advantage

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Taxing non-doms fairly would raise billions

Do freer imports lead to fewer exports?

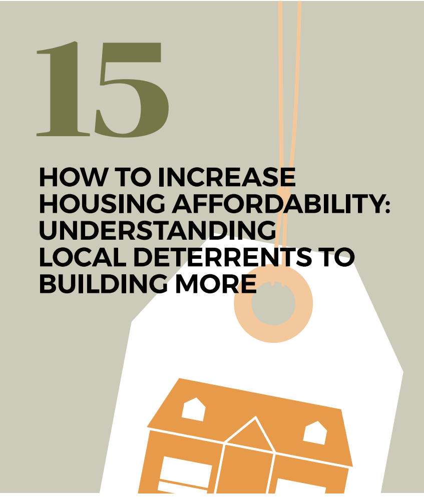
Internal migration and political polarisation

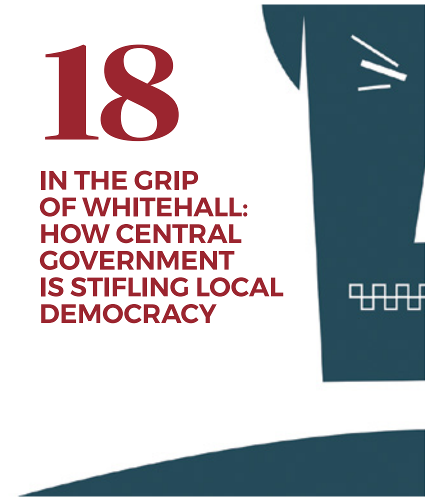
How to increase housing affordability

In the grip of Whitehall

Is lack of credit a barrier to green investment?

In this issue ...





Welcome ...

Boris Johnson's term as PM has ended, but Johnsonian 'levelling up' is continuing to shape the research agenda. Localism is certainly the watchword in this edition of Advantage. From the local effects of international trade, to politically-responsive migration between local areas, to local barriers to spending and house building (a theme Liz Truss has recently picked up), we have it covered.

One group whose interests stretch beyond the local are the UK's non-doms, who do not pay UK tax on their foreign investments. Removal of this perk could raise much-needed cash for the place they currently call home. And crucially, Arun Advani argues, it wouldn't discourage non-doms from living in the UK.

Trade agreements are high on the UK's agenda right now. Holger Breinlich et al. look how relaxing import restrictions affects exports. Using data from US–China trade relations, they find that while the overall prognosis is good, there are winners and losers at the industry level.

We're no more than two (and a bit) years away from a general election, but parties may find it increasingly difficult to sway set local opinions. Evidence from Vincenzo Bove et al. on internal migration suggests we could be gradually self-sorting into regional political bubbles.

The housing affordability crisis is having an impact on regions across the UK. Amrita Kulka's assessment of how adjusting housing regulations affects the number and price of homes in different areas shows that one policy solution will not fit all.

If policy affects local regions differently, perhaps local authorities need more autonomy; Yet Ben Lockwood et al. find that local governments are so financially constrained, party politics has no real effect on local fiscal choices.

In our final article, Antonio Accetturo et al. ask whether lack of credit supply is a barrier to firms investing in green technologies. Here too, local factors are at play. Local opinion and local financial incentives influence firms' decisions on green investments.

Locality shapes the effectiveness of policy. Despite the many transgressions of our outgoing Prime Minister, his insight that geographic inequalities in the UK are a real constraint on people's life chances is fundamentally sound.

Stephanie Seavers, Editor

Advantage Autumn 22

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£126k Average saved by UK non-doms every year through the use of remittance basis

£10.9bn Total amount held by non-doms in offshore income and capital gains in 2018

£420k Average offshore income and capital gains non-doms earned in 2018

£3.2bn Amount of tax that could be raised by abolition of the non-dom regime in the UK

Taxing non-doms fairly would raise billions

By Arun Advani, David Burgherr and Andy Summers

> "Opponents decry the regime as fundamentally unfair in principle: that despite living and working together, some pay a different tax rate to others."

A colonial-era tax perk allows some UK residents to go untaxed on overseas investments, just by declaring that their permanent home is abroad. These 'non-doms' save an average of £126,000 each, every year, through use of the remittance basis. Scrapping this regime would raise some much-needed cash, without leading to substantial emigration.

In 1799, William Pitt the Younger introduced Britain's first Income Tax, to raise revenue for the war against Napoleon.

Back then, Britain was in its colonial heyday, and many people made or maintained their fortunes through foreign investments. Income from these investments was not taxable until the money was 'remitted' i.e. brought onshore.

This was a predominantly practical measure, as income from foreign investments was earned almost entirely from trade in agricultural goods, and these products had to be brought onshore before further trading. For most people then, taxing on this 'remittance basis' was merely a deferral of tax. ▶

As so often with taxes, this reasonable-sounding arrangement came to be abused. Those making foreign investments learned to keep them offshore to avoid tax altogether.

Conscious of the money lost to the exchequer, in 1914 Chancellor David Lloyd George planned to tax 'income that escapes taxation now owing to arrangements purposely made by men who are rich enough to leave their incomes abroad'.

But at a time when 'citizens of empire' were increasingly passing through the UK, but not staying permanently, the remittance basis was kept for people whose permanent home was elsewhere: the 'non-doms'.

And so, more than century later, the remittance basis lives on anachronistically in a corner of the UK tax system, for those who are foreign-born or have a foreign father (or mother where parents were unmarried). Once a decade we witness some scandal, and small reforms, but the essential structure has remained.

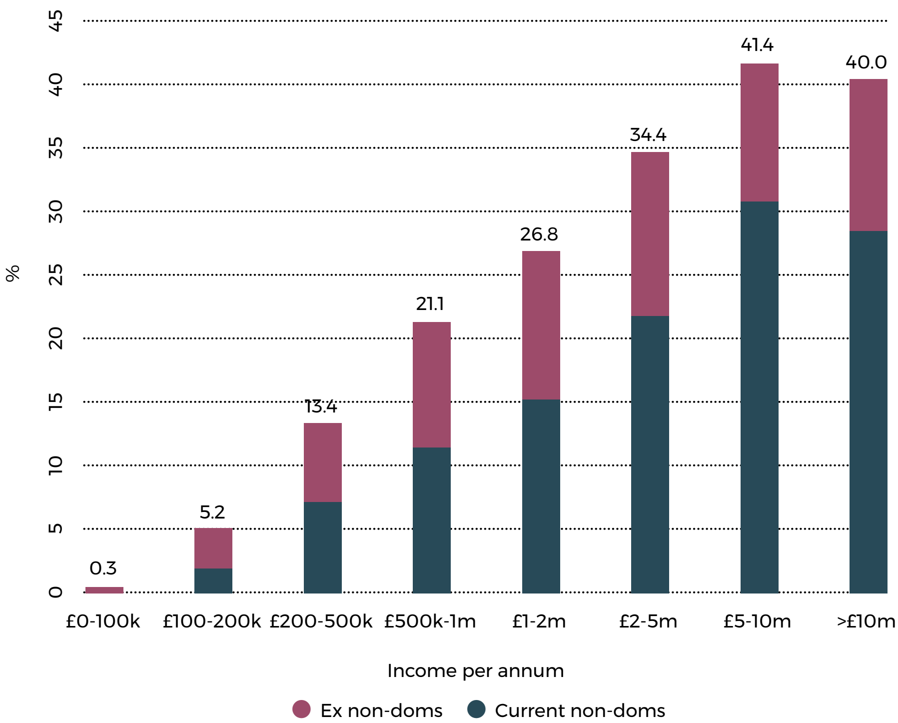
Proponents often justify the existence of the remittance basis as a way to encourage people to come to and invest in the UK, although its design does rather the opposite: requiring people to keep their investments, and their long-term home, abroad if they wish to benefit.

Opponents decry the regime as fundamentally unfair in principle: that despite living and working together, some pay a different tax rate to others.

The principal barrier to reform has been a lack of information. Little was known about who benefits from the remittance basis. And nothing at all was known about the revenue that could be raised if it were abolished, since offshore income benefitting from the remittance basis is not even reported to the tax authority.

Using access to confidential, anonymised data from HMRC, we show that the non-dom regime has benefitted far more people than previously thought. Almost half a million people used this status for tax purposes between 1997 and 2018, around 1% of UK adults and equivalent to the population of Manchester.

Figure 1: Share of non-doms at different levels of income, 2018



Notes: Current non-doms are defined as individuals who claimed resident non-domiciled status in 2018. Ex non-doms are defined as individuals who are tax resident in 2018 and who claimed resident non-domiciled tax status in at least one year during the period 1997–2017, but not in 2018. Income bands defined with reference to total reported income.
Source: Authors' calculations based on HMRC administrative datasets.

This status has been particularly used by the rich (Figure 1). Only 3 in 1000 people with onshore incomes below £100,000 have ever used the status. But among those with onshore incomes above £5 million, more than two in five have used it.

It is also concentrated in particular industries, with more than one in five top-earning bankers making use of non-dom status.

Given the concentration of non-dom status among those with high onshore incomes, it is likely that the offshore income for this group is substantial, and therefore significant tax is being foregone through the remittance basis rule.

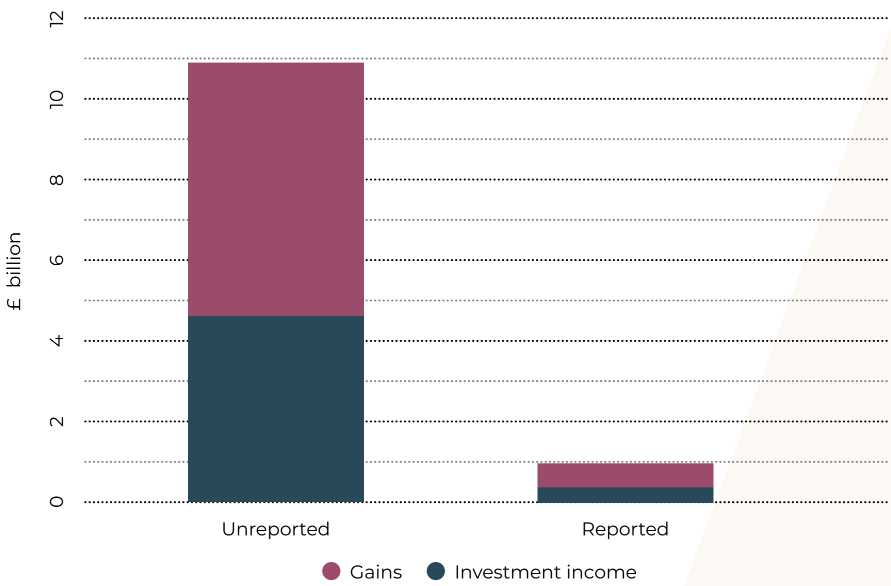
By statistically comparing non-doms to people who are domiciled in the UK (most ordinary taxpayers) and who look most like them in terms of key observable characteristics, we can estimate this unreported offshore income.

Collectively, non-doms had at least £10.9 billion in offshore income and capital gains in 2018, or £420,000 each on average.

These offshore returns were as much as the combined income of the poorest fifth of UK adults in the same year. It is also much larger than their onshore investment (Figure 2), highlighting the perverse effect of the current regime in driving investment offshore.

One concern might be that taxing income on foreign investments would lead the non-doms to leave, since they necessarily have some foreign connection. This would

Figure 2: Aggregate investment income and gains, both offshore and in the UK, 2018



Notes: Offshore income and gains are estimated based on the information of UK doms with similar characteristics. UK income and gains are directly observed in the administrative tax data. Source: Authors' calculations based on HMRC administrative datasets.

"Abolition of the remittance basis would make the regime fairer."

deprive the exchequer of not only the planned new revenue, but also the existing tax non-doms pay.

However, evidence from past reforms to the remittance basis shows us that very few non-doms left the country, and those who did leave were paying hardly any tax.

The net effect of abolition of the regime would therefore be to raise at least a further £3.2 billion in tax for the UK.

Abolition of the remittance basis would also make the regime fairer. More than 200 years since it was introduced, the remittance basis now provides arbitrary and unjustified tax breaks to a small group of wealthy individuals, merely based on an accident of birth or parentage. This has no place in a modern tax system, and should be scrapped.

Note: This work contains statistical data from HM Revenue and Customs (HMRC) which are Crown Copyright. The research data sets used may not exactly reproduce HMRC aggregates. The use of HMRC statistical data in this work does not imply the endorsement of HMRC in relation to the interpretation or analysis of the information.

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"...evidence from past reforms to the remittance basis shows us that very few non-doms left the country, and those who did leave were paying hardly any tax."

3.2bn

AMOUNT OF TAX REVENUE IN UK STERLING WHICH WOULD BE RAISED BY THE ABOLITION OF THE NON-DOM REGIME

Related publications

Advani, A., Burgherr, D., Savage, M., and Summers A. (2022a). The UK's global economic elite: A sociological analysis using tax data. CAGE working paper (no. 570).

Advani, A., Burgherr, D., and Summers A. (2022b). Reforming non-dom status: revenue estimates. CAGE Policy Briefing (no.38).

Advani, A., Burgherr, D. and Summers, A. (2022c). Taxation and migration by the super-rich. CAGE working paper (no. 630).

Tipping the balance: Do freer imports lead to fewer exports?

By Holger Breinlich, Elsa Leromain, Dennis Novy and Thomas Sampson

Reducing restrictions on imports (import liberalisation) can bring down input costs and increase competition. But increased competition can shrink the scale of domestic production and in some cases reduce productivity, leading to fewer exports. Does import liberalisation therefore lead to export destruction? We look at evidence from US trade relations with China.

In 2001, the permanent normalisation of US trade relations with China (PNTR) granted China 'most favoured nation' status on a permanent basis. It removed the threat of higher tariffs on Chinese imports, which had been a significant factor in discouraging Chinese exporters from entering the US market (Handley and Limão, 2013 and 2017). What was the effect of this import liberalisation on US exports?

Today, economists tend to agree that import liberalisation brings great advantages, reducing input costs (the costs incurred to produce goods or services) and exposing domestic firms to the rigours of international competition. ▶

Economic theory, however, points to potential negative impacts. The work of Nobel economist Paul Krugman (1984), for example, suggests that at the industry level import competition can reduce domestic output and increase production costs, making domestic firms less competitive not only at home but also abroad. This is because production is subject to economies of scale, meaning that average production costs rise as output decreases.

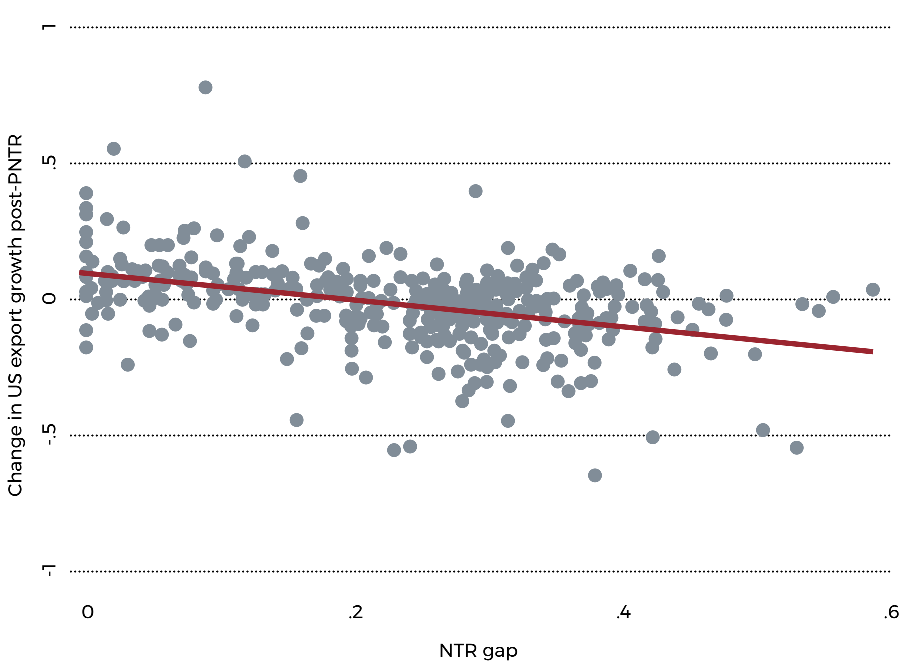
What happened to US exports after imports from China were liberalised? To find out, we study US export growth across goods industries with different exposure to PNTR (Breinlich et al., 2022). We measure exposure using the so-called 'NTR gap' — the tariff increase Chinese imports would have faced if the US had revoked China's 'most favoured nation' status. We interpret the removal of this threat (PNTR) as an effective trade liberalisation for Chinese imports.

US export growth declined in some industries

We find that US export growth declined in industries with higher NTR gaps (i.e., industries more exposed to Chinese import liberalisation) (Figure 1). This finding holds even when we use a more sophisticated regression analysis that controls for other factors potentially influencing US exports to third markets, such as demand growth in destination countries and global technology shocks.

The results suggest that US production features industry-level economies of scale. The data support Krugman's hypothesis that increased competition driven by import liberalisation can shrink domestic output, making it more expensive for industries to produce their goods. This in turn reduces how much they can export.

Figure 1: After PNTR, US export growth weakened in industries with higher exposure to import liberalisation



Notes: Change in US export growth post-PNTR is defined as the annualised change in log total exports between 2000 and 2007 minus the annualised change between 1995 and 2000. Each dot represents one industry. The solid line shows the fitted relationship from a linear regression.

However, at the same time we find that PNTR had a positive impact on US exports by reducing the costs of imported inputs used by US exporters (e.g., raw materials or semi-finished goods). This positive impact served to offset the negative impact caused by greater Chinese import competition but to a varying degree across industries. Overall, our estimates show that the net effect ranges between -24% (cigarette manufacturing) and +38% (ice manufacturing).

Reduced input costs and increased foreign demand boosted exports

We also need to account for general equilibrium effects, for example the fact that PNTR provided a boost to the Chinese economy and generated more demand for US exports. We use a state-of-the-art quantitative trade model with scale economies. We find that the overall effect of PNTR on US exports was positive. Increased foreign demand for goods, when combined with the reduction in imported input costs, was enough to offset the negative effects of import competition.

"The real market potential effect is negative in almost all sectors, consistent with Krugman's theory that increased competition has a negative impact on industry exports."

+3.6% INCREASE IN TOTAL US EXPORTS (RELATIVE TO GDP) DUE TO THE PNTR-INDUCED LIBERALISATION

In fact, we find that total US exports (relative to GDP) increased by 3.6% and exports rose in 13 out of 15 goods sectors due to the PNTR-induced liberalisation.

Figure 2 breaks down the impact of PNTR on exports in different sectors, measuring the real market potential effect (which captures the increase in import competition and reduction in scale), the input cost effect and the foreign demand effect.

The real market potential effect is negative in almost all sectors, consistent with Krugman's theory that increased competition has a negative impact on industry exports.

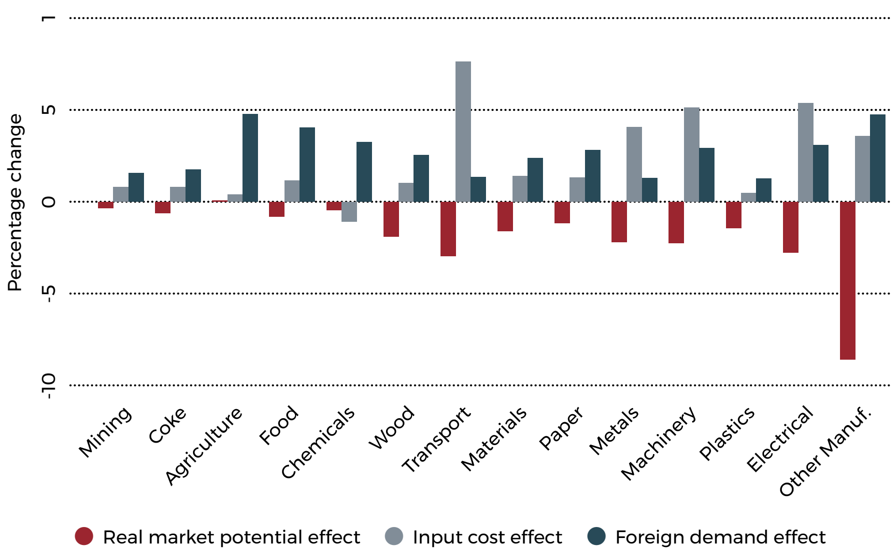
In most sectors, however, the positive effect of reduced input costs outweighs this negative effect – either on its own or when taken together with the positive effect of increased foreign demand.

US exports rose overall

Paul Krugman's idea that import protection might act as export promotion and, conversely, that import liberalisation might reduce exports, holds true in our data. But this is only part of the story. While Krugman was right that because of scale economies import liberalisation reduces exports through a decline in domestic output, liberalisation also raises exports by allowing firms to import cheaper inputs and by increasing foreign demand.

Taking all effects into account in general equilibrium, we find that the permanent normalisation of US trade relations with China boosted overall US exports, even though export growth was lower in more exposed sectors.

Figure 2: The negative effects of PNTR on real market potential are offset by reduced input costs and increased foreign demand



Notes: Breakdown of simulated sectoral changes in exports due to PNTR into a real market potential (or import competition) effect, an input cost effect and a foreign demand effect. Sectors ordered with NTR gap increasing from left to right. Goods sectors only. Textiles and Leather not shown.

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Publication details

Breinlich, H., Leromain, E., Novy, D. and Sampson, T. (2022). Import Liberalization as Export Destruction? Evidence from the United States. CAGE Working paper (no. 622).

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Krugman, P. (1984). Import Protection and Export Promotion: International Competition in the Presence of Oligopoly and Economies of Scale. In: Kierzkowski, H. (Ed.), *Monopolistic Competition and International Trade*. Oxford: Clarendon Press, 180–193.

Internal migration and political polarisation: is the 'Big Sort' happening in the UK?

By Vincenzo Bove, Georgios Efthyvoulou and Harry Pickard

The 'Big Sort' was coined by Bill Bishop in 2004 to describe the self-grouping of Americans into like-minded communities. Economists and political scientists have argued that this phenomenon has polarised America and held back US politics. Is a similar self-separation happening in the UK?

From the general election to the Brexit referendum, we know there is a strong regional dynamic to British voting preferences. But how much of this dynamic is driven by self-selection? In other words, when we move within the UK, do we tend to move to communities that share our political values and ideals?

To find out, we analyse ONS data on the movement of people between pairs of local authority districts. The dataset is the most comprehensive ever used to investigate political preferences and migration — it covers all possible origin and destination districts in England and Wales between 2002 and 2015.

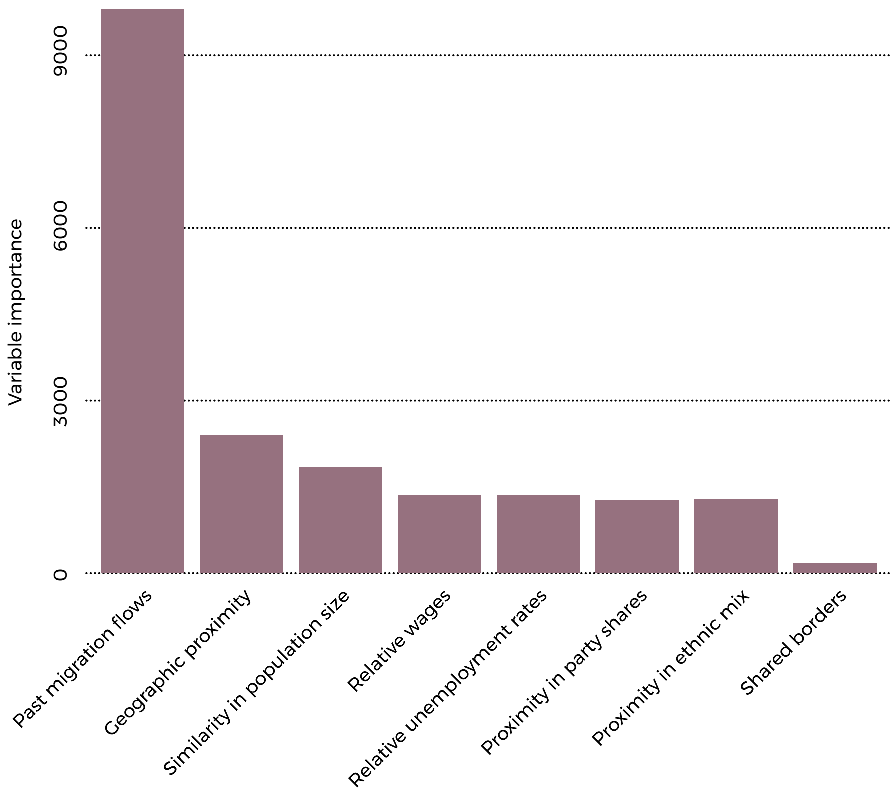
We measure the political similarity between all possible origin and destination district-pairings over time. First, we identify whether a district-pairing's local councils are controlled by the same party. Second, to measure ideological difference between a district-pairing, we calculate the average difference in party shares between the two dominant parties. ▶

We control for fixed effects that drive emigration away from an individual district, and immigration towards an individual district. We also control for factors that influence migration flows between pairings of districts, such as differences in average wages and unemployment, geographic proximity, and ethnic mix.

Our results show strong evidence that migration between two districts increases when the districts are politically similar. Migration flows between two Labour or two Conservative districts are 5% higher than those between other pairs of districts. Meanwhile, a one-standard-deviation increase in political difference (around 19 percentage points) leads to a decrease in migration flows of about 4%.

Figure 1 shows that the most important variables in predicting migration flows between two districts are migration flows the year before and geographic distance. This is to be expected. Yet political similarity ranks sixth overall and exerts about the same influence as relative wages and proximity in ethnic mix.

Figure 1: Key determinants of migration flows across districts



To understand more about why we tend to move to districts sharing our political views, we look at individual-level data for the same period, 2002–2015, from the British Household Panel Study (BHPS) and its successor, Understanding Society (UKHLS).

We investigate whether individuals' perceptions and attitudes towards the location where they live are affected by the extent of their political alignment with the district. In particular, we compare a measure of respondents' political alignment to their neighbourhood with their answers to questions on whether they would like to move and how satisfied they are with their neighbourhood.

We find that politically-aligned individuals are about 2.5 percentage points less likely to report a preference to move. They are 2–4% more likely to provide positive responses to questions about whether they plan to reside in the area for a long time, feel a sense of belonging in their neighbourhood, and feel that they are similar to their neighbours.

This offers evidence that, like Americans, the British seek to sort themselves into a group with similar people: living in areas with ideological views similar to our own can contribute to a sense of 'fitting in' and 'feeling at home'.

However, the desire to fit in is unlikely to be the driving factor for relocation. Political alignment is an insufficient 'push' factor to cause the decision to migrate. Our findings suggest that the desire for political affinity affects where we choose to move to, but not our decision to move in the first place.

Our study shows that the phenomenon of the American 'Big Sort' is also happening in the UK. This sorting of politically like-minded people can reduce the diversity of opinion we are exposed to and discourage political debate.

As the timer for the next UK election ticks down, these findings suggest that political parties could have a difficult job on their hands: self-selected regional political polarisation will make it more difficult to sway districts from set opinions and ideals. ◀

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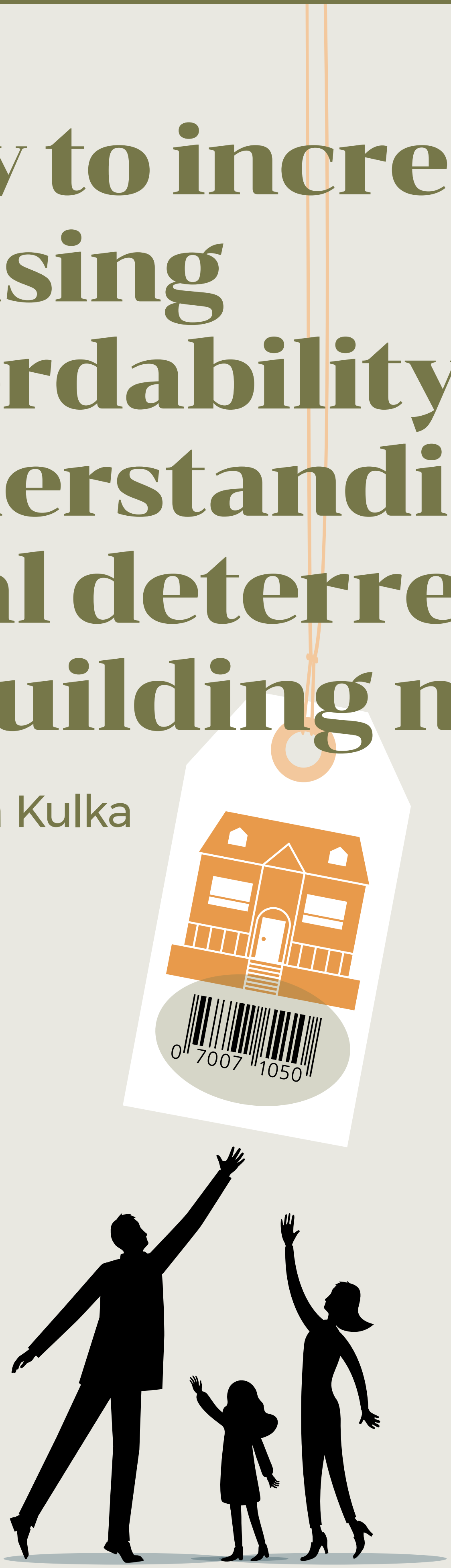
Publication details

Efthyvoulou, G., Bove, V., & Pickard, H. (2021). Micromotives and macromoves: Political preferences and internal migration in England and Wales. CAGE Working Paper (no. 600).

How to increase housing affordability: Understanding local deterrents to building more

By Amrita Kulka



UK house prices rose 9.8% in 2021, while rents increased by 2%. With house prices increasing more than earnings, housing affordability is affecting people with a wide range of incomes across the country.

Building more housing is, at first glance, a simple policy solution to the housing affordability crisis. Yet house building is lower now than it was at its peak in 1960. Why isn't supply keeping pace with rising demand?

Regulatory constraints form part of the problem. In England for example, new housing requires case-by-case approval and needs to follow rules, such as avoiding greenbelts (no-growth-zones) and keeping to height restrictions.

The relaxation of regulations, then, could encourage building and increase housing affordability. But choosing which measures to relax needs careful thought, as our research on the impact of regulations on house building and prices shows (Kulka, Sood and Chiumenti, 2022).

We focus on Greater Boston in the US, using novel data (Metropolitan Area Planning Centre Zoning Atlas, 2001) that allow us to study the impact of regulations at the property level. In the US, what can be built where is designated in zoning codes: three prominent residential land regulations are density regulations (affecting how many dwellings can be built on an acre), height restrictions and whether apartments are allowed.

Which regulations matter and how do they interact? Our approach centres on the boundaries between differently regulated areas.

Imagine a neighbourhood road. Families living on either side of the road send their children to the same school and visit the same shops and restaurants. But the road constitutes a regulation boundary. On one side, there are fewer homes — sometimes only detached single-family homes are allowed on an acre of land — on the other, there are more homes, of different types, built much closer together.

We compare homes on either side of the regulation boundaries to see which regulations affect house building and prices most.

We find that allowing more dwellings on an acre of land, either on its own or in combination with allowing more floors or allowing apartment buildings, is the most successful at increasing the supply of units and reducing rents and house prices.

Areas that allow more density of buildings, either alone or in combination with other regulations, have 27% to 92% more units than neighbouring areas whose regulations restrict building density.

On the other hand, allowing apartments or more floors alone without increasing housing density has little impact. These regulations only change the type of unit but don't substantially change the number of units that can be built (e.g., allowing an additional floor on a detached home without allowing an additional unit).

“Our results show that increasing density is crucial for increasing housing supply and lowering prices. But does easing regulations have different effects in different areas?”

UP TO

9.9%

PER UNIT ADDED

REDUCTION IN MONTHLY COSTS IN SUBURBAN TOWNS WHEN HOUSING DENSITY IS INCREASED

We find that relaxing regulations can lower monthly apartment rents by between 2.6% per unit added ($27), when density is relaxed and more height is allowed and 12.6% per unit added ($144), when density is relaxed alone.

The monthly cost of owned detached homes decreases even more — by 16.7% ($425) per additional unit when density is relaxed alone and 9.17% ($204) when density increases and apartments are allowed. These effects are driven by differences in the composition of homes in areas with relaxed regulation, e.g., smaller units.

Our results show that increasing density is crucial for increasing housing supply and lowering prices. But does easing regulations have different effects in different areas?

We analyse the effect of regulations in different areas by comparing Boston, and the communities immediately around it, with established towns in the city's suburbs.

Figure 1 shows the effects of different regulations on housing supply in these areas. Units increase the most near Boston when allowing both more density and height. Nevertheless, we also find increases in units in the suburbs.

Figure 2 shows the impact on rents and house prices for these two areas. Adding units in the high-demand centre does not affect prices much but adding units in areas with lower residential density can have a substantial impact — monthly costs fall the most per unit added in suburban towns (up to 9.9%) for renters and owners.

Increasing density and relaxing height reduces rents without reducing house prices, other combinations affect prices and rents.

Next, we simulate a popular policy proposal in both the UK and US: increasing housing density near transit stops.

We consider how relaxing current combinations of regulations affect prices at each transit stop. Wellesley Square station (a 30-minute train ride from Boston) highlights a case in which allowing more density and height can lead to substantial decreases in monthly rents ($530) with almost no reduction in monthly owner costs ($15). At nearby Wellesley Hills Station, allowing apartments in combination with more density would make home ownership significantly more affordable by lowering monthly owner costs by $766.

We show that relaxing regulatory constraints can have a positive effect on housing supply and prices, but it depends on which combination of regulations is relaxed.

Studying regulations in isolation misses important interactions. To increase housing supply and lower prices policymakers should focus on combinations that change the number rather than the type of housing units allowed. Usually, prices fall for both renters and owners. ◀

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Publication details

Kulka, A., Sood, A. and Chiumenti, N. (2022). How to Increase Housing Affordability? Understanding Local Deterrents to Building Multifamily Housing, CAGE Working paper (no. 635).

Figure 1: Effects of regulation on supply across space in Greater Boston

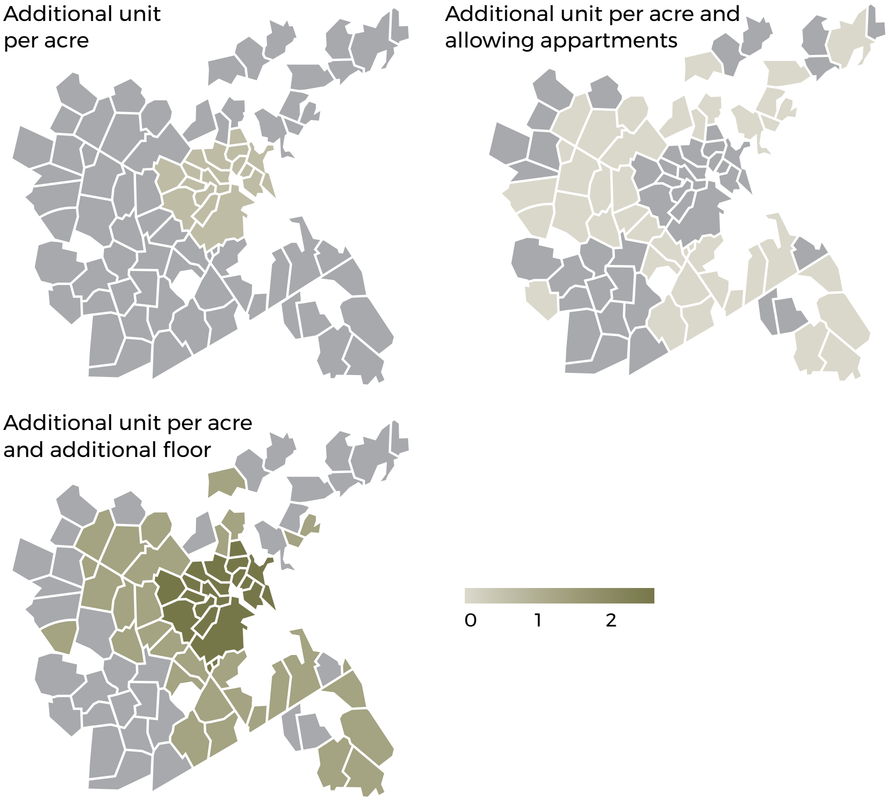
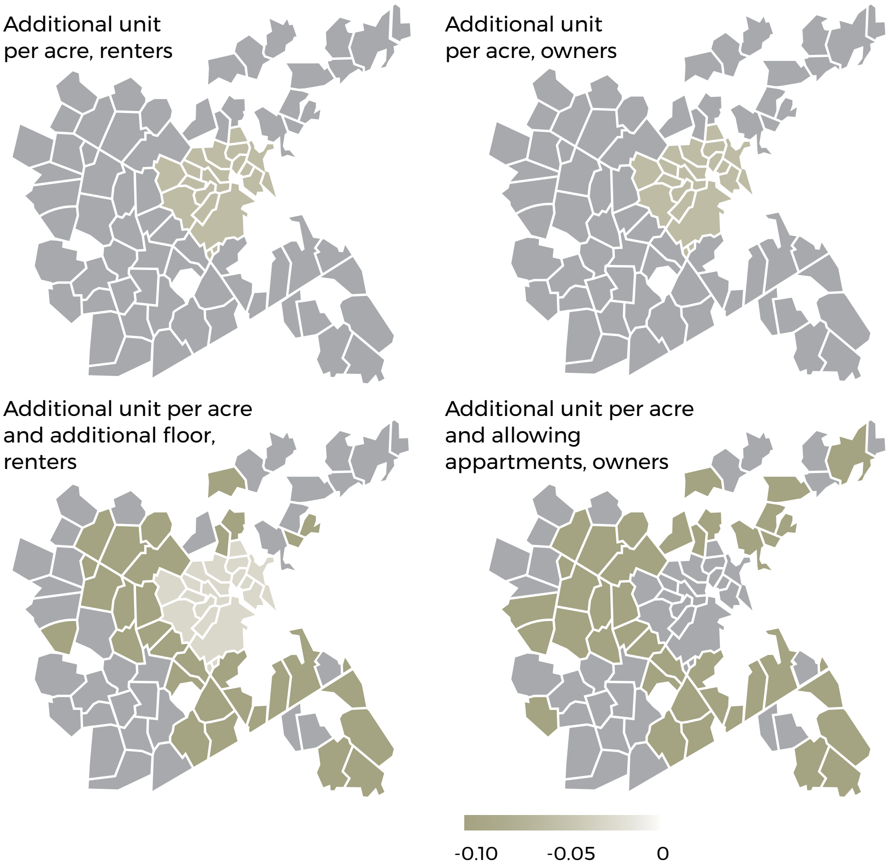
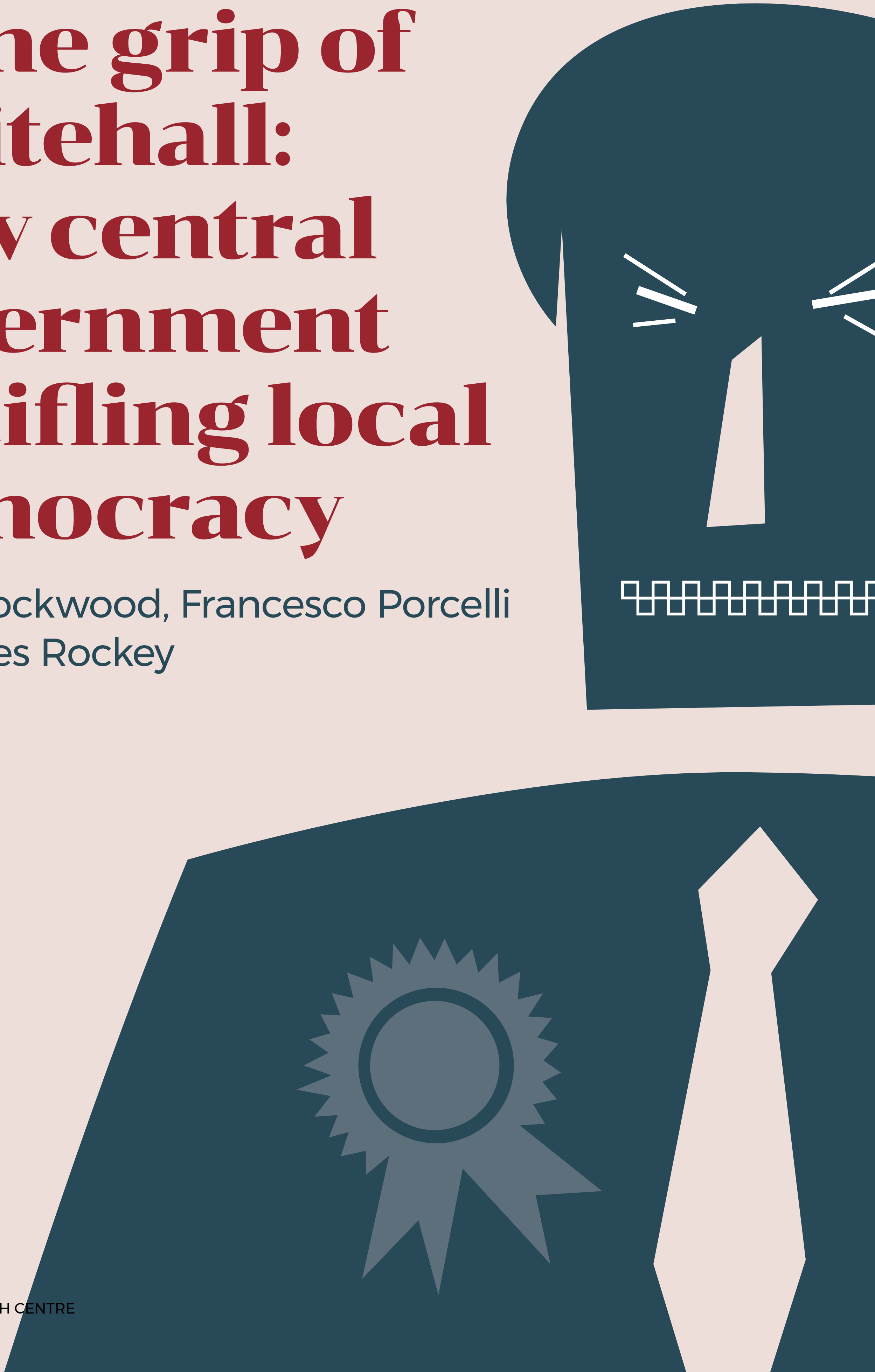


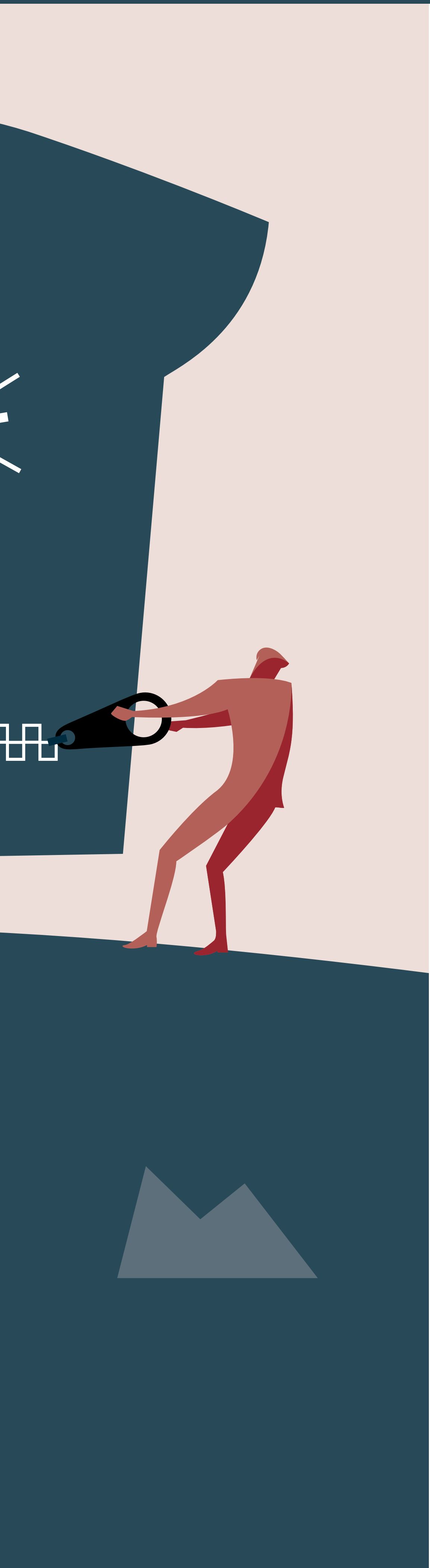
Figure 2: Effects of regulation on prices across space In Greater Boston



In the grip of Whitehall: How central government is stifling local democracy

By Ben Lockwood, Francesco Porcelli and James Rockey





In its bid to tackle regional inequality, the government has promised to hand over more powers to local leaders, continuing a trend towards devolution since 2010. The introduction of the Localism Act, metro mayors and police crime commissioners have changed the way local planning, transport and policing are managed. But when it comes to tax and spending decisions, how much freedom do local authorities have?

We analyse a new dataset combining fiscal and electoral data for England and Wales over the period 1995–2015 to ask a simple question: do the tax and spending choices of local authorities depend on which party controls the council? The answer gives us an insight into the ability of local leaders to shape local policy and respond to local needs.

Are local governments constrained?
In addressing the question, we use an instrumental variable strategy based on close elections. Close elections, where a party wins council seats around the 50% mark, mean that a party majority is effectively achieved by chance. In this context, any observed change in spending or tax decisions can be considered to be driven by party politics rather than by other confounding factors such as ▶

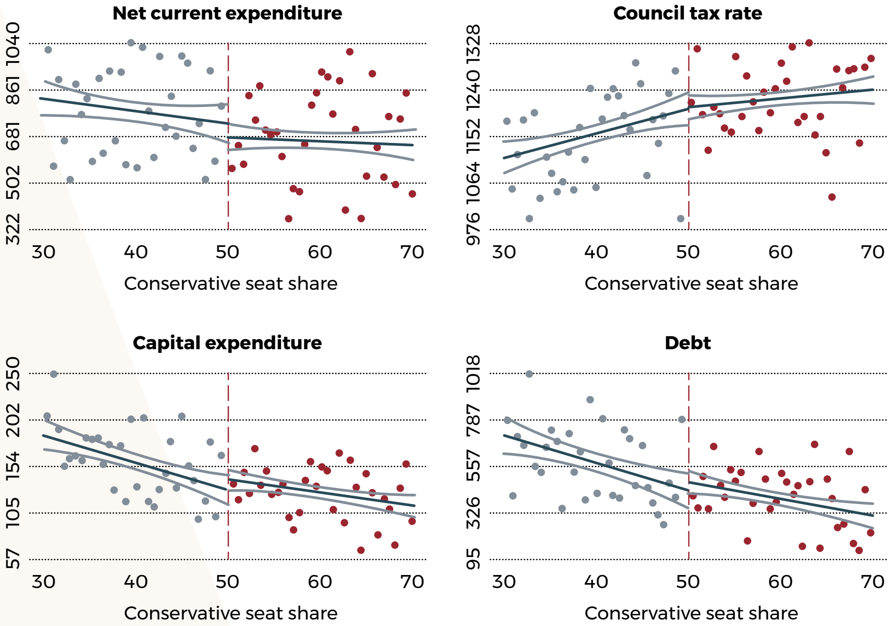
a shift in voter preferences. If a change in party control makes no difference to tax and spending decisions after a close election, we can conclude that local authorities are constrained in their choices.

Our results are illustrated by the two figures shown. Figure 1 shows how tax, spending and debt choices vary with the share of seats on the council held by the Conservative party. When this is below 50%, the council may be controlled by Labour, the Liberal Democrats, or there may be no overall control. When this rises above 50%, the council is Conservative controlled. We see that there is effectively no change in any of the variables measuring tax and spending as we pass the 50% mark, implying that a switch to Conservative control of the council from one of the other scenarios has no effect on tax and spending decisions, holding voter preferences constant.

Figure 2 has the same interpretation, except that now the main spending and tax choices can vary with the share of seats on the council held by the Labour party. The reason why we need a second figure is that at the local government level, there are multiple parties, so absence of Conservative control does not imply Labour control. We see that again, there is effectively no change in any of the variables as we pass the 50% mark, implying that a switch to Labour control of the council from one of the other scenarios (Conservative or Liberal Democrat control, or no overall control) has no effect on spending and tax decisions, holding voter preferences constant.

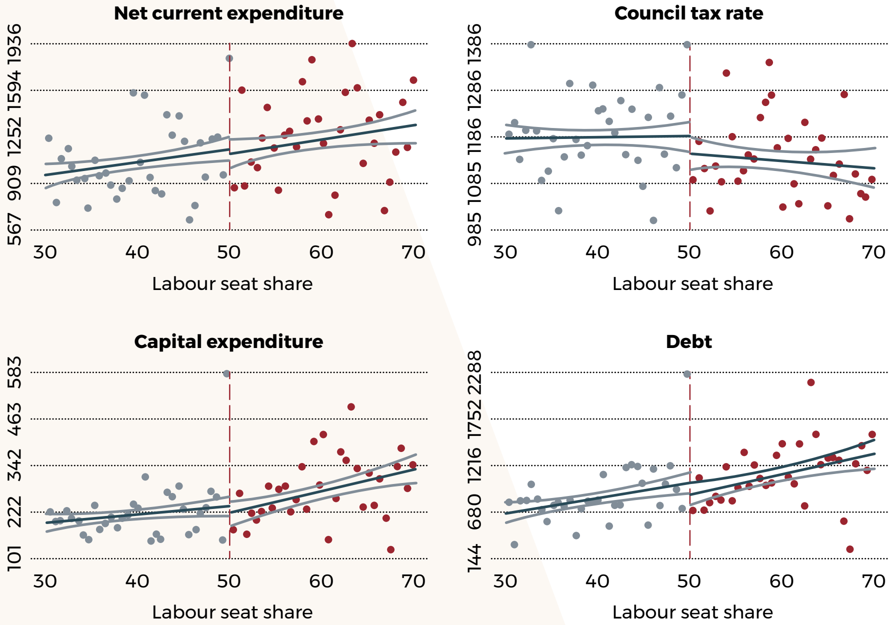
Our analysis also shows a similar picture when we consider close elections which may or may not give control to Liberal Democrats. The result is the same when we look at different types of local authority separately (county and district councils, London boroughs, metropolitan districts and unitary authorities) and when accounting for

Figure 1: The (non-) effects of Conservative local authority control on tax and spending



Notes: The central line is a linear fit to the data. The 95% confidence intervals are also shown. Each dot represents approximately 200 observations. All variables are inflation-adjusted, and measured in £ per capita, except the council tax rate, which is measured in £ per band D dwelling.

Figure 2: The (non-) effects of Labour local authority control on tax and spending



Notes: The central line is a linear fit to the data. The 95% confidence intervals are also shown. Each dot represents approximately 200 observations. All variables are inflation-adjusted, and measured in £ per capita, except the council tax rate, which is measured in £ per band D dwelling.

> **"Conservative control of the council has no effect on tax and spending decisions, holding voter preferences constant."**

other factors such as population size and the proportion of the population under the age of 15 and over 65 in a given area. Our overall conclusion is that party control has no effect on the spending and tax choices of local authorities.

Our results show that local government in the UK is constrained in its ability to respond to local needs.

Explaining the findings: why are local authorities constrained?

In the UK, relative to other developed countries, restrictions from central government remove freedoms for local councils to make different policy choices. For example, council tax is the only major revenue-raising tax where the rate can be set locally. However, since 1984, local authorities have been constrained in the council tax increases that they set: first by 'rate-capping', and now by a regime that requires a referendum if the council tax increase exceeds a cap. This cap was 2% between 2012 and 2016 and has only recently been increased to deal with the funding crisis in social care.

A recent survey by the *Local Government Chronicle* found that most local authorities are planning on setting the maximum council tax increase in 2022, which is clear evidence that they are constrained. Moreover, council tax only comprises on average 20% of revenue for local authorities, meaning that they are heavily reliant on central funding.

In terms of spending on services, local authorities again face constraints. Many services are funded via specific grants – such as primary and secondary education, which comprises about 22% of total service expenditure in our dataset.

Even where funding is not via a specific grant, the statutory responsibilities of local authorities are often sufficiently precise to leave councils little latitude. Social care funding, for example, is largely determined by the demographic characteristics of the local population.

Capital expenditure is rather different. Since 2003, each authority must set a total borrowing limit in accordance with the principles of the Prudential Code. Most borrowing is from central government at preferential interest rates; only a very small number of authorities issue bonds. This is in stark contrast to the US, for example, where municipal bonds are widely used to fund investment.

The way ahead

In 2007, the influential Lyons report into UK local government concluded that centralisation across public services in the 1980s and 1990s has inhibited the ability of local government to respond to local needs and preferences, and to manage financial pressures'. Although there have been some minor improvements since then, such as the business rate retention scheme (2013), our data shows that the picture described by Lyons remains largely unchanged.

Most other attempts to empower local leaders since 2010 have focused on devolving management decisions (e.g., transport, crime or planning) rather than giving local authorities the fiscal freedom to make the best choices for their local area.

To tackle regional inequality effectively, Whitehall may need to loosen its grip on local taxation and spending. ◀

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> **"In the UK, relative to other developed countries, restrictions from central government remove freedoms for local councils to make different policy choices."**

Is lack of credit a barrier to green investment?

By Antonio Accetturo, Giorgia Barboni, Michele Cascarano, Emilia Garcia-Appendini and Marco Tomasi

The EU's ambitious goal to achieve net-zero emissions by 2050 has pushed many firms to invest in reducing their environmental footprint. Almost half of firms in the European Investment Bank Investment Survey had invested in energy efficiency in 2020, a ten percentage point increase relative to the year before.

Yet, according to the same survey, climate-related investments also faced financial barriers, particularly in the EU: more than one quarter of firms indicated the availability of finance as a major obstacle. Is lack of credit supply a barrier to green investment?

In our paper, we find that green investments are more sensitive to bank credit supply than other capital investments. The relationship between credit availability and sustainable investments is more pronounced in regions where local environmental preferences are stronger and local governments subsidise the green transition.

Milton Friedman (1970) famously argued that a firm's social responsibility is to make as much money as possible for its shareholders. A large literature since then has argued that, as green investments are partly motivated by benefiting others, better credit supply would not necessarily encourage an increase in green investments, because the credit would be used for other profit-maximising activities.

Yet, recent research finds that shareholders' environmental and social preferences are increasingly being incorporated into firms' investment decisions (Hart and Zingales, 2017), making sustainable investment decisions more sensitive to external funding.

Can bank credit help firms overcome financial obstacles on the path to decarbonisation? We address this question by studying the actual investment behaviour of almost 30,000 Italian firms between 2015 and 2019.

"We find that where environmental awareness is higher, firms are more likely to carry out green investments when credit is available, and where awareness is low, they do not pursue them."

We use dictionary-based text-mining to read through the comments to the financial statements of Italian firms and identify those that carried out green investments (such as installing photovoltaic panels or adopting electric vehicles). We match this measure with detailed information about the firms' financials and information on borrowing activity from banks during this period.

We estimate the extent to which the availability of bank credit affects decisions to make a green investment. We use the variation of bank willingness to lend at sectoral and provincial level as a way to measure bank credit supply at firm level.

Our results show that a one standard deviation increase in the amount of credit supply increases the likelihood of making green investment by between 1.9 and 3.4 percentage points. Interestingly, we do not find this to hold for general investments (Figure 1). This suggests that during the period under consideration investment decisions were not in general constrained by credit availability.

We explore differences in several firm characteristics to understand whether they drive the elasticity of green investments to credit supply. We find that more liquid and more profitable firms display higher sensitivity of green investments to credit supply. This means they are more likely to make green investments if there is more credit available. As better firms can access external finance to a larger extent, this evidence suggests that green investments may absorb larger financial resources, making them more reliant on external financing than other investments.

Next, we explore the roles of preferences, public subsidies and polluting intensity for green activities.

While we are unable to observe individual firm preferences, we can look at the preferences of the areas where their headquarters are located. We use the 2017 European Value Study to measure the share of the population placing a higher weight on environmental protection, and we use information on Google searches to measure the prominence of climate change as an issue.

We find that where environmental awareness is higher, firms are more likely to carry out green investments when credit is available, and where awareness is low, they do not pursue them.

Another potential driver of green investments are public subsidies, the effects of which can be measured at the regional level. We find that only firms located in high-subsidy regions show a statistically significant tendency to invest in green assets when their credit supply increases.

When we include the environmental consciousness of the local population in the analysis, we find that only firms located in regions belonging to both the high-green subsidy and high-environmental awareness groups are more likely to carry out green investments (Figure 2). These results suggest the existence of a complementarity between bank credit and public subsidies in stimulating sustainable investments.

We might expect that firms in industries that emit large amounts of greenhouse gases benefit more from receiving credit for sustainable investments, as they are more exposed to the risks linked to the transition to a green economy. ▶

We assign firms to either high- or low-emission groups, according to the sector in which they operate. We find that the estimated effect of credit supply is larger among the most polluting sectors, but it is statistically significant only for industries with low emissions (Figure 3).

In summary, we find that bank credit does play a role in financing investments in cleaner technologies. Our findings show that green investments respond strongly to credit supply, because these investments are more capital intensive. This implies that credit crunches have the additional negative consequence of slowing down the adoption of more environmentally friendly technologies.

We also show that the relationship between credit availability and green investments is more pronounced in regions where local environmental preferences are stronger and local governments provide additional public resources. By encouraging firms to use external funds to make sustainable investments, environmental advocacy among citizens and policymakers plays an important role in speeding up the green transition. ◀

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Authors' note: The views expressed in this article are those of the authors and do not necessarily reflect those of the Bank of Italy.

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Figure 1: Impact of bank credit supply on the likelihood to carry out green and general investment (90% confidence interval)

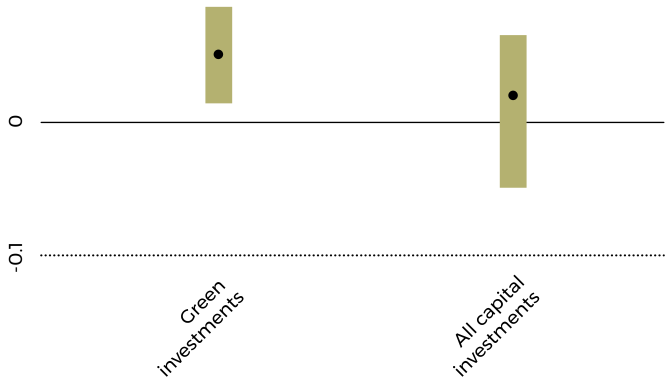


Figure 2: The impact of bank credit supply on the likelihood to carry out green investments, in the whole sample and by level of green subsidies and environmental awareness

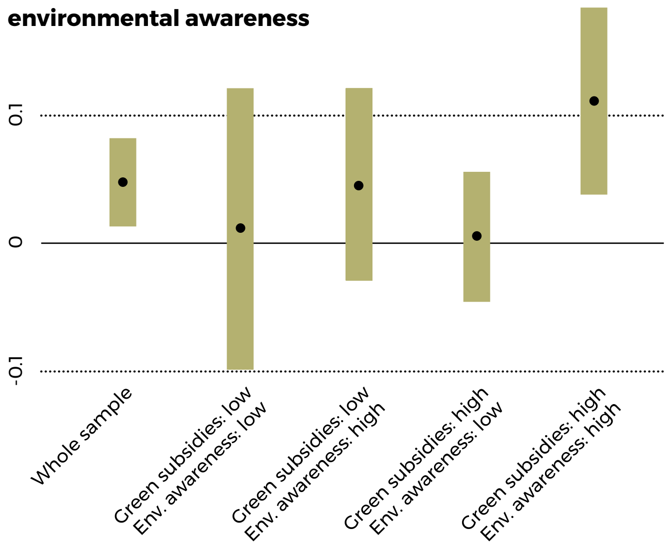
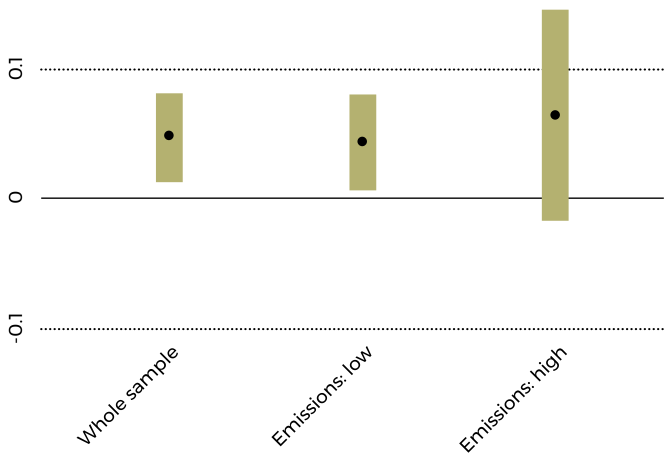


Figure 3: The impact of bank credit supply on the likelihood to carry out green investments, in the whole sample and by level of sectoral CO2e emissions (90% confidence interval)



Parting Shot / Arun Advani

This summer we were, once again, witness to an oddity of UK democracy. A small group comprising less than 0.3% of UK adults prepared to choose the next Prime Minister on behalf of the entire country. The battleground was a squarely economic one, with the final two contenders for the job putting forward competing visions for tax.

In one corner was the Foreign Secretary, Liz Truss. Despite modelling herself on Thatcher, her fiscal outlook is much closer to US President Ronald Reagan: taxes should be cut, and when inevitably there is a deficit, that is someone else's problem.

In the other corner we had the former Chancellor, Rishi Sunak. He initially argued against Truss' approach, warning against believing in 'fairytales' and 'something-for-nothing' economics. Instead, he supported the more orthodox view that the books have to be balanced.

For one brief moment, the country was treated to a genuine debate of economic visions. But it wasn't to last. In a country where students get no compulsory economics education at school, it is perhaps unsurprising that people struggle to evaluate the choices presented here.

And in a cost-of-living crisis, the promise of fiscal rectitude today so we can afford Nice Things tomorrow is not in tune with the experiences of voters.

So, whatever its merits, Sunak's appeal to resist the siren call of unfunded giveaways crumbled in the face of Truss's promise to deliver immediate tax cuts. As polls showed Truss' popularity rising among party members, Sunak announced a major income tax cut, were he to win the next election.

> **"For one brief moment, the country was treated to a genuine debate of economic visions. But it wasn't to last."**

While he remained worried that larger cuts in the short term would stoke inflation, one Truss ally noted that in the current crisis people need 'tax cuts in seven weeks, not seven years'.

What both sides managed to miss, of course, is that you can support struggling households now *without* fanning the flames of inflation.

If the problem of the day is that some households are choosing whether to heat their homes or eat three meals, while others are doing fine despite the turmoil, then the obvious answer is to not to cut taxes, but to change where taxes fall.

In the context of energy this can be done by having the price per unit rise with consumption, rather than fall as it does now.

Additional cash support to low-income households can also be paid for by more fairly taxing wealth from inheritance and capital gains and from the UK's non-doms.

Cutting National Insurance, which isn't paid by landlords and investors, and raising Income Tax, would rebalance the tax system in favour of workers.

The sad thing about the economic debate among the Tory hopefuls wasn't just that it was so fleeting. It also presented voters with the false choice of jam today or jam tomorrow. But there is another choice — jam more evenly spread. ◄

Arun Advani is Associate Professor of Economics at the University of Warwick and a CAGE Associate

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We are a small team of experts seeking to apply economic principles to ask new and innovative questions of data. We want to know how and why economies are successful, and the ways in which history, culture and behaviour shape the global economy (and vice versa).

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