
Labour market effects of various government policies

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1. INTRODUCTION

It is nowadays widely accepted that environmental taxes as well as permit schemes are more efficient instruments to protect the environment than classical environmental policy instruments of command and control. Their main advantage is that they allow governments to reach their environmental targets at a minimum cost. Beyond cost-efficiency these instruments can also yield a second dividend when they generate public revenues. These public revenues can be used to cut other taxes. In particular, they can be used to reduce the tax wedge between labour cost and labour income and thus promote employment.

In my presentation I will discuss the potentials for such a job dividend of different types of green government policies, in particular, of green taxes, permit schemes and subsidy schemes.

2. THE JOB DIVIDEND OF GREEN POLICY INSTRUMENTS

Green policy instruments are not implemented in isolation. They are part of broader policy reform packages. It is therefore necessary to analyze the impact the total reform package has. This shall be exemplified for the case of a revenue-neutral green tax reform, which will then be compared with other market-based green policy instruments such as permits and subsidies.

Consider first a country that imposes a policy to reduce its CO₂ emissions without generating public revenues. The intended benefit comes at the cost of a higher price on carbon-intensive forms of energy usage because firms have to invest in abatement cost. In addition this will have a positive effect on employment because, empirically, labour and energy are weak substitutes. Since these employment effects are small and often negligible the only significant benefit of the policy is the reduction of greenhouse gas emissions.

If, however, this policy generates public revenues, the reform can reap a substantial second dividend. The additional public revenues can be recycled by cutting taxes on labour. This in turn has two effects. First, it lowers the tax wedge between labour cost borne by firms

and net labour income received by workers and thus reduces the tax-induced labour market distortions and promotes jobs. This is the second dividend of green government policies. Second, however, the positive employment and income effects come at additional cost. In so far as energy is a normal good, increasing labour incomes will increase energy demand and thus CO₂ emissions. Thus the two dividends – the environmental dividend as well as the job dividend – are affected by both measures of the reform package as indicated by figure 1. The figure also illustrates the inherent trade-off between the two dividends. If, for instance, green tax revenues would be used to subsidize public transportation, this may increase the green dividend (and may reap another dividend by reducing congestion) but will at the same time lower the job dividend.

Figure 1: Green tax reform

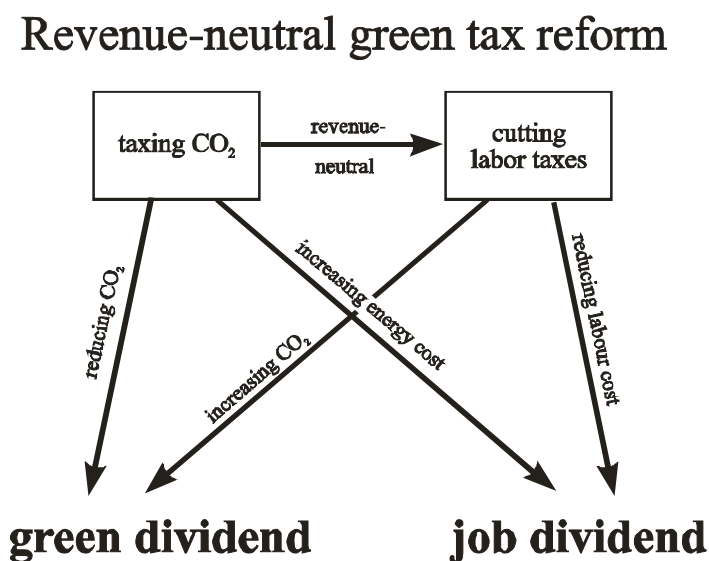


Figure 1 describes what is known as the weak form of the double-dividend hypothesis. One implication of this is that if there is a general consensus about an environmental target, green policies that generate public revenues are preferable to other environmental tax instruments that may be cost-efficient in regulating the environment but do not raise public revenues. In particular, it provides strong arguments in favour of green taxes and auctioned emission permits. These instruments can reap an additional job dividend compared to grandfathered permit schemes that are widely used within the industry sector to meet CO₂ emission reduction targets or subsidies paid for emission reductions. The inability of the latter

instruments to generate public revenues put these policies at a substantial efficiency disadvantage relative to public-revenue-generating policies. This is the most important insight of the double dividend debate.

The job dividend becomes the more important the more severe the pre-existing labour market distortions are and thus the more severe the problem of persistent unemployment is. The high levels of taxes on labour income – often combined with high level of unemployment benefits – reinforce the initial labour market imperfections, and increase wage pressure and deteriorate labour demand. A green tax reform may alleviate the tax burden on labour and hence reduce the resulting disincentives. The benefit of the job dividend may the higher, the more severe the initial labor market imperfections are.

The job dividend will strengthen the international competitiveness of a country's economy. At first glance, this seems surprising since the standard result of the tax competition literature shows that small open economies will be worse off if they substitute a tax on a mobile factor such as energy for a labour income tax. However, if wages are above market-clearing level, this is not true anymore. A revenue-neutral green tax reform will induce a technical substitution in the production process that replaces energy use with employment. Since energy is priced at its true national opportunity cost (normally equal to the international spot market price), the price firms have to pay for labour is above its social opportunity cost because of the tax wedge.

3. ALTERNATIVE RATHER THAN DOUBLE DIVIDENDS

Carbon dioxide emissions are mainly tied to the use of exhaustible resources. A comprehensive analysis of environmental policies must therefore take into account the impact of green taxes on the world producer prices of exhaustible resources such as gas and oil products. Resource prices are principally determined by the user cost of the resource, i.e. the rent the resource owner obtains from extracting the resource. An energy tax, introduced by one country with a negligible share in global energy demand, does not affect the world energy price. If, however, all countries introduce environmental taxes, as can be expected in the common fight against global warming, the burden of the green tax will partly fall on resource-extracting countries. They will lower the producer prices. This reduces the environmental dividend and, at the same time, increases the job dividend. The time path of green policies thus determines whether we can actually reap an environmental dividend at all and how large

a potential job dividend can be. For example, if most countries introduce a common carbon tax there exists a particular tax that increases over time so that there is no incentive for resource owners to change the time path of extraction. In this case, the resource consumption remains completely unaffected so that there is no environmental dividend. Such a tax, however, allows the countries to at least reap a job dividend – as long as the policy instruments generate public revenues.