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Discussion: "Climate policies in a distorted world: a fiscal perspective" by Frederick van der Ploeg

Signe Krogstrup, Governor, Danmarks Nationalbank

Agenda

- Key policy tools in a transition to a net-zero economy
- Why the low adoption of carbon taxation?
- Central bank perspective on policy mix

Key policy tools to achieve the transition to a net-zero economy

Carbon pricing

Technical standards

Revenue recycling to compensate for redistributive effects

Public infrastructure investment

Public-private partnerships

Green basic research

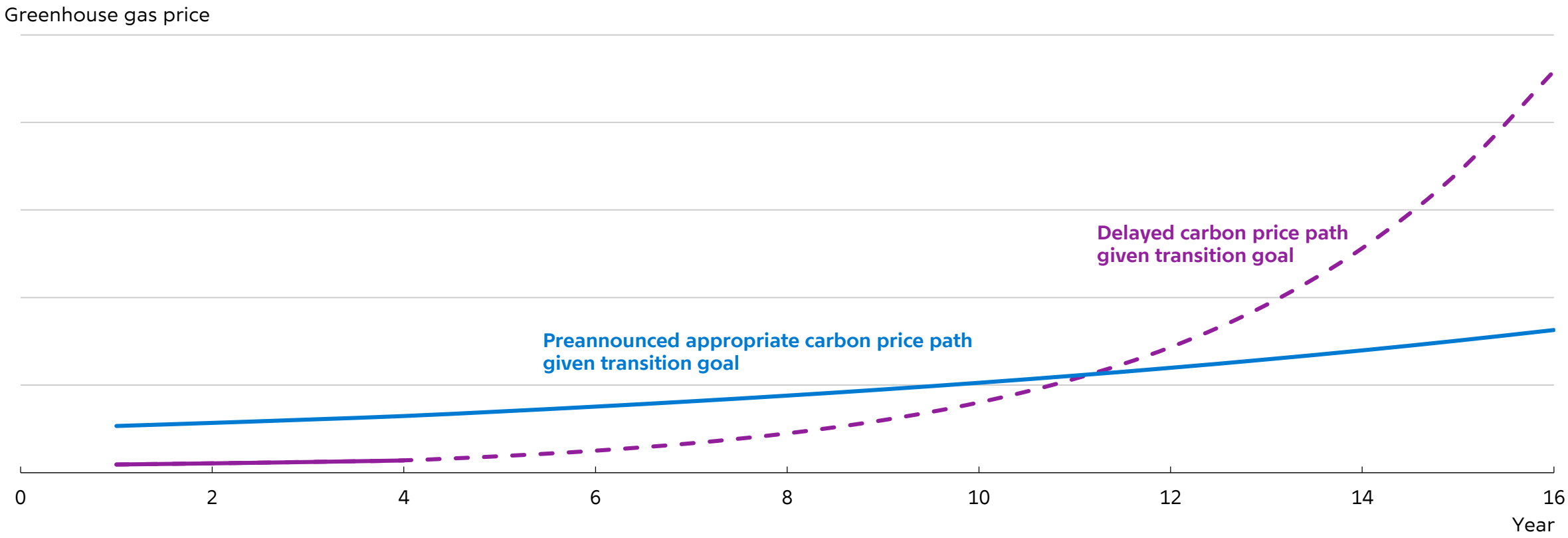
Guarantee and surety schemes and lending programs

Standards and disclosure requirements

Improving data on greenhouse gas emissions from economic activity

Climate policies entail lower costs and risks if credibly announced and committed to for the relevant investment horizon

Emission price level in different policy scenarios



Source: Own illustration.

Why the low adoption of carbon taxation?

Either effect on carbon emissions or stable source of funding – not both

Skewed incidence across income groups

Heightened salience

Cross-border leakage

Special interests related to a differential impact across sectors and industries

Central bank perspective on policy mix

Monetary, financial and fiscal policies each play a role in the transition

Fiscal tools are key

Monetary and financial policy cannot substitute for fiscal tools to achieve the transition

Role of central banks

Ensure price and financial stability in the transition – and thereby ensure the **best possible conditions for the transition**

SPEECH

Governor Signe Krogstrup's discussion of fiscal policies for climate action

DANMARKS NATIONALBANK

25 February 2022

The discussion was given as a reply to Professor Frederick van der Ploeg's presentation 'Climate policies in a distorted world: a fiscal perspective' at the Fourth Annual Conference of the European Fiscal Board in Brussels, Belgium.

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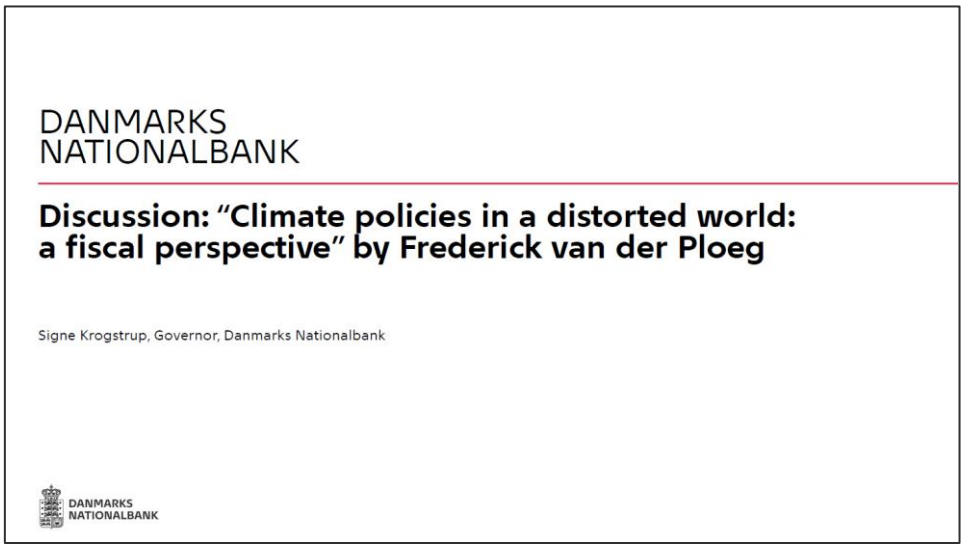

It is an honour to be invited to discuss Professor Frederick van der Ploeg's paper on 'Climate policies in a distorted world: a fiscal perspective'.[1] Professor van der Ploeg summarises selected parts of the literature on climate policies, focusing on the fiscal costs of second-best carbon taxation policies and the political economy of implementing these policies.[2]

I enjoyed reading the paper, and I learned a lot. The focus is timely and relevant.

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1 Van der Ploeg (2022).
2 I refer to 'carbon gas' throughout the presentation as a collective designation for greenhouse gasses associated with global warming due to the greenhouse effect.

The conundrum remains that, while there is near-unanimous consensus that carbon pricing policies are the best way of achieving transition goals cost-effectively, we are – as the paper points out – still far from seeing such policies implemented on the scale necessary for reaching climate goals. Research suggests that the reasons partly lie with the political economy and redistributive concerns.[3]

I agree with Professor van der Ploeg that earlier economic studies have not adequately taken these concerns into account when designing recommendations based on first-best principles. I am therefore pleased to read how the economics profession is taking up the challenge.

The paper covers a lot of ground – more than I can do justice to in my discussion.[4]

I will discuss some of the broader questions regarding the fiscal costs of climate policies that the paper addresses and, in doing so, make a number of specific comments. I will finish with some central bank perspectives.

But first, what should we understand by 'fiscal costs'?

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3 Shang (2021).
4 Danmarks Nationalbank takes an overall stand on its role in relation to climate change and the net-zero transition in Ingholt et al. (2021).

In the paper, the term 'fiscal costs' refers to changes in the distortionary effects of taxation or the marginal cost of public funds.[5] We may instead, more concretely, understand the term as the price tag of a specific climate policy package relative to a business-as-usual scenario, measured in terms of tax revenues or growth. Of course, the two concepts are related, but they are not the same.

This brings me to my first question, namely by which policy tools are transition goals reached most cost-efficiently and hence at the lowest fiscal cost?

The paper sets out the well-known first-best policy of a Pigouvian tax on emissions combined with a lump-sum transfer, in an otherwise undistorted economy.

But the paper also makes clear that the optimal policy is different when allowing for existing distortionary taxes, including labour, capital and corporate taxation. The literature shows that, in this case, the most efficient carbon tax depends on existing tax distortions and how carbon tax revenues are recycled, either by reducing other tax rates or for green dividends.

My point here is that existing tax distortions are but a subset of the relevant distortions that affect the efficient design of climate policies.[6] Other relevant distortions include informational frictions, short horizons of economic decision-makers and the public good nature of energy research and infrastructure.[7]

With my central banker hat on, I will also add climate-related systemic risk to the set of market failures that matter for policy design. The specific policy design can enhance or reduce climate-related systemic risk, and hence add fiscal cost.[8] I will get back to this point below.

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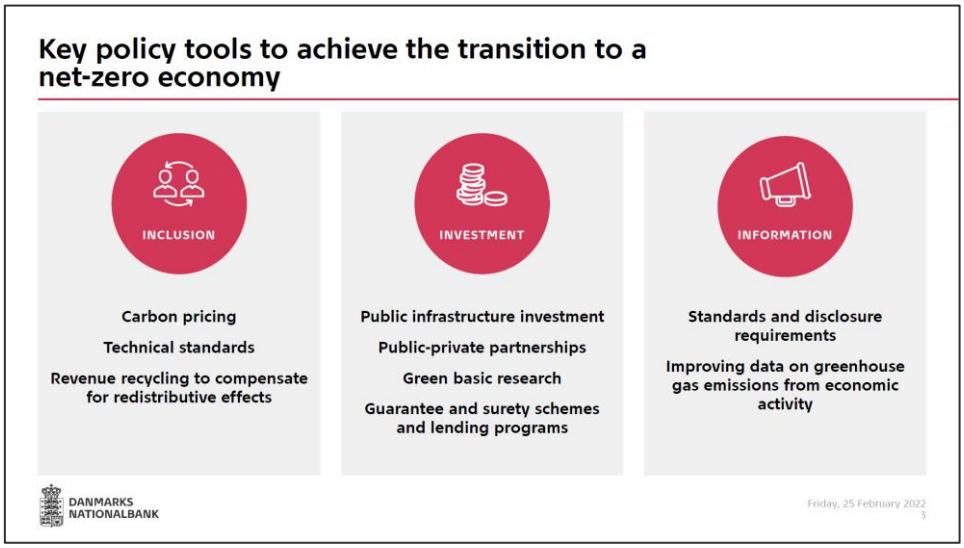
5 The Danish Economic Councils (2021) estimate the economic costs of Denmark reducing its greenhouse gas emissions by 70 per cent in 2030, as compared with 1990, through different policy packages. The most cost-efficient policy package is centred around a uniform greenhouse gas tax.

6 See Krogstrup and Oman (2019) for a general overview of distortions and externalities relevant for carbon emissions.

7 The time inconsistency between short-term costs of mitigating climate change and long-term benefits in the form of a less hostile climate has been labelled the 'tragedy of the horizon' by Carney (2015).

8 Danmarks Nationalbank has conducted a climate-related transition stress test of Danish credit institutions (Helmersen et al., 2020). The test found that certain institutions would need a recapitalisation in case of a delayed, drastic transition due to large impairment charges over a short-time horizon.



In slide 3, I take a broader perspective of the appropriate policy mix for achieving the transition, taking into account a more representative set of distortions. Such climate policies come in three categories, which can be summarised by three 'in's.[9]

By measures to achieve *inclusion*, I mean that the costs of global warming for societies should be *included* into the price of carbon emissions.

Inclusion is the focus of Professor van der Ploeg's paper, which points to different instruments. These options combine carbon taxation with recycling of the revenue, as well as intergenerational and international transfers, to achieve distributional goals.

Recycling of revenue from carbon taxes may be necessary to achieve inclusion of the cost of global warming into the price of emissions. This is against the backdrop that inequality-related costs associated with climate action are real constraints to climate action.

I may add that taxation is not the only way to ensure inclusion. For instance, mandated technical standards for emissions can also do this indirectly.

[9] This is a summary of the policies identified in Krogstrup and Oman (2019). The concepts of inclusion, investment and information are inspired by ECB President Christine Lagarde's speech at *BIS Innovation Summit 2021*.

Inclusion is the cornerstone of climate policy. However, even if it is introduced, it may not be enough for a cost-efficient transition, in the face of other market failures.

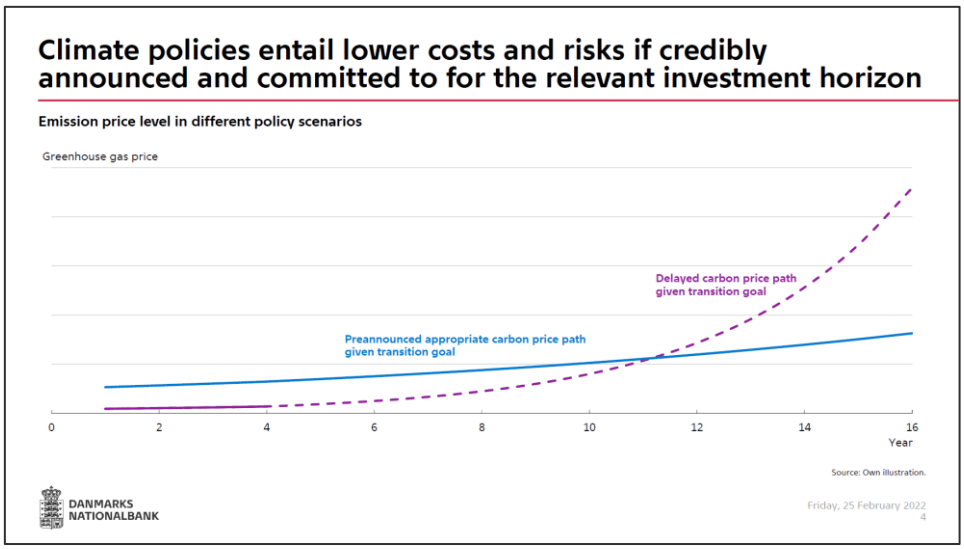
Rather, *investment*s are needed, notably in public goods such as infrastructure networks and research and development. Massive private investments will naturally be necessary too.

In principle, proper carbon pricing and public investments bring about the right conditions for private investments to be made. In practice, however, informational frictions, such as a lack of knowledge about carbon emissions and policies that will be put in place over the investment horizon, are an important hindrance.

That brings me to *information*. Information, data and transparency are foundational for supporting inclusion and investment. Without proper data on emissions across sectors and economic activities, emissions can hardly be priced, let alone taxed or traded.

Informational frictions in respect of emissions are, unfortunately, rampant. We need standards, disclosure requirements and a systematic collection of data on direct and indirect emissions.

Fortunately, many important initiatives are being undertaken by the European Commission in this regard, such as the Taxonomy Regulation, the Disclosure Regulation, the Corporate Sustainability Reporting Directive and the Green Bond Standard.



Another informational friction surrounds future climate policies and carbon prices: what price on emissions will companies face in the future? The answer to this question affects how much companies, banks and households can save in the future by investing in lower emissions today.

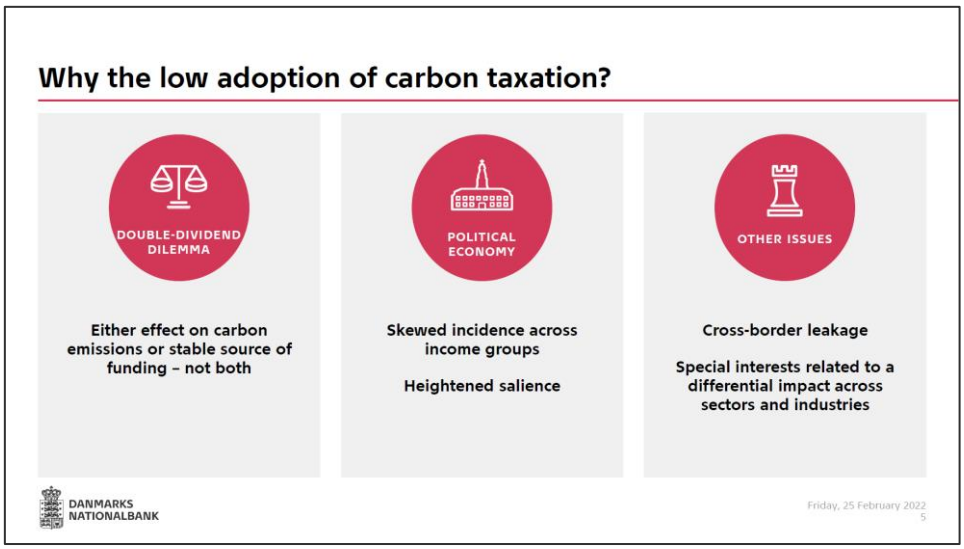
This is what slide 4 illustrates.

The blue line represents a *preannounced* and *credible* carbon price path. In this case, a moderate increase over time in the tax level is sufficient to achieve a given climate goal, since the future investment incentives are clear at the outset of the tax.

The purple line illustrates the case where there is *no announcement* of a carbon price path and therefore uncertainty as to the political commitment to adopt carbon pricing. There, uncertainty about future measures causes potential investors to wait for clarity before making significant investments. This delays the transition. As a result, the tax has to rise more steeply to achieve the same reduction in emissions that could have been achieved with a preannounced tax.

The implication is that uncertainty about future political will to achieve a given climate goal is fiscally costly.

Financial stability may also be challenged if a delayed transition means that, at the stroke of a pen, business models are not profitable when climate measures are finally, unexpectedly implemented. Financial instability in a transition will so translate into fiscal costs.



This brings me to the question of why cost-efficient, or appropriate, policy measures, such as carbon taxation, have not yet been implemented broadly? Professor van der Ploeg's paper addresses the question by surveying the political economy literature on the lack of constituency for desirable climate policies.

It is encouraging to read about the growing frontier research on this important question.

First, it shows that the promises of a double dividend – that the introduction of carbon taxes can reduce emissions and distortionary taxes on labour or capital, or inequality, at the same time – do not always hold. In fact, my understanding of Professor van der Ploeg's rendering of the literature is that they will generally *not* hold, for the reason that I will refer to as the *double-dividend dilemma*.

Carbon tax revenues depend on how responsive the demand for emissions-intensive production is to a tax.

If the demand is highly responsive, a carbon tax will quickly reduce emissions, and revenues from the tax will quickly fall. In this case, carbon taxation cannot be used for a structural reduction in distortionary labour or capital taxes or for green dividends.

On the other hand, if the demand for emissions-intensive production is not very responsive to the carbon tax, then a tax can provide a steady new source of tax income, allowing for reducing other distortionary taxes or for redistribution. In this case, however, the tax will not achieve the transition.

Thus, a carbon tax can *either* generate a new stable source of public funding that can reduce distortions in the existing tax system *or* achieve the transition. It cannot do both.

Second, the literature shows that lack of constituency for carbon taxation may be grounded in the skewed incidence across income groups of carbon taxation, even if some redistribution takes place through green dividend pay-outs and reduced labour taxation. The specific design of the redistribution associated with a carbon tax may be key for achieving constituency.

Additionally, a lack of constituency can be associated with so-called 'heightened salience' of carbon taxes, which is more difficult to address, and requires a better understanding.

My final point on the fiscal cost is that, while the distributional impact on income and heightened salience are important elements in the political economy of carbon taxation, I find the picture incomplete without a discussion of the political economy of cross-border leakage and special interest related to the differential impact of carbon taxes across sectors and industries.

As already alluded to above, the design of climate policy for achieving the transition can affect central bank mandates of price and financial stability, in addition to fiscal cost. For these reasons, central banks, including Danmarks Nationalbank, are increasingly focusing on the implications of climate change and the transition for economic and financial outcomes.[10]

I will end my discussion with some perspectives on climate policies from the viewpoint of central banks with price and financial stability mandates.

The centrality of carbon pricing and investment policies in the efficient set of tools for achieving the transition underlines the fiscal nature of the required policies.

There have been calls for central banks to play a greater role in the transition when carbon pricing policies are not implemented or delayed.

[10] Examples of climate-related analyses at Danmarks Nationalbank include Faccini et al. (2021), Helmersen et al. (2020), Hensch et al. (2022), Mirone and Jygert (2021) and Mirone and Poeschl (2021).

My answer to these calls is that central banks can best contribute to the transition by ensuring good conditions for it. This has several meanings.

Price and financial stability ensure stable planning horizons and add to fiscal space, which provide a solid basis for long-term green investments.

Central banks can furthermore contribute to the transition by raising awareness of climate-related financial risks within banks and among institutional investors. More awareness, and hence pricing, of risks may support the transition, even if the increased awareness is driven by a concern for financial stability.

As an example, increased awareness of risks associated with emissions-intensive companies might cause banks and investors to rate these companies as particularly risky. If so, this diverts financing away from emissions-intensive business models and towards greener alternatives.

While central banks can play a supporting role through their mandates, monetary and financial policies cannot substitute for fiscal tools.

Those were the words. Thank you for your attention.

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