

*Donatella Porrini*  
dporrini@liuc.it

# DIFFERENT FORMS OF ENVIRONMENTAL POLICIES FOR THE FIRMS

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# Introduction

- The traditional Economic Analysis of Law (EAL) approach about the comparison between different environmental policies is based on the assumption of rational economic agents.
- The Behavioural Economic Analysis of Law (BEAL) approach is based on a sort of “irrational” behaviour that comes more from emotions.

# The EAL Approach

- **Public intervention is justified on the base of market failures because of two reasons:**
  - 1)the environment appears as a “public good” that may not be appropriated and has no market price;**
  - 2)the damage to the environment is a case of “externality”: it is fully or partly a social cost that is not internalized by the parties causing it**

# CHOOSING BETWEEN DIFFERENT ENVIRONMENTAL POLICY INSTRUMENTS

## THE CHOICE OF ENVIRONMENTAL POLICY INSTRUMENTS IS AN OLD ISSUE:

- Early contribution of Pigou (1932) analyzing the need for an intervention by the state, when private costs diverge from social costs, and suggesting the solution to internalize through taxes the externalities.
- On the contrary, Coase (1960) affirmed that "there is no reason to suppose that governmental regulation is called for simple because the problem is not very well handled by the market or the firm". The key feature is the presence of transaction costs that makes a policy better than other.

## THE DEBATE HAS BEEN CONDUCTED FOLLOWING TWO OPPOSITE VIEWS:

- The idea that the choice of policy instruments coming from a market failure is a public matter and the state, as a policy designer, has to select the optimal instrument and to care about its imposition in the public interest.
- The idea to support market based instruments and fight a battle against a sort of "anti-market" mentality.

## COMPARISON BETWEEN

### "PUBLIC-ORIENTED" AND "MARKET ORIENTED" INSTRUMENTS:

- the first are characterized by a public agency with a public definition of conduct rule and a public enforcement system;
- the second are based on market mechanism stimulating indirectly the conduct of the firm and characterized by a private administration and a private enforcement system.

### LAW AND ECONOMICS APPROACH FOR A NO-IDEOLOGICAL CHOICE

- From the theoretical definition of the efficiency of different instruments to their practical, and so direct, potentiality to reach concrete objectives.
- Three objectives: 1) Compensation of the victims;  
2) Incentive for firms to improve safety standards;  
3) Incentive for firms to adopt lower risk technologies.
- The efficiency of environmental policies regards the imperfections that can emerge in their practical applications, particularly informational problems that characterize the public agencies and private firms activities.

# WHICH DIFFERENT ENVIRONMENTAL POLICY INSTRUMENTS?

# Command-and-control policies

- Command-and-control policies are the most common system of regulation applied in the environmental sector
- examples: setting of standards.
- the standard-setting instruments consist in the enforcement, by an agency, of a given prevention level

In the US experience, the EPA provides a clear example of regulation by an independent environmental authority

([www.epa.org](http://www.epa.org))



- The advantage of centralised agencies is to assure a cost-effectiveness calculation on the base on the expected cost of the damage and on the marginal cost of the different technical preventive instruments.
- Well-defined standards generate the correct incentive for the firm to act with caution and make the best production and prevention decisions

THE CHOICE BETWEEN  
COMMAND-and-CONTROL  
VS MARKET-BASED  
REGULATION

### First instrument: **COMMAND-and-CONTROL REGULATION**

Public-oriented instruments, which require the use of a particular technology or the observation of a performance standards, prescribing the maximum amount of pollution that a source can emit

- With perfect information, the centralized agency can systematically assess environmental risks in an optimal way.

### Second instrument: **MARKET-BASED REGULATION.**

Market-based instruments as regulatory devices that shape behavior through price signals rather than explicit instructions

- With a perfect implementation the improvement to environmental quality is obtained at the lowest possible cost

# TAKING INTO ACCOUNT INFORMATIONAL EFFICIENCY

## First instrument: **COMMAND-and-CONTROL REGULATION**

The economic literature studies the role of the regulatory agency as a principal in relation with the regulated firms that are the agents.

An asymmetric information framework is considered outlining that centralized command structures relying on expert advice may be subject to political pressure as well as to collusion and capture by the regulated firms.

## Second instrument: **MARKET-BASED REGULATION**

The economic models analyse the dynamic incentive for technology innovation of the firms that, sharing the burden of pollution control, are encouraged to achieve reductions in pollution.

THE CHOICE BETWEEN  
TAXES  
VS TRADEABLE PERMITS

The choice between taxes and tradeable permits is a very challenging topic  
(Kyoto Protocol, EC legislation)

### First instrument: TAXES

A Pigouvian tax, for example, is a way to attribute a price to pollution that will be incorporated by the firm in the price of its products.

- The incentive for the adoption of abatement techniques relies on the market mechanism because if a firm does not apply the optimal techniques, it will produce more pollution, pay more taxes and sell its products at a higher price than its competitors.

### Second instrument: TRADEABLE PERMITS

Market-based instruments as regulatory devices that shape behavior through price signals rather than explicit instructions on pollution control levels or methods, are often described as “harnessing market forces”

- They can encourage firms and individuals to undertake actions that serve both their own financial interest and public policy goals.

## TAKING INTO ACCOUNT INFORMATIONAL EFFICIENCY

Both the instruments require to determine the quantity of polluting emissions and the monetary costs of the damage connected with an eventual accident.

This implies regulatory tools to design a specific environmental target, a monitor procedure, and the distribution of the costs to the firms through a tax or through permits based on their polluting emissions.

### First instrument: TAXES

Informational issues connected with the taxations system in implementing an optimal tax on a distributional point of view. Plus evasion problems.

### Second instrument: TRADEABLE PERMITS

Informational issues connected with the implementation of an optimal system of allocation of permits (theory of auction)

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# CONCLUSIVE REMARKS ON EAL APPROACH

- In this contribution we have analysed on a law and economic point of view the efficiency of different environmental policy instruments on the base of the achieved targets and taking into account informational problems.
- As a general rule, whenever the nature of the activities carried out by the firms is such that the private parties have better information about the benefits and costs of reducing risks, in such a case market oriented instruments have to be preferred for the advantage of making the private parties directly responsible for the control of risks
- But it may also happen that a public agency has better knowledge of those risks because of the possibility of centralizing information and decisions, in particular when a better knowledge of the risk factors requires a special expertise to be shared through different cases and situations.