

UNTANGLING RED TAPE: SCHEME ADMINISTRATION AND THE INVISIBLE COSTS OF EUROPEAN AGRI-ENVIRONMENTAL POLICY



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Schemes based on compensated agreements for voluntary conservation management have been introduced by member states across the EU to implement Regulation 2078/92 on agri-environmental 'accompanying measures' to the Common Agricultural Policy. However, compensation payments are far from the only source of policy costs: scheme administration requires significant resourcing, raising issues in terms of tax-payer value for money and scheme design to procure agri-environmental goods efficiently. So far, such costs have had a low profile in policy development discussions, but ignoring them will not help to make schemes more efficient. Identifying factors related to administrative cost levels might indicate how scheme implementation could be streamlined while still achieving policy goals.

Some observations are presented here from analysis of administrative cost data for 37 case-study schemes in eight European member states. Different implementation activities are needed at different stages of a given scheme's life, affecting the time profile of administrative costs; downwards pressure on costs over time may also stem from economies of scale and the economizing effects of experience. A comparison of the administrative costs for agricultural support and agri-environmental policy implies that administrative costs may grow in importance if environmental conservation objectives receive greater priority in future agricultural policy-making. Copyright © 2000 John Wiley & Sons, Ltd. and ERP Environment.

INTRODUCTION

In mixed economies, governments might intervene to correct inefficiencies due to market distortions, as well as to improve the distribution of resources in society. The

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costs as well as the benefits of policy implementation need to be considered if tax-payers' value for money and overall social welfare are to be maximized. Policies using economic incentives (such as taxes or subsidies) have been receiving growing attention in environmental policy-making over recent decades, given their theoretical efficiency advantages. Governments across much of Western Europe have been attempting to incorporate market principles into various policy institutions, such as those aimed at increasing the supply of environmental goods.

The problem is that, despite the drive for 'policy efficiency', the resource needs of the necessary implementation structures are often not considered explicitly in the decision calculus. Currently, most governments fail to report the organizational costs of scheme implementation, and, while the existence of administrative costs does not imply government failure, there is certainly a problem of invisibility. New information on the magnitude of the costs of supporting policy structures suggests that it is time to place the spotlight on the economics of scheme implementation.

This paper focuses on policy administration in the agri-environmental sector. Historically the provision of agri-environmental goods in European countries such as the UK has been taken largely for granted as an automatic side-effect of production. However, the post-war period has witnessed growing concern over the adverse impacts of agriculture and the consequent development of policy. In addition, the late 1980s and early 1990s saw transformations in the public sectors of advanced countries, with a conversion from rigid, hierarchical, bureaucratic forms of public administration to flexible, market-based management (Hughes, 1994). Public officials are now becoming more 'entrepreneurial', developing innovative ways of supplying goods and services involving the private sector, rather than direct, public-sector provision (Osborne and Gaebler, 1992). However, there are considerable challenges both to institutional design and to analysis if implementation is to be effective and efficient.

The administrative costs of agri-environmental schemes are of growing contemporary

importance in practical policy-making discussions: for example, the National Audit Office (NAO, 1997) considered the organizational effectiveness of the English Environmentally Sensitive Areas (ESAs), followed by a hearing on whether the administrative costs were too high (Public Accounts Committee, 1998). Furthermore, 'national governments are starting to see that administrative competence can be a substantial competitive asset and are borrowing ideas from each other at an increasing rate' (Hughes, 1994, p 3). Although agri-environmental policy is relatively small at present in terms of overall public expenditure in the EU, its expansion is expected in the future. With several years' experience now of agri-environmental schemes under Regulation 2078/92, and the reform of the Common Agricultural Policy now under Agenda 2000, it is timely to evaluate the successes and failures of existing components of the agri-environmental policy framework, and the scope for its development.

Schemes based on voluntary management agreements between the state and private producers are particularly interesting from a 'transactional' economic perspective because they entail substantial state-farmer interaction, or contracting, thus, in effect, amounting to a type of market exchange for conservation goods. The main financial cost component for virtually all agri-environmental schemes across the EU relates to compensation payments paid to landholders in return for their commitment to follow specified conservation management activities. The gross public exchequer costs encompass both payments to farmers and the organizational costs of schemes. At present, though, the levels, structure and incidence of the organizational costs of policy implementation are typically undocumented and it is unusual to find policy evaluations in the agri-environmental literature which include them, despite widespread recognition of their existence and of their potential impact on scheme efficiency.

Hence the focus here is placed on the implications of 'transaction costs' for policy design. In the context of the shifting institutional paradigm, the aim was to investigate the costs of operating current public-sector administrative agri-environmental 'markets' in eight

countries. While this article discusses policy mechanisms to increase conservation provision on farmland, the subject matter is of broader relevance given the current trends in environmental institutions towards greater incorporation of the market mechanism (for example, with regard to water permit markets and transferable permits for sulphur dioxide).

The following section examines the transactional nature of voluntary agri-environmental schemes based on conservation procurement from farmers. The approach to the administrative cost empirical analysis is then outlined. The next section presents some observations from the available data for almost 40 schemes across eight EU member states, and the final section discusses the findings in their broader context.

TRANSACTION COSTS AND CONTRACTING IN AGRY-ENVIRONMENTAL POLICY

The current situation in the EU is one of perceived under-supply of agri-environmental public goods. Market dis-equilibrium persists because of the breakdown of normal contracting and market exchange for agri-environmental goods (Coase, 1960). Transaction costs in the agri-environmental sphere are high given characteristics such as the variable, often highly location-specific, nature of agricultural production technology and opportunity costs; the variable natural heritage value of any parcel of land and the low observability of much management. However, such costs have not been defined precisely, to date. They might be viewed as the costs of running the economic system, arising from the *transfer* of goods rather than their production. At root are the information deficiencies faced by one or both of the parties to the transaction, and the costs of removing such deficiencies (Dahlman, 1979), for example, through compliance monitoring, given the presence of opportunism.

In the absence of transaction costs, there would be no need for policy intervention. Hence, an important rationale for intervention

might be to diminish transactional constraints, to facilitate or enable the achievement of socially desirable resource allocation. Thus, the role of government could be generalized as preventing transactions with adverse effects (for example, through regulations to prevent negative impacts of production), and promoting transactions with positive effects, for example, through subsidies and management agreements to encourage the private provision of public goods.

Hence, governments frequently make administrative decisions regarding the making or 'buying-in' of goods such as landscape and wildlife habitats. If policy-makers conclude that public services are better allocated by markets than by public-sector decision-making, then they are faced with the practical problem of how to create markets where none exist. Markets are not natural organizations but have to be built (Hughes, 1994), and they cannot exist without social, political and administrative foundations, or 'the rules of the game' (Bell and Lowe, 1998). Maintenance of these rules will inevitably demand some resource usage.

In particular, devices are needed through which buyers and sellers can negotiate and make deals, and some may be more appropriate than others in different circumstances. Recently, governments in Western Europe have been stimulating agri-environmental management through the development of administratively run 'markets'. The state is, in effect, a buyer of conservation goods, and landowners are in the position of sellers. In theory, the 'collectivizing' of agri-environmental transactions in this way reduces the search costs of buyers and sellers, facilitating transactions. The high market transaction costs of property rights exchange are substituted by lower administrative costs, to increase the potential for socially desirable resource allocation improvements to be made.

However, the transaction costs that inhibited the free-market provision of goods will also have implications for the cost-effectiveness of policy mechanisms to procure them, as the nature of the goods remain unchanged. Hence, rather than considering simply the *production* of agri-environmental goods, the alternative policy structures and their relative

appropriateness to provide different types of agri-environmental good should also be considered with regard to their *organizational* or transaction costs. Ideally, from an economic-efficiency perspective, the scheme or mix of schemes that minimizes *total* costs – i.e. scheme compliance costs (the opportunity costs of producing agri-environmental goods) *and* transactional costs – should be chosen (see Williamson, 1985).

Thus, an important issue is, if a market is to be established for agri-environmental goods, what type(s) of market would be most appropriate. Different economic systems are likely to have differing relative appropriateness to achieve different objectives, for example, because of variation in the transactional constraints that arise in the production and exchange of different goods. It would be very useful, in the context of practical policy development in the agri-environmental sphere, to explore the actual incidence and magnitudes of the administrative costs of different types of procurement scheme. Greater understanding of the costs of administering different contracting options, or similar contracting approaches in different situations, would allow a more constructive re-thinking of policy approaches.

EMPIRICAL ESTIMATIONS OF ADMINISTRATIVE COSTS

Like production costs, transaction costs cover a heterogeneous assortment of inputs, but there is as yet no accountancy convention for them. A starting point is the examination of what transactions are needed as the bare min-

imum for 'effective' policy operation. Different policy instruments are likely to have different transactional cost structures, as illustrated in Table 1. Table 2 summarizes the principal components of the transactional costs for schemes based on voluntary, compensated, multi-annual management agreements with private landowners. It is useful to draw a distinction between those costs that are fixed and those that are variable with scheme scale.

A comparative study of the public-sector transaction costs, i.e. administrative costs, of countryside stewardship schemes across eight European member states was carried out under the 'STEWPOL' project. There is a wide spectrum of institutional costs to identify and assess, but in the first instance the scope of enquiry was focused on the direct set-up and operating costs of schemes in the public-sector agencies charged with implementing policy. The focus was placed on the agencies that administer the schemes at first hand and excluded, for example, those that establish relevant legislation. A pragmatic consideration was that there is a relatively small number of state agencies for which to assess administrative costs, compared to the vast number of highly diffuse market agents. Transaction costs will, of course, be incurred by scheme participants (see Falconer, in press); however, unless they are altruistic, such costs will be covered by the compensation payments received. Thus, all transaction costs are ultimately funded by the public sector, justifying further the focus on the direct organizational costs of schemes as these costs are definitely not included in other commonly measured components (see Figure 1).

Table 1. Policy approaches and administrative costs

	Information/set-up/ promotion	Contracting	Policing (monitoring and enforcing)
Suasion and advice	✓		
Regulation	✓		✓
Market mechanisms (e.g. taxes)	✓		✓
Tradable permit schemes	✓		✓
Voluntary management agreements	✓	✓	✓
Public purchase of land	✓	✓	

estimations and their comparison include the fact that it is still very early in scheme life for evaluation of agri-environmental policies; many of them are also of an experimental nature. The main challenge to comparative transaction costs analysis for different schemes across the EU lies in drawing together disparate information, i.e. data relating to different schemes, with different objectives, implemented at different times, under different economic (and social) conditions, and within different legal and political frameworks.

Administrative costs relate largely to the cost of staff in the government agencies administering schemes and their overhead costs. These costs were estimated using direct measurement approaches in most member-state analyses, i.e. based on a detailed history of events relating to each scheme's implementation and operation, with the total time per year needed to carry out the necessary activities then estimated. Estimated time inputs were then combined with typical administrative wage rates to allow the calculation of an overall administrative cost figure.

EMPIRICALLY ESTIMATED SCHEME TRANSACTION COSTS

The case-study analyses highlighted the risk of substantial under-estimation of the public costs of agri-environmental schemes from focusing

only on the compensation payments. However, the total annual administrative cost varies greatly, depending at least in part on scheme coverage and participation levels. In Belgium, an estimated 20 000 ECU were spent annually on the organic aid scheme, compared to annual costs of 600 000–1 500 000 ECU on the French arable conversion scheme, and 900 000–1 400 000 ECU for the livestock extensification scheme.

The estimated administrative costs were standardized by variables such as scheme participation levels, in order to assess them in a meaningful way. To summarize the time series data collected in the member state case studies, average figures for annual administrative costs were calculated for all of the case-study schemes in each member state across the period of study for each scheme: see Table 3. Average annual administrative costs per hectare ranged from 9 to 75 ECU. However, untangling the reasons for such variation is complex. For example, agri-environmental schemes in Belgium have been implemented on a relatively small scale compared to Sweden, which may well account for some of the cost difference given the existence of substantial fixed costs and the relative impacts of economies of scale. Schemes in Italy were observed to have very low estimated costs, which may reflect the early stage of development of the agri-environmental policy framework and the fairly simple administrative structure in place.

Table 3. Average annual administrative costs for case-study agri-environmental schemes in each member state

	Average annual administration costs, ECU per hectare ¹	Average annual administration costs, ECU per contract ²	Average annual administration costs, ECU per 100 ECU paid as compensation ³
Austria	20.5	216.9	8.8
Belgium	58.6	388.6	63.4
France	75.6	1522.0	87.1
Germany	10.2	177.5	12.3
Greece	59.7	470.1	8.6
Italy	13.1	140.0	6.6
Sweden	9.1	190.4	11.3
UK	48.0	2445.5	47.9

¹ Area weighted.

² Participant weighted.

³ Expenditure weighted.

Source: Falconer and Whitby (1999).

Average annual administrative costs per participant ranged from 140 to 2446 ECU, with average levels typically of 200–300 ECU per participant. The UK schemes had very high estimated costs per participant, perhaps reflecting the number of schemes in place, as well as the higher average size of farms compared to other European countries. Merging the smallest schemes (which experienced low take-up over the study period) could allow a substantial fall in average annual per-unit costs (see LUC, 1995). The UK agri-environmental agencies also spend a considerable amount on environmental monitoring relative to their counterparts.

Annual administrative expenditures as a proportion of scheme compensation costs varied from 6 to 87%. The average for Austria, Germany, Greece, Italy and Sweden was around 10% of compensation costs, with a much higher figure for Belgium, France and the UK. The Belgian data-set included information for a scheme for which no compensation payments were made, thus inflating the average proportion on administration; it also has a very small agri-environmental sector over which to spread the fixed administrative costs of policy evaluation and development. France has an extensive and deeply entrenched administrative infrastructure, which may explain its relatively high expenditure.

Agri-environmental schemes appear generally to be more costly to administer relative to other types of policy such as the commodity regimes for farm income support, mainly because they involve significant direct interaction with farmers at all stages, and sometimes complex negotiations with individual participants. It is relatively easy to transfer funds to farmers, but much more difficult to ensure that environmental conditions are followed in return. Cost data from the UK, Germany and Sweden support this hypothesis. Table 4 shows the low proportion of overall expenditure on agricultural support schemes attributable to administration: these levels compare favourably with those observed for agri-environmental schemes. Some agri-environmental schemes, such as 'KULAP' in Germany and *prime à l'herbe* (the grassland

premium scheme) in France, are characterized by broad, untargeted approaches covering the whole territory. They were observed to have low administrative costs relative to total scheme spending compared to other agri-environmental policies.

In addition to scheme scale, the time profile of scheme costs is also of interest (for example, for budgeting purposes). *Ceteris paribus*, average annual per-unit administrative costs were expected to fall with time over the period following scheme implementation. New schemes typically require fixed-cost development-type administrative activities in their first year, as the details of implementation are finalized and the scheme is set up, rather than the transactional activities relating to farmer participation. Transactional activities become more important once participation increases. However, given that the marginal increase in scheme participation generally falls with time, administrative activities a few years after implementation will relate mostly to the maintenance of existing management agreements, rather than the more resource-intensive work of setting up new agreements.

Different contracting and administrative activities are needed at different stages in any scheme's life cycle. In addition, the years following implementation should allow organizational 'wrinkles' to be 'ironed out';

Table 4. The transaction costs of agricultural commodity regimes

Administration as a % of total public scheme costs		
Germany (1993) ¹	Arable area payments	4
	Livestock	20
UK (1996)	Arable area payments	0.8
	Set-aside	3.4
	All crops and set-aside	1.4
	Beef payments	4.9
	Sheep	2.5
Sweden (1997)	Arable area payments	3
	Livestock payments	4

¹ 1993 was the first year of the scheme; costs were thought to fall in subsequent years.

Sources: Lampe (1994), Kumm and Drake (1998), MAFF/IBAP (1997).

experience should allow efficiency to be improved, possibly linked to technological developments such as computerization too. However, over time, fewer new agreements will be made each year and it is very likely that negotiations become increasingly complex, as the more 'straightforward' agreements (i.e. ones with lower agricultural opportunity costs or ones with lower transaction costs) would be expected to have been made much earlier. Notable downward trends were observed annually for both the annual administrative costs per hectare over time and per participant (see Figure 2). A downward trend over time was also noted in annual staff hours per hectare. Typically, most schemes had an average annual time usage level of under 20 hours per hectare, and under 200 hours per agreement made.

The ratio of scheme administration costs to the compensation payments in each year is of some interest, as it indicates by how much typically the public exchequer costs of schemes are being under-reported, for example, in published government policy evaluation documents. *All* scheme costs are borne ultimately by the tax-payer and therefore represent social opportunity costs in terms

of the options to achieve welfare improvements through other forms of policy expenditure. Significant variability in this parameter was observed across the case-study schemes, and across the time-span of each case study. Some schemes had extremely high ratios in their early years followed by a decline as participation rose; fixed costs could then be spread over a higher level of total payments. Most case study schemes are now at the stage of routinized agreement maintenance, as it is some years since their introduction (following the implementation of Regulation 2078/92). Some schemes are now entering a stage of evaluation and review.

The observed relationship between scheme participation and the annual administration costs per contract gave some support to a hypothesis that economies of scale exist in agri-environmental scheme administration. However, it is very difficult to separate out the scale-economy factor from other factors such as the likely growth in experience in running schemes and their fine-tuning. This subject deserves more investigation in future, as scheme participation continues to rise and more data become available.

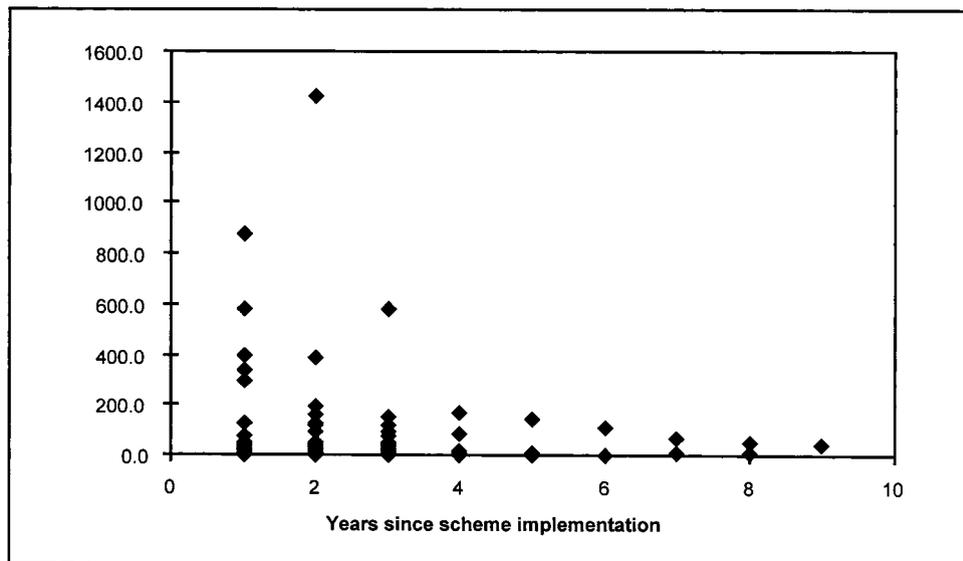


Figure 2. Annual administrative time requirements (staff hours) per participant in schemes, over time.

DISCUSSION

The empirical observations raise some interesting issues. Of course, several *caveats* must be raised with regard to the interpretation of the administrative cost data presented here. In particular, a limitation to analysis is that administrative expenditures do not necessarily reflect the quantity and quality of administrative activity, either in terms of that administration actually carried out or of that effort thought to be required for efficient running of the scheme. There are challenges to comparing 'like with like' in terms of administrative costs across different schemes and different member states. The quality of administrative time as well as the quantity used are important factors; for example, total monitoring expenditure may be low for one scheme relative to others, but the activities undertaken may be more appropriate to the task, with higher productivity (for example, in terms of environmental effectiveness).

Furthermore, administrative expenditures depend substantially on how agencies forecast farmer participation and the related administrative workloads in each year. Prediction is never perfect, and public budgeting processes and constraints mean that administrative inputs are unlikely to be optimal at any given time; commonly staffing adjustments are made only on a yearly basis. The presence of 'noise' must be considered too, such as the adverse effects on administrative costs of staff sickness and turnover.

Scheme administration is certainly a non-trivial component of overall policy expenditure; furthermore, there is great variability in the administrative resource use of different schemes. Understanding these observations could help rationalize scheme design and save resources, but untangling the 'red tape' is far from straightforward. Nevertheless, some general factors affecting administrative cost levels were identified from the case studies.

- Scheme transparency and the ease with which environmental management requirements are understood by farmers, without needing recourse to expert, professional advice.

- Scheme objectives and the degree to which these are pursued (it is easy to give farmers compensatory payments, but more difficult to ensure that they actually change their management practices to generate environmental benefits).
- The degree of targeting and site-specific negotiations with farmers (rather than menu-driven participation).
- The regularity of interactions between regulators and participants, for example, in terms of the frequency of compliance monitoring.
- The potential for economies of scale, given the substantial fixed costs of scheme set-up.
- The technology available for monitoring and administration (for example, geographic information systems linked to databases).
- The time since scheme implementation, linked both to the activities required for scheme administration and the likelihood of efficiency improvements related to fine-tuning and experience.

We might expect administrative costs to be relatively less important for programmes which were in place some years previously compared to schemes that have been introduced more recently (given the fewer set-up activities needed, the experience of running agri-environmental schemes and so on). However, there is a difference between 'lean' administration and 'streamlined' administration, so caution in interpretation and analysis is needed. For example, administration costs in Greece are low relative to those in the UK, which may be due to the high investment in the latter in the agri-environmental policy infrastructure (notably the environmental monitoring strategy) over the past decade. Organizational costs may rise with policy development, rather than fall. The context, and stage, of policy development is undoubtedly important to administrative structures and efficiency; the traditions of policy-making and styles of regulation differ across countries.

An important issue to raise in the context of policy implementation and organizational resource use relates to the EU dimension to

agricultural and agri-environmental policy development. Of political and economic importance is the fact that policy administration is the main element of costs that must be borne entirely at the member-state level, even when the policy is to fulfil EU requirements (particularly under Regulations 2078/92 and 946/96). There are two important issues here. First, some member-states may be constrained financially in developing their agri-environmental frameworks. The implication might be, therefore, that some proportion of the administrative costs of agri-environmental schemes should perhaps be covered by transfers from the EU budget. Second, given the current provisions for co-funding from the EU (at a 50 or 75% rate under Regulation 2078/92), policy transaction costs may have an important economic implication through the creation of an incentive for member states to favour, to some degree, low-transaction-cost but high-compensation-cost policies where possible. The result may be potentially inefficient policy frameworks as member states target agri-environmental policies to a lower degree.

The underlying issue is how agri-environmental policies can be designed to minimize public administration and private transaction costs, in relation to delivery of benefits. Scheme characteristics and objectives would be expected to affect administrative resource usage, given the different transactional attributes of different goods. The available dataset was too small to investigate any hypotheses relating to scheme objectives in a systematic way: this is an important area for future investigation.

Note, though, that administrative resource use does not necessarily imply inefficiency, even when incurred at high levels (in absolute or in relative terms). Some, if not all, administrative activities are important to scheme success, and it is crucial to keep such costs in perspective, while assessing whether available funding is being utilized effectively. It is important to stress the potential benefits of administrative expenditure in the agri-environmental policy sphere. Great care is needed to ensure that the administrative activities that take place are the

most appropriate ones. While greater detail of individual schemes is needed for precise practical recommendations to be made, there are a number of general options that may allow administrative economies, for example

- a reduced frequency of participant monitoring, linked to the introduction of deterrent penalties for non-compliance (see, for example, Russell, 1990),
- increased scheme promotional activities, so participants have a better understanding of the management requirements, which may result in a reduced need for compliance activities,
- contracting out some routine administrative activities through competitive tendering,
- building on existing institutions when developing policy to reduce costs in absolute terms, given the largely fixed costs of developing scheme implementation frameworks and
- development of the joint administration of agricultural support and agri-environmental schemes (particularly using integrated administration and control systems for agricultural commodity support payments, as in Austria and in some German Länder).

Finally, the assumption that the purpose of actual government activity is in fact to raise social welfare must be questioned. This paper has adopted a transaction cost perspective to explain the existence of market failures with regard to the agri-environment and the potential for government intervention to increase social welfare. However, while governments may have the potential to lower transaction costs and reduce the incidence of market failure, this may not be the purpose of actual interventions. Public choice theory suggests that transaction costs within a representative democratic system may result in intervention that actually *reduces* social welfare. The transactions of the voters ('principals') are too high to monitor bureaucrats, and politicians (their 'agents'). This perspective is particularly relevant in

the context here, since many environmental problems are arguably the products of pre-existing government failure, notably the existence of the Common Agricultural Policy. Consequently, at least some environmental objectives might be achieved by dismantling production support structures, as a (partial) alternative to compensation-based agri-environmental schemes. Further work should address the issue of political transaction costs and the impact of these on policy objectives.

CONCLUSIONS

Some level of administrative transaction costs is both inevitable and necessary if resource use conflicts are to be reduced through environmental policy implementation. Still, it is a potentially serious mistake to ignore the costs involved. Understanding policy transacting in more depth, especially through empirical research, is timely given the expansion of market-led approaches in the environmental policy sphere, and the possible increases in public expenditure in the agri-environmental sector.

An integrated European agricultural and agri-environmental policy framework is still in its infancy, and requires rational development, i.e. with regard to organizational costs as well as to other costs. Administrative resource issues may well grow steadily in importance as policy objectives and the mechanisms used to achieve them evolve. Administrative costs account for a greater proportion of public expenditure for agri-environmental schemes than for agricultural income support arrangements. Thus, if financing were to be re-directed from agricultural support to agri-environmental programmes, the administrative resourcing necessary to implement the new or expanded schemes would need to be increased too. Budgets should be set in the light of information on the full public costs of such policies, particularly in the context of proposed changes in the mix of schemes under Agenda 2000.

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