

Adam, Stuart; Phillips, David

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Freeports: What are they, what do we know, and what will we know?

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Institute for Fiscal Studies

IFS Report R251

Stuart Adam
David Phillips

Freeports: what are they, what do we know, and what will we know?



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Research Council

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Stuart Adam
David Phillips

Copy-edited by Rachel Lumpkin

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7 Ridgmount Street
London WC1E 7AE
+44 (0)20 7291 4800
mailbox@ifs.org.uk
<http://www.ifs.org.uk/>
[@TheIFS](#)

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Preface

The Department for Levelling Up, Housing and Communities (DLUHC) has commissioned an evaluation of the Freeports programme, initially focusing on Freeports in England. This aims to monitor and learn lessons from the Freeports as they begin and scale up operations, and to the extent possible, estimate the impact of the Freeports on local and national economic outcomes. The evaluation is being undertaken by a consortium led by Arup; the Institute for Fiscal Studies (IFS) is a member of the consortium, with a specific role providing independent advice and critique on the proposed evaluation approaches and supporting public understanding of the Freeports policy and evaluation approach and findings. This report is produced as part of this role.

We thank Carl Emmerson, Paul Johnson, and the Freeports teams at DLUHC and Arup for comments on earlier drafts. But the analysis and opinions set out in this report are those of the authors alone, and may not reflect those of the government or of the other organisations involved in the programme's evaluation. Any errors and omissions are likewise the responsibility of the authors alone.

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Executive summary

In January 2020, the UK government formally announced its intention to create a number of Freeports across the UK, with the aim of promoting job creation and regeneration, boosting trade, investment and innovation, and supporting the ‘levelling up’ agenda. The Freeports offer various tax and customs reliefs, simplified import and export procedures, enhanced trade promotion, and additional support for innovation, increasing their attractiveness to both domestic and international businesses. They also benefit from an injection of seed capital from central government and the full local retention of business rates revenue from qualifying new development, in order to enable investment in complementary infrastructure and skills.

This report aims to provide an accessible overview of the Freeports programme, looking at existing evidence on the potential impacts of the policy, and what we may learn about its actual impacts from future evaluation.

What are Freeports?

Freeports are not a new idea – indeed, there are examples from thousands of years ago. The UK has also previously had Freeports as recently as 2012, although these were rather limited affairs focusing on customs measures that were little different from what was available elsewhere in the country via other schemes.

The new Freeports – of which it is planned there will eventually be eight in England, two in Scotland, at least one in Wales and potentially one in Northern Ireland – benefit from not only customs measures, but a range of tax reliefs, enhanced support for trade promotion and innovation, seed capital to help pay for infrastructure and other enabling activities, and full local retention of business rates revenue from new and expanded developments located in the Freeports. This makes them more substantive special economic zones (SEZs) than previous UK Freeports.

In addition, councils covering Freeports are being encouraged to make use of existing powers to relax the usual planning regime, such as via local development orders, which involves pre-approving certain types of developments, although they not be mandated to do so. Alongside other partners in their Freeports, they also have to put in place a skills and employment strategy to help local residents, particularly from deprived or otherwise traditionally disadvantaged backgrounds, to obtain the new jobs created, and strategies for innovation and decarbonisation.

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Seed capital and any additional retained business rates revenues generated can be used to fund these strategies.

Each Freeport is a maximum of 45 km in diameter. Within its outer boundary, it will include a number of ‘customs sites’ where the customs measures are in place, and between one and three ‘tax sites’ where the tax reliefs and increased local retention of growth in business rates revenues will apply. The tax sites are required to be ‘under-developed’ land and limited to 6 km² per Freeport.

With the exception of some simplified declaration and authorisation processes, the customs measures can already be applied for by businesses elsewhere in the UK. The tax measures are more significant, albeit temporary, and include enhanced allowances for investment and generous reliefs from employer National Insurance contributions (NICs), business rates and stamp duty land tax.

The benefits available to Freeports in Scotland and Wales will be almost identical to those in England: although some elements of the scheme are devolved, the Scottish and Welsh Governments have agreed to largely mirror the situation in England. The situation for Northern Ireland is more complex as the Northern Ireland Protocol to the Brexit agreement and the recent Windsor Framework may mean it is not possible to offer the full set of tax reliefs and other measures available elsewhere in the UK, although it may be possible to offer alternative benefits instead.

Progress to date

The UK government opened the bidding process for Freeports in England in November 2020. Each prospective Freeport had to bring together a consortium of local councils, port operators and potentially other public and private sector organisations (such as Local Enterprise Partnerships, universities and businesses in the property, logistics or industrial sectors) who would put together the bid and, if selected, set up a governing body to manage and promote the Freeport. As part of their bids, they had to identify target sectors and demonstrate how the tax and other incentives available would overcome issues (such as polluted land and coordination failures) that would otherwise stymie the development of these sectors at their ports and elsewhere in the UK – with further information on this sought following selection.

Following an assessment process and final decisions by ministers, eight winning bids were announced alongside the March 2021 Budget. Seven were based around seaports (Felixstowe and Harwich, Humber, Liverpool, Plymouth, Solent, Teesside and Thames) and one around an airport (East Midlands Airport). The tax sites for the Freeports in England were activated during late 2021 and early 2022. The time taken to develop and agree full business cases mean that five

Freeports were fully approved by the end of February 2023, making them eligible for seed capital and for greater local retention of business rates (which is backdated to the activation of the tax sites in question). A number of business and infrastructure investment projects and collaborations with local universities and training providers have already started, as activities in the Freeports begin to ramp up. The remaining three Freeports in England are expected to receive final government approval in the coming months.

Bidding for the Scottish Freeports opened in March 2022, and the Welsh Freeport in September 2022, with decisions being taken jointly by the UK and devolved governments. It was initially hoped to announce the two Scottish Green Freeports by the end of summer 2022 but the two winning bidders (Firth of Forth and Inverness and Cromarty Firth) were only announced in January 2023, which means that the timeframe for them to begin operating has been pushed back from spring to late 2023. The UK and Welsh governments aim to announce the chosen Welsh Freeport in early spring 2023, so that it can begin operating by the first quarter of 2024.

What are the government's aims?

The government has three stated aims for the Freeports programme:

- to promote regeneration and job creation – this is the ‘lead policy objective’;
- to establish Freeports as national hubs for global trade and investment;
- to create hotbeds for innovation.

Freeports are part of the government's levelling up agenda, with several Freeports in areas (such as Teesside, Liverpool and the Humber) with high levels of deprivation and low levels of income and employment, and a particular focus on increasing the skills and employment of those from disadvantaged backgrounds.

The UK government also expects that the Freeports will contribute to decarbonisation of the economy and progress towards its target of reaching net zero greenhouse gas emissions by 2050, with most Freeports targeting sectors consistent with these goals. The two Scottish Freeports are set to be branded as ‘Green Freeports’ and the Scottish Government has made contribution to decarbonisation a fourth formal objective of the programme.

Key findings on the Freeports programme and the scope for evaluating it

The economics of the Freeports programme

- 1 The core of the Freeports programme is the location-specific and time-limited tax incentives and other benefits that it provides. All else equal, such policy variation across locations and times would be undesirable: not only does it distort the timing and location of economic activity, but the efficiency cost of taxation rises more than proportionally with the tax rate, such that the costs are increased if some places/times have higher tax rates and others lower ones (rather than them all having the same tax rate). However, the economic case for the Freeports programme, and large parts of the government's broader levelling up agenda, is that all else may often not be equal. For example, one may have concerns about the inequalities between places that can arise even in an efficiently functioning market: efficiency is no guarantee of fairness. Tax incentives and other support could therefore be used to help with levelling up, which is a central aim of the programme. It is worth noting though that if one's primary concern is people's material living standards, using the tax and benefit system to redistribute income to poorer households can sometimes be a better approach than trying to influence where economic activity takes place.
- 2 Perhaps more important to the economic case for Freeports therefore is that markets, on their own, may not be efficient. For example, businesses may under-invest in research and workforce skills from society's perspective, because they cannot capture the full benefit of that spending, as other businesses benefit from what they discover and hire the workers they have trained. Businesses may struggle to raise finance, especially for new and potentially risky ventures with large upfront costs, as banks and other lenders may find it difficult to assess the prospects of the project succeeding with sufficient confidence. Such market failures – which are termed externalities, and information asymmetries, respectively – can provide a rationale for government intervention to help overcome them.
- 3 In the context of Freeports and some other place-based policies, a key example relates to agglomeration effects. This is the idea that there can be benefits to certain kinds of businesses from being near other related businesses (or research centres), allowing more interchange of specialised people and ideas and making shared resources and infrastructure more cost-effective. While such clusters can form spontaneously, it can be hard for

businesses to co-ordinate on achieving this outcome, and each may not take into account the benefit they bring to others. In that case there can be a role for government in catalysing such clusters by, for example, providing tax and other incentives for businesses to locate in a particular location. Agglomeration effects could make the clusters generated self-sustaining after the ending of the incentives, and make such geographically targeted incentives more effective and better value than smaller incentives available nationwide.

- 4 There is good evidence that agglomeration effects are important in practice. Freeports have been asked to identify the sectors they will target, and to demonstrate how the incentives provided by the programme could help to overcome coordination problems and other market failures. They have had also had to agree broad plans for the use of the tax sites, and put in place plans for complementary investments in infrastructure, skills and innovation, with the aim of maximising the likelihood of developing successful self-sustaining clusters. However, governments and active industrial policy, as well as markets, can fail. A key risk is that the wrong locations and sectors may be chosen, and Freeports may not be successful in creating the clusters that they hope for. In this context, too-tight a focus on particular sectors could prevent other, potentially more viable, sectors from locating in the Freeports. This means there could be a tension between ensuring plans are sufficiently adaptable to respond to market signals, and maintaining a focus on sectors associated with positive externalities and agglomeration effects.
- 5 Another important risk is that, even if there is significant activity in the Freeports, a large part of that would have happened there even in the absence of the policy ('deadweight') or would have happened elsewhere in the UK ('displacement'). Similarly, the people and capital employed in Freeports might otherwise have been employed elsewhere. If activity would have taken place elsewhere in the UK, for example in an alternative cluster with even better agglomeration benefits but without the Freeport incentives, it is possible that the Freeports could reduce UK-wide productivity. Given the Freeports programme's focus on regeneration and levelling up deprived places, this does not necessarily mean the policy would be a failure: the reductions in geographical inequality could still make it worthwhile. However, the higher the deadweight and displacement associated with the policy, the less likely it will represent good value for money.
- 6 As well as displacing activity from the rest of the country, the Freeports could also generate additional activity elsewhere, and particularly in neighbouring areas, through increased demand via supply chains and workers' incomes.

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These positive spill-over effects are likely to be smaller when the deadweight and displacement effects of the policy are larger.

- 7 The government is trying to minimise deadweight and displacement in several ways. The tax sites chosen were undeveloped or under-developed locations, and the tax breaks are only available for new employment and investment, not things already happening. Freeports are largely seeking to specialise in sectors that are not already operating at scale elsewhere in the UK, and, as discussed above, were required to show that there were viability gaps and market failures that meant worthwhile investment in those sectors would not go ahead without government support (although not all of the 'market failures' identified are necessarily true market failures). In addition, the councils covering the Freeports can, if they want, apply a 'displacement test' to deny business rates relief to businesses relocating from elsewhere. However, while such measures should reduce deadweight and displacement to some degree, they cannot fully mitigate this important risk (especially for harder-to-measure types of displacement), and how successful they will be is an important open question.
- 8 There are no specific financial incentives related to skills, innovation and decarbonation, despite these being core objectives of the programme: for example, while tax allowances for investment in buildings, plant and machinery are more generous in Freeports than elsewhere, tax allowances for investment in research and development are not. However, these activities are being supported via seed capital and potentially the additional retained business rates that Freeports areas will receive as development takes place.

Evidence on the potential impacts of the customs and tax incentives

Bearing in mind these economic considerations, what can we learn from empirical analysis of other, related tax and place-based policies?

- 9 The customs benefits enjoyed by Freeports are unlikely to have a big effect, in large part because similar benefits are available elsewhere if businesses apply for them. Moreover, most of the businesses taking advantage of similar policies in the United States do so to be able to pay import duties on the goods they produce rather than on the inputs they import. The structure of UK duty rates mean that this is likely to be far less lucrative than in the US.
- 10 The tax incentives are likely to have a more significant effect on businesses' investment and location decisions, in turn affecting employment, earnings and productivity in Freeports and, to a lesser extent, the rest of the country.

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Evidence both from past reforms to the specific taxes in question and from comparable place-based policies is consistent with this.

- 11 The employer NICs relief will incentivise businesses to hire additional employees, and particularly low and middle earners. Evidence from the academic literature suggests that this will result in increases in employment. Evidence for short-term impacts on wages is more limited; if they do increase, the increases may potentially spill over to areas outside the Freeports as employers outside Freeports seek to remain competitive with those inside them.
- 12 There is strong evidence that enhanced tax allowances for investment do increase investment, although some evidence suggests the effect may be smaller during economic downturns or periods of economic uncertainty. The temporary nature of the incentives is likely to magnify the short-term boost to investment, due to investment being brought forward from future years.
- 13 The exemption from business rates will also incentivise investment in the buildings and integral plant and machinery this tax is charged on. It is also likely to lead to increases in land and property values and rents, benefitting existing landowners. Exemption from stamp duty land tax will also likely increase land and property values. But it will have the welcome effect of substantially reducing the cost of property transactions, making it easier for those best placed to develop and do business in Freeports to buy or lease land and property.
- 14 Evidence from enterprise zones in France and the US, which share several key features with the UK's Freeports, suggests that the package of tax incentives on offer will likely increase investment and employment in the Freeport sites, benefiting the residents of surrounding areas (although evidence of improvements in residents' incomes and poverty rates is weaker). However, it also suggests that a significant part of the increase in activity in enterprise zones is displaced from neighbouring areas. In the case of Freeports, the risk may be of displacement from other ports rather than displacement from neighbouring areas.
- 15 Studies of the UK's previous place-based tax and spending policies also find evidence of displacement. This is particularly true for businesses serving largely local or regional markets, including wholesalers and retailers and many parts of the services sector. Displacement is less likely to be as big an issue if the Freeports can successfully target businesses serving national or global markets, able to export or compete with imports. The sectoral focuses of the

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Freeports, and institutional arrangements aimed at ring-fencing tax site land for such 'tradeable' sectors, will hopefully help in this regard.

- 16 A range of evidence also suggests that place-based policies may have different impacts in different types of places. In particular, there is some evidence that enterprise zones in France which were in areas that were less economically depressed to begin with, or which had stronger transport links, were more effective. Studies of EU regional development policy finds bigger positive impacts in areas with higher skills and better governance. This suggests that choosing Freeport sites with an eye to levelling up may come with a trade-off in terms of maximising overall economic benefits. But it also suggests that funding for infrastructure improvements and efforts to improve skills, which the Freeports programme provides, are useful complements to the tax incentives.
- 17 All of this suggests that the tax incentives and other benefits enjoyed by Freeports are likely to boost investment and employment, potentially benefiting residents of the surrounding area, but that this boost to Freeports will come partly at the expense of other areas. The Office for Budget Responsibility expects the Freeports to generate little additional activity, with most of it being displaced from other areas. The government and the Freeports appear to be much more optimistic: for example, the English Freeports themselves expect to create more than 200,000 additional jobs between them. The government has, to date, not published a full assessment of the effects it expects Freeports to have, which makes it difficult to scrutinise and evaluate these competing claims.

What will future evaluation tell us about Freeports' actual impacts?

- 18 The application of the Freeports policies to a small number of specifically chosen areas with certain characteristics (i.e. large ports), and the potential displacement and spillover effects (both negative and positive) on other parts of the country, make it a fundamentally difficult policy to evaluate. This is true of the impacts on both the local economies in the areas surrounding Freeports and the wider UK economy, which in turn make it extremely challenging to assess the programme's value for money. Of course, the same is true of many government policies, and it is still worth evaluating the programme as thoroughly as possible.
- 19 The main quantitative evaluation approach proposed by the consortium tasked with evaluating it (which we advise) is to compare the change in trends in outcomes of interest (such as investment, employment and wages) in Freeport areas following their designation with what happens in other similar areas of

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the country not selected as Freeports, called control areas. For this approach to reliably estimate the causal impact of the Freeports programme, we have to assume that the trends in the control areas are a good indicator of what would have happened in the Freeport areas in the absence of the programme.

- 20 To help ensure this, the control areas should be as similar as possible to the Freeport areas. But the more similar the control areas are, the more likely it is that they will be affected by displacement or spillover effects. In that sense, they are not really unaffected 'control' areas illustrating what happens in the absence of the policy: they too are affected by it. If the control areas were to be affected by displacement or spillover effects, then this would bias estimates of the effects of the programme on Freeport areas, and on the UK as a whole.
- 21 The suggested approach for overcoming these challenges is to use economic modelling of various displacement and spillover effects via the labour, product and capital markets. So far, crucial details of precisely how this would be done have not yet been worked out, and the challenges in doing this in a way that avoids effectively assuming (rather than estimating) the scale of displacement and spillover effects will be daunting. However, the broad approach proposed is significantly better than a simple before-and-after comparison of outcomes in Freeport areas, and is a reasonable response to a fundamentally difficult evaluation problem.
- 22 Other government policies over the coming years – most obviously those also designed to promote regeneration or levelling up – might affect Freeports more or less than the areas with which they are being compared, making it hard to separate out the effects of Freeports from the effects of these other policies. But outcomes might also diverge for reasons unrelated to policy. The facts that there are only eight Freeports in England, and that we are interested in outcomes more than five years after the policy was announced, will make it harder to be confident that any divergence in outcomes between the Freeport areas and comparator areas is caused by the Freeports policy rather than by other developments that happen to affect those areas differently.
- 23 Even if the overall impacts of the Freeports programme could be estimated well, it would still be challenging to assess its value for money. A thorough assessment would require not only estimates of specific impacts, such as how much tax revenue is generated (or lost) by additional (or displaced) activity as a result of the policy, but also assessments of how much value is placed on outcomes ranging from additional employment (and the resulting loss of time to spend with family or in other ways they might value) to decarbonisation to

levelling up. Again, these difficulties are not unique to the Freeports programme, and a growing body of academic research provides guidance as to how to go about it. But it is not straightforward.

- 24 The monitoring and evaluation framework emphasises the role of ongoing monitoring, process and theory-based evaluation, using a range of quantitative metrics and qualitative feedback. The aim of these will be to check whether implementation is going as planned and whether milestones are being reached, to assess whether the anticipated mechanisms leading to positive economic impacts are operating, to identify which parts of the programme are working best, and to assess which factors are associated with successful implementation. This sensibly recognises that successfully implementing the Freeports programme – and learning from it – requires much more than just estimating its impact; information on the ‘how’, ‘where’, ‘why’ and ‘why not’ is also vital. It may also facilitate learning between the Freeports themselves, allowing honing of programme design and implementation. These elements may turn out to be the most valuable part of the evaluation exercise. And while the theory-based approach will not provide definitive estimates of the programme’s impacts or benefit-to-cost ratio, it will generate a range of indicative evidence on the success or failure of the policy.

Conclusion

- 25 Our reading of the evidence is that the Freeports programme will likely attract additional investment and jobs to Freeport areas, potentially boosting incomes and reducing poverty for local residents. However, part of this activity will be displaced from elsewhere in the country, and while measures are in place to mitigate this, it is unclear at this stage both how successful they will be, and how large a proportion of activity will be displaced or deadweight as opposed to genuinely additional. This, as well as the overall amount of activity in the Freeports, will be a crucial determinant of the overall value-for-money of the Freeports programme. But value for money will also depend on a wide range of other factors, including the weight placed on levelling up poorer areas (one of the key objectives of the Freeports and wider government policy).
- 26 The nature of the Freeports programme means it is unlikely we will ever have definitive figures for its overall economic impacts and benefit-to-cost ratio. But the proposed quantitative economic impact assessment will provide useful indicative evidence on the programme’s overall impact on various economic outcomes. And a focus on monitoring and process evaluation can help the sharing of best practice between Freeports and learning about how the benefits of similar policies could be maximised in future.

1. Introduction

In January 2020, the UK government formally announced its intention to create a number of Freeports across the UK, with the aim of attracting investment, boosting trade and supporting the levelling up agenda, fulfilling a pledge in the 2019 Conservative Party General Election manifesto. The Freeports offer various tax and customs reliefs, simplified import and export procedures, enhanced trade promotion, and additional support for innovation, increasing their attractiveness to both domestic and international businesses. In addition, seed capital and greater local retention of business rates revenues will allow investment in complementary infrastructure and skills, and councils are being encouraged to consider using existing powers to relax usual planning rules to expedite new development. Eight Freeports have been designated in England, including in some of the most deprived parts of the country such as the Humber estuary, Liverpool City Region and Teesside. In addition, the UK and Scottish governments have chosen two ‘Green Freeports’ in Scotland (Forth and Cromarty), and the UK and Welsh governments are jointly selecting one Freeport in Wales. There are also plans for a Freeport in Northern Ireland, although the political and policy context there is more complex.

This report aims to provide an accessible overview of the Freeports programme, existing evidence on the potential impact of the policy, and what we may learn about its actual impacts from future efforts at evaluation.

The rest of the report proceeds as follows. Section 2 provides further detail on the Freeports programme – the package of policies it entails and progress to date. Section 3 reviews the economics of the Freeports programme, setting out the aims and potential drawbacks of the policy and assessing what we can learn about its likely effects from the available evidence on other similar policies that have been implemented in the UK and elsewhere in the world. Section 4 discusses what we may (and may not) be able to learn in future about the actual impact of the policy. Section 5 concludes.

2. The Freeports programme

The idea of Freeports – ports where at least some of the usual taxes and/or rules associated with trade and business activity do not apply – is one with a history going back to antiquity. There is no single definition of what constitutes a Freeport, though: the range of tax and regulatory incentives and other support available in Freeports has differed significantly across time and countries. Some are little more than secure warehouses where goods can be stored until onward sale in order to delay customs duties and other taxes, while others allow manufacturing activity and provide much more generous tax and other support. For example, Freeports in the EU, while differing in their specific scope, have to abide by EU customs and state aid rules, limiting the generosity of their benefits. The seven Freeports that operated in the UK at some points between 1984 and 2012 were particularly limited, offering a number of customs benefits that were little different from what was available via other schemes, and no specific tax benefits. In contrast, Freeports and zones in developing countries often have very generous tax reliefs, including full exemption from corporation tax for several years.

This section of the report sets out the incentives and support that are being provided to the new UK Freeports, which will benefit from a generous package of measures by high-income country standards.

2.1 The Freeports policy package

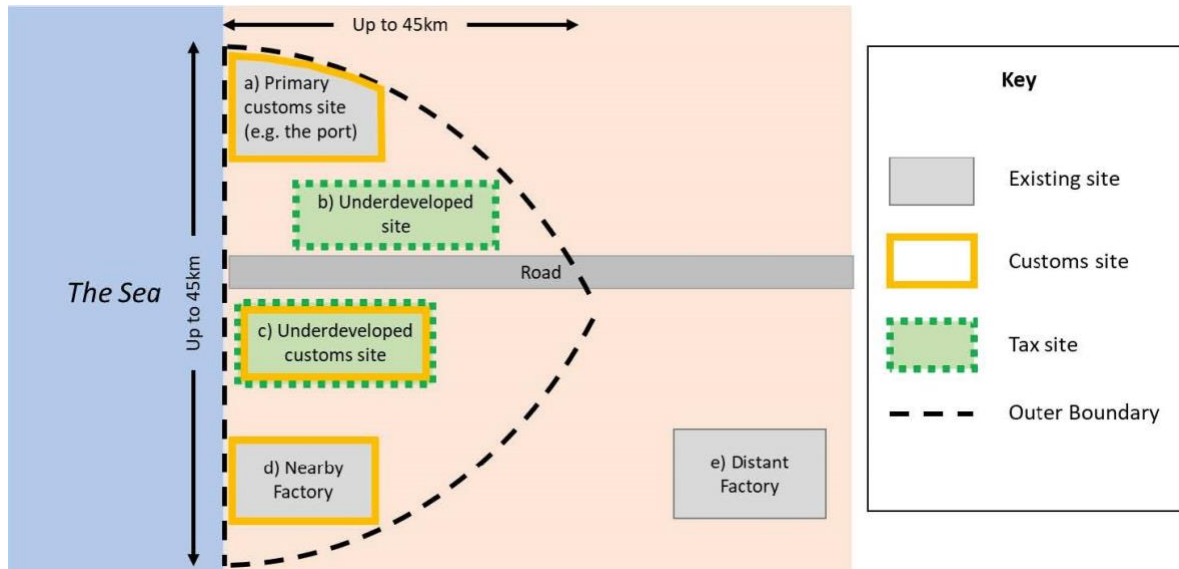
Freeports in England will benefit from a range of economic incentives and support measures, including:

- customs deferrals, reliefs and simplified procedures;
- tax reliefs;
- seed capital for investment in enabling infrastructure;
- enhanced trade promotion and support for innovation; and
- increased local retention of growth in business rates revenues.

These incentives and support measures are available in specific areas within each Freeport's 'outer geographic boundary' (an area up to 45 km across). In particular, each Freeport includes a number of 'customs sites', where the customs measures are in place, and between one and three 'tax sites', where the tax reliefs and increased local retention of growth in business rates revenues will apply. Funding, and other support, can apply in other areas within a Freeport's

outer geographic boundary, provided a clear economic link to the tax and customs sites can be demonstrated. Figure 2.1 illustrates these different parts of a Freeport using a hypothetical example, incorporating three customs sites and two tax sites. The outer boundary can cover an area of up to 45 km across, although there must be an economic rationale for the chosen boundary. In addition, in exceptional cases, customs and tax sites can be designated outside the outer boundary if there is a clear economic rationale for doing so.

Figure 2.1. Hypothetical illustration of a Freeport in England



Note: Customs and tax site boundaries not drawn to scale.

Source: Figure 3.1.1 of HM Treasury and Ministry of Housing, Communities & Local Government (2020).

Customs sites and policies

Freeports' customs sites are secure areas that goods can be moved into and out of in a controlled way for warehousing or processing. Businesses operating in these sites receive a number of customs-related benefits:

- customs duty, excise duty and VAT suspension, which means that duties and VAT payable on goods entering the customs site can be deferred until the goods leave the site;
- customs duty inversion, which means that if any final goods produced in the customs site using imported components would attract lower customs duties than those components, those lower duties can instead be applied;
- customs duty exemption, which means that, subject to the 'rules of origin' in the UK's trade agreements, businesses located in the customs sites may be able to import components duty-free in order to produce goods for export;
- simplified import declarations and authorisations for movement and processing of goods.

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It is worth noting that, with the exception of the simplified declaration and authorisation processes, the other customs benefits enjoyed by Freeports can also be applied for by businesses located elsewhere in the UK (HM Revenue and Customs, 2022). Applications outside Freeports are assessed on a case-by-case basis though, with different applications required for different types of duty benefits. The customs advantage of Freeports is therefore mainly streamlining administrative processes rather than a direct financial benefit.

Each Freeport is required to have at least one customs site, with no fixed upper limit on the number allowed, although a clear rationale for each (included its relationship to the Freeport as a whole) is needed. There is also no fixed upper limit on the size of customs sites and the main site does not need to be located at the port itself, provided that there is a clear rationale for this and that appropriate security arrangements are in place.

Tax sites and policies

Freeports' tax sites are designated areas where special tax reliefs apply, increasing the economic viability of the sites for business use. The specific tax measures are:

- **Employer National Insurance contributions relief.** Businesses operating in tax sites pay no employer National Insurance contributions (NICs) on the first £25,000 of the salaries of each new employee who spends at least 60% of their working time at the tax site, reducing their annual NICs bills by up to £2,194 per new employee. The relief is available for three years per new employee, for employees starting from April 2022, until at least April 2026. Subject to a government review of the relief's effectiveness, it may be extended to new hires up to April 2031, at which point the relief will end even in respect of employees hired fewer than three years before that.
- **Business rates relief.** 100% relief from business rates for new properties and property improvements and extensions in approved tax sites has been available since October 2021. The relief is available for five years from the point at which the property (or improvement) is completed and relief first applied for, with a cut-off date for applications of 30 September 2026.
- **Enhanced reliefs for investment.** The enhanced structures and building allowance (ESBA) allows businesses to deduct the cost of building or renovating properties located in a tax site from their taxable profits over ten years as opposed to 33.33 years as is usually the case. The enhanced capital allowance (ECA) means businesses are also able to deduct the cost of investment in new plant and machinery from taxable profits in the year the expenditure is incurred, rather than over a number of years under the standard regime. These enhanced reliefs apply for investments between April 2021 and September 2026 in the case of the ESBA and between October 2021 and September 2026 in the case of the ECA. Note, however, that from April 2021 to March 2023 a 'super deduction' allowing businesses to

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deduct up to 130% of the cost of investment in plant and machinery across the UK is likely to have been more attractive to use than the specific Freeports' ECA.

- **Stamp duty land tax relief.** Land and building purchases in tax sites between April 2021 and March 2026 are free of stamp duty land tax (SDLT) if the property is to be used for commercial activity.

Tax sites are required to be previously under-developed land, which includes empty land, brownfield land, under-utilised land that contains some existing buildings but significant developable land, and vacant properties that could be brought back into use. The total amount of land that can be designated as tax sites in each Freeport is 600 hectares (6 km²), which may be spread across up to three separate sites.

The uncapped nature of the tax reliefs means that it would probably not have been possible to implement them in full if the UK had remained in the EU, given rules on state aid (which led to limits on tax reliefs provided in enterprise zones, for example).

Other support measures

Freeports also benefit from a number of other support mechanisms.

- **100% local business rates retention.** The council or councils covering Freeport tax sites will retain 100% of the growth in business rates from new developments or improvements on those sites for a period of 25 years. This differs from most of the rest of England, where councils retain only 50% of the growth in business rates from new development (and bear 50% of the decline in revenues from demolitions) and only for a few years until revenues are redistributed around the country ('reset') according to assessed needs.¹ The additional retention will provide both an incentive for councils to approve development and extra funding when they do so. The retained business rates must be used to further Freeport objectives. For example, they provide a revenue stream that can be used to repay borrowing to pay for investment in infrastructure and regeneration either in the Freeport or in other parts of the council areas adversely affected by displacement of economic activity to the Freeport site.
- **Seed capital for investment in infrastructure.** Each Freeport is being provided with up to £25 million to help fund investment such as land assembly and remediation and transport infrastructure improvements. The intention is that this seed capital will leverage further investment from the private sector (and other government schemes).

¹ For a full discussion of the business rates retention scheme (BRRS), see Chapter 4 of Harris, Hodge and Phillips (2019). Note that the plans set out for reform of the BRRS discussed in that chapter, which would have increased local retention from 50% to 75% nationally, have been postponed indefinitely.

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- **Enhanced trade and investment promotion.** The Department for Business and Trade is providing bespoke support to each Freeport to help promote investment and exports by businesses located in or moving to Freeports.
- **Potential regulatory reforms.** The Freeports Regulation Engagement Network provides businesses located in Freeports with more direct access to regulators, with the aim of facilitating discussions about regulatory flexibility and trials of new regulatory approaches that can support innovation.

Councils covering Freeports are also being encouraged by the government to make use of existing powers to relax and speed up usual planning processes in the ports and associated customs and tax sites, although they will not be mandated to do so. This includes via local development orders, which provide automatic consent for pre-specified types of development.

In addition, each Freeport must put in place a skills and employment strategy, with the aim of ensuring that local residents, particularly those from disadvantaged backgrounds, are better able to obtain the new jobs created. However, while these strategies could utilise funding from additional retained business rates and other funding sources (such as the UK Shared Prosperity Fund), the government is not providing any specific ring-fenced skills and employment funding as part of the Freeports policy package.

The Freeports policy package in Scotland, Wales and Northern Ireland

The basic structure of Freeports in Scotland and Wales will be the same as in England, and they will benefit from the same package of customs and UK tax reliefs and investment funding as those in England (DLUHC and Scottish Government, 2022; DLUHC and Welsh Government, 2022). However, business rates and SDLT are devolved, as are policies related to planning and checks on animal and plant products, meaning decisions over changes to standard policies in these areas will be taken by the Scottish and Welsh Governments.

The Scottish Freeports are termed ‘Green Freeports’, reflecting a more explicit emphasis on decarbonisation of the economy in the aims of the policy (although, as we discuss in Section 3, decarbonisation is also an aim across the UK as a whole).

Mirroring England, the Scottish Government has confirmed its intentions to provide a specific relief from its equivalent of SDLT – land and buildings transactions tax (LBTT) – for land and building transactions in tax sites, where the land is to be used for qualifying commercial activity (DLUHC and Scottish Government, 2022). This relief is expected to be available for a period of five years from the commencement of operation of the Green Freeports. 100% relief from business rates for new properties and property improvements and extensions will also be provided. This relief will be available for five years from the point at which the property (or

improvement) is completed and relief first applied for, with a cut-off date for applications of 31 March 2028.

As in England, the Scottish Government will allow local authorities to retain 100% of the growth in business rates revenues in Green Freeport tax sites for 25 years, for investment in infrastructure and regeneration either in the Freeport or in other parts of their area adversely affected by displacement of economic activity to the Freeport site. Councils covering the Green Freeports are able to make use of existing powers, such as masterplan consent areas, which, like local development orders, can pre-authorise particular types of development in particular locations.

Plans for devolved elements of the Freeport package in Wales were announced in September 2022 and, as in Scotland, are almost identical to those in England, with reliefs from land transaction tax and business rates. Councils will be encouraged to consider how relaxed approaches to planning allowed under existing legislation, again including local development orders, could facilitate development in Freeport sites in their areas.

The situation in Northern Ireland is complicated by the NI Protocol, part of the Brexit Withdrawal Agreement between the UK and EU. The Protocol means that Northern Ireland remains part of the EU's single market for goods and EU state aid rules continue to apply to policies which affect trade in goods between NI and the EU. The recently announced Windsor Framework has narrowed the scope of the application of these rules, but they will still apply to situations where subsidies may have a material impact on trade between NI and the EU (including Ireland) – which may include the Freeports. EU state aid rules may mean that it is possible to offer the full set of tax reliefs and other measures to businesses operating in any Freeports in Northern Ireland as in the rest of the UK (Stennett and Pidgeon, 2021; Webb and Jozepa, 2023), although it may be possible to provide other benefits instead to try to maintain the attractiveness of the overall package.

Comparison with previous UK Freeports

The new Freeports will be distinguished from those which previously operated in the UK between 1984 and 2012 in two key ways.

First is the range of non-customs benefits available, particularly in relation to tax reliefs. These make the new Freeports much more substantive special economic zones (SEZs) than the previous Freeports, for which the key benefits were duty and VAT suspension, and duty inversion for goods processed at the Freeport site for re-export to countries outside the EU.² As

² <https://api.parliament.uk/historic-hansard/lords/1984/feb/02/freeports-sites>

highlighted above, businesses could apply to use such procedures outside Freeport areas, meaning the main benefit of locating in a Freeport was expedited and simplified access to these procedures. This limited benefit, alongside some unspecified concerns related to adherence to the customs rules in the Freeports, led to their abolition in 2012.³

The second way the new Freeports differ from the former ones (and indeed other SEZs in the UK, such as enterprise zones) is the extent to which the government and Freeports have been planning the sectors and types of activities that each port will target: this is very much an activist industrial policy as well as a set of tax, customs and other incentives. As part of the bidding and business case approval processes (discussed in Section 2.2), Freeports were required not only to identify target sectors and potential ‘anchor’ tenants, but also to put in place mechanisms to help ensure it is indeed businesses in these sectors that locate on the tax sites (DLUHC, 2022b). Councils are also able to apply a ‘displacement test’ to stop businesses that simply relocate to the tax sites from benefiting from business rates reliefs (although they would still be eligible for other reliefs).

2.2 Progress to date

After consulting on its plans for Freeports in the first half of 2020, the UK government opened the bidding process for Freeports in England in November 2020 (HM Treasury and Ministry of Housing, Communities & Local Government, 2020).

Each prospective Freeport bid brought together a consortium of local councils, port operators and potentially other public and private sector organisations (such as Local Enterprise Partnerships, universities and businesses in the property, logistics or industrial sectors) who put together the bid and, if selected, set up a governing body to manage and promote the Freeport. As part of their bids, these consortiums had to provide information on: their proposed tax and customs sites, as well as wider port boundaries; how they would use the various other incentives and funding available to Freeports; and project governance, delivery and risk-management arrangements. They also had to demonstrate how their proposed Freeport would meet the three main aims of the programme: boosting trade and investment; encouraging innovation, including contributions to decarbonising the economy; and regenerating under-utilised sites, creating jobs and levelling up disadvantaged places. In doing so, they had to identify the sectors and/or types of activities they would target, as well as market failures that would otherwise prevent or limit the success of these sectors/activities but which Freeport designation would help to overcome. The aim of this was to help ensure that the activities that take place in the selected Freeports, and

³ <https://hansard.parliament.uk/Commons/2018-10-11/debates/95BAE0F2-0F29-4F5C-8C2E-82D0D61DF65D/Freeports>

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hence benefit from the customs, tax and other incentives, will be genuinely additional as opposed to activity that would have taken place anyway (whether in the Freeport site or elsewhere in the UK). In addition, they had to demonstrate private sector involvement in the design and implementation of the proposed Freeport.

Using this information, the bids were assigned scores by government officials, to produce a long list of bids from which ministers selected the winning bids. In making these final decisions, ministers could choose bids with lower overall scores to ensure a ‘fair’ distribution of Freeports across the country, and to place particular weight on the regeneration and levelling up criteria.⁴

Eight winning bids were announced alongside the March 2021 Budget, with their locations shown in Figure 2.2. Seven are based around seaports, while one (East Midlands) is based around an airport. They are geographically spread out, with each region of England except the West Midlands containing part of at least one Freeport (the East of England contains parts of two). A number are located in particularly deprived parts of England, including the Humber, Teesside and Liverpool City Region, reflecting a focus on contributing to levelling up.

After being selected, the Freeports had to develop and agree business cases with the Department for Levelling Up, Housing and Communities (DLUHC) and finalise arrangements for tax and customs sites. Tax sites in the first three Freeports (Teesside, Humber and Thames) were approved and became operational in November 2021, with the tax sites of the other Freeports being approved and becoming operational in the first quarter of 2022. As discussed above, activation of other elements of the programme, including seed capital and greater local retention of business rates, required approval of Freeports’ full business cases by DLUHC (although local retention of rates is then backdated to the activation of tax sites). Because of the care taken to make detailed plans, to try to ensure new activity will be additional, and so on, this has been a somewhat lengthy process, with the first three Freeports (Teesside, Plymouth and South Devon, and Solent) being approved and becoming fully operational in December 2022, two more (Liverpool City Region, and Felixstowe and Harwich) in January 2023, and the remaining three (East Midlands, Humber and Thames), expected to be approved in the next few months.

⁴ A full list of the areas bidding for Freeport status, and their scores in the assessment process, has been published by the government at <https://www.gov.uk/government/publications/freeports-bidding-prospectus/english-freeports-selection-decision-making-note>.

Figure 2.2. The eight English Freeport areas



Source: Labelled version of map available on the Wikipedia Freeports in the United Kingdom page. See https://en.wikipedia.org/wiki/Free_ports_in_the_United_Kingdom for original unlabelled map.

As part of this two-step approval process, Freeports had to provide detailed information on how the incentives and funding provided would bridge ‘viability gaps’ for investments associated with, for example, land remediation costs. They also had to provide information on how the incentives could address other issues, such as coordination failures or spillover effects, whereby the attraction of a major anchor tenant could help boost other businesses’ productivity through an expanded pool of skilled workers, shared infrastructure, market access, etc. In addition, a number of Freeports have also reached agreements with landowners on the types of businesses that can locate on tax sites, with the aim of ensuring alignment with the port’s sectoral focus.

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The aim of each of these steps has been to help maximise the likelihood that activity in tax sites is ‘additional’ rather than something that would have taken place either there or elsewhere in the UK in the absence of the tax incentives.

The first Freeports Programme Annual Report (DLUHC, 2022b) provides information on the progress with the development of each of the English Freeports. As of December 2022, a number of investments had been confirmed, including a rare earth processing hub (producing inputs for electric vehicle and wind turbine production) at Humber Freeport and a new offshore wind turbine manufacturing facility at Teesside Freeport. Teesside Freeport is also collaborating with a range of partners to set up the Centre for Digital Trade and Innovation, aimed at using digital technology to improve efficiency and reduce carbon emissions in the trade and logistics industry. The East Midlands Freeport is partnering with local universities on the Hydrogen Skills Academy, which will develop and provide training related to the growing use of hydrogen as an energy source. And the Plymouth and South Devon Freeport has begun engaging with regulators via the Freeport Regulatory Engagement Network to explore options to make the testing of autonomous maritime vehicles (one of its target sectors) easier in British waters.

A range of investments in infrastructure and land remediation (such as improvements to roads and clearing of former industrial land) have also begun, and skills strategies have been developed. Freeports have also been engaging in investment and trade promotion activities alongside the Department for International Trade to attract further investment.

It is difficult to ascertain the extent to which the activities being undertaken at the Freeports are additional, rather than things that would have taken place even in the absence of the policy (either in the Freeport or elsewhere in the UK). While, as discussed, efforts have been made in the design and implementation of the policy to maximise the share of activity that is genuinely additional, these do not preclude there being significant deadweight or displacement effects. We examine this issue, including evidence from past policy interventions, in Section 3, and the challenges of evaluating the impacts of the Freeports themselves in Section 4.

Progress in Scotland, Wales and Northern Ireland

Progress towards setting up Freeports in Scotland, Wales and Northern Ireland has been slower than in England, because the policy packages and process for selecting Freeports are being jointly agreed by the UK and devolved governments.

The Scottish and UK governments reached agreement on setting up two ‘Green Freeports’ in Scotland in February 2022. A bidding prospectus was issued in March 2022 (DLUHC and Scottish Government, 2022), with five ports confirmed as bidding by the time bidding closed in June: Clyde; Aberdeen City and Peterhead; Inverness and Cromarty Firth; Firth of Forth; and Orkney. Bidders had to provide similar information to those bidding for Freeport status in

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England, with a similar assessment process and criteria also used. The key difference is that decisions were made jointly by the UK and Scottish governments.

It was initially hoped that a decision on the two winning bidders would be made and announced by the end of summer 2022 but this did not take place until January 2023, when the Firth of Forth and Inverness and Cromarty Firth were announced as the winning bidders. It was initially hoped that the first of the selected Scottish Freeports would begin operating in spring 2023, but the delay in announcing the winning bids means that the target has been pushed back to late 2023.

The Welsh and UK governments reached agreement on setting up at least one Freeport in Wales in May 2022. A bidding prospectus for one Freeport was issued in September 2022 (DLUHC and Welsh Government, 2022), with a closing date for bids of 24 November 2022. Bidding requirements and selection follow the same approach as Scotland, with decisions jointly made by the UK and Welsh governments, with a decision on the outcome planned for spring 2023. It is hoped that the Welsh Freeport will begin operating by the end of the 2023–24 fiscal year.

While the UK government has confirmed its intention to set up at least one Freeport in Northern Ireland on a number of occasions, no agreement has yet been reached with the NI Executive on doing so (not least because of the lack of a functioning Executive). As discussed above, the policy package may need to differ from that in the rest of the UK to be consistent with the NI Protocol and the Windsor Framework. This means it may take some time for clarity on implementation of the Freeports programme in Northern Ireland.

3. What impacts might the Freeports have?

3.1 The aims and economics of the programme

The government's stated objectives for Freeports are:

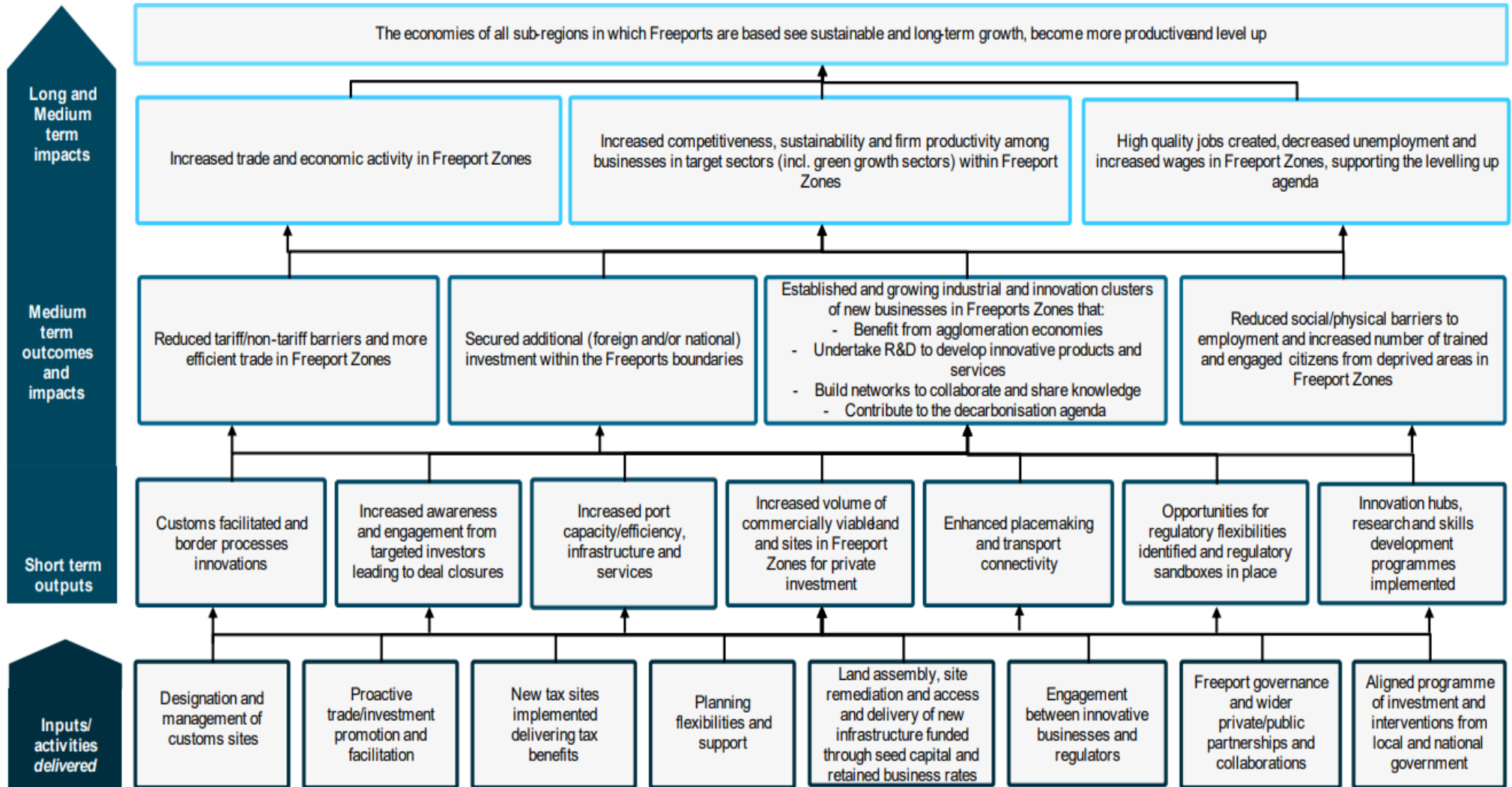
- 1 to promote regeneration and job creation – this is the ‘lead policy objective’;
- 2 to establish Freeports as national hubs for global trade and investment across the UK;
- 3 to create hotbeds for innovation.

In its Freeports programme monitoring and evaluation strategy, published in May 2022, the government expanded on these objectives.

- 1 **Promote regeneration through the creation of high-skilled jobs** in ports linked to the areas around them, ensuring sustainable economic growth and regeneration for communities that need it most. Local economies will grow as tax measures drive private investment, carefully considered planning reforms facilitate construction and infrastructure is upgraded in Freeports.
- 2 **Establish Freeports as national hubs for global trade and investment** by focusing on delivering a diverse number of investment projects within the Freeport regions, make trade processes more efficient, maximise developments in production and acquire specialist expertise to secure the position of Freeports within supply chains.
- 3 **Create hotbeds for innovation** by focusing on private and public sector investment in research and development; by being dynamic environments that bring innovators together to collaborate in new ways; and by offering spaces to develop and trial new ideas and technologies. This will create new markets for UK products and services and drive productivity improvements, bringing jobs and investment to Freeport regions.

The government has explained in more detail how it intends the policy to achieve its aims in the Freeports bidding prospectus (HM Treasury and Ministry of Housing, Communities & Local Government, 2020), the Freeports monitoring and evaluation strategy (DLUHC, 2022a) and the Freeports annual report (DLUHC, 2022b). The process by which the Freeports policies are intended to achieve these aims is summarised in the government's ‘logic model’ reproduced in Figure 3.1.

Figure 3.1. The government's 'logic model' for the Freeports programme



Source: DLUHC (2022a).

We will not here assess each link in the chain individually. In broad terms, it is clear how the Freeports policies could contribute to some of these aims.

- The tax policies provide financial incentives for employment and investment in Freeports; we discuss the individual policies in Section 3.2.
- The customs policies aim to facilitate trade and trade-related activities.
- The seed capital delivers public sector investment directly, and aims to make complementary private sector investment and activity more worthwhile.
- Business rates retention gives local councils an incentive to promote and approve development.

There are some parts of the policy aims that have no specific tax incentive attached. For example, a key part of creating ‘hotbeds of innovation’ is supposed to be increasing investment in R&D. But there are no policies to incentivise R&D specifically: the Freeports package includes enhanced tax allowances for investment in buildings, structures, plant and machinery, but *not* for investment in R&D (which already qualifies for treatment at least as generous as that being extended to other investment in Freeports). Similarly, Freeports are intended to contribute to the UK’s net zero target for greenhouse gas emissions and to upskilling the local workforce, but none of the Freeports policy levers is explicitly tied to decarbonisation or skills development.

However, Freeports have access to funding (seed capital and retained business rates) that must be used to serve Freeports policy objectives, and which they may choose to direct towards things such as innovation, decarbonisation or skills development. They are often doing so: for example, as highlighted earlier, East Midlands Freeport has used part of its seed capital to develop plans for a Hydrogen Skills Academy with the backing of local universities.⁵ And aside from providing government funding or financial incentives, the Freeports programme may prompt businesses or public sector bodies to do things that they could have done anyway but would not have – for instance, by focusing attention on the options, providing advice, coordinating activity, streamlining processes and generating momentum.⁶ In particular, as explained in Section 2, the process of submitting bids and business cases involved Freeports putting together – with input from the government – plans that do include strategies for innovation, skills, decarbonisation, and so on.

⁵ For more examples, see DLUHC (2022b), which summarises the plans of all the Freeports.

⁶ See DLUHC (2022b) for descriptions of the activities and institutions, such as the Freeports Innovation Network and the Freeports Regulatory Engagement Network, intended to help in ways like these.

Additionality, deadweight and displacement

The above describes what the government is hoping for. But there are also potential downsides and unintended consequences of the policy.

One concern is whether Freeports, with their simplified procedures, might create a risk of illegal activities such as smuggling, counterfeiting, tax evasion or money laundering. Such concerns about SEZs such as Freeports have been raised in the past by the European Commission, among others (European Commission, 2019, cited in Webb and Jozepa, 2023). The government is aware of these potential security risks and has taken steps to mitigate them in Freeports (in addition to its general, pre-existing policies on such matters, which continue to apply); beyond that, we are not well placed to judge the magnitude of these risks or the likely effectiveness of the government's response to them.

The main concerns, however, are that the government ends up subsidising activity that would have happened anyway ('deadweight'), and that additional activity in the Freeports comes at the expense of activity that would otherwise have happened elsewhere in the UK ('displacement').

The extent of deadweight depends on how much economic activity there would have been in the Freeport areas (and specifically the tax zones) in the absence of the policy. And deadweight will naturally account for a smaller proportion of the total tax reliefs if the policy is more effective at generating additional activity. These two factors – how effective the policy is and how much activity there would have been anyway – may be linked: if a policy is less effective in depressed areas than in areas with already vibrant economies, then there may be both less deadweight and less additional activity in such areas than there would be if the policy were implemented elsewhere.

From a national point of view, displacement is a form of deadweight: if activity in Freeports is displaced from elsewhere in the UK, then there is a cost of tax relief but no additional activity overall. The government forgoes revenue that it would have collected if the activity had gone ahead elsewhere.

Displacement need not necessarily involve an existing business moving from outside to inside a Freeport, or even a new business opening in a Freeport when it would otherwise have opened elsewhere. It can also involve a business in one place closing down, or not opening in the first place, because it cannot compete with a (tax-advantaged) business in a Freeport.⁷

⁷ This is sometimes called substitution; terminology varies in whether it is treated as a form of displacement or as a different (though related) phenomenon.

Indeed, the businesses that shrink when those in Freeports grow might not even be producing similar things. They might be competing with Freeport businesses in the labour market rather than the product market, and find themselves unable to recruit or retain staff in the face of competition from employers in Freeports (which can offer higher wages because of the employer NICs relief, for example). In other words, we can think of displacement of workers from employers outside Freeports to employers inside Freeports as well as displacement of businesses themselves from outside to inside Freeports.

Displacement is most likely between close substitutes/competitors. People taking jobs in Freeports are most likely to be those who would otherwise be working nearby. Likewise, any reduction in business done outside Freeports is also most likely to occur in the surrounding area – but perhaps also in other ports, for example, which may be competing with Freeports for business even if they are not adjacent to them.

Other things equal, displacement is usually unwelcome: distorting people's and firms' location decisions reduces aggregate output and well-being. It increases the cost of the policy (because the tax reliefs in Freeports mean forgoing revenue that would otherwise have been collected from the displaced activities) without generating additional activity overall.

However, importantly, there can be an upside to displacement in the context of the government's levelling up agenda: shifting activity from richer to poorer areas of the country could be considered desirable, even if it is not what would happen if people and businesses were left to make their own choices. As noted in Section 2, a number of the Freeports are in particularly deprived areas. The extent to which they are worse off than the areas from which activity is displaced, and the value put on the distributional benefits of levelling up, relative to 'growing the pie' by locating activities where they are most productive, will be important determinants of one's assessment of the merits of the Freeports programme.

And while displacement is a negative spillover from Freeports to other areas, there could also be positive spillovers to other areas. Freeports could generate additional activity elsewhere, and particularly in neighbouring areas, through increased demand via supply chains and workers' incomes. Improved transport links or workforce skills could also have benefits for the wider region as well as the Freeports themselves.

Measures to mitigate deadweight and displacement

The government is, of course, aware of the possibilities of deadweight and displacement, and has taken steps to try to mitigate them. As discussed in Section 2:

- The employer NICs relief only applies to new employees, the business rates relief to new development (or expansions) and the enhanced capital allowances to new investment. The

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tax reliefs are not available for activity that was already happening (although, in principle, it is possible that some firms could replace existing employees with new ones in order to get the employer NICs relief).

- The tax sites were deliberately chosen to be undeveloped or under-developed areas, where little existing activity was happening and so deadweight was likely to be more limited.
- In their business cases, Freeports were required to show that the additional activity they were looking to bring into the area would be additional, not displaced from elsewhere. An important part of this was the selection of specific business sectors that the Freeports targeted. These were typically sectors not currently operating at scale elsewhere in the UK. The risk of existing activity relocating to Freeports to benefit from the tax breaks was therefore reduced.
- Local councils can apply a ‘displacement test’ to business rates relief in Freeports, denying relief to businesses that had relocated from outside the tax site – although it is not clear that they would choose to do so if a business was relocating from outside the local authority and the UK government was bearing the cost of the reliefs.

These measures should help to reduce the extent of deadweight and displacement significantly. However, they focus on minimising subsidies for activity that was already happening in the Freeport or elsewhere. As noted above, deadweight and displacement can also take other forms. The wider question is whether the activity *would have* happened, in the Freeport or elsewhere, in the absence of the policy. That is much harder to answer, and inherently much harder for policy to prevent.

For example, if a new activity starts in a Freeport, which was not previously happening there or elsewhere in the UK, it is possible that it would have started anyway in the absence of the policy, either in the Freeport (a form of deadweight) or elsewhere (a form of displacement). To help address this, the government required Freeports to show that the activity they aim to promote would not have happened (there or elsewhere) in the absence of the policy: that there was a ‘viability gap’ for investment that meant it would not go ahead without government support. But it can be difficult for the Freeport or the government (or anyone else) to assess whether an activity would have taken place in the absence of the policy. Bear in mind that Freeports and the businesses involved are not disinterested parties: they stand to benefit from tax breaks and other support, and it might be difficult for the government to verify the information they provide. In addition, even if a particular investment in a Freeport would not have happened without government support, it is possible that a different business would have made a similar investment elsewhere in the UK in the absence of the policy.

More indirect variants of displacement – such as via the labour market – are even harder to rule out. Freeports were deliberately chosen to be somewhat depressed areas, with relatively high unemployment and in need of regeneration, which should reduce the extent to which jobs in

Freeports displace other jobs. However, many sectors in the UK are currently experiencing labour shortages, and this may increase the extent of job displacement elsewhere. In addition, even in an area of high unemployment, it is possible that the people hired to work in Freeports will be those who would otherwise have been employed elsewhere – the more highly skilled and motivated local residents, for example – and that out-of-work residents may struggle to replace them in their old jobs due to a lack of appropriate skills and experience. Funding from retained business rates is available to spend on skills programmes or access-to-work initiatives, which might help to mitigate this risk: several of the Freeports are setting up dedicated ‘skills funds’ or ‘skills academies’, for example (DLUHC, 2022b). Indeed, it may make sense for this funding to be used to help fill worker and skills gaps for employers and workers outside the Freeports themselves, to help replace workers who transfer to jobs in the Freeports.

As this discussion has demonstrated, it is hard to ensure genuine additionality by ‘brute force’. But none of this is to say that the government’s efforts to minimise deadweight and displacement are futile and that there will be no additional production as a result of the Freeports policy. We fully expect there to be some additionality: some activity will happen in Freeports that simply would not have been viable – in the Freeports or elsewhere – without the tax breaks and other support being provided. And there will undoubtedly be less deadweight and displacement because of the efforts the government has made to ensure that the tax breaks are for new activity in under-developed sites in deprived areas and that Freeports target sectors that are not currently operating at scale in the UK because of market failures. The government has not, and cannot, completely remove the potential for deadweight and displacement, but it has at least narrowed the forms it might take.

Finding evidence of deadweight and displacement would not be sufficient to conclude that Freeports are a bad policy, while finding evidence of additionality would not make it a good policy: we should expect some of each. Of course, a higher ratio of additional activity would increase the likelihood of it representing good value for money. If Freeports were not being introduced, the government would have the money it is devoting to them available for other things that would also be beneficial. To evaluate the policy, we must assess whether it is a better use of money than alternatives. The question is *how much* additionality versus deadweight makes the Freeports programme good value for taxpayers’ money, taking into account the possible levelling up benefits of displacement as well as its other benefits and costs.

Temporary, location-specific policies

When evaluating whether Freeports represent good value for money, the benefits of Freeports can be compared with measures of the cost of raising funds to pay for them.

But the benefits of Freeports can also be compared with the benefits of specific alternative uses of funds.

Perhaps the most obvious alternative with which to compare Freeports is to spend (or forgo) the same money to introduce similar policies, but spread evenly across the country rather than concentrated in Freeports. For example, rather than increase the employer NICs threshold from £9,100 to £25,000 a year in Freeports, the government could have increased it by a much smaller amount across the whole country. A basic, natural challenge for the Freeports policy is why it should be better to provide a large tax reduction (and concentrate infrastructure investment, etc.) in a few areas rather than a smaller policy everywhere: why it is sensible to levy different rates of tax in different parts of the country.⁸

Other things equal, it is better to have moderate tax rates everywhere than high taxes in some areas and low taxes in others. Aside from concerns about distorting the location of activities (displacement), the loss from the disincentive effects of taxation is more than proportional to the tax rate, which implies that the costs of taxation are minimised by maintaining even treatment.⁹ And other things equal, government investment should be directed wherever the returns are highest across the country, rather than concentrating on pre-selected areas.

The tax reliefs available in Freeports are not only location-specific, they are also time-specific. This raises a parallel challenge: why is it better to provide large tax reductions for a few years rather than smaller permanent tax reductions? Again, other things equal, it would be better to even out treatment over time, both to avoid distorting the timing of activity and because the costs of taxation rise more than proportionally to the tax rate.

For the concentration of resources in these particular times and places to be better than the alternative of spreading the money evenly across time and places, the government must rely on arguments for adopting ‘place-based’ policies rather than ‘people-based’ policies. The arguments for and against place-based policies are complex; they are reviewed by Kline and Moretti (2014) and Neumark and Simpson (2015), and more briefly by Moretti (2022).

The fact that some parts of the country are poorer than others is not enough: redistributing resources to poorer individuals/households (rather than those in poorer areas) would automatically have bigger benefits in those poorer areas, but would also benefit the poor minority in richer areas and not divert money to the rich minority in poorer areas. Also, directing investment towards deprived areas rather than simply wherever it is most productive can have

⁸ Questions about the location-specific nature of the Freeports programme do not just apply to the elements with a direct exchequer cost – tax incentives and seed capital. Similar questions also apply to policies on regulation, trade promotion and customs procedures. It sounds appealing to offer streamlined procedures and guidance, or to facilitate engagement between businesses and regulators with a view to trying out new approaches. But if such developments are unambiguously beneficial, then it is not clear why they should extend only to Freeports; or if there are costs as well as benefits, the question is why the balance of costs and benefits should be different in Freeports from the rest of the country.

⁹ In simple cases, the deadweight cost of a tax is approximately proportional to the square of the tax rate. See, for example, Auerbach (1985).

distributional benefits but costs in terms of aggregate output: a classic trade-off between equity and economic efficiency.

The most important argument for place-based policy – certainly as far as Freeports are concerned – is the idea of exploiting agglomeration effects. This is the idea that there can be benefits to certain kinds of businesses from locating near to other businesses (or research centres, etc.) in the same field. It allows more interchange of ideas and specialised people, and makes investing in shared resources worthwhile. This means that where there are agglomeration effects, there are benefits of co-location and of creating specialised ‘clusters’ of activity. Once a critical mass is achieved, it becomes attractive for more to join the cluster and benefit from the agglomeration effects. Such clusters, focused on a specific sector, can be highly productive and can generate benefits that are greater than the sum of their parts. Silicon Valley and Canary Wharf are commonly cited examples.¹⁰

While clusters can form spontaneously, it can sometimes be hard for businesses to coordinate on achieving this outcome – no single business might want to be the first to open in a particular location – so there can be a role for government in catalysing the development of such clusters. Agglomeration effects can be associated with a market failure: having certain firms/workers moving to an area can benefit other firms/workers in the area (a ‘positive externality’), in a way that they may not take into account when making their decisions, so the government can help to correct the market failure by providing incentives for them to do so.

Having Freeports with a stated aim of, and focus on, creating a cluster in a particular field and providing support in the form of tax incentives, infrastructure investment and strategies for skills development and innovation, increases the chances of forming a cluster that becomes self-reinforcing and self-sustaining, and genuinely transforming an area. This kind of process is central to the plans for Freeports.

It is easier said than done, however. A Freeport may have a government-approved plan to become a centre of excellence in some high-tech industry, for example – and no doubt many other areas do too – but this does not guarantee that it will happen. The conditions for success can be challenging, the policies adopted might not be enough and a single missing ingredient can make all the difference. Successes of this kind are rare and somewhat unpredictable – though the payoff from success can sometimes be large.

If a Freeport is successful in creating a cluster, this still leaves open the question of whether the cluster might otherwise have formed elsewhere – and whether it might have been better doing so

¹⁰ Eventually, the benefits of additional clustering decline and the costs – including from high property costs and congestion – rise, which is why clusters do not become indefinitely large.

rather than being steered towards the Freeport by the incentives provided. The objective of levelling up means that this may not be a bad thing overall, if it contributes to improved outcomes in a deprived area, such as many of the Freeport areas. But those equity benefits may come at a cost to aggregate UK-wide productivity.

More generally, the case for, and consequences of, place-based policies depend heavily on the mobility of people and firms. Barriers to mobility are what can create a mismatch between where people are and where good jobs are, which is a big part of what creates persistently deprived areas in the first place, creating a case for place-based policies. Attracting mobile people, capital and businesses to an area can be a vital component in transforming it, and the lives of the people living there. It can offer the possibility of shifting from an equilibrium where there are potentially self-reinforcing ‘hot’ and ‘cold’ spots across the country to an equilibrium where economic activity is spread across a somewhat wider range of places (with more but smaller agglomerations, for example). This could potentially benefit lower-income, lower-skilled people, who often are less mobile than higher-income, higher-skilled people. This issue is at the heart of the Freeports programme, and much of the levelling up agenda.

However, it is not necessarily the case that the intended beneficiaries of place-based policies are those who actually benefit. If an area is successful in attracting significant investment and large numbers of high-skilled, high-paid jobs, benefits could accrue to people moving into an area, and the owners of existing land and property (as prices are bid up), rather than to deprived existing residents. The aforementioned skills plans being put in place by Freeports, as well as the fact that targeted sectors are often complementary to the existing skills profiles of the local populations, should help to ameliorate the risk. However, in some cases, policies focusing more specifically on addressing the skills or barriers to mobility that people in deprived areas face may be more effective ways to help them than by providing tax incentives and other support to attract businesses to their areas.

The case for place-based policies, and for these particular place-based policies, is thus not straightforward. But, in principle, there are valid arguments for the government to adopt time-limited, location-specific policies such as the Freeports programme in order to overcome market failures and potentially move left-behind areas to a better equilibrium.

Active industrial policy

It should be clear by now that the government is not only providing funding and tax reliefs in the chosen areas and leaving the consequences of that to chance (or the market). Rather, as we have outlined, the government and the Freeport governing bodies are making careful plans for what kinds of business (indeed, sometimes, which specific firms) they want to locate in each area, according to where they think the market failures and opportunities lie, and what they think will do most to regenerate the local economy and promote the other Freeports policy objectives while

minimising displacement of activity from other areas. The government is requiring Freeports to set out and implement government-approved strategies for skills, innovation and decarbonisation, and requiring that funding be used to further the Freeport objectives. Freeports are carefully planned economies.

Such active industrial policy has both advantages and risks, and has long been the subject of debate among economists and policymakers.

As highlighted already, markets do not function perfectly. There can be externalities (consequences of market participants' decisions for others that they do not take into account), market power, information asymmetries, credit constraints, psychological biases, and so on, which mean that markets left to their own devices are not efficient, let alone equitable.

We have already discussed the potential role of Freeports in catalysing agglomeration effects where there may be externalities and coordination failures, and the levelling up agenda. There are other examples. Businesses may under-invest in research and workforce skills from society's perspective, because they cannot capture the full benefit of that spending, as other businesses benefit from what they discover and offer jobs to workers they have trained. Businesses may struggle to raise finance, especially for new and potentially risky ventures with large upfront costs, as banks and other lenders may find it difficult to confidently assess the prospects of the project succeeding, therefore limiting access to credit. Public goods such as roads will not be adequately provided by the market alone, because businesses do not have the incentive to do so when they cannot capture the full benefit such goods provide.

Government intervention to address these market failures can lead to more efficient outcomes. Ideally, that intervention should try to address the root cause of the market failure as closely as possible: for example, through subsidies for research and particular kinds of training, or disclosure rules and partial loan guarantees to address credit constraints. Broader interventions that target multiple issues, such as the Freeports programme, can help address multiple market failures in turn. Packages of incentives and support that do not target market failures directly and precisely might nevertheless deliver a better outcome than the market alone would, though at greater risk of unwanted side effects.

There may also be strategic interests (for example, related to energy security or other forms of national security) in ensuring that the UK has capacity in certain industries, even if it lacks an economic comparative advantage. Such arguments have not featured prominently in debates about the Freeports but could apply to sectors such as battery technology, new energy sources (such as hydrogen) and artificial intelligence (which could be more of a focus of potential 'investment zones').

However, while markets can fail, governments can fail too.

The first issue is whether the governing bodies and stakeholders in Freeports will actually implement the plans drawn up. All stakeholders should have a shared interest in making Freeports a success and achieving local regeneration. The government has secured commitments from those involved in Freeports to implement the plans they have set out (DLUHC, 2022b). This should help, though it remains to be seen how far the mechanisms to enforce those commitments (such as site plans) have teeth in practice, particularly when it comes to more subjective issues such as whether particular activities are in line with Freeport objectives. The interests of local stakeholders and of central government may not be perfectly aligned; this includes ensuring that activity in the Freeport is not displaced from elsewhere in the UK. And while policymakers often are operating with the best intentions, putting so much discretion in politicians' hands to direct funding to individual firms and specific areas can increase the risk of capture by special interests or that decisions are made for political or personal reasons rather than purely what is in the best interests of the local area or the country as a whole.

Second, with the best will in the world, there is a risk that the plans set out fail to materialise. The Freeports are, to a large extent, relying on independent organisations and people to respond to their overtures, buy into their vision and behave in the ways they hope, rather than simply responding to the financial incentives in place. It might turn out, for example, that despite their best efforts the businesses in a Freeport's target sector simply do not want to come, while others attracted by the tax breaks do – although the nature of many Freeport sites mean that their appeal to many service sector activities in particular is likely to be much more limited than for the target sectors. Even so, sticking to a plan to allow only businesses from the target sectors to locate in the Freeports could mean turning down potential developments or tenants who were willing to pay more, or even leaving the sites empty if there is no interest from the target sector. Ignoring market signals may be neither wise nor sustainable.

This raises a third key question: whether the government and the Freeports have the information and insight needed to identify what sectors should be operating in what areas, and what wider support they need, in the first place.

They are certainly devoting significant effort to it, as the 2022 Freeports Annual Report (DLUHC, 2022b) makes clear. The process of producing and approving business cases has been an arduous one. A great deal of support from several government departments is being provided, and millions of pounds spent on external consultants to provide technical advice to Freeports through a 'Freeports Hub'. Both on-the-ground learning, and the monitoring and process evaluation components of the proposed evaluation (see Section 4.2) can also help plans to be adapted over time. It helps that there are only eight Freeports in England, which allows each to receive a level of attention and support that would not be feasible if there were dozens or even

hundreds of them (as with enterprise zones, for example) – though this implies that, even if Freeports are successful, we should be cautious before assuming that the model could be scaled up equally successfully to a much larger number of Freeports or comparable investment zones, for example.

A risk with hands-on, active industrial policy such as this, though, is that the government (and Freeports) might target the wrong sectors and/or design support inappropriately. One reason markets are often used to allocate scarce resources is because they aggregate the knowledge, capabilities and preferences of millions of people via the price mechanism without anyone needing to understand the world well enough to direct economic activity appropriately. While governments can take account of market failures, active industrial policy requires them to aggregate and process much more information themselves to do this effectively.

As discussed above, to try to minimise deadweight activity, the government required Freeports to show that there was a ‘viability gap’ for investments such that they would not go ahead without government support. But if we were really sure that a particular activity would not be commercially viable (in the Freeport or elsewhere) without government support, that raises a different question: whether it is economically sensible for it to go ahead at all. Sometimes worthwhile projects do not proceed because of a market failure, and there is a potential role for the government to step in and enable it. But not all commercially unviable investments are unviable because of a market failure: some are unviable simply because the costs outweigh the benefits. Again, the government has taken steps to address this, asking that Freeports’ business cases identify market failures that are responsible for the viability gaps and that would be addressed by the Freeports policy. But again, identifying market failures can be a hard thing to do well and, in the context of Freeports, it is not clear that everything identified under that heading is really a market failure as economists understand the term. Some simply identify costs (such as land remediation) that make a project unviable; such costly projects not going ahead might be the right outcome.

The upshot of this discussion is that both decisions guided by the market and those guided by the government are often imperfect and can suffer ‘failures’. It is an open empirical question which is more likely to result in the right activities happening in the right places – or, more realistically, what role each should play and how they should interact. The planned evaluation, while focused on the Freeports themselves (rather than other areas that may otherwise have attracted particular investments), can provide useful information on whether the plans put in place by the Freeports are coming to fruition, and the factors underlying successes and failures.

Summary

The Freeports programme aims to promote regeneration and job creation, boost trade and investment and spur innovation. The government has put together a detailed plan to try to achieve this.

An argument is needed for why policy should be different in certain times and places than others.

There may be distributional reasons for wanting to promote activity in particular areas – levelling up – though the argument must be made for why it is better to do this by supporting poorer places rather than supporting poorer people wherever they may be.

There may also be economic efficiency arguments for focusing intensively on particular places. In particular, there may be benefits from agglomeration – from related businesses clustering together, sharing resources and exchanging ideas – which the market alone might not deliver because businesses find it hard to coordinate and do not take into account the benefit their presence brings to other businesses nearby.

Ultimately, the merits of the Freeports policy depend on how much additional activity it generates – including by exploiting agglomeration effects to generate productive clusters of businesses – relative to the amount of deadweight and displacement, and on how much weight is attached to levelling up the chosen areas relative to activity taking place wherever it generates the greatest aggregate benefit. We discuss in more detail how value for money might be assessed in Section 4.1.

The government is using various approaches to try to maximise the extent to which activity in Freeports is additional rather than deadweight or displacement. The steps it is taking should help in this regard – though they will be more effective at minimising subsidies for activity that is *already* happening (in the Freeports or elsewhere) than for activity that *would have* happened (in the Freeports or elsewhere) even without the policy, and many of the jobs created in Freeports might be taken by people who would otherwise have been working elsewhere and producing other things.

The ways in which the government is actively intervening to try to achieve its desired outcomes brings risks as well as potential benefits. It relies on policymakers being able to identify where there are market failures, and to judge better than the market what kind of businesses should be located in each area. Narrowly targeting particular sectors may mean turning down potential developments or tenants who were willing to pay more, or even leaving sites empty if there is no interest from the target sector, so plans must be adaptable.

The case for place-based policies, and for these particular place-based policies, is thus not straightforward. But, in principle, there are valid arguments for the government to adopt time-limited, location-specific policies such as the Freeports programme in order to overcome market failures and potentially move left-behind areas to a better equilibrium. The questions of whether the government will do better than the market, and whether additional activity will outweigh displaced activity, are open empirical ones. In the remainder of this section, we discuss what we can learn from evidence on the effects of previous policies in the UK and elsewhere. Then, in Section 4 we discuss how the impact and value for money of Freeports might be assessed if and when suitable data are available.

3.2 Evidence from existing and previous policies

In this subsection we review what evidence from previous policies can tell us about the likely effects of Freeports. There has never been a policy exactly like this one before, so we focus on evidence from two types of sources. First, we look at evidence on the individual tax policies that together make up the biggest part of the Freeports package. Second, we look at place-based policies that have similarities with Freeports, such as enterprise zones, other SEZs and targeted economic development funding, both in the UK and overseas. Both of these types of evidence have limitations as a guide to the likely effects of Freeports, which we discuss.

Evidence on the impact of specific tax measures

A wide body of research estimates the impact of different types of taxes and tax reforms on taxpayer behaviour and wider economic outcomes, which we can draw on. The main limitations to bear in mind here are: (a) the effects of policies might be different when confined to specific locations, especially locations chosen because they have particular characteristics; and (b) the Freeports policy package might achieve more (or less) than the sum of its parts.

Employer NICs

There is a large academic literature estimating the effects of income taxation on employment, hours of work and taxable income. But there is surprisingly little that focuses on employment and wage responses to employer social security contributions (SSCs), such as employer NICs.¹¹ Some studies find evidence of large and significant effects on employment: based on reforms in 2003, Bunel and L'Horty (2012) estimate that a 1 percentage point reduction in the employer SSC rate would increase employment in France by 0.4%. In contrast, Saez, Matsaganis and Tsakoglou (2012) find no effects of big changes in SSC contributions for higher-earning

¹¹ The evidence is reviewed in a report by the Institute for Advanced Studies et al. (2015).

Greeks. Analysis of changes to the UK employer NICs regime in 1999 also finds no evidence of employment effects across industries differentially affected by the reforms (Bell, Jones and Thomas, 2002)

There is also no consensus on how far reductions in employer SSCs are passed on to employees via increased wages. A meta-analysis by Melguizo and González-Páramo (2013) found that, on average, studies suggest two-thirds of the incidence of labour taxes is on employees. However, there is wide variation between studies: some find almost full pass-through to workers' wages (Gruber, 1997; Anderson and Meyer, 1997, 2000) while others find almost none, in some cases even after many years (Bunel and L'Horty, 2012; Saez et al., 2012; Saez, Schoefer and Seim, 2019).

Looking at reforms to NICs in the UK over a 35-year period, Adam, Phillips and Roantree (2019) find that reducing employer NICs had different effects from reducing employee NICs, at least in the short term. When employee NICs were reduced, the employee in question saw their after-tax earnings increase and worked more hours as a result. In contrast, when the NICs that an employer has to pay on an employee's salary were reduced, the employee in question did not see their wages or their hours of work increase significantly in the year or so following the change – though it is possible that employment and/or wages across the firm or the wider economy increased more quickly when employer NICs were cut.¹²

Economic theory suggests that an employer NICs break that is specific to a particular location is likely to have a stronger effect on encouraging activity in that location, because firms are incentivised to create jobs there rather than elsewhere. However, the benefit is less likely to be passed on to workers, because the employer only needs to pay more than the employee could earn in a location where there is no tax break available. Theory also suggests that firms will be less likely to pass a temporary NICs relief on to employees than a permanent one, as they will be wary of the difficulty of reducing workers' wages once the tax break expires.

A small number of studies consider the effect of changes in employer SSCs for particular regions or groups of workers. Bennmarker, Mellander and Ockert (2009) examine the impact on employment of reducing the rate of employer SSCs in northern Sweden by 10 percentage points (from 38% to 28%). They find no effect on employment among existing businesses but an increase in businesses being set up or relocating to the area. In particular, they estimate that each 1 percentage point reduction in the SSC rate increases the number of businesses by 0.3%. The point estimate of the resulting employment effect is a 0.4% increase for every 1 percentage point reduction in the SSC rate, but this is not statistically significant. Korkeamäki and Uusitalo (2009) and Korkeamäki (2011) look at the impact of similar, but smaller, regional policies in

¹² Lehmann, Marical and Rioux (2013) find similar results for France.

Finland. Their main point estimates of the effect on employment are similar to Sweden but are far from statistically significant, and are not robust to changing the years they examine. Egebark and Kaunitz (2018) and Skedinger (2014) examine the effects of reductions in employer SSC rates for young workers in Sweden and find evidence of a small increase in employment rates compared with slightly older workers, with the effects biggest for those earning at or close to the minimum wage. This may reflect the minimum wage being a binding constraint on the extent to which employers can reduce wages in response to SSC contributions: the cut in the SSC can therefore make hiring the lowest-productivity workers cost effective again.

The NICs relief being offered in Freeports applies to the first £25,000 of employees' salaries. This means that it provides a slightly stronger incentive to hire low and middle earners than high earners. The evidence suggests that both supply and demand for low-wage labour are more responsive to tax than those for high-wage labour (Meghir and Phillips, 2010). So, alongside the minimum wage issue discussed above, targeting these groups should give the policy more bang for the government's buck.

Both theoretical considerations and the balance of empirical evidence therefore suggest that we might expect the employer NICs reliefs in Freeports to encourage firms to hire more workers there, but we should not expect them to offer significantly higher wages than similar jobs provide when there are no such tax breaks.

If the benefits of the employer NICs relief do not go mainly to employees, this does not necessarily mean that they go mainly to employers either. Insofar as there are limits (natural or artificial) to the number of firms that can move into Freeports to take advantage of the tax relief, we would expect competition among firms to bid up the price of scarce Freeport land/premises in the tax sites, transferring some of the benefit of the tax break from those firms (whose reduced employer NICs are now partly offset by the higher cost of premises) to the landowners. If wages increase, then there may be increases in local residential property prices, transferring part of the benefits to existing owners of properties (rather than tenants or people moving in to the area to take up the new jobs).

It is also possible that wages might increase slightly *outside* Freeports as firms seek to remain attractive to workers in the face of competition (higher labour demand) from employers in Freeports.

The employer NICs reduction in Freeports is for newly hired employees only. This should reduce the deadweight associated with the policy, but it also creates an unfortunate bias (both within and between firms) towards hiring new employees in Freeports rather than keeping on existing employees (perhaps outside Freeports). The most blatant forms of fire-and-(re)hire

policies can probably be prevented, but the same underlying phenomenon might reappear in a less overt form – perhaps without deliberate intent by those involved.

Capital allowances

Higher capital allowances strengthen firms' financial incentives to invest. We can quantify this by calculating effective tax rates on example investments. Economic theory identifies two measures of effective tax rates, which are relevant for different kinds of decision:¹³

- the effective average tax rate (EATR) is the proportion by which tax reduces the rate of return on an investment;
- the effective marginal tax rate (EMTR) is the proportion by which tax reduces the rate of return on a *marginal* investment (that is, one that is only just worthwhile).¹⁴

The EMTR is therefore a special case of the EATR for a marginal investment. For any given investment, the EATR will be equal to the EMTR if the investment only just breaks even (in present-value terms), and will get gradually closer to the statutory tax rate for more profitable investments.

In broad terms, the EMTR is relevant for determining the *scale* of investment while the EATR is relevant for determining the *location* of investment. In the context of Freeports, this means the EMTR is relevant for determining how much additional investment happens that wouldn't otherwise happen at all; the EATR is relevant for determining how much investment is shifted into Freeports instead of happening elsewhere in the UK or abroad.

EMTRs and EATRs can vary widely across investments, based not only on features of the tax system (such as statutory tax rates, capital allowances and the treatment of finance costs) but also on the nature of the particular investment (such as the rate at which the asset depreciates and how the investment is financed) and the economic environment (interest rates and inflation rates). However, other things equal, reducing corporation tax rates or increasing capital allowances reduces EMTRs and EATRs – albeit to varying degrees.

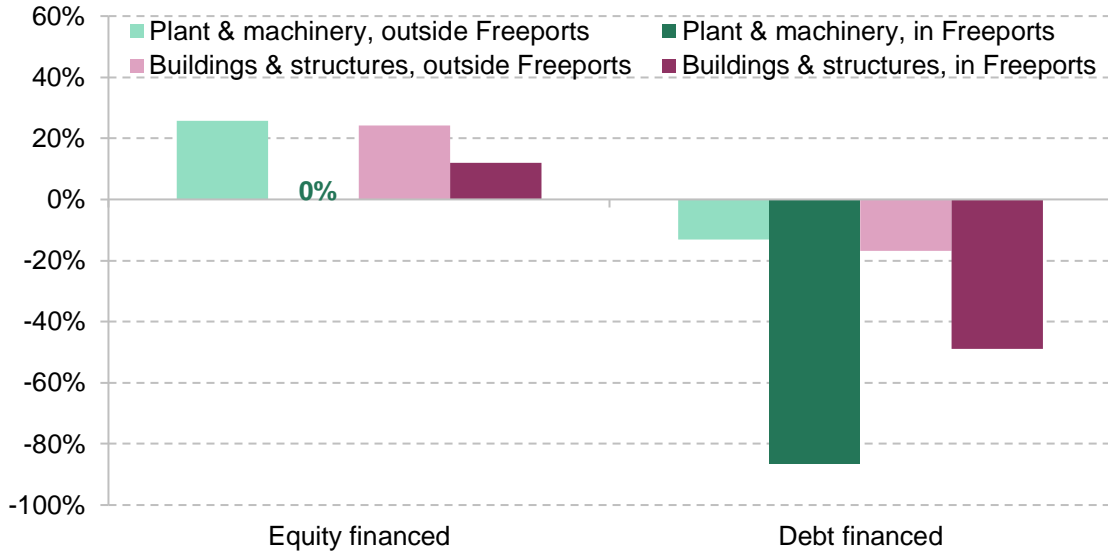
Figures 3.2 and 3.3 show EMTRs and EATRs, respectively, for two illustrative example investments – in plant and machinery, or in buildings and structures – funded either by equity (that is, retaining profits in the company or issuing new shares) or by borrowing, under certain

¹³ These measures were developed by Hall and Jorgenson (1967), King and Fullerton (1984) and Devereux and Griffith (1998, 2003). For a fuller description and discussion, see Devereux and Griffith (2003), Auerbach, Devereux and Simpson (2010) and the chapters by Sørensen and Devereux in Sørensen (2004). The analysis here draws heavily on Adam, Delestre and Nair (2022), to which the reader is referred for further discussion.

¹⁴ In other words, the EMTR measures how much lower the *cost of capital* (the pre-tax rate of return investors require) would be in the absence of taxation. The higher the EMTR, the greater the required pre-tax rate of return, and hence the weaker is the incentive to invest.

illustrative assumptions, and compares the effective tax rates with and without the more generous capital allowances provided in Freeports.

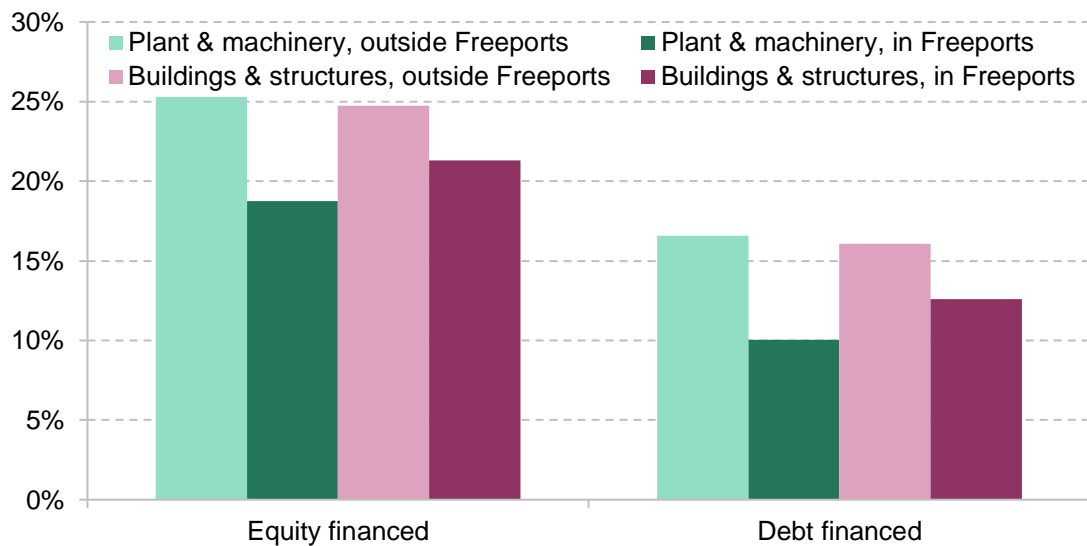
Figure 3.2. EMTRs on example investments inside and outside Freeports (2023–24)



Note: Calculations are with a 25% statutory rate of corporation tax and assume a 5% real interest rate, a 2% rate of inflation, and depreciation rates of 17.5% for plant and machinery and 3.1% for buildings. Figures for plant and machinery investment outside Freeports are for investment beyond the annual investment allowance.

Source: IFS calculations. The authors thank Isaac Delestre for help with these calculations.

Figure 3.3. EATRs on example investments inside and outside Freeports (2023–24)



Note: Calculations are for a 25% statutory rate of corporation tax and assume a pre-tax real return of 20%, a 5% real interest rate, a 2% rate of inflation, and depreciation rates of 17.5% for plant and machinery and 3.1% for buildings. Figures for plant and machinery investment outside Freeports are for investment beyond the annual investment allowance.

Source: IFS calculations. The authors thank Isaac Delestre for help with these calculations.

As we would expect, the more generous capital allowances available in Freeports reduce effective tax rates in all cases, and more so for plant and machinery than for buildings and structures. The following two cases are particularly noteworthy.

- For equity-financed investment in plant and machinery, allowing 100% of investment spending to be deducted immediately (beyond the annual investment allowance, which already allows this for the first £1 million a year of investment) reduces the EMTR to zero, entirely eliminating the disincentive to invest (regardless of the headline tax rate).¹⁵
- Marginal debt-financed investment is already subsidised by the tax system (the EMTR is negative) – a result of the combination of debt interest payments being tax-deductible *and* capital allowances being more generous than true depreciation, at least in this example. The enhanced capital allowances available in Freeports thus increase the size of this subsidy. This highlights the fact that more investment is not necessarily a good thing: if an investment would not be economically viable in the absence of taxation – that is, its costs exceed its benefits – we should not normally want tax policy to encourage companies to go ahead with the investment anyway. But this is what the tax system does in these cases, and more so in Freeports.

There is strong evidence in the academic literature that effective tax rates and the cost of capital have a significant effect on investment. While results of individual studies vary and not all align perfectly with simple theory, overall, surveys and meta-analyses of that literature (Hassett and Hubbard, 2002; Devereux and Maffini, 2007; de Mooij and Ederveen, 2008) reveal overwhelming evidence that higher corporate taxes – headline rates, effective rates and the cost of capital – have substantial effects in terms of reducing investment.¹⁶ More recent individual studies, such as Bond and Xing (2015), reinforce that finding. Interestingly, Bond and Xing (2015) find a much more robust effect on investment in equipment than investment in structures and buildings, providing one tentative piece of evidence that the enhanced capital allowances for investment in plant and machinery in Freeports might be more effective than the enhanced

¹⁵ The intuition is that the company is taxed immediately on all receipts but can immediately deduct all outgoings at the same rate: with a 25% tax rate, the government covers 25% of the investment cost and takes 25% of the return, essentially becoming a compulsory silent partner in the project. If the revenue is worth more than the cost, 75% of the revenue will be worth more than 75% of the cost, so any project that is worthwhile before tax will be worthwhile after tax.

¹⁶ Effects of corporation tax on economic growth are harder to detect directly. A number of studies have tried, and some claim to succeed – one from the OECD (Arnold et al., 2011) is perhaps the best known, finding that taxes on corporate profits reduce economic growth more than personal income taxes, consumption taxes or (least damaging of all) property taxes. However, it is not clear how robust that evidence is, and findings elsewhere vary. One recent meta-analysis (Gechert and Heimberger, 2022) did not find clear evidence of an effect, though it depended on exactly what was being estimated in the underlying studies. However, it is inherently difficult to empirically disentangle the effects of corporation tax on growth, and it might be more productive and convincing to break it down into steps: for example, we can be confident that corporation tax affects investment and therefore the capital stock, and that the capital stock affects productivity and therefore GDP.

structures and buildings allowance – though the particular nature of Freeport tax sites, with little existing development, might mean that building is a bigger part of any additional investment.

A particularly relevant recent study is that by Maffini, Xing and Devereux (2019), who looked specifically at the effect of capital allowances for plant and machinery in the UK. They showed that more generous allowances for medium-sized firms from 2004 led to a large increase in the amount that these firms invested, with qualifying companies increasing their investment rate by 2.1–2.5 percentage points relative to those that did not qualify.¹⁷ The reform analysed there was a permanent change in capital allowances; an older study (Bond, Denny and Devereux, 1993) provides (less sophisticated but nonetheless compelling) evidence that a temporary increase in UK capital allowances in the 1980s also led to a marked boost in investment.¹⁸

There is also, however, some international evidence – albeit less, and therefore more tentative – that the effects of corporate tax on investment are weaker when firms are facing economic downturns (Edgerton, 2010) and/or greater uncertainty (Guceri and Albinowski, 2021), which is arguably a good description of the current climate.

We should also emphasise that, while there is strong evidence that tax incentives do affect investment, they are far from the only influence on investment. Others include infrastructure, skills, regulations, trade barriers and interest rates, and stability in policy and the macroeconomic environment are crucial – some of these are addressed by other aspects of Freeport (or wider government) policy, and others have recently taken an unfavourable turn.

In ordinary times, then, we would expect the enhanced capital allowances available in Freeports to lead to more investment there. The question is whether, even with these generous incentives, firms will be reluctant to invest in the current environment.

Business rates

The Freeports package includes a five-year business rates exemption for new properties and improvements.¹⁹

This should encourage property development as the business rates relief will increase the amount that potential occupiers (and therefore buyers) are willing to pay for the property. The temporary

¹⁷ A swathe of studies similarly show substantial effects of more generous capital allowances in the US (House and Shapiro, 2008; Zwick and Mahon, 2017; Ohrn, 2018, 2019).

¹⁸ Other studies looking specifically at the UK include Ellis and Price (2014), Barnes, Price and Sebastián Barriol (2008), Brockmeyer (2014) and Wallis (2016). The details, relevance and quality of these studies vary somewhat, but all find a strong effect of tax rates or the cost of capital on investment. See also Box 6.1 of Adam, Delestre and Nair (2022) for an assessment of recent claims that the UK's 'super-deduction' for investment has 'failed'.

¹⁹ Note that some improvements will attract relief from April 2024 even outside Freeports, because of other reforms announced after the Freeports tax package.

nature of the relief will limit this effect, however. The fact that the exemption is only for the first five years limits its likely effect on the total value of the properties, which depends on the stream of (after-tax) rental income. We are not aware of any quantitative evidence on the effect of business rates on property development, though there is some evidence that business rates reliefs affect the vacancy rates of existing properties (Lockwood, Simmler and Tam, 2022). Duranton, Gobillon and Overman (2011) find that differences in business rates between local authorities in the 1980s did not affect the number of new manufacturing firms setting up on either side of the boundary between local authorities but did affect the number of people that manufacturing firms employed in each place.

An interesting question is how far rental contracts will reflect the business rates relief: how far the benefits go to occupiers versus owners (or developers). In general, theory and evidence suggest that changes in business rates are mostly passed on to owners in the long run (Bond et al., 1996; Cambridge Econometrics, 2008). In the short run, more of the incidence can be on the occupier, as it takes time for rental contracts to adjust. This should be less of an issue in this case, as the exemption applies only to new developments so there is not an existing contract to adjust; but there might still be a limit to how far landlords can charge high rents while the business rates relief is in place, and then lower rents afterwards.

Stamp duty land tax

A number of high-quality studies of stamp duties on housing in the UK (Besley, Meads and Surico, 2014; Best and Kleven, 2018; Borbely, 2021) find that they substantially reduce transaction volumes, leading to properties not being owned by the people who value them most, at high economic cost.

We are not aware of any similar studies for non-residential property in the UK, and very few for other countries. The extremely limited evidence we do have suggests that – as we might expect – the effects and costs are similar to those for residential property.²⁰

The SDLT exemption thus removes a potentially significant obstacle to sites being bought by those who are best placed to develop and do business in Freeports.

One note of caution relates to the temporary nature of the exemption. A clear finding of existing studies is that the timing of transactions is especially sensitive to changes in SDLT: transactions are brought forward or delayed as necessary in order to qualify for lower tax. This could mean

²⁰ For the UK, Best and Kleven (2018) note in passing that ‘[results] for non-residential property are qualitatively similar [to those for residential property], but noisier as we have far fewer observations’, but they do not present that analysis in full. A review of studies in Australia that do model the effect of non-residential property transaction taxes – albeit leaning more heavily on assumptions – likewise finds that their effects are similar to those for residential property (Malakellis and Warlters, 2021).

that properties are sold on ahead of the expiry of the SDLT exemption in March 2026, even if the buyer and/or seller would otherwise have preferred to transact later than that. Nevertheless, a five-year exemption from SDLT in Freeports should be very beneficial in terms of facilitating land and property sales to those who can make the best use of the land (subject to the other Freeports policies on land use and sectoral targeting).

Evidence on the impact of place-based incentives and interventions

When tax incentives apply to some parts of a country but not others, one potential effect is for both businesses and people to move to take advantage of them. Moreover, Freeports involve a package of tax incentives, the effects of which could be more (or less) than the sum of its parts. And Freeports involve a range of complementary interventions beyond tax incentives (such as funding for enabling infrastructure and a requirement for local skills plans).

Evidence from other place-based initiatives combining customs, tax and non-tax measures is therefore important. However, as highlighted in the Introduction to this report, there are no examples of programmes either historically in the UK or elsewhere in the world that offer quite the same package of benefits as in the Freeports, or in quite the same environment. This means that, when drawing lessons for the Freeports programme from other place-based policies, it is important to carefully examine how similar/different the specific policy package and the environment in which it is implemented are to those of Freeports.

Trade zones and enterprise zones in the US, France and the UK

Evidence on place-based customs policies suggests that impacts are likely to be small in a UK context. For example, analysis of the US foreign trade zones, while highlighting the rapid growth in employment in the zones, concludes that there is inadequate evidence to assess whether these are genuinely additional jobs or would have been created anyway (US Government Accountability Office, 2017). Official reports also highlight that much of the activity in the zones is designed to take advantage of ‘duty inversion’, where the duty due on final goods is lower than that on the intermediate goods used to produce them (Williams, 2013). This can be of significant benefit in the US where customs duties on petroleum, cars and consumer electronics are lower than on the goods used to produce them (such as crude oil, metal and mechanical and electronic components). However, in the UK, there is less scope for duty inversion as a much lower share of imported goods relates to intermediate goods where the final products they can be used to produce are subject to a lower duty rate (Serwicka and Holmes, 2019). In addition, as discussed earlier, most of the customs benefits available under the Freeports programme are available to other businesses, albeit through more complex application and approval processes. The impact of the customs arrangements, while uncertain, is likely to be relatively modest.

For the tax and other measures, evidence from enterprise zones in the UK, France and the US is relevant. These differ in the type and scale of the interventions involved, but all include tax incentives that bear some relation to those offered as part of the Freeports programme. For example:

- The UK's enterprise zones provide five years of relief from business rates for new or improved properties, allow local authorities to retain growth in business rates revenues for a period of 25 years, and, in a subset of zones, provide enhanced (100%) capital allowances. Unlike in Freeports, there is no employer NICs relief or SDLT relief, and business rates reliefs are capped at £55,000 per business per year.
- The package of benefits available in US zones differs by state but typically includes reductions to or exemptions from property taxes, subsidies for jobs created, and other tax incentives.
- The French zones ('Zone Franche Urbaine' and lower tiers of support) benefit from (capped) exemptions from corporate income tax, local business taxes, payroll taxes and property taxes targeted at firms with fewer than 50 employees, and which are tapered away after a certain period (initially between five and ten years after initial eligibility, but subsequently on varying time-scales by tax). There is also a local hiring clause, which limits payroll tax exemptions to those firms meeting local-hiring thresholds.

The What Works Centre for Local Economic Growth (2016a) systematically reviewed the evidence from 'high-quality' impact evaluations of enterprise zones. Unfortunately, no studies of the UK zones met the required quality standards, meaning that its findings relate to US and French zones only. Even for these studies, the quantitative results are unlikely to be fully robust to the fundamental difficulties of evaluating place-based policies that can cause spillovers to other parts of the country, both nearby and further afield, which we discuss in Section 4.1. Taken together, these considerations mean that the review's findings need to be interpreted with a degree of caution.

Bearing this in mind, the review finds that just over half of the reviewed studies find positive effects on employment, and most of those examining unemployment of local residents found a reduction. Of the small number of studies considering impacts on wages, half found a statistically significant increase and, similarly, half of those looking at poverty found a reduction among local residents. This evidence, while far from unanimous, suggests that the packages of tax and other measures in enterprise zones can attract activity and improve outcomes in the targeted areas.

However, particularly for the French zones, at least some of the increase in activity and employment in the zones is found to be the result of the relocation of businesses and the displacement of activity from neighbouring areas (Briant, Lafourcade and Schmutz, 2013;

Givord, Rathelot and Sillard, 2013). For example, changes in the number of unemployed people across the municipalities in which zones are located are found to be smaller than the changes in the zones themselves, suggesting some displacement (Charnoz, 2018). Not all studies find evidence of displacement though, although in several cases this may reflect a lack of statistical power (the point estimate of the impact on neighbouring areas is consistent with displacement but is not statistically significant).

Relatively little research looks at how the impacts of the zones vary, although there is some evidence – especially from the French zones – that impacts were bigger in areas that were less economically depressed to begin with and had stronger transport links (Briant et al., 2013; Mayer, Mayneris and Py, 2017).

Evidence from research on the UK zones, while less suitable for confidently estimating causal impacts of the policy because of a lack of a suitable counterfactual, suggests that increases in employment and activity in the zones are at least partially the result of displacement of activity from elsewhere.

An initial evaluation of the 1980s enterprise zones (which offered enhanced capital allowances, and exemption from business rates and development land tax,²¹ and attracted significant public infrastructure investment) found that there was a significant increase in economic activity within the zones but that much of this was as a result of businesses relocating, overwhelmingly from within the same urban area (Roger Tym and Partners, 1984). In addition, at a company level, there was no difference in changes in employment, investment or production between those located inside and outside the zones. Relatedly, it was estimated that as of the mid-1980s, 13,000 out of 63,300 jobs in the enterprise zones reflected additional net employment (Department of the Environment, 1986).

The final evaluation of the 1980s zones (Cambridge Economic Consultants, 1995) estimated that just over 50% of the jobs in the zones were displaced from neighbouring areas, meaning that at most 58,000 of the 126,000 jobs located in the zones were ‘additional’ jobs for the urban areas in which the enterprise zones were located. Additionality was estimated to be greatest for manufacturing (a key focus of Freeports now), which typically serves a geographically dispersed market, and lowest for the retail and wholesale trades, which typically serve local markets. Note that the estimates do not account for displacement from beyond the local area, or for jobs that would have located in the enterprise zone sites in the absence of specific tax incentives (these large, under-utilised sites may have attracted new investment even without incentives). Overall,

²¹ Development land tax was a tax in place in the late 1970s and early 1980s, which taxed land value uplift resulting from the granting of planning permission.

therefore, rather less than half of the jobs located in the enterprise zones will have been genuinely additional, but the study did not estimate how much less.

Focusing on the new set of enterprise zones set up the 2010s (which offered capped exemptions from business rates and, in a subset of zones, enhanced capital allowances), Swinney (2019) finds that increases in employment were underwhelming, and were at least partly the result of displacing activity. For example, between 2012 and 2017, there was a net increase in private sector jobs in the zones of just 16,000 (of which 2,000 were construction-related), compared to an initial forecast of 54,000. Most of the net change in jobs was in low-skilled occupations serving local markets, with 34% of jobs in businesses that had relocated from elsewhere into the zone. Again, this is only one form of displacement, and so probably understates the overall degree of displacement and deadweight, as jobs in new branches of existing firms (36% of the total), and even jobs in new businesses, could have been created inside or outside the zone in the absence of the policy.

Special economic zones in emerging and transition economies

The combination of customs and tax incentives, alongside funding for infrastructure and skills and an active industrial strategy approach in the design of the Freeports, means it is also worthwhile examining evidence from SEZs in countries outside North America and western Europe. These are highly varied in their nature and scale, but the vast majority provide customs and tax incentives, most provide enhanced infrastructure, and many target particular sectors or types of economic activity.

A review in the *World Investment Report 2019* (United Nations Conference on Trade and Development, 2019) concludes that the performance of SEZs around the world has been mixed, with some attracting significant economic activity and seeming to play an important role in wider economic development and structural transformation, while others have remained under-utilised. The review finds that export growth has, on average, been higher in countries with more SEZs, but the relationship is relatively weak, with several countries that have many SEZs experiencing weak export growth, and vice versa. Similar results are found for involvement in global value chains (business-to-business international trade), with the authors concluding that ‘while SEZs can support trade expansion they are not a precondition’.

As we discuss further in Section 4, it is difficult to know from such simple comparisons whether it is the SEZs driving these patterns in exports, or global value chains or some other factor (such as broader openness to trade and innovation) driving both the creation of SEZs and trade performance. Similarly, for most of the individual case studies cited by the United Nations Conference on Trade and Development (2019) and other reports, which look at the volume of activity within SEZs, it is difficult to know how much of this is additional for the area in which the SEZ is sited, and particularly the country as a whole.

Several studies of Polish SEZs – which offer capped time-limited exemptions from corporate and personal income tax and property taxes, linked to capital investments in the zones – try to address this in part. They suggest that the zones do boost activity relative to the rest of the country, and may indeed generate positive spillovers to neighbouring areas, but they cannot examine whether activity is displaced from the rest of Poland. Ambroziak and Hartwell (2018) compare SEZs to matched areas in Poland that did not have an SEZ. They find evidence of positive effects on investment, productivity and output per person in the period between 2005 and 2013, with the effect concentrated on those SEZs in poorer regions (unlike the findings of most other studies). Cizkowicz et al. (2016) estimate that for each 100 jobs created in an SEZ, 72 jobs are created by other businesses in the county in which the SEZ is located, and 137 in neighbouring counties. However, while Jensen and Winiarczyk (2014) – using data for a longer period between 1995 and 2011 – find positive effects of SEZs on foreign direct investment and business creation, they find much less evidence of positive impacts on overall investment, employment and wages. Naess-Schmidt et al. (2020) suggest that this may reflect the impact of the SEZs being less positive prior to Poland joining the EU in 2004 – although this is only one possible explanation (for example, differences in selected comparison areas may also play a role).

Reviews of SEZs have identified several policy and institutional features that are correlated with higher investment, exports and economic activity (United Nations Conference on Trade and Development, 2019). This includes focusing on particular sectors or types of economic activity that rely on similar infrastructure, skills and markets (or which are in the same supply chains) and then investing in these factors of production and trade linkages. This may increase the scope for agglomeration effects and positive knowledge spillovers between businesses, and help with sharing of fixed infrastructure costs. Closeness to ports, large cities and transport infrastructure is also associated with higher economic activity in SEZs (Frick, Rodríguez-Pose and Wong, 2019), echoing some of the findings from French enterprise zones. Expedited administrative processes have also been identified as a key element of success (Zeng, 2019), although this may reflect the fact that administrative processes are often slow and inefficient outside SEZs in many developing countries.

The design of the Freeports policy (discussed in Section 2) and its ‘theory of change’ (discussed in Section 3.1) have clearly been influenced by the features of SEZs identified as successful in such reviews. To the extent that these features are related causally to (rather than simply correlated with) greater positive economic impacts of the creation of SEZs, this would increase the likelihood of the Freeports being successful relative to less industrially activist policies such as the UK’s enterprise zones. However, more credible evidence on the causal impacts of SEZs is sorely needed (both for higher-income and lower-income countries).

Investment and skills subsidies in the UK

The evaluation of two industrial policies in the UK does provide more scientifically credible estimates of impacts on local economic outcomes, although the policies in question differ more from the Freeports than either enterprise zones or more expansive SEZs.

Criscuolo et al. (2019) examine the impact of Regional Selective Assistance, a UK government scheme that provided grant funding covering up to 35% of the cost of business investments that created or safeguarded jobs in disadvantaged areas with low GDP and high unemployment. To do this in a credible way, they estimate the impacts of differences in eligibility for support across places and time, which is based on EU rules governing state aid: maximum support was available only in the most disadvantaged areas according to EU rules; a lower level of support was available in ‘intermediate’ areas; and the rules determining eligibility and maximum support rates varied over time (in particular, they study a change that occurred in 2000).

Doing this, they estimate that each 10-percentage-point increase in the investment subsidy rate increased manufacturing employment by 10%, with no evidence of changes in non-manufacturing jobs in the same areas. As a result, each 10-percentage-point increase in the investment subsidy rate was associated with a 4% reduction in unemployment. There was no evidence of negative spillovers on other parts of the travel-to-work area (TTWA) that eligible communities are located in, although this does not mean that there are no wider negative spillovers.

The results suggest that subsidising investment that is associated with safeguarding or creating jobs boosts employment in the local and broader areas where such subsidies are available. While a grant-based subsidy differs from tax-based incentives that reduce the cost of investment, one may expect qualitatively similar impacts. Unfortunately, it is not possible to identify the extent to which the subsidy itself – rather than the conditions attached to it (the requirement to safeguard or create jobs) – was the main driver of the effect observed. This is important because some investments (for instance, in new equipment that can automate processes) can be associated with reductions in employment rather than increases, and the investment tax incentives available in Freeports do not have employment-based eligibility criteria. All else equal, one would therefore expect smaller positive impacts on employment from Freeport-style tax incentives than under the Regional Selective Assistance scheme, though perhaps bigger impacts on investment given the lack of hiring-based conditions.

Einio and Overman (2020) examine another policy that used rules to target assistance at deprived areas: the £100 million per year Local Enterprise Growth Initiative (LEGI),²² which

²² This amounted to £71 per resident of eligible areas.

provided grants to businesses, help for local residents with skills and job search, and improvements to local amenities. By comparing outcomes for areas that were just eligible and just ineligible for support, and by looking at outcomes in very small geographical areas (Lower Super Output Areas, which have populations of around 1,500), they are able to look at the effects of the policy on employment and activity within eligible local areas and neighbouring locales. They do not find any statistically significant effects on employment, unemployment or the number of businesses for eligible locales overall. But they do find evidence of displacement on the border between eligible and non-eligible areas: approximately 10% of activity within one mile of the boundary shifted inside the eligible zone.

Most of the beneficiaries of this scheme were businesses serving local markets. The displacement effects seen echo those seen for similar activities (retail and wholesale) in UK enterprise zones. In addition, they find that activity rapidly reverted to pre-policy levels when the policy was abolished in 2011, suggesting that support for businesses serving local markets is unlikely to have long-lasting effects on the local economy.

European regional development funds

Lessons can also be learned from the EU's regional development programme – although, like Regional Selective Assistance, this is a spending – rather than primarily tax incentive – programme and, in addition, covers much larger geographical areas (typically regions with one million or more residents) than Freeports. Like the Freeports programme though, EU regional development programmes include investment in infrastructure, local skills and business support (albeit via grants as opposed to tax incentives in the case of EU schemes).²³

Evidence overall suggests a positive effect of EU funding on economic output, productivity and employment (What Works Centre for Local Economic Growth, 2016b). However, these effects may be temporary, dissipating after funding is withdrawn (Becker, Egger and von Ehrlich, 2018). There is also evidence that funding has stronger impacts in areas that were initially more successful economically (Bondonio and Greenbaum, 2006; Becker, Egger and von Ehrlich, 2012), had more highly skilled populations (Becker, Egger and von Ehrlich, 2013) and had better and more autonomous local governments (Bähr, 2008). This suggests that the absorptive capacity of an area may be important: a high-skilled but under-utilised labour force and effective decision-making (including coordination with other policies and interventions) helps maximise the positive impacts of support. In the context of the Freeports programme, this means that locally driven skills strategies and links with wider local and national government initiatives

²³ See Browne, Johnson and Phillips (2016) and Davenport, North and Phillips (2020) for more detailed discussions of EU regional funding programmes.

may play an important role in determining policy impacts, alongside the customs, tax and seed capital measures.

3.3 *Ex ante* assessments of impact

A number of *ex ante* assessments of the revenue costs and/or broader economic impacts of the Freeports programme itself have also been published by the Office for Budget Responsibility (OBR), academic researchers and consultancies. The government has not published its own assessments of the costs and benefits of the programme, rejecting a recommendation by the House of Commons International Trade Committee to do so in summer 2021.²⁴

The government's 2022 Freeports Programme Annual Report (DLUHC, 2022b) does, however, include the following two isolated estimates of expected impacts.

- The government expects retained business rates to total about £3 billion over 25 years, or an average of £15 million per Freeport per year. This would imply considerable new development (and therefore business rates revenue) in the Freeports, whether additional or displaced.
- The Freeports themselves estimate that, collectively, they will create more than 210,000 additional jobs (130,000 directly and 80,000 indirectly). If achieved, this would be staggeringly successful given the small geographical scale of the programme.

The Office for Budget Responsibility's analysis

The OBR is considerably less optimistic about the policy than the government appears to be. It provided a costing and discussion of the Freeports programme in its October 2021 Economic and Fiscal Outlook report (Office for Budget Responsibility, 2021). It estimated that the tax reliefs associated with Freeports will cost between £60 and £75 million per year in the mid-2020s, with employer NICs relief (peaking at £28 million in 2025–26) and business rates exemption (reaching £24 million in 2025–26) being the most significant. However, it assesses this costing to have a high degree of uncertainty due to data issues, difficulties in modelling interactions between tax reliefs, and uncertainty about the impact of the policy on business behaviour.

This costing includes only the tax reliefs, not the government spending associated with Freeports (such as the £25 million seed capital for each Freeport and the resources committed to

²⁴ See <https://committees.parliament.uk/committee/367/international-trade-committee/news/156116/international-trade-committee-publishes-government-response-to-uk-freeports-report/>.

supporting and monitoring them), because that spending represents an allocating of funding from within existing departmental budgets rather than an increase in overall government spending.²⁵

In its analysis of the tax elements of the Freeports programme, the OBR judged that the amount of activity that will take place in Freeport sites will be limited. This was partly based on experience from its costings of the enterprise zones set up in the early 2010s, when the actual cost of business rates reliefs proved to be less than one-quarter of initial forecasts.²⁶ Crucially, the OBR's costing accounts only for the cost of the tax reliefs for businesses it forecasts would have located in the Freeports even in the absence of the policy ('deadweight') and those that would have otherwise located elsewhere in the UK ('displacement'). The relatively small costs assigned to these tax reliefs – averaging £50 million per year over the five years from 2022–23 – therefore imply that the OBR expects these to be modest.

The OBR's costings methodology means that it does not account for any net increase in economic activity for the UK as a whole as a result of the Freeports programme; any material increase in overall employment, investment and output would be reflected in government revenues via its forecasts for GDP and so on instead.²⁷ If the Freeports generated substantial additional activity for the UK as a whole, then this would reduce the true cost of the policy (via more revenue from other taxes such as income tax and VAT), but would not show up in the OBR's costing of the programme. However, the OBR is also clear in its view that 'the main effect of the Freeports will be to alter the location rather than the volume of economic activity'. Drawing on the same evidence discussed in the previous subsection, the OBR concludes that most of the economic activity associated with the Freeports is likely to be displaced from elsewhere in the UK. So, while the OBR expects only modest displacement, it expects even less additional activity as a result of the Freeports programme – in other words, almost none.

Other analyses

Other analyses focus on the potential economic rather than fiscal impacts of the policy, but again draw to a large extent on the same evidence discussed in Section 3.2. For example, researchers from both the UK Trade Observatory (Serwicka and Holmes, 2019) and UK in a Changing Europe (Barnard et al., 2021) research groups conclude that the Freeports are unlikely to have a transformative effect on the economic performance of the country as a whole or the regions hosting them. This is partly because of evidence suggesting that a significant part of the activity carried out in Freeports would have happened anyway or will be relocated from elsewhere

²⁵ The compensation paid to councils for the loss of revenue associated with business rates exemption generates some additional funding for the Scottish, Welsh and Northern Irish Governments via the Barnett formula.

²⁶ The OBR notes, however, that employer NICs and SDLT reliefs are not available in enterprise zones, and responsiveness to these measures may differ.

²⁷ The OBR's costings methodology is set out in Office for Budget Responsibility (2014).

(including nearby areas). But it also reflects the fact that the UK has relatively low import duties, especially on intermediate products, and a large share of imports (and exports) covered by free trade deals. This means that the benefits from customs suspension, customs inversions and even customs exemptions are likely to be modest. In addition, businesses can apply to make use of these provisions outside Freeports, although the administrative procedures are more complicated.

In contrast, two influential reports that provide quantitative estimates of the potential economic impacts argue that those impacts could be significant. For example, Prime Minister Rishi Sunak, in a report written for the Centre for Policy Studies when he was still a backbench MP, claimed that Freeports could create 86,000 jobs (Sunak, 2016). In contrast, a report by Mace (2018) puts the figure at 150,000 jobs from seven Freeports in the north of England, which it argued would be associated with a £9 billion increase in economic output per year. However, both studies suffer from significant methodological flaws. Sunak's study simply adjusts the number of jobs in US foreign trade zones (420,000) for differences in the size of the workforce. However, this takes no account of differences in import duty regimes between the UK and the US (duty inversion is much more beneficial given the duty rates in the US, and free trade deals cover a smaller proportion of its trade), or of the other policy elements of the Freeports programme (such as domestic tax incentives, funding and other support). Even putting this to one side, this approach would only yield an estimate of the net jobs created if all jobs in the US foreign trade zones were genuinely additional, rather than likely to be created even without the policy or displaced from other locations. Mace similarly compared the growth rate in exports from US foreign trade zones with the US as a whole and assumed that all of the difference is the result of additional activity (as opposed to displaced activity), combining that with relatively high estimates of the benefits of agglomeration and of increases in trade on increases in economic output. This again fails to account for differences between the UK and US and for displacement of trade.

Unfortunately, none of the published analyses considers the potential impacts of the specifics of the Freeports programme – including the characteristics of the selected Freeport sites, and the customs, tax and other support measures being offered.

3.4 Summary

The Freeports programme aims to promote regeneration of the Freeport areas, and specifically to increase employment, investment, trade and innovation in those areas. The hope is that the combination of policies and the focus and planning that go with them will catalyse a step-change in these areas, developing new clusters of high-value activities and having a transformational effect on the local economies.

Key questions that will determine both the exchequer cost (or yield) of the policy and the wider assessment of its value for money are how much activity will be seen in Freeports and how much of that activity is genuinely additional, as opposed to activity that would have happened anyway either in the Freeport areas ('deadweight') or elsewhere in the country ('displacement').

At its core, the Freeports programme is a location-specific and time-limited package of tax incentives and other benefits – which, all else equal, is undesirable.

The economic case for the Freeports programme is that all else may not be equal. One may have concerns about the inequalities between places: the Freeports are part of the government's levelling up agenda. Perhaps even more important is that markets, on their own, may not be efficient, let alone equitable: there may be wider costs and benefits of businesses' actions (termed 'externalities'), which they do not take into account when making decisions about investment, employment, and so on.

Agglomeration effects – whereby there can be benefits to certain kinds of businesses from being near other related businesses (or research centres) – are a prime example. While such clusters can form spontaneously, it can be hard for businesses to coordinate on achieving this outcome, and each business may not take into account the benefit they bring to others. In that case, there can be a role for government in catalysing such clusters by, for example, providing tax and other incentives for businesses to locate in a particular location.

There is good evidence that agglomeration effects can be important, and the government and Freeports are trying to maximise the likelihood of developing successful, self-sustaining clusters through sectoral targeting, the identification of associated market failures and viability gaps, complementary investments, and plans for land use. However, governments, as well as markets, are imperfect. A key risk is that the wrong locations and sectors may be chosen, and Freeports may not be successful in creating the clusters that they hope for. Indeed, an overly strong focus on targeted sectors could, in principle, lead to Freeports turning away better investments from other sectors.

Another key risk is that, even if there is significant activity in the Freeports, a large part of that activity would have happened there even in the absence of the policy ('deadweight') or would have happened elsewhere in the UK ('displacement'). Similarly, the people and capital employed in Freeports might otherwise have been employed elsewhere. The government is trying to minimise deadweight and displacement in several ways: again, through the Freeports' sectoral focus (including targeting sectors not yet operating at scale elsewhere in the UK) and land use policy; and by allowing councils to deny business rates relief to displaced activities. However, displacement is a multi-faceted issue that goes far beyond a business relocating from outside to inside a Freeport – the easiest form to measure and to prevent. Even if businesses

operating in Freeports would not otherwise have operated elsewhere, the people working there might otherwise have worked elsewhere. Thus, while the government's measures should reduce deadweight and displacement to some degree, how successful these measures will be is an open question.

Existing empirical evidence from previous tax reforms and place-based policies is of limited applicability to the Freeports programme and must be treated with caution. But the available evidence does suggest that the tax incentives provided are likely to lead to greater economic activity (including additional investment and employment) in the Freeport areas. In turn, this could reduce unemployment, increase incomes and reduce poverty for local residents – though much of the benefit of lower local taxes, and particularly property taxes, is likely to be capitalised into local land prices, largely benefiting landowners rather than the occupiers of property. A significant part – perhaps a majority – of the increased economic activity in Freeports is likely to represent displacement of activity from other areas, especially from nearby or economically similar places, and particularly if businesses serving predominantly local markets make up a large share of new employment in the Freeports. This suggests that negative spillovers to the rest of the UK could potentially be minimised if the Freeports focus on businesses serving global export markets – as they aim to, to a significant extent.

There is also tentative evidence that positive local impacts of Freeport status may be bigger in areas that already have stronger economies, with better-skilled workforces, better transport connections, and more effective local government. This may mean a trade-off between maximising the aggregate increase in economic activity and doing the most to 'level up' economically struggling areas. The provision of funding for transport and other infrastructure improvement and the requirement for a skills and employment strategy to be designed and implemented could help to ameliorate this trade-off, though.

Evidence also suggests that once the tax and other incentives associated with the Freeports are withdrawn, there is the potential for the changes in economic activity induced to fade over time – although if this does occur, it may be a slower process for the kind of large investments that Freeports are aiming to attract. Whether this occurs is likely to depend on whether enough activity and long-term investment are attracted to the Freeports, and the improvements to infrastructure and skills are sufficient, to generate self-sustaining agglomerations once the tax incentives have ended. It is harder to attract long-term investment with short-term tax breaks.

It is also worth highlighting that existing studies are far from unanimous on the sign, let alone the scale, of the impacts of different policies. This means there is still significant uncertainty about what the impact of the Freeports programme will be.

The most significant areas of uncertainty relate to the scale of investment the Freeports will attract – with wildly differing views between the OBR and the Freeports’ business cases, for example – and the extent to which investment will be genuinely additional or would have taken place (in the Freeports or the rest of the UK) in the absence of the programme.

There are a number of specific elements of the Freeports programme where evidence from past policies is particularly lacking. One is the extent to which Freeports will benefit local residents and in-commuters versus migrants. The US and French enterprise zones have requirements to hire at least a certain proportion of workers from the zones, which the Freeports programme does not. This may make Freeports more attractive to potential investors (who have more freedom over who to hire) but may mean less benefit to existing residents. Second, the impact of allowing local councils to retain 100% of the business rates from new and improved properties is unclear. The government sees this as a key element of the Freeports programme. In principle, business rates retention should provide councils with a stronger financial incentive to encourage and approve the development of new commercial space in the Freeport areas, and with additional revenue that could be used for further investment in infrastructure, skills development or other local services related to the Freeports programme’s objectives. But there is a paucity of evidence on the impact of business rates retention on councils’ behaviour and local economic performance.

The design of the Freeports programme means that it is not particularly well suited to examining the role of particular levers in the success or failure of the programme as a whole. But as discussed in the next section, the proposed evaluation does offer significant opportunities for learning, even if definitive quantitative estimates of its impacts and value-for-money are likely to remain elusive.

4. What will it be possible to say after implementation?

While evidence from economic theory and past policies can be a useful *ex ante* guide to the potential impacts of the Freeports programme, ultimately we would like to know what the actual impacts of the programme on targeted (and other) economic outcomes are. Therefore, in this section of the report, we discuss the issues that make this a difficult question to answer, and the extent to which the proposed evaluation strategy addresses these issues.

It is worth highlighting two broad issues at the outset.

First, because preparatory work and major investments take time, the government does not expect the outcomes of the policy (broadly, those in the second row down in Figure 3.1) to emerge fully for about five years, and a crucial question will be how far impacts persist beyond that time, once the temporary tax breaks have expired. Anyone waiting for an evaluation of the overall impact of Freeports will therefore have to be patient – although, as we discuss below, important lessons may be learned from monitoring and process evaluation before then.

Second, any impact evaluation is only as good as the data available to measure outcomes. In principle, there are many outcomes that would be of interest to observe, preferably at a finely disaggregated geographical level, but we will be limited by the available data. The monitoring and evaluation team is exploring what additional data can be collected from the Freeports; but if we want to compare trends in Freeports to other areas, or if we want to look for displacement and other spillover effects on other areas, then the same information must be available for those places too.

Below, we focus not on these practical issues but on the conceptual challenges that are posed by the evaluation of the impact and value for money of a policy such as Freeports.

4.1 The evaluation problem

Robust quantitative evaluation of the effects of real-world economic policies is always challenging. This is because, in order to estimate the impact of a policy, it is necessary to compare actual outcomes with what outcomes would have been in the absence of a policy: the

counterfactual. However, by definition, this counterfactual cannot be observed, so it must instead be estimated.

The scientific gold standard for doing this is to evaluate a policy using a **‘randomised control trial’**. Under this approach, people (or organisations or areas) are randomly chosen to be subject to the policy in question. Outcomes can then be compared between those (randomly) subject to the policy (the ‘treatment’ group) and those (randomly) not subject to the policy (the ‘control’ group). The fact that treatment and control groups are randomly chosen means that we should expect their outcomes to have been the same, on average, and to evolve in the same way in the absence of the policy. Hence, the control group provides an unbiased counterfactual for the outcomes of the treatment group if the policy had not been implemented. The estimate of the impact of the policy is therefore the difference between outcomes for the treatment and control groups.

Randomisation is sometimes used to evaluate policies when they are being trialled or rolled out slowly. But policies awarded to people or places on the basis of competitive bidding, such as Freeports, are clearly not randomly assigned. The treatment group (chosen Freeports) has been selected on the basis of choosing to bid at all and on the quality of their bids: on their assessed potential for boosting trade, encouraging innovation, and supporting regeneration and levelling up, as well as evidence on their delivery capabilities and public–private sector partnerships. Even in the absence of the policy, outcomes may have been better or improved more in the Freeport areas: for example, if there was more scope for growth than average, or more capable local leadership and coordination. Alternatively, outcomes may have been worse or improved less in the Freeport areas: for example, if the deprived areas where regeneration and levelling up are needed would otherwise have struggled to attract investment.

It is more difficult to determine appropriate counterfactual outcomes for non-randomly assigned policies such as Freeports. Outcomes for all places not chosen as Freeports (or a random selection of such places) are not necessarily a good guide to what would have happened in the Freeport areas in the absence of the policy.²⁸

²⁸ If Freeport status were awarded on the basis of known, fine-grained evaluation scores, and there were enough places just above and just below the score used as the cut-off point for awarding Freeport status, then the outcomes for those just below the cut-off could be a valid counterfactual for those just above it. The idea behind this approach (called **‘regression discontinuity design’**) is that those areas just below the cut-off for selection as Freeports should be sufficiently similar to those just above the cut-off for selection as Freeports to be a valid control group. The assumption is that in the absence of the Freeports policy, outcomes would be similar and evolve in a similar way over time for these areas just above the cut-off (treatment areas) and just below the cut-off (control areas).

In the absence of randomisation, the most promising approach is to try to identify a particular set of areas that can act as a control group for the Freeports. This can be done by looking for areas that had similar characteristics, outcomes, and trends in outcomes to the Freeport areas, prior to the introduction of the policy, for use as a control group. There are several ways of choosing such a group, including allocating differing weights to different areas to create one's own statistical control (termed a synthetic control). The assumption is then that outcomes would have evolved in the same way in the Freeports as in the control (or synthetic control) group if the Freeports policy had not been introduced.

Given this 'common trends' assumption, one can then compare the change in outcomes of interest (such as employment, investment, etc.) in treated (i.e. Freeport) areas to the change in the same outcomes in the chosen control areas. This comparison of changes in outcomes is termed a '**difference-in-differences**' approach: the effect of the Freeports policy is estimated as the difference between the changes (or differences) in outcomes between the treated Freeports and the chosen control areas.

It can be difficult to identify a set of areas that we would expect to satisfy the common trends assumption, especially for a policy such as the Freeports programme: all treatment areas contain major ports or an airport, of which there are only a limited number in the country, and which may differ in important ways from areas without these facilities; and chosen Freeports all had to bid for the status. This means that there would be more risk of estimates of the impact of the Freeports programme being biased by using a control group that does not represent a valid counterfactual for the Freeport areas. Almost all of the biggest ports in England are Freeports, so the control group will not include major ports. Thus, it will be hard to separate the effects of the Freeports policy from the effects of, for example, a change to the environment for international trade, which affects major ports more than other places in the UK. The unsuccessful bidders for Freeport status might be obvious candidates for a control group, as they will obviously have significant similarities to the Freeports. They nevertheless have somewhat different characteristics from the successful bidders, and were of course unsuccessful for a reason. As with any other potential control groups, it would be possible to control partly, but not fully, for the differences between successful and unsuccessful bidders.

This strategy, if feasible and valid, can only estimate the impact of the Freeports policy for those Freeports just above the cut-off. For those Freeports with scores significantly above the cut-off, the areas just below the cut-off would not be a valid control group. If the Freeports policy has bigger or smaller impacts in areas with the best evaluation scores, results based only on Freeports just above the cut-off may lead to misleading conclusions about the overall impact of the policy. But a regression discontinuity design is not a feasible option for the Freeports policy anyway. The evaluation scores they were given were not sufficiently fine-grained and not the sole basis for selection; more importantly, there are simply not enough Freeports (the methodology would require hundreds, or preferably thousands).

If we can identify control areas that we expect might experience similar trends to those in Freeports, we would still only expect their trends to be the same on average: there might still be essentially random variation, with some areas happening to experience better or worse outcomes (for example, a big business opening or closing in the area) that are not caused by the Freeports policy but are not simply a continuation of the pre-reform trends. Often, difference-in-differences and similar econometric methods are applied to treatment and control groups consisting of hundreds or thousands (sometimes millions) of people or firms, so that random variation will even itself out across the population and any difference in averages between treatment and control groups can confidently be attributed to the policy. In this case, however, there are only eight Freeports in England, and a relatively small number of potential control areas. This means that it will be hard to tell whether differences in trends between the Freeports and the selected control areas reflect the impact of the policy or just random variation. We could generate a central estimate of the impact of the policy, but without the statistical power to be confident in it.²⁹

It will be even harder to be confident that differences in trends between Freeports and control areas reflect the impact of the policy, because, as noted above, the full effect on outcomes is only expected to take shape after about five years – and we would ideally want to look at outcomes well after that, to see how far the policy impacts persist after the tax breaks (and the initial injection of funding) have expired. The longer after the introduction of the policy we look at outcomes, the more likely it becomes that the outcomes in different areas diverge for reasons unrelated to the policy (violating the common trends assumption), and so the harder it becomes to be confident that the difference-in-differences estimate represents the true impact of the policy.

Spillover effects and impact evaluation

The discussion so far has pre-supposed that there are two types of areas: Freeports, affected by the Freeports policy; and other areas, some chosen as a control group, which are unaffected by the Freeports policy.

However, as discussed in Section 3, evidence suggests that place-based tax and spending policies, such as Freeports, lead to activity being displaced from outside the targeted areas into the targeted areas (in this case, the Freeports), causing a negative spillover effect on other places. Increases in economic activity in the targeted Freeport areas may also boost demand for inputs sourced from outside the Freeport areas, causing a positive spillover effect on other places. In

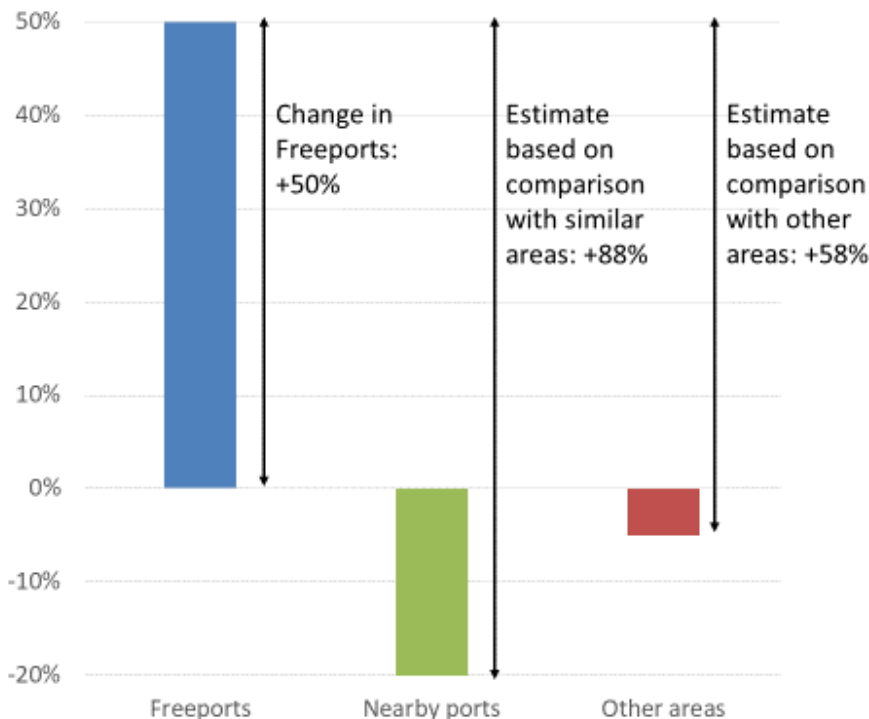
²⁹ We could consider every individual or firm separately, so that we have many observations rather than just eight; but a major local development is likely to affect lots of people/firms in the area, so the variation in their outcomes would be correlated and we could not rely on their large number to ensure that policy-unrelated variation in outcomes cancelled out.

other words, there may be no truly unaffected control areas: just areas affected in different ways and to different degrees by the policy (with a mix of negative and positive spillover effects).

This makes it very difficult to estimate the impact of the Freeports programme on the country as a whole, and even on the Freeport areas themselves. Figure 4.1 illustrates why.

The figure shows the change in an outcome of interest (say, employment) in Freeport areas and in two different potential groups of control areas: one group very similar to Freeports (say, geographically nearby and also ports but which happened not to be chosen as Freeports), and one group of less similar areas (but perhaps still with similar socio-economic characteristics).

Figure 4.1. How spillover effects could bias estimates of Freeports' impacts



Note: Numbers hypothetical, for illustration only.

Suppose we see a 50% increase in employment in the Freeports, but a 20% reduction in employment in nearby ports. Does the 20% decline in employment in nearby ports tell us – as the difference-in-differences methodology implies – that, in the absence of the Freeports programme, we would have expected a 20% decline there too (the result of a trade shock, for example), so that the Freeports programme is even more successful than the observed 50% increase implies, in fact causing an 88% increase in employment relative to what would have

happened without the policy?³⁰ Or does the 20% decline in nearby ports tell us that part of the 50% increase in employment in the Freeports represents displacement from those other areas, such that the policy increased employment in the Freeports by 50% but reduced it in nearby ports by 20%, so that taking both areas together (and assuming for simplicity they are the same size) the policy increased net employment by only 30%? It would be hard to tell which of these hypotheses was true (or whether it was a mixture of the two), but it could make a huge difference to the estimated impact of the policy. Note that, if there is displacement from the areas used as controls, the difference-in-differences estimate would overestimate the impact of the policy even in the Freeport areas themselves, let alone in the country as a whole.

One might think that activity was less likely to be displaced from the less similar areas, represented by the third bar in the figure. If we assumed that there were no spillovers between Freeports and those other areas, then we could use them as a control group and apply the difference-in-differences methodology; if employment in those areas fell by 5%, then we might assume that employment in the Freeport areas would also have fallen by 5% in the absence of the policy, so the observed 50% rise represents a 58% increase relative to the no-policy counterfactual.³¹ However, because those areas are less similar to Freeports, it is simply less plausible that the common trends assumption would hold: if there really were a trade shock that affected ports but not other areas, or the economy evolved differently in different regions, then the ‘true’ counterfactual for the Freeports might not be a 5% decline in employment but (say) the 20% decline seen in nearby ports.

This illustrates one of the tricky trade-offs in selecting a control group for policies that can cause displacement of activity between places. On the one hand, the more similar the control group is to the treatment group of places, the greater the likely bias as a result of displacement: activity is more likely to be displaced between similar types of places (or geographically neighbouring places). On the other hand, the less similar the control group is to the treatment group of places, the less likely it is that outcomes would have evolved similarly in the absence of the policy.

Other policies

As well as Freeports potentially influencing other areas, including those used as control areas, via negative and positive spillovers, a range of other policies may affect Freeports and control areas differently (causing the common trends assumption to fail). The Freeports programme is only one of several place-based policies the government is implementing as part of its levelling up agenda. If areas not chosen as Freeports are more likely to benefit from these other policies (for example, as the government tries to ensure that each receives at least some funding and

³⁰ 88% because $1.5 \div 0.8 = 1.88$.

³¹ $1.5 \div 0.95 = 1.58$.

other support from different policies), or are less likely to benefit from the other policies (for example, if the government tries to ensure a ‘critical mass’ of support by concentrating funding in particular places, including Freeports), this may bias estimates of the impact of the Freeports policy. In particular, the effects of the Freeports programme may be underestimated or overestimated if other policies provide more or less support to the control areas than to Freeports.

One policy that may affect the actual impact of the Freeports programme and complicate its evaluation is the introduction of ‘investment zones’, first proposed in the ‘growth plan’ unveiled during Kwasi Kwarteng’s brief tenure as Chancellor. While Jeremy Hunt’s subsequent autumn statement appeared to imply that the investment zones policy would be of a smaller scale than initially suggested, the creation of additional areas with significant tax advantages might make it harder to estimate appropriate counterfactual outcomes for Freeport areas, particularly if investment zones are located in areas similar to, or neighbouring, Freeport areas.

Value for money

Suppose we could perfectly measure all of the impacts of the Freeports programme. How would we judge whether these outcomes amounted to success? What would constitute good value for government money?

There is a large body of literature on how to carry out value-for-money or cost–benefit analysis.³² We do not attempt to summarise it here, but we do highlight some of the key issues and challenges.³³

A natural approach is to compare the net exchequer cost of the policy with the net benefits it delivers to households (including via firms).

For Freeports to be good value for money, it is not enough that the net benefit to households exceeds the net cost to the government. There are alternative ways to spend money (e.g. more evenly across the country, or on the NHS, schools or defence) that may also have benefits to households exceeding the cost to government. Money in the government’s hands is more

³² The government’s own manual for this is the ‘Green Book’ (HM Treasury and Government Finance Function, 2022). One standard textbook is Boardman et al. (2018). For a short introduction to an appealing approach that is gaining popularity, see Finkelstein and Hendren (2020). In common with all this literature, we assume that the government’s overarching goal is, broadly speaking, to maximise people’s well-being, and that the stated objectives of Freeports – regeneration, trade, and so on – are just the specific ways the government envisages Freeports’ contributing to that overarching goal. If not, an additional challenge would be how to value progress on each of the stated policy objectives relative to the wider objectives of government policy, or relative to how citizens themselves value the results.

³³ There are numerous others, such as at what rate to discount costs/benefits accruing (perhaps many) years in the future to make them comparable to costs/benefits accruing today. The references cited in the previous footnote provide a general guide to the topic.

valuable than money in private hands, because it is costly for the government to raise revenue. When people change their behaviour to reduce their tax liability, the government gets no revenue from them, yet these people are worse off than in the absence of the tax since they are not behaving as they would have preferred. So additional taxation costs taxpayers more than the revenue it raises; the proportion by which it does so is known as the marginal cost of public funds. For Freeports to be good value for money, the ratio of private benefits to exchequer costs must be higher than that for alternative uses of the funds, or higher than the marginal cost of raising public funds.

But in order to make such comparisons, we must first estimate the costs and benefits of the policy. That is harder than it might sound.

In term of the exchequer cost, ideally we should measure the overall net cost to the government, including not just the ‘mechanical’ upfront outlays but also the consequences of any behavioural responses to the policy for government revenue and spending (known as the ‘fiscal externality’).³⁴ How much the Freeports programme costs the taxpayer will depend on the extent of additionality versus deadweight and displacement.

- In the absence of any behavioural response to the policy, the only cost of the tax reliefs is the cost of providing relief for activities (property development, transactions, investment and employment) that would have happened in the Freeports anyway (‘deadweight’).
- If activity elsewhere in the UK is displaced to Freeports, the government will lose the employer NICs (on earnings up to £25,000), business rates, corporation tax and SDLT revenue from activity that would otherwise have been subject to full taxation.
- Any additional activity created by the policy in the tax sites will not increase revenue from employer NICs, business rates and SDLT while the tax reliefs are in place, because the rates of those taxes are reduced to zero.³⁵ It might, however, increase revenue from taxes such as income tax, employee NICs and VAT, and reduce the cost of means-tested benefits, as the increase in economic activity boosts incomes and spending. Also, if the additional activity persists beyond the expiry of the tax reliefs, it could increase revenue from those taxes too in subsequent years.

³⁴ A more traditional alternative is to measure the cost as including only the upfront or mechanical outlays, and include any fiscal externalities as parts of the return on that cost. Hendren and Sprung-Keyser (2020, 2022) argue that this traditional approach is inferior; but if it is adopted, the fiscal externalities should be augmented by the marginal cost of public funds before being added to the private benefits – contrary to the guidance in HM Treasury and Government Finance Function (2022), which treats transfers between the public and private sectors as having no net cost/benefit. Other than that, however, the approaches require measuring largely similar things – they are just combined differently in the calculation.

³⁵ Note, however, that where additional firms operate in Freeports as a result of the policy, the benefit that they get from the absence of business rates, employer NICs, etc. is not a cost to the government – this is because if they would not have been there without the policy, the government would not have collected business rates from them in any case.

- The effects of the Freeports programme may have consequences for the exchequer that go beyond tax revenue and spending on means-tested benefits. In principle, it might affect anything from take-up of subsidised childcare to people's health, and therefore NHS usage, and the need for (and fare income from) public transport provision.

One extreme possibility is that the policy is so successful – it generates so much additional activity, with so little deadweight and displacement – that the resulting additional tax revenue (and savings in government spending) exceeds the upfront cost of the policy.³⁶ In that case, the policy raises money for the government rather than costing it – it more than ‘pays for itself’ – so as long as the policy does not somehow make households worse off, it is unambiguously worthwhile.

Otherwise, we must compare the net exchequer cost of the policy to the benefits it delivers for households, which requires valuing the benefits of the policy to households. This is not simply the additional net income people earn, or the value of the additional output they produce (though estimating those would certainly be important and would be challenging enough). There are at least two other factors to consider.

- First, we must account for the non-financial costs and benefits of the policy. For example, if more people decide to do paid work rather than retiring or staying at home with their children, they gain net earnings but lose that time. If the policy is just enough to change someone's mind about whether to take paid work, the net benefit to them is negligible – it is certainly not their entire earnings from the job. However, if a person getting a job was involuntarily unemployed, then they might want to go to work not just for financial reasons. The value of additional employment is thus hard to estimate. This is just one example; there are many others. Valuing contributions to decarbonisation, for example, is famously difficult.
- Second, we must take account of the distribution of gains, not just their aggregate amount. This is particularly relevant when levelling up is a key aim of the policy. The government may value £1 of benefit to a poorer household more than £1 to a richer one. More controversially, it may or may not also value £1 of benefit to a poorer area more than to a richer area, over and above the fact that poorer areas contain poorer people; that is, it may value £1 of benefit to someone with given income in a poorer area more than £1 to someone with the same income in a richer area. Taking account of this requires knowing who actually benefits from the Freeports programme. As we discussed in Section 3.2, for example, it is quite plausible that the policy acts to increase land prices in the Freeports, so that a significant share of the benefit goes to existing landowners there. Any increase in skills of

³⁶ This is a variant of the famous ‘Laffer curve’ for tax policy.

local residents is likely to benefit them by increasing the wages they can command. We would need to estimate the size of such effects.

If we knew the distribution as well as the aggregate magnitude of gains, we would then need to address the question of what value to put on them. How valuable are benefits in the Freeport areas compared with costs to national government? If activity is displaced to Freeports from elsewhere in the UK, is that a net benefit and, if so, how much? How do the answers to these questions depend on which particular groups in the Freeport areas and elsewhere are gaining/losing?

Distributional concerns can be incorporated into the comparison of costs and benefits in a number of ways: (i) by comparing the ratio of benefits to costs of Freeports with that of alternative uses of funds with a similar distribution of benefits, or the marginal cost of raising funds from the same group; (ii) by giving explicit distributional weights to different groups when calculating the measures; or (iii) by calculating unweighted aggregate benefits and distributional effects separately and presenting them alongside each other, letting people make their own judgement.

This discussion gives an indication of the breadth of outcomes that, in principle, would need to be measured (for as long as the impacts of the policy last) for an ideal value-for-money calculation. Even to calculate the net exchequer cost of Freeports in full, we would need to know not only the impact of the policy on (say) employment in the Freeports and elsewhere, but also how much of any change in earnings fell into different tax bands, and the impact of the policy on the cost of providing public services. And calculating the benefit to households would require estimating much more than just the financial effect on them.

Perfection is an exacting standard, which no real-world evaluation achieves. In practice, some of the factors that enter into the calculation would have to be roughly approximated or assumed to be negligible – and methods have been developed for accounting for some apparently hard-to-measure elements. But setting out the ideal is important for shedding light on what might be missing from any given real-world calculation and how such omissions are likely to bias the estimates. A challenge for evaluators is to judge which elements are likely to be important (and feasible) to estimate with reasonable accuracy in practice. In the case of Freeports, the difficulty of achieving robust estimates of the impacts of the policy at all, explained in the previous subsection, suggests that discussion of how to translate such impacts into value-for-money metrics may be somewhat academic.

For the most part, however, the key factors determining whether Freeports are good value for money are those we would expect: the extent of additionality versus deadweight and displacement (but also – less obviously – the exchequer impact of those), the weight placed on

levelling up and other distributional objectives versus the overall size of the pie, and the value of other possible consequences of the policy, such as public service provision and decarbonisation.

It might be easier to compare the Freeports programme with a specific similar alternative (such as spreading the government spending and tax reliefs evenly across the country) than with a generic estimate of the marginal cost of public funds, for example, because difficult-to-measure elements common to the two policies could cancel out, removing the need to estimate them accurately.

4.2 The proposed evaluation

To its credit, the government has commissioned a work programme of monitoring and evaluation of the Freeports policy.³⁷ The planned evaluation of the Freeports programme cannot fully overcome the fundamental difficulties in assessing the policy's local and national impacts and its value for money. However, it can and does propose to use methods that can partially address them, as well as aid more general learning about the design and operation of the programme and similar programmes.

There are four strands to the proposed evaluation, as set out in the monitoring and evaluation strategy:³⁸

- **ongoing monitoring of the programme**, through a range of quantitative and qualitative measures, to check whether implementation is going as planned and whether process and outcome milestones are being reached;
- **process evaluation**, which will build on the monitoring to assess whether the anticipated mechanisms leading to positive economic impacts are taking place, analyse which parts of the programme are working more or less well – and why – and identify factors associated with better or worse performance in implementing the programme;
- **impact evaluation**, which will attempt to quantify the impact of the programme on a range of economic outcomes, including investment, innovation, employment, productivity, wages and trade, and also provide qualitative evidence on whether the Freeports appear to be working through the channels envisaged;
- **value-for-money evaluation**, which will attempt to quantify the overall benefits and costs of the programme.

³⁷ To be transparent: as noted in the Preface, this monitoring and evaluation work is currently being carried out by a consortium led by Arup; we are providing some feedback and advice as members of that consortium.

³⁸ The following text draws on the monitoring and evaluation strategy published in May 2022 (DLUHC, 2022a), and the Executive Summary of the subsequent monitoring and evaluation framework published as Annex C of the Freeports Programme Annual Report (DLUHC, 2022b).

The aim of this multi-pronged approach is to assess not only the overall impact and value for money of Freeports, but the extent to which the various steps in the hypothesised chain between the policy inputs (such as customs and tax incentives and seed capital) and final targeted outcomes (such as regeneration and job creation, increased trade and increased innovation) are being delivered, and the factors associated with relatively stronger and weaker performance. The ultimate targeted outcomes of the policy (employment, regeneration, trade, etc.) are not expected to emerge for at least five years, so the overall impacts cannot be evaluated before then; in the meantime, the focus is on the initial and intermediate steps prior to final outcomes.

This approach recognises that successfully implementing and learning from the Freeports programme require much more than simply estimating its overall impact on targeted economic indicators. With a programme consisting of multiple policy elements (including tax and customs incentives, infrastructure investment and potential regulatory reforms), implemented by different organisations in different ways in different parts of the country, planned monitoring and process evaluations can help with spotting problems and making improvements in real time, sharing of best practice between Freeports, and learning about how the benefits of similar policies, including investment zones, can be maximised in future.

It is quite possible that one or two of the Freeports will be extremely successful and others wholly unsuccessful. In that case, an overall impact evaluation might show that the Freeports programme as a whole had a big impact, and we might conclude it was good value for money. But in such circumstances, the more interesting and important exercise is clearly to understand *why* some were successful and others were not: what factors made the difference? Close monitoring and in-depth qualitative study might be more useful in shedding light on that than rigorous statistical analysis.

The proposed overall impact evaluation will, where possible, use difference-in-differences methods to estimate the impact of the Freeports programme on the most important economic indicators in the immediate port areas (IPAs, defined as any neighbourhoods overlapping the Freeports' tax or customs sites) and wider port areas (WPAs, defined as any neighbourhoods within 30 minutes driving time of the Freeports). One option being considered is to use all areas not chosen as Freeports as potential control areas, and control for permanent differences in trends in investment, employment and other indicators between these and Freeport areas, as well as a range of factors that could change over time (such as receipt of support from other policies, such as the Towns Fund or investment zones). An alternative approach is the aforementioned synthetic controls approach, whereby Freeports will be matched to a weighted average of several

other areas where trends before the introduction of the policy most closely approximate those in Freeports.³⁹

As discussed above, such approaches cannot, on their own, distinguish between displaced and genuinely additional activity in the Freeports; indeed, if activity is displaced from the control areas, these approaches would even generate biased estimates of the impact on economic activity within the Freeports themselves. In addition, the approaches require that outcomes in the Freeports and chosen controls would have followed parallel trends in the absence of the Freeports programme – which can be examined for the period before the policy but only assumed for subsequent years. However, given the design of the Freeports programme, methods that can more confidently and robustly quantify impacts are not feasible, and the proposed approach is substantially better than a simple before-and-after comparison. It should be possible to gauge the robustness of the estimates, at least in some dimensions, by testing their sensitivity to varying the details of the estimation: for example, by looking at bigger and smaller geographical areas, varying which areas are used as controls, and carrying out ‘placebo tests’ of whether an apparent impact would be detected if the Freeports programme was treated as applying at other times and places.

The difference-in-differences analysis will be complemented by other types of quantitative and qualitative analysis and economic modelling as part of a broader impact evaluation strategy. In particular, the evaluation team proposes to use an approach termed ‘theory-based evaluation’ to make use of these different kinds of evidence in a systematic way to try to ascertain the impacts of the Freeports programme, and the mechanisms underlying impacts, and to assign confidence ratings to the findings and conclusions drawn. For example, interviews with Freeport businesses, other programme beneficiaries and wider stakeholders who are not directly benefiting from the programme could be used, alongside information on investment expenditure, jobs created, and the number of people trained, to learn about how the programme has affected these outcomes, etc., including how and why effects may differ across the Freeports. This type of analysis can generally be considered as ‘supportive’ rather than ‘decisive’, not least because the outcomes will not necessarily be measured relative to a convincing counterfactual, and beneficiaries and wider stakeholders may have an incentive to put a positive spin on the impact of the Freeports programme. But again, indicative evidence on which mechanisms and channels for impact appear to be working as envisaged (or not) might, in some cases, be more useful – and achievable – than conclusive evidence on the overall impacts of the policy.

³⁹ It might also be possible to make use of the ratings that successful and unsuccessful bids for Freeport status were given – which are publicly available at <https://www.gov.uk/government/publications/freeports-bidding-prospectus/english-freeports-selection-decision-making-note> – to help control for the differences between the areas when comparing them.

The role of the economic modelling is to try to account for potential displacement and spillover effects of the Freeports programme and to provide an alternative estimate of counterfactual outcomes in the absence of the programme. A reliable model that is able to account for these factors would significantly improve upon the difference-in-differences analysis, which cannot directly address displacement and spillover effects, and provide a robustness check in relation to the use of other areas to provide a counterfactual. However, the development of such a model will be challenging and, so far, crucial details of precisely how this would be done have not yet been worked out. For example, modelling displacement and spillovers means accounting for impacts on both the demand and supply sides of the capital, labour and input markets, for which information on responsiveness may be limited. To avoid results being driven by modelling assumptions, it will be vital to test the sensitivity of estimates to changes in assumptions.

As discussed in Section 4.1, a full assessment of Freeports' value for money implies daunting requirements for estimating the impacts of the programme on a wide range of outcomes (including beyond those targeted by the programme), and other things besides. The published monitoring and evaluation framework says little so far about how the value-for-money evaluation will be conducted. It says that the government's standard Green Book (HM Treasury and Government Finance Function, 2022) approach is less suited to tax incentives than to spending programmes, but in principle the same approach should be equally applicable to both (though, in some respects, it is not clear that the Green Book methodology is entirely in line with the latest thinking on best practice anyway). Work is ongoing to develop an approach to the value-for-money assessment of Freeports. However, because any such assessment is wholly reliant on estimates of the impacts of the policy, making the impact assessment as good as possible should perhaps be the starting point: the main role for value-for-money analysis at this early stage might be to pinpoint which impacts are most important to estimate.

4.3 Summary

An evaluation of the overall impacts of Freeports requires both data on outcomes and an estimate of the counterfactual (that is, what would have happened in the absence of the policy). The most likely source of a counterfactual is comparing what happens in Freeports with what happens in other, similar areas that have not become Freeports. Even assuming data can be obtained on outcomes of interest in the Freeports and elsewhere, however, there are a number of challenges with this approach, as follows.

- It might be hard to find areas that 'look like' Freeports in the sense that, in the absence of the policy, we would expect their outcomes to evolve in the same way (and whose outcomes we can therefore use as a guide to what would have happened in Freeport areas without the policy). This is because the Freeports were chosen because they had particular

characteristics, some of which will be hard to control for. Most obviously, there are few big ports in England that are not Freeports, so it will be hard to disentangle the effect of the Freeports programme from the effect of other developments that particularly affect major ports.

- Moreover, while places that are closest to Freeports (geographically and economically) are likely to provide the most convincing comparator for what happens in Freeports, they are also the most likely to be affected by displacement or other spillover effects of Freeports. It may be hard to tell whether changes in such areas reflect what would have happened in Freeports without the policy or what spillover effects the Freeports have had – but those two possibilities would have opposite implications for estimating the impact of the policy.
- Other government policies over the coming years – most obviously those also designed to promote regeneration or levelling up – might affect Freeports more or less than the areas with which they are being compared, making it hard to separate out the effects of Freeports from the effects of these other policies. But outcomes might also diverge for reasons unrelated to policy. Because there are only eight Freeports in England, and because we are interested in outcomes more than five years after the policy was announced, it will be harder to be confident that any divergence in outcomes between the Freeport areas and comparator areas is caused by the Freeports policy rather than by other developments that happen to affect those areas differently.
- Even if the overall impacts of the Freeports programme could be estimated well, it would still be challenging to assess its value for money. A thorough assessment would require not only estimates of specific impacts, such as how much tax revenue is generated (or lost) by additional (or displaced) activity as a result of the policy, but also assessments of how much value is placed on outcomes ranging from additional employment (and the resulting loss of time at home) to decarbonisation to levelling up. A growing body of academic research provides guidance as to how to go about this, but it is not straightforward.

These difficulties are not unique to Freeports. The impacts and value for money of many government policies are difficult to estimate convincingly, and place-based policies are particularly challenging.

The Freeports monitoring and evaluation team is making valiant attempts to devise ways to estimate the impacts and value for money of Freeports as convincingly as possible. For example, the plan to combine difference-in-differences analysis with economic modelling may help to address issues related to displacement and spillover effects, though the devil will be in the detail and there is a risk that findings are driven by modelling assumptions. The task is a difficult one, and some of the challenges may be insurmountable. Perhaps the best that can be hoped for is a plausible range of estimates, or estimates that would be accurate under certain (strong) assumptions while testing sensitivity to different (individually limited) approaches. But the proposed evaluation certainly will do better than a simple before-and-after comparison of how

outcomes in the Freeport areas develop, which is all too often how policy evaluation is conducted.

Given the difficulty of achieving scientifically rigorous and statistically robust estimates of the overall impacts of Freeports, there is much to be said for the proposal to draw on a wider range of more suggestive evidence on how the Freeports policy is being implemented and whether the mechanisms through which it is meant to operate appear to be working as envisaged. This would be valuable in any case as a way to shed light not only on the overall impact of the Freeports policy but on how and why it is (or isn't) working. It may yield important real-time learning for the Freeports and longer-term insights for the design and implementation of similar place-based policies in future.

5. Conclusions

The UK's new batch of Freeports is a rather more ambitious affair than the last set, which was wound up in 2012. The range of tax incentives and other support provided alongside the customs incentives makes them more akin to the SEZs more commonly found in transition and emerging economies than in western Europe and North America. The aims are simultaneously more ambitious: to 'establish national hubs for global trade and investment'; to 'create hotbeds of innovation'; and to 'promote regeneration and levelling up' in the areas in which they are located. After describing the Freeports policy package, and providing a high-level overview of progress to date, this report has focused on two key issues:

- the lessons that can be drawn from economic analysis and past policies in the UK and elsewhere about the potential impacts of the new Freeports;
- the scope for learning about the actual impacts of the Freeports from the planned monitoring and evaluation exercise planned over the next several years.

Our reading of the evidence is that the Freeports – with their tax, customs, and other benefits – will likely attract additional investment and jobs to Freeport areas, potentially boosting incomes and reducing poverty for local residents. Evidence from past evaluations of both the specific taxes being reduced in Freeports – corporation tax, SDLT, employer NICs and business rates – as well as past place-based policies in the UK and overseas, when taken together, supports this conclusion.

However, this evidence also suggests that part – and possibly a large part – of this economic activity will be displaced from elsewhere in the country. The risk of displacement is particularly high for sectors serving largely local markets, such as the retail and wholesale trades, and much of the service sector. The fact that the Freeports are largely targeting advanced manufacturing and other tradeable sectors may therefore help to reduce the extent of displacement. Also, as part of their bids and business cases, Freeports have had to identify target sectors, demonstrate how the incentives are necessary to enable investment, and put in place measures to help reduce the risk of pre-existing businesses simply relocating from elsewhere within the UK. However, both the government and Freeports themselves recognise that such efforts are unlikely to avoid all displacement and deadweight costs.

How big are the economic effects of the Freeports policy likely to be? At a national level, the impacts will almost certainly be very small – which should be unsurprising given that each 0.1% boost to GDP requires a £2.5 billion boost to annual economic output. For the Freeport areas

themselves, there is more uncertainty about their relative scale. In particular, the OBR and the DLUHC have taken different views on the overall amount of economic activity that will take place in the Freeports. Based on experience with the 2010s iteration of the UK's enterprise zones policy, the OBR expects relatively little activity to take place, with the cost of business rates reliefs amounting to about £3 million per year per Freeport after five years: this would be consistent with about the creation of new commercial property worth around £100 million per Freeport by that date. Differences in the time period covered by their estimates make direct comparisons difficult, but DLUHC estimates suggest a figure several times larger. It is currently too early to say with any certainty which estimate will be closer to reality, although evidence should start to accumulate over the next couple of years as investments are confirmed (or not).

The amount of activity taking place in the Freeports is potentially a poor guide to the impact of the policy though – because of the scope for displacement of activity from elsewhere and the fact that some of the activity could have taken place in the Freeport areas even in the absence of the policy. Therefore, the proposed *ex post* evaluation of the Freeports' impact will need to think carefully about how to estimate counterfactual outcomes for how economic indicators in the Freeport areas would have evolved in the absence of the policy. Initial proposals are significantly better than just comparing outcomes in the Freeports before and after the introduction of the policy, but will not fully overcome the challenge of disentangling the effect of Freeport status from the myriad other factors affecting local economic performance. Indeed, the very nature of the policy – applying to a small number of large ports quite different from the rest of the country – makes quantitative impact evaluation very challenging, and means it is unlikely we will ever have a definitive verdict of the policy's overall economic impact and value for money.

The evaluation strategy also emphasises the role of ongoing monitoring and process evaluation, using a range of quantitative metrics and qualitative feedback. The aim of these will be to check whether implementation is going as planned and milestones being reached, to assess whether the anticipated mechanisms leading to positive economic impacts are operating, to identify which parts of the programme are working best, and to assess which factors are associated with successful implementation. This sensibly recognises that successfully implementing and learning from the Freeports programme requires much more than just estimating its impact; information on the 'how', 'where', 'why' and 'why not' is also vital. Indeed, this may turn out to be the most valuable part of the evaluation exercise.

These more qualitative elements of the proposed evaluation strategy also reflect the fact that experiences may differ significantly across the different Freeports. It may be, for example, that one or two Freeports are incredibly successful, but the others much less so. Overall quantitative assessments of economic impacts and value-for-money across all Freeports in such circumstances may be a poor guide to what to expect from an expansion of the policy to

additional areas, given the role that the idiosyncratic features of each (existing or prospective) Freeport are likely to play in such divergent outcomes.

Thus, while it will be several years (at least) until it is possible to begin the main impact evaluation of the Freeports programme, the next few years are a vitally important time for monitoring progress and analysing how the programme is being delivered across the different ports.

References

- Adam, S., Delestre, I. and Nair, V. (2022), ‘Corporation tax and investment’, in C. Emmerson, P. Johnson and B. Zaranko (eds), *The IFS Green Budget 2022*, Chapter 6, <https://ifs.org.uk/publications/corporation-tax-and-investment>.
- Adam, S., Phillips, D. and Roantree, B. (2019), ‘35 years of reforms: a panel analysis of the incidence of, and employee and employer responses to, social security contributions in the UK’, *Journal of Public Economics*, 171, 29–50.
- Ambroziak, D. and Hartwell, C. (2018), ‘The impact of investments in special economic zones on regional development: the case of Poland’, *Regional Studies*, 50, 1322–31.
- Anderson, P. M. and Meyer, B. D. (1997), ‘The effects of firm specific taxes and government mandate with an application to the US unemployment insurance program’, *Journal of Public Economics*, 75, 119–45.
- Anderson, P. M. and Meyer, B. D. (2000), ‘The effects of the unemployment insurance payroll tax on wages, employment, claims and denials’, *Journal of Public Economics*, 78, 81–106.
- Arnold, J. M., Brys, B., Heady, C., Johansson, Å., Schweltnus, C. and Vartia, L. (2011), ‘Tax policy for economic recovery and growth’, *Economic Journal*, 121(550), F59–80, <https://academic.oup.com/ej/article-abstract/121/550/F59/5079707>.
- Auerbach, A. (1985), ‘The theory of excess burden and optimal taxation’, in A. Auerbach and M. Feldstein (eds), *Handbook of Public Economics*, Vol.1, Amsterdam: Elsevier.
- Auerbach, A., Devereux, M. and Simpson, H. (2010), ‘Taxing corporate income’, in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, Oxford: Oxford University Press.
- Bähr, C. (2008), ‘How does sub-national autonomy affect the effectiveness of structural funds?’, *Kyklos*, 61, 3–18.
- Barnard, C., Menon, A., Portes, J. and Whelan, H. (2021), ‘Freeports’, UK in a Changing Europe report, <https://ukandeu.ac.uk/wp-content/uploads/2021/03/Freeports.pdf>.
- Barnes, S., Price, S. and Sebastián Barriol, M. (2008), ‘The elasticity of substitution: evidence from a UK firm-level data set’, Bank of England, Working Paper 348, <https://www.bankofengland.co.uk/-/media/boe/files/working-paper/2008/the-elasticity-of-substitution-evidence-from-a-uk-firm-level-data-set.pdf>.

- Becker, S. O., Egger, P. H. and von Ehrlich, M. (2012), 'Too much of a good thing? On the growth effects of the EU's regional policy', *European Economic Review*, 56, 648–68.
- Becker, S. O., Egger, P. H. and von Ehrlich, M. (2013), 'Absorptive capacity and the growth and investment effects of regional transfers: a regression discontinuity design with heterogeneous treatment effects', *American Economic Journal: Economic Policy*, 5 (4): 29–77.
- Becker, S. O., Egger, P. H. and von Ehrlich, M. (2018), 'Effects of EU regional policy: 1989–2013', *Regional Science and Urban Economics*, 68, 143–52.
- Bell, B., Jones, J. and Thomas, J. (2002), 'Estimating the impact of changes in employers' National Insurance Contributions on wages, prices and employment', *Bank of England Quarterly Bulletin* 2002 Q4, <https://www.bankofengland.co.uk/quarterly-bulletin/2002/q4/estimating-the-impact-of-changes-in-employers-national-insurance-contributions>.
- Benmarker, H., Mellander, E. and Ockert, B. (2009), 'Do regional payroll tax reductions boost employment?', *Labour Economics*, 16, 180–89.
- Besley, T., Meads, N. and Surico, P. (2014), 'The incidence of transaction taxes: evidence from a stamp duty holiday', *Journal of Public Economics*, 119, 61–70.
- Best, M. C. and Kleven, H. J. (2018), 'Housing market responses to transaction taxes: evidence from notches and stimulus in the UK', *Review of Economic Studies*, 85, 157–93.
- Boardman, A. E., Greenberg, D. H., Vining, A. R. and Weimer, D. L. (2018), *Cost–Benefit Analysis: Concepts and Practice*, 5th edition, Cambridge: Cambridge University Press, http://students.aiu.edu/submissions/profiles/resources/onlineBook/E5V5H3_Cost-benefit%20analysis%20_%202018.pdf.
- Bond, S., Denny, K. and Devereux, M. (1993), 'Capital allowances and the impact of corporation tax on investment in the UK', *Fiscal Studies*, 14, 1–14, <https://onlinelibrary.wiley.com/doi/10.1111/j.1475-5890.1993.tb00476.x>.
- Bond, S., Denny, K., Hall, J. and McCluskey, W. (1996), 'Who pays business rates?', *Fiscal Studies*, 17, 19–35, <http://www.ifs.org.uk/publications/1562>.
- Bond, S. and Xing, J. (2015), 'Corporate taxation and capital accumulation: evidence from sectoral panel data for 14 OECD countries', *Journal of Public Economics*, 130, 15–31, <https://www.sciencedirect.com/science/article/abs/pii/S004727271500136X>.
- Bondonio, D. and Greenbaum, R. T. (2006), 'Do business incentives promote employment in declining areas? Evidence from EU Objective-2 Regions', *European Union and Regional Studies*, 13, 225–44.

- Borbely, D. (2021), 'Limiting the distortionary effect of transaction taxes: Scottish stamp duty after the Mirrlees Review', *Fiscal Studies*, 42, 265–90, <https://onlinelibrary.wiley.com/doi/full/10.1111/1475-5890.12270>.
- Briant, A., Lafourcade, M. and Schmutz, B. (2013), 'Can tax breaks beat geography? Lessons from the French enterprise zone experience', *American Economic Journal: Economic Policy*, 7 (2), 88–124.
- Brockmeyer, A. (2014), 'The investment effect of taxation: evidence from a corporate tax kink', *Fiscal Studies*, 35, 477–509, <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1475-5890.2014.12039.x>.
- Browne, J., Johnson, P. and Phillips, D. (2016), 'The budget of the European Union: a guide', IFS Briefing Note BN181, <https://ifs.org.uk/publications/budget-european-union-guide>.
- Bunel, M. and L'Horty, Y. (2012), 'The effects of reduced social security contributions on employment: an evaluation of the 2003 French reforms', *Fiscal Studies*, 33, 371–98.
- Cambridge Econometrics (2008), 'The relationship between national non-domestic rates and rents on commercial property: empirical evidence from enterprise zones', HM Treasury/HM Revenue and Customs, <https://webarchive.nationalarchives.gov.uk/20080727055859/>.
- Cambridge Economic Consultants (1995), 'Final evaluation of enterprise zones', London: HMSO.
- Charnoz, P. (2018), 'Do enterprise zones help residents? Evidence from France', *Annals of Economics and Statistics*, 130, 199–225.
- Cizkowicz, P., Cizkowicz-Pekala, M., Pekala, P. and Rzonca, A. (2016), 'The effects of special economic zones on employment and investment: a spatial panel modelling perspective', *Journal of Economic Geography*, 17, 571–605.
- Criscuolo, C., Martin, R., Overman, H. G. and van Reenen, J. (2019), 'Some causal effects of an industrial policy', *American Economic Review*, 109 (1), 48–85.
- Davenport, A., North, S. and Phillips, D. (2020), 'Sharing prosperity? Options and issues for the UK Shared Prosperity Fund', IFS Report, <https://ifs.org.uk/publications/sharing-prosperity-options-and-issues-uk-shared-prosperity-fund>.
- de Mooij, R. and Ederveen, S. (2008), 'Corporate tax elasticities: a reader's guide to empirical findings', *Oxford Review of Economic Policy*, 24, 680–97, <https://academic.oup.com/oxrep/article-abstract/24/4/680/547862>.
- Department of the Environment (1986), *Enterprise Zone Information 1984–85*, London: HMSO.

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- Devereux, M. and Griffith, R. (1998), 'Taxes and the location of production: evidence from a panel of US multinationals', *Journal of Public Economics*, 68, 335–67, <https://www.sciencedirect.com/science/article/abs/pii/S0047272798000140>.
- Devereux, M. and Griffith, R. (2003), 'Evaluating tax policy for location decisions', *International Tax and Public Finance*, 10, 107–26, <https://link.springer.com/article/10.1023/A:1023364421914>.
- Devereux, M. and Maffini, G. (2007), 'The impact of taxation on the location of capital, firms and profit: a survey of empirical evidence', Oxford University Centre for Business Taxation, Working Paper 07/02, <https://core.ac.uk/download/pdf/288286396.pdf>.
- DLUHC (2022a), 'Freeports Programme monitoring and evaluation strategy', <https://www.gov.uk/government/publications/freeports-monitoring-and-evaluation-strategy>.
- DLUHC (2022b), 'UK Freeports Programme Annual Report 2022', <https://www.gov.uk/government/publications/uk-freeports-programme-annual-report-2022/uk-freeports-programme-annual-report-2022>.
- DLUHC and Scottish Government (2022), 'Green Freeports in Scotland: bidding prospectus', <https://www.gov.uk/government/publications/green-freeports-in-scotland-bidding-prospectus>.
- DLUHC and Welsh Government (2022), 'Freeport Programme in Wales: bidding prospectus', <https://www.gov.uk/government/publications/freeport-programme-in-wales-bidding-prospectus/freeport-programme-in-wales-bidding-prospectus>.
- Duranton, G., Gobillon, L. and Overman, H. G. (2011), 'Assessing the effects of local taxation using microgeographic data', *Economic Journal*, 121 (555), 1017–46, <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1468-0297.2011.02439.x>.
- Edgerton, J. (2010), 'Investment incentives and corporate tax asymmetries', *Journal of Public Economics*, 94, 936–52.
- Egebark, J. and Kaunitz, N. (2018), 'Payroll taxes and youth labor demand', *Labour Economics*, 55, 163–77.
- Einio, E. and Overman, H. G. (2020), 'The effects of supporting local business: evidence from the UK', *Regional Science and Urban Economics*, 83, 103500.
- Ellis, C. and Price, S. (2014), 'UK business investment and the user cost of capital', *Manchester School*, 72 (S1), 72–93, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=573033.
- European Commission (2019), 'Report from the Commission to the European Parliament and the Council on the assessment of the risk of money laundering and terrorist financing affecting the internal market and

relating to cross-border activities’, COM/2019/370 final, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52019DC0370>.

Finkelstein, A. and Hendren, N. (2020), ‘Welfare analysis meets causal inference’, *Journal of Economic Perspectives*, 33(4), 146–67, <https://www.aeaweb.org/articles?id=10.1257/jep.34.4.146>.

Frick, S. A., Rodríguez-Pose, A. and Wong, M. D. (2019), ‘Toward economically dynamic special economic zones in emerging countries’, *Economic Geography*, 95, 30–64.

Gechert, S. and Heimberger, P. (2022), ‘Do corporate tax cuts boost economic growth?’, *European Economic Review*, 147, 104157, <https://www.sciencedirect.com/science/article/pii/S0014292122000885>.

Givord, P., Rathelot, R. and Sillard, P. (2013), ‘Place-based tax exemptions and displacement effects: an evaluation of the “Zones Franches Urbaines” program’, *Regional Science and Urban Economics*, 43, 151–63.

Gruber, J. (1997), ‘The incidence of payroll taxation: evidence from Chile’, *Journal of Labor Economics*, 15 (S3), S72–S101.

Guceri, I. and Albinowski, M. (2021), ‘Investment responses to tax policy under uncertainty’, *Journal of Financial Economics*, 141, 1147–70, <https://www.sciencedirect.com/science/article/abs/pii/S0304405X21001628>.

Hall, R. E. and Jorgenson, D. W. (1967), ‘Tax policy and investment behaviour’, *American Economic Review*, 57 (3), 391–414, <https://www.jstor.org/stable/1812110>.

Harris, T., Hodge, L. and Phillips, D. (2019), ‘English local government funding: trends and challenges in 2019 and beyond’, IFS Report R166, <https://ifs.org.uk/publications/english-local-government-funding-trends-and-challenges-2019-and-beyond-0>.

Hassett, K. and Hubbard, R. (2002), ‘Tax policy and business investment’, in A. Auerbach and M. Feldstein (eds), *Handbook of Public Economics*, Volume 3, Amsterdam: Elsevier.

Hendren, N. and Sprung-Keyser, B. (2020), ‘A unified welfare analysis of government policies’, *Quarterly Journal of Economics*, 135, 1209–318, <https://academic.oup.com/qje/article/135/3/1209/5781614>.

Hendren, N. and Sprung-Keyser, B. (2022), ‘The case for using the MVPF in empirical welfare analysis’, NBER Working Paper 30029, <https://www.nber.org/papers/w30029>.

HM Revenue and Customs (2022), ‘HMRC Freeports Induction Pack’, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/111757/9/Freeports_induction_pack_accessible.pdf.

- HM Treasury and Government Finance Function (2022), 'The Green Book: appraisal and evaluation in central government', <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government>.
- HM Treasury and Ministry of Housing, Communities & Local Government (2020), 'Freeports bidding prospectus', <https://www.gov.uk/government/publications/freeports-bidding-prospectus>.
- House, C. and Shapiro, M. (2008), 'Temporary investment tax incentives: theory with evidence from bonus depreciation', *American Economic Review*, 98 (3), 737–68, <https://www.aeaweb.org/articles?id=10.1257/aer.98.3.737>.
- Institute for Advanced Studies et al. (2015), 'Study on the effects and incidence of labor taxation', Taxation Working Paper No. 56, European Commission, https://ec.europa.eu/taxation_customs/system/files/2016-09/taxation_paper_56.pdf.
- Jensen, C. and Winiarczyk, M. (2014), 'Special economic zones – 20 years later', CASE Network Studies and Analyses No. 467/2014, <https://www.econstor.eu/bitstream/10419/128279/1/778427536.pdf>.
- King, M. and Fullerton, D. (1984), 'The theoretical framework', in M. King and D. Fullerton (eds), *The Taxation of Income from Capital: A Comparative Study of the United States, the United Kingdom, Sweden, and Germany*, Chicago, IL: University of Chicago Press, 7–30, <https://www.nber.org/system/files/chapters/c11495/c11495.pdf>.
- Kline, P. and Moretti, E. (2014), 'People, places and public policy: some simple welfare economics of local economic development programs', *Annual Review of Economics*, 6, 629–62, <https://www.annualreviews.org/doi/pdf/10.1146/annurev-economics-080213-041024>.
- Korkeamäki, O. (2011), 'The Finnish payroll tax cut experiment revisited', Government Institute for Economic Research, Working Paper 22.
- Korkeamäki, O. and Uusitalo, R. (2009), 'Employment and wage effects of a payroll-tax cut – evidence from a regional experiment', *International Tax and Public Finance*, 16, 753.
- Lehmann, E., Marical, F. and Rioux, L. (2013), 'Labor income responds differently to income-tax and payroll-tax reforms', *Journal of Public Economics*, 99, 66–84.
- Lockwood, B., Simmler, M. and Tam, E. F. H. (2022), 'Tax and occupancy of business properties: theory and evidence from UK business rates', CAGE Working Paper No. 648, https://warwick.ac.uk/fac/soc/economics/research/centres/cage/publications/workingpapers/2022/tax_and_occupancy_of_business_properties_theory_and_evidence_from_uk_business_rates/.
- Mace (2018), 'Supercharged Free Ports: the ultimate boost for Britain's economy', <https://www.macegroup.com/perspectives/180617-the-ultimate-boost-for-britains-economy>.

- Maffini, G., Xing, J. and Devereux, M. (2019), 'The impact of investment incentives: evidence from UK corporation tax returns', *American Economic Journal: Economic Policy*, 11 (3), 361–89, <https://www.aeaweb.org/articles?id=10.1257/pol.20170254>.
- Malakellis, M. and Warlters, M. (2021), 'The economic costs of transfer duty: a literature review', Treasury Technical Research Paper Series TTRP 21–08, New South Wales Treasury, https://www.treasury.nsw.gov.au/sites/default/files/2021-06/the_economic_costs_of_transfer_duty_a_literature_review.pdf.
- Mayer, T., Mayneris, F. and Py, L. (2017), 'The impact of Urban Enterprise Zones on establishment location decisions and labor market outcomes: evidence from France', *Journal of Economic Geography*, 17, 709–52.
- Meghir, C. and Phillips, D. (2010), 'Labour supply and taxes', in J. Mirrlees et al. (eds), *Dimensions of Tax Design: The Mirrlees Review*, Chapter 3, Oxford: Oxford University Press, <https://ifs.org.uk/books/labour-supply-and-taxes-0>.
- Melguizo, Á. and González-Páramo, J. M. (2013), 'Who bears labor taxes and social contributions? A meta-analysis approach', *SERIEs*, 4 (3), 247–71.
- Moretti, E. (2022), 'Place-based policies and geographical inequalities', IFS Deaton Review of Inequalities, <https://ifs.org.uk/inequality/place-based-policies-and-geographical-inequalities>.
- Naess-Schmidt, S., Dahlberg, E., May Hansen, M. and Ehmann, H. (2020), 'European Special Economic Zones', ESPON Policy Brief, <https://www.espon.eu/sites/default/files/attachments/Policy%20Brief%20SEZ%20corr%2003-12.pdf>.
- Neumark, D. and Simpson, H. (2015), 'Place-based policies', in G. Duranton, J. V. Henderson and W. C. Strange (eds), *Handbook of Regional and Urban Economics*, Vol. 5, Amsterdam: North-Holland, 1197–287, <https://www.sciencedirect.com/science/article/abs/pii/B9780444595317000181>.
- Office for Budget Responsibility (2014), 'Policy costings and our forecasts', Briefing paper no.6, <https://obr.uk/download/briefing-paper-no-6-policy-costings-and-our-forecast/?tmstv=1676746828>.
- Office for Budget Responsibility (2021), 'Economic and Fiscal Outlook – October 2021', <https://obr.uk/efo/economic-and-fiscal-outlook-october-2021/>.
- Ohrn, E. (2018), 'The effect of corporate taxation on investment and financial policy: evidence from the DPAD', *American Economic Journal: Economic Policy*, 10 (2), 272–301, <https://www.aeaweb.org/articles?id=10.1257/pol.20150378>.
- Ohrn, E. (2019), 'The effect of tax incentives on U.S. manufacturing: evidence from state accelerated depreciation policies', *Journal of Public Economics*, 180, 104084, <https://www.sciencedirect.com/science/article/abs/pii/S0047272719301458>.

87 Freeports: what are they, what do we know, and what will we know?

- Roger Tym and Partners (1984), 'Monitoring enterprise zones: year 3 report'.
- Saez, E., Matsaganis, M. and Tsakoglou, P. (2012), 'Earnings determination and taxes: evidence from a cohort-based payroll tax reform in Greece', *Quarterly Journal of Economics*, 127, 493–533.
- Saez, E., Schoefer, B. and Seim, D. (2019), 'Payroll taxes, firm behavior, and rent sharing: evidence from a young workers' tax cut in Sweden', *American Economic Review*, 109 (5), 1717–63.
- Serwicka, I. and Holmes, P. (2019), 'What is the extra mileage in the reintroduction of "Free Zones" in the UK?', UK Trade Policy Observatory Briefing Paper 28, <https://blogs.sussex.ac.uk/uktpo/files/2019/02/BP28print.pdf>.
- Skedinger, P. (2014), 'Effects of payroll tax cuts for young workers', *Nordic Economic Policy Review*, 1, 125–267.
- Sørensen, P. B. (ed.) (2004), *Measuring the Tax Burden on Capital and Labor*, Cambridge, MA: MIT Press.
- Stennett, A. and Pidgeon, C. (2021), 'UK Freeport policy and the Protocol on Ireland/Northern Ireland', Northern Ireland Assembly Research and Information Service Briefing Paper 06/21, <http://www.niassembly.gov.uk/globalassets/documents/raise/publications/2017-2022/2021/finance/0621.pdf>.
- Sunak, R. (2016), 'The Free Ports Opportunity: how Brexit could boost trade, manufacturing and the North', Centre for Policy Studies report, <https://cps.org.uk/wp-content/uploads/2021/07/161114094336-TheFreePortsOpportunity.pdf>.
- Swinney, P. (2019), 'In the zone? Have enterprise zones delivered the jobs they promised?', Centre for Cities Briefing Note, <https://www.centreforcities.org/publication/in-the-zone-have-enterprise-zones-delivered-the-jobs-they-promised/>.
- United Nations Conference on Trade and Development (2019), 'Chapter 4: Special Economic Zones', in *World Investment Report 2019*, Geneva: UNCTAD, 127–206.
- US Government Accountability Office (2017), 'CBP should strengthen its ability to assess and respond to compliance risks across the program', Report to the Ranking Member, Committee on Finance, US Senate, <https://www.gao.gov/assets/gao-17-649.pdf>.
- Wallis, G. (2016), 'Tax incentives and investment in the UK', *Oxford Economic Papers*, 68, 465–83, <https://academic.oup.com/oep/article-abstract/68/2/465/2364601>.
- Webb, D. and Jozepa, I. (2023), 'Government policy on freeports', House of Commons Library Research Briefing, <https://commonslibrary.parliament.uk/research-briefings/cbp-8823/>.

88 Freeports: what are they, what do we know, and what will we know?

What Works Centre for Local Economic Growth (2016a), ‘Area based initiatives: enterprise zones’, Evidence Review 10, <https://whatworksgrowth.org/wp-content/uploads/16-01-04-Area-based-initiatives-EZ.pdf>.

What Works Centre for Local Economic Growth (2016b), ‘Area based initiatives: EU programmes’, Evidence Review 10, <https://whatworksgrowth.org/wp-content/uploads/16-01-04-Area-based-initiatives-EU-Programmes.pdf>.

Williams, B. R. (2013), ‘U.S. foreign-trade zones: background and issues for Congress’, Congressional Research Service Report, <https://crsreports.congress.gov/product/pdf/R/R42686/24>.

Zeng, D. Z. (2019), ‘Special economic zones: lessons from the global experience’, PEDL Synthesis Paper Series, No. 1.

Zwick, E. and Mahon, J. (2017), ‘Tax policy and heterogeneous investment behavior’, *American Economic Review*, 107 (1), 217–48, <https://www.aeaweb.org/articles?id=10.1257/aer.20140855>.