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Transfer Pricing and governance in the postal sector.

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Preliminary draft

Introduction

Williamson (1985) wrote that “the most significant organizational innovation of the twentieth century was the development in the 1920s of the multidivisional structure”. The postal operators were certainly in the past lagging behind in respect to the adoption of good organizational practices. Several recent developments, like the transformation of postal operators from administrations to public or private firms or the liberalization process in Europe, has pushed postal operators to modernize their organization. The passage from a unitary structure with centralized Decision (the “U-form”) to a decentralized structure with quasi-autonomous divisions is particularly important for postal operators who are expanding on new product or new geographical markets and who face changing environments. In this new context, operational and management decisions are decentralized.

With the creation of quasi-autonomous divisions or subsidiaries, in an operational context where the processes are mostly shared between divisions for obvious reasons of scope economies, the issue of the transfer price becomes central for the governance of the firm. In this new organisational form, the transfer price has to play three essential roles identified by the literature as: Accurate performance evaluation, goal congruence and divisional autonomy. The transfer price will determine the “profit” of a division and can thus serve to evaluate the manager of the division. The transfer price has to implement “goal congruence” (when the manager of a division satisfies its own objectives he is in the same time satisfying the objectives of the group as a whole). At last, the transfer pricing system has to induce divisional autonomy, a manager can take operational decisions without the intervention of the head office.

Because of the coexistence of commercial products and services of general economic interest (SGEI) in the activity of postal operators, the transfer price, besides of its governance role, has become a regulatory tool. Since the transfer price will impact the allocation of costs

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between SGEI and commercial services, authorities can have the temptation to control it in order to assure the absence of over compensation.

In a previous contribution² we described the problematic of the possible lack of consistency between the different case laws (state aids and antitrust) concerning cost allocations, we study now the interplay between the governance and regulatory aspects of the transfer price in the state aid framework. The general idea of the state aid framework is that the compensation of SGEI should not systematically cover the entire common costs (necessary to the provision of both the SGEI and competitive activities), but should take into consideration the participation of the other activities in the financing of the fixed common cost. But this objective is deviating from a compensation doctrine to a cost allocation doctrine, which has unfortunately numerous negative effects. We will show the possible distortions induced by the control of the transfer price and how some of these distortions could be avoided without endangering the respect of the state aid case law.

1) Model

We propose a stylized model that will serve to illustrate our arguments. We suppose that a postal operator is providing a service of general economic interest and is active on the banking and Express markets (respectively indexed by *bank* and *Ex*) through two subsidiaries. The subsidiaries use services provided by the postal operator as inputs for their own production. We suppose that the production of one unity of final good by a subsidiary requires the consumption of one unity of input.

- Cost functions

F_i^H is the fixed cost of the head office to support the competitive activity i , q_i is the quantity of output of the subsidiary on the market i and also the quantity of input sold to the subsidiary, c_i^H is the constant marginal cost of production by the head office of one unity of input for the subsidiary i .

When the postal operator is not active on the competitive markets, the cost of the head office (C^H) is:

$$C^H = F + q_{sgei} c_{sgei}^H$$

When the postal operator does not provide the service of general economic interest but only the competitive services, the cost of the head office is:

$$C^H = F + F_{Ex}^H + F_{bank}^H + q_{bank} c_{bank}^H + q_{Ex} c_{Ex}^H$$

When the postal operator provides both the SGEI and the competitive markets, the cost of the head office is:

$$C^H = F + F_{Ex}^H + F_{bank}^H + q_{sgei} c_{sgei}^H + q_{bank} c_{bank}^H + q_{Ex} c_{Ex}^H$$

² See Lécou & Roy (forthcoming).

F is thus a fixed cost, common to the competitive activities and to the SGEI, and measures here the value of scope economies. The cost of the subsidiaries (indexed by S) is:

$$C_i^S = q_i c_i^S, \quad i = Ex, bank$$

c_i^S is the marginal cost of production of one unity of output on the market i .

- Demand

For simplicity, the quantities and the price on the SGEI market are supposed in this model exogenous (e.g. imposed by the state or the regulator). We assume that there is no demand externality between the activities of the subsidiaries (bank and express) or with the provision of the SGEI. On the competitive markets, the subsidiaries will both face a competitor and competition will take place in quantity. The demand function on each market is $p_i = d_i - Q_i$, where p_i is the price of the market i and d_i is a demand parameter. Q_i is the total quantity produced on the market i with $Q_i = q_i + q_i^c$, q_i^c being the quantity produced by the competitor, this competitor has a marginal cost c_i^c and a fixed cost F_i^c .

2) Benchmark results

We provide some preliminary results describing the choice of the transfer price when there is no constraint imposed on it by the regulator, first in a centralized then decentralized setting.

- Centralized firm

Before considering the case with decentralization, it is interesting to consider first the case with centralization as a reference. The head office has access to all the relevant information and can choose the optimal quantity to produce on each market. Since the demand and cost (except for the fixed common cost) of each subsidiary are assumed to be independent, we can write the profit generated by the activity i for the head office as:

$$\Pi_i^H = -F_i^H - q_i c_i^H + P_i^t q_i$$

P_i^t is the transfer price paid by the subsidiary i to the head office. The profit of the subsidiary i is:

$$\Pi_i^S = -q_i c_i^S - P_i^t q_i + p_i q_i$$

If the head office maximizes the profit of the group as a whole, it will maximize:

$$\Pi_i^H + \Pi_i^S = p_i q_i - F_i^H - q_i c_i^H - q_i c_i^S$$

The transfer price will disappear from the program of the head office since the only role of the transfer price is to allocate the profit between the mother company and the subsidiaries without any effect on the aggregate level of profit. The role of a transfer price system is to give the good information and incentive to the subsidiary in order to guide its choices, and to

ensure goal congruence within the firm. When the decisions are centralized, it is thus straightforward to find that the transfer price plays no role anymore.

The Cournot-Nash equilibrium of the game is given by: $q_i = \frac{d_i + c_i^c - 2(c_i^S + c_i^H)}{3}$ and

$$q_i^c = \frac{d_i + (c_i^S + c_i^H) - 2c_i^c}{3}. \text{ The profit of the group is } \Pi_i = \left(\frac{d_i + c_i^c - 2(c_i^S + c_i^H)}{3} \right)^2 - F_i^H.$$

- Decentralized firm

In the decentralize setting, we suppose that the manager of the subsidiary takes its operational decisions in order to maximize its own profit (we will see that this will depend upon the way the manager is evaluated). The objective of the head office is to find the transfer price that will induce goal congruence (by maximizing its profit the manager will also maximize the profit of the Group). We study the following game: In a first period the head office chooses the transfer price, in a second period the subsidiary chooses its quantity to maximize its own profit. This game has to be solved using backward induction:

Second period:

The subsidiary maximizes its profit:

$$\Pi_i^S = -q_i c_i^S - P_i^t q_i + (d_i - q_i - q_i^c) q_i$$

The Cournot Nash equilibrium of the game will be given by $q_i = \frac{d_i + c_i^c - 2(c_i^S + P_i^t)}{3}$. And

$$\text{the profit of the subsidiary will be: } \Pi_i^S = \left(\frac{d_i + c_i^c - 2(c_i^S + P_i^t)}{3} \right)^2$$

First period:

In the first period the parent company chooses the transfer price in order to maximize the profits of the group as a whole. The profit generated by the activity I for the group is:

$$\Pi_i = \left(\frac{d_i + c_i^c - 2(c_i^S + P_i^t)}{3} \right)^2 + P_i^t \left(\frac{d_i + c_i^c - 2(c_i^S + P_i^t)}{3} \right) - c_i^H \left(\frac{d_i + c_i^c - 2(c_i^S + P_i^t)}{3} \right) - F_i^H$$

It is easy to verify the concavity of the profit respective to the transfer price. The optimal transfer price (for which the derivative of the profit will be equal to zero) is

$$P_i^t = -\frac{d_i}{4} + \frac{3}{2}c_i^H - \frac{1}{4}c_i^c + \frac{2}{4}c_i^S. \text{ We can compare this transfer price to the marginal cost of the}$$

$$\text{input: } c_i^H - P_i^t = \frac{d_i + c_i^c - (2c_i^S + c_i^H)}{4}.$$

When the decisions were centralized the quantities of the subsidiary were

$$q_i = \frac{d_i + c_i^c - 2(c_i^S + c_i^H)}{3}, \text{ the numerators of the two expressions are identical. If we assume}$$

that $q_i > 0$ with centralization, then $c_i^H > P_i^t$. The transfer price chosen by the head office

will be inferior to the marginal cost of the input. The fact that the transfer price is inferior to the marginal cost of the input does not mean that this transfer price has predatory features. For Bolton, Broadley, Riordan (1999) “a predatory price is a price that is profit maximising only because of its exclusionary or other anticompetitive effects”. And we have found the optimal transfer price taking the presence of the competitor as given. A transfer price inferior to the variable cost of the inputs is not equivalent to a price inferior to the variable cost on the final market since the subsidiary will then apply a mark-up on the transfer price.

The objective of a transfer price inferior to the marginal cost is to distort the incentives of the subsidiary in order to benefit from the strategic interactions of the Cournot competition. The literature has acknowledged the role of the design of manager’s compensations in oligopolistic markets. For example Klivas (1987) and Fershtman and Judd (1987) show how delegation (without any advantage in terms of information) can improve the profits of the firm [the strategic role of delegation was demonstrated the first time by Schelling (1960)]. If the remuneration of the manager is based on the profit allocated to the division, the transfer price will impact the strategies of the managers and can thus also serve as a strategic commitment device. The strategic role of transfer prices is studied by Alles and Datar (1998), and Gal-Or (1993).

The Group can thus obtain a higher profit with decentralization than without decentralization. The head office could also simply replicate the centralized results in the decentralized setting, obtaining less profit but with a simple transfer pricing rule. In the centralized setting the quantity of the subsidiary is $q_i = \frac{d_i + c_i^c - 2(c_i^S + c_i^H)}{3}$ and $q_i = \frac{d_i + c_i^c - 2(c_i^S + P_i^t)}{3}$ with autonomy of the subsidiary. It is then possible to reproduce the results obtained in the centralized scenario by fixing $P_i^t = c_i^H$. That is, with the transfer price equal to the marginal cost of the input. This result was first demonstrated by Hirshleifer (1956).

These fundamental results could be amended in order to take into account more realist environments. For instance, when multiple users are sharing a common facility, it is possible that the use of the resource by a division will impose negative externalities on other divisions (delay costs, degradation of services, congestion...). The transfer price will have to internalize these externalities [see for example Choe and Hyde (2007), Zimmerman (1979) or Gal-Or (1993)]. As explained by Göx and Schiller (2007) in addition to the promotion of an efficient level of internal and external trade and of efficient pricing decisions, the transfer prices also have to cope with the problems of asymmetric information and incomplete contracts and they play a strategic role in imperfectly competitive markets. We will thereafter simplify the analysis and we won’t keep the asymmetric information and incomplete contract features of the transfer price³.

³ Examples of the asymmetric information approach are Ronen and Balachandran (1988), Amershi and Cheng (1990), Banker and Datar (1992), Besanko and Sibley (1991), Vaysman (1996), Harris, Kriebel and Raviv (1982), Wagenhofer (1994)). This literature shows (for example Vaysman (1996)) that the optimal centralized solution can be replicated by an indirect mechanism where the manager decides its level of trade and effort and where the remuneration of the manager is based on the profit of the division. Examples of the incomplete contract approach are: Edlin and Reichelstein (1995), Baldenius, Reichelstein and Sahay (1999), Holmstrom and Tirole (1991), Sahay (2003), Baldenius (2000). In most of these papers, a division can make a specific investment that will improve the value of the internal trade. A result common to most of these models is that there will be a contradiction between two of the roles of transfer pricing. The transfer price has still to induce the good level of trade but it also has to give the incentives for the good level of investment.

3) The control of the transfer price in European Union

Hearn (2008) demonstrates the important accounting implications of the third postal directive on several areas of the activity of postal operators like price control, interoperability of postal networks and universal service. More specifically, the detail of the cost allocation rules for antitrust, transfer pricing, and compensations of services of general economic interest can be found in Lécou and Roy (forthcoming). The general idea followed by European Commission in its control of state aid is that the compensation of SGEI must not systematically cover the entire common costs, but must take into consideration the participation of the other activities.

In our previous analysis, we pointed out that there was a possible inconsistency between state aid cases and antitrust approach concerning cost allocation. Since then, the new postal Directive has reinforced this inconsistency, by introducing a new paragraph concerning cost allocation rules, in article 14 :

Art 14.3.b. iv : *“Common costs, which are necessary for the provision of both universal services and non-universal services, shall be allocated appropriately; the same cost drivers must be applied to both universal services and non universal services.”*

The link established by the court between “transfer prices” and state aid is based on the definition of state aid developed in the European treaty and in the case law of the court⁴. Besides this jurisprudential link between transfer price and state aid, the economic interdependence between these two issues is based on the following misunderstanding.

Let's imagine that the compensation awarded to the parent company is chosen in order to compensate its losses.

$$Compensation = C^H - p_{sgei} q_{sgei} - P_{Ex}^t q_{Ex} - P_{bank}^t q_{bank}$$

If this was the case, the transfer prices would play an essential role in the definition of the amount of the compensation. And this role could justify the control of the transfer price for state aid control. Without such control, the firm could, as an extreme example, choose a transfer price equal to zero, the cost incurred by the parent company to support its subsidiaries would then be subsidized by the state. But, as we will see there is an obvious confusion between a transfer price control and a compensation control. The question is not so much how costs are allocated between activities, but how much the SGEI activity should receive to be fairly compensated.

The control of the transfer price implemented by European authorities introduces the following constraint:

$$P_i^t \times q_i = k_i F + F_i^H + q_i c_i^H$$

⁴ A measure is considered as a state aid if it involves state resources, if the measure can be imputed to the member state, if there is a distortion of competition and trade and if a firm gets an advantage from the measure. A public postal operator can thus be considered as the source of a state aid to its subsidiary since (under certain conditions) the resources of a public firm can legally be considered as public fund, and since (under certain conditions) the decisions of a public firm can be imputed to the state.

k_i is the “adequate” share of the common costs allocated to the market i . For such transfer prices, the compensation will be:

$$\text{Compensation} = (1 - k_{Ex} - k_{bank})F + q_{sgei}c_{sgei} - p_{sgei}q_{sgei}$$

This amount of compensation is considered by the Commission as the superior threshold for the aid not to be illegal⁵. We will now see how this control introduces negative effects in the economics of the firm.

4) Distortions introduced in the governance of the firm

We have explained in our introduction that the three traditional roles assigned to transfer prices are: accurate performance evaluation, goal congruence and divisional autonomy. In practice these roles cannot be separated. This is the divisional autonomy that makes the verification of goal congruence necessary and this is the accurate performance evaluation that will allow goal congruence. If performance evaluation of managers is important in every firm, whatever its organisational form, it will then be even more essential for firms characterized by divisional autonomy. We argue that an allocation of cost based on the “fully distributed costs” cannot be used efficiently as a tool to evaluate the performance of a manager.

a) Performance evaluation

Linking remuneration of an employee to its output is a traditional way to promote incentives to a greater level of effort. In a principal-agent setting where the owner does not observe the level of effort exerted by the employee, there is a traditional trade-off between incentive and insurance [see Laffont and Martimort (2002)]. A scheme of remuneration with more incentive power will also be more risky for the employee. This increase in the level of risk will thus have to be compensated by a risk premium.

One important idea is that in order to limit this risk premium to the maximum, it will be necessary to reduce the “noise” present in the result of the employee. By noise we refer to the part of the result that is independent from the actions of the employee. These exterior elements should not be taken into account in the remuneration since they have no effect on the level of effort but increase the level of risk. The optimal scheme of remuneration should take this point (among others) into account. In practice owners often use simple instruments (stock options, bonus linked to results...) to approach this optimal solution. As shown by Negrea (2006), the accounting measure of the performance of a division is one of the most important criteria adopted in practice for the rewarding of managers.

Since the accounting results of the divisions will depend upon the transfer price, the transfer price will have a direct impact on the remuneration of managers. One important issue in order to evaluate the appropriateness of the fully distributed cost approach to transfer prices is thus to verify that this form of transfer price is characterized by the stability necessary in the context of remuneration in order to limit the risk premium. The distortion introduced by a control of transfer prices had already been mentioned in the context of the taxation of multinationals⁶. For example Göx and Schiller (2007) note that the control of transfer prices

⁵ “Community Framework for state aid in the form of public service compensation”, published by the commission in 2005.

⁶ The transfer price will modify the profits allocated to the different countries and so the basis of taxation. In order to avoid this “tax evasion” a certain number of rules have been defined. Most countries follow the

proposed by the OECD may distort the resource allocation of the firm, see also Negrea (2006) who shows that accounting results cannot be used anymore in multinational enterprises since the control of the transfer prices makes the accounting result uninformative.

- distortions caused by endogenous allocation methods

Let's take the example of an allocation of cost based on the amount of cost that can be allocated to each activity at the level of the head office⁷. The subsidiary i will have to bear a

part of the common cost defined as:
$$k_i = \frac{F_i^H + q_i c^H}{(F_{Ex}^H + q_{Ex} c^H) + (F_{Bank}^H + q_{Bank} c^H) + (q_{sieg} c^H)}$$

It is immediate to see that this share of the common cost will vary with factors independent from the decision of the managers of the subsidiary i . Decisions made by the manager of the other subsidiaries concerning their quantities or their cost will modify the share of common cost assigned to the subsidiary i . The manager of the subsidiary i will thus face an increase in the risk of its reward and this increased risk will eventually have to be compensated by a risk premium. This issue is particularly important for postal operators who face high level of common costs. Hearn (2008) shows for example that the costing system of Royal Mail only attributes 53% of total costs to specific services, and that USPS has managed to attribute only 54 percent of total costs to specific services.

- Distortions caused by “exogenous” allocation methods

The increase in risk is conserved even if one tries to make the allocation factor exogenous.

For example, we can adopt the simplest possible method of allocation $k_i = \frac{1}{n}$, with n the number of activities (SGEI and competitive subsidiaries) of the group. Each activity will bear the same share of the common costs. The level of production or efficiency of the other subsidiaries won't affect the result and so the reward of the manager of the subsidiary i anymore. But the manager is not immune to more drastic changes occurring to the other subsidiaries since the closure of a subsidiary will impact the allocation of the common cost. A method to allocate costs in a “fully distributed” way can never be totally exogenous since the share of the common costs not covered by the closed subsidiary will necessarily report on the other subsidiaries.

This possibility of the closure of a subsidiary is reinforced by the transfer price control itself. The subsidiary won't be able to pay the transfer price required by the commission if: $k_i F + F_i^H > \Pi_i^S$. A regular firm without SGEI and without transfer price control would exit the competitive market only if: $\Pi_i^S - F_i^H > 0$.

guidelines provided by The OECD. These guidelines are based on the arms length principle. It means that the transfer price set by a firm has to reproduce the price that would prevail in the relation between two independent firms.

⁷ The postal directive adopted in 2008 states that: Article 14.3.iii “When neither direct nor indirect measures of cost allocation can be found, the cost category shall be allocated on the basis of a general allocator computed by using the ratio of all expenses directly or indirectly assigned or allocated, on the one hand, to each of the universal services and, on the other hand, to the other services.”

The risk of closure is thus more important with the control of the transfer price. Besides the “governance” effect, the closure could have an other negative aspect if it leads to an iterative closure of the subsidiaries. For example if the express subsidiary has to close because $\frac{1}{3}F + F_{Ex}^H > \Pi_{Ex}^S$. The bank will now have to bear half of the costs that were previously allocated to the Express. It is then possible that the bank cannot cover its new share of the common cost because $\frac{1}{2}F + F_{bank}^H > \Pi_{bank}^S$. The bank will also have to close and the SGEI will now have to cover all the common costs implying an increase of the price of the service of general economic interest or an increase of the level of compensation.

For these reasons, accounting results based on the fully distributed cost cannot serve to evaluate managers. One could argue that a transfer price based on the marginal cost wouldn't be optimal neither, this is certainly true. Remuneration of managers is a complex issue, but that is why it would be essential not to interfere with it, letting the Group define by itself the best rewarding solution.

b) Goal congruence

The other important role of the transfer price in a decentralised environment, besides the performance evaluation component, is goal congruence. The transfer price has to be such that the division (or the subsidiary) who is maximizing its own profit is in the same time maximizing the profit of the firm as a whole. We make here the simplified assumption that the reward of the manager is solely based on the results of its division, so that the manager will try to maximize this result⁸.

We have seen in our benchmark results that an operator could simply assure goal congruence by equating the transfer price and the marginal cost, or do even better by choosing a transfer price inferior to the marginal cost. This won't be possible anymore with a control of the transfer price. In the first period of the game, the head office has to fix the transfer price so that $P_i^t = c_i^H + \frac{k_i F + F_i^H}{q_i}$. We thus find that $P_i^t > c_i^H$. The transfer price will be superior to the marginal cost. It is not possible anymore to reproduce the results of the centralized firm.

From the expression of the quantity $q_i = \frac{d_i + c_i^c - 2(c_i^S + P_i^t)}{3}$, we can deduce immediately that the increase in the transfer price will result in a decrease of the quantities produced by the subsidiary. The distortions introduced by the regulation will thus affect the postal operator but also the consumers of the competitive markets who will face higher prices. The transfer price is transforming the fixed costs of the head offices in variable costs for the subsidiaries, while at the optimum, fixed costs should not affect the marginal decisions of the firm. This distortion is close to the double marginalization issue described by Spengler (1950).

⁸ This hypothesis is particularly adapted to public postal operators who cannot use stock options in their incentive schemes.

These marginal distortions could be avoided by using a form of “two part” transfer price, with a fixed component: $T = k_i F + F_i^H$ and a variable component $P_i^T = c_i^H$ ⁹. However Kaplan and Atkinson (1998) show that firms rarely adopt this solution in practice.

5) Reform proposal

A reform proposal should satisfy two objectives. First it should give the maximum amount of freedom to the firm in respect to internal allocation rules in order not to interfere with its governance. Second, it should be coherent with the rules governing the control of the compensation for SGEI. We show that these two objectives are not necessarily incoherent.

In practice, what really matters should be that the SGEI should benefit from a contribution issued from other activities as they enjoy economies of scope from the provision of the SGEI. The compensation must be fixed after a proper analysis of the costs of the mission and not in order to compensate the losses of the firm. In theory, it also seems to be the approach legally relevant¹⁰. Therefore, there is no need to consider transfer prices in the analysis of the level of the compensation.

$$\text{Compensation} = k_{sgei} F + q_{sgei} C_{sgei} - p_{sgei} q_{sgei}$$

Where k_{sgei} is the “appropriate” coverage of fixed common costs. The same level of compensation can be established, than the one found through the control of the transfer prices, but this time there is no need to take them into account. It doesn’t mean that the subsidiaries don’t have to participate to the financing of the common cost incurred by the parent company. But this financing is independent from the computation of the aid.

The profit of the parent company after the compensation, but before any transfer from the subsidiaries is:

$$\Pi^H = -F_{Ex}^H - F_{bank}^H - q_{bank} C_{bank}^H - q_{Ex} C_{Ex}^H - (1 - k_{sgei}) F$$

In order for the parent company to remain solvent, the postal operator will have no other choice than to organize the compensation of the loss of the parent company by the subsidiaries. The head office can organize these transfers in the way he judges the most efficient (we do not study this issue here, the only conditions will be that $k_{Ex} < \Pi_{Ex}^S$ and $k_{Bank} < \Pi_{Bank}^S$). An advantage of this approach is that a subsidiary that cannot cover its fully distributed cost will not have to close anymore if the other subsidiaries can cover the difference.

⁹ Or a scheme with a higher lump sum fee and a lower variable component in order to profit from the strategic interactions of the Cournot competition.

¹⁰ For example, in its decision concerning the financing of the SGEI of the postal operator in UK, the commission stated that “It should be noted that under the framework the assessment of the amount of compensation is made in terms of costs rather than of financing needs of the enterprise entrusted with the delivery of the public services”. Decision of the 7 march 2007, “debt payment funding to Post Office Limited for 2007-2008”

It is not necessary that financing of the common cost by the subsidiaries pass through the transfer price. An interesting possibility would be to use the transfer price only to recover the incremental cost or marginal cost. The common cost would then be financed through the distribution of dividends from the subsidiaries to the parent company. It would be a solution to the instability of the transfer price since the share of the common costs would not be part of the accounting results¹¹ anymore.

Summary and conclusion

In a simplified setting, a divisionalized Group free to choose its transfer prices can replicate the centralized scenario by equating transfer price and marginal cost of the input. With Cournot Competition, the Group can even improve its profits respective to the centralized scenario by choosing a transfer price inferior to the marginal cost. When the transfer prices are used by a regulation authority to organize the financing of a common cost by the subsidiaries, the governance of the firm is impacted. First, the result of the divisions which is a traditional tool for the evaluation of the performance of the managers becomes unstable. The accounting result is thus less efficient as a way to evaluate and remunerate the managers. The control of the transfer price also jeopardizes goal congruence within the group. By imposing a form of double marginalization, the control of the transfer price will result in a decrease of the level of production. The control of the transfer price can also lead to the closure of a subsidiary and in the worst case scenario to an iterative closure of several subsidiaries.

We show that these negative effects of the control of the transfer price could be avoided without endangering the respect of the state aid case law. In practice, the amount of compensation authorized by the commission is not based on the loss of the division providing the SGEI but on a proper cost analysis of this SGEI, and this cost is independent from the transfer prices. The transfer price does not serve to compute the level of common cost covered by the subsidiaries, but only the way this cost will be shared by these subsidiaries. We argue that this question is essentially an internal issue¹². The repartition of the participation to the common cost can be chosen by the group in the way it judges the most efficient. For example, the transfer price could be used to cover the incremental cost (eventually using a form of two part tariff), and the common cost could be covered by a separate contribution taking the form of the distribution of dividends.

¹¹ The allocation chosen by the firm certainly won't be neutral, even if it does not interfere with the reward of the manager anymore. It can, for example, have an impact on the investment capacity of the subsidiary, Eccles and White (1988) show that allocation of a common cost is often source of tension within the firm.

¹² This is true only if each subsidiary generate enough revenue to cover their incremental cost, in order to respect the antitrust case-law.

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