HOW CAN FISCAL POLICIES BE DESIGNED TO PROTECT THE POOR? THE EQUITY-EFFICIENCY TRADE-OFF IN ENVIRONMENTAL TAXATION

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In the decade since the financial crisis, the majority of households have seen no growth in their earnings. Over the past 10 years, average (median) earnings have grown (in nominal terms) at 1.6 percent a year, lower than the increase in average prices (2.2 percent a year). Energy costs in particular have been rising, at 2.9 percent a year. This is especially problematic for poorer households: those with the bottom 10 percent of incomes spend £1 in every £10 on fuel, compared with those in the top 10 percent that spend less than £1 in £30.

In 2013, the then leader of the Labour Party, Ed Miliband, decried the "cost of living crisis facing families across our country." He pledged a freeze on household energy bills for 18 months, should his party win power. In response the Prime Minister, David Cameron, reportedly ordered his aides to "get rid of all the green crap" from energy bills. This "green crap" was a mix of policies designed to reduce carbon emissions. A period of stagnating incomes and rising inequality was apparently not the time to take action on climate change.

While the desire to lighten the burden on the poorest households is understandable, cancelling environmental policies is misguided. Not only are the costs of climate change action rising all the time, but there is also no need for such policies to be bad for poor households.

The obvious way to reduce emissions is to increase their cost. Policies that raise the cost of emitting carbon make it more expensive to use fossil fuels. These rising prices are what politicians fear, but most of these policies raise costs by charging taxes (or by selling permits), so can we use the money raised to compensate the poor?

The simple answer to this is: yes, in principle. Higher taxes would raise the cost for everyone, so poor and rich alike pay more. So, in essence, all a government needs to do is to hand back the cash, lump sum, to poor households. They will get back the money they paid in, and some of the money paid by richer households. The lump sum part is that while households paid a tax based on their energy usage, and purchase of goods and services that use energy, the rebate they get would depend only on their income or overall expenditure, not what they actually paid in tax.

For a government, this "in principle" argument is cold comfort; any government needs to know how to apply this in practice. If the tax impact depended only on incomes, compensation would be relatively straightforward. For example, among households with the same level of income, spend on food is relatively similar. So the amount of money needed to offset a tax on food is relatively similar for all households with the same income.

The main difficulty with compensation for taxes on energy comes from differences in need. When households buy energy, what they actually want is a warm home or decent lighting. But the amount of energy needed to heat a property depends on differing factors such as the age of the boiler, the level of insulation, how well windows have been maintained and where in the country you are. Differences in the quality of housing, efficiency of heating and location mean that even among households with similar incomes, there can be a lot of variation in this cost.

Compensating poorer households

One option to tackle this would be to upgrade the heating and insulation technology for households, to reduce this variation. A government could then provide transfers based on incomes and geography that compensate for the increased costs due to taxes. Different approaches can be taken to such upgrading. A government could offer a rollout of free upgrading, paid for out of taxes. Or, as the UK has done, require energy companies to provide insulation and heating packages. The Energy Company Obligation (and many similar earlier schemes) provided insulation to households regardless of income, and free or subsidised boilers to households receiving some

kinds of benefit or tax credit. The cost of the policy is then recouped somehow by energy companies adjusting energy bills: the distributional effects of this are unclear.

An alternative would be offering loans, potentially subsidised, to do upgrades. These loans would allow households, even with low incomes, to borrow for the purpose of installing cost-saving measures. The Green Deal was such a programme. Loans were supposedly designed so that re-payments could be made from the savings in fuel costs that better energy efficiency delivered. This approach might be fairer than free upgrades, because people who have already paid for upgrades are not subsidising those who have not. However, because of the uncertainty about calculating potential savings, take up was much lower than anticipated. The loan was also attached to the property, rather than the individuals living there, so that people don't continue to bear the cost of upgrades even after they leave the house. This, however, may affect the sale of the property since the new owners would acquire the debt. These complications, plus the high interest rates that applied, meant that few households – around one in 2,000 – used the scheme. Of the £1.1bn allocated to the programme, only £50m of loans was made.

Absent the political will to upgrade household heating and insulation, compensation for poorer households relies on targeting both income and housing characteristics. While governments collect good information on incomes, they know little about the housing quality of individual households. Targeting compensation therefore requires the use of other data to see which characteristics predict high energy costs. For example, if older households tend to have higher costs then compensation can vary with age. Alternatively, since existing benefits already have targeting criteria and information is collected for them, the rates of these could be adjusted. Following the previous example, pensions could be adjusted to compensate older households. The ability to target is limited by only using existing criteria, but their use does create less administrative burden.

Advani et al. (2013) and Advani and Stoye (2017) test whether compensating the poorest is possible in practice in the UK. They begin by modelling

reforms to the existing set of carbon policies, to bring taxes on household energy use in line with prices faced by businesses. Current policy in the UK leads to different carbon costs for different users and for emissions from different sources. This is inefficient however: it would be more effective for some users to pay others to cut their emissions rather than reduce their own pollution. Not allowing this makes both sides worse off, with no gain for the environment. Additionally, households still indirectly face the costs of the policy since the tax affects the price of the goods and services they buy. The only reason for the current approach is not to introduce visible costs from climate policy on poorer households.

In the absence of compensation, introducing these costs does indeed make households worse off. On average, households need to increase their total spending by 1.5 percent to cover the cost of the additional taxes. For the poorest 10th of households, spending would need to increase by 3.7 percent. However, the tax also raises revenue. If households continued to purchase the same amount of energy, increasing the price of carbon for households would raise £8.2bn. However, by design, the policy will reduce energy use. Allowing for this the taxes raise only £7.5bn. The higher prices also reduce household carbon emissions by 7 percent.

One approach to compensation, sometimes described as "fee-and-dividend", is to split the money equally between all individuals. This would provide a compensation of £112 per person per year. Advani and Stoye (2017) show that this compensation, which is easy to explain and to administer, would on average make the poorest 20 percent of households better off, despite the higher energy prices. The next 10 percent of households would on average see little change. However, because of variation in energy spending *within* the poorest households, around a third of people in the poorest 30 percent would actually be worse off by more than £1 per week.

Implementing more targeted reforms that adjust existing benefit rates, Advani and Stoye (2017) show how the same money could be spent in a way that better protects the poorest. Under this kind of reform, less than one in five households among the poorest 20 percent are worse off. But among

the next 10 percent of households, targeting has little effect. This group includes many households where adults are working but on relatively low wages, who are relatively difficult to target with existing policies. This reform also creates more losers overall: looking across all households, 55 percent lose by more than £1 per week, compared to 44 percent under the fee-and-dividend approach. Which approach should be preferred therefore depends on who policymakers want to protect, as well as the effects of benefit changes on other behaviours.

Lessons

The main lesson from this exercise is that policies do not exist in a vacuum. Individuals and households are affected by the whole mix of taxes, benefits and other government actions. Rather than treating each of these separately, their effects should be considered together. The government has a legally-binding target to reduce carbon emissions. Achieving this will require households to use less gas and cleaner electricity. This can be encouraged by taxing carbon more heavily. Rather than avoiding this for fear of the negative effects on poorer households, government can use the money raised to compensate these households.

Given the information available, delivering compensation through the existing benefits framework will not reach all the households that lose out. A new transfer that takes into account geography and household demographics might do better, but it will still be imperfect. Providing subsidised efficiency measures will reduce the variation in need, but take-up will continue to be partial, so this will too not solve the problem. It is therefore important for government to think carefully about the trade-offs here. There are many options: using additional money for compensation, simply accepting compensation will be imperfect, introducing a smaller tax, or something else altogether. But ignoring the issue is a bad solution. The current approach is neither equitable nor efficient. Poor households are still harmed because they pay more for the other things they buy, and collectively the country is less productive. This cannot be the answer.

REFERENCES

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