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# ADMINISTRATIVE AND TRANSACTION-RELATED COSTS OF SUBSIDISING AGRICULTURE

## Abstract

*Administrative and transaction-related costs have a long-established position in economic sciences, including agricultural economics. Unfortunately, so far economists have not created a uniform methodology for defining, classifying, and measuring them. The direction that perhaps should be considered most promising when seeking advancements in this field is the Standard Cost Model (SCM) and its derivatives (e.g. ACM). However, it needs to be supplemented with tools from the area of new public management that is Public Value, CAF, or the ISO 9001 standards.*

*As regards financial interventionism, administrative and transaction--related costs first made their appearance in the area of credit subsidies. It was much later that the research focused on the evaluation of the overall "tool kit" of financial and budgetary policy in agriculture. It has been conducted, however, on the basis of different methodologies which hampers the comparison of the produced results. Also, the test samples were often too small to be used in the more advanced quantitative analyses.*

## Introduction

Administrative expenses, also called administrative burdens, and transaction costs have found a permanent place in economics. However, still missing is a uniform approach to defining them and, therefore, there are also no measurement methodologies and convincing practical recommendations oriented at least at their rationalisation, and sometimes also at the possibility of their significant reduction.

In the area of financial intervention in agriculture, level and structure of both types of the above costs were analysed, initially in the area of subsidised loans. Without doubt, the greatest contribution in this research area is owed to S. Mann (2008). Later, works raising issues of administrative burden and transaction

costs of subsidies falling under the EU Common Agricultural Policy were published. Paradoxically, however, the most interesting financial analysis of supporting agriculture first appeared in Norway (Royer A. 2011; Vatn A. 2001; von Pischke J.D. 2001). Among the countries belonging to the EU the British researchers contributed the most to understanding of the mechanisms governing the behaviour of these costs. In particular, in the research conducted by K. Falconer and M. Whitby (1999a-b; Falconer K., Whitby M., Dupraz P. 2001). These two economists reached at a certain point the status of authorities in terms of administrative and transaction costs incurred in agri-environmental programmes, and – however to a lesser extent – in programmes relating to rural development. In Poland, the administrative burdens and transaction costs have so far been researched only by B. Wieliczko (2010), but her interests have focused mainly on issues of terminology and general grounds of rationalisation of both of these cost categories.

The CAP reform calls for addressing the issue of administrative burden and transaction costs incurred by the final beneficiaries of the support offered under this policy. Undoubtedly, the problem deserves the attention also because of the often formulated contrary expectations concerning the future CAP, which can be summed up as follows: the CAP should be ambitious, better targeted, based on objective criteria – most preferably of a prospective character but, on the other hand, also less bureaucratic and more friendly towards farmers and the other stakeholders it addresses.

The article consists of a brief introduction, overview of definitional approaches and methods for measuring both types of costs and their determinants, dependency analysis between the costs and the effectiveness of subsidies and presentation of transaction costs' estimates for three instruments of budget support offered to agriculture in Poland. The whole concludes with a summary.

## Defining and measuring

As already signalled, so far, there has not been developed a generally accepted definition of transaction/administrative costs, which would clearly stipulate a procedure for their measurement. Most proposals refer to the views presented by K.J. Arrow, C.O. North and E.O. Williamson, the three outstanding American Nobel Prize winners. But in their works it is also difficult to find a suitable approach for their later use as a corresponding calculation formula. Without further developing the evolution of these costs, it can be stated that transaction costs are those that arise when an individual exchanges ownership rights to economic assets and enforces their exclusive claims on them (T. Eggertsson, cited based on: Benham A., Benham L. 2005).

When information has a cost, the different types of activities related to the exchange of property rights between individuals give rise to transaction costs. These activities include:

1. Search for distribution of prices and quality of goods and labour input, potential purchasers and recipients, their behaviour and other characteristics.

2. Negotiating and thus determining the true position of the parties to the transaction when prices are determined in an endogenous way (under a contract).
3. Conclusion of a contract.
4. Monitoring of compliance by the parties to the contract with accepted conditions and liabilities.
5. Enforcement of contract and identification of threats to its implementation.
6. Protection of property rights against infringement by third parties, including public authorities.

With the above specifications it is further assumed that transaction costs will be generated on farms, and the burden borne by the other participants in the system of financial intervention in agriculture are to be treated as administrative costs.

Typically, the measurement of transaction/administrative costs is conducted *ex-post*. It consists of describing the whole process of transaction/contract conclusion and estimating personal and other costs, and then summing them up. This simple approach, however, has a serious drawback: a great freedom in mapping the process and assigning respective cost components to its phases. It is for these reasons that for several years some research centres have been trying to apply the achievements of management accounting, in particular, to the Activity Based Costing (ABC). The Standard Cost Model (SCM) explicitly refers to it as a precise and uniform proposal of how to measure both of the analysed costs in design and implementation of agricultural and rural policies.

The SCM is a tool for dividing the whole regulation process into components and activities easier to manage and estimate administrative costs (burden) relating to compliance with a given regulation. These costs are determined by summing individual (for each farmer) external and internal components, which stem from information obligations relating to a given regulation. The base for the estimation are adequately distinguished activities and connected with them demands for information. Internal costs are calculated as a multiplication of the time required for a given activity and wage rate, and a number of activity repetitions. This total is then increased by adding overall costs at a rate of 30%. External costs express the expenditure related to professional purchases of goods and services. By multiplying total costs per one farmer and their total number an aggregated administrative cost can be determined. The general presentation of the SCM is shown in Figure 1.

The implementation of the SCM is a difficult undertaking, but in most developed countries intensive works on this are conducted. This is due to high transparency of the calculation and precise identification of areas with the greatest opportunities to rationalise and reduce transaction and administrative costs. However, numerous and complex conditions of a wider dissemination of the SCM should not be forgotten. They concern farmer's readiness to inform in such a detail about the costs and the occurrence of numerous mismatches on the side of the entire institutional system related to financial interventionism. However, the SCM, as well as other proposals similar to it, in particular the Australian Cost Model (ACM), do not include the costs associated with the generation of value

(the problem of measuring the value for money). They also do not include the inefficiency costs, the fact that there is a specific life cycle of some regulations and instruments, stochastic features of some regulations and the possibility of occurrence of a problem referred to as Root-Cause Analysis (RCA), meaning blurring the whole picture by gathering a large number of very specific pieces of information. Without resigning from improving the accounts based on the concept of activity costs a Public Value approach is developing in parallel. It is a more holistic approach, focused on increasing the value added to society resulting from functioning of authorities and public services. Unfortunately, most of the existing proposals in the area of Public Value are still mostly of an academic character.

Nowadays, there are already significant opportunities to rationalise the administrative costs of offering wider dissemination in the public sector of quality management systems, complying with ISO 9001 and a self-assessment methodology based on the model of Common Assessment Framework (Bugdoł M. 2011).

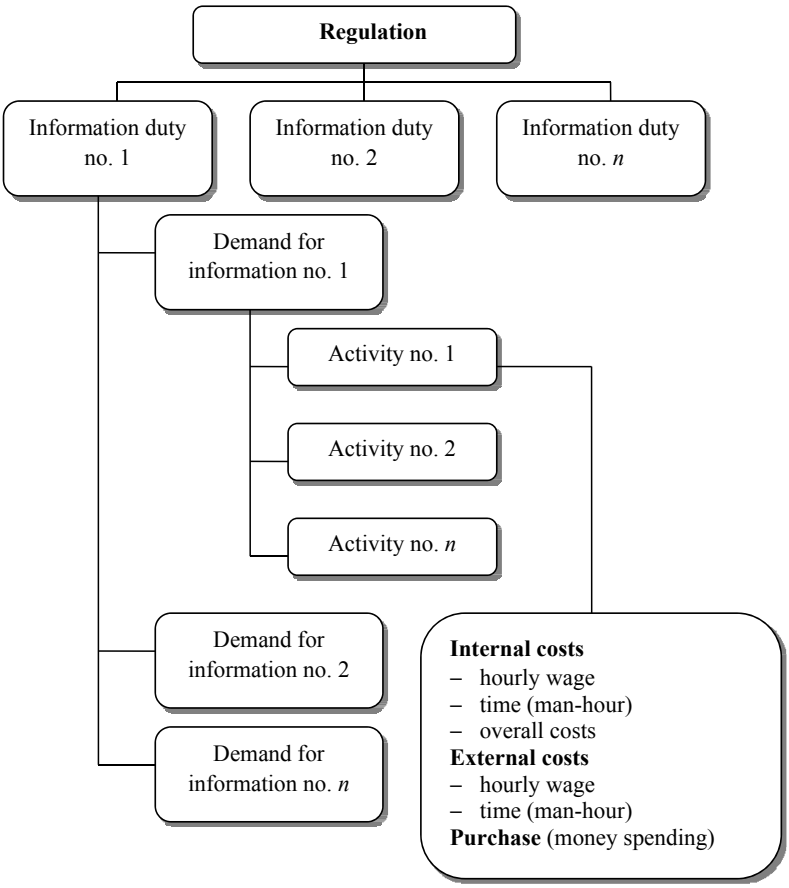



**Fig. 1**. Standard Cost Model (SCM)

Source: Own elaboration based on: (Using the Standard... 2010).

In our state and local administration over 300 quality management systems have been implemented. Previous summaries thereof showed that improvement of the public sector's functioning and thus rationalisation of the costs incurred depends on the ability to implement the idea of quality chain, eliminate organisational barriers, use external information and integrate all available databases, delegate decision-making, create one-stop-shops, or the possibility to tackle all clients/applicants' issues in one place (Bugdoł M. 2011; Hryniewicz T.J., Olejniczak K., Widła-Domaradzki Ł. 2011).

## Determinants of administrative and transaction costs

This problem is most convenient to analyse when we refer to looking at transaction costs in the way proposed by O.E. Williamson (Rørstad K.P., Vatn A., Kvakkestad V. 2007; Urbanek P. 2011; Vatn A. 2001, 2002). The author describes each transaction using three attributes:

1. **Specificity of assets**. This means that a transaction may require making some investments, leading to appearance of assets generally not suitable to conduct other transactions. Specificity applies to quality features of goods. These of them which are universal and homogeneous cannot be considered to be specific in terms of this attribute. Goods with unique characteristics and thus requiring the involvement of assets specific just to them can be found at the other extreme. As a result, all the components of transaction costs may have a tendency to increase compared to goods from the first group, because there is no information about previous transactions and conclusion of a contract is more complicated, similarly to controlling its implementation and compliance with the stipulated conditions. Generally, a hypothesis is justified that increasing asset specificity leads to an increase in transaction costs.
2. **Uncertainties.** In a market economy uncertainty and risk are normal things. Then there is human opportunistic behaviour and peoples' limited cognitive abilities. Under these conditions contracts are incomplete, i.e. cannot cover all possible future states of nature and events. Thus, a pragmatic solution is to create even imperfect institutions rather than try to construct complete (full) contracts. It should be noted that contracts are a kind of institution reducing the risk and uncertainty of market exchange, but associated with certain transaction costs.
3. **Frequencies**. This attribute refers to the relationship between the parties to a transaction/contract expressed by its one-off nature, occasional character or reproducibility. Another way to describe it is to determine the number of entities contracting in a similar manner. If in order to conclude a transaction or a group of them, it is required to create an appropriate governance structure (such as a paying agency), the costs associated with it will be easier to recover when the number of repetitive operations grows. When the frequency of transactions is not large, but the costs of establishing the said structure are high, there is a need to try to aggregate similar, although still separate,

transactions. Higher frequency of transactions means that they are concluded for a shorter term. They can easily be modified and thus the uncertainty related to them may be reduced, but then an increase in transaction cost must be taken into account. These interlinks usually look differently in the case of long-term transactions. It must be added that short-term transactions generally reduce partners' willingness to invest in specific assets. However, in the case of long-term transactions this may lead to monopolisation of the market. If the information necessary to conclude a specific transaction is available on the market, transaction costs – as a rule – should be low. However, when such information is missing or is incomplete, and the frequency of transactions is low, it becomes a reasonable hypothesis that these costs will grow. Because virtually every transaction cost has a fixed component, as a universal rule, we can assume that with increasing frequency (repetition) there should be a decrease in unit cost (per worker, ha, PLN 1 of public support), as there is a decrease in fixed costs. Again, it is worth mentioning here that the increasing frequency of transactions increases the confidence of the parties, which inhibits the growth of transaction costs.

Based on these three attributes of a transaction, K.P. Rørstad et al. constructed an interesting analytical scheme, which allows for evaluating the transaction and administrative costs also in an *ex-ante* convention (Rørstad K.P., Vatn A., Kvakkestad V. 2007). It should be added here that the above three researchers replaced the uncertainty attribute with a point of policy application attribute, which means directing agricultural policy towards traditional products (group I) and remaining aims (group II), primarily to provide public goods and services. It is shown below.

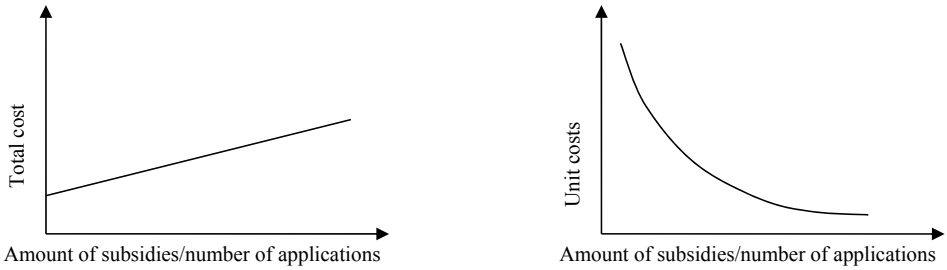
**Expected level of transaction costs (TC) depending on type of goods and transactions**

| | Types of goods and transactions | | | | |
|---|---|---|---|---|---|
| Policy instruments: | relating to private goods (group I) | | relating to other elements (group II) | | |
| Assets specificity: | low | | medium | | high |
| Frequency: | high (G.I.1) | medium (G.I.2) | medium (G.II.1) | low (G.II.2) | low (G.II.3) |
| Components of transaction costs: | | | | | |
| • information | low | low to medium | medium | medium to high | high |
| • contracting | minimal | minimal | medium | medium to high | high |
| • control | minimal to low | low to medium | medium | medium to high | high |
| Sum of TC | minimal to low | low to medium | medium | medium to high | high |

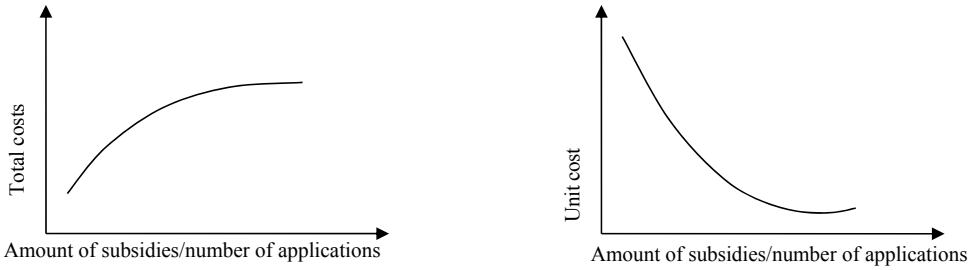
Source: Own elaboration based on: (Vatn A. 2002).

Analysing group I, we can assume that information needed to conclude a transaction is available and it will be relatively easy to control, asset specificity is low, thus they are relatively commonplace. All these characteristics make it possible to hypothesise that in this group transaction costs should be low. The situation will be different in group II: specificity of assets will increase, which normally should imply a decrease in the frequency of contracting. Ergo: the more probable hypothesis here is the one of increasing transaction costs. The case is a bit more complicated if an instrument of agricultural policy, including subsidies, has an intermediate character between the two previously highlighted groups. A good example of such a situation is linking direct payments with principles of cross-compliance and thus combined production of private and public goods (environmental ones). One should create an appropriate information system. Usually there will also be a need to undertake some adjustment investments in agricultural holdings and thus increase the specificity of these assets, which logically can slightly reduce the incidence of contracting. In these conditions, it is a logically justified hypothesis that transaction costs in the described combination of products will be somewhere between the two poles set by the characteristics of the two groups.

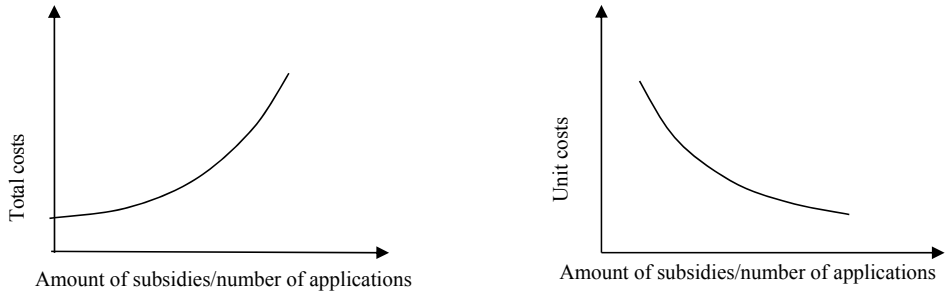
Administrative and transaction costs have their fixed and variable components. It is thus reasonable to refer again to managerial accounting, which has already worked out very precise methods of identifying fixed and variable costs. Theoretical and empirical presentation of administrative and transaction costs of granting direct payments are shown in Figures 2 and 3. Without going into detail, it is worth recalling that fixed costs are subject to decrease. This means that they decrease with accumulation of the number of repeated applications of a specific budget support instrument. The occurrence of this decrease and the emergence of a learning effect and tweaking of the whole subsidy system are important premises of its rationalisation and of the improvement in overall efficiency of budget support. This issue will also be tackled in further part of the article.




a) mixed costs (fixed + proportionally flexible)

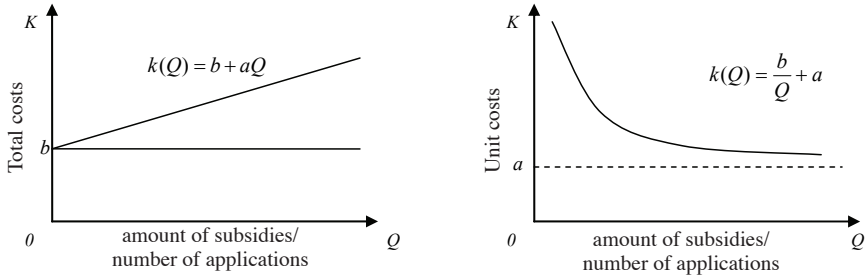



b) mixed costs (fixed + degressively flexible)

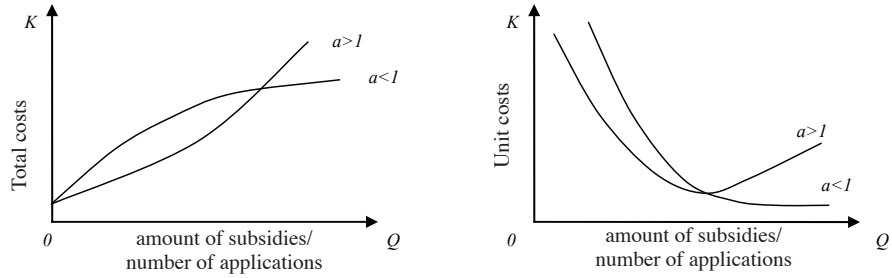



c) mixed costs (fixed + progressively flexible)

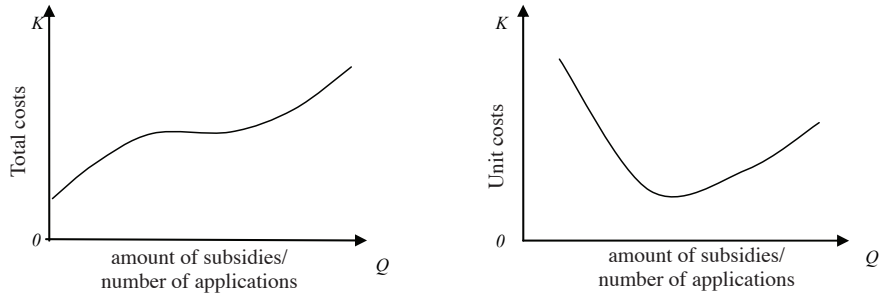
**Fig. 2**. Hypothetical total cost of benefiting from direct payments (theoretical stylised approach)
Source: Own elaboration.




a) Linear function of total cost regression and corresponding with it its hyperbolic regression function of unit cost




b) Power function of total cost regression and corresponding with it its hyperbolic regression function of unit cost




c) Function of total cost regression in a form of a third degree polynomial and corresponding with regression function of unit cost

**Fig. 3**. Hypothetical regression function of total costs (sum of fixed and flexible costs) of benefiting from direct payments

Source: Own elaboration based on: (Nowak E. 2003).

So far, only K. Falconer and M. Whitby and P. Dupraz presented advanced formal approach on how to empirically identify determinants of the level and structure of administrative and transaction costs of agri-environmental programmes (Falconer K., Whitby M., Dupraz P. 2001). This proposal included the following four assumptions, hypotheses and mathematical specifications:

1. Budget cost of the agri-environmental programme being evaluated (*EC*) consists of payments directed to farmers (*P*) and administrative costs.
   EC may depend on:
   – area covered by a programme (*s*);
   – number of contracts concluded in a programme (*c*);
   – number of years of a programme (*d*);
   – specific characteristics of a programme itself (*Z*), so levels (differentiation) of payments (*P*), number of variants (options) of management requirements and other conditions for the implementation of regionally differentiated agri-environmental policies.
2. Budget cost *EC* will probably grow with an increase in the number of contracts, because then an increase in administrative costs *C* attributable to a single contract is to be expected. An increase in *EC* should also be expected, other things being constant, when the contracted acreage grows because payments *P* are determined per hectare.
3. However, it is probable that budget cost *EC* will decrease with extension of the programme's implementation period. This is due to a decrease in administrative costs *C* as a result of the programme's better tuning and accumulation of learning effects (slender processes, multiplication of human capital, better understanding of the transactional and organisational structure of the programme by all involved in it) and a stronger manifestation of fixed costs' digression (with lengthening of the programme's functioning period the costs of its implementation in the total costs decreases, i.e. costs incurred during the whole period of its life).
4. Due to existence of a fixed component of administrative costs *C*, it is expected that the administrative cost function, and thus the cash costs function *EC* will demonstrate the economies of scale, i.e. marginal cost per contract will be decreasing. Since the administrative costs function and the payment function *P* will be analysed separately, difference between marginal budget cost per 1 ha and marginal administrative costs for 1 ha will result in a marginal payment per hectare. It is, therefore, expected that this payment will have a positive value. Inclusion of the marginal cost category to these considerations forced Falconer et al. to use differential calculus.

These four hypotheses and assumptions combined can be expressed mathematically by the following specifications:

$$EC(c,s,d,Z) = P(s,Z) + C(c,s,d,Z)$$

$$\left.\frac{\partial C}{\partial c}\right|_{s,d,Z} > 0$$

$$\left.\frac{\partial C}{\partial d}\right|_{c,s,Z} < 0$$

$$\left.\frac{\partial^2 C}{\partial c^2}\right|_{s,d,Z} < 0$$

$$\left.\frac{\partial P}{\partial s}\right|_{z} = \left.\frac{\partial EC}{\partial s}\right|_{c,d,Z} - \left.\frac{\partial C}{\partial s}\right|_{c,d,Z} > 0$$

After the appropriate tests it was found that the generalised quadratic function well satisfies the condition of the second order differential of the above cost function. Then, the interpretation of the estimated parameters is also easier, since they correspond to the partial derivatives of the first and the second order for the dependent variables (*EC* or *C* or *P*).

**Administrative and transaction costs and subsidy effectiveness**

The above problem was considered in detail by S. Mann (2001). The starting point for the Swiss researcher was to determine the share of transaction costs in the amount of budget support. This allowed him to propose a general formula to determine the efficiency/effectiveness of any subsidy:

$$E = \frac{Z}{I(1+S)} \tag{1}$$

where:
*E* – efficiency/effectiveness,
*I* – funds made available ,
*S* – share of transaction costs,
*Z* – results achieved.

Although Mann uses interchangeably the categories "efficiency" and "effectiveness" of budget support, it seems that the first term is more appropriate to explain the analysed problem. It is so because effectiveness is sometimes equated with the action giving the most positive, desired results and the achievement of pre-established goals. However, generally it is not stated what were the involved resources and incurred costs. It is efficiency that answers such questions. In this case the obtained results are compared to costs incurred – in the form of a ratio or a difference. In broad terms, effectiveness also implies efficiency. For these reasons, the article uses the term "efficiency" when analysing the transaction and administrative costs in relation to the spending of budgetary funds and the consequences of agricultural policy.

If funds at the disposal were used to cover certain components of transaction costs, element $I$ in the formula (1) should be reduced accordingly. If someone wanted to interpret the formula (1) mechanically, they would come to a completely unrealistic conclusion that $E_{max}$ is reached when $S$ equals zero. In practice, in any system of budget support there are always some costs of an administrative nature, though. In the real world, therefore, we will always have to deal with some interchangeability between justice (rightness) and efficiency. In other words, minimal transaction costs could appear when awarding a one-time support to the first entity applying for it, but efficiency and fairness could suffer.

Mann also notes the predominance in the real world of non-linearities between effects ($Z$) and transaction costs ($S$). If, for example, they were described using a second degree polynomial, a following formula would be obtained:

$$Z = a + bS - cS^2 \tag{2}$$

where: $b > 0$, $c > 0$ and $S > 0$.

Substituting now the formula $Z$ with formula (1), we obtain the following formula for effectiveness (efficiency) of budget support:

$$E = \frac{a + bS - cS^2}{I(1+S)} \tag{3}$$

If we then calculate the first derivative of fraction 3, then we come to the following linkage between transaction costs and effectiveness (efficiency):

$$\frac{\delta E}{\delta S} = \frac{(b-2cS)}{I(1+S)} - \frac{(a+bS-cS^2)}{I(1+S)^2} \tag{4}$$

Thus, a maximum effectiveness $E_{max}$, for positive transaction costs ($S > 0$), would be for:

$$S_1 = \frac{\left(-c + \sqrt{(-ac + bc - cS^2)}\right)}{c}$$

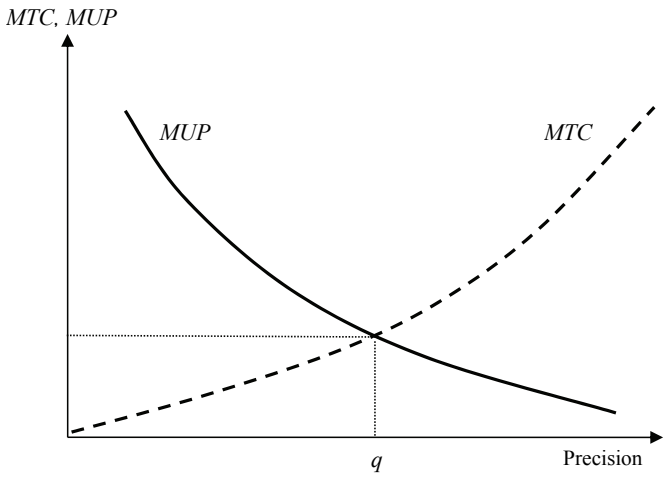
if:

$$\sqrt{\left(-\frac{a}{c} + \frac{b}{c} + 1\right)} > 1$$

As one can see, the sufficient and the necessary conditions would have to be fulfilled in order to determine the optimum (maximum function). This is a very strong assumption, therefore, in practice it is rarely met. Thus, the optimality of a particular system of budget support is not usually achieved with minimal transaction costs. This is because a given policy always involves certain administrative costs and subsidies almost always have a certain component of income redistribution, and therefore have the nature of a transfer, and that means that we also slightly deform the mechanisms of resource allocation. When conducting

a policy, we must therefore accept some losses in allocation efficiency, but it is a fundamental interchangeability in economics (trade-off) between efficiency and justice. On the other hand, it is worth remembering that even if agriculture was not subsidised, transaction costs would still occur. This time they would be related to farmers' using financial market instruments. Because this market is, and in the future it will probably be even more regulated, also then we would have to deal with public and private transaction costs.

In the debate on the proposal submitted by the Commission concerning the CAP after 2013, there continuously appears the issue that it can lead to CAP's further bureaucratisation. At the same time, however, there are expectations that the future CAP must be better addressed. It is often forgotten that between administrative/transaction costs and precision (optimisation) of agricultural policy instruments there are various trade-offs. It is in this context that it is advisable to have a closer look at the way A. Vatn presents this problem (Figure 4).




MTC – marginal transaction costs.

MUP – marginal utility of instrument's precision.

**Fig. 4**. Trade-off between marginal transaction costs and precision of addressing policy instruments

Source: (Vatn A. 2001).

More specifically, precision here means achievement of a set of objectives, and thus minimising the difference between the planned and achieved level, assuming that transaction costs are equal to or greater than zero. The objectives can have either quantitative or qualitative character.

In a general sense, as it is apparent from Figure 4, greater precision is usually accompanied by marginal decrease in its utility and increase in marginal costs. We are, therefore, dealing with a trade-off. However, we can determine the optimum point *q* in Figure 4. It is worth noting that the component of fixed costs

included in transaction costs is covered by a surplus of MUP over MTC accumulated from zero to the point $q$. The calculation of the latter or even its estimation requires extensive knowledge and experience in quantitative and qualitative aspects of any political decision. This increases the informational complexity of any policy optimisation. Transaction costs can thus significantly grow. Marginal utility of precision (MUP) depends on good's characteristics. The more specific it is, the more its utility increases. Also marginal transaction costs (MTC) vary depending on the goods in question, but also on the type of policy instrument.

## Transaction costs of agricultural subsidies in Poland

In May-September 2011, the IAFE-NRI conducted a survey of large individual agricultural holdings concerning the assessment of these costs when applying for direct payments, LFA and agri-environmental payments. In total, 21 farmers correctly filled in the whole questionnaire.

Table 1

**Labour input associated with obtaining subsidies**

| No. | Types of subsidies | Man-hour inputs | | $\frac{\text{Col. 4}}{\text{Col. 3}} \times 100$ |
|---|---|---|---|---|
| | | first year | following years | |
| 1 | 2 | 3 | 4 | 5 |
| 1 | Direct payments only | 9.3 | 4.2 | 45.1 |
| 2 | Direct payments + LFA | 7.0 | 3.0 | 42.9 |
| 3 | Direct payments + LFA + AEP | 12.3 | 6.5 | 52.8 |

Source: Own elaboration.

When it comes to workload of applying for these payments, there is a clear difference between the first year (implementation) and subsequent years of applying for subsidies. We are, therefore, dealing with the effect of learning (compare Table 1). The extent of this process was substantial, because relation between the amount of work required to achieve a full mastery of the procedures relating to subsidies and implementation of the instrument on a farm ranged from 1 to 1.9÷2.3. This shows that major changes should be avoided in a system of financial support for agriculture. Every effort should be made to implement the system as soon as possible and to make its elements mutually attuned. Analysing the numbers in Table 1, it may seem surprising that an effort to prepare an application only for direct payments was higher than in the case where the farmer also applied for LFA payments. It seems likely that this difference is due to the fact that the average area of agricultural land in the first group was 24.3 ha, while in the second – 12.8 ha. It can, therefore, be presumed that in the first group more agricultural plots had to be included. However, this has not been verified. Only a much larger research sample would enable finding more explicit reasons for this differentiation.

As shown in Table 2, learning effects did not appear, in fact, in the analysis of material and monetary costs associated with obtaining subsidies. It must be

assumed that this was due to inflation in Poland, although moderate, but still leading to price increases of i.e. motor fuel and other services. With the dominance of the traditional "technology" of applying for budgetary support it had to be reflected in the level of the above costs.

Table 2

**Material and cash costs incurred to obtain the subsidy (PLN per farm)**

| No. | Types of subsidies | Material and cash costs | | $\frac{\text{Col. 4}}{\text{Col. 3}} \times 100$ |
|---|---|---|---|---|
| | | first year | following years | |
| 1 | 2 | 3 | 4 | 5 |
| 1 | Direct payments only | 77.8 | 82.9 | 106.6 |
| 2 | Direct payments + LFA | 90.0 | 88.6 | 98.4 |
| 3 | Direct payments + LFA + AEP | 267.5 | 265.0 | 99.1 |

Source: Own calculations.

Table 3 shows the estimated share of the total labour cost and the material and cash costs in the amount of the subsidies received. It should again be noted that these were farmers themselves who valued their work. Besides, one has to be also aware that in the years of our membership in the EU, the budgetary support channeled to our agriculture has grown. Under those conditions, the relative transaction costs of the three analysed budget support instruments were not high and significantly decreased when farmers learned procedures of applying for subsidies. Even in the case of farms benefiting from all three of the analysed forms of budgetary support, they were lower than in the European Commission's study conducted in 2007-2008 for the EU-15. We must remember, however, that in most countries of the old EU, analysis covered transaction costs of direct payments based on the SPS model and, therefore, more complicated than the SAPS model implemented in the new EU countries. In this context, relative transaction costs estimated for Poland do not seem to be high. It is worth noting that the relative transaction costs (as % of subsidies received) were the lowest on farms, which in addition to direct payments received LFA payments. This is understandable, since the last-mentioned payments themselves should generally not generate additional transaction costs.

Although the relative transaction costs were not high, then one needs to be aware that at the level of the whole agricultural sector they should not be underestimated. Greatly simplifying the calculation, we assume that the average values given in Table 3 for the analysed three forms of support are well-mastered by farmers, so in the second and subsequent years of their use they will be a starting point of the estimation. Then number of farmers benefiting from these three support instruments was estimated. This number was used to divide the amount of direct payments for these three instruments. In this manner, the three streams of support were obtained which subsequently were multiplied by the relative transaction costs. Knowing that in 2010 our agriculture received more than PLN 15,370 million in the form of

direct payments, payments for farming in LFA and agri-environmental payments (current and past), the aggregated transaction costs were close to approx. PLN 265 million. As a comparison, in 2010 Polish agriculture received approx. PLN 340 million in the form of bank interest.

Table 3

**Share of transaction costs in relation to the amount of received subsidies (%)**

| No. | Types of subsidies | Transaction costs in % of subsidies | | $\frac{\text{Col. 4}}{\text{Col. 3}} \times 100$ |
|---|---|---|---|---|
| | | first year | following years | |
| 1 | 2 | 3 | 4 | 5 |
| 1 | Direct payments only | 3.5 | 1.1 | 31.0 |
| 2 | Direct payments + LFA | 1.9 | 1.4 | 73.7 |
| 3 | Direct payments + LFA + AEP | 5.5 | 4.8 | 87.9 |

Source: Own elaboration.

Seven farms (almost 39%) used external support when applying for budgetary payments. It is incomparably more than the average for the country. The ARMA's records show that in 2010 it received less than 4,000 applications for financing advisory services, which accounted for approx. 0.3% of the number of farmers benefiting from direct payments. The most problematic obstacle for farmers in applying for this grant is the need to possess financial resources for their own contribution (20% of the service cost plus VAT). However, the previous analysis shows that in the case of direct payments and LFA payments, neither amount of work nor material and cash costs are high. Farmers either themselves complete the necessary documentation, or receive free help from extension services or ARMA. Consequently, it should not be expected that those beneficiaries will begin to apply for a refund on a mass scale. Such a conclusion is all the more justified that the farms benefiting from this funding experienced a reduction in transaction costs that usually did not exceed 20%. Certainly, farmers who wish to benefit from agri-environmental payments should make use of all opportunities to reduce these costs. At least because the financial sanctions for any misconduct may be severe.

Naturally, the study sample consisting of 21 family farms is undoubtedly too small to be used in a regression analysis or other testing method such as quantitative relationships relating to determinants of the level and structure of transaction costs of subsidisation. However, it does not deviate grossly from the numbers encountered in the research of foreign scholars, when the objective of their studies was estimating the absolute size of transaction costs and their relative level. Presented in the article share of transaction costs of the three selected subsidising instruments is also close to the results obtained in Germany, Norway, Switzerland and the UK. One must constantly keep in mind that transaction costs on farms are generally not separately recorded. The researcher must, therefore, try to estimate them together with the farmer. This procedure is expensive and not every farmer is able to reproduce from memory the information needed.

## Summary

Without any doubt, administrative and transaction costs are an important determinant of the effectiveness and efficiency of agricultural subsidies and of the whole agricultural policy. Unfortunately, to date, there was no uniform methodology of defining, classifying and measuring them. Probably, the Standard Cost Model (SCM) and its derivatives (such as ACM) offer the most fruitful direction of exploration in this area. There is a need, however, for supplementing it with tools from the realm of new public management, and thus Public Value, CAF or ISO 9001.

The level and structure of administrative and transaction costs are in many ways contingent. Attribute system using three elements of transaction originally proposed by the O.E. Williamson, then adjusted for agriculture, is a very convenient formula for identifying them. Analytical potential also provides the methodology developed in managerial accounting relating to fixed and variable costs. Further developments in regression and correlation estimation model proposed in 2001 by K. Falconer, M. Whitby and P. Dupraz should also be sought.

Regardless of the ambiguity of definitions and methodological approaches unevenness of the administrative burden associated with budgetary support for agriculture, it must be made clear that there are many opportunities to keep them at a reasonable level. These charges decline, when the whole system of subsidies is quickly implemented, stabilised and final beneficiaries understand more complex projects (mainly agri-environmental programmes). Fixed costs within administrative and transaction costs are, to a certain point, always subject to a decrease. In order to rationalise these costs it is best to make the most of the existing resources and systems, carefully plan the scope and forms of control of the enforcement of contracts, vigorously promote various support instruments, shorten and simplify information channels and use to the maximum extent modern tools from the field of information and telecommunication technologies.


**Literature**:


1. Benham A., Benham L.: Measuring the cost of change [in:] Institutions, contracts and organizations: perspectives from new institutional economics (ed. C. Ménard). Edward Elgar, Cheltenam, UK 2005.
2. Bugdoł M.: Sześć sposobów na usprawnienie procesów realizacji usług administracyjnych (Six ways for improving administrative services). Przegląd Organizacji, nr 12, 2011.
3. Falconer K., Whitby M.: Administrative costs in agricultural policies: the case of the English environmentally sensitive areas. CRE, University of Newcastle, 1999a.
4. Falconer K., Whitby M.: Transactions and administrative costs in countryside stewardship policies: an investigation for eight European member states. CER, May 1999b.
5. Falconer K., Whitby M., Dupraz P.: An investigation of policy administrative costs using panel data for English environmentally sensitive areas. Journal of Agricultural Economics, vol. 52, no. 1, January 2001.

6. Hryniewicz T.J., Olejniczak K., Widła-Domaradzki Ł.: Style kierowania w centralnej administracji publicznej na tle stylów kierowania w wybranych środowiskach organizacyjnych (Managing styles in central public administration vs. managing styles in chosen organizational environments). Przegląd Organizacji, nr 12, 2011.
7. Mann S.: Institutionenökonomische Evaluation der landwirtschaftlichen Investionsförderung. Ökonomische Theorie der Institution. New Institutional Economics, Berlin, Hamburg, Münster 2001.
8. Mann S.: Zür Wirkungsweise eines outputorientierten Agrarumweltprogramms. Vortrag anlässlich der 48. Jahrestagung der GEWISOLA "Risiken in der Agrar- und Ernährungswirtschaft und ihre Bewältigung", Bonn, 24-26 September 2008.
9. Nowak E.: Zaawansowana rachunkowość zarządcza (Advanced managerial accounting). Polskie Wydawnictwo Ekonomiczne, Warszawa 2003.
10. Rørstad K.P., Vatn A., Kvakkestad V.: Why do transaction costs of agricultural policies vary? Agricultural Economics, vol. 36. no. 1, 2007.
11. Royer A.: Transaction cost in milk marketing: a comparison between Canada and Great Britain. Agricultural Economics, vol. 42, no. 2, 2011.
12. Urbanek P.: Outsourcing w procesie restrukturyzacji przedsiębiorstwa w świetle teorii kosztów transakcyjnych (Outsourcing in the company restructuring process in the light of transaction costs theory). Gospodarka Narodowa, nr 4, 2011.
13. Using the Standard Cost Model to measure administrative burden: a pilot using Scotland's Environmental and Rural Services (SEARS) as a case study. The Scotland Government, 2010.
14. Vatn A.: Multifunctional agriculture: some consequences for international trade regimes. European Review of Agricultural Economics, vol. 29, no. 3, 2002.
15. Vatn A.: Transaction costs and multifunctionality. Workshop on multifunctionality. Paris, July 2001.
16. von Pischke J.D.: Finance at the frontier. Debt capacity and the role of credit in the private economy. The World Bank, Washington, D.C. 2001.
17. WPR do 2020: sprostać wyzwaniom przyszłości związanym z żywnością, zasobami naturalnymi oraz aspektami terytorialnymi. Komunikat Komisji Europejskiej do Parlamentu Europejskiego, Rady, Europejskiego Komitetu Ekonomiczno-Społecznego i Komitetu Regionów (The CAP towards 2020: Meeting the food, natural resources and territorial challenges of the future. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions), Brussels 2010; http://ec.europa.eu/agriculture/cap-post-2013/communication/index_en.htm.
18. Wieliczko B.: Bariery administracyjne i koszty transakcyjne związane z realizacją WPR w Polsce (Administrative barriers and transaction costs related to the CAP in Poland). Zagadnienia Ekonomiki Rolnej, nr 4, 2010.