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*) The views expressed in the paper do not necessarily reflect those of the Swedish Ministry of Finance.

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1. Sweden has been a pioneer regarding CO_2 taxation. Can you remind how it concretely works?

Two different taxes on fuels form the base of the Swedish energy taxation system. An energy tax has been levied on petrol and diesel since around 1930 and fossil heating fuels started to be taxed during the 1950's. The CO_2 tax was in 1991 introduced on fossil fuels at rates equivalent to 27 €[1] per tonne fossil CO_2. At the same time the energy tax rates were reduced by 50 per cent, which still meant an increase for all fuels.

Average CO_2 emission and energy factors are used to calculate the tax rates. No measuring of actual emissions is necessary. In order to ensure a simple administration, the CO_2 tax rates are in the tax law expressed in weight or volume units for the different fuels. The CO_2 tax is collected in the same way as the energy tax, which gives low administrative costs for the tax authorities as well as for the operators.

The CO_2 tax, obviously, should aim at helping society to reach set climate targets. That is why it is logical to base it on the content of fossil carbon, as only fossil fuel consumption results in net increases of CO_2 to the atmosphere. To also apply it to biofuels would constitute illogic taxation in relation to the aim of the tax and would also, hence, make the tax less general and thereby less cost effective.

The rationale behind using a market based policy instrument such as a CO_2 tax is that the price signal created by the tax allows for numerous ways to avoid the tax. The cost effectiveness lies, hence, in that the society does not 'pick a winner' (e.g. a particular technology or a particular fuel) but rather allows households and firms to choose the measures that are best (which typically coincide with least cost) for them. Such measures can range from putting on an additional sweater to invest in a new technology with low or zero greenhouse gas (GHG) emissions.

The CO_2 tax rates have over the years been significantly increased, with the purpose of achieving cost effective emission reductions by way of applying the Polluter Pays Principle. The tax changes have been implemented stepwise to give households and firms time to adapt. The same CO_2 tax rate is applied for motor fuels and heating fuels, ensuring the same price signal and thus cost effective emission reductions by equalizing marginal costs for abatement.

2. In France ecological taxes are the subject of regular changes. The continuity of the Swedish CO_2 tax system is very impressive: can you explain how the political consensus has been built behind it, why in 1991, and which kind of contest it has faced ever since?

The introduction of CO_2 taxation in Sweden was part of a major tax reform that among other things implied dramatically lower marginal income taxes on capital and labour, the elimination of various tax shelters and base broadening of the value added tax. The political opportunity to introduce the CO

There is a broad political consensus of the basic CO_2 tax structure and the use of the tax as the primary instrument to achieve GHG

Since it is essential to avoid disruptive effects on competitiveness, such a lower tax level has been a prerequisite for a high tax level for other sectors and has been instrumental in achieving major emission reductions in the household, transport and service sectors. This two-level system has in the past been the most important element in the design of a well-functioning system to curb CO_2 emissions in Sweden.

4. What have been the major changes in the Swedish CO_2 tax system since its creation? Especially, how did you integrate the European regulatory changes?

Sweden became a member of the EU in 1995 and adapted our existing legislation to the relevant Community law. The general CO_2 tax design was maintained, as it was in line with relevant EU rules.

As mentioned earlier, a general, lower CO_2 tax level was chosen for the industrial sector, when introducing the CO_2 tax. It has been an administratively simple approach to allow for significant increases of the levels of CO_2 taxation for other sectors. However, the development of Community law meanwhile resulted in the introduction of the EU Emissions Trading Scheme (EU ETS), a Community wide economic instrument covering GHG emissions from the major part of energy intensive industrial installations. In order to apply only one general economic instrument as an incentive to reduce GHG emissions, no CO_2 tax is from 2011 applied in Sweden on fuels used by industrial installations within the EU ETS.

On the other hand, industry outside the EU ETS is in general less energy intensive and, hence, has relatively low costs for energy. This implies that an increased CO_2 tax for industry outside EU ETS do not cause major disrupting effects on competitiveness. Further, many firms have relatively good opportunities to switch to non-fossil heating sources, which is why an increased CO_2