



making business sense

Small business tax increases – do the economic costs outweigh the fiscal gains?

Final Report for the Federation of Small Businesses

October 2009

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London, October 2009

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Executive summary

Small businesses play a vital role in the United Kingdom economy. They account for 58 per cent of the private sector workforce, and directly contribute 52 per cent of United Kingdom GDP. Small businesses are drivers of innovation and entrepreneurship, and disproportionately provide opportunities for people that have previously been unemployed to get back into the workplace.

This report examines the impact of taxation on small businesses, and considers how different types of taxation affect the behaviour of small businesses, particularly in the context of small businesses' strengths as employers and innovators.

This is done in the context of the precipitous position on public finances. One of the main legacies of the credit crunch and the subsequent global economic crisis is that the United Kingdom faces its worst budget deficit since the Second World War. There now appears to be a political consensus for major public spending cuts in order to reduce the structural deficit facing the public finances, but it also seems likely that taxation will have to take some of the burden in correcting the deficit.

We test whether various changes in small business taxation are likely to be effective in improving the public finances position, and what the consequent knock-on effects would be on employment and economic activity within the small businesses sector and the wider economy.

Taxation leads to reduced investment, innovation and employment

Almost all empirical evidence shows that increasing business taxation provides disincentives for small businesses to engage in activities that they have particular strengths in: entrepreneurial activity, investment and innovation, and employment.

More specifically, taxes on capital and profits, such as corporation tax and business rates reduce incentives for businesses to invest in new equipment, technology and research and development, as they reduce the expected levels of return on such investment. In addition, such taxes reduce the rate of entrepreneurial activity in the economy.

Increased taxes on labour, such as employers' national insurance, reduce the ability of small businesses to take on new staff, and can lead to businesses reducing headcount due to higher costs. The empirical evidence linking higher labour taxation to higher unemployment and lower employment is strong.

In due course we will be looking at the taxation of the self-employed in more detail.

Policy tests show that increased taxation on small businesses would damage employment and growth, and have a relatively small impact on public finances

We have used cebr's structural economic model "UKMOD" to test the knock-on effects of three specific tax increases on small businesses through the economy. This enables us to measure not only the direct impact of the taxation but also the unintended consequences and wider economic impacts.

The policy scenarios we considered are:

- Raising the small business rate of corporation tax from 21 per cent to 26 per cent;
- The effect of adding 1 pence to employers' National Insurance Contributions for small and medium sized businesses;
- Reducing the small business rate relief threshold by £5,000 from a rateable threshold of £21,000 in London, and £15,000 outside of London, to £16,000 in London and £10,000 outside of London.

The findings of these scenarios are as follows:

Raising the small business rate of corporation tax from 21 per cent to 26 per cent would cost around 100,000 jobs and reduce economic output by £4.3 billion. Increasing corporation tax for small businesses would have a negative impact on business investment and innovation, and ultimately damage employment levels in small businesses. From a public finances perspective, the potential damage to the economy would almost outweigh the direct impact of increased tax revenues - the public sector deficit would only be reduced by a cumulative £1.6 billion over ten years.

Adding 1p to employers' National Insurance Contributions paid by small and medium sized enterprises would reduce the deficit by £6.3 billion over ten years, but at a cost of 57,000 jobs – our simulation suggests that labour taxation through raising National Insurance Contributions will make a greater contribution to the Exchequer than corporation tax increases, but would still be very damaging in terms of the impact on employment. Our estimates suggest that it would result in the loss of 57,000 jobs across small businesses – roughly equivalent to eleven per cent of the entire civil service workforce. We estimate that these job losses alone would cost The Treasury around £900 million in additional jobseekers allowance and other social security payments.

Reducing the small business rate relief threshold by £5,000 would cost around 4,300 jobs in small businesses, but would only reduce the public sector deficit by £0.6 billion over 10 years – our simulation suggests that such a change would only have a marginal effect on public finances, whilst costing jobs and output within small businesses.

In conclusion the research suggests that using small business taxation to help reduce the public sector deficit will incur a heavy price in jobs and economic growth. Furthermore the negative economic effects of these taxes also cause a narrowing of the tax base which limits the additional revenue raised. It is likely that a combination of spending cuts, tax increases and strong economic growth will be needed to pull the United Kingdom out of its current fiscal position; taxing economically beneficial activity is inconsistent with encouraging a strong recovery.

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I Introduction

I.1 Scope of the research

This report examines the impact of taxation on small businesses, and considers how different types of taxation affect the behaviour of small businesses, particularly in the context of small businesses' strengths as employers and innovators.

This is done in the context of the precipitous position on public finances. One of the main legacies of the credit crunch and the subsequent global economic crisis is that the United Kingdom faces its worst budget deficit since the Second World War. There now appears to be a political consensus for major public spending cuts in order to reduce the structural deficit facing the public finances, but it also seems likely that taxation will have to take some of the burden in correcting the deficit.

Specifically, we seek to answer the following questions:

1. What would be the effect on small business activity from increasing the level of Corporation Tax, Employer National Insurance Contributions or Business Rates that they pay?
2. What impact would these tax increases have on small business activity and the wider economy in terms of public finances, employment, investment and innovation?

Our approach to these two questions draws heavily on the extensive academic evidence which quantifies the distortionary effects of taxation levels on business activity. We combine this academic evidence with our structural model of the United Kingdom economy to test both the short and long term implications of the taxation decisions made today. The report is structured in the following way:

- Chapter 2 provides an outline of the importance of small businesses to the United Kingdom economy;
- Chapter 3 provides a commentary on the macro economic context and the issues relating to public finances;
- Chapter 4 describes how we modelled the impact of small business taxation on the UK economy;
- Chapter 5 provides the results of our modelling, showing the impact of the various policy tests on small businesses, the wider UK economy and on public finances;
- Appendix A provides our detailed review of evidence and literature on the effects of business taxation on business behaviour.

Although not covered in this report, in due course we will be looking at the taxation of the self-employed specifically

1.2 About cebr

The centre for economics and business research (cebr) was established in 1993. It is a specialist economics consultancy with expertise in macroeconomic forecasting, local and regional forecasting and economic development, transport economics and economic impact analysis.

cebr is often described in the press as one of the UK's leading economics consultancies. Its forecasts are among the 44 independent forecasts referred to by Her Majesty's Treasury and it is the only independent economics consultancy to be top 10 rated for forecasting accuracy by Bloomberg (the rest of the top 10 is made up of large investment banks).

1.3 About the Federation of Small Businesses

The Federation of Small Businesses (FSB) is the UK's leading lobby organisation representing the self-employed and owners of small businesses. Founded in 1974, it now has over 215,000 members across all industries, trades and services. It is a non-party political lobby group that exists to promote and protect the interests of all those who own and manage their own businesses.

2 The importance of small businesses to the United Kingdom economy

2.1 Small businesses responsible for over half of economic activity in the United Kingdom

Small businesses – defined as those businesses that employ less than 250 employees – play a vital role in the United Kingdom economy.

Small businesses in the UK employ around 12 million people - 58 per cent of the UK's private sector workforce. They directly contribute around 52 per cent of GDP. 99 per cent of businesses in the UK employ less than 20 people¹.

2.2 Small businesses drive innovation

Small businesses are drivers of innovation. Studies have consistently shown that small businesses produce a proportion of innovations larger than their share of employment². These innovations are not just product innovations, but also new technologies and process innovations which would normally be associated with large firms with research and development departments. These innovations then lead to greater efficiency and productivity throughout the economy. Small firms are more flexible and are not as constrained by process as larger companies, and may therefore be the first to adopt or adapt to new technologies developed elsewhere.

2.3 Small businesses provide opportunities for unemployed or inactive to get back into work

Previous research carried out for the Federation of Small Businesses³ shows that small businesses play a disproportionate role in employing people that have previously experienced inactivity or unemployment. In the smallest businesses – those employing 1-10 people – 5.8 per cent of employees were unemployed 12 months ago, whilst in those companies of over 250 employees, only 2.2 per cent of employees were out of work 12 months ago.

¹ Source: Federation of Small Businesses 2009 Budget Submission

² Sources: De Jong and Marsili, 2006; Link and Bozeman, 2004

³ Source: Small Businesses in the UK: New Perspectives on Evidence and Policy

3 The macro economic context

3.1 Chapter summary

This chapter sets out the macro-economic context to our research in greater detail. The key issue currently confronting the economy is the public finance deficit and resulting sharp increase in government debt. We expect that the deficit will exceed £180 billion this year, and without far greater spending cuts or tax increases than laid out in the 2009 Budget; it is unlikely to fall quickly.

3.2 The global and UK economy

3.2.1 Recession and recovery

The global economy is poised to record its first annual contraction since 1946. The recession of 2009 has arguably been the first recession of the globalisation era – with a remarkably synchronous and widespread downturn spreading via global trade and financial market connections.

The primary trigger of this recession was the credit crunch, which led to a loss of confidence in the banking system and collapse of interbank lending markets due to high levels of bank exposure to ‘toxic assets’ – assets such as residential mortgage backed securities that were incorrectly assessed in terms of risk and therefore substantially over-valued. The fallout from the banking crisis has been a global collapse in credit growth and investment and a sharp inventory cycle – as firms seek to improve cash positions and adjust production to lower levels of demand. Consumers have also increased saving and reduced spending in response to the reduction in credit availability, falling asset prices and greater uncertainty.

Policy-makers around the world have responded to the crisis in two ways. First there have been measures to restore stability in the banking sector through tax-payer backed insurance schemes to encourage interbank lending and place an upper limit on ‘toxic asset’ losses for banks. Governments have also injected equity into banks to provide them with enough capital to weather asset write downs. The second aspect of the policy response has been a loosening of monetary and fiscal policy to combat the economic recession. Globally, interest rates have been slashed. They are now close to zero in most advanced economies and therefore cannot go any lower. Even this unprecedented monetary action was not deemed sufficient. The Bank of England, Federal Reserve and European Central Bank have all engaged in quantitative easing to some degree through the temporary or permanent exchange of financial sector assets for newly created central bank reserves. This measure, as its name suggests, attempts to directly increase the quantity of money in the economy. This is in contrast to cutting interest rates which aims to indirectly increase the quantity of money through lowering its price.

Fiscal policy is being used to stimulate recovery following Keynesian economic principles. Public sector deficits have exploded as the recession has led to a collapse in tax revenues and

increased social expenditure. In addition, many governments have engaged in discretionary fiscal stimulus through tax rebates and tax cuts which have increased deficits further.

Looking at the United Kingdom in detail we see that the global financial crisis and subsequent economic crisis has had a severe impact on the economy. Not only is the United Kingdom in the midst of a sharp recession, the crisis has led to major questions over the sustainability of the economic model that underscored the past fifteen years of growth. The areas receiving the greatest scrutiny have been the rise in government and consumer borrowing, and reliance on the public sector and finance and business services as engines of growth.

The 2008/9 recession is the first in the United Kingdom since 1990. A marginal contraction in economic output in the second quarter of 2008 has been followed by four quarters of contraction, the most severe of which was a 2.5 per cent fall in output in the first quarter of 2009.

The macro-economic picture in the United Kingdom is now far clearer than it was in the first quarter of 2009. The key concern amongst ourselves and other forecasters at that time was whether the United Kingdom would suffer concerted de-leveraging in the consumer and corporate sectors. This may have dragged the economy into a depression. It is now possible to effectively write off this scenario due to the greater stability in financial markets and recent upward movements in leading indicators of economic growth.

Despite recent improvements the economic picture does not look good for the United Kingdom economy. We forecast that output will decline by around 4.2 per cent in 2009, the largest single year fall since the Second World War. In addition to the sharp recession and associated rise in unemployment, the legacy of the crisis will be a far higher level of government debt which raises uncertainty over government borrowing costs and the availability of lending for companies and consumers. There are further unanswered questions over what sectors will drive prosperity in the United Kingdom going forward, in the twenty years leading up to the credit crunch, finance and business services were a major driver of growth. This may not be able to continue to the same degree.

3.3 The UK public finances

3.3.1 The effect on UK public finances to date

The UK's public finances have deteriorated quickly since the onset of the recession. Part of the reason for this is the disproportionate nature of the slow-downs in the housing market and financial sector – which have been key revenue sources in recent years.

The latest Office for National Statistics figures on public sector net borrowing show that the government has already borrowed £65.3 billion in the financial year to August. This is more than twice the £26.1 billion borrowed in the same period of the 2008/9 financial year.

The drivers of the sharp increase in public sector borrowing are both an increase in government expenditure and a fall in tax revenues. On a cumulative basis in the financial

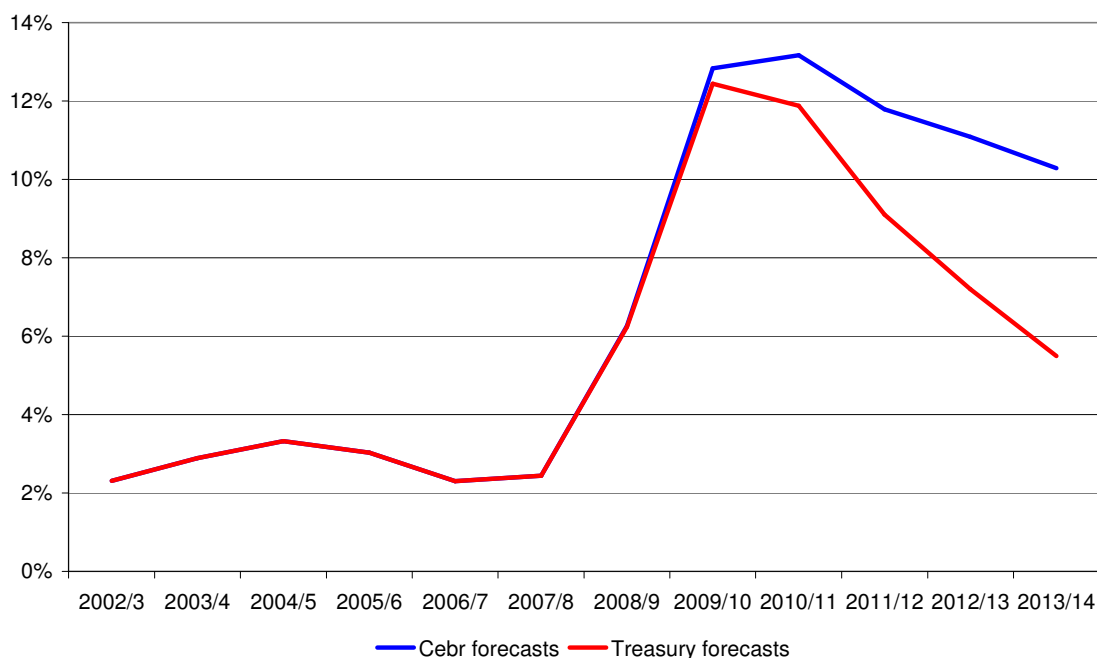
year to August, government spending has risen to £234.6 billion in 2009/10 from £222.8 billion in 2008/9. Meanwhile government revenues over the April to August period have fallen to £182.5 billion in 2009/10 from £206.1 billion in 2008/9⁴.

3.3.2 Forecasts for the public deficit

The level of the public sector deficit in the current financial year is likely to exceed 12 per cent of gross domestic product. In Figure 3.1, we present our forecasts for the how we expect the deficit to progress up to 2013/4 alongside the Treasury's figures published in the 2009 Budget. Both scenarios assume that public spending and tax policy follows the figures laid out in the Budget. The key difference emerges over the pace of the economic recovery. The Treasury's Budget figures assume a milder recession in 2009/10 followed by a rapid return to above trend economic growth; but even with these generous assumptions the deficit will remain above 5 per cent by 2013/14 with no further fiscal consolidation.

The government's recent decision to acknowledge that additional cuts in public spending are needed, beyond those in the Budget, implicitly recognises that a rapid spurt of economic growth cannot be relied upon to close the deficit.

Figure 3.1 Public Sector Deficit, borrowing as a share of gross domestic product, per cent



Sources: Her Majesty's Treasury, cebr analysis

⁴ All borrowing figures taken from the Office for National Statistics *Public Sector Finances Statistical Bulletin*, August 2009

4 Modelling the impact of small business taxation on the UK economy

4.1 Chapter summary

In this chapter we present the methodology used for our small business tax simulation. The first section describes the taxes and scenarios tested. The remainder of the chapter describes the key element of the simulation – combining the tax elasticities described in chapter three with cebr’s structural model of the United Kingdom economy, UKMOD.

4.2 Scope of the research

4.2.1 Aims

The aim of this report is to assess extent to which the UK’s public finance crisis would be assisted by increased taxation on small businesses. There is already a political commitment to public spending cuts across the three main parties; however the debate about tax increases is not as advanced. Given the distortionary effects of taxes, the design and magnitude of tax increases will affect the effectiveness of the policy. This is because taxes have unintended consequences for the economy.

We simulate the impact of three tax scenarios on the deficit and the wider economy. The taxes our simulations test are corporation tax, business rates, and employers’ National Insurance Contributions. The three simulated scenarios are described in detail in the following section. One thing all of the scenarios have in common is that additional government revenue raised from the tax increase is used to reduce the government deficit, rather than fund extra spending.

4.2.2 Scenario I Corporation tax

Simulating a 5 per cent increase in the small business rate of corporation tax (levied on corporate profits below £300,000). The rate is modelled to increase from its current rate of 21 per cent to 26 per cent on April 1st 2010.

Corporation Tax is a tax on the taxable profits of limited companies and other organisations including clubs, societies, associations and other unincorporated bodies. Taxable profits for Corporation Tax include: profits from taxable income such as trading profits and investment profits (except dividend income which is taxed differently); and, capital gains - known as ‘chargeable gains’ for Corporation Tax purposes.

Many small businesses do not fall within the corporation tax rules as sole traders, partnerships and limited liability partnerships’ earning are taxed under different rules.

The small business rate of corporation tax is set below the main rate; they are currently at 21 per cent and 28 per cent respectively. The small business rate is paid by companies on

profits less than £300,000. The main rate applies when profits exceed £1,500,000, with the rate tapering between these margins.

4.2.3 Scenario 2 employers' National Insurance Contributions

Simulating a 1 per cent increase in the main rate of employers' National Insurance Contributions for all small and medium sized business (defined as businesses with fewer than 250 employees). In this scenario the employers' rate for SMEs rises from 12.8 per cent to 13.8 per cent on weekly income above the lower earnings limit. This tax increase is modelled to come into force on April 1st 2010.

National Insurance Contributions are made by employees and employers. Both of these contribute to the labour tax wedge but we only consider the latter, the 12.8 per cent of tax paid by employers on all earnings above the upper earnings limit.

4.2.4 Scenario 3 small business rate relief

Simulating the impact of reducing the small business rate relief threshold by £5,000, to come into force on April 1st 2010.

Businesses currently pay taxes based on the value of their business property. Each business premises is given a rateable value. The amount of business rate payable is calculated using the rateable value and the multiplier, set by the government (currently 48.5 per cent in England and Scotland, 48.1 per cent for small businesses)

Small businesses are subject to a marginally lower multiplier (0.4 pence in the pound) than large businesses, however rate relief is the 50 per cent reduction in business rates for firms with a rateable property values below a certain threshold.

Currently, business premises with a rateable value of less than £21,000 in London, and £15,000 outside of London, qualify for some level of rate relief against a sliding scale. We understand that the rules on some of the specific thresholds within this are set to change. This test considers the impact of reducing the overall thresholds by £5,000, and the individual threshold bands move in line with this overall decrease.

4.3 Methodology

4.3.1 Inputs

There are 3 key inputs to the tax simulation, these are:

1. The tax increase scenario
2. The elasticity of tax on the economy

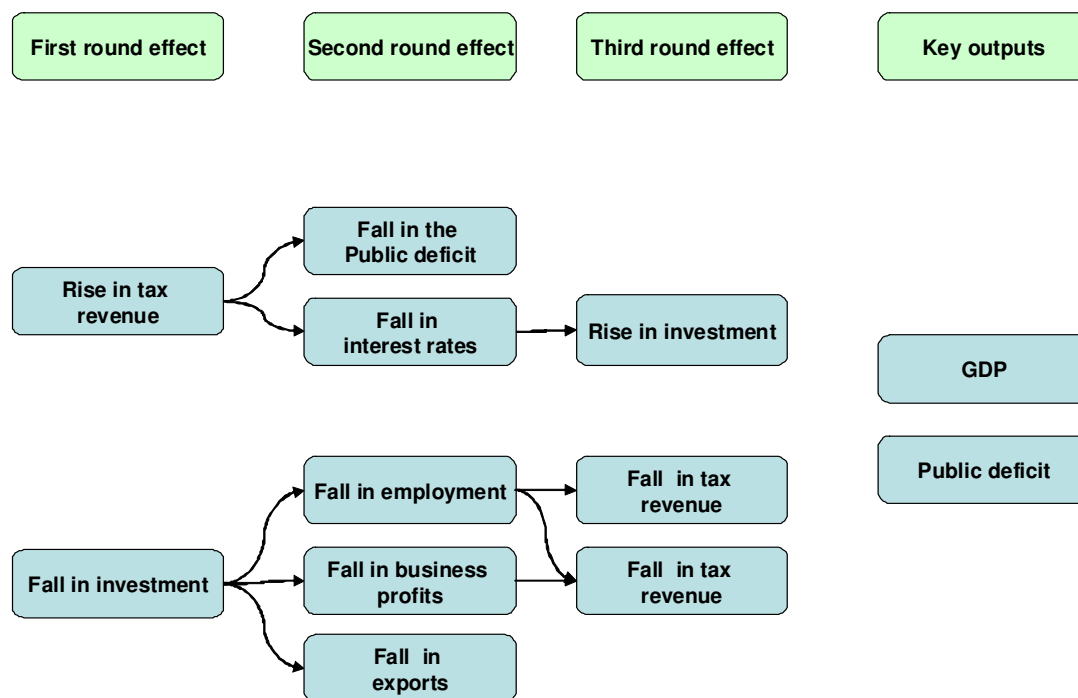
3. Cebr’s structural model of the United Kingdom economy

The tax increase inputs are described above. For the elasticities built into the model we taken relatively conservative averages from the literature review. For the elasticity of investment with respect to the wedge between the cost of capital and the post tax return on investment we use an elasticity of -0.2, phased in over four years. For the elasticity of labour supply with respect to the wedge between what firms pay for labour and what employees receive we use an elasticity of -0.11 phased in over six years.

4.3.2 Modelling approach

The modelling approach of UKMOD is illustrated in Figure 4.1

Figure 4.1 Illustration of modelling approach



The figure is necessarily simplified but shows the principal behind how an increase in the rate of corporation tax will ripple through the economy. The initial impact from the increase in tax is that government revenues increase, and firms respond to the reduction in post tax return to investment by reducing investment (although this effect takes time to fully come to bear with many investments pre-planned). The second round effect from the increase in tax revenues is for the public sector deficit to fall as a result of higher revenues. The improvement in public sector finances will simultaneously bring about a decline in interest rates due to the effect known as ‘crowding in’. In short with the government borrowing less money – it has a lower demand for capital. As with any competitive market the capital market responds to the fall in demand with a fall in the price. Interest rates are the price of capital.

The second round effect of the decline in investment is for the economy to have lower employment, business profits and exports than would have been the case without the tax increase as some factories don't get built and expansion plans are shelved.

The third round effects introduce ambiguity in the net effects. The crowding in effect has lowered the cost of capital, boosting investment, which had previously been reduced by the tax increase. The fall in employment and business profits resulting from lower economic activity will reduce tax revenues, which had previously risen due to the tax increase.

Clearly we could also add in fourth round effects like the 'crowding in' effect on investment resulting in higher employment and tax receipts – but this would make the diagram prohibitively complex. The key purpose of the model is to solve all of these impacts to calculate the net effect of the tax change on key economic factors such as Gross Domestic Product, employment and public sector borrowing.

We perform these simulations for each of the three scenarios separately, the results of which are presented in chapter five.

5 Results – the dynamic impact of small business taxation

5.1 Chapter summary

This chapter presents the findings from our small business tax simulation. Specifically we present the dynamic impact of tax increase scenarios on the public finances, economic growth, and employment. We present these results by comparing our base case forecasts (i.e. what we expect to happen with no change in small business taxation) to the scenario forecasts where tax rise effects are simulated.

The general finding of our simulations are that tax increases focussed on small businesses would not be an effective way to attempt to reduce the budget deficit. Such taxes would provide short term increases in tax revenue, the disincentive effects on the supply side of the economy would offset this through a narrowing of the tax base over time. In addition, higher taxes on the small business sector would reduce employment and economic output in the economy.

5.2 Results of simulations

5.2.1 Scenario one – Increasing small business corporation tax rate to 26 per cent

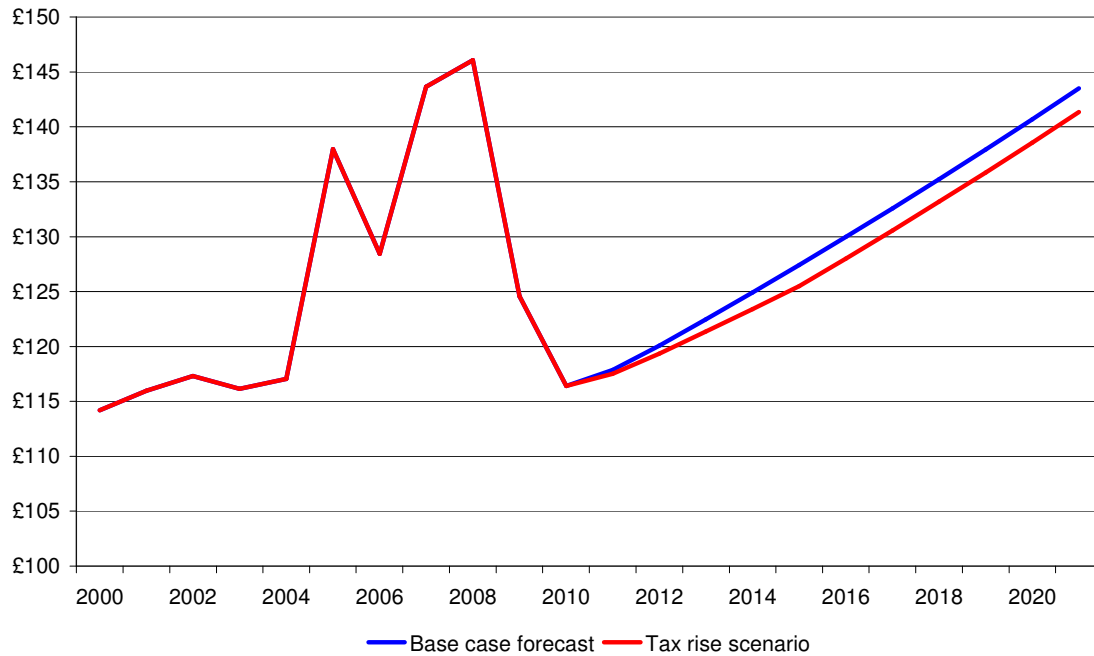
The largest tax increase we simulate is the impact of increasing the small businesses rate of corporation tax from 21 per cent to 26 per cent. This would make a significant contribution to corporate tax receipts, despite the fact that many small businesses such like sole traders and partnerships do not fall under its jurisdiction.

The impact of this tax increase begins with a rise in corporation tax receipts. We calculate that corporation tax receipts would rise by around than £1.5 billion per year. In all three scenarios additional government revenues are used to reduce government borrowing rather than increase spending. Therefore the public sector deficit is initially reduced.

Investment

The increase in corporation tax reduces investment by small businesses in new equipment, buildings and research and development,, as returns to investment are hit. Figure 5.1 displays a base case forecast for UK business investment in comparison to the tax rise scenario. The rise in corporation tax results in a significant effect which moves small businesses' investment to a lower position. As a result, by 2021 business investment is £2.7 billion lower under the tax increase scenario when compared to the base case. The scale of the impact reduces the compound annual growth rate of business investment from 2011-2021 to 1.86 per cent, from 1.99 per cent in the base case.

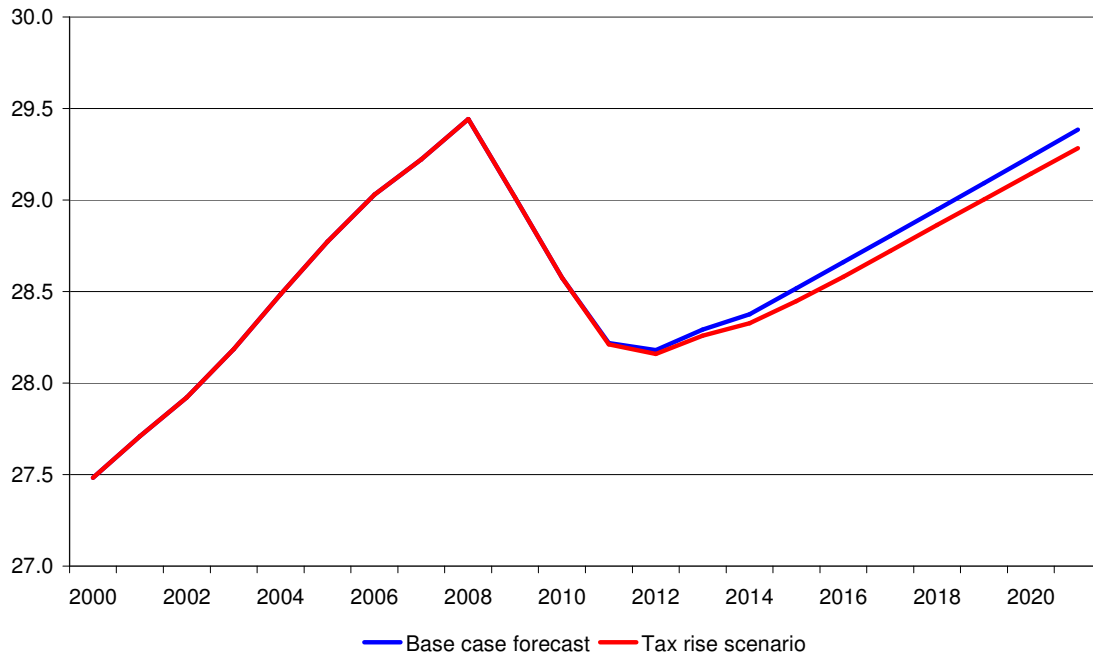
Figure 5.1 Total UK Business investment, £ billion, 2005 chained volume measures



Source: cebr analysis, Office for National Statistics

Employment

Weaker levels of investment in the economy have an implication for employment. Fewer new factories are built, fewer businesses are started and some existing operations only marginally profitable before the tax increase are discontinued. The results of our model are that the increase in corporation tax would result in a net reduction of 100,000 United Kingdom jobs by 2021.

Figure 5.2 Total number of people in employment, millions

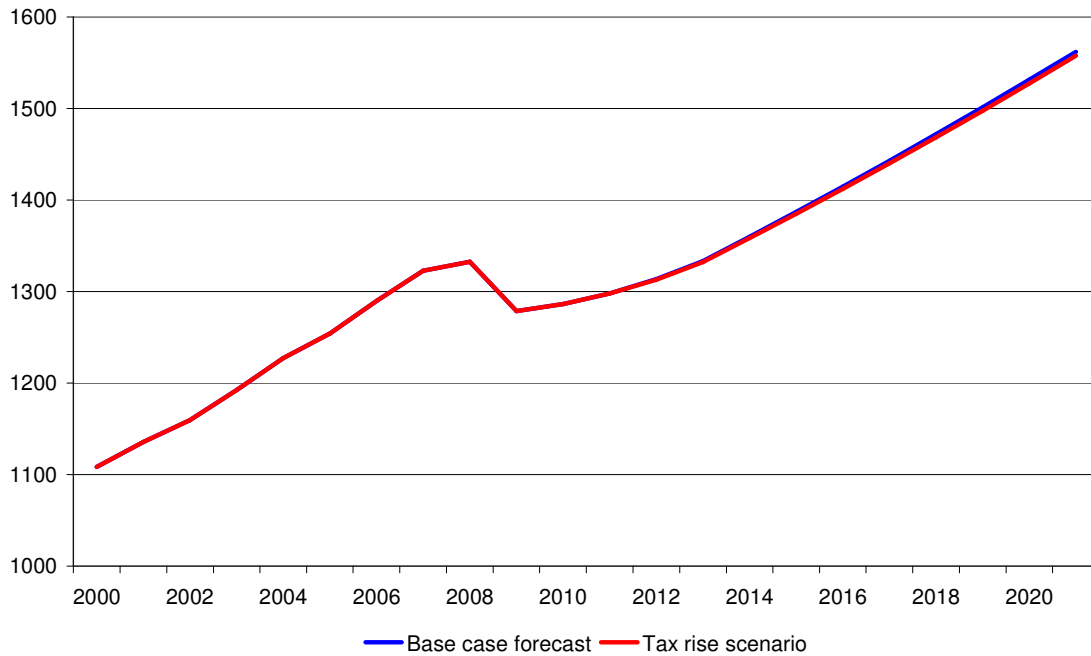
Source: cebr analysis, Office for National Statistics

The economy

Investment and consumption are two major components of gross domestic product. We have seen that the simulation predicts a £2.7 billion fall in gross fixed capital formation by 2021. The decline in employment also triggers a fall in household consumption, as the overall level of wages and salaries taken home is lower in the scenario case than in the base case. This effect triggers a £0.7 billion fall in consumer spending.

The overall impact calculated for gross domestic product is a £4.3 billion fall by 2021 in the scenario case relative to the base case where corporation tax does not increase.

As shown in Figure 5.3, the overall scale of the impact is relatively small, by 2021, GDP is 0.27 per cent lower in the tax rise scenario case compared to what it would have been in the base case. This equates to a reduction in the compound annual growth rate 2011-2021 to 1.84 per cent, from 1.87 per cent in the base case.

Figure 5.3 UK GDP, £ million, 2005 chained volume measures

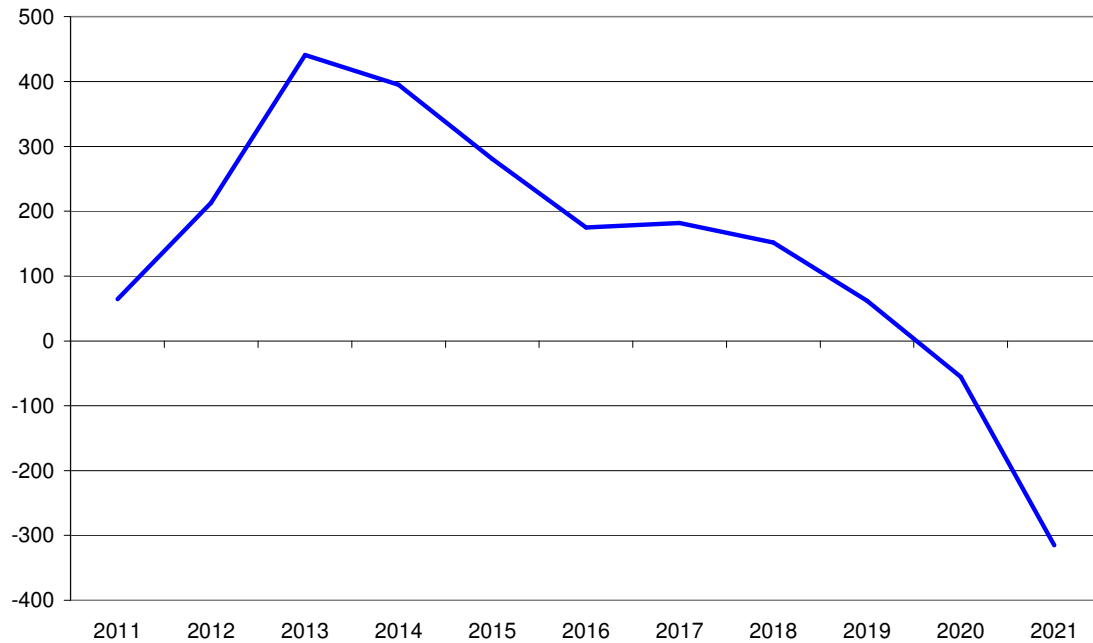
Source: cebr analysis, Office for National Statistics

The public finances

So far we have examined the impacts of a rise in corporation tax on the economy. Unsurprisingly, the effects were found to be negative due to the disincentive effects of the tax on economic activity. Taxes increases are politically unpopular and have negative supply side effects on the economy as we have seen. As we have already discussed, the increase in the tax rate will raise more revenue for the exchequer initially; however the negative supply side effects result in a narrowing of the tax base over time. In short, you are charging a higher rate of tax, but due to the disincentive effects, this tax is charged on a smaller amount of economic activity. The long term impact of taxes on public finances is therefore ambiguous.

Figure 5.4 presents the results from our simulation for public borrowing. The chart shows how much the rise in corporation tax is expected to cut public borrowing by. This result is the net effect from higher tax revenues set against the reduction in economic activity or GDP which leads to a narrowing of the tax base. Overall, the simulation predicts an initial positive impact of the tax increase on public borrowing, building to a £400 million annual reduction. However, beyond 2013, the negative supply side effects begin to dominate and by 2021 it is projected that public borrowing would be higher with the tax increase than without it. Cumulatively over the ten year period, the deficit is only reduced by £1.6 billion as a result of the tax hike. In summary, the disincentive effects of corporation tax are sufficiently strong that it is a very poor candidate for deficit reduction measures. Indeed the strength of these effects explains why corporate taxes in the OECD have been consistently cut over the last 20 years.

Figure 5.4 Reduction in public sector net borrowing due to tax increase, £ million, 2005 chained volume measures



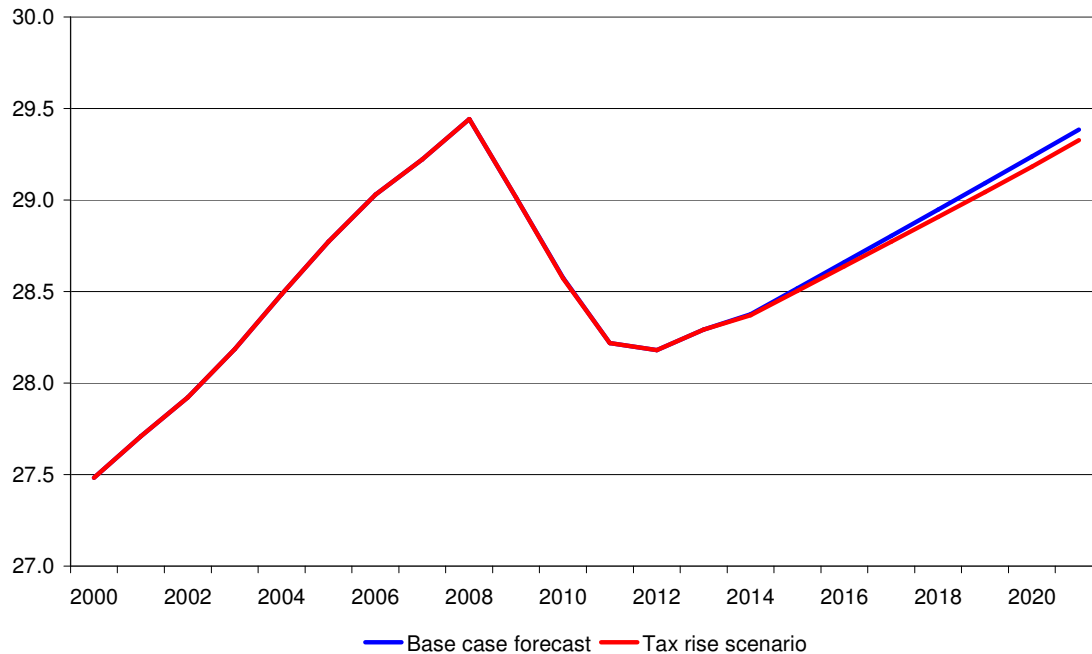
Source: cebr analysis, Office for National Statistics

5.2.2 Scenario two – Increasing employers’ National Insurance Contributions for SMEs by 1 per cent

The second scenario we test is the impact of adding 1 per cent to the employers’ National Insurance Contributions for small and medium sized enterprises. This tax would have markedly different economic impacts than corporation tax, with the initial impact falling on the labour market, rather than through business investment.

Employment

Turning to the economic impacts of the tax, the simulation predicts that the rise in National Insurance Contributions for small businesses would cost 57,000 jobs by 2021. This is due to the increase in the wedge between what firms pay for labour and what employees receive. Given a fixed post tax wage, firms would have to pay more for the same labour input. At the margin, activities that prior to the tax were only just profitable may be discontinued – leading to a fall in employment. Figure 5.5 shows the jobs impact. With the increase in National Insurance for SMEs, employment is lower in 2021 than in the base case.

Figure 5.5 Total number of people in employment, millions

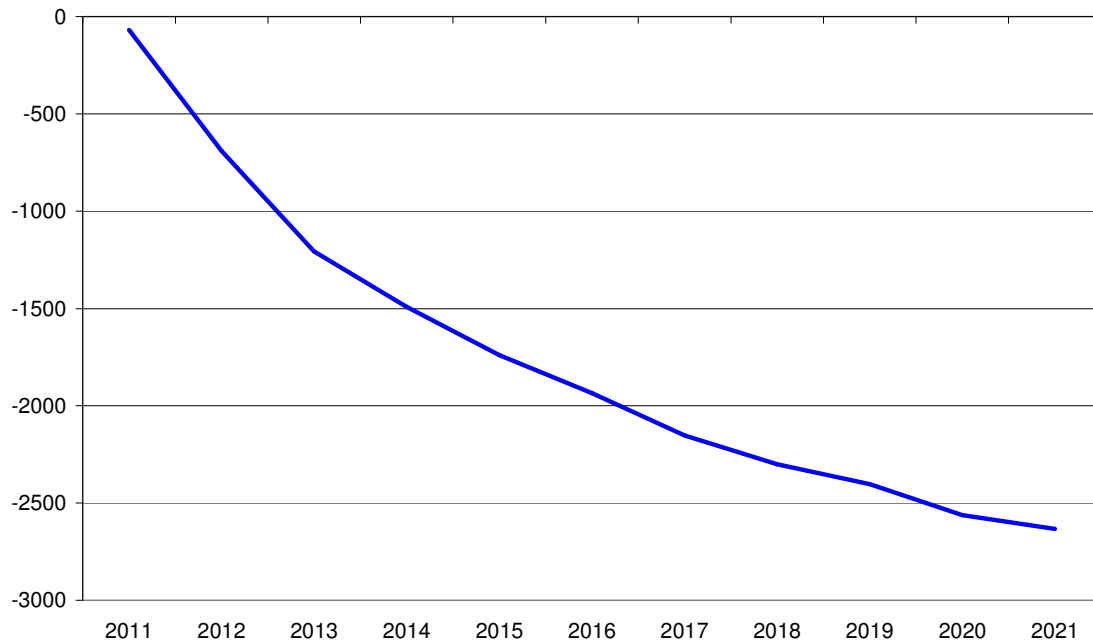
Source: cebr analysis, Office for National Statistics

The economy

Lower employment translates into a lower level of economic activity. The net impact on GDP is shown in Figure 5.6. Given that the change in GDP is relatively small relative the UK's GDP, we present the difference in GDP in the tax increase scenario relative to the base case.

The increase in employers' National Insurance Contributions is projected to reduce economic output by 2.6 billion by 2021. This reduces compound annual growth over the 2011-2021 period from 1.87 per cent to 1.85 per cent.

Figure 5.6 Change in UK GDP due to tax increase, £ million, 2005 chained volume measures



Source: cebr analysis, Office for National Statistics

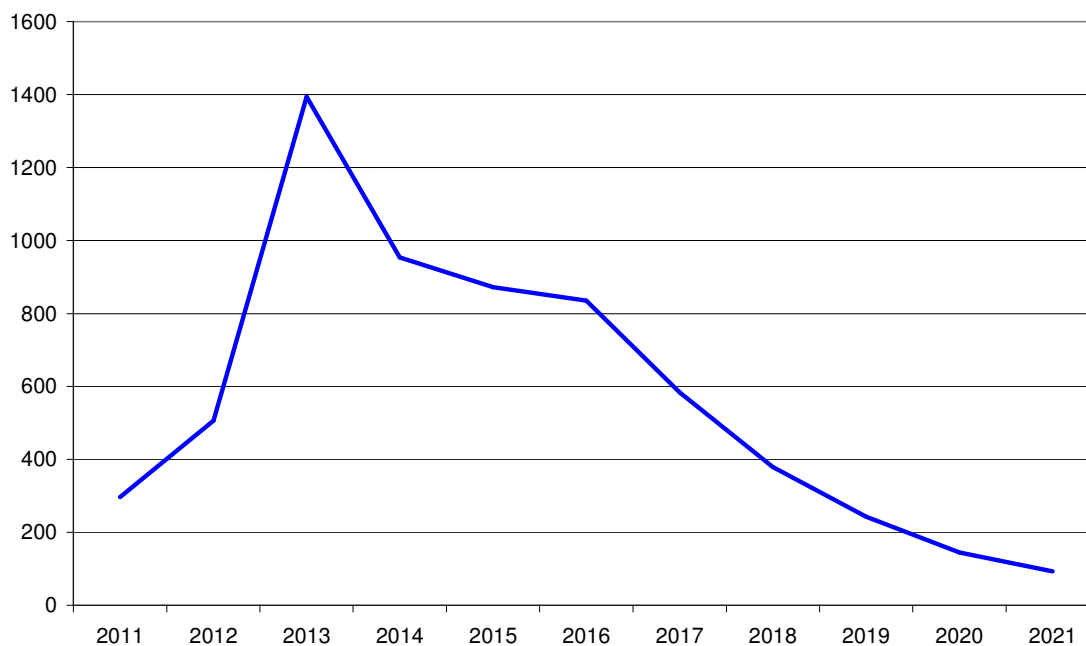
The public finances

The final key output of the simulation is the impact of the tax increase on public finances. As before the net impact on public finances is ambiguous. It depends on whether the additional tax paid for each worker exceeds the tax lost due to the decline in employment – or narrowing of the tax base. The simulation shows a positive net impact on public finances from raising employers' National Insurance Contributions.

Given the lower labour supply elasticities to taxation even after ten years the deficit remains lower than in the base case. Over the ten years shown, the deficit is reduced by a cumulative £6.3 billion. However, by 2021, the fiscal impact becomes marginal as lower levels of employment and economic activity weigh down on tax contributions, and additional social payments need to be made due to higher unemployment. We estimate that The Treasury would need to spend an additional £900 million in jobseekers allowance and other social security payments by 2021 under this scenario.

Given this result labour taxation appears to be a better candidate for deficit reduction than profit taxation as the negative supply side effects are not sufficient to erase the revenue gains over the ten year period.

Figure 5.7 Reduction in public sector net borrowing due to tax increase, £ million, 2005 chained volume measures



Source: cebr analysis, Office for National Statistics

5.2.3 Scenario three – reducing business rate relief by £5,000

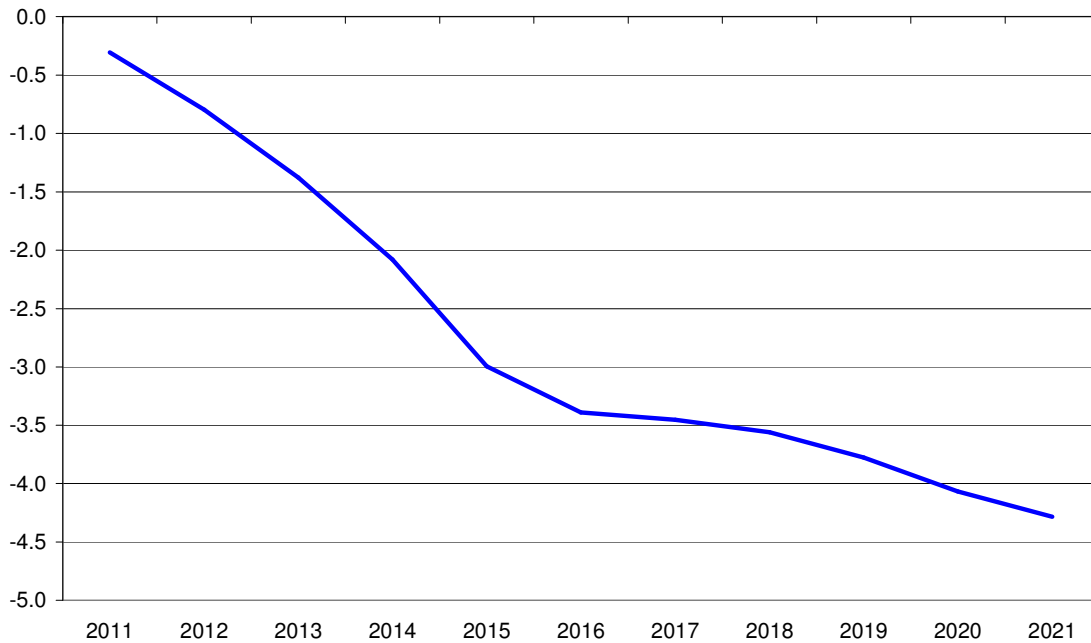
The smallest tax increase we simulate is the impact of reducing the business rate relief threshold by £5,000, to £16,000 in London and £10,000 outside of London. We understand that the rules on some of the specific thresholds within this are set to change. This test considers the impact of reducing the overall thresholds by £5,000, and the individual threshold bands move in line with this overall decrease.

The initial impact of this is to raise receipts from business rates, as more businesses have to pay a higher level of business rates. However, such tax changes provide both a disincentive to invest in improvements to business premises, and also add to small businesses' overall cost base therefore providing a disincentive for employment of additional staff.

Employment

Weaker levels of investment and higher business costs lead to reductions in employment amongst small businesses. Given that this particular scenario only has a marginal impact upon business costs across the economy, we predict a relatively small change in employment levels. By 2021, we predict that 4,300 fewer people would be employed by businesses than would otherwise be the case. Figure 5.8 shows our forecasts of incremental employment resulting from this policy change.

Figure 5.8 Change in United Kingdom employment levels relative to 'do nothing' case, thousands

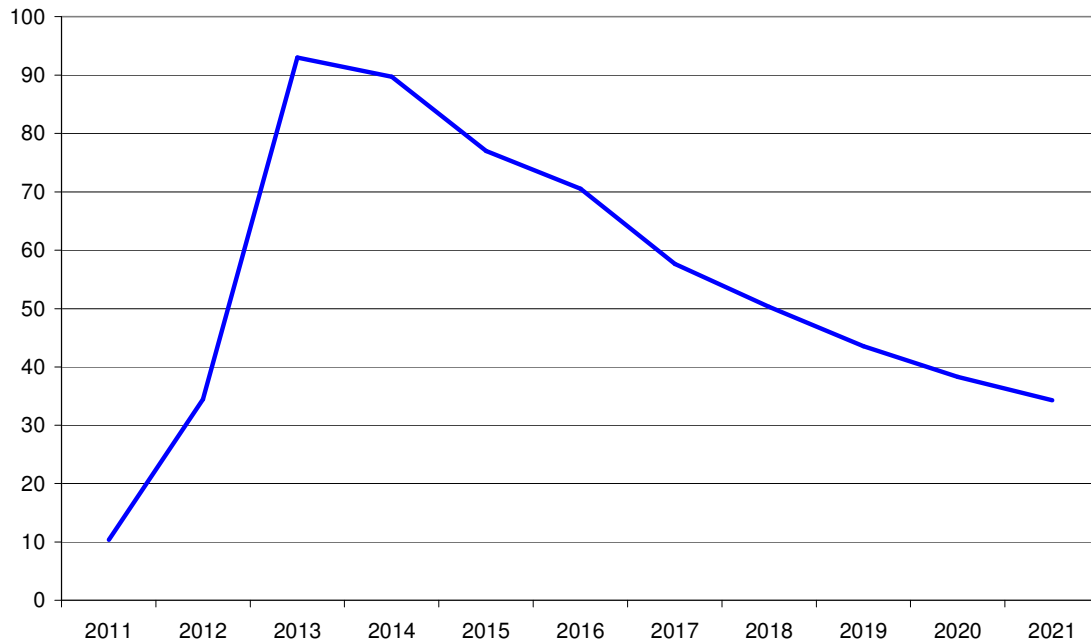


Source: cebr analysis, Office for National Statistics

Public finances

This tax change would have a very marginal impact upon the UK's public finances position. Our forecasts suggest that at peak, this policy would only reduce borrowing by £90 million per year, but by 2021, the effect would become marginal as the impact of lower tax receipts from employment, profits and other business activities would take effect.

Figure 5.10 Reduction in public sector net borrowing due to change in business rate relief policy, £ million, 2005 chained volume measures



5.3 Conclusions

All of our policy tests show that whilst additional taxes on small businesses can have a positive effect on public finances in the short term, over the medium to long term this benefit is eroded as business activity, particularly investment and employment, is stifled. As a result, the increases in tax revenue fall over time, and in some cases end up resulting in a worse public finances position.

In addition the research suggests that using small business taxation to help reduce the public sector deficit will incur a heavy price in jobs and economic growth. We have shown that small businesses play a hugely significant role in economic activity in the UK, and disproportionately engage in innovation, and in offering a way back into work for those that have been previously unemployed. Increased taxation on small businesses would erode these activities, and would ultimately prove damaging to growth and employment in the UK economy.

A. Evidence on the impact of business taxation

Summary

The purpose of this chapter is to present key academic evidence on the effect of business taxation on the economy. The chapter is split into two parts: the first provides a brief synopsis of the theoretical basis for how business behaviour is influenced by taxation. The second part of the chapter contains a review of the empirical evidence of how businesses in the real world have been affected by tax.

The key results of our literature review are the identification of 'elasticities' which are used as an input to our economic modelling. By increasing the cost and reducing the returns to economic activity, taxes generally discourage things like investment and employment. The tax elasticities quantify the magnitude of this affect; for example if a 10 per cent increase in corporation tax reduced business investment by 5 per cent this would correspond to an elasticity of -0.5.

Taxation and the economy

Taxation and incentives

There is a broad body of economic theory underlying why taxes have an impact on the economy. Before we describe this however, the rationale behind much of the theory can be illustrated with a simple example. Consider a business owner who can choose whether or not to build a new factory. In a world with no corporate taxation the individual would receive a yield of 10 per cent on this investment, however if we take into account tax the yield falls to 7 per cent. If the cost of capital for this investment is 8 per cent; it is clear that without tax the new factory is built and with tax it is not.

If we aggregate this pattern across the economy as a whole, one would expect higher corporate taxes to result in lower investment – in turn this reduces employment and economic output or GDP. Corporation tax introduces a distortion into the market and affects individuals' decisions to invest.

Taxes on capital and profits – Corporation Tax and Business Rates

This section briefly describes what economic theory says about the impact of taxes on capital and profits. In the UK two such taxes are corporation tax – which firms pay on earnings (including capital gains); and business rates – which applies a levy on firms based on the value of the business premises they use.

The starting point for this theoretical discussion is to state Arrow's theorem of welfare economics; that every competitive equilibrium is Pareto Optimal⁵. This essentially means

⁵ Arrow, K. J. and Debreu, G. (1954) 'Existence of an Equilibrium for a Competitive Economy' *Econometrica*, Vol. 22, No. 3 (Jul., 1954), pp. 265-290. Stable URL: <http://www.jstor.org/stable/1907353>

that in the absence of market failures or man-made market distortions (such as taxes), the economy will achieve socially optimal equilibrium (no-one can be made better-off without making others worse-off). It is this theory that underpins the movement of advanced economies towards greater liberalism over the last 30 years in particular. We have even set up institutions to ensure competition occurs where possible (such as the Competition Commission in the UK). Where markets are afflicted with insurmountable market failures, we set up regulators (such as OFWAT and OFGEN) to ensure the firms within the marketplace act as if they were in a competitive market.

In summary, the theoretical orthodoxy is that competition, whilst rarely perfect, is the best system we have for ensuring economies produce as much as they can, and individuals make decisions that maximise their utility or happiness.

All taxes used in the United Kingdom distort the competitive market outcome. Whilst this needs to be weighed against the need to raise funds to provide public services – it is clear that taxation is usually damaging to social welfare. Only in a few specific cases can taxes be efficiency enhancing, such as when used to correct a pre-existing market failure. Examples of these cases include when a good which has negative externalities is taxed, such as pollution or congestion. In this case the tax can be used to counteract the fact that individuals' choices do not reflect the cost their actions impose on others. Another case is where the revenue raised by the tax is used to provide a public good. Public goods such as street lighting and property rights generally are not provided by the private sector and therefore must be provided by the public sector.

Considering capital and profit taxes specifically; business activity which results in profit and capital accumulation boosts economic output. The key relevant theory to this case is that of firms' investment decisions. For investment to occur it is necessary that the rate of return on investment exceeds a businesses cost of capital. Therefore, reducing the cost of capital would be expected to boost investment (which is why policymakers and regulators go to great lengths to ensure financial markets are as efficient as possible). However, it is also the case that economic theory predicts taxes such as business rates and corporation tax will reduce investment by driving a wedge between pre and post tax return on investment.

Translating this investment effect into a macro-economic effect is founded on the theories of long run economic growth. Under the original Solow⁶ model of long run growth where economic output depends on the stock of labour and capital, raising taxes which reduce investment will result in a one off level effect to GDP as the capital stock is affected. In this case there is no long run affect on the rate of GDP growth; GDP per capita is permanently lowered, but follows the same path of growth once this level affect has fed through.

However, under the Romer theory of endogenous growth a fall in investment can have a short run impact on the level of GDP per capita as well as a long run impact on GDP

⁶ Solow, R.M (1956) 'A Contribution to the Theory of Economic Growth' *Quarterly Journal of Economics*, Vol. 70, No. 1 (Feb., 1956), pp. 65-94. Stable URL: <http://www.jstor.org/stable/1884513>

growth⁷. Under endogenous growth theory, GDP is driven by the stock of labour, capital and technology or productivity. Under Endogenous growth theory a reduction in investment can affect both the capital stock and productivity growth. This makes conceptual sense because when firms invest in new equipment and research and development it will normally bring about an improvement in productivity. Therefore any distortions which reduce investment may reduce productivity growth and so economic growth.

Taxes on labour – Employers’ National Insurance contributions

Labour taxes such as employers’ National Insurance Contributions influence both workers’ decisions about how much labour to supply and firms’ decisions about how much labour to employ. This is because they drive a wedge between what employers have to pay for the labour they demand and what individuals receive for the labour they supply. Personal income taxes and employee social-security contributions reduce the return to working, which may discourage labour supply and depress potential output. The presumed work-disincentive effects of labour taxes may be exacerbated by generous social benefits, which act as a negative tax, or subsidy, on leisure. Business taxes like Employers’ National Insurance Contributions increase the costs to employment and depress labour demand.

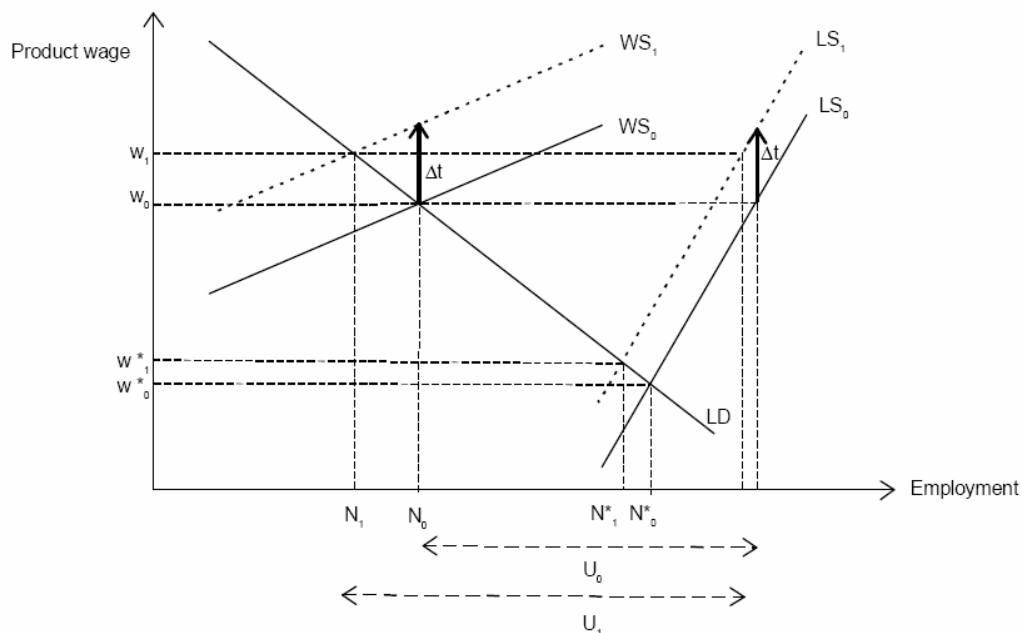
Considering the labour supply element of this, in practice, the decision over an individuals’ labour supply occurs in two forms: whether to participate in the labour market at all and how many hours to work once working. Taxes may have important effects on both of these decisions, however, the direction of these tax impacts is in theory ambiguous due to opposing “substitution” and “income” effects: a rise in labour taxes lowers the price of leisure relative to work and thus discourages work effort (substitution effect); at the same time, if consumers have a targeted flow of consumption, higher labour taxes reduce the disposable income of workers and necessitate an increase in work effort to recoup lost income (income effect)⁸. Thus, empirical evidence is critical in being able to predict whether cutting taxes will increase the supply of labour in the economy.

Figure A.1 illustrates the argument graphically. The key features are labour demand (the LD curve); and labour supply (the LS_0 and LS_1 curves). The downward sloping labour demand curve shows that firms demand more labour at lower wages. The upward sloping labour supply curves illustrate how workers are willing to supply more labour at higher wages. The market equilibrium is where demand and supply intersect – in the no tax case this occurs at N^*_0 at the bottom right of the chart. When a labour tax is introduced it reduces the return to working as a share of workers income is expropriated. Workers supply less labour at a given pre-tax wage – which moves the labour supply curve from LS_0 to LS_1 . However, this results in a new equilibrium at N^*_1 where there is lower employment and higher employment than before at N^*_0 .

⁷ Romer, P.M. (1986) 'Increasing Returns and Long-Run Growth' Journal of Political Economy October 1986, Vol. 94, No. 5: pp. 1002

⁸ Liebfritz, W., Thornton, J. & Bibbee, A. (1997) "Taxation and Economic Performance", OECD Economics Department Working Papers, No. 176, OECD Publishing. doi:10.1787/668811115745f

Figure A.1 Labour supply and demand



The extent of the fall in employment in this case depends on labour-market institutions and the wage-bargaining framework. In countries with flexible labour markets, the taxes tend to get shifted back onto labour, reducing the take-home wage. The effect on labour supply of this lower wage appears to be empirically small for men, but appears to be significant for women, for whom tax elasticities are high. In countries with inflexible labour markets, by contrast, labour taxes tend to get shifted forward to producers, at least in the short run, and therefore reduce labour demand. This reduces employment and lowers growth if lower demand for labour is not replaced by higher demand for capital, for example if investment reacts negatively to higher costs of production. Empirical work shows that labour-demand elasticities are much higher than overall supply elasticities, so that labour taxes tend to be much more distortionary in countries where there are inflexible labour markets, and most of the tax effect falls on the demand rather than the supply of labour. The absolute level of the labour-tax burden also tends to be high in such countries.

The extent to which the effects predicted by economic theory will arise in the real world is an empirical issue. The next section therefore presents a review of economic evidence on these issues.

Empirical evidence on business taxation

The key questions we aim to identify in this section is the extent of the impact of labour taxes on employment/unemployment and the extent of the impact of capital and profit taxes on investment.

The magnitudes of these impacts are measured by 'elasticities'. The elasticity measures the size and the direction of the relationship. For example, if it is found the elasticity of labour supply to the labour tax wedge is -0.5 then this implies that a 10 per cent increase in the labour tax wedge will reduce labour supply by 5 per cent.

These elements are to be used as inputs for our macro-economic simulation, presented in chapters 4 and 5.

Taxes on capital and profits

The bulk of the empirical literature capital and profit taxes focuses on corporation tax. The two prime areas of investigation are the impact of effective corporation tax rates and the impact of changing the cost of capital. Theoretically the two are equivalent – what matters is the gap between the marginal return on investment and the cost of capital. Distortions that raise the cost of capital or reduce post tax returns to investment would be expected to have a similar impact on investment. In this sense both types of study are relevant to our tax simulation; studies which quantify the impact of a higher cost of capital on investment; and, studies which quantify the impact of higher profit and capital taxes on investment.

Empirical studies of the determinants of domestic investment have found the cost of capital to be a significant influence on total physical investment, so that reducing the effective marginal tax rate should raise investment in the long term. In particular, systematic tax effects on investment appear to be somewhat easier to identify with respect to foreign direct investment, possibly because studies of the effects of foreign direct investment employ a greater variety of tax rates and other variables than do single-country studies of domestic investment. In this regard, our estimates suggest that taxes may have their greatest effects on foreign direct investment that is financed out of retained earnings. Also, shifting to a more neutral tax system for investment (by equalising marginal effective tax rates across sectors) is likely to raise the efficiency of the stock of capital in the longer term. As past tax reforms affected both the level and the structure of domestic investment, it is difficult to assess their overall effects on efficiency and growth. A review of the literature of the impact of the cost of capital on investment by Hassett and Hubbard⁹ concludes that an elasticity between $-\frac{1}{2}$ and -1.0 is a good reflection of it. Table A.1 contains a summary of results from key research in this area.

⁹ Hassett, K.A. & Hubbard, R.G. (2002) 'Tax Policy and Business Investment' This chapter was published in: A. J. Auerbach & M. Feldstein (ed.) *Handbook of Public Economics*, , chapter 20, pages 1293-1343, 2002

Table A.1 Summary of studies on the sensitivity of investment to the cost of capital

Study	Method/Data	Estimates
Dufwenberg, Kosjenkylä and Södersten (1994)	Time series, manufacturing fixed investment in Denmark, Finland, Norway and Sweden, 1965-90	Cost of capital negative and significant.
Cummins, Hassett and Hubbard (1994)	Time series, gross business investment in US, 1953-88	Cost of capital (including taxes) negative and significant
Bosworth (1993)	Time series and pooled estimate, gross business investment in 14 OECD countries, 1965-90	Small significant negative interest rate coefficient in 7 time series estimates and in pooled estimate
Bosworth (1993)	Time series and pooled estimate, residential investment in 14 OECD economies, 1970-90	Small significant negative interest rate coefficient in 13 time series estimates and in pooled estimate
Ford and Poret (1991)	Time series, aggregate business sector fixed investment in G7 economies, 1968-88	Cost of capital not significant or significant with wrong sign
Corker, Evans and Kenward (1989)	Time series; durable equipment and non-residential business investment in US, 1964-85	Small significant negative cost of capital coefficient in both cases
Devereux (1989)	Time series; manufacturing investment in the UK, 1975-84	Small significant negative cost of capital coefficient
Gordon and Veitch (1987)	Time series, business fixed investment in <u>S</u> , 1919-83	Interest rate not significant
Shapiro (1986)	Time series, gross private fixed investment in US, 1955-83	Cost of capital significant and negative when effect of supply shocks taken into account
Clark (1979)	Time series, investment in producers' durable equipment and non-residential structures in US, 1954-73	Cost of capital not statistically significant

Source: OECD

More recently cross country panel data studies have sought to quantify the impact of corporation tax on investment. An example of this is the work by Djankov et al¹⁰. They use data on the corporate tax rate in 85 countries for the year 2004. The study is built on a joint survey with PWC that looks at all taxes imposed on 'the same' standardized mid-sized domestic firm operating in each country. The study looks at the effect of the various taxes on entrepreneurship and investment. The key finding is that 'corporate tax rates have a large and significant adverse effect on corporate investment and entrepreneurship'. The effect is robust even when controlling for changes in other taxes. The study finds that higher effective corporate income taxes are associated with lower investment in manufacturing, a larger unofficial economy and a greater reliance on debt as opposed to equity finance.

¹⁰ Djankov, S., Ganser, T., McLiesh, C., Ramalho, R. & Shleifer, A. (2008) 'The effect of corporate taxes on investment and entrepreneurship' NBER WORKING PAPER SERIES, 2008

A rich literature studies the effect of corporate taxes on investment and entrepreneurial activity. Indeed, a meta-analysis by Michael Wasylenko¹¹ identifies nineteen papers studying the effect of business taxes on business births (a key measure of entrepreneurial activity). In addition, Wasylenko identifies two studies looking at the effect of business taxes on investment. Almost all of these papers find a negative elasticity - that is, a rise in business taxation leads to declines in entrepreneurial activity or investment. The elasticities range from -15.7 to +0.6 for business births. This offers a strong indication that higher corporate taxes will have a negative impact on entrepreneurship and the associated economic activity and employment created. However, the limitation of the Wasylenko study is that it is mainly US based.

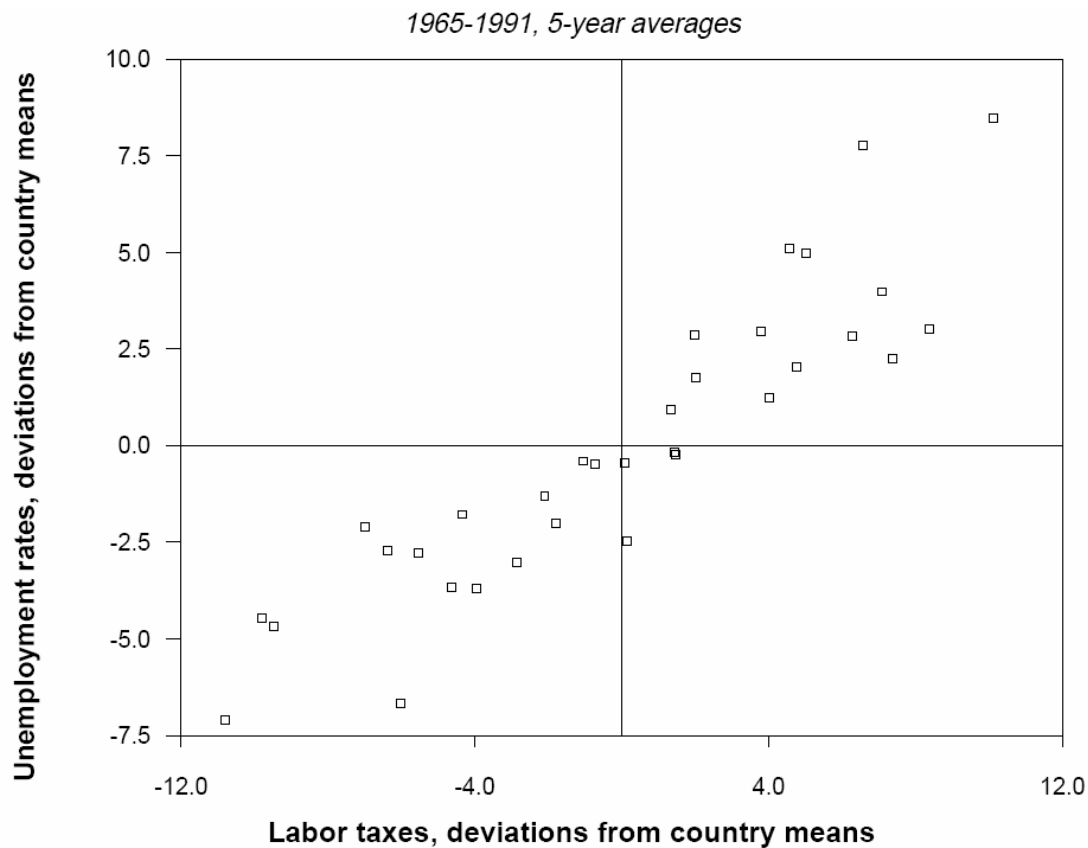
Taxes on labour

The empirical evidence linking higher labour taxation to higher unemployment and lower employment is strong. What matters is the 'tax wedge' between what a firm pays for an employee and what the employee actually receives. In the United Kingdom this tax wedge is made up of Income tax, employee National Insurance Contributions and employer National Insurance Contributions. Figure 3.2, adapted from an OECD study on taxation and economic performance tracks the correlation between unemployment and the labour tax wedge across Continental Europe over a 26 year period. The result is clear; countries with higher labour tax wedges experience higher levels of unemployment.

However, the correlation shown in figure 3.2 is not sufficient to prove that the labour tax wedge is the cause of the cross country differences in unemployment. It is possible that hidden factors such as institutional structure drive the observed relationship. Econometric studies are able to control for other factors and isolate the effect of labour taxes. The results generally support the prediction of economic theory that higher labour taxes do indeed reduce employment and in turn this reduces potential output.

¹¹ Wasylenko, M. 2002 'Taxation and economic development' in the Handbook of Monetary Policy (ed.s Rabin, J. & Stevens, G.L.)

Figure A.2 Labour taxes and unemployment across continental Europe



Source: OECD

The decision on whether to participate in the labour market and how many hours to work is likely to vary between men, married women and lone mothers. The theory on the impact of taxes is ambiguous. It is not clear whether the substitution effect: the rise in income tax that causes the price of leisure relative to work to fall and discourages work effort, outweighs the income effect: where, given a targeted level of consumption (a certain lifestyle for example), income tax rises cause disposable income to fall and result in workers needing to work more to recoup lost income due to the raised tax.

The empirical evidence on this has shown that tax elasticity of labour supply for women is generally large – at 0.5 per cent or higher – implying that substitution effects described above outweigh the income effects in practice. For men, the tax elasticity of labour supply is generally negligible or marginally negative. Lone mothers' income effects are even stronger than married women, while substitution effects are broadly similar. Figure 3.3 below shows the results in detail, taken from an OECD paper.¹²

¹² Liebfriz, W., Thornton, J. & Bibbee, A. (1997) "Taxation and Economic Performance", OECD Economics Department Working Papers, No. 176, OECD Publishing. doi:10.1787/668811115745

Table A.2 Estimates of labour-supply elasticities

	Country	Uncompensated wage elasticity (overall effect)	Broken down into:	
			Compensated wage elasticity (substitution effect)	Income elasticity (income effect)
A. Married women's labour supply				
Rosen (1976a)	US	2.3	n.a	n.a
Hannoch (1980)	US	1.4	2.3	-0.9
Schultz (1980)	US	1.0	1.0	0
Cogan (1981)	US	0.65	0.68	-0.03
Hausman (1981)	US	0.45	0.90	-0.45
Blundell and Walker (1982)	UK	0.43	0.65	-0.22
Arrufat and Zabalza (1986)	US	0.62	0.68	-0.06
Triest (1990)	US	1.2	1.5	-0.3
Strøm and Wagenhals (1991)	Germany	0.96	1.02	-0.06
Kaiser, van Essen and Spahn (1992)	Germany	1.04	1.22	-0.18
Blundell, Duncan and Meghir (1992)	UK	0.42	0.61	-0.19
Eissa (1995)	US	0.8	n.a	n.a
B. Men's labour supply				
Boskin (1973)	US	-0.1	0	-0.1
Hausman (1981)	US	-0.03	0.95	-0.98
Ashworth and Ulph (1981)	UK	-0.33	0.29	-0.62
Blundell and Walker (1982)	UK	-0.23	0.13	-0.36
Juhn, Murphy and Topel (1991)	US	-0.2	n.a	n.a
Kaiser, van Essen and Spahn (1992)	Germany	-0.004	0.28	-0.28
Zabel (1995)	US	0	0	0
C. Lone mothers' labour supply				
Hausman (1980)	US	0.47	0.65	-0.18
Bingley, Symons and Walker (1992)	UK	0.76	1.28	-0.52
Jenkins (1992)	UK	1.44	1.68	-0.24

Sources: OECD (1995b), pp. 59-60; and Congressional Budget Office (1996), p. 7.

These results imply that a rise in labour taxes may hold down female participation in the labour force and acts as a dampener on economic growth. Aggregating the different sources shown in the table and weighting appropriately, the US Congressional Budget Office found that the overall US tax elasticity of labour supply is between 0 and 0.3 per cent.¹³ A tax reduction that raises disposable income by 10 per cent could raise the whole economy labour supply by around 1.5 per cent. Given the differential results between prime earners and secondary earners shown above, it is not surprising to note that a significant chunk of this would come from married women joining the labour force. Given labour supply is a key component of any economy's production level, potential output would rise too. The size of the increase in potential output would be determined by the product of the labour weight in the production function and the estimated increase in the labour supply. With labour share of output at around 0.7, potential output could rise by 1.0 per cent or more.

¹³ Congressional Budget Office (1996) "Labour supply and taxes", CBO Memorandum, p.7