Scott, S. 1997, Chapter 2 in A. Barrett, J. Lawlor and S. Scott,

*The fiscal system and the polluter pays principle - a case study of Ireland.* Ashgate, Aldershot.

# **2** Background and scope for change

Before we discuss pollution taxes and other economic instruments in detail in the following chapter, it is important to consider the framework within which decisions on these instruments would be taken. Three aspects will be addressed, namely, (1) the fiscal framework, (2) the legal framework, and (3) attitudes of the public.

The fiscal framework determines the present scope for raising pollution taxes and for funding environmental protection, as well as the ability of the authorities to charge for damage. The legal framework includes, among other things, the powers and functions of local authorities, the Environmental Protection Agency and EU directives. The public's views on pollution taxes and charges for environmental services, and concern for the effects of these on low-income households and on competitiveness, need to be considered to ensure that policies are acceptable in the minds of the public. If they are not, there is little chance that politicians will feel able to advocate and adopt them. We will consider each of these aspects in turn.

### 2.1 The fiscal framework

#### 2.1.1 Central government

What scope is there, at central government level, for introducing economic instruments, such as pollution taxes, into the existing tax system? There is no question but that there is a ready use for any revenue arising from pollution taxes. It has long been remarked that the present structure of the tax system relies heavily on labour taxes, that is on income taxes and social insurance contributions, and that this

feature sits uncomfortably beside high unemployment and a rapidly growing labour force. Therefore any revenue accruing from pollution taxes could be used to replace labour taxes. However the introduction of new taxes, or the alteration of existing taxes will need to have regard for the long-term objective<sup>1</sup> of more neutral tax regimes, which involves making tax rates more uniform and reducing concessions.

There are indeed good arguments for streamlining the tax system, removing some allowances and for making subsidies explicit, arguments that are reinforced by the open borders policy of the EU. The introduction of special differentiated taxes for environmental reasons could run counter to this. The following constraints relate to the main taxes. For Corporation Tax, Ireland has a derogation from the EU to apply the low rate of 10% to manufacturing until 2010, and to certain financial services and activities in the Shannon Free Airport area until 2005. Some flexibility is permitted on the allowances against corporation tax, subject to compliance with the restrictions on state aids to industry. This will be touched on in several chapters, including the chapters on transport and on construction.

There is not much scope for differential VAT rates. The standard rate is stipulated by the EU VAT Directive to be applied at a rate of 15% or more. One or two reduced rates are allowed for specified goods and services (environment-enhancing items are not listed), and zero or super-reduced rates in existence in January 1991 are allowed to remain until end-1996 at least. Ironically, the VAT Directive allows energy to be subject to a reduced rate of VAT. Deposit-refund schemes, in which the return of items is encouraged, might in some cases ideally be incorporated in the VAT system, since documentation on inputs and outputs is already a requirement of the system. It would be helpful if in some situations the VAT rebate could be made conditional on specified environmental behaviour, though the scope for doing so looks slim at present. However, it may be permissible, subject to the normal requirements of confidentiality, to use the information on inputs and outputs

<sup>&</sup>lt;sup>1</sup> e.g. Ruding (1992) and Commission on Taxation reports.

gathered in the VAT system. This will be seen to offer potential in the chapter on agriculture.

There is scope for excise taxes, which are at present applied to hydrocarbon fuels, tobacco and drink, to be used for environmental protection. Excise taxes may also be maintained or introduced on other goods, provided that countries do not introduce border checks, and that the freedom to purchase abroad is respected. The potential for extending excise taxes will be relevant in the chapter on energy.

In sum there is reasonable scope for the introduction of economic instruments by central government, though, given the aim of streamlining the fiscal system, the full potential may not be realised without more flexibility at EU level.

### 2.1.2 Local government

What flexibility and scope are there for the introduction of economic instruments at the local level? We find that a prominent feature in the fiscal framework is the arrangement whereby local authorities undertake the provision of many local environmental services while central government provides much of the finance. To be more specific, central government supplies nearly 40 per cent of total current receipts and nearly 80 per cent of the capital receipts of local authorities, as shown in Appendix 2.1.

The shortfall of revenue from charges to customers of the major environmental services which local authorities provide is illustrated in Table 2.1. It shows that current cost recovery from charges is just under 50 per cent. Furthermore, capital costs (not shown here) are barely covered, except for some contributions, mainly from industry, to the capital costs of waste water treatment (Scott and Lawlor 1994).

Service		Receipts from charges £m	Operating Costs £m	Cost recovery %
Water:	Domestic	39.8	,	,
	Commercial	32.0	}96	}75
Waste wa	ater: Domestic	1.3		
	Commercial	6.0	}41	}18
<b>Refuse:</b>	Domestic	5.1		
	Commercial	6.5	}50	}23
Total serv	vices	90.7	187	49

Table 2.1: Cost recovery by charges for water, waste water and solid waste services (operating costs only) delivered by Local Authorities, 1994.

*Note:* Several local authorities which were represented at an Economic and Social Research Institute workshop on charges impose separate effluent charges on commercial enterprises, others combine water and effluent charges under the heading "water" (Lawlor, 1995).

*Sources:* Department of the Environment: *Returns of Local Taxation* (various issues), and Department of the Environment communication.

Local authorities' revenue base was eroded when domestic rates (a local property tax) were abolished in 1978. They were replaced by grants financed by taxes raised by central government, especially by income taxes. Reports<sup>2</sup> have highlighted the high degree of centralisation of government and on the subject of finance have advised that:

There must be a link between spending and raising money in order to promote responsibility and accountability.

Local authorities should raise a significant proportion of their revenue from non-central sources.

Specific purpose grants (from central funds) should, insofar as practicable, be confined to situations where the benefits flowing from the expenditure accrue substantially to people outside of the area of the local authority.

<sup>&</sup>lt;sup>2</sup> e.g. Stationery Office 1991.

The striking feature is that there have been perhaps ten studies or committees investigating local government reform or finance, with little action taken. Recent work by KPMG points to a strong case for charges as they would "promote efficiency on the part of both the provider and the consumer". Because income taxes are still quite high, local authorities feel inhibited from raising more charges for environmental services, the costs of which are rising. Central government grants are considered inadequate, so that authorities have to rely heavily on rates on businesses for their income. Businesses resent additional charges because they claim that the rates that they already pay should cover their usage of services.

It is technically feasible and indeed sensible, in the case of business, for authorities to reorganise a part of their revenue to come from charges rather than rates. This is not an option in the case of households which, as we saw, pay no rates and feel strongly that the previous income tax hikes replaced rates. Consequently there has been strong resistance from some households to charges, including refusal to pay.<sup>3</sup>

Meanwhile, local authorities found that they had heavy environmental commitments to supply and improve water, refuse and sewerage services and they had no option but to raise charges for environmental services. Now all of them do so, except municipal Dublin and Limerick, though mainly via a flat-rate charge, which, as seen, barely covers half the operating costs. The government introduced an allowance against income tax to those who paid the charge in full and on time, in the 1996 budget.

It is clear that local authority finance requires rationalisation, and that charging for

<sup>&</sup>lt;sup>3</sup> In addition, the calculation of the Rates Support Grants from central government to local authorities requires rationalisation. Large differential shifts between authorities, in terms of their needs and resources have occurred as numbers of inhabitants and conditions changed over the years. The recommendations of an analysis by Ridge (1992), commissioned to establish objective criteria for deciding the size of grants to each authority, were not adopted as they would have entailed sizable shifts between authorities and possibly over time. This made the recommendations hard to implement, whatever about the lack of rationale in continuing with the present pattern of grants.

local environmental services would be a step in the right direction, as will be further explained in the chapter on environmental services. It would also allow a reduction (or obviate a rise) in tax-financed grants from central government.

### 2.2 The Legal Framework

We are interested to know whether there would be legal impediments to altering the fiscal and charging structure. In relation to local government, uncertainty has occasionally been expressed in the past as to the right of local authorities to raise charges for services. This right has now been established and clarified, however.

Where non-domestic users are concerned, the Local Government (Water Pollution) Act 1977, as amended by the 1990 Act (section 12 (a)) gives powers to the local authority to charge non-domestic polluters for "the expenditure incurred or to be incurred by the local authority in monitoring, treating or disposing of" a discharge. The 1977 Act also permits the Minister to make regulations allowing local authorities to charge for discharges to waters, even if no treatment has been carried out by the authorities on such discharges. Where domestic users are concerned, the Local Government (Financial Provisions) (No 2) Act 1983 empowers local authorities to levy charges for the services they provide, that is water, refuse and sewerage services, as they "consider appropriate".

Furthermore, section 93 of the Environmental Protection Agency Act 1992 paves the way for the EPA to raise emissions charges:

(1) The Agency may, in accordance with regulations made by the Minister of the Environment, subject to the consent of the Minister for Finance and the Minister for Industry and Commerce, under this section, make charges in relation to such emissions to the environment from such activities as may be specified in the regulations. Some points to note are as follows. Regulations allowing local authorities to charge in some cases have not been made as yet. However, if desired, there is scope for introducing them. Also the ability to charge for expenditure "to be incurred" is an important facility if one is concerned to implement incentive pricing correctly (ie marginal cost pricing).

An important development is that the *ultra vires* clause in local government law (which stipulated that local authorities can do only that which the law states they can do) has been relaxed. They have more freedom to act, provided that the action is not forbidden in law. Now local authorities have a general competence to act in the interests of their local community in a much broader way than heretofore.

### 2.3 Attitudes

Attitudes are an important factor in determining policy. In addition, while the reforms might be neutral in the sense that the environmental taxes that are being raised can be given back in some neutral or even beneficial manner, there could be some losers.

The losers would be those who cannot benefit from the new situation, perhaps being in low-income groups, and those who are big polluters. The latter group, in theory, should not be a cause for concern - up to this point they have received external benefits at other people's expense by not being charged. Long lead-times in introducing charges might however be needed, otherwise the effects could be harsh if polluters' adjustment times were necessarily long and if disruption would otherwise occur.

Losers would frequently be businesses which, say, use a lot of energy, or farmers who cause eutrophication of waterways. Vulnerable or vociferous groups within sectors may object strongly, at the risk of denying the greater overall benefit to society. This behaviour is not surprising - there are many examples of pressure groups exerting influence beyond the strength of their representation. In some Scandinavian countries where pollution taxes are more widespread, heavy polluters have received exemptions. Rather than grant exemptions which leave the wrong incentives in place, it might be preferable in extreme cases to devise temporary compensation which does not distort correct incentives.

At the root of the problem is the fear of loss of competitiveness. Studies at national level, such as those described by OECD (1993), state that environmental compliance costs constitute but 1 to 2 per cent of total costs in most sectors. Consequently environmental policies and compliance costs are not a significant factor affecting competitiveness or trade at the *macro-level*.

However at the level of the firm, environmental compliance costs can have a more significant effect, especially for pollution-intensive and resource sectors such as chemicals, mining, oil refining, pulp and paper. Compliance costs might have an especially harsh effect on firms which already have competitive weaknesses in other areas relating to labour, capital or technology. It has been claimed<sup>4</sup> alternatively that environmental regulations or charges can be good for competitiveness by spurring firms to develop more resource-efficient methods of production and to reduce costs, possibly yielding front-runner and spin-off advantages to the firms that respond to the challenge. It is likely that large multi-national firms are able to benefit from other technological improvements which are part of any environmental upgrade, and can market differentiated or green image products. Firms which compete on the basis of relative prices, however, such as primary producers of agricultural and resource commodities, could be unfavourably affected. In sum competitiveness effects will vary, but harm can be mitigated by reasonable lead-times to facilitate adaptation, and by aiming for international application of the Polluter Pays Principle.

We now consider the other potential losers, low-income households. These households are in a bad position to pay pollution taxes and environmental charges

<sup>&</sup>lt;sup>4</sup> notably by Porter and van der Linde (1995).

because the scope for compensating them via reduced labour taxes is limited, by virtue of their low or zero tax bill. Also the reform can be regressive, affecting the poor proportionately more: the poor would spend a higher proportion of their incomes on the items which are candidates for the tax: water services, fuel and other resource-intensive or polluting goods and services. Compensation via the social welfare system needs careful consideration and costing. There is already experience with compensation for the requirement that only relatively expensive smokeless fuel be sold in Dublin. After some initial problems, this compensation has performed satisfactorily.

We have described two likely objections to environmental tax reform, namely distributive effects and impacts on competitiveness, both of which need to be addressed but which should not be insuperable. The third perceived objection is the belief that the proposals will be only half-delivered. People may reject proposals because they do not believe that the whole package will materialise: that the reduction in other taxes will not occur or that administrators will absorb too large a share of the revenue. Perhaps all the above objections apply, alongside inadequate clarification of the arguments in favour of the reform.

Finally, how and when attitudes are formed, and indeed, the extent to which they can be summarised, are issues for debate. In Ireland in the 1970s, a combination of events such as the oil crises, media attention to documents with an environmental message, and an official statement of the need for a nuclear power station, raised environmental consciousness. Towards the end of the eighties, after a decade of preoccupation with high levels of government debt and unemployment, global environmental issues gained people's attention, foreign influences playing a large part. A recent opinion survey<sup>5</sup> revealed that 49 per cent felt that the quality of the environment "is deteriorating", while 19 per cent thought that it was improving and

<sup>&</sup>lt;sup>5</sup> with replies from nearly one thousand respondents, by Murphy, Scott and Whelan (1994). An ordinary random sample was chosen, households being picked from the Electoral Register using the RANSAM procedure developed by Whelan (1979).

the remainder felt that it was staying about the same. Without prompting, firstmentioned environmental problems of concern were, in descending order of citation: water pollution, air pollution, rubbish on streets, waste management, global pollution, loss of nature and other problems, including build-up of chemicals and pesticides and over-use of resources.

On the use of economic instruments per se, the popular perception may be that subsidies are required to achieve environmental aims, though this view will be tempered by the general realisation that subsidies are not feasible until the demands on public funds of other priorities had been satisfied. What information do we have on the general attitude<sup>6</sup> to charges? The aforementioned survey asked the following question:

To meet EC obligations regarding the protection of the environment, it will be necessary to improve our methods of waste disposal and other services. These improvements will have to be paid for, one way or another. This may be through *higher taxes* such as income tax, VAT etc., or through *fixed service charges* on households or by *charges based on the amount of the service* a household or firm uses (for instance, by metering water and charging per gallon used). In relation to each of the following services, how do you feel it should be paid for ?

Respondents were asked to consider four services: drinking water, sewage treatment and disposal, household rubbish disposal and industrial waste disposal. Replies for each service are shown in Tables 2.2a, b, c and d.

<sup>&</sup>lt;sup>6</sup> On the subject of charges and volume-based charges in particular, it is interesting that a report of the National Economic and Social Council written in 1985 stated that it would be worth considering phasing in water metering for domestic consumers, which might reduce consumption, result in lower current and capital expenditure and facilitate charging for sewerage too. It added that assistance would be required for households which cannot afford the charge. However the report's recommendations for domestic solid waste were different. Refuse disposal was considered to have a strong public good element, and "we think it would be impractical to devise a form of charge which was directly related to the "volume" of service consumed". Yet, within a decade, some fourteen local authorities were actually implementing volume-based charges for solid waste, from households as well as industry. Furthermore some private solid waste collectors may be using volume-based charges also. This shows the extent to which attitudes, technology and administrative methods can change over a decade.

A point to emerge from the replies shown is the extent to which people are apparently abandoning the idea that "the government should pay". Payment through general taxation would be logically preferred by those people who reckon that in this way others will pay, or if they think that the tax system is progressive and they perceive themselves as poor. However, we see from looking at the replies for "increase in taxes" in the four tables, that less than ten per cent of people would favour improvements to environmental services being paid for out of higher general taxation. Leaving aside the last table, on industrial waste, the majority of respondents choose fixed service charges. However the suggestion that people should pay according to their *use* is in fact quite well supported. Over 40 per cent think that drinking water and household rubbish disposal should be paid for by amount used.

Males are more inclined than females to favour charging by amount used, 51 per cent favouring metered water charging. The proportions favouring volume-based charges can perhaps be explained - roughly half of households should consider their consumption to be below average, so that they would gain in a situation of volume-based charges. Perhaps many people prefer explicit charges given the choice, and realise that they will be paying for the service one way or another, anyway. If one looks at the age breakdown (not given here), the younger age groups are relatively more in favour of charging by the amount of service used in the cases of drinking water and rubbish removal.

+		MALE		FEMALE	
INCREASES IN TAXES	I	2%	Ι	3%	I
FIXED SERVICE CHARGE	I	48%	Ι	55%	I
CHARGE FOR AMOUNT USED	I	51%	I	42%	L
Total	Ι	100%	I	100%	I

# Table 2.2a Preferred method of paying for drinking water

 Table 2.2b
 Preferred method of paying for sewage treatment and disposal

+		MALE   F	EMALE	
  INCREASES IN TAXES	I	5%	5%	I
  FIXED SERVICE CHARGE	I	64%	67%	I
CHARGE FOR AMOUNT USED	I	31%	29%	I
  Total	I	100%	100%	

+		MALE		FEMALE		
INCREASES IN TAXES	I	3%	I	3%	Ι	
FIXED SERVICE CHARGE	I	52%	I	55%	I	
CHARGE FOR AMOUNT USED		45%	I	42%	I	
  Total +		100%	5	100%		

Table 2.2c Preferred method of paying for household rubbish disposal

 Table 2.2d Preferred method of paying for industrial waste disposal

+   		MALE	I	FEMALE	
  INCREASES IN TAXES	I	8%	I	9%	I
  FIXED SERVICE CHARGE	I	31%	I	34%	I
  CHARGE FOR AMOUNT USED	I	60%	I	56%	I
  Total	I	100%	I	100%	I

Source: Murphy, Scott and Whelan (1994).

Between 56 and 60 per cent of respondents think that industry should pay for waste disposal according to the amount disposed of. Only about a quarter of households include a person employed in industry, or would associate themselves with industry, so that for the other three quarters of respondents, it is like saying that "someone else" (i.e. industry) should pay. So, when asked about a sector which is not in the main their own, respondents side firmly with payment according to the amount discharged.

In any event, the results as a whole show consistency between public responses on how to pay for environmental services and what economic theory would advise. The furore in Ireland in recent years over the rise in Residential Property Tax and over the rebalancing of telephone charges, indicates how carefully any simultaneous imposition of charges with reduction in central taxes, and attention to the problems of low-income families and other losers, have to be addressed.

Finally in this discussion of public attitudes, having looked at people's preferred method of payment, we should look at what people think in general about paying to protect the environment. The aforementioned survey also asked "How willing would *you* be to pay *much higher prices* in order to protect the environment?" In addition to "pay much higher prices", they were asked the same question in respect of "much higher taxes" and "accept cuts in your standard of living". Table 2.3 summarises their replies.

	Pay much higher prices	Pay much higher taxes	Accept cuts in standard of living
Very willing	8%	3%	4%
Fairly willing	41%	20%	25%
Neither willing nor unwilling	10%	8%	11%
Fairly unwilling	19%	24%	23%
Very unwilling	20%	43%	36%
Can't choose	1%	1%	1%
No answer	0%	0%	0%
Total	100%	100%	100%
Number replying	957	957	957

Table 2.3: *How willing would* you *be to protect the environment? (Question 8)* 

Note: Percentages over 25 per cent are highlighted.

Source: Murphy, Scott and Whelan (1994).

The replies in the first column show that only a half (49 per cent) of the population would be willing to pay much higher prices to protect the environment, though outnumbering those who are unwilling. However subsequent columns make it clear that they are rather more unwilling to entertain alternative methods to higher prices. Less than a quarter would be willing to pay more

if it entailed much higher taxes; cuts in standards of living are not much more attractive either. This lends support to the suspicion that accountable and explicit taxes or charges are actually preferred.

These general attitudes are broadly in line with those revealed in a later survey undertaken in the context of the Eurobarometer (European Commission 1995). Results for the fifteen member states of the EU indicate that nearly three quarters of respondents strongly agree or agree somewhat with the idea of switching taxes from income taxes or social security contributions, to goods and processes which damage the environment, such as wastes, carbon dioxide and pesticides. Furthermore the attitudes in Ireland in particular were not atypical of those in the fifteen member states combined.

### 2.4 Summary

The fiscal and legal framework can accommodate the adoption of economic instruments for environmental protection fairly well, having regard, however, to the requirements of EU harmonisation, which could be a constraint. In the case of environmental services provided by local authorities, the user or "polluter" is barely paying half the current costs at the point of use. Therefore there is scope, and the legal facility exists, to raise charges to improve coverage of costs.

Attitudes could be a constraint. Service charges are widely perceived as taxes and not as prices, indeed as double taxation, and they have become a focus of grievance. This has to be borne in mind in future rationalisation. Careful presentation of reforms would be needed, not only in addressing the concerns mentioned, but also having regard to other changes which might be underway, such as restructuring in the energy supply industry. Such restructuring, to meet competition in a more open market, might in itself entail price changes. Earmarking of pollution taxes to environmental improvements is sometimes advised in order to promote acceptance of the tax. In this way people know that they are getting something in return, and might be better disposed to the reform. However, they might actually prefer that the pollution tax fund a

reduction of other taxes. In this way there is no net increase in taxes.

Media reports lead one to believe that economic instruments, other than subsidies, would be badly received. However there is a degree of realism in public opinion when people are actually faced with the issues. This is what survey replies suggest, when people are reminded that they are paying for the services anyway, or that environmental quality has to be financed one way or another. However, bearing in mind that there has been wide support for an anti-water charges electoral candidate, a difference could emerge between what people say and what they do.

In fact economic instruments are already quite widespread, as the summary table in Appendix 2.2 shows, and several of them will be discussed in the relevant chapters below. Many operate so smoothly that people are not conscious of them. Nevertheless there are still some real constraints to be confronted. These are that new charges for pollution and environmental services are more easily implemented if imposed *at the same time* as a reduction in central government taxes, alongside compensation by means of raised social welfare payments and carefully considered introduction to vulnerable sectors. The time to phase in environmental taxes and charges is now, before environmental protection costs rise to meet the higher standards required in EU directives.

### **References:**

COMMISSION ON TAXATION,1982-1985. *Reports,* various. Stationery Office, Dublin. DEPARTMENT OF THE ENVIRONMENT, 1990, 1995. *Returns of Local Taxation,* Dublin. DEPARTMENT OF THE ENVIRONMENT, 1995. *Local Authority Estimates,* Dublin. DEPARTMENT OF FINANCE. *Public Capital Programme,* various issues. Dublin.

EUROPEAN COMMISSION,1995. Europeans and the Environment in 1995, Survey conducted in the context of the Eurobarometer 32.1 bis. Report for DG XI, Unit XI/A/3 by INRA (Europe) - E.C.O. November.

KPMG, 1996. *The Financing of Local Government in Ireland*. Paper read by T O'Brien of KPMG Management Consulting to the Economic Policy Conference of the Dublin Economic

Workshop, Kenmare, 18-21 October.

MURPHY, M., S. SCOTT and B.J. WHELAN, 1994. *Report on Attitudes to the Environment - A Survey undertaken for the Department of the Environment*, Economic and Social Research Institute, Dublin. (Survey appended to the International Survey of Attitudes to the Environment.)

NATIONAL ECONOMIC AND SOCIAL COUNCIL, 1985. *The Financing of Local Authorities*. No. 80. Dublin.

OECD, 1993. Environmental Policies and Industrial Competitiveness, Paris.

PORTER, M.E. and C. VAN DER LINDE, 1995. "Towards a New Conception of the Environmental-Competitiveness Relationship", *The Journal of Economic Perspectives*, Vol. 9, no. 4, Fall 1995, American Economic Association.

RIDGE, M., 1992. "Local Government Finance and Equalisation: The Case of Ireland", *Fiscal Studies*, vol 13 no 3, London.

RUDING, 1992. *Report of the Committee of Independent Experts on Company Taxation*, Office for Official Publications of the European Communities, Luxembourg.

STATIONERY OFFICE, 1984. Third Report of the Commission on Taxation: Indirect Taxation, June. Dublin.

STATIONERY OFFICE 1991, Local Government Reorganisation and Reform, "The Barrington Report", Pl. 7918, Dublin.

WHELAN, B.J., 1979. "RANSAM: A Random Sample Design for Ireland" in *The Economic* and Social Review, vol. 10, no. 2. January, Dublin.

### Appendix

Receipts	1990 £m	1990 %	1994 £m	1994 %
Current Receipts: Government grants/subsidies	470	44	451	39
Commercial rates	239	22	302	26
Other incl rent, charges etc.	366	34	400	35
Total current receipts	1075	100	1153	100
Capital receipts: Government grants	300	82	509	79
Internal sources + borrowing	64	18	137	21
Total capital receipts	364	100	646	100

Table 2.4 Local Authorities' current receipts and capital receipts from central government, rates, rents, charges, et cetera, 1990 and 1994.

Source: Department of the Environment, Returns of Local Taxation 1990 and 1994, Local Authority Estimates 1995 and Department of Finance, Public Capital Programmes.

# Appendix

Economic Instruments	Details	Comments		
<b>Charges/fines:</b> Derelict sites levy:	3 per cent annually of an urban property's market value.	Low coverage. Revenue in 1994 was £21 000, on property worth £0.7 million.		
Litter fines : Not applied very thoroughly.		No information on revenue.		
<b>User charges:</b> Domestic water, refuse and sewerage:	Mainly fixed charge. Some volume-based refuse charges.	Costs only partially covered.		
Non-domestic water, solid waste and waste water:     Volume-based charges wide- spread for water and solid wast less so for waste water. (Charg domestic level are mainly flat-		About half of all solid waste disposal costs covered, fraction of waste water treatment costs.		
Urban parking:	Meters and fines (but much free business parking).	Meters and fines revenue was £9.28 million in 1995.		
Product charges:	High hydrocarbon taxes. $CO_2$ tax studied, not applied.	Mainly to raise revenue. Net benefits could ensue		
Admin./monitoring fees: Trade effluent:	Small fee.	Monitoring costs not covered.		
Integrated Pollution:	Licence fee to firms.	To recover EPA costs.		
Tax differentiation: Leaded/unleaded petrol:	7 per cent price difference.	Unleaded sales rose from 7% in 1989 to over 60% by 1996.		
Vehicle Registration Tax:	% of vehicle value, higher for vehicles > 2500 cc.	VRT revenue was £271 million in 1994.		
Annual road tax:	Graded by engine cc.	Revenue was £249 million in 1994.		
Tax relief if scrapping 10- year-old car:	£1000 Vehicle Registration Tax relief.	Ran from 1.7.1995 to 31.12.1996. Cost is 20 % of VRT revenue.		
Exemption of VAT on public transport.	Ticket sales are not charged VAT.	To reduce the price of public transport.		
Excise tax on fuel used by public transport is rebated.	To reduce costs of public transport providers.	Discourages fuel efficiency in public transport.		
Exemption from excise duty: waste oil:	On processors of waste oil.	To encourage recycling.		
Urban renewal special tax rates:	10 year Rates relief, double rent allowance and other reliefs.	Effective relief is high.		
Allowance for insurance bonds:	Payments of insurance bonds for rehabilitation of mines is allowable against tax.	Cost to Exchequer is £1 million per year.		

 Table 2.5
 Summary of economic instruments in use in Ireland

<b>Subsidies:</b> Food industry:	Pollution control grants from EAGGF.	8 to 10% of investment.
Industry and commerce energy audit grant and efficiency grant:	40% up to £3000 for audit. Up to 40% to a value of $\pounds156\ 000$ for investment.	£2 million expenditure in first year, 1995.
Rural Environment Protection Scheme REPS:	Premium to farmers of £122/ha up to max 40 ha. Extra for Natural Heritage Areas (NHAs), Environmentally Sensitive Areas (ESAs) and organic farming.	Part of CAP reform: budget of £230 m over several years. To influence farming practice on small farms in its totality.
Control of Farmyard Pollution Scheme: (suspended)	Grants up to $60\%$ to a value of £22 500 to small farms for slurry storage etc.	Under Operational Programme (OP) for Agriculture, Rural Development & Forestry.
Afforestation grant.	£1300 to £3000 per ha plus 20 year premium of £130 to £300 per ha.	Part of CAP reform. Also OP grants for forestry improvement and amenity, of £500 to £3000.
Explicit subsidy to public transport.	Mainly to rail transport.	To reduce the price of public transport.
Deposit refund schemes:	Cans and plastic bags.	Isolated and very small scale.
Market creation:	Government departments and agencies use recycled paper.	