and innovation'.⁶²

However, in its recent R&D&I Guidelines, the Commission takes a very different view, claiming that the distortion of dynamic incentives or State-aid-driven market power creation are less likely in highly competitive markets.⁶³

7.5.2. *Interpreting the competition distortion and trade affectation conditions in the light of economic analysis*

These inconsistencies probably reflect some underlying uncertainty as to the main economic mechanism by which state aid is likely to cause harm.

According to a commonly held view, the competition distortion and trade affectation conditions, if properly interpreted, should prevent the Commission from engaging into paternalistic policies by forcing the Commission to focus on aid having cross-country effects, and the Commission's recurrent temptation to forget these two conditions is nothing but the expression of its impulse to infringe on national governments' sovereignty. This is true, but depending on the precise 'theory of harm', the corresponding definition of competition distortion and trade affectation should be modified.

If one believes that harm is most likely to result from governments' attempt to shift rents across countries—a motive making aid socially harmful only if the deadweight cost of taxation is high enough—then it makes sense to define competition distortion with reference to the impact on rivals' profits. In that case, since rent-shifting presupposes significant market power, distortions can occur only in markets which are not too competitive. The traditional Commission position was thus contradictory, in that, on the one hand, it framed state aid control almost entirely in terms of harm to Foreign firms, and, on the other hand, it treated intense competition as an aggravating factor.⁶⁴ This confusion may be explained by the fact that in highly competitive markets aid is likely to have a big impact on rivals' *sales* (but not their profits).

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But, if one believes that the harm caused by state aid often results from inefficient subsidy races driven by each government's desire to shift the location of economic activity towards its territory because of local or nationwide externalities (including employment or tax revenues), then cross-country shifts in output volumes are relevant—for instance, because they may be associated to shifts in jobs, even in the absence of any rent-shifting. This may thus justify some concern in highly competitive markets.

But, in addition, under the subsidy-race theory of harm, neither rent-shifting nor output-shifting across firms is a necessary condition. If the subsidy race is about attracting a monopolist's plant, there may be harm absent any impact on rival undertakings. It could thus make sense to consider distortions in location decisions across Member States as a distortion under Article 87(1), as is the case in the R&D&I Framework (as well as in Friederiszick, Röller, and Verouden 2006⁶⁵).

7.5.3. *The 'refined economic approach': the 'Trojan horse' of paternalism?*

One could have expected that the refined economic approach touted in the SAAP and the R&D&I Framework would spell the end of the quasi-automatic presumption that almost any aid distorts competition and affects trade. Indeed, the R&D&I Framework contains a detailed description of the economic mechanisms by which state aid might decrease economic efficiency, and it calls for these mechanisms to be assessed on a case-by-case basis, without presumptions of any sort.

However, the road taken seems to be the opposite one. In the SAAP, it is stated that 'state aid should only be used when it is an appropriate instrument for meeting a well defined objective, when it creates the right incentives, is proportionate and when it distorts competition to the least possible extent.'⁶⁶ This claim appears to be at odds with Article 87(1) of the Treaty, which provides for the prohibition of any aid 'which distorts or threatens to distort competition... in so far as it affects trade between Member States', unless some justifications for the aid can be provided, as per Articles 87(2) and 87(3). In other words, whatever the definition of competition distortion and trade affectation, the Treaty states that aid neither distorting competition nor affecting trade is not prohibited, even if it is very inefficient economic policy from the viewpoint of the country granting the aid. In contrast, according to the SAAP 'aid should [not] be used' if it is not 'an appropriate instrument for meeting a well-defined objective', even if it does not distort competition. The assessment method proposed in the R&D&I Framework is in line with this view. Except for some specific categories of aid (aid below certain thresholds, aid for young innovative enterprises, etc.), aid measures

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will . . . be declared compatible . . . only if (i) they fulfil all the conditions and parameters mentioned in Chapter 5 [dealing with the appropriateness of the aid as a tool to solve a market failure] and (ii) the balancing test pursuant to Chapter 7 [dealing with a detailed assessment of the distortion of competition and trade] results in an overall positive evaluation.⁶⁷

The cumulative nature of these conditions implies that aid not solving a well-identified market failure should be banned, even in the absence of any distortion.

One may wonder to what extent this approach is compatible with recent CFI rulings, such as *Le Levant*, which emphasized that competition and trade distortions are necessary conditions for aid to be illegal. Leaving legal niceties aside, there are convincing economic justifications for the Commission's openly paternalistic approach because it is difficult for national governments to tie their hands, not only for bad reasons (political cowardice, corruption, special interests) but also because, owing to the short time horizon of national governments, nothing short of a constitutional ban could work, and a constitutional ban devoid of any flexibility could be less efficient than supranational control (see above 'Paternalistic justifications for state aid control').

Ironically, while the Framework paves the way for a paternalistic policy meant to encourage national governments to spend their money wisely, which should be fine for economists, but maybe not for legal experts caring about compliance with the Treaty, recent proposals by economists appear to be more respectful of the letter of the Treaty. For instance, T. Besley and P. Seabright propose a seven-step rule by which aid to firms lacking market power, or aid unlikely to generate net cross-border negative externalities would be authorized, without the need to investigate the existence of a market failure in need of correction or whether the aid makes any economic sense at all.⁶⁸ Similarly, the three-leg test advocated by H. Friederiszick, L.-H. Röller, and V. Verouden appears to imply that aid not generating any distortion would be legal.⁶⁹

In the end, this contradiction between economists defending the Treaty and official Commission documents departing from it (possibly on good economic policy grounds) will probably be arbitrated by Courts in the coming years.

Notes

¹ This has changed lately. Major recent contributions on the theoretical side include Collie (1998; 2002; 2005); Dewatripont and Seabright (2006). For an empirical assessment, see Neven (2000). For broad surveys, discussing theory, empirics, and policy, see e.g. Besley and Seabright (1999); and Röller, Friederiszick, and Verouden (2007).

² Besley and Seabright (1999); Fingleton, Ruane, and Ryan (1999).

³ Cf. Persson and Tabellini (2000).

⁴ Goldberg and Maggi (1999: 1135).

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- ⁵ See Tannenwald (2002: 467).
- ⁶ Hufbauer and Rosen (1986); Hufbauer, Berliner, and Elliot (1986).
- ⁷ Neven (2000).
- ⁸ For a related argument, see Dewatripont and Seabright (2006).
- ⁹ Kornai, Maskin, and Roland (2003: 1095). See also Kornai (1986).
- ¹⁰ See Persson and Tabellini (2000) for an analysis of the impact of electoral cycles on economic policy.
- ¹¹ For an introduction to the concept of rent-seeking, see Tullock (1987).
- ¹² Laband and Sophocleus (1992).
- ¹³ Magee, Brock, and Young (1989); Murphy, Shleifer, and Vishny (1991).
- ¹⁴ Besley and Seabright (1999); Fingleton, Ruane, and Ryan (1999).
- ¹⁵ Kleiner and Alexis (2005: 45).
- ¹⁶ Ballard, Shoven, and Whalley (1985); Jorgenson and Yun (1990; 1991).
- ¹⁷ Tiebout (1956); Besley and Seabright (1999).
- ¹⁸ Tannenwald (2002).
- ¹⁹ Chi and Leatherby (1997).
- ²⁰ Enrich (1996).
- ²¹ Brander and Spencer (1985).
- ²² In some circumstances, the causality may be reversed. For example, a firm facing a decrease in its residual demand may have greater incentives to engage in R&D so as to re-establish a better market position.
- ²³ See n. 1, above; also Garcia and Neven (2005).
- ²⁴ See e.g. the State Aid Action Plan, pt 23: 'One key element [in assessing compatibility] is the analysis of market failures.'
- ²⁵ Caballero and Jaffe (1993); Agrawal, Cockburn, and McHale (2006); Moretti (2004).
- ²⁶ Besley and Seabright (1999).
- ²⁷ See Auerbach (2005).
- ²⁸ Caballero and Haltiwanger (1995).
- ²⁹ Goolsbee (2004).
- ³⁰ For a survey of empirical research on this topic, see David (2000). Their conclusion is mixed, meaning that a strong crowding-out effect cannot be ruled out.
- ³¹ Audretsch and Feldman (1996).
- ³² Bottazzi and Peri (2004).
- ³³ Midelfart-Knarvik and Overman (2002).
- ³⁴ Ulltveit-Moe (2007).
- ³⁵ We thus beg to differ with Besley and Seabright 1999 who recommend that market power be considered 'a necessary condition of the identification of cross-border externalities' (p. 40).
- ³⁶ This point is made in Röller, Friederiszick, and Verouden (2007).
- ³⁷ Aghion, et al. (2005: 701–28).
- ³⁸ Collie (2005: 231).
- ³⁹ Gifford and Kudrle (2005).
- ⁴⁰ Röller, Friederiszick, and Verouden (2007); Martin and Strasse (2005); Kleiner and Alexis (2005: 45–9).
- ⁴¹ On the notion of structured rules of reason, see e.g. Easterbrook (1984).

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⁴² 'Community Framework for State Aid for Research and Development and Innovation', 2006/C 323/01, 30 Dec. 2006.

⁴³ Case 730/79 [1980] ECR 2671.

⁴⁴ Ibid.

⁴⁵ Case 142/87 *Commission v. Belgium* [1990] ECR I-959.

⁴⁶ Case C-75/97 *Belgium v. Commission* [1999] ECR I-3671.

⁴⁷ Case C-280/00 *Altmark Trans GmbH, Regierungspräsidium Magdeburg v. Nahverkehrsgesellschaft Altmark GmbH* [2003].

⁴⁸ Case C-172/03 *Wolfgang Heiser v. Finanzamt Innsbruck* [2005] ECR 1627.

⁴⁹ Case C-71/04 *Administración del Estado v. Xunta de Galicia* [2005] ECR I-7419.

⁵⁰ Emphasis added.

⁵¹ Emphasis added.

⁵² Joined cases T-92/00 and T-103/00 ECR II-1385.

⁵³ OJ C-172/2001.

⁵⁴ N 56/01.

⁵⁵ CFI, 22 Feb. 2006, *Eurl Le Levant v. Commission*, case T-34/02.

⁵⁶ CFI, 6 Sept. 2006, *Italy and Wam SpA v. Commission*, case T-304/04.

⁵⁷ Author's translation of 'le seul constat de la participation de Wam aux échanges intracommunautaires est insuffisant pour étayer une affectation desdits échanges ou une distorsion de concurrence et, dès lors, nécessite une analyse approfondie des effets des aides' (pnt 74).

⁵⁸ R&D&I Framework, pt 7.4.

⁵⁹ Case 102/87 [1988] ECR 4067.

⁶⁰ OJ L 172/76, 27/06/1992.

⁶¹ OJ L 318/36, 16/12/2000.

⁶² OJ L 015, 20/01/1996 P. 0037-0045.

⁶³ Sects 7.4.1. and 7.4.2.

⁶⁴ This point has been made in Besley and Seabright (1999).

⁶⁵ Ibid.

⁶⁶ SAAP, pt 11.

⁶⁷ R&D&I Guidelines, sect. 1.4: 8.

⁶⁸ Besley and Seabright (1999).

⁶⁹ Röller, Friederiszick, and Verouden (2007). The author of the present chapter, however, is not entirely sure that the balancing test described by these authors would have this consequence. Under their test, an economically absurd aid generating no cross-country externalities would score zero on both the 'benefits' part of their test (legs (a) and (b)) and on the 'harm' part (leg (c)). Which decision would ensue is not clear.