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Fraser of Allander Institute

Economic Commentary

Vol 41 No 1



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The 'Fraser' undertakes a unique blend of cutting-edge academic research, alongside applied commissioned economic consultancy in partnership with business, local and national government and the third sector.

The Fraser of Allander has a unique mix of staff expertise, experiences and backgrounds that enables it to bring together cutting-edge economic methods and techniques with practical policy solutions and business strategies.

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Fraser of Allander Institute Economic Commentary

Vol 41 No 1

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** Opinions expressed in the economic perspectives are those of the authors and not necessarily those of the Fraser of Allander Institute*

At a glance

- The UK economy continues to outperform expectations with growth in 2016 of 1.8% and a consensus forecast of near 2.0% growth in 2017.
- Scottish growth in 2016 is likely to come in around our post-EU referendum forecast of just 1.0%. Recent business surveys have started to show a pick-up in activity although overall conditions are still fragile.
- There remains a high degree of uncertainty around all economic forecasts at this time. In particular, the range of possible outcomes is much wider than normal given the number of 'big' political events – not least the Brexit negotiations and the prospects for a 2nd independence referendum – that cast a shadow over the outlook.
- The long-term implications of Scottish independence and the UK's departure from the EU will be debated at length over the next 18+ months. Irrespective of the final outcome, the negotiation and referendum processes themselves will add an additional layer of uncertainty for business and act as a possible headwind to short-term growth prospects.
- In such uncertain times, we continue to recommend that just as much attention is given to the range of estimates that underpin this outlook as well as our central estimates. Our central forecast is for growth of 1.2% in 2017, 1.3% in 2018 and 1.4% in 2019.

FAI forecast Scottish GVA growth (%) by sector, 2017 to 2019

	2017	2018	2019
GVA	1.2	1.3	1.4
Production	1.4	1.5	1.6
Construction	0.7	0.8	0.8
Services	1.2	1.3	1.4

Forecast Scottish unemployment, 2017 to 2019

	2017	2018	2019
Unemployment	131,900	141,350	166,300
Rate (%) ¹	5.0	5.3	6.1

Note: Rounded to the nearest 50. ¹ = Rate calculated as total ILO unemployment by total economically active population 16+.

Source: Fraser of Allander Institute

GVA forecast range 2017 to 2019



Summary

Our recent economic forecasts and analysis of the Scottish economy have been set against a period of significant uncertainty.

Political uncertainty is not unusual and for the most part, businesses and investors are used to dealing with changes in government priorities and indeed governments.

However, the current level of such uncertainty is unprecedented. It is also different from normal in that the debates around Brexit and a possible further independence referendum concern the fundamental basis on which the Scottish economy has grown and developed over the last 40 years.

That being said, with so little clarity around many businesses appear to be 'looking through the uncertainty' and are continuing to press ahead with day-to-day activities.

Whilst the Scottish economy continues to lag the rest of the UK, a number of recent business surveys point to a welcome pick-up in activity toward the end of 2016 and into 2017.

However, consumers appear wary about the outlook. Indicators of Scottish consumer confidence are much more negative than for the UK as a whole.

It would appear that this, and not just the challenges in the North Sea, is one of the key reasons for Scotland's relatively weaker recent performance.

On balance, we forecast that the Scottish economy will continue to grow over the forecast horizon and more quickly than in 2016. The weight of probability suggests that it is likely to remain below-trend as policy uncertainties act as a headwind on growth.

The Scottish labour market continues to hold up remarkably well. Employment rates are close to record highs, whilst the current unemployment rate of 4.7% is well below its long-run average.

However with a rise in inactivity over the year, weak earnings growth and reduced average hours worked, the underlying picture is less positive than the headline figures suggest.

Ultimately, whilst the policy focus will undoubtedly be dominated by ongoing debates around the EU and Scottish independence, it is important not to lose sight of the importance of domestic economic policies.

Over the ten years since the start of the financial crisis in 2007, the Scottish economy has grown by just under 7% - equivalent to an average annual growth rate of 0.7% (less than a third of its long-term trend). GDP per head is just 2% higher over the same ten year period and the incomes of many households remain worse off.

Strategies, action plans and ambitions around inclusive growth will only take us so far. What really matters are clear practical policy actions to support businesses, boost productivity, attract investment and create jobs.

A renewed focus on how both the Scottish and UK Governments can use the current powers at their disposal to support the Scottish economy is needed.

Outlook and Appraisal

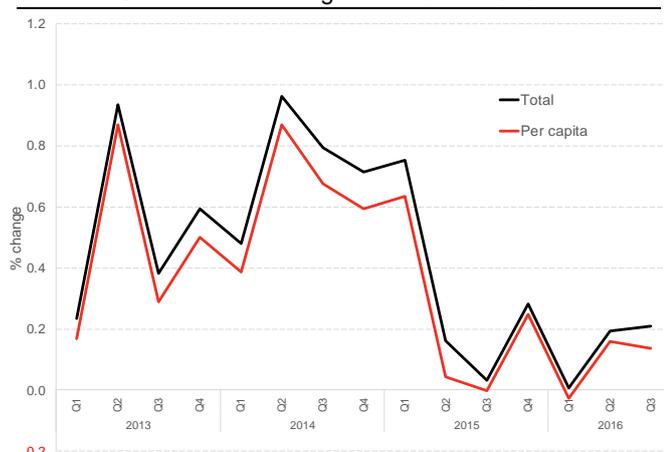
Next month's statistics are likely to confirm that the Scottish economy grew by just 1% in 2016. With growth of 1.2% in 2015, the Scottish economy has now been stuck in a low-growth cycle for nearly two years. With the triggering of Article 50, and plans for a further independence referendum, the Scottish economy's resilience is likely to be further tested over the next year.

Table 1: Scottish growth (%) by sector, Q3 2016

	GDP	Agriculture	Production	Construction	Services
Q3	+0.2	+0.5	-0.1	-1.4	+0.4
UK	+0.6	-0.7	-0.4	-0.8	+1.0
Annual	+0.7	+1.4	-2.9	-5.8	+2.1
UK	+2.2	-1.7	+1.1	+1.7	+3.1

Source: Scottish Government

Chart 1: Scottish economic growth – since 2013



Source: Scottish Government

Table 2: Labour market, Nov-Jan 2017

	Employment (16-64)	Unemployment (16+)	Inactivity (16-64)
Scotland	73.7	4.7	22.6
England	74.9	4.7	21.3
Wales	73.3	4.4	23.3
N. Ire	69.4	5.7	26.2
UK	74.6	4.7	21.6

Source: ONS

Introduction

The Scottish economy grew by +0.2% over the 3-months to September 2016.

Whilst this was the first official GDP data since the Brexit vote, there is little evidence that the referendum was to blame.

Indeed, the UK continues to beat expectations with the data suggesting that – if anything – the UK economy actually picked-up somewhat in the 2nd half of 2016.

We expect Scottish growth to come in during 2016 at close to our post-referendum forecast of near 1.0%.

The labour market has weakened somewhat, with Scotland now slightly worse-off than the UK on key indicators. On the plus side, this provides a degree of spare capacity to support growth prospects should demand pick-up in the months ahead. And overall, unemployment rates are near record lows.

Most indicators suggest that the Scottish economy continued to grow – albeit at a relatively fragile pace – through the final months of 2016 and into 2017.

The improved near term outlook for the UK should help and provide a welcome source of external demand (Scotland exports around £12bn of goods and services to rUK each quarter).

The outlook for Scotland will be shaped by a series of major political events over the next few months. On balance, we continue to believe that the Scottish economy will grow this year and next,

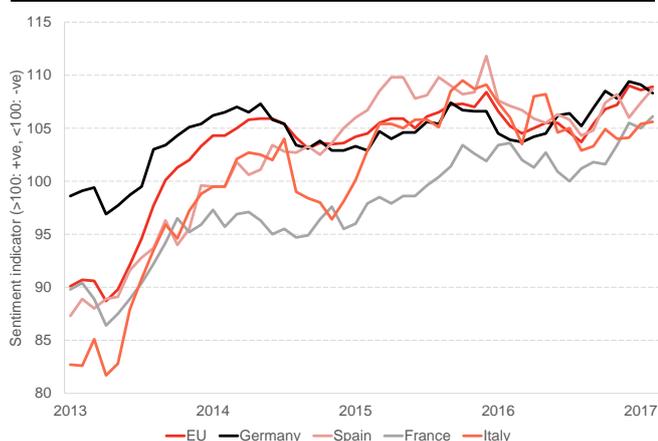
although the pattern of growth could be anything but smooth.

Table 3: An improving global outlook – Growth Forecasts

	2016	2017	2018
World Output	3.1	3.4	3.6
G7	1.6	1.9	2.0
US	1.6	2.3	2.5
Euro Area	1.7	1.6	1.6
Emerging & Developing	4.1	4.5	4.8
China	6.7	6.5	6.0
World Trade	1.9	3.8	4.1

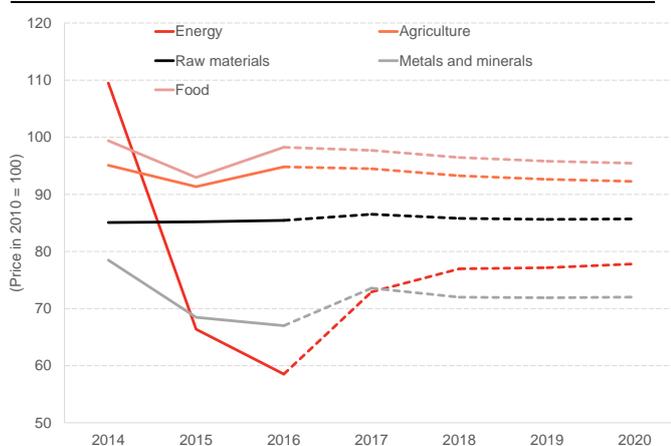
Source: IMF

Chart 2: Recovery in Europe continues – economic sentiment on upward trend (> 100 +ve sentiment)



Source: European Commission

Chart 3: Commodity Prices projected to remain flat – with over supply of oil continue to support low oil prices



Source: World Bank, Thomson Reuters Datastream

The global economy

After a relatively weak 2016, most predictions are more positive for world growth in 2017 and 2018.

As with our own forecasts, there is a wide range of possible outcomes, particularly given the policy uncertainties surrounding the Trump administration and how major international players – such as China – choose to respond.

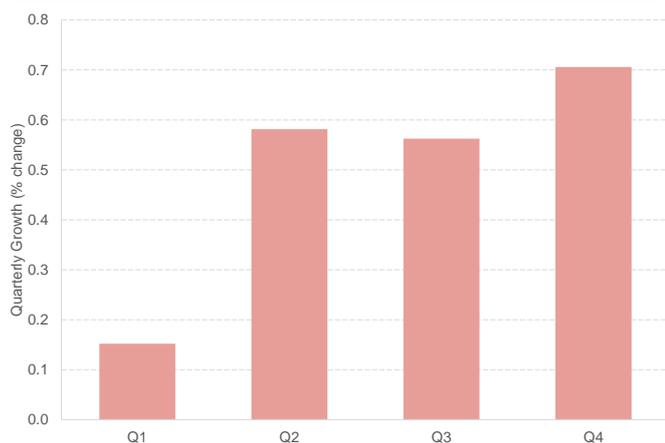
The projected fiscal stimulus in the US is likely to propel it to faster growth in the near-term, but at the expense of rising interest rates (which will have knock-on impacts on emerging and global financial markets). More worrying are the long-term consequences of a rush toward protectionism which can only harm global growth in the long-run.

The Chinese economy continues to move toward a more sustainable growth trajectory. How well controlled this is remains open to question. Amid heightened worries over debt and financial risk, tough new reforms are being implemented. Growth is projected to be at its slowest rate in over 25 years. The potential for a sharper slowdown than planned, is a key risk facing the global economy.

The recovery in Europe – home to over 40% of Scottish international exports – continues. Germany was the fastest growing economy in the G7 in 2016. And for the first time in almost a decade, the economies of all EU member states are expected to see positive annual growth in 2017 and 2018. Major challenges remain, including ongoing painful structural reforms. At the same time, the current high levels of unemployment and low wage growth will take years to escape.

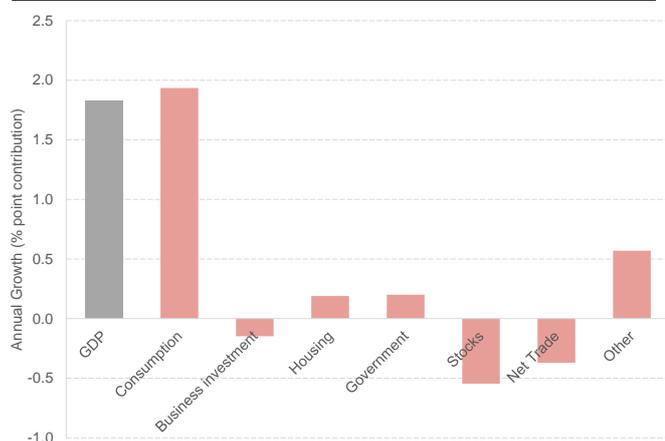
Commodity – and in particular energy – prices are forecast to remain relatively weak over the medium term (and well below levels seen at the turn of the decade). Oil has stabilised at around \$50 to \$55 per barrel: a price which is unlikely to usher in a new wave of investment to the North Sea. But with the fall in Sterling boosting profits (as oil is priced in dollars), it may be sufficient to counter some of the slowdown in activity provided that costs remain low and the tax environment becomes more favourable.

Chart 4: UK growth accelerated post EU referendum



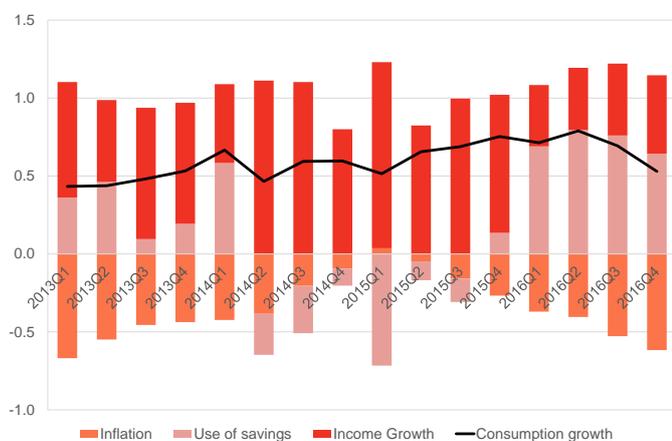
Source: ONS, Thomson Reuters Datastream

Chart 5: But growth unbalanced – all coming from consumption



Source: ONS, Thomson Reuters Datastream

Chart 6: Consumption supported by higher household income – but increasingly reliant on savings and borrowing



Source: ONS, Thomson Reuters Datastream

The UK Economy

The UK economy has held up remarkably well post the EU referendum. Growth has been close to its long-term average and if anything, the data shows the UK economy strengthening in the 2nd half of the year.

In the end, the financial market volatility and uncertainty observed during the summer – including in key business surveys – failed to materialise into real economic data.

There are a number of reasons for this, not least the decisive action taken by the Bank of England to shore up financial markets. Stronger momentum in global activity, higher global equity prices, more supportive credit conditions particularly for households and the first sustained rise in real earnings since the financial crisis, have all helped.

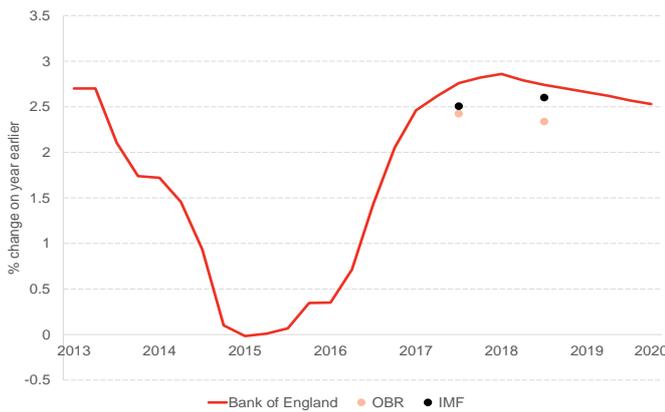
Moreover, it would appear that with so many different scenarios now possible, many consumers and businesses have so far chosen to ‘look through the uncertainty’ and continue day-to-day operations as planned. How long this will continue with Article 50 triggered remains to be seen.

As Chart 5 highlights, the source of the better than expected UK economic data over the last year has been robust growth in consumption. Indeed, household spending has been responsible for the entire net growth in the UK economy during 2016.

Some of this reflects a pick-up in real household incomes. But more recently, a significant driver has been a drawing down of savings and an increase in borrowing. Indeed the UK savings rate is now close to record lows. This appears to be driven by improved expectations for the economy, robust house price growth in England and cheap credit.

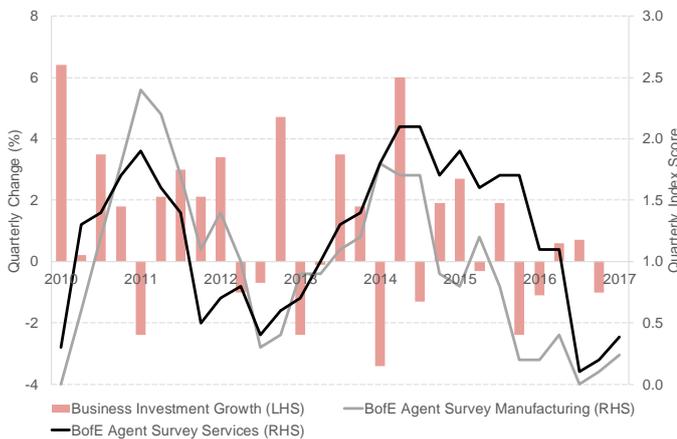
Whilst fuelling short-term growth, the long-term implications of such trends pose risks to the medium term outlook for the UK. In their most recent [Economic and Fiscal Outlook](#), the OBR have run a number of different scenarios for what may happen to the UK economy should consumers quickly reign back their spending.

Chart 7: Inflation projected to continue to rise sharply in 2017



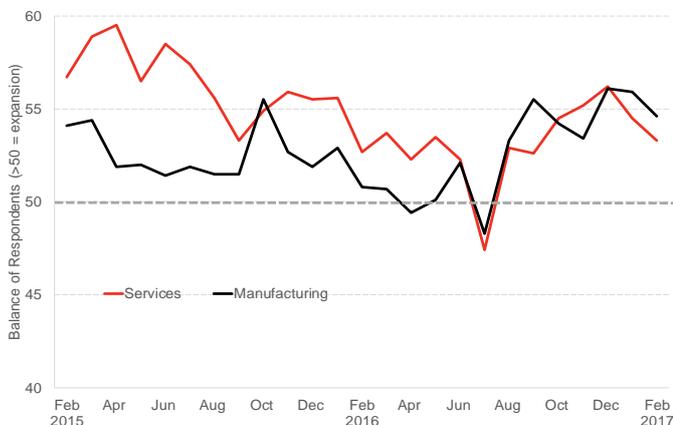
Source: Bank of England, OBR & IMF

Chart 8: Actual and planned business investment show signs of weakness as uncertainty bites



Source: ONS, Business investment in the UK & BofE

Chart 9: PMI for UK remains positive suggesting a strong start to 2017



Source: IHS Markit

* Above 50 = expansion of activity, below 50 = contraction.

Whatever scenario occurs, the outlook for consumer spending is substantially weaker this year than last.

The value of sterling is around 18% below its November 2015 peak, reflecting market perceptions that a lower exchange rate is needed following the UK's withdrawal from the EU.

A consequence of weaker sterling is that higher import costs will cause inflation to overshoot the Bank of England's 2% target. Inflation rose to 1.8% in January and further increases are likely over the coming months. The Bank of England expect inflation to peak at 2.8% toward the end of this year. That being said, with significant uncertainty around how the UK economy might react to Brexit, the MPC appear reluctant to take any immediate decision to raise interest rates.

Rising inflation coupled with moderation in pay growth as employment levels remains flat, is likely to mean materially weaker real income growth over the coming few years: another reason why consumer spending is likely to slow.

Despite the depreciation in sterling, net trade has still acted as a drag on growth although it should have a positive impact – albeit modest – in the coming months.

Unsurprisingly given heightened levels of uncertainty, actual levels of investment and measures of future intentions have weakened – Chart 8. Overall, business investment in the UK fell 0.9% in 2016. Results from the Bank of England's Agents of investment planning also remain low – although the figures did pick-up slightly in January 2017.

Despite these developments, the momentum established in late 2016, points to a positive outlook for early 2017. Up-to-date indicators of economic performance, including the IHS Markit PMI, remain above the cut-off of 50 which marks the boundary between expansion and contraction.

The OBR predict growth of 0.6% in Q1 before slowing to 0.3% per quarter for the remainder of the year.

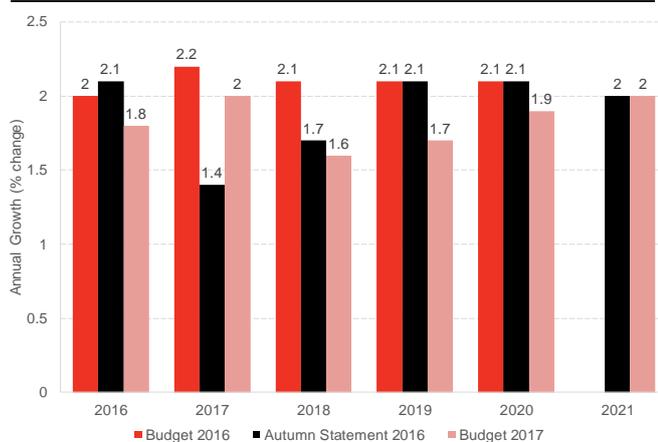
Table 4: OBR forecasts, Spring Budget 2017

	2016	2017	2018	2019	2020
GDP	1.8	2.0	1.6	1.7	1.9
<i>revision</i>	<i>-0.2</i>	<i>-0.2</i>	<i>-0.5</i>	<i>-0.4</i>	<i>-0.2</i>
CPI Inflation	0.7	2.4	2.3	2.0	2.0
<i>revision</i>	<i>0.0</i>	<i>+0.8</i>	<i>+0.3</i>	<i>-0.1</i>	<i>0.0</i>
Unemployment (% rate)	4.9	4.9	5.1	5.2	5.2
<i>revision</i>	<i>-0.1</i>	<i>-0.1</i>	<i>-0.1</i>	<i>-0.1</i>	<i>-0.1</i>

Source: OBR

* Italics are change from March 2016 forecast

Chart 10: Revisions to growth forecasts – 2016: 2020/21



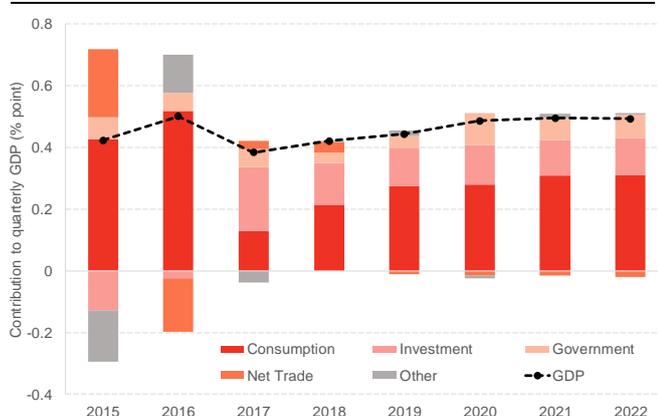
Source: OBR

Table 5: OBR forecast of nominal GDP (£ billion)

	2016/17	2017/18	2018/19	2019/20	2020/21
March 17	1,964	2,029	2,095	2,168	2,251
<i>Nov 16</i>	<i>1,951</i>	<i>2,001</i>	<i>2,083</i>	<i>2,167</i>	<i>2,253</i>

Source: OBR

Chart 11: Growth weaker as consumption tails off



Source: OBR

The UK Economic Outlook

As highlighted above, the near term economic outlook for the UK economy has improved.

Buoyed by robust consumer spending, most forecasters have revised up their predictions for growth in 2017.

The OBR for example, are now forecasting that the UK economy will grow by 2.0% in 2017 – higher than their forecast of 1.4% made back in the Autumn Statement in November.

But these improvements are short-term and largely superficial. Although forecasts have been revised up for 2017, they have been revised down for 2018, 2019 and 2020.

As a result, UK national income is projected to be essentially unchanged by 2020 vis-à-vis what the OBR had forecast in November.

Most economists still predict that growth will slow over the next couple of years as the economy adjusts to life outside the EU.

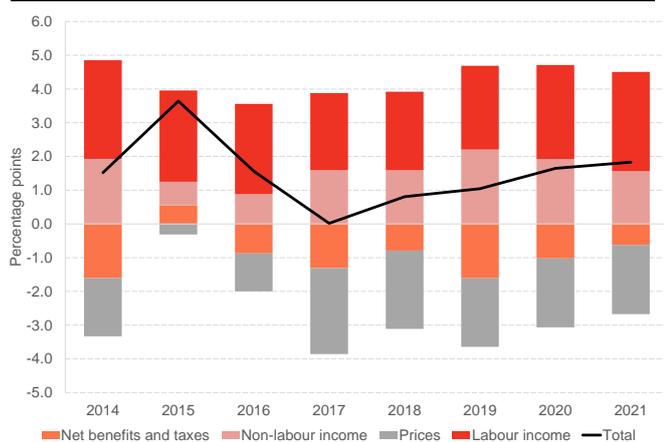
Overall, despite recent media attention on the positive performance of the UK economy post EU referendum (relative to forecast), the underlying picture painted by the OBR's economic and fiscal outlook remains weak (and much poorer than before the referendum in June).

Per capita GDP growth is forecast to average just 1.2% over the coming years, well below its post-war historic average.

This time last year, the OBR forecast average real earnings would return above their 2008 peak by 2020, but it now expects real earnings growth to be weak in 2017, and not return to the 2008-peak until 2021.

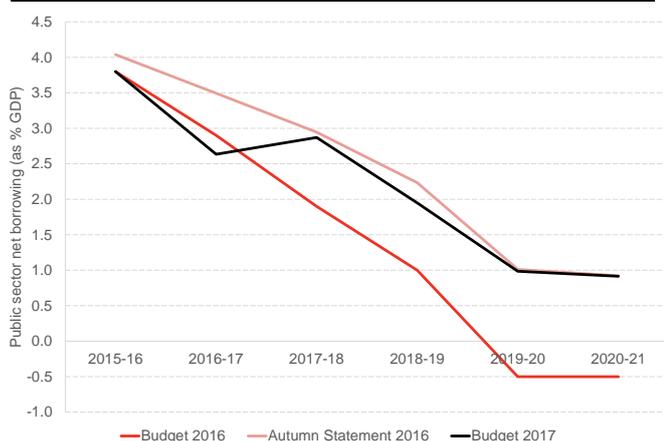
Rising inflation is likely to make it particularly challenging for households exposed to rising food and fuel prices. It will also make it much more challenging for families reliant on working age benefits which continue to be frozen in cash terms.

Chart 12: Weak outlook for household incomes – particularly in short-term (0% growth in 2017)



Source: OBR

Chart 13: Short-term revision to UK Government borrowing forecasts, but medium term trend remains



Source: OBR

Table 6: Budget Consequentials for Scotland

	2017/18	2018/19	2019/20	2020/21	Total
<i>Consequentials announced in Budget 2017</i>					
RDEL	124	85	51	n/a	260
CDEL	21	22	24	23	90
<i>Consequentials as % SG totals (Autumn Statement 2016)</i>					
RDEL	0.47%	0.32%	0.19%	n/a	0.33%
CDEL	0.68%	0.67%	0.68%	0.63%	0.66%

Source: HM Treasury

The Spring Budget

Earlier this month, the Chancellor delivered the final Spring Budget. Alongside the short-term good news on the economy, Phillip Hammond was able to report a downward revision in borrowing for the year.

But again, this is short-lived. The OBR predict that the government is still on track to borrow £30bn per year more in 2020/21 than it intended in March last year.

With public sector borrowing forecast to be around 1% of GDP by 2019/20, the Chancellor has some 'wriggle-room' to meet his fiscal target (which is to reduce cyclically adjusted borrowing to no more than 2% of GDP by 2020/21). He may well need it. The forecasts are predicated on an improvement in productivity growth to 1.6% in 2017 and beyond – way above recent trends.

The Budget was relatively thin on specific tax and spending announcements – and even thinner by the time the Chancellor u-turned on his decision to change the tax treatment of self-employed workers.

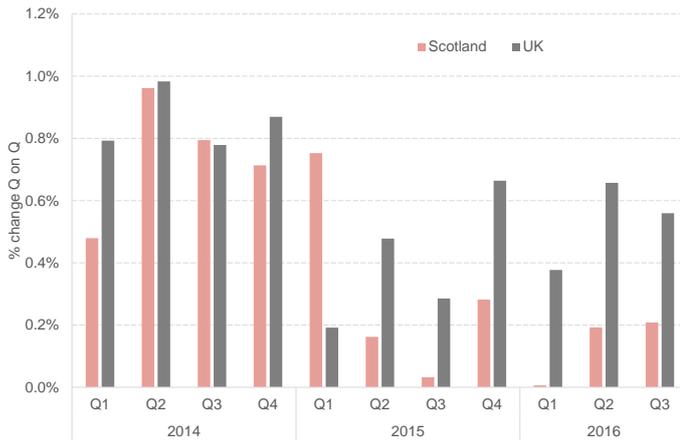
He did announce an additional £2bn spending on social care in England over three years; some additional spending on education; and moderate further increases in capital spending on top of those set out in November.

The subsequent consequentials for Scotland amount to £350m over the course of the parliament – £260m revenue and £90m capital.

In the context of a planned real-terms cut of £800m (i.e. adjusted for inflation) in Scotland's resource budget between 2016/17 and 2019/20, an additional £260m in cash is not an insignificant boost. But spread over 3 years it does not alter the conclusion that Holyrood will face challenging real terms reductions up to the end of the decade.

If the UK Government maintains its ambition to run a surplus in the next parliament, further cuts beyond 2020/21 are likely – taking the period of consolidation to well over a decade.

Chart 14: Scottish vs. UK economic performance



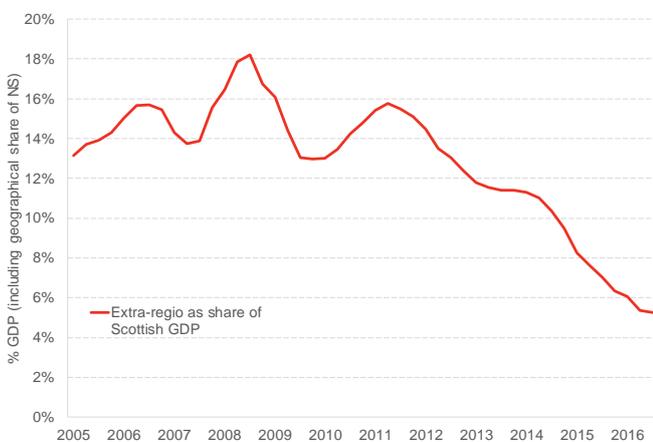
Source: Scottish Government

Chart 15: Average Scottish quarterly growth by time period (and by sector): Pre & post financial crisis



Source: Scottish Government, FAI calculations

Chart 16: Decline in contribution of North Sea to Scottish GDP



Source: Scottish Government, FAI calculations

Recent Scottish Economy Data

In contrast to the relatively robust growth in the UK, the Scottish economy continues to grow much more slowly.

Weak growth in any given quarter is not uncommon particularly as the Scottish series can be more volatile from time-to-time.

But as Chart 14 highlights, there is little doubt that the most recent data is part of a sustained trend.

We have now seen a year and a half of very muted (or in some Q's, no) growth. The Scottish economy is believed to have grown by around 0.6% over the last year. To put this in context, average growth *per quarter* in 2014 was 0.7%!

There are a number of drivers of these results.

As we have discussed in the last two editions of the Fraser Economy Commentary, it is hard to move away from the conclusion that the on-going challenges in the North Sea are continuing to have a significant impact on the wider Scottish economy.

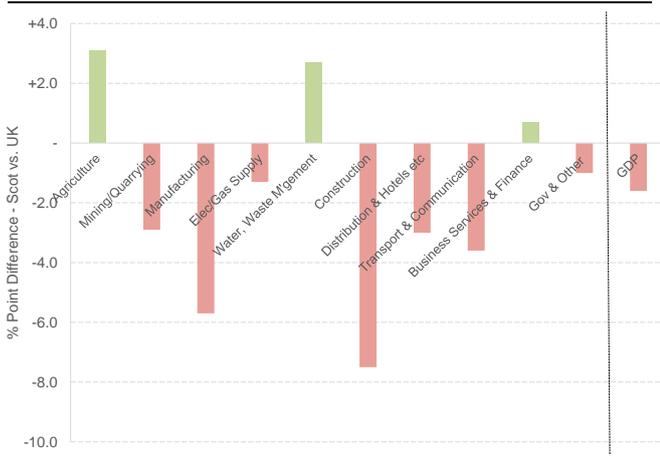
Industries closely associated to the oil and gas supply chain, such as elements of manufacturing, have fallen sharply. Overall manufacturing is down over 7% over the last three years.

To give an indication of the scale of the shock, Chart 16 plots the share of extra regio (which captures Scotland's oil and gas output) as a proportion of total Scottish GDP. The latest figures show a fall from a peak of around 18% in Q3 2008 to just 5% in Q3 2016. We cannot expect a decline of this magnitude not to have a significant impact on the on-shore Scottish economy.

There is some evidence however, that the slowdown may not just be limited to the oil and gas industry.

For example, food and drink is down nearly 2% over the year, the computer and electrical products sector is down nearly 5%, textiles and clothing – albeit a small sector – is down nearly 10% and chemicals and pharmaceuticals down over 8%.

Chart 17: Scottish vs. UK performance by sector over year to Q3 2016



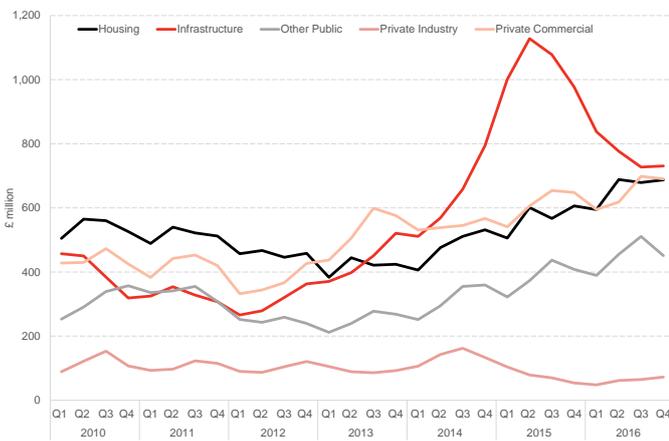
Source: Scottish Government, FAI Calculations

Overall, in only three of the major classifications of sectors – agriculture, water and waste management and businesses services and finance – has Scotland outperformed the UK over the year.

Construction continues to act as a drag on overall Scottish growth – with the sector down nearly 6% over the year.

As we first discussed in the July Commentary, this appears to be part of an adjustment back to more normal levels of activity. Construction grew by over 30% between the start of 2014 and the end of 2015.

Chart 18: Construction output (nominal): New Work

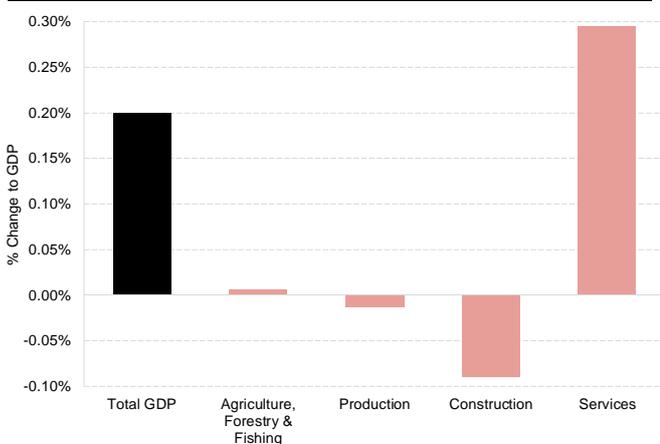


Source: ONS, Output in the construction industry

We remain somewhat puzzled by the scale of this growth – as the chart highlights the increase appears to have been driven by a significant boost in infrastructure spending. Whilst a large number of projects were delivered during this time, the speed of increase and subsequent fall-back suggests that some classification/reporting issues may be part of the explanation.

The growth that does exist in the Scottish economy continues to be coming through the all-important services sector (which makes up around 75% of the total economy). In contrast to other parts of the economy, the services sector has now grown in each and every quarter since mid-2015.

Chart 19: Composition of Q3 2016 growth



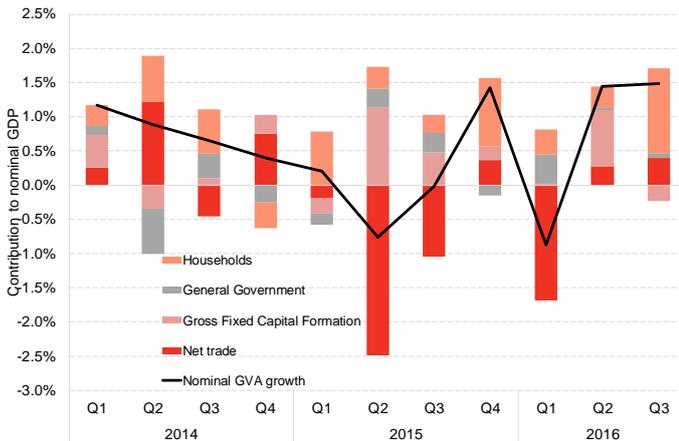
Source: Scottish Government

This is supported, in part, by relatively strong growth in retail and wholesale reflecting a continued robust uptick in consumer spending. It is also driven by a sharp rise in financial and insurance activities which are up over 12% on the year.

All that being said, despite this relatively healthy performance in services, one of the explanations why Scotland has lagged the UK is because the UK service sector has been growing even more strongly.

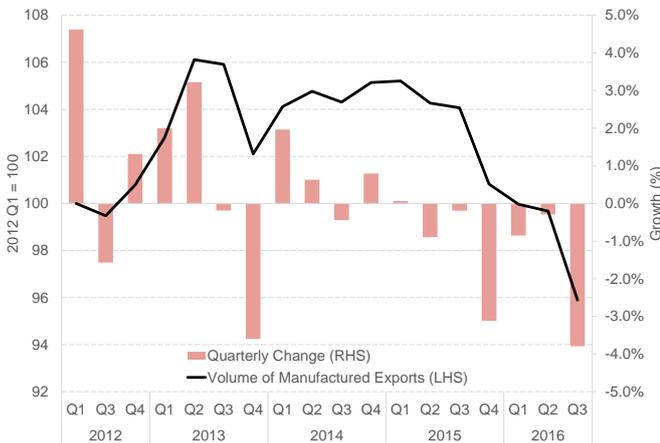
Over the year as a whole, UK services are up 3.1% compared to growth of 2.1% in Scotland.

Chart 20: Expenditure components of nominal GDP – households remain most important factor



Source: Scottish Government

Chart 21: Ongoing challenges with Scottish exports – falling manufactured exports for 6 quarters



Source: ONS

Chart 22: House prices remain relatively flat in Scotland – up just 2½% since start of 2014



Source: Nationwide

Similar to that in the UK, household spending has continued to make a sustained positive contribution to overall growth in recent times. Indeed, it was by far the greatest source of nominal growth in Q3 2016.

Investment (Gross Fixed Capital Formation) fell back somewhat after relatively strong growth in Q2.

The contribution from net trade was positive once again during the quarter but this comes on the back of overall weak performance.

Statistics shows that manufactured exports are down 8% on the year. Engineering exports – which make up around 1/3 of total manufactured exports – have fallen nearly 14% since the start of 2015.

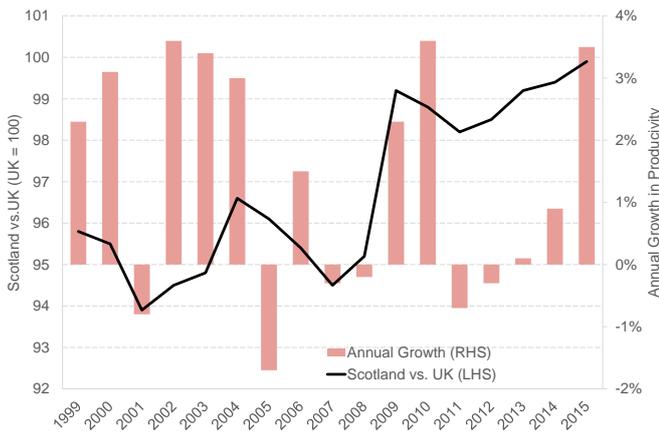
Overall, Scotland’s weak export performance remains a concern and a key challenge for policymakers. Brexit, at least in the short-run, is only going to make tackling these issues even harder.

Scotland’s estimated saving ratio remains low – and fell again in Q3 2016. If this reflects some households using up savings in order to support consumption, and before inflation and employment prospects become more uncertain, then it may not bode well for future growth prospects.

It is unsurprising therefore that we have failed to see much in the way of growth in house prices in recent times. Prices are only up around 2% on 2014 levels.

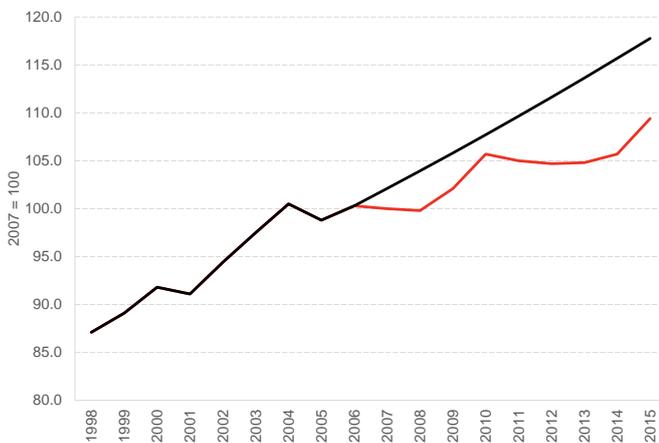
This does however, hide a significant degree of variability across the country. House prices in Edinburgh continue to grow significantly, whereas Aberdeen and surrounding areas have been seeing much more muted growth (and even falling prices on occasion). In contrast, UK house prices are up 15% over the same period. Muted house price growth may have an impact on consumer confidence in Scotland.

Chart 23: Scotland's Recent Productivity Performance



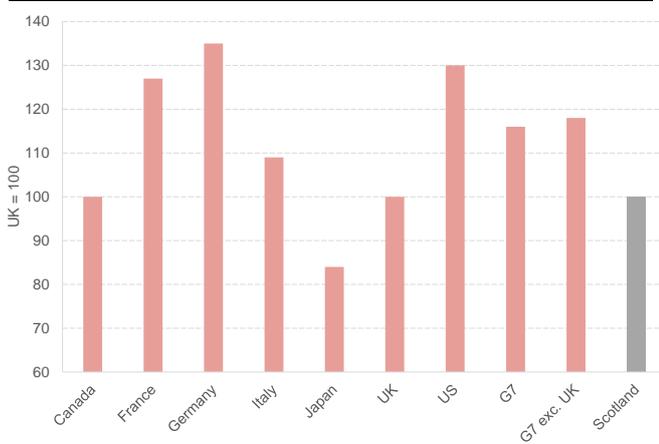
Source: Scottish Government

Chart 24: Productivity still below trend



Source: ONS and FAI calculations

Chart 25: International Productivity Performance (UK = 100): 2015



Source: ONS and FAI calculations

Productivity Statistics

Since December's Commentary, we have new data on productivity in Scotland.

This showed growth in labour productivity of 3.5% in 2015. So have we finally turned the corner in terms of boosting Scotland's long-term economic potential? In short, no.

Productivity growth is fundamental to the long-term health of an economy. If we can produce more output (or better quality output) whilst still working the same hours then we will be better off.

On a positive note, the gap between Scotland and the UK has closed. In 1999, Scotland's labour productivity (in current prices) was around 95.8% of the UK equivalent figure whereas now it is 99.9%. Productivity in Scotland is now around 9.4% higher than it was in 2007 – although it is still well below where it would have been had it remained on trend (Chart 24).

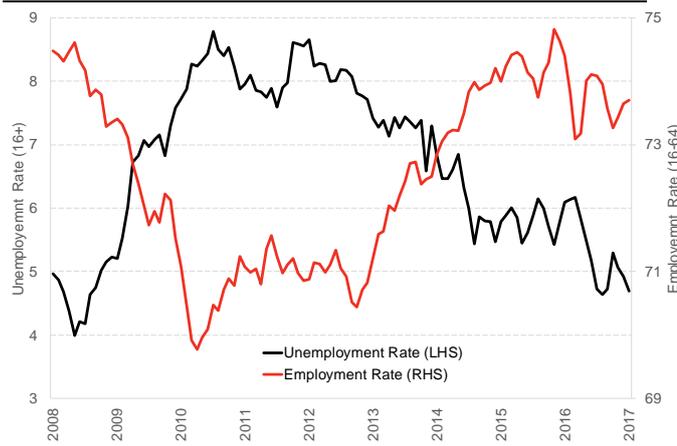
But the rise in productivity in 2015 follows 4 years of weak (and sometimes falling) productivity. To an extent, the increase appears to be a one-off bounce back rather than evidence of a sustained improvement.

Furthermore, the UK's own productivity performance remains poor. As the chart highlights, UK productivity is around 20% lower than the G7 average (and well below the US, France and Germany). So catching up with the weak performance of the UK is nothing to write home about.

At the same time, some of the growth this year appears to be driven – not from us producing more – but working less to produce the same amount! This is because hours worked fell in 2015.

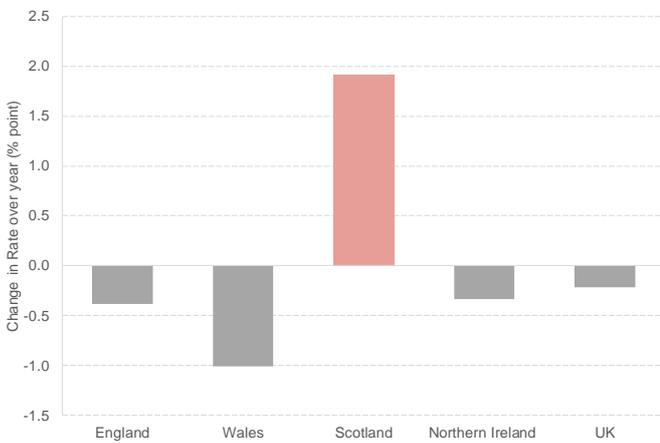
And whatever happened in 2015, we know that with growth in 2016 – on the measure used in productivity calculations – likely to come in around 0.6%, and rising (or at least flat) hours worked, Scotland's productivity is likely to have fallen last year rather than increased.

Chart 26: Employment & Unemployment: Nov-Jan 2017



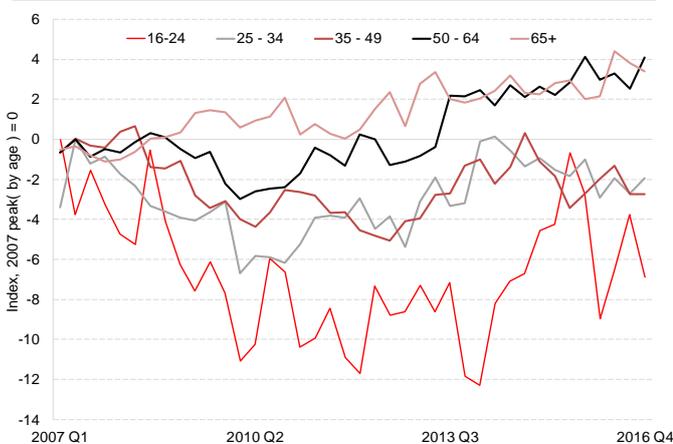
Source: ONS, Labour Force Survey

Chart 27: Inactivity Rates: change over year: Nov-Jan 2017



Source: ONS, Labour Force Survey

Chart 28: Employment rate changes by age bracket since 2007



Source: ONS, Labour Force Survey

The Scottish labour market

With relatively fragile data across the economy as a whole, it is no surprise that the Scottish labour market has weakened over the last year.

Employment is down 21,000 over the 12 months to end January. The Scottish employment rate of 73.7% is just under a percentage point lower than the UK rate of 74.6%. But as Chart 26 highlights, the employment rate in Scotland is still relatively robust and near its pre-financial crisis peak.

Overall, the Scottish labour market seems to have held up well despite the recent differences in growth rates with the UK.

Indeed, the most recent data published in February showed a rise in employment of 16,000 over the quarter with a similar fall in unemployment.

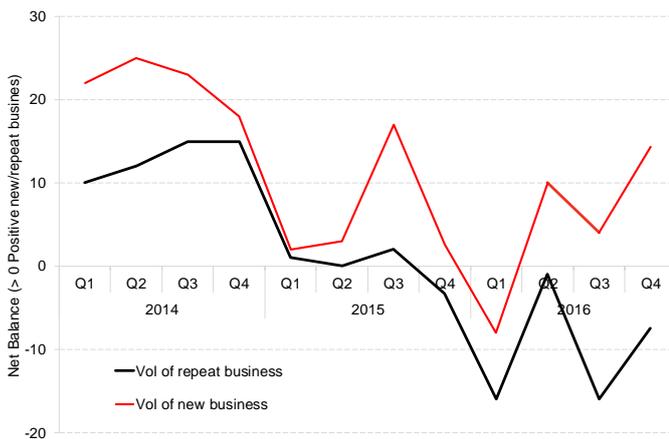
One feature that continues to come through from the annual picture is that whilst unemployment has fallen sharply, this has been driven – not by people finding work – but by a rise in levels of economic inactivity – Chart 27.

Our [Scottish Labour Market Trends](#) report, which we publish jointly with the Scottish Centre for Employment Research, provides a detailed analysis of developments in the labour market.

One theme this quarter was to monitor how Scotland – and different parts of the country – have fared since the global financial crisis. This analysis highlighted that whilst Scotland entered the financial crisis in a relatively healthier labour market position than the UK as a whole, it has not bounced back to the same extent.

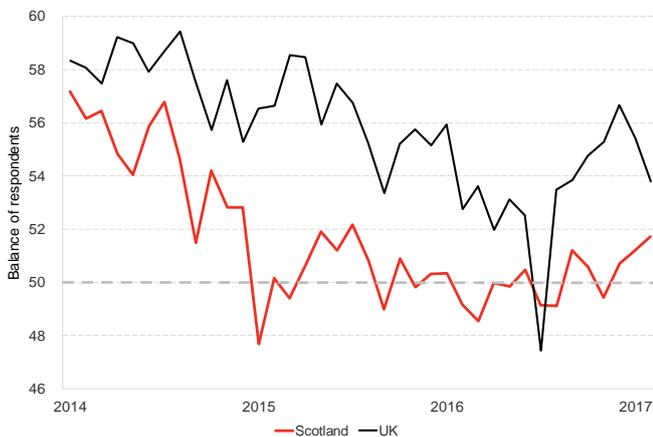
Since 2007, of the different age groups, employment rates amongst older workers have increased – both in terms of those aged 50-64 and 65+. This has not been the case for most young workers. This ageing of the workforce is likely to be part of a more sustained trend and raises some important issues about the long-term structure of the labour market, and the potential implications for young people seeking work.

Chart 29: RBS/FAI Business Monitor shows some tentative signs of improved conditions



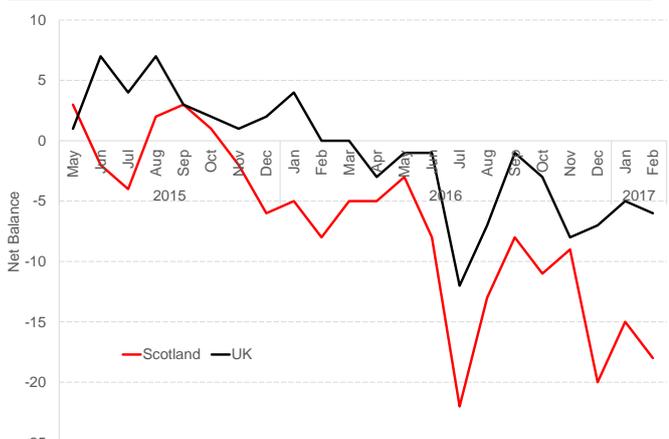
Source: Fraser of Allander/RBS Scottish Business Monitor

Chart 30: PMI: Scotland lags the UK



Source: IHS Markit

Chart 31: Consumer Confidence remains negative in Scotland and gap with UK widening



Source: GfK Research

Outlook

There has arguably never been a time in recent history where the range of key fundamental economic policy questions facing Scotland have been so uncertain.

How these issues – and in particular, the Brexit negotiations and prospects of an independence referendum – play out will have a material impact on the outlook for the Scottish economy.

This is not to say that one particular outcome is better than the other. It is simply to make the point that with uncertainty of such a magnitude now in play, we cannot expect these processes themselves – irrespective of the end result – not to have an impact.

This uncertainty comes at a time when some of the emerging indicators picking up business trading conditions have been starting to show a degree of positivity.

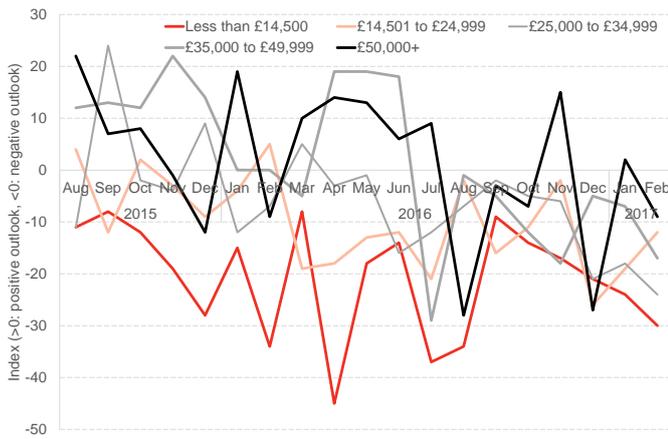
For example, the latest RBS Scottish Business Monitor for the final quarter of 2016 contained some evidence of renewed optimism in the Scottish economy. The balance of firms reporting a pick-up in new business rose relatively sharply. At the same time, whilst those reporting a change in repeat business remain negative, it was up on Q3.

The Bank of Scotland IHS Markit PMI for February reported that business activity in Scotland had increased at its fastest rate since July 2015. The figure of 51.2 is still below the equivalent figure for the UK but it does suggest that growth is picking up as we move into 2017.

In contrast to the slightly more positive sentiment within the business community, levels of consumer confidence in Scotland have continued to slide.

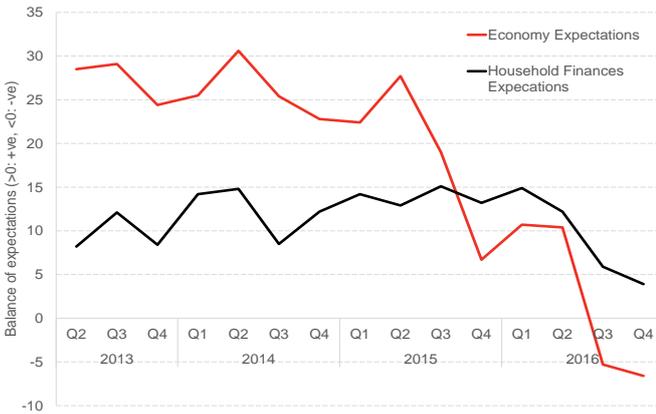
The GfK Consumer Confidence Index (where 0 = balance) fell to -18 in February. Well below the same index in the UK (which whilst also negative was -6).

Chart 32: Confidence negative across all income bands – although pessimism highest amongst low earners



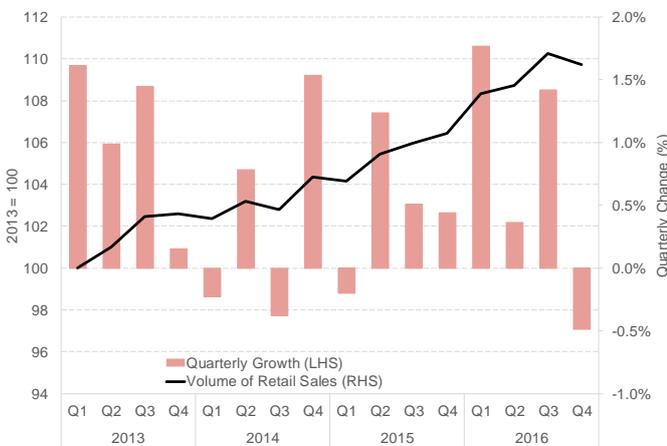
Source: GfK Research

Chart 33: Key driver of lower consumer confidence appears to be deterioration in expectations for economic outlook



Source: Scottish Government

Chart 34: Fall in retail sales index – Q4 2016



Source: Scottish Government

Unpicking the headline results, we see that confidence is weakest amongst those on the lowest household earnings.

This may in part reflect their exposure to recent pressures on welfare benefits and higher food prices. Overall however, all income groups reported a negative result.

One possible explanation for this outlook is the sharp fall in the expectations that households have for the economy in the foreseeable future. The Scottish Government’s own consumer confidence index points to a sharp weakening in expectations about the economy (Chart 33).

Given the share scale of household spending in the economy, this loss in confidence does not bode well for future growth in Scotland.

A useful ‘soft-indicator’ for labour market conditions is the IHS Markit Jobs Report. The most recent edition showed that 2016 finished on a weak footing, with falls in both permanent and temporary posts, but February was more promising.

With such overall weakness in consumer confidence, it is of no surprise that retail sales fell in the final quarter of 2016 – albeit on the back of relatively robust growth in recent months.

Table 7: Permanent Staff Placements

50 = ‘no change’	Scotland Index	UK Index
2016		
Sep	55.2	51.0
Oct	49.8	54.6
Nov	49.1	55.6
Dec	45.6	55.2
2017		
Jan	45.7	54.5
Feb	51.6	56.1

Source: IHS Markit

Table 8: Latest growth forecasts for the UK economy

	2017	2018	2019
Bank of England	2.0	1.6	1.7
OBR	2.0	1.6	1.7
NIESR	1.7	1.9	2.1
European Commission	1.5	1.2	n/a
IMF	1.1	1.7	1.8
Oxford Economics	1.6	1.3	1.6
ITEM Club	1.3	1.4	1.6
CBI	1.3	n/a	n/a

Source: HM Treasury

Table 9: Nowcasts for Q42016 and Q12017 for Scotland

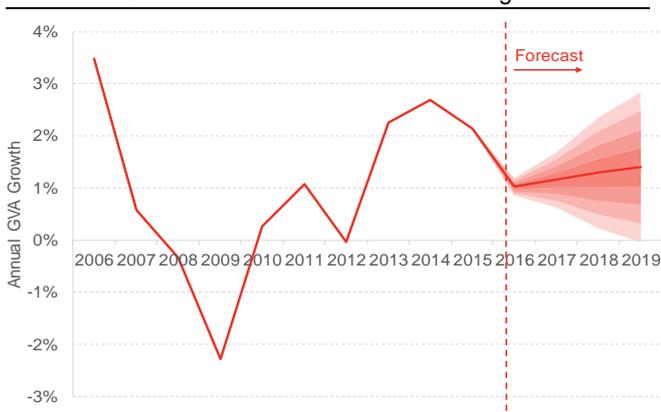
	Q4	Q1
Quarterly Growth	+0.42	+0.38
Annualised Growth	+1.69	+1.55

Source: Fraser of Allander Institute

Table 10: FAI forecast Scottish GVA growth (%) 2017 to 2019

	2017	2018	2019
GVA	1.2	1.3	1.4
Production	1.4	1.5	1.6
Construction	0.7	0.8	0.8
Services	1.2	1.3	1.4

Source: Fraser of Allander Institute

Chart 35: Growth to remain below trend through forecast

Source: Fraser of Allander Institute

* Actual data to Q3 2016, central forecast with forecast uncertainty for 2017 – 2019

Uncertainty bands sourced from accuracy of past forecasts at different forecast horizons

Our forecasts

Forecasting the immediate outlook for growth in these times of heightened political uncertainty remains challenging.

Table 8 highlights how most independent forecasters predict that the pace of growth will ease over the next few years in the UK.

Our nowcasts – which make use of a wide variety of data sources, including the latest business surveys – suggest that the Scottish economy remains on track to record growth in the first quarter of 2017. Growth of 0.4% would be higher than we have seen in recent quarters.

In looking further forward, as in the past, we report a central forecast but calculate uncertainty bands to set out a likely range within which we predict Scottish GDP will lie. In our view, it is this range that should be just as much the focus of discussion as specific point estimates.

In other words, it is entirely possible that the Scottish economy could grow close to 2% this year, but our assessment is that the probability of that happening is lower than our central projection.

Two major judgement calls are required in making these forecasts.

The first concerns the outlook for the North Sea. Recent developments in the global supply of oil suggest that there is little prospect of a return to higher prices in the near future.

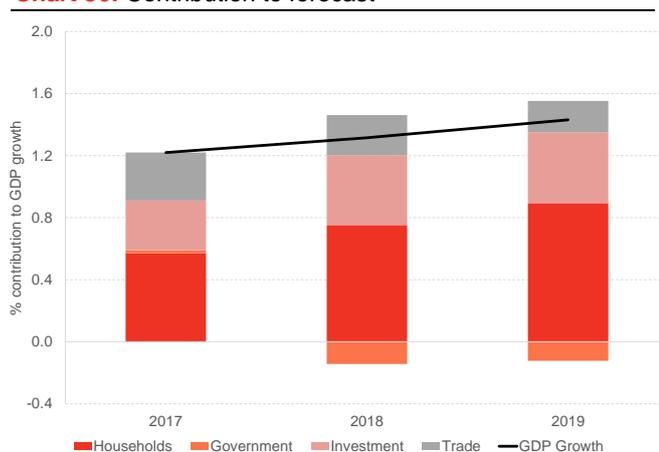
The implications for the oil and gas sector in the North Sea means that this is likely to continue to act as a brake on Scottish growth vis-à-vis the UK. However, after nearly 2½ years of retrenchment the impact at a macro level will start to be reduced.

The second relates to any impact of the major political developments on the wider economy. Since the Brexit referendum, despite heightened levels of business uncertainty, levels of day-to-day activity have held up remarkably well.

Table 11: FAI revised forecast %-point change from December 2017 forecast by sector, 2017 to 2019

	2017	2018	2019
GVA	+0.04	+0.05	-0.17
Production	+0.06	-0.01	-0.18
Construction	+0.02	+0.07	-0.11
Services	+0.04	+0.07	-0.17

Source: Fraser of Allander Institute

Chart 36: Contribution to forecast

Source: Fraser of Allander Institute

Table 12: FAI labour market forecast to 2019

	2017	2018	2019
Employee Jobs	2,434,650	2,474,650	2,508,100
% employee job growth over year	+0.3%	+1.6	+1.4
ILO unemployment	131,900	141,350	166,300
Rate (%) ¹	5.0	5.3	6.1

Source: Fraser of Allander Institute

Notes:

Absolute numbers are rounded to the nearest 50.

¹ Rate calculated as total ILO unemployment divided by total of economically active population aged 16 and over.

However, many businesses remain on edge. If the negotiations start badly then this could lead to a more serious loss in economic sentiment with implications for investment, spending and growth.

At the same time, we await how businesses will react in Scotland to the prospects of a 2nd independence referendum.

The next 3 years – 2017, 2018 & 2019

Our central forecast is for growth to remain at around the same pace in 2017 as in 2016 – with growth of 1.2% (up on our December forecast of 1.1%).

We have broadly maintained our forecast of growth of 1.3% growth in 2018 but revised down slightly our outlook for 2019 to 1.4% (down from 1.6% in December). These revisions are driven, in part, by the new weaker projections for the UK economy which in turn spill-over into Scotland through the strong trade linkages.

Whilst positive, the outlook remains fragile and well below trend. The service sector will remain the dominant source of growth.

On the components of demand, we expect the heightened uncertainty to dampen investment this year. Some of this will reflect delayed plans as firms await the details of the Brexit negotiations. Once this is resolved, a pick-up is likely toward the end of the forecast period. As the greatest component of GDP, consumption will remain the biggest contributor, although it will be lower than it otherwise would have been as higher inflation, combined with low earnings growth, feeds through to household spending.

Net exports will continue to benefit from the depreciation in Sterling as will tourism.

We expect unemployment to return toward a level consistent with medium-term trends (although still well below its long-term average). As we highlighted above, recent unemployment numbers have been skewed by a sharp rise in inactivity. To the extent that this is reversed, Scotland's unemployment rate could rise much more sharply.

Diagram 1: Independence macroeconomic issues

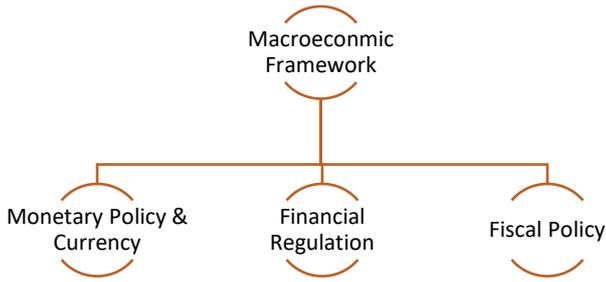
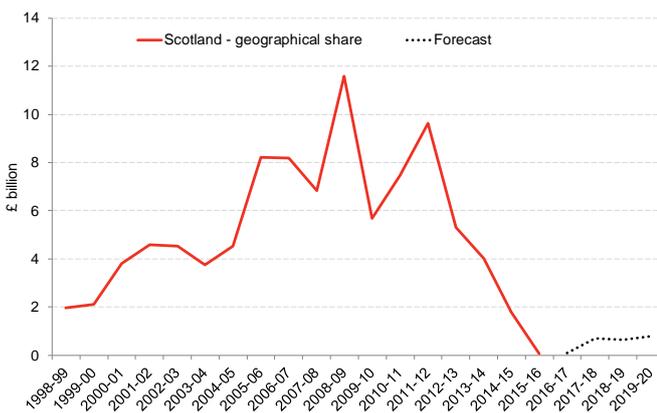


Table 13: The currency options

£	Formal currency union Informal currency union (Sterlingisation)
Scottish £	Pegged to UK£ or basket of currencies Floating
Euro	Formal currency union

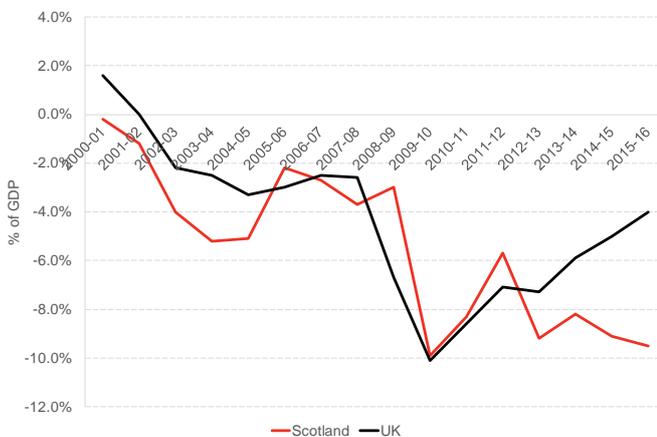
Source: FAI

Chart 37: Scotland's North Sea Revenues



Source: Scottish Government, GERS, OBR and FAI calculations

Chart 38: Scotland's estimated net borrowing



Source: Scottish Government, GERS

Policy Context

On 13th March, the First Minister announced plans to hold a second independence referendum. The UK Government has so far rejected the timing of any vote, but it seems increasingly likely that one will be held at some point.

It is clear that the economic arguments will – once again – dominate the debate.

The key issues are well known. In the coming months, the Scottish Government will need to set out a robust macroeconomic framework covering the key areas of: monetary policy & currency, financial regulation (including contingency for its banks) and fiscal policy (and crucially, the management of any borrowing and debt that Scotland would inherit).

We will return to each of these areas in greater depth in future work. We will shortly be providing details of a series of public events looking at the economic choices now facing Scotland.

Whilst the key issues are clear, the arguments this time are likely to be different.

Firstly, in 2014 there was a clear choice between a 'status quo' – albeit with more devolved powers – and independence. With Brexit, the debate will be set against the backdrop of two types of economic change.

Secondly, it is undoubtedly the case that the recent challenges in the North Sea poses a challenge to any transition to independence. For example, the sharp fall in oil prices has significantly lowered North Sea tax revenues.

Forecasts are now in the order of hundreds of millions rather than billions of £'s. Given its maturity, the UKCS is unlikely to be a rich source of tax revenue in the years ahead. This has led to a weakening in Scotland's estimated fiscal position – according to GERS – with the deficit in 2015-16 around 9.5%. Assuming similar levels of growth and current patterns of public spending, our own projections suggest that the deficit will remain in the 6% to 7% range by 2020.

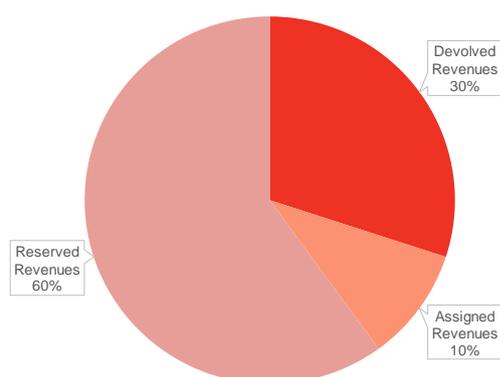
Table 14: Scotland's GDP Per Capita

	2015 GDP per head (\$PPP)	Rank
Luxembourg*	102,131	1
Ireland*	68,481	2
Switzerland	62,500	3
Norway	62,025	4
United States	56,066	5
Netherlands	49,570	6
Austria	49,440	7
Denmark	48,994	8
Germany	47,999	9
Sweden	47,823	10
<i>Scotland (geo. share of oil)</i>	<i>42,372</i>	
UK	41,779	16
<i>Scotland (pop. share of oil)</i>	<i>40,001</i>	

Source: OECD, Scottish Government & FAI calculations

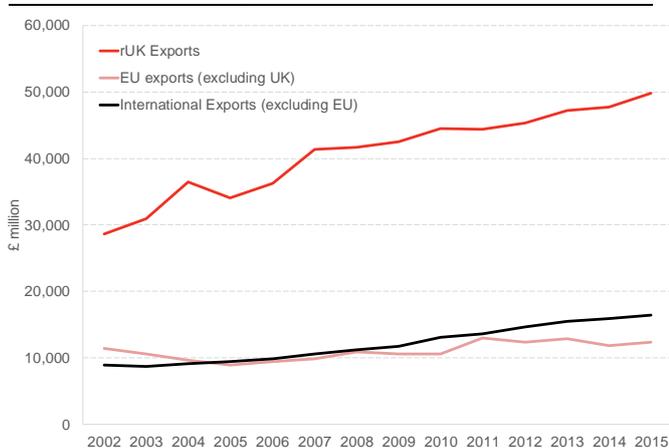
* Interpreting GDP per head figures is fraught with difficulty – particularly for countries such as Lux/Ire where statistics of what they produce differs from actual income.

Chart 39: Devolved tax powers – but are they enough?



Source: Scottish Government, GERS

Chart 40: Scottish export markets



Source: Scottish Government

GERS tells us little about the long-term public finances of an independent Scotland given that, by definition, it is based upon estimates of public spending and revenue in Scotland as part of the UK. That being said, the Scottish Government will be required to set out a clear plan for how it intends to manage the very challenging starting position set out in GERS.

Thirdly, many of those on the ‘yes’ side in 2014 argued that there would be a degree of continuity between the then status quo and independence; e.g. plans to keep sterling, existing financial regulations and for both to be members of the EU.

Now though, the Scottish Government’s case appears to be framed around Scotland pro-actively taking a different path to the UK (e.g. on EU). This being the case, it is possible that the economic proposition could be more radical on issues such as currency, financial regulation and fiscal policy.

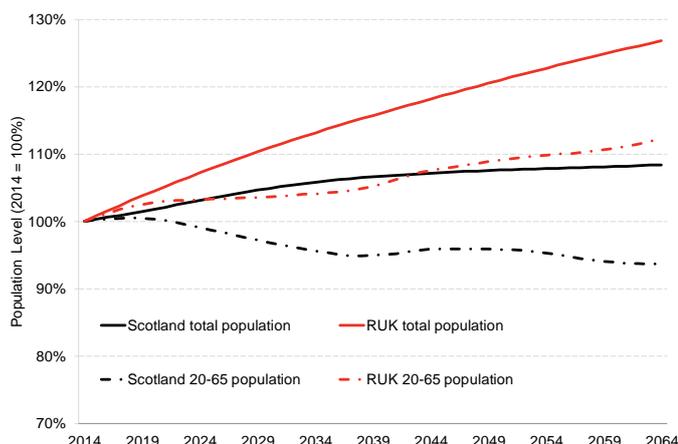
The Scottish Government will undoubtedly make the case that Scotland is an advanced economy and comparable in size to other successful countries but that the levers of independence provide an opportunity to do things differently. The UK Government will counter that Scotland now has substantial economic powers, and gains from an established macroeconomic structure and the pooling of resources across the UK.

The trigger for the referendum was, in the First Minister’s view, the decision of the UK Government to seek a so-called ‘hard’ Brexit.

Our own work has shown that EU membership is indeed very important for Scotland and Brexit will no doubt act as a key long-term headwind to growth prospects across the whole of the UK. As Chart 40 highlights however, Scotland’s trade with the rest of the UK is over four times larger than trade with the EU so a clear strategy for supporting trade with the UK will be crucial.

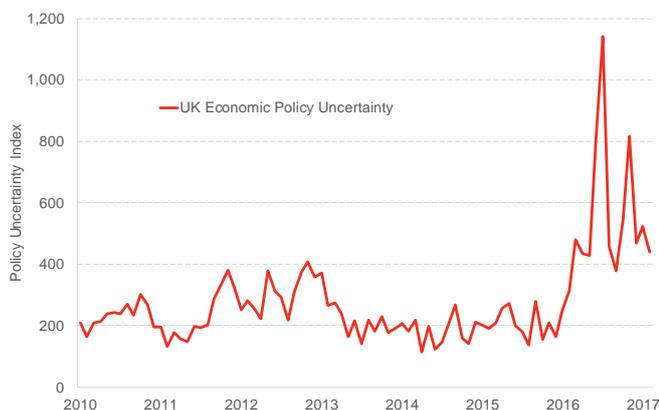
As highlighted above, even under favourable trade regimes, Scotland’s export performance has been unspectacular in recent years. Any change which makes trade more difficult will only make this worse.

Chart 41: Scotland and rUK's population projections



Source: ONS

Chart 42: UK economic policy uncertainty based upon newspaper articles of policy uncertainty



Source: www.policyuncertainty.com

Migration is also likely to feature in the debate. Historically population growth in Scotland has been far below that of the UK and other European countries with a similar population to Scotland.

As Chart 41 shows, even with current projections for migration, Scotland's working age population is projected to decline over the next few decades. If a 'hard Brexit' was to limit the number of people coming to Scotland, the consequences for the economy and public services could be significant.

In 2014, the case was made for Scotland to remain in a formal currency union with the UK. Whether this is the best option in the long-run and whether or not the UK would agree to it, is open to debate.

That being said, the challenges with implementing a new currency – including any redenomination of contracts, investments and mortgages, the capitalisation of banks and managing any market volatility – should not be underestimated. All of which would also need to be set in the context of a stable and credible macroeconomic framework.

Whatever the views are over the long-term risks and opportunities from independence, it is clear that we are entering an unprecedented period of political and economic uncertainty. With an economy struggling with the effects of a low oil price, the uncertainty caused by ongoing Brexit negotiations and a second independence referendum is likely to act as a further headwind for many businesses and potential investors.

Just as it is the responsibility of the UK Government to provide clarity through the Brexit process, it is incumbent on the Scottish Government to do likewise around independence and to re-double their efforts to support the Scottish economy through these unprecedented times.

For regular analysis on the Scottish economy and public finances please see our blog:

www.fraserofallander.org

Special Issue - Competitive tendering and Scottish lifeline ferry services

Special issue: Competitive tendering and Scottish lifeline ferry services

Introduction:

In early June 2016, an ESRC-funded workshop took place at the University of Glasgow to consider the use of competitive tendering for public services and some of the *unintended consequences* which arise from its use. The workshop was attended by academic economists and lawyers, policymakers and trades unionists from Scotland and elsewhere in Europe and specifically focussed on the Scottish ferry industry.¹

The discussions which took place that day focused on the use of competitive tendering for the provision of 'lifeline' ferry services in Scotland and centred round the following questions:

- What are the conditions required to ensure competitive tendering for lifeline services will provide an efficient service?
- Does tendering lead to a more sustainable service both economically and environmentally?
- In the context of lifeline services, what are the comparative advantages of competitive tendering over monopoly provision combined with adequate regulation?
- What are the unintended consequences of competitive tendering on local communities reliant on the provision of lifeline services? Does EU competition law adequately account for situations in which competitive tendering has unintended consequences on local communities such as loss of employment and strategic capacity?
- Can enhanced local community involvement alleviate the limitations of monopoly provision by ensuring the long-term sustainability of service provision?
- How can 'effectiveness' be measured from the perspective of local communities and the affected workforce?
- What are the existing templates of permitted negotiated agreements in EU law that account for the unintended consequences of competitive tendering?

This special issue continues and develops that discussion in the light of the Brexit vote of 23rd June 2016 and the decision taken by the Scottish Government in February 2017 to delay the Gourock-Dunoon ferry tender and extend the Northern Isles contract² for a year

¹ http://www.gla.ac.uk/schools/business/newsandevents/events/archive/headline_460370_en.html

² <http://www.orcadian.co.uk/north-isles-ferry-tender-reviewed/>

while investigating whether or not existing EU rules would allow the Government to take the entire service 'in-house' and thereby dispense with the need to tender it in future. The anticipated changes in the policy and legal landscape mean that some of the matters discussed here relate to interim arrangements or are conditional on certain states of the world coming to pass. There is no certainty as to when the necessity to comply with EU regulations regarding State Aid will cease and, in any event, the recently-updated Public Procurement regime, which will then apply, is currently modelled on EU regulations. Therefore, it may be some considerable time before the way that lifeline ferry services in Scotland are provided and financed will change. Notwithstanding this, there is a necessity to continue the discussion between academics, policymakers, trades unionists and other citizen stakeholders in preparation for a time when change becomes possible.

Given the nature of the *unintended consequences* discussed here, it is clear that this discussion – and the wider public procurement debate – falls squarely within the terms of the Scottish Government's Economic Strategy, in particular, *inclusive growth*, one of the Four Priorities. The impact of ferries - and the arrangements for their provision and financing - on fragile island economies; the employment impacts – both in terms of numbers and in terms of quality of employment opportunities – on these same economies as well as the mainland; the environmental sustainability of ferries and the way in which tendering can cut across this vital policy objective; are all necessary considerations within the over-arching theme of *inclusive growth* i.e. promoting both growth and greater equality.

In this Special Issue, Irish lawyer, John Temple Lang, a former Director in the EU's Competition Directorate outlines the 'space' within the existing regulations that allow these factors to be taken into account. Patricia Findlay, the leading expert on *fair work* in Scotland discusses the levers which procurement creates for government to encourage firms to adopt *fair work* practices. Nishatabbas Rehmatulla, of University College London's Energy Institute, an expert on environmental issues relating to shipping, discusses the potential inconsistencies between competitive tendering and environmental concerns, while economist, Neil Kay, a long-time commentator on the Scottish ferry scene highlights a possible existing infringement of EU competition law in relation to the self-financing of Scottish ports. Finally, academic lawyer, Dania Thomas and I set out the range of possibilities in terms of the statutory framework for ferry provision as we move into the uncharted waters of a post-Brexit Britain.

Jeanette Findlay
Adam Smith Business School
University of Glasgow

Managing the unintended consequences of competitive tendering.

Monopolies, public monopolies, competitive tendering: how and when should each be used under EU law?

Dr. John Temple Lang¹

Abstract

This paper outlines the legal position in terms of EU regulations of the various options for delivering public services. It considers the situation where for a number of reasons the service is delivered by a public or private monopoly. The circumstances in which the procuring authority uses competitive tendering, regulation or some combination of both are outlined. The regulations around State aid and the Altmark and Teckal exemptions are explained. Crucially, for the Scottish ferry industry, the question of what happens when the domestic incumbent loses a contract is raised. The broad scope for taking into account social and environmental considerations in awarding a contract for the delivery of a public service are elucidated. The difficulty of ensuring such contracts are specified in a way that is both lawful and effective are explained. The paper concludes that regulation rather than tendering of public contracts may be a simpler and more effective method to ensure that the 'most economically advantageous' outcome is achieved.

I Introduction and background

Competitive tendering is required for important contracts for the supply of goods and services to public authorities. It is used for the grant of concessions giving the right to provide goods or services to the public. The purpose of requiring competitive tendering is, in popular terms, to get the best value for money, from private companies competing to provide services to the public in general.

Rights given by way of concession are frequently rights to monopolies. Monopolies can be privately or publicly owned. The justification given for a monopoly may be non-economic and social, as in the case of monopolies granted for gambling or for the sale of alcohol. When a monopoly concession is granted, the conventional explanation may be that a monopoly is needed to ensure that all available economies of scale and scope can be obtained, and passed on to users. Another conventional reason is that the services to be provided include some that are unavoidably unprofitable, and that these services, since they have to be paid for somehow, can most conveniently be paid for by cross-subsidising them from the revenue from profitable activities² If this option is chosen, the company involved needs

¹ Cleary Gottlieb Steen & Hamilton LLP, Brussels, Senior Visiting Research Fellow, University of Oxford and Visiting Professor, Trinity College, Dublin.

² Case C-320/91, Corbeau, EU: C: 1993: 2533

to be protected from "cherry picking" by competitors who wish to provide only profitable services.

A second alternative, which would be a public subsidy to cover the cost of the unprofitable activities, would involve expense to taxpayers and cost accounting to estimate the cost of the activities to be subsidised. The monopoly might be justified by the need to give the investors an assurance of a profit in the long term if very large initial investment were needed in e.g. a large waste management plant, an airport or a toll-road. A third alternative is a publicly-owned enterprise which, if it has a monopoly, automatically cross-subsidises its operations to whatever extent may be necessary.

Public authorities often consider it necessary to ensure that certain services are made available to everyone (universal service) at a uniform cost. The most familiar example is the postal service. Other examples are utilities, water, gas, energy, health, transport, waste management, and communications (television, telephone and broadband). The combination of a universal service obligation and a uniform price frequently means that some of the services will necessarily be uneconomic to supply.

If it is decided to set up or maintain a monopoly, it may be thought necessary to decide for how long it should be granted, how it should be regulated, what obligations should be imposed, and how wide the exclusive rights granted should be. (For example, a monopoly of the right to provide shipping services to areas with few inhabitants would not extend to the right to provide air transport for passengers or goods). If the obligations imposed result in some services being uneconomic, it may be necessary to decide whether taxpayers should pay some of the cost, rather than relying only on cross-subsidisation. It will also be necessary to plan procedures for putting the monopoly up for competitive tender again and designed in such a way that as far as possible the incumbent enterprise will not have unbeatable advantages. If the company that obtains the monopoly is required or expected to invest in infrastructure, it will be essential to decide how that investment is to be financed.

Cross-subsidies can be of many different kinds. A shipping line with obligations to service less inhabited areas may subsidise its uneconomic winter services from its profitable summer operations, or its unprofitable passenger operations from profitable commercial operations. Or it could subsidise its services to less inhabited areas from the profits of busy routes. If it is decided not to have a monopoly, it is necessary to decide how uneconomic activities, resulting from universal service obligations, are to be paid for.

II The principles of EU law on State enterprises and monopolies

The principles of EU law on State enterprises and monopolies can be summarised as follows (cf. Temple Lang, 2008, Buendia Sierra, 1996, Blum and Logue, 1998, Jones and Sufrin, 2008, Edward and Lane 2013)

- Directive 2014/24 deals with public procurement in general, but this does not apply to transport, which is dealt with by Directive 2014/25.
- Member States must not adopt any measures that make EU competition law ineffective, or that make it likely that a company in a dominant position will abuse its dominance.
- European law does not prohibit publicly owned enterprises, and it allows monopolies to be set up and maintained if there are good reasons. Monopolies can be granted or maintained both for privately-owned and publicly-owned companies.

In theory, Member States can justify setting up or extending a monopoly only if that is necessary to achieve a legitimate (i.e. non-protectionist) purpose³, and (perhaps) if no less restrictive alternative would be appropriate. In practice, however, the justification for setting up or maintaining a monopoly is rarely looked at critically. No justification is required for setting up or maintaining a publicly-owned company.

All the competition rules apply even to State owned enterprises, subject to the exception for "Services of General Economic Interest", which is narrowly interpreted. Member States may exempt those Services from EU law rules, but only insofar as those rules would obstruct the performance of the specific tasks imposed on them. A company obliged to provide a service of general economic interest does not need to be publicly owned.

The most important justification for setting up a monopoly is that, without the exclusive rights conferred on it, it would not be possible for the enterprise to carry out its tasks "under economically acceptable conditions", that is, without the exclusive rights it would be impossible for it to have an expectation of being able to make an acceptable profit, on condition that it is reasonably efficient. It may not be necessary to show that no less restrictive alternative was available. However, a monopoly that would otherwise be justified is illegal if it cannot carry out efficiently the tasks assigned to it (eg a public employment agency without the resources needed to find jobs satisfactorily)⁴ or if it is necessarily involved in situations of conflict of interest (e.g. if it is given power to regulate its own

³ Case C-553, *Dimosia*, EU: C: 2014

⁴ Case C-41/90, *Hafner and Elser v. Macrotron*, EU: C: 1991: 1979

competitors, or given the duty to supply key services to them)⁵. If the monopoly is wider than is needed to enable the company to make a reasonable profit, the monopoly is illegal to the extent of the unnecessary restriction on competition. Even if a basic monopoly is justified, it may be unjustifiable to extend it⁶

A statutory monopoly is not required by EU law to be set up by competitive tender

If the Member State decides to finance the public service provider out of public funds, under the *Altmark* judgment⁷ payments that merely compensate for the cost of carrying out the service are not State aid. But the public service obligation must be clearly defined: the compensation must be calculated objectively and transparently and it must not exceed the cost of providing the service, plus a reasonable profit. If the enterprise is not chosen in a public procurement procedure, the compensation must be determined based on an analysis of the cost of a typical undertaking, well run, would have incurred in discharging the obligations, taking into account a reasonable profit. Unless all four conditions are fulfilled, there is State aid. The effect of this is that the rules on State aid are stricter than the rules on public monopolies, at least as the latter are applied in practice.

A public authority can award a contract without a competitive tender process if the authority controls the economic entity, and the entity carries out the essential part of its activities with the authority⁸.

There are also sector-specific provisions of EU law on various public services, in terms of universality, continuity, quality, affordability and protection of consumers and users. It is assumed that as far as possible public services should be provided by competitive markets.

A monopoly that is an "enterprise" (unlike eg a compulsory health insurance scheme based on "solidarity") is subject to all the usual obligations of a dominant enterprise under Article 102 TFEU (Treaty on the Functioning of the European Union), in addition to whatever obligations are imposed by the measure establishing the monopoly.

Although these principles are fairly clearly established, they are not always strictly enforced.

⁵ Case C-163/96, *Raso* EU: C: 1998: 533

⁶ Case C-475/99, *Ambulanz Glockner*, EU: C: 2001: 8089

⁷ Case C-280/00 *Altmark*, EU: C: 2003: 7747

⁸ This is known as the "Teekal Exemption". See Case C-15/13, *Technische Universität Hamburg v. Daten/otsen*, EU: C: 2014. See Article 12 of Directive 2014/24

III Obligations under Article 102, Treaty on the Functioning of the European Union (TFEU)

Statutory monopolies over infrastructure may have various obligations under Article 102, the most important of which are probably as outlined below. In any situation in which these issues seem likely to arise, they should probably be dealt with in advance in the conditions for the grant or maintenance of the monopoly, if they are not dealt with by sector-specific regulation.

- The monopolist should not "tie" the monopoly services to other services not covered by the monopoly. For example, it should not carry cars on a car ferry only if the passengers are staying in hotels owned by the company.
- If it has a monopoly of conventional car and passenger ferries, it should not use its control over eg a harbour to refuse access to means of transport not covered by its monopoly eg hovercraft or high speed passenger ferries.
- It should not make agreements or arrangements the effect of which would be to make it significantly more difficult for a competitor to tender for the monopoly right when the right comes up for renewal.
- It should not discriminate between companies using its services.
- It should not create or increase obstacles or difficulties for competitors, but has no duty to help them unless it is a monopoly and has committed an abuse, and a duty to give access or to help otherwise is the appropriate remedy for the abuse (Temple Lang, 2016).

Several questions arise from the issues outlined.

In the case of a monopoly said to be needed for financial or economic reasons, what precisely is needed in modern conditions, and why? Why would a State subsidy be less satisfactory?

When was the monopoly set up? Was the grant of monopoly ever the subject of competitive tendering? Should it be subject to competitive tendering now? Has the Member State a duty under Article 4(3) TEU to introduce some competition, at least into the selection of the monopolist?

If it is thought that a new monopoly is justified, for how long should it be granted, on what terms, how should it be regulated, and what obligations should be imposed? Is any State subsidy required, and if so, why? In particular, how should the prices or profits of the company be regulated?

What obligations, if any, may be imposed for reasons not based on the need to make a modest profit, but for example in the interests of the environment or the local communities in the areas served? For example, may the company be required to give preferential employment opportunities to individuals living in the local communities?

More fundamentally, if an enterprise has been developed over a long period to provide services to a community, is it possible and meaningful to put the service up to competitive tender at intervals, risking by implication the possibility that it will be awarded to another enterprise, and that the long-established enterprise will need to be wound up? This question is not resolved by saying, however truthfully, that an incumbent will always have legitimate advantages, and is likely to win a competitive tender. If an outsider has no real chance of succeeding against the incumbent, what would be the point of a competitive tender procedure? Would it be better to regulate the incumbent as far as is thought necessary, notwithstanding the risk of "regulatory capture" (the regulated enterprise acquiring undue influence over the regulatory authority)?

EU law allows Member States to establish Services of General Economic interest, and to ensure that they are not subject to EU competition rules insofar as those rules would obstruct the tasks imposed on them. This is, in effect, a form of regulation, which allows Member States to impose a wide variety of tasks and conditions, and to subsidise tasks insofar as they are loss making⁹.

IV Unintended consequences of competitive tendering for specific projects

It is said that competitive tendering can lead to loss of domestic employment and loss of strategic capacity. Both criticisms need to be addressed. In theory, to be comprehensive, a wide variety of different situations would need to be considered.

Competitive tendering cannot lead to loss of domestic employment if all the companies bidding are based (or are legitimately required to base themselves) in the region in question. Indeed, it is not competitive tendering, but successful companies from outside the region that may lead to loss of domestic employment. Companies can be selected if they offer "the most economically advantageous" solutions "from the point of view of the contracting authority", that is, the best value, even if they do not offer the lowest price¹⁰. This phrase should be interpreted to allow selection of the solution most advantageous for the locality or region, not merely the solution most advantageous financially for the license granter. Article 67 says that

⁹ Case C-280/00 *Altmark*, EU: C:2003: 7747

¹⁰ Article 67 of Directive 2014/24: Article 82, Directive 2014/25

the "best price-quality ratioshall be assessed on the basis of criteria, including qualitative, environmental and/or social aspects, linked to the subject matter of the public contract in question".

Award criteria or contract conditions concerning the workforce to be used are legitimate. It would, for example, be normal practice to oblige companies tendering for public contracts to have non-discriminatory hiring policies. The criticism therefore is that sometimes the most economically advantageous solution may involve employment of labour from outside the region, when local residents could equally well have been employed. That may be so, but there would be no justification for saying that the effect on employment in the region may not be taken into account when choosing the most economically advantageous solution, including long term effects. This is so in particular where the overall object of the exercise is to benefit communities in less populated areas.

One requirement that might be explicitly adopted to obtain the most economically advantageous solution might legitimately be that it would employ residents of a less-populated and under-industrialised region as far as is reasonably possible. This might be criticised as protectionist, and undoubtedly requires careful drafting, since it could easily result in illegal discrimination in favour of the incumbent or in favour of local companies. However, it might well be reasonable and justified, depending on the circumstances. Other possible selection criteria or contract conditions would be to require the successful bidder to provide training for residents of the region, or to employ individuals who speak the local language, if it is a working language, or to use local sub-contractors as far as possible. The result of such an approach would probably be a negotiated arrangement: negotiated arrangements are envisaged by the Directive.

The most economically satisfactory solution should be assessed on a long term basis, and not only in the short term. Specifically, it may be appropriate to oblige the successful tenderer to invest substantial sums in improving the service or the infrastructure, and the result of this might be to contribute to employment in the region as well as improving the facilities for everybody.

"Loss of strategic capacity" would occur as a result of competitive tendering only if the contract awarded to a company outside the region was for such a long period that it became no longer possible for companies in the region to bid for the contract when it came up for renewal. If that were the result, the alternative would be that a solution that was not the most economically advantageous solution would be adopted on a permanent basis, for the sake of preserving indigenous strategic capacity that, *ex hypothesi*, was not initially able to offer that solution. There may in theory be such situations, but it is not easy to think of a

convincing example. If such a situation seemed likely to arise, the appropriate approach might be to invite tenders for partners in a joint venture with local or regional interests providing some of the strategic capacity that it is desired to maintain and develop. A local or regional cooperative should be able to mobilise whatever resources are available for such a purpose.

In other words, in both types of situation it would seem possible to use imagination to design an invitation to tender in such a way as to avoid or minimise the unintended consequences that are feared. It would be unjustified to conclude that the undesired consequences would inevitably be so serious and so unavoidable that no competitive tender should be arranged, and that therefore an inefficient incumbent monopoly or a high cost solution should be allowed to continue indefinitely. Discussions with companies that have expressed an interest, having been invited to do so, might be necessary to design the invitation to tender appropriately.

One suspects that some of the difficulties that have occurred in particular cases arose because the possible implications for local employment were not considered and provided for when the invitation to tender was being drafted, and were seen too late to be dealt with satisfactorily.

No amount of careful drafting can prevent situations arising in which the lowest price is offered by a company from outside the region, and the operations of the company in question may reduce employment in the region. Emphasis on the most economically advantageous solution overall, however, should allow the decision making body to choose the higher cost solution if that is thought appropriate.

But in any situation in which it is feared that competitive tender might lead to disruption of a community, or of a long established and reasonably efficient service, regulation as the alternative to competitive tendering should be considered. The relative merits of the two approaches would be a matter for judgment, and European law would not dictate the result.

V Competitive advantages and potential competition

If there is an incumbent providing substantially the service to be put up for competitive tender, in practice a reasonably efficient incumbent will almost always have significant and perfectly justifiable advantages over any competing outsider. On the other hand, if the service is entirely new and there is no incumbent, the arguments for competitive tender will be extremely strong. But even then it is legitimate to choose the most economically advantageous solution, provided that the invitation to tender is appropriately written, and not necessarily to choose the cheapest solution. If there is no incumbent, competitive tendering

cannot result in loss of domestic employment: at most, it could involve a missed opportunity to increase it, if suitable employees were available.

It is not unusual for a small local or regional company to be in competition with a larger company based outside the region. In such situations economies of scale and scope may be very important, and it is important, when writing the terms for the tender, to decide how much weight should be given to them. In general however scale economies are more likely to influence the lowest price rather than the most economically satisfactory solution.

All companies that are not exposed to competition have a tendency to become inefficient and to stagnate and fail to modernise. Even if the circumstances are such that the legitimate advantages of the incumbent make it likely that it will be selected in a competitive tendering process, the mere fact of having to reconsider and if necessary to redesign its service every few years should help to ensure that it gives appropriate weight to the interests and needs of consumers and users. An incumbent that knows that it must take part in a regular tendering process will be likely to pay more attention to the services being offered elsewhere by potential rivals, and should improve its own operations accordingly. Potential competition is often a more effective influence for improvement than regulatory supervision, and in any case they are not mutually exclusive.

It should also be remembered that if an incumbent is supervised or regulated in some way, there is always a risk of "regulatory capture", that is, the entity supposedly being supervised may obtain too much influence over the thinking of the body intended to supervise or regulate it. That risk should be significantly reduced if both parties know that a competitive tendering process will occur at regular intervals, provided that the final conditions of each tender are determined by an authority other than the supposed supervisor.

Value for money in public procurement is said to be based on economy, efficiency, and effectiveness. Economy and efficiency are self-explanatory and can be measured.

Effectiveness is more difficult to measure, for a range of reasons. First, we are making a judgement based on defined objectives, and there arises a question about whether such objectives are the "right" ones: has the organization targeted the most beneficial outputs and outcomes? Secondly, the ultimate outcomes for most public services are better lifestyles for individuals and healthier, better educated, better housed, more economically successful and more stable and cohesive communities as a whole. Judgements around these things are notoriously subjective, and often politically and culturally sensitive. (Arrowsmith, 2014).

This view is certainly correct, and several conclusions can be drawn from it. First, the authority that is defining the objectives of the project has a considerable latitude and discretion in defining them in the invitation to tender. However, it should be careful to define them clearly and explicitly. Second, if the authority's decision is challenged in court, the court should be slow to invalidate either the objectives stated in the invitation to tender or the decision finally arrived at by the awarding body. In other words, the court should not substitute its discretion for the discretion of the awarding body. Third, all the desired objectives may not be fully obtainable at the same time, and priorities may need to be decided, or compromises reached.

VI The 'most economically advantageous' solution for the community in question

A fourth conclusion seems reasonable. It is open to national legislatures, acting within the terms of the EU directives, to explain and elaborate by legislation the concept of the "most economically advantageous" solution, to make it more clear that it includes social and environmental objectives and advantages for the community in question as well as financial advantages for the taxpayer paying the bill. National legislation to clarify and confirm this may not be necessary, but it might be desirable, in order to promote flexibility and reduce uncertainty about the freedom of awarding authorities to promote their chosen objectives, and to avoid or minimise unintended consequences.

"Effectiveness" can mean both the success of the project in the light of its declared objectives, and the desirable effects of the way in which it is to be carried out. The invitation to tender can, if the awarding authority wishes, indicate how the work is to be done (although the authority should not tie the hands of the successful competitor so much that little scope is left for initiative and imagination).

These suggestions do not mean that the awarding authority can create a situation in which it is discriminating in favour of the incumbent or local firms: all arrangements of the kinds suggested would need to be carefully written and justified. They would therefore be more trouble to write, and probably more controversial to implement, than a simpler arrangement, or than regulation. The authority would therefore need to consider carefully whether the extra work was worthwhile.

VII Sector specific regulation

If the industry in question is a regulated industry, such as transport or telecommunications, the regulatory regime may provide protection for local or regional interests that it might be difficult to ensure by selection criteria or conditions in public contracts alone. In any case,

any invitation to tender must always be carefully integrated into the applicable regulatory regime. A regulatory approach may be more appropriate and more effective to achieve economic aims than trying to use public contracts alone. If the objectives are important, all available legal mechanisms should be considered, and used in combination if appropriate.

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Calm seas or choppy waters? The role of procurement in supporting Fair Work

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Abstract

Fair work is now firmly on the political agenda in Scotland and there is ongoing debate about how best to drive it. After considering the policy context in which debates on fair work have emerged, and examining the Scottish approach to fair work, this article considers the role of public procurement as a lever of fair work. While not focussing in any depth on the procurement of lifeline ferry services, the arguments presented here are relevant to any competitive tendering process for these services. This article argues that recent statutory guidance illustrates the potential of procurement to support fair work due to the impact of fair work on the quality of service provision and its role in delivering economically advantageous outcomes. While there may be medium term changes to the procurement environment post-Brexit, devolution of responsibility for procurement means that scope to support fair work should remain in relatively calm waters, so long as there is political will to use procurement creatively for this important purpose.

I Introduction

A commitment to fair work is now a key focus of Scottish Government, central to Scotland's Economic Strategy and at the heart of efforts to deliver inclusive growth. Charged with advising Scottish Government in relation to fair work, the Fair Work Convention in its Fair Work Framework (2016a; 2016b) has identified procurement as one of the levers available to government and to the wider public sector in supporting and driving this agenda across private and third sector employers, using public spending to leverage fair work practices and outcomes. Under current EU and Scottish procurement legislation and regulations, most of that procurement will be competitively tendered.

Fair work provides one example of the potential and challenges of using public procurement to support government policy objectives. This article examines the policy context of fair work in Scotland, the role of procurement in delivering fair work and the implications of fair work for competitive tendering, as well as the implications of competitive tendering for fair work, in the current context. Given prevailing Brexit and constitutional uncertainties, the article explores future scenarios for using procurement to drive fair work in Scotland. While making few specific arguments in relation to the provision of lifeline ferry services – the focus of this special issue - the arguments presented here are relevant to any competitive tendering process in relation to such provision.

II Fair Work for Scotland

The Fair work agenda in Scotland emerged over recent years as a response to economic and social challenges including the need for action to address Scotland and the UK's low relative productivity; the need to promote higher value business models; the need to address relatively low levels of business innovation; the need to improve job quality, and in particular to address low pay, under-employment, skills under-utilisation and work intensification; and the need to address income inequality and limited social mobility. As Findlay et al have argued, "... these challenges are complex and interconnected – genuinely 'wicked problems' – and require smart, joined-up and holistic policy solutions" (2016a:1).

Scottish Government's commitment to fair work, and the establishment of the Fair Work Convention in 2014, represented a culmination of a series of debates across a group of stakeholders in Scotland over the preceding decade on substantive policy in relation to the workplace and over how to support greater policy consensus around work, employment and workplace issues. In the early to mid-2000s, both Scotland and the rest of the UK emphasised the importance of improving skills supply through investing in learning, skills and qualifications at all levels to address productivity and other challenges (as exemplified in the Leitch Review of Skills, 2006). Policy debates in Scotland responded more quickly thereafter to the limitations of a skills-supply driven approach to productivity by focussing on the need for more effective skills utilisation and identifying the workplace conditions that support better skills utilisation, leading to a distinctive trajectory of debates in Scotland around the concept of workplace innovation (Findlay et al, 2015). An expansive approach to workplace innovation in Scotland has explored how to improve job quality and fair work (including addressing in-work poverty) while simultaneously improving business performance (Findlay et al 2016a). In addition to developing distinct policy priorities, the process of policy formation around the workplace in Scotland has reflected an informal social partnership approach that values collaborative partnerships between policy makers, practitioners and academics (Findlay et al 2016b).

Fair work is defined by the FWC as work that offers effective voice, opportunity, security, fulfilment and respect, that balances the rights and responsibilities of employers and employees and that can deliver benefits for individuals, businesses/organisations and society. Behind this definition is a recognition that the absence of fair work, broadly defined, can damage individuals, businesses, the economy and society while its presence can generate a virtuous circle of individual, business, economic and societal benefits (Fair Work Convention, 2016b)

There are a wide range of stakeholders who might drive the adoption of fair work practices in Scotland. In very simple terms, the state and employers – at their own behest or responding to influence from trade unions, researchers, campaigning organisations and other stakeholders – hold the key levers to deliver fair work. Government, public authorities and other employers have a direct role in ensuring fair work for their own workers, while government also has a more direct role in shaping fair work practices across parts of the public sector for which it has direct authority, including public sector bidders for procured contracts.

Beyond public sector and public bidder workforces, government can influence the adoption of certain fair work practices (for example, minimum wage levels; rights in relation to training; rights in relation to employee voice) by legislation and regulation, but this lever is not open to the Scottish Government given that employment law powers are reserved to Westminster. Scottish Government can, however, exhort, encourage or incentivise employers to adopt fair work practices (for example, through the provision of business support services by public agencies), with varying degrees of effectiveness. An additional, and potentially powerful lever, however, for government and the wider public sector is to use purchasing power to shape fair workplace practice.

III Procuring Fair Work

There is growing global recognition of the potential of procurement as a strategic instrument for the economy, delivering efficient and effective services and promoting policy priorities (OECD, 2013). Procurement encompasses a third of government expenditures across the OECD, constituting 13% of GDP on average. In Scotland, public sector spend of over £10bn per year on goods and services is recognised by government not only as a route to delivering improved public services but also as a platform for delivering a more prosperous, fairer and more sustainable Scotland. Derived from EU Procurement rules and governed by the Procurement Reform (Scotland) Act 2014, the aspiration is for “business friendly, socially responsible procurement that delivers better outcomes for Scotland”.

In thinking about the potential for public procurement to support the fair work agenda, it is important to address the scope in current competitive tendering arrangements to support particular fair work practices and greater emphasis on fair work approaches. Certain fair work practices, such as support for equality and diversity, have long featured in competitive tendering procedures in Scotland. Public procurement can take into account how bidders can generate community or social benefits through their activities within any particular contract. These Community Benefit Clauses (CBCs) are contractual and relate to economic, social or environmental conditions that are built into the specification and delivery. CBCs

used appropriately – that is, linked to core purpose of the contract, not disadvantaging suppliers from other EU Member States and representing value for money - are lawful tools under EU procurement rules. Notwithstanding concerns over limitations in the data available on CBCs, there is some evidence to suggest that CBCs can have a positive impact and can help deliver key National Outcomes for Scotland particularly in relation to employment opportunities, education and skills – especially for young people - and tackling inequality (Sutherland et al 2015).

There is, therefore, some overlap in the areas highlighted in CBCs and elements of the fair work agenda and adopting a broad approach to defining ‘economically advantageous’ may allow even more scope for CBCs to support some fair work practices. More directly, in October 2015, Scottish Government published *Statutory Guidance on the Selection of Tenderers and Award of Contracts: Addressing Fair Work Practices, including the Living Wage, in Procurement*. This Guidance is noteworthy in making a strong statement not only of the potential social or community benefits of supporting fair work practices, but of the critical importance of fair work in ensuring service quality, thus defining fair work as crucial to contract performance.

The fair work practices illustrated in the Guidance are broad ranging – not just in ensuring that public contractors comply with relevant employment, equality and health and safety law, human rights standards and collective agreements - but going far beyond compliance to include consideration of fairness in recruitment, remuneration, contractual arrangements, skills utilisation, job support, employee engagement and worker representation, specifically but not limited to representation through trade unions. Moreover, the Guidance highlights not just the direct employment practices of any potential contractor, but also those in any sub-contracting chain. The Guidance thus highlights the need for those supplying public contracts to be ‘good’ employers and for contracting authorities to be mindful of poor employment practices that might impact on the quality of the contract to be delivered.

As with all procurement requirements, consideration of a tenderer’s fair work practices must be proportionate. Distinction is made between circumstances whereby a bidder/tenderer’s fair work practices are more or less related to the subject matter of the contract. The Guidance suggests that fair work practices are likely to be more relevant to contracts for the delivery of services rather than of goods, though fair work practices should be considered where the workforces supplying the goods impact on their quality.

On the face of it, therefore, in any public competitive tendering scenario, it is appropriate for a contracting authority to ask how tenderers commit to fair work practices for workers (including any agency or sub-contractor workers) engaged in the delivery of the proposed

contract. It is also appropriate for management and monitoring of contracts to take place to ensure that fair work practice continues throughout the contract duration.

Taken alongside the potential of CBCs, procurement in line with this Statutory Guidance could offer a powerful lever for change. The Guidance does not specify what fair work must look like, allowing bidders to define fair work in their specific context, albeit against the backdrop of the Fair Work Framework and its key dimensions, thus offering some flexibility to bidders to reflect particular product and labour market factors. Bidders are invited to specify fair work in their own terms and the Guidance is explicit that distinct fair work practices – in particular, payment of the Living Wage Campaign Living Wage – are not required, though might be indicative of a commitment to fair work.

Public bidders for publicly procured work may find that their suite of work and employment practices are well aligned with the Statutory Guidance on fair work. Evidence suggest that public organisations are more likely to be able to point to specific practices that are consistent with fair work and are cited as examples in the Guidance, such as involving employees in decision making and encouraging employees to join and be active in trade unions, undertaking equal pay audits and paying the Living Wage. Given the focus of this special issue on competitive tendering for lifeline ferry services, there is evidence that the current practices of the public sector ferry operator (Cal-Mac) resonate with elements of the Statutory Guidance on fair work in procurement. The quality of the service provided is crucially important, not simply in terms of routine customer service, but crucially in terms of the duty to ensure safety at sea which impacts not only on the training, certification and experience of seafarers but extends also to the training of catering and other staff to respond in emergency situations and to support flexibility in roles and deployment (Findlay, Commander and Warhurst, 2011). Cal-Mac is also a Living Wage accredited employer, provides effective voice through recognised trades unions; offers opportunity and fulfilment through long-established career progression mechanisms; and offers security which is evidenced by the very long average service lengths of its employees and its above-average wage structure. These fair work practices that deliver flexible, highly trained and experienced staff are crucial to the delivery of ferry services, their outstanding safety record and their economic impact (Fraser of Allander Institute, 2015).

The Guidance does not, however, offer any specific advice on the weight to be attached to a tenderer's fair work approach, and very little is currently known on how these Guidelines are being operationalised or are impacting on procurement practice, although this issue is currently on the radar of the Fair Work Convention. A recent analysis by Unison (2017) of the impact of fair work on the procurement of social care services posed the view that the fair work element should be weighted heavily, given that the quality of social care provision

is heavily reliant on the quality of social care staff. Unison's inquiries of councils indicated that the weighting for fair work ranged from 4% to 40%, with 11 out of the 15 councils who responded reporting a weighting of 10% or less. Unison argue that "For a service that is almost entirely dependent on people for quality delivery, a weighting of less than 20% is unacceptable. We are also aware that very little hard evidence is sought from bidders under this heading" (2016:2).

A key issue, therefore, will be the willingness of public bodies to use the Statutory Guidance to promote fair work. Some concerns have been raised at a UK level over an over-complex interpretation of existing EU procurement legislation, which if replicated in Scotland could in turn limit the impact of the Statutory Guidance on fair work. Moreover, procurement in Scotland is spread across multiple public authorities and while this Statutory Guidance envelops all, there is as yet no data that can point to its overall impact. Given that the Guidance is just over a year old, some time is required to appreciate and evaluate its effect.

IV Brexit implications

Of course, the coming years will not serve solely as a testbed for the impact of the statutory guidance in relation to fair work, given Brexit and other constitutional uncertainties. It is clear that, for a number of years at least, EU procurement rules will govern public procurement in Scotland. As Arrowsmith notes, existing regulations will remain during negotiations for Brexit, which will probably last at least until the end of 2019 and possibly much longer. How procurement will be regulated after that, however, is hard to predict." (2016: 3). She outlines 3 options. In scenario 1, the UK negotiates a trade agreement with the EU that results in the procurement regime applying exactly as it does now. In scenario 2, a more limited agreement with the EU based on the WTO's Government Procurement Agreement could reduce EU procurement application in utilities, defence and concessions (with reduced opportunities for UK suppliers in those markets elsewhere). In scenario 3 there is no concluded agreement on procurement, resulting in no access to foreign procurement markets but greater UK flexibility to design its own procurement regulations.

While scenario 2 and more substantially scenario 3 in theory give opportunity to change the national procurement system, it is worth bearing in mind that the UK was very influential in the drafting of the latest EU procurement directive, so current arrangements may already largely reflect what the UK wants and needs from, and is likely to design into, a procurement system (The Guardian, 2016). Notwithstanding what this suggests about any new 'national' procurement rules, Arrowsmith has also noted that if the UK is outside of EU procurement rules, in the context of the devolution of public procurement since 1998, a likely consequence is greater divergence in procurement rules in Scotland, England, Wales and Northern Ireland,

not least in terms of what she refers to as “... the strong political pressure outside England to use procurement as a tool to promote local industry and social policies (2016: 15).

Of course, the macro-economic impact of Brexit and the macro-economic policy adopted at a UK level in response to emerging challenges may make it more difficult to deliver on a commitment to fair work in Scotland. While some recent comments from the UK government may reflect sabre-rattling, any moves to a low-cost, low value competitive model for Britain post-Brexit is a real and significant threat to the fair work agenda in Scotland.

V Conclusion

This article has discussed the role of public procurement in supporting the delivery of the policy objective of fair work, though some of the arguments considered here could also apply to other policy aspirations. It contends that there is scope in existing procurement rules to support and develop fair work practices in Scotland by influencing the activities and approaches of private and public bidders in competitive tendering processes. Moving from potential to action and impact requires a consistent political will in supporting fair work – and in recognising the link between fair work and high quality service delivery - and a willingness to use existing levers appropriately. Brexit may or may not result in a changed procurement scenario. Any additional potential to use procurement in support of fair work will be highly dependent on sustained political commitment to the central role of fair work in driving inclusive growth in Scotland.

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Scottish ferries: sailing towards greater energy efficiency and decarbonisation?

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Abstract

The Paris Agreement, UK and Scotland Climate Change Acts provide a clear direction of travel for greenhouse gas (GHG) emissions. Scotland's climate targets would require that the domestic transport sector be nearly completely decarbonised. Existing analysis shows that there are inefficiencies in the procurement of ferries, both in Scotland and the rest of Europe, which mean that energy efficiency and decarbonisation opportunities may be forgone in certain situations. The age of ferries has a direct impact on their efficiency and the analysis shows that, whilst Scottish ferries are younger than their counterparts elsewhere, when disaggregating by operator, there seems to be some correlation between public and private operators with regards to age of the ferries. Implementation of incremental energy efficiency technologies and measures in ferries may be hindered due to market failures, and total decarbonisation may be hindered by non-market failures.

I Introduction

The UK and Scotland have both agreed to reduce CO₂ emissions by 80% below 1990 levels by 2050 through the UK Climate Change Act 2008 and Climate Change (Scotland) Act 2009. Scotland's Climate Change Act 2009 contains an interim target of a 42% reduction by 2020 and a 50% reduction by 2030, on 1990 levels. Emissions from domestic transport accounted for just over 20% (13 MtCO₂e) of total Scottish GHG emissions in 2014, whilst international aviation and shipping account for a further 5% of total emissions (CCC 2015). Given these climate change targets, the domestic transport sector will require to be almost totally decarbonised. Reductions in emissions, from road transport for example, are being made through various initiatives and strategies incentivising the uptake of electric vehicles and changing behaviours, thus helping to meet the sector's challenging targets.

Decarbonisation in ferries can begin from implementation of measures to improve energy efficiency (design related measures, hydrodynamic measures and machinery measures) for both existing ships (through retrofits) and new ferries. Thereafter, weaning off from fossil fuels through greater use of low carbon fuels (e.g. bio-diesel and liquid natural gas) and eventually shifting towards renewable forms of energy (e.g. wind and solar) and synthetic fuels (e.g. hydrogen), will be required to reach decarbonisation. For a complete list of technologies applicable to ferries refer to the appendix. There are several examples of ferries in operation that have already achieved zero emissions, for example the Ampere, a fully electric car ferry owned and operated by Norwegian operator Norled. CalMac already owns three hybrid ferries (lithium ion batteries), which has resulted in 20% reduction in emissions

and is already carrying out feasibility studies to evaluate the role of hydrogen and fuel cells, under EU funded projects.

The implications of Brexit on procurement of ferries remains unclear. EU policies impacting the procurement of ferry services is covered by three key pieces of legislations; EU council regulation No. 3577/92 (the Cabotage regulation) regulates the transportation of passengers and goods by sea between two points within Member States of the EU; Directive 2014/25/EU of the European Parliament and of the Council of 26th February 2014 on procurement by entities operating in the water, energy, transport and postal services sectors repealing Directive 2004/17/EC and Directive 2014/24/EU of the European Parliament and of the Council of 26th February 2014 on public procurement, repealing Directive 2004/18/EC. These directives determine when an undertaking incurring a Public Service Obligation (PSO) has to be selected using a public procurement procedure and what the terms of this procedure can be.

This aim of this paper is to review the literature on the impact of tendering on delivering an environmentally friendly ferry service, comparing the current state of Scottish ferries with other European nation ferries, and assess whether there are barriers that could hinder Scottish ferries achieving greater energy efficiency and near decarbonisation.

II Procurement of ferry services

Tendering has been suggested as a means to induce cost efficiency and thus reductions in the costly public subsidies (Sunde 1999) by replacing market competition with 'access to' market competition. For a review of the European ferry sector procurement policies refer to Rehmatulla, Smith & Tibbles (2017). Baird, Wilmsmeier & Boglev (2010) and Baird & Wilmsmeier (2011) show that ferry subsidies in EU member states have been rising despite the competitive tendering of ferry services introduced in many EU member states. Tendering procedures that are thought to improve the prevalent ferry services in terms of value for money for the consumers and public agencies is not yielding the desired or expected results. Førsund (1993), Minken & Killi (2001), Bråthen et al. (2004) and Odeck & Bråthen (2007) show that there may be cost efficiency gains in the range up to 30% in the EU ferry links analysed. Even in the case of Norway, which is free from the EU procurement regulations but adopts similar approaches to procurement as EU, Bråthen et al. (2004) show that tendered ferry links did not outperform non-tendered ferry links and that the subsidising authorities do not seem to impact on the performance of ferry links.

Rehmatulla, Smith & Tibbles (2017) analysis of the EU ferry sector using agency theory suggests that split incentives (associated with the different entities and their conflicting

interests) are pervasive in the public procurement of ferries and can stymie attempts to improve the energy efficiency of ferry services. Their findings suggest that there is a need to devise procurement policies that can address the split incentives in public procurement through tendering under EU regulations. Baird (2012) and Baird, Wilmsmeier & Boglev (2010) show that, uneconomic routes offer reduced return for operators, despite being subsidised. The reduced returns for operators act as a disincentive to them investing in energy efficiency. These findings have important implications on the efficacy of the public procurement of ferry services through tendering, as they suggest production costs (e.g. labour, capital and fuel) are not minimised, therefore suggesting that energy efficiency savings may be forgone in certain situations.

Research by Odeck & Bråthen (2007) indicates that the age of ferries has a direct impact on their energy efficiency. The most likely explanation is that newer ferries are more fuel efficient than older ones. Using age as a proxy for energy efficiency this section attempts to distil the case using quantitative data on the ferry fleet within Scotland and the EU to show whether there are any trends on energy efficiency that may be occurring due to procurement procedures.

Table 1 shows a comparison of Scottish ferry companies and other major European private publicly-owned and operated and privately-owned and operated ferry companies. The average age of Scottish ferry operator ferries is higher (just over twenty-one years on average), than the major route operators in other parts of the EU (fifteen years on average). The table also shows that the average age of the privately-owned operators' fleet is approximately seventeen years compared to publicly-owned operators whose average is twenty-one years.

Figure 1 shows the average age of vessels owned by public and major private operators. One third of UK flagged ferries is over 25 years of age (Figure 2) which is lower than that of all EU flagged ferries, where almost half of the fleet is over 25 years of age (Rehmatulla, Smith & Tibbles 2017). The average age of UK flagged fleet is 23 years compared to the EU average of 29 years.

It has been suggested that if the Scandinavian (mainly Norwegian) approach to ferry operation were adopted in Scotland in terms of vessel and terminal design, operating practices and PSO policy (e.g. provide-and-operate contracts), substantial savings could be made in terms capital and operating costs (Pedersen 2015). A comparative analysis shows that Norway actually has a higher proportion of its fleet that is beyond the expected ferry life of twenty-five years compared to the UK, as is shown in Figure 4. Figure 5 confirms the strategy employed in Norway in the past couple of decades, of smaller sized vessels and

faster services (using catamarans) and increased frequency compared to the UK, which has been deploying generally larger ships at slower speeds. From an environmental view point, larger ships (assuming high capacity utilisation) and slower ships result in significantly lower emissions than smaller, faster ships. A 10% reduction in speed results in nearly a 30% reduction in power requirements, thus speed reduction as an operational measure is considered to have one of the highest impacts on energy efficiency and emissions. The reduction in speed can translate into significant cost savings in fuel for the ferry operator and therefore travel costs and fares for passengers, if fuel cost savings are passed on. It is estimated that in a large car and passenger ferry, a reduction of 0.5 knots would result in 20% reduction in fuel consumption and CO₂ emissions whilst only adding five minutes to a two-hour journey or an extra 4% on transit time (Scottish Government 2011).

Table 1: Average age of vessels owned by public and private companies[1] (2014 data)

Company	Headquarters location	No. of vessels	Average age	Ownership
Tallink Group	EU	11	13	Private
Blue Star Ferries SA	Greece	10	14	Private
Compagnia Italiana	Italy	10	14	Private
Brittany Ferries	France	9	14	Private
DFDS A/S	Denmark	11	15	Private
Ustica Lines SpA	Italy	28	15	Private
Acciona Trasmed.	Spain	10	15	Private
Wightlink Ltd.	UK	13	18	Private
Stena Line AB	EU	19	18	Private
Transtejo-Transp.	Portugal	12	20	Private
Western Ferries	Scotland, UK	5	15	Private (unsubsidised)
Pentland Ferries	Scotland, UK	2	25	Private (unsubsidised)
John O'Groats	Scotland, UK	1	28	Private (unsubsidised)
CalMac	Scotland, UK	29	20	Public
Northlink Ferries	Scotland, UK	2	12	Public
Orkney Island Council Ferries	Scotland, UK	7	24	Public
Shetland Council Ferries	Scotland, UK	11	22	Public
Highland Council	Scotland, UK	3	33	Public
Argyll and Bute Council	Scotland, UK	1	13	Public

[1] Data obtained from Clarksons World Fleet Register. This data set does not have good coverage of ferries, especially small sized vessels.

Figure 1: Average age of vessels owned by public and major private operators (2014)

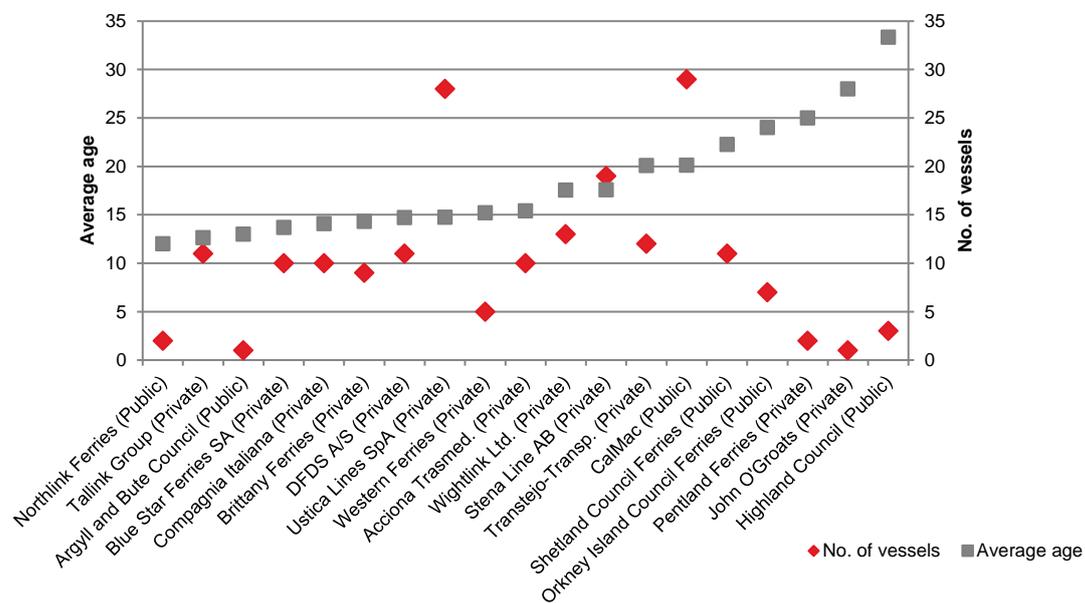
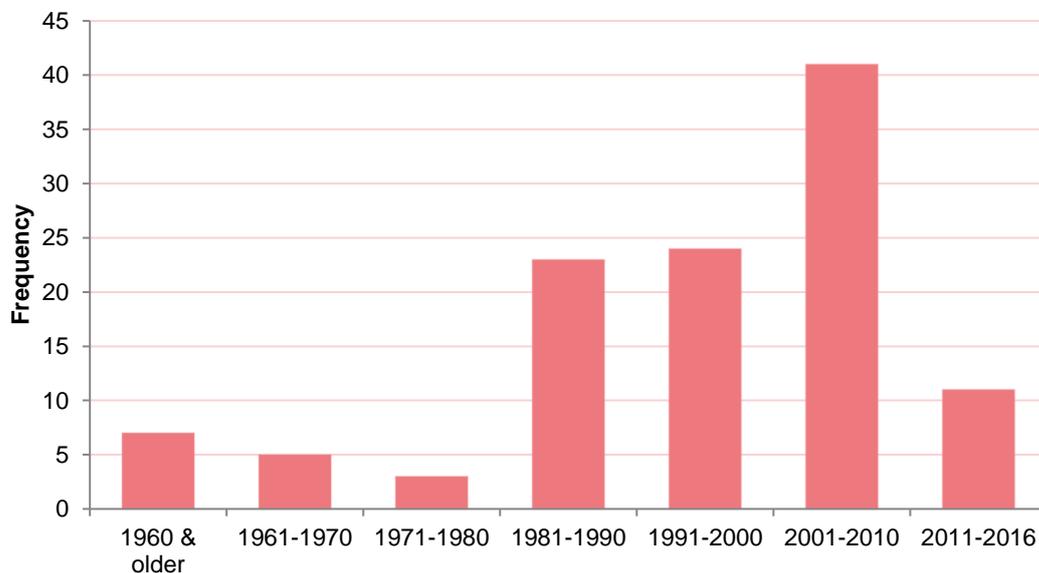


Figure 2: UK ferries by age distribution (2016)



The analysis above shows that Scottish ferries are in general younger compared to other European nations, including Norway. However when one disaggregates by operator, there seems to be some correlation between public and private operators with regards to age, both in the Scottish and EU context. If the data is considered a representative sample, then it

points towards differences across nations that are supposed to be using a Europe-wide procurement framework. The analysis presented here should not be construed as final, but as preliminary findings and should be read with caution. Further work is required for a thorough analysis.

Figure 3: Norwegian ferries by age distribution (2016)



Figure 4: Relative comparison of UK and Norwegian ferry fleet by age (2016)

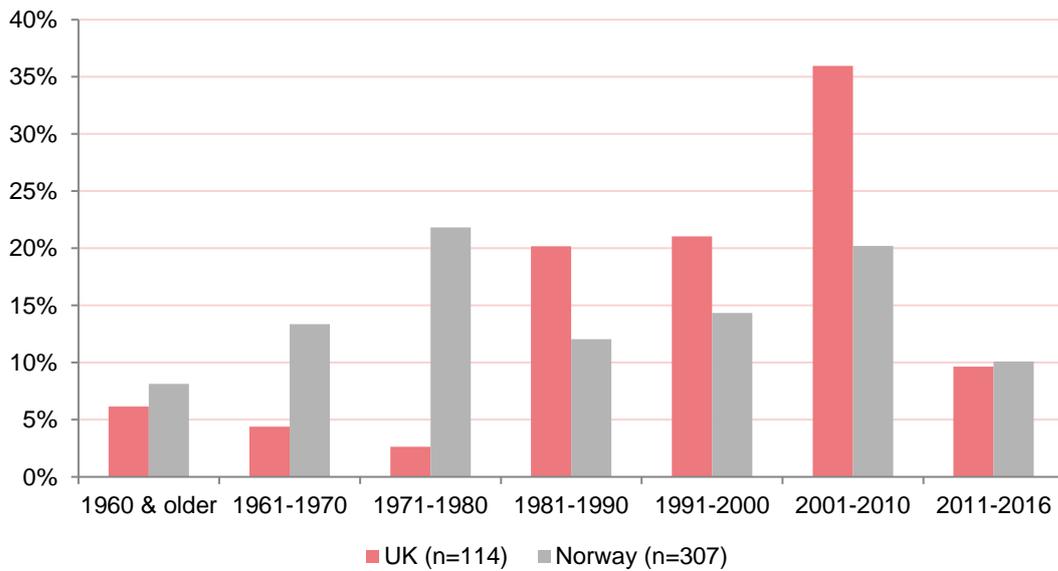
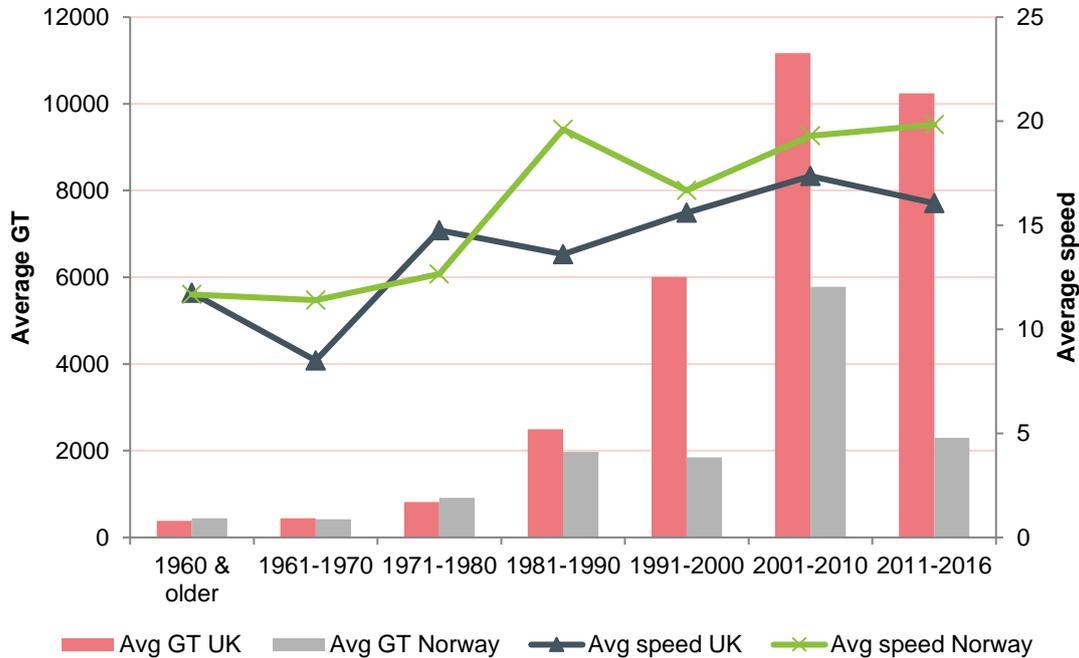


Figure 5: Relative comparison of UK and Norwegian ferry fleet by average Gross Tonnage and speed (2016)

III Barriers to decarbonisation of the Scottish ferry sector

The previous section discussed several factors that show that the provision of ferry services under the different procurement strategies are not optimal. Rehmatulla, Smith & Tibbles (2017) suggest these can be linked to whether; the contract is an operate-only or provide-and-operate contract; the contracts are based on gross or net cost; the operator is publicly, privately or community owned; and, the investor can recoup higher investment costs through higher charter rates.

A large number of energy efficiency measures, especially operational ones, are cost-effective and tend to have substantial emissions abatement potential when implemented in ferries, yet their implementation is not at the level that would be expected from an economist's economic potential and technologist's economic potential (Jaffe & Stavins 1994). This leads to an 'energy efficiency gap', the difference between the actual low levels of implementation of energy efficiency measures and the higher level that would appear to be cost-beneficial or cost-effective from the consumers' or firm's point of view based on techno-economic analysis (Rehmatulla & Smith 2015a). A plausible explanation for the gap is the existence of energy efficiency barriers, which may be defined as postulated mechanisms that inhibit investment in technologies that are both energy efficient and economically efficient (Sorrell et al. 2000). Barriers to energy efficiency can stem from organisational (power, culture etc.), behavioural

(bounded rationality, values etc.), market failures (split incentives, information asymmetry, imperfect information) and non-market failures (access to capital, risk etc.). For a full explanation of these in context of shipping refer to Rehmatulla & Smith (2015b).

Market failures

Implementation of incremental energy efficiency technologies and measures may be hindered due to market failures, such as lack of information and split incentives (Adland et al. 2017; Agnolucci, Smith & Rehmatulla 2014; Prakash et al. 2016). Going beyond a certain emissions reduction level would most likely require use of alternative fuels with lower carbon content (e.g. biofuels and synthetic fuels, such as hydrogen) and the implementation of such step-change technologies is impacted by non-market failures, such as access to capital (Grant Thornton 2010), and different forms of risks (Rehmatulla et al. 2017). Analysis by Aquatera (2016), commissioned by Orkney Islands Council, suggests a number of alternative fuels options are available for low carbon ferries, but conclude that whilst moving towards cleaner technologies will have, across all the alternative options, on average 50% reduction in emissions compared to marine diesel, their implementation will have significant cost implications and will depend on the priorities of the decision makers. It is therefore interesting to note that, whilst the Vessel Replacement and Deployment Plan (VRDP) includes energy efficiency and emissions as part of its priorities, it places fuel efficiency and emissions reduction as the seventh and lowest priority (Transport Scotland 2015).

Split incentives

Improvements in energy efficiency and decarbonisation of the Scottish ferries may be impacted by split incentives of the various entities involved in the system. The delivery of ferry services is thus impacted by various recursions of principal-agent relationships, for example, between the ferry operator and the ferry owner, the government and the operator, the local authority and the government, ferry users and ferry operators. The implication of multiple principle agent relationships is that energy efficiency may not be a priority for different entities in the principal-agent chain as a result of different cost responsibilities, energy price shielding and other constraints. For example, the previous section showed the impact of marginal speed reduction on GHG emissions, yet the Scottish Ferries Review consultations showed that consultees were not supportive of reductions in speed with a preference for technological solutions mainly in newbuilds compared to retrofitting the existing fleet (Scottish Government 2011). It is encouraging to note that the Expert Ferry Group has revisited the issue of speed reduction and will continue to investigate further with quantitative analysis (Transport Scotland 2016).

Given that the majority of ferry routes in Scotland are under operate-only contracts (i.e. the Scottish Government or public bodies, for example councils who own and/or provide vessels) one would expect to see a higher level of implementation of energy efficiency and low carbon solutions in Scottish ferries. Such investments are viewed over a long-term investment horizon and the lifetime of vessels, which should lead to higher implementation of energy efficiency measures, since several technologies have a payback generally ranging from a couple of years to ten years (Wang et al. 2010). Operate-only contracts provide further certainty that a vessel will be on a particular route for its life and as a result the investment in the port and harbour infrastructure and the ship-port configuration leads to further efficiency gains, as such ferries save energy and emissions on manoeuvring and speed. The long-term vested interest in such ferries, should result in better maintenance, for example, appropriate hull coating and hull cleaning regime, which could save a significant amount of fuel and emissions.

However, operate-only contracts also have their drawbacks in context of GHG emissions and energy efficiency and this can also be witnessed in the Scottish ferries sector. During the tendering process, bidding firms may be prevented from offering vessels which may be more energy efficient and instead have to accept existing vessels that may not be the most efficient, which in turn will affect the bidding as increased fuel costs need to be taken into account. The central government or the public body has to find the capital to procure newer vessels and under existing circumstances this is a challenging task (Grant Thornton 2010). This affects the fleet turnover and as a result some very old ships continue to operate in Scottish waters. Also of importance in operate-only contracts is the ability of the ferry provider to recoup the higher investments in energy efficient ferries, through higher bareboat charter rates. Empirical evidence to date shows that in the drybulk shipping time-charter market only around 15-40% of energy savings are recouped by higher charter rates (Agnolucci, Smith & Rehmatulla 2014; Adland et al. 2017). However, the structure and provision of ferry services (lower frequency of chartering and longer lead time in the contracting process) may mean that energy efficiency is well scrutinised. Further work in this area is required to estimate the extent to which the fuel cost savings by operators are passed back to the ferry owner through a higher charter rate.

IV Concluding remarks

The Paris Agreement, UK Climate Change Act and the Climate Change (Scotland) Act all provide a clear sense of direction and a long-term objective for all sectors, including ferries. Given the average economic lifespan of ferries, investment decisions made today would need to account for an evolving emissions landscape and manage decarbonisation. This

paper highlights several issues with respect to energy efficiency and low carbon ferry services. From the quantitative data, it is not evident that competitive tendering within the Scottish context, has led to improvements in energy efficiency of ferries and the problems that competitive tendering seeks to overcome appear to be present from a principal-agent perspective. Whilst, EU procurement policies have made some progress to incorporate energy efficiency and GHG issues by incorporating life-cycle costing and environmental externalities into procurement directives, Member States still enjoy considerable flexibility in determining how much emphasis should be placed upon these. Procurement policies have yet to overcome the issue of split incentives, which as understood is pervasive in the provision of ferry services in most cases. Most important is the priority that is accorded to energy efficiency and emissions by different entities in the ferry sector. This need not be a costly exercise, as shown for some measures (e.g. speed reduction, other operational measures and maintenance strategies) there could be significant savings in monetary terms for ferry passengers as well as overall GHG emissions from the sector. For measures that require significant capital outlay (e.g. alternative fuels) alternative and newly emerging forms of financing, such as green bonds, should be considered. This work has used secondary data sources to try and unpack the issues and barriers to energy efficiency and decarbonisation of the Scottish ferries sector. However, further work could collect data using participatory approaches such as interviews and focus groups with the industry stakeholders to better understand and provide solutions and recommendations to improve the energy efficiency and emissions of the ferry sector in order to meet Scotland's challenging climate targets.

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Appendix

Energy efficiency and low carbon solutions for ferries

Design based technologies	Hydrodynamic technologies
Aft waterline extension Skeg shape/trailing edge optimisation Optimisation of hull openings Shaft line arrangement Bulbous bow Lightweight construction Air lubrication Design speed reduction - smaller engine Design speed reduction - engine derating Superstructure aerodynamics	Propeller modifications (advanced blade sections, winglets/Kappel, prop section optimisation) Propeller/rudder integration (propeller rudder bulb, propeller rudder matching/combo, asymmetric rudder) Pre/postswirl devices (boss cap fin, vane wheel, presswork ducts, mews duct, stator fins) Pods/thrusters (wing thrusters, pulling thrusters, wing pod, pulling pod) Contra-rotating propellers Other hull streamlining (low profile openings, optimisation of water flow openings)
Machinery technologies	Alternative energy sources and energy carriers
Common rail Diesel electric drive Combined Diesel/electric & Diesel mechanical drive (CODED) Hybrid shaft generator Engine tuning Low loss power distribution Variable speed electric power generation Power take off/shaft generator Speed control of pumps and fans Waste heat recovery Energy saving lighting Efficient boiler	Solar power Wind power – kites, sails and Flettner rotors Batteries and fuel cells Biofuels Liquid Natural Gas (LNG) Cold ironing/shore power Hydrogen Ammonia Methanol
Maintenance strategies	Operational measures
Propeller condition based maintenance Regular/interval based propeller maintenance Advanced propeller coating and paints Hull cleaning Hull surface coating - biocidal Hull surface coating - foul release	Weather routing Autopilot upgrade/adjustments General speed reduction Advanced fuel consumption monitoring Trim/draft optimisation Speed reduction due to port efficiency – Just in Time arrival Raising crew awareness & energy efficiency training Efficient voyage execution -Voyage planning & DWT utilisation Optimisation of ballast voyages

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The Gourock-Dunoon question, EU Article 82 and its implications for Scottish ferry services

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Abstract

The Gourock-Dunoon question can be summarised as; how can fair competition and the public interest be pursued and preserved on ferry services between Gourock and Dunoon? It is a simple question but complicated by the existence of two operators on the route, one private and the other publicly owned. The paper draws on this example to argue that the Scottish government policy of self-funding Scottish port authorities runs the danger of possible breaches of EU Article 82 and that this could impact adversely on other ferry services in Scotland. The paper proposes solutions that could help alleviate these dangers.

I Introduction and background

A story, quite possibly apocryphal, is attributed to Benjamin Disraeli who reportedly claimed that only three people had ever understood the Schleswig-Holstein question. One was dead, one was a professor who had gone mad, and the third was Disraeli himself who had quite forgotten the answer (Rowley-Conwy, 2006).

The “Gourock-Dunoon question” has pursued and frustrated a series of transport ministers for coming up to four decades. As far as is known, no-one has forgotten the answer or taken it to the grave with them. As to the mental state of this professor, I can only refer readers to the succession of transport ministers who received my submissions on this matter politely and patiently. They are in a much better position to judge that issue than I am.

The basic Gourock-Dunoon question can be expressed as; how can fair competition and the public interest be pursued and preserved on ferry services between Gourock and Dunoon?

It is a question that can be phrased simply, but the issues surrounding it are far more complex and have wider significance for the whole Scottish ferry network. We also need to consider why the problem may be important and relevant in the present context. That consideration falls into two parts: economic significance, and significance in the context of the financing of the Scottish ferry services. We discuss these issues below.

However, I also have four other analyses of Scottish ferry policy in general and Gourock-Dunoon in particular previously published in this Commentary (Kay, 1999, 2009, 2010, 2011). All are available online so I will avoid trampling over old ground as far as possible though most of the arguments in these analyses are still as fresh today as when the articles were published.

I note in passing that I argued in invited evidence to the Scottish Parliament in 2005 that it would be possible to run Scottish ferry services as state owned services (and without the need for tendering) as long as they complied with EU law under the Altmark conditions (see Kay, 2009 and 2010).

However, the then Scottish Executive rejected these arguments on the basis of civil servant advice insisting that the Altmark criteria were not applicable to ferry services in Scotland.

The tendering process went ahead and in May 2008 the European Commission announced an investigation into alleged State aid for Scottish ferry services on the basis that it turns out Altmark was applicable to Scottish ferry services – which, as I say, I had identified as an escape route from tendering but which the Scottish Executive’s civil servants had denied existed. In fact, the then European Transport Commissioner Jacques Barrot had already confirmed in 2007 that Altmark was indeed applicable to Scottish ferry services (Ross, 2015).

More recently, reports suggest the Teckal exemption (BBC News, 2017) may mean that the CalMac network and other routes such as Gourock-Dunoon may be considered for provision by an in-house operator without the needs to tender. It is also clear EU State aid and competition rules will still apply here, and we discuss below some of the devils hiding in the detail.

The 2005-08 Altmark saga and its effects have been summarised by Ross (2015). Whether the then Scottish Executive in 2005 could have fashioned an alternative to tendering under Altmark is a moot point – it would have required a commitment on the part of those in charge, and a willingness and ability to leverage and work with external competences not available to them in-house.

These issues still have relevance today, both in terms of substance but also in terms of process. There are echoes of the Altmark debate and outcome in the submissions I have made to Transport Scotland and the Scottish government on the issues below for more than three years. We shall start by looking at the economic significance of the Gourock-Dunoon route in the Scottish context

II The economic significance of Gourock-Dunoon

Gourock and Dunoon are two communities on the Firth of Clyde about 5 miles apart and with populations of about 11,000 and 13,000 respectively. They are connected by two ferry services. One is a subsidised town-centre to town-centre foot passenger service operated by Argyll Ferries, a subsidiary of publicly owned David MacBrayne. The other is a vehicle-carrying service operated by private operator Western Ferries. It is generally recognised and

accepted by interested parties that any future vehicle-carrying service on the town-centre to town-centre route would have to be unsubsidised given the proximity of the private operator Western Ferries

Gourock and Dunoon have importance as local centres in their own right, but their real significance lies in the wider geographical context in which they are set. In that respect they can be viewed as the mirror image of South Queensferry and North Queensferry on the Firth of Forth. The two Queensferry communities served as crucial ferry hubs for road traffic up and down the east coast of Scotland until the completion of the Forth Road Bridge in 1964. The Gourock-Dunoon ferries today play strategic and economic roles similar to those of the road and rail bridges on the Firth of Forth, though of course the Clyde has lesser population densities to the north compared to the Forth.

This importance is reflected in Scottish transport statistics. The private operator on the Gourock-Dunoon route (Western Ferries) was the busiest in Scotland in terms of passengers and vehicles in 2014 when it carried 1,347,200 passengers, 590,000 cars and 37,900 commercial vehicles and buses (Transport Scotland, 2015, p145). In that same year, Caledonian MacBrayne had 46 per cent and Western Ferries 24 per cent of vehicle carryings nationwide in Scotland. Western's share of national traffic was fully attributable to its carryings on the Gourock-Dunoon route alone (Transport Scotland, 2015, p144).

The question we now turn to is; why is Gourock-Dunoon also significant in the current context? The roots of what is turning out to be a present-day twist on the Gourock-Dunoon problem were laid in August 2012 when it was revealed that Transport Scotland had identified five routes in Scotland which could be considered for separate tender (in some quarters this was argued to be a step towards privatisation). Four of these routes were used by CalMac: Ardrossan to Brodick, Wemyss Bay to Rothesay, Oban to Craignure, and Largs to Cumbrae. These four routes (and in turn the harbours served) consistently figure in Scottish Transport Statistics as high frequency traffic and collectively they represent a substantial proportion of the CalMac network whether measured by revenue or volume of traffic. State-owned Caledonian Maritime Assets Ltd (CMAL) owns the Oban, Brodick, Wemyss Bay, Largs and Cumbrae harbours. Argyll and Bute Council own the Rothesay and Craignure harbours. Ardrossan harbour is owned by Clydeport. When the plans to open up the bundle and tender these routes separately were made public in 2012 there were threats of strike action alleging lack of assurances on pensions and working conditions (Daily Record, 2012)

It is not clear why Transport Scotland had intended to tender some frequently used CalMac services individually at this point, but the European Commission certainly in its various investigations of Scottish ferry services down the years has consistently made it clear that

these services had to be administered in ways that were consistent with EU State aid and competition rules, and the Commission also made clear they saw competitive tendering as the normal mechanism to achieve this. The Commission had also made clear (including in their 2008 State aid investigation) that bundling of routes as in the CalMac tender could run the danger of concealing anti-competitive and discriminatory behaviour.

“... some interested parties are of the view that the bundling of all routes, with the exception of the route between Gourock and Dunoon, unduly and significantly restrained competition during the tender ... The Commission will need to assess the impact of the bundling on the tender procedure; if it were to conclude that such bundling was not justifiable, then the Commission would consider that the contract has not been awarded through a really open and non-discriminatory public procurement procedure.” (CEC 2008, para 11)

At the same time, various Scottish administrations down the years had emphasised their preference, and in some cases their intentions, to keep CalMac and its services under public ownership. But the problem for each successive Scottish administration over the past 17 years is that you cannot guarantee continued public ownership of these services in perpetuity under fairly conducted competitive tendering. It is simply not possible to square that circle.

A few months after the public announcement of Transport Scotland's plans for tendering selected routes separately, a new CMAL system of port charges were introduced in April 2013. As we note below, this has major implications for the current financing and governance debate in the context of EU State aid and competition rules.

III The CMAL pricing system

In December 2012, Transport Scotland published the Scottish Government's Scottish Ferry Services: Ferries Plan (2013-2022) outlining its intentions over the next the next twenty years. It included looking at self-funding for harbour authorities such that:

“Self-funding would require each harbour authority (whether CMAL, independent harbour trusts, local authorities or private ports) to plan their forward investment and ensure that harbour dues (for all users, not just ferry operators) were set at a level that enabled funds for planned capital works to be built up and/or for loans for such works to be paid off” (Transport Scotland, 2012, p.11).

From 1st April 2013, CMAL abandoned the pier dues discount scheme for frequent users and moved to a non-negotiable scheme in which the pier dues were directly proportionate to the usage of a pier. The result was that the charges are more closely related to the fare box revenues of the ferry operator than they are to the costs of providing services of the port

operator and was consistent with CMAL's Strategic Plan 2012-2022 (CMAL 2012) which had the ambition of "making ports and harbours self-funding"¹. This was followed by another strategic plan (CMAL 2014) which did not mention self-funding as such but makes clear that CMAL was following the investment priorities set out in the Transport Scotland (2012) ferry plan - which of course was based around self-funding.

In principle, self-funding can sound an innocuous and reasonable proposition. However, as I have argued in a series of communications to CMAL and Transport Scotland since November 2013, there are sound reasons to argue that self-funding a harbour authorities network can almost inevitably lead to breaches of EU Article 82. The problem breaks down into two parts, harbour authority port revenue and harbour authority port costs. We can demonstrate this with a simple illustrative case.

An illustrative case

Suppose we have a harbour authority with a small network of four ports, A, B, C and D each serving separate markets. The four ports each cost the harbour authority £1 million pounds a year to operate and maintain. All the ports are used by similar vehicle-carrying ferries and the same network-wide charge is payable each time a vessel arrives at any of the four ports. A, B and C ports all have the same amount of usage by ferries over the course of a year, but Port D is used five times more frequently than any one of the other ports. You adjust the network charge until the network is self-financing. What revenue will you get from each of the ports?

The answer is £500,000 revenue for each of ports A, B and C, and £2.5million for Port D. The network-wide revenue of £4million is just enough to cover the network-wide costs of £4 million². Port A, B, and Cs' losses are cross-subsidised by Port Ds high frequency, high revenue – and highly profitable - business. In fact, Port D's gross profit margin is 150%.

Established EU case law suggests that the starting point from the perspective of the application of EU Article 82 would be to look at Port D as a business in its own right. Two 2004 cases CEC (2004a and b) looked at the issue of whether a port authority was indulging in unfair pricing practices under Article 82 of the EC Treaty which prohibits the abuse by one or more undertakings of a dominant position within the common market or in substantial part

¹ Both strategic plans were originally publicly available on the internet. But as of February 17th 2017 there was no mention of them on the CMAL website publications page. The section titled "Corporate Plan and Strategic Plan" just has a 3-year corporate plan which does not mention self-funding. Both strategic plans are available from me on request.

² In practice, the port authority would likely be allowed to make a "reasonable profit" over and above covering its costs.

of it. “Abuse” would amount to “directly or indirectly imposing unfair purchase or selling prices or unfair trading conditions”.

It was determined that the relevant market was the market for the provision of port services and facilities in the specific port transporting passengers and/or vehicles on the route in question (CEC 2004a)

Further, the cases based their definition of what could constitute excessive or unfair pricing on a European Court of Justice ruling which judged that the amount of excess could be determined by looking at the profit margin resulting from the difference between the selling price of the product in question and its cost of production.

The Court also determined that whether a price charged was both excessive and unfair could be determined by looking whether the charge imposed was either unfair in itself or when compared to competing products.³

If we refer back to our illustrative case above, any operator using Port D who wished to argue the case that the charges levied at Port D were both excessive and unfair would start by pointing to a profit margin of 150% being made by the port authority at that port, with the surpluses being used to prop up loss-making businesses at Ports A, B and C.

It could be argued that Ports A, B and C should be maintained and their loss making supported for social reasons and the needs of local communities. That point could be fully conceded by the user of Port D, but the counterargument would be that if there were public interest reasons for maintaining ports A, B and C, then they should be subsidised from the public purse, not cross-subsidised through arguably excessive and unfair charges on a user of Port D in the distinct and separate market served by Port D.

In our illustrative case, highly profitable port activity is used by a self-funding harbour authority to support loss-making ports serving separate markets in the rest of its network. In the next section we look at whether these issues are likely to arise in a real world Scottish context, starting with CMAL.

IV Implications of CMAL’s self-funding pricing regime

We consider the likely profit and loss implications of CMAL’s self-funding regime by treating each port as serving a separate and distinct market and look at the revenue and cost considerations in turn.

³ The Commission issued a short summary by Lamalle et al (2004) on the implications of the rulings.

First on CMAL's *revenue* side, there are 24 CMAL-owned harbours including Gourock (which is used by Argyll Ferries passenger-only service). However, Gourock alone has more sailings per year than the total sailings for ten of these other CMAL ports (Castlebay, Coll, Colonsay, Kennacraig, Kilchoan, Lochboisdale, Port Ellen, Tarbert, Tiree and Tobermory).⁴ Just five of the CMAL ports (Gourock, Colintraive, Cumbrae, Largs, and Rhubodach) account for 61% of the sailings on the network.⁵ Clearly some ports would involve larger vessels and so higher access charges per sailings, but equally clearly this serves to illustrate the high degree of skewness in terms of usage at individual CMAL port facilities.⁶

Second, on CMAL's *cost* side, almost all CMAL's costs are fixed costs, there are no significant variable costs attributable to actual usage of their facilities. This reflects CMAL's responsibilities as an asset manager, ferry operations are the operator's responsibility with the operator and its employees typically also responsible for managing sailings at piers. The general principle is that the nature of CMAL's business and its remit means almost all its costs of providing services to users are fixed costs largely unaffected by frequency of sailings of volume of traffic from its ports and harbours, whether schedules are half-hourly, hourly, daily or weekly. This is consistent with what the Commission found in its investigation of port charges under Article 82 in the cases brought by the ferry operators Scandlines and Sundbusserne where it said; "It should be noted that most of the costs of the port are fixed costs and that the variable costs (i.e. costs that would vary with the number of calls by the ferry operators or the number of passengers/vehicles transported on board the ferries) are minor" (CEC, 2004a p.27).

This highly skewed nature of operator economic activity on the network combined with the (mostly) fixed costs of operating ports means that some ports would likely be highly profitable while others would be major loss makers. CMAL's self-financing regime means the latter would be largely financed by the former. This extreme skewness can be argued to be consistent with a *prima facie* case that the CMAL port pricing formula would almost inevitably lead to the issues under Article 82 as discussed in the previous section. In the next section we look at Gourock-Dunoon as example to see whether that would happen in practice.

⁴ Harbour access data supplied by CMAL for April 11 to March 2012 and published timetables. The CMAL figures probably somewhat understate the frequency of the Gourock sailings, the more frequent the Argyll Ferries service only started in June 2011

⁵ *Ibid*

⁶ *Scottish Transport Statistics* indicates a similar pattern of highly skewed volumes in terms of vehicles and passengers carried through individual ports,

V The Gourock-Dunoon market and CMAL's system of charges

Gourock-Dunoon would be a useful indicative case simply on the basis of its economic importance. In addition, a recent Scottish Government commissioned MVA report (2013) on the route also gives precise measures for port charges that would be imposed for a vehicle-passenger service using CMAL and council facilities, and detailed costs of port operation are available through different sources. It is also subject to separate tender, unlike the two largest tenders (Clyde and Hebrides and Northern Isles) whose routes are bundled.

If excessive/unfair pricing can be argued here, then there are a number of CalMac routes using CMAL harbours which exhibit similar features to Gourock-Dunoon in terms of its being a high frequency and/or high value route. These are the type of routes referred to above that were briefly considered for separate tender by Transport Scotland in 2012.

The MVA report was commissioned to investigate whether a commercial (unsubsidised) vehicle-carrying service could be viable in the Gourock-Dunoon market where it would face competition from the unsubsidised operator, Western Ferries (the latter owns its own ports).

As far as port revenues to the harbour authority are concerned, the MVA report calculated that a frequent (half-hourly) two vessel vehicle-passenger service between Gourock and Dunoon would face annual port charges of about £2m at Gourock and a slightly lower amount at Dunoon (the latter owned by Argyll and Bute Council). However, that last figure has to be regarded as contingent since the Council has since been reviewing its harbour charge system for its extensive network of ports. At the same time, it will be recalled that the Scottish Ferry Plan indicated that it expected self-funding to be adopted by most harbour authorities, including councils.

As far as port costs for the harbour authority are concerned, the Scandlines and Sundbusserne cases (CEC, 2004a and b) cited the United Brands case and noted a number of methodologies in general and with specific reference to EU port charges to assess possible excessive pricing under EU Article 82. I used three of these methodologies as alternative ways of assessing the costs to CMAL of running the port of Gourock, drawing on publicly available information, information provided by CMAL, and Freedom of Information requests.

These methodologies produced a range of cost estimates, the highest of which was £650,000 a year. Even if this top end estimate was adopted, it suggested a profit margin of over 200% for CMAL if a frequent vehicle-passenger service was to be reintroduced on the route. The MVA figures suggested that these charges would severely impact on the net revenue stream and adversely affect the commercial risks for any operator wishing to enter this market with

a vehicle-carrying service. It could also arguably lead to breaches of Article 82, most obviously in deterring such market entry.

By extension, these same issues should also apply to the high frequency/high value routes on the CalMac network where CMAL and Argyll and Bute Council are the dominant harbour authorities. We would expect that network charges imposed by the harbour authorities self-funding their respective networks would reduce or eliminate the possibility of commercial unsubsidised vehicle carrying on these routes. This in turn might diminish arguments that the CalMac network could be partially unbundled by selecting some routes for separate tender, such as the ones that were briefly considered for these purposes in 2012.

I submitted my analysis in writing to the then Managing Director of CMAL and the leader of Argyll and Bute Council in November 2013, and since then have had meetings with the CMAL MD and his two successors. However, to date these meetings have not led to any satisfactory conclusion. Questions still relate to the object and the effect of harbour authorities self-funding regime under Article 82. As to what its object was, we can grant good intentions and put down any adverse outcomes to unintended consequences. But what matters here are the actual effects.

These effects may be judged potentially severe under Article 82. Interested parties (which can include operators, local businesses and communities) may have grounds for claiming that the general impact of Scottish government's policy of harbour authorities self-funding is to lead to excessive port pricing on popular high value/frequency routes and protect existing Scottish ferry operators by unfairly deterring market entry from other EU operators. The specific operators most obviously at risk of claims of unfair protection are CalMac Ferries, Argyll Ferries and Western Ferries (the latter two on the Gourock-Dunoon route).

It might further be argued that CalMac route-bundling facilitates potential abuse of this nature by reducing the transparency of costs and revenue streams associated with each route market. This is a non-trivial danger given (as noted above) the concerns expressed by the Commission down the years as to the potential market distortion effects of route bundling.

Finally, it should be noted that in the view of some interested parties, the issue of excessive port charges may already have had an impact in deterring potential operators from pursuing an interest in the Gourock-Dunoon route after Expressions of Interest were invited recently by Transport Scotland.

VI Conclusions and possible remedies

Notwithstanding the issues outlined above, there are some straightforward remedies that can – and should - be applied to resolve the issues raised by the Scottish government’s policy that port authorities in Scotland self-fund their port networks by way of cross-subsidies and the competition issues these raise under Article 82. These remedies include that:

- (1) As a prerequisite, that these issues be recognised at ministerial level of the Scottish Government and that action needs to be taken to resolve them.
- (2) The Scottish Government should identify a well-established and generally accepted methodology to assess the cost of operating and maintaining individual ports (including accounting for shared overheads and costs).
- (3) The chosen methodology should be adopted to assess the individual costs of ports operated and maintained by those harbour authorities likely to be affected by the above issues.
- (4) The results should be made publicly available.
- (5) It would still be possible for harbour authorities like CMAL and Argyll and Bute Council to operate a network-wide system of port charges. However, that system should incorporate an annual system of volume-dependent ex ante discounts or ex post rebates to ensure that the port authority makes no more than a reasonable profit at individual ports.
- (6) There are likely to be public interest arguments for supporting loss making ports from public funds for social reasons (as in our illustrative case above).

There are two points that should be emphasised about switching from a self-funding port network pricing regime to an ‘ex ante discount / ex post rebate’ one. First, its adoption may not actually lead to pressure to unbundle high frequency/value routes. Underlying profitability of any of such routes is certainly likely to have been eroded by the rise in costs associated with self-funding regimes, but their profitability is also likely to have been squeezed from the other direction by the imposition of Road Equivalent Tariff (RET) on route revenue streams. However, while it has been argued here that self-funding leads to questionable outcomes under Article 82, RET has been applied to these routes for well-articulated and legitimate social reasons. That being the case, these routes may still be commercially unprofitable even after a fair system of port charges is set up.

Second, the irony is that harbour-authorities' self-funding is unlikely to have any significant net effect on the public purse, either compared to systems past or the one proposed here. The major impact of self-funding is that any increased port revenue to CMAL (and any other port authority) in terms of increased port charges just has to be met in the form of increased subsidy at these ports for CalMac to enable it to continue its scheduled and contracted operations (effectively tapping publicly-owned Peter to pay publicly-owned Paul). Indeed if the potential losses in harbour fees from deterring a potential vehicle service at Gourock-Dunoon are factored in, self-funding could actually lead to a net loss to the public purse.

Finally, I am optimistic in principle that simple solutions compliant with EU law could be applied here and move things forward to a solution to the Gourock-Dunoon question. I am however a realist (based on some years of experience), and in practice we can expect this 'can' to be kicked down the road until the potential problems warned about here become actual problems.

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Scottish ferry services' procurement, post-Brexit: challenge or opportunity?

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Abstract

In the context of a very uncertain legal and constitutional future, the issue of lifeline ferry service provision in Scotland is considered. Some unintended, and negative, consequences of competitive tendering are set out, focussing particularly on the impact of tendering on the Scottish Government's Fair Work policy and the necessity to reduce carbon emissions. The range of possible constitutional and legal backdrops against which Scottish ferry services will be provided in the future are analysed in terms of the consequences for achieving these objectives and a road map is constructed. EU and Scottish public procurement legislation is described and their similarities are highlighted. Should competitive tendering ultimately be deemed no longer necessary, the need to develop a suitable regulatory regime for a public sector monopoly provider is noted. In an alternative scenario, where tendering continues, it is proposed that the use of Community Benefit clauses, as well as other legal instruments, could be used to align the outcomes of competitive tendering with specified economic and environmental objectives.

I Introduction

It is very unusual to be having to think about the economics of Scottish ferry transport services in the face of such constitutional and legal uncertainty, but such are the times in which we now operate. Here, we set out the various potential states of the world in which decisions around the delivery and financing of ferry transport to Scotland's island communities will have to be made. In doing so, we flag up at least one or more of the discussions which will necessarily have to take place at some unspecified time in the future. Moreover, we highlight options which have a number of desirable features and which might serve as a focus in any discussions which might take place between the EU and the UK, the UK and Scotland or Scotland and the EU in relation to ferry transport and to the wider issue of public procurement. National Audit Office officials have already begun to advise that companies should be considering the challenges / environment they will face post-Brexit and arguing for specific elements in any Brexit deal that is struck.¹

These are uncertain times, but, in fact, the legal position regarding the necessity or otherwise of having to undertake competitive tenders for Scotland's ferry routes has been a matter of uncertainty and debate for some time, in fact since 2005 and it remains so today. This particular discussion is addressed in detail in John Temple Lang's article in this issue and is

¹ Mark Taylor, Assistant Director, Audit Scotland speaking at a conference on Brexit in Edinburgh, 2nd March 2017, <http://www.mackayhannah.com/conferences/agenda/brexit-for-beginners>

the subject of the review into the tendering of ferry contracts which was announced by the Transport Minister² last month. The review, which has necessitated the delaying of the Gourock-Dunoon tender and will, in all likelihood, delay the process for the Northern Isles contract, has, as its focus the question of whether a public-sector company (in this case, CalMac) could be directed to provide this service without the need for any further tendering. That possibility could have been considered at any point over the past decade or so and is not related to the imminence of Brexit. It relies entirely on a known exemption from EU State aid rules, the Teckal exemption, which is referred to elsewhere in this issue. The outcome of the review, taking place, as it does, while the UK (and Scotland with it) moves towards exit from the EU, will remain relevant given that procurement regulations recently enacted into Scots law include reference to Teckal. If somehow Scotland manages to detach itself from the UK and re-attach itself to the EU, then EU law will retain its current primacy.

In order to bring some clarity to this matter we set out below as many of the considerations around ferry services as we can, under each of the possible states of the world which we can envisage at this point. We consider not only the matters currently under review by the Scottish Government, but the wider question of how to provide island communities with an efficient, safe, good-quality and affordable ferry service that promotes and develops the economic and cultural life of the islands; provides fair, good quality work for islanders and island and mainland communities and is environmentally sustainable. In other words, how do we avoid the unintended consequences of a system (competitive tendering) which is designed mainly to promote efficiency (more or less narrowly defined) and which can, and does, interact negatively with other well-established public policy aims of the current Scottish Government and all likely successors for some time to come.

II Background to tendering of ferry services in Scotland

It is not necessary here to rehearse the full history of competitive tendering of Scottish ferry services as this is well-known and documented in a variety of journal and newspaper articles. Central to our discussion here is the largely undisputed proposition that the existing service in the Clyde and Hebrides – the largest of the bundled routes - is a well-run, efficient and cost-effective service provided by the public-sector operator, CalMac (Findlay, J, 2005, 2010, 2016). Moreover, given the tightly-specified tender and the over-arching regulatory environment in which the service operates, there is very little scope for cost-saving. In particular, the vessels, timetable and staffing are largely pre-determined and any cost-saving could only come in terms of a deterioration in the terms and conditions of on and off--shore CalMac employees. More up-to-date evidence will soon be provided by the National Audit

² <http://www.transport.gov.scot/news/review-ferry-tendering>

Office, which will publish an audit of ferry services in Scotland in the autumn of 2017. This audit will ‘...examine spending on ferries and what this achieves, to help establish whether it provides value for money’.³

The role of previous tenders in achieving a well-run, cost-effective ferry service is arguable but, on any view, it is undisputed that tendering itself is an extremely costly affair (ibid) and that a continuation of the tendering regime is unlikely to provide any benefits to service users in terms of quality nor achieve any cost-saving in the running of the service. Moreover, as discussed elsewhere in this issue, it can have a negative impact on the achievement of environmental policy targets and, in practice, can cut across the Fair Work policy agenda by endangering the existence of the public operator (Findlay, J, 2016) or by forcing tendering authorities to shoehorn Fair Work into a process not primarily designed for this purpose and subject to a degree of uncertainty (Findlay, P, 2017).

As noted above, successive Scottish Governments (and the previous Scottish Executive) have not challenged these arguments but have, instead, indicated repeatedly that tendering is required by EU regulation and is not their preferred option. So the question arises as to which of the possible circumstances which might arise in the short to medium term would allow the Scottish Government to provide ferries without the need to put them out to competitive tender and thereby avoid the unintended, negative consequences referred to above - and outlined in more detail in this issue and elsewhere (Findlay, J, 2016, Rehmatullah, 2017). Furthermore, were such circumstances to arise, then how should such public monopolies be regulated to ensure quality of service, cost-effectiveness, environmental sustainability, fair work and any other policy objectives that may be set by the Scottish Government?

III Competitive tendering and Scotland’s current position within the EU

The following discussion relates to the current status of the UK as an EU member state. Notwithstanding the UK Parliament’s Article 50 vote, EU regulations are likely to apply in the UK for at least two years and probably longer. The decision by the First Minister to seek the approval of the Scottish Parliament to begin negotiations with the UK government on a second independence referendum, raises the possibility that Scotland may remain in the EU after Brexit and into the foreseeable future.

The requirement of EU member states to engage in a competitive tendering process is considered in detail in this issue by Temple Lang (2017). This includes the question of whether the Altmark judgement would have allowed the Scottish Government to direct

³ <http://www.audit-scotland.gov.uk/report/ferry-services-in-scotland>

CalMac, or to direct and subsidise a private operator, to run Scotland's ferry services without contravening the State aid rules. Temple Lang concludes that indeed it might have, if the public service obligation had been properly specified and the level of compensation had been transparently and objectively calculated. However, successive Scottish Governments have chosen not to attempt this and have relied instead on competitive tendering, with all its consequent costs.

The Scottish Government review of tendering which is currently underway is considering the question of whether or not another judgement, which gave rise to the Teckal exemption, applies in the case of Scottish ferry services. In plain speech, the Teckal exemption allows for a public authority in a member State to procure directly from a company which is solely directed by that authority (as though it were a department of that authority) and which carries out eighty percent or more of its activities for the procuring authority. If Teckal applies, then the Scottish Government could simply direct CalMac (which is wholly-owned by Scottish Ministers and is primarily engaged in servicing Scottish routes on their behalf) to provide ferry services on any or all of the current or future routes. Clearly such a finding would remove the need for a competitive tendering process, although some other method of regulation would presumably be required to replace that provided, in theory, by the forces of competition. We return to this question below when we consider the constitutional outcome preferred by the UK Government ie that Scotland remains in the UK and the UK leaves the EU.

IV Scottish / EU procurement legislation

In 2014, the Scottish Parliament introduced the Procurement Reform (Scotland) Act followed by two pieces of associated regulation in 2015 and 2016⁴. These implemented the relevant EU Directives on public procurement. It is important to state that neither the 2014 Act nor the Regulations mandate that the contracting authority award public contracts through competitive tendering. Section 14 of the 2014 Act, for instance, recognises that the Scottish Government 'may, by regulations, specify circumstances in which a contracting authority may ...award a regulated contract without seeking offers in relation to the proposed contract.' Regulation 6 of the 2016 regulations also specifies other circumstances in which contracts can be awarded without competition.⁵

⁴ Procure Reform (Scotland) Act 2014; Public Contracts (Scotland) Regulations 2015 and The Procurement (Scotland) Regulations 2016 accessed at <http://www.legislation.gov.uk/>

⁵ Section 14 of the Act of 2014.

In another significant development, Regulation 13 of the 2015 regulations confirms the Teckal exemption referred to above.⁶

The 2015, 2016 Regulations and the 2014 Act apply to all new tender processes starting after the date on which these came into effect (April 2016) with the important provision that the law now embeds a strong theme of social responsibility. In the case of the provision of ferry services through competitive tendering, the Act provides several grounds on which this form of procurement can be challenged. This statutory intent is set out in Part 2 'General Duties and Procurement Strategies'. This is combined with detailed set of remedies that are available to challenge the decisions of the contracting authority in situations where it is not compliant with its general duties.⁷ This requires mandatory compliance with the 'sustainable procurement duty'⁸ which includes a duty to 'consider how in conducting the procurement process it can – improve the economic, social and environmental well-being of the authority's area.'⁹ Further, in any preceding financial year the procurement strategy developed by the contracting authority must 'set out how the authority intend to ensure that its regulated procurements will ...deliver value for money.. include a statement of the authority's general policy on the use of community benefit requirements, consulting and engaging with those affected by procurement, the payment of a living wage to persons involved in producing, providing or constructing the subject matter of regulated procurement...'.¹⁰ The 2015 Regulations also permit the contracting authority to refuse to award a contract to the tenderer submitting the 'most economically advantageous tender' in situations where 'the authority has established that the tender does not comply with applicable obligations in the fields of environmental, social and labour law established by EU law, national law, collective agreements or by the international environmental, social and labour law provisions.'¹¹ The Regulations have also incorporated a new ground for exclusion which deals with breaches of social, environmental and employment law obligations. In situations where 'a contracting authority can demonstrate by any appropriate means that a business has breached one of these obligations, it may, at its discretion, choose to exclude that business from bidding for contracts.'¹² So we can see that in many of the respects relevant to this discussion, Scottish procurement law mirrors existing EU law.

⁶ Regulation 13 of 2015 Regulations

⁷ Section 8 of the Act sets out the General Duties of a contracting authority.

⁸ Section 9 sets out the sustainable procurement duty

⁹ Section 9 (1)(a)(i) of the 2014 Act

¹⁰ Section 15 (5) of the 2014 Act

¹¹ Regulation 57 (2) of the 2015 Regulations

¹² Point 9.15 of the Policy Note accompanying the 2015 Regulations

In addition to the statutory provisions, the contracting authority may impose a community benefit requirement as a term of the contract relating to training and recruitment that is 'intended to improve the economic, social or environmental wellbeing of the authority's area in a way additional to the main purpose of the contract in which the requirement is included.'¹³ This is not a mandatory requirement and the Scottish Government reserves its right to publish guidance on the use of 'community benefit requirements'.¹⁴ This is discussed in more detail in relation to Fair Work in the paper by Patricia Findlay in this issue (Findlay, P, *op cit*).

The Future Islands Bill¹⁵, which is due to be introduced in the Scottish Parliament in Spring 2017 is likely, based on the consultation which was undertaken as part of the process for introducing the Bill, to include a requirement to have a National Islands Plan; to require 'island-proofing' of all legislation, policy and services and to provide a range of measures to 'empower island communities' in relation to, among other things, service delivery.

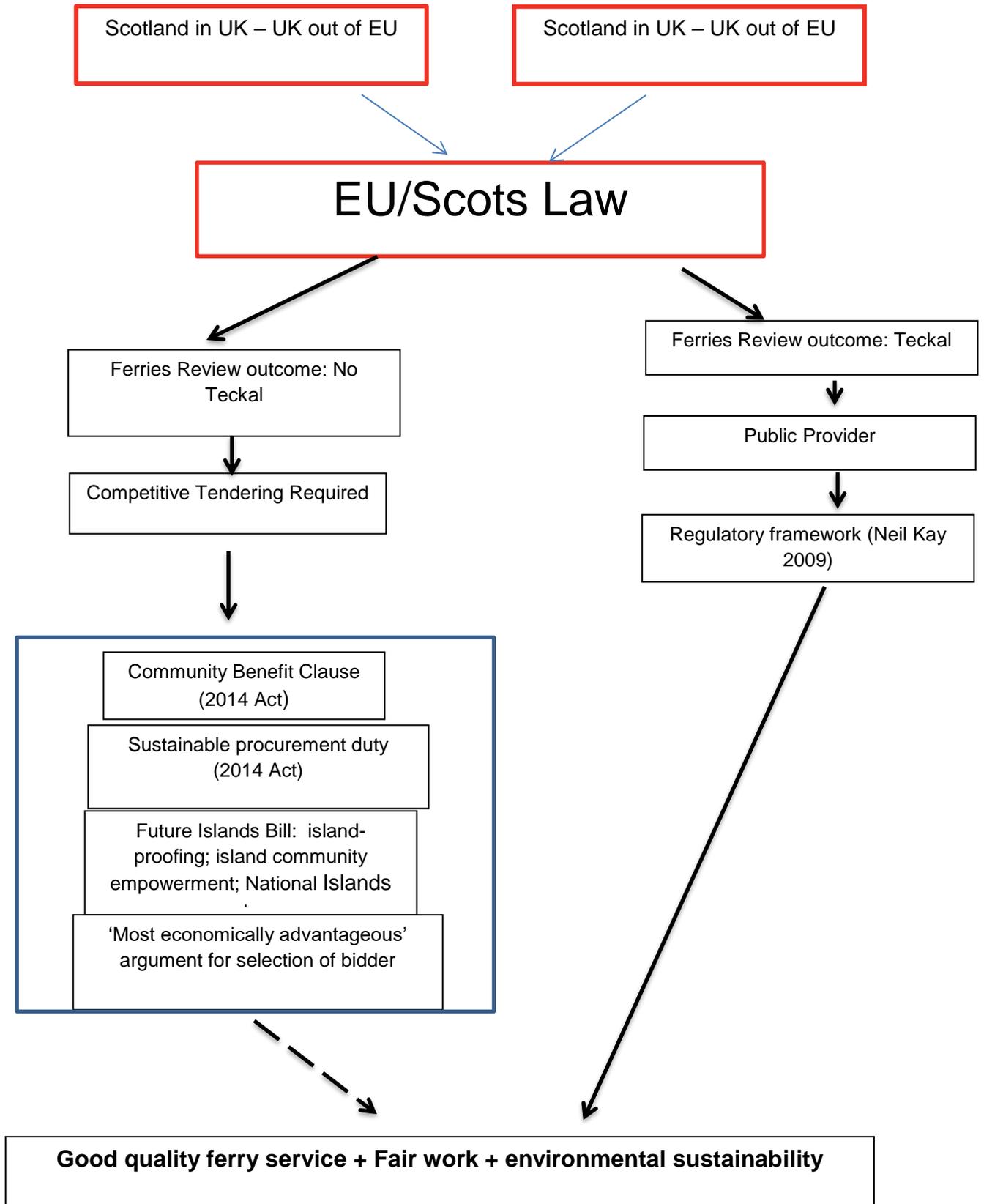
Taken together, this suite of legislation/regulation could form the basis of a new approach to the delivery of ferry services which is both compliant with EU and Scots Law and would allow a more direct approach to ensuring that ferry operator(s) not only provide a good quality, environmentally sustainable, service but also provide good quality employment conditions and thereby contribute to the strength of island economies. So where does that leave us now?

Figure 1 sets out a road map of possible outcomes conditional on whichever constitutional position Scotland finds itself. Based on current EU and Scots Law and in both of the circumstances currently envisaged, an important question is whether or not the Teckal exemption is deemed by the current Scottish Government review to apply to ferry services in Scotland.

¹³ Section 24 of the 2014 Act.

¹⁴Section 26 of the 2014 Act.

¹⁵ <https://consult.scotland.gov.uk/islands-team/islands-bill-consultation/>



Firstly, we shall consider the state of the world in which the exemption is not deemed to apply (the left hand side of the diagram). In this case, competitive tendering is likely to still be required whether or not, Scotland remains in the EU. However, there are a number of routes whereby the tendering authority ie the Scottish Government, could incorporate other policy objectives, including the ones considered here, into a tender document. These include, but are not confined to, the use of Community Benefit Clauses, the Sustainable Procurement Duty and relevant elements of the Future Islands Bill when it becomes law. Moreover, in the selection of the successful bidder, the contracting authority could, as explained by John Temple Lang (2017), select the one which was deemed to be the ‘most economically advantageous’, which is not necessarily the lowest-cost bid. This could lead to the achievement of the relevant policy objectives, although that outcome is not certain, relies on the political will of the Scottish Government of the day and could be subject to challenge (we denote this in the diagram with a broken arrow connector).

If the review finds that the Teckal exemption applies to Scottish ferry services (the right hand side of the diagram), then this opens up the possibility of the contract being awarded permanently to an in-house operator (i.e. CalMac). In this situation, the Scottish Government could simply direct CalMac to comply with and meet all objectives set out by them. Clearly in this case, a system of regulation – over and above all other existing safety and environmental regulations – would have to be instituted. Neil Kay in a paper written in a previous Fraser Economic Commentary (Kay, 2009) discusses this very issue. He argued that Scottish civil servants were inexperienced in regulating public-sector monopolies because this particular task in the 1980s and 1990s fell under the remit of UK civil servants. However, a wealth of experience has now been accumulated in this area and it should be perfectly possible to devise a suitable regulatory framework and to find sufficient expertise in-house and externally to operate it. Work on developing such a framework should be a priority for Transport Scotland, and interested academics, given the strong possibility of it becoming necessary.

It should be noted that we have not taken into account another possible change in the rules which might affect this discussion. In April 2018, the European Single Procurement Directive will become mandatory in Scotland. This Directive provides an easier procedure¹⁶ for bidders throughout the EU to be short-listed for public contracts, provided they demonstrate their standing, technical capacity and experience. In previous ferry tendering exercises, there

¹⁶ Point 9.21 of the Policy Note to the 2015 Regulations

have been very few bidders from the UK or the EU. This new Directive may make such bids a more attractive proposition, but it is too early to be sure about the possible effects.

V Conclusion

The provision and financing of lifeline ferry services in Scotland is a matter of great importance to island communities and their fellow-citizens in the mainland port areas. The ferry industry provides much more than simply transport services; it provides employment opportunities and training and constitutes a vital lifeline connecting the fragile island economies to that of mainland Scotland. It is also the vehicle whereby policies as diverse as carbon reduction and fair work can be delivered to islanders and the wider Scottish labour market.

The considerable constitutional and legal uncertainties surrounding the future of the industry is likely to persist for some time. In an attempt to bring some clarity to the matter, we have set out the possible outcomes which will arise out of the current review of ferry tendering and, in particular, we map out the ways in which other policy objectives of the Scottish Government might be more effectively achieved in the short to medium term, conditional on the outcome of its current review of whether ferry services require to be competitively tendered.

While acknowledging the inherent uncertainties, it must also be acknowledged that opportunities are opening up to achieve a number of policy objectives in a more direct way. Should the review conclude that tendering is not necessary, the service can lawfully be provided by a public-sector provider under the direction of the Scottish Government. In such circumstances, policies such as fair work and the environmental objectives outlined in this issue (Rehmatullah, 2017) could be pursued as an integral part of the aims of the operator under a suitable – and new - regulatory regime.

However, should the review come to the opposite conclusion, there are still several mechanisms embedded in Scots and EU law which would provide the means to pursue those same objectives, albeit with less certainty of achieving them.

There are strong economic arguments for arranging matters in such a way as to utilise ferry services as a means to achieve a variety of desirable policy aims. As indicated here, there are likely to be legal avenues to pursue these aims under most states of the world we can envisage – subject always to there being the political will to do so. In the meantime, research and policy activity should be directed towards examining in greater detail the precise ways in which this can be implemented.

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Economic Perspectives

Business investment performance in Scotland

Kenny Richmond & Jennifer Turnbull, Scottish Enterprise

Abstract

Business investment (including spending on machinery, buildings, ICT, R&D) is a key driver of productivity. New data shows that Scotland's business investment rate has been lower than nearly all other OECD countries for a number of years, resulting in a low level of capital stock per worker. Scotland's low business investment is likely due to a number of factors, including: industrial structure: a small manufacturing sector and larger public sector; weak business R&D expenditure; low levels of competition, reducing the incentives to invest; management short-termism in some companies; low productivity reducing potential returns from investment; and, low wage growth reducing the cost of labour relative to capital. Business investment by Scottish-owned companies appears to be particularly low. Low business investment is likely a major reason for Scotland's low productivity levels and growth.

I Introduction

Business investment - in machinery, buildings, ICT, R&D etc. - is a key driver of productivity, competitiveness and economic growth. This paper uses new Scottish Government data that allows, for the first time, a more robust assessment of Scotland's business investment performance and how it compares to other OECD economies.

II Why is business investment important?

Business investment is defined as expenditure on¹:

- transport equipment
- information and communication technology (ICT) equipment
- other machinery and equipment
- cultivated assets (livestock for breeding, tree plantations etc.)
- intellectual property products (including investment in software, research & development, artistic originals and mineral exploration)
- buildings and other structures.

Research shows that business investment is essential to improving labour productivity². Investment in ICT, software, machinery & equipment and R&D allows the adoption and diffusion of new technologies, which are crucial to increasing labour efficiency and productivity. Through investment, workforces can be equipped with the latest technologies, which, in turn, allow them to improve their business processes and produce more and higher-

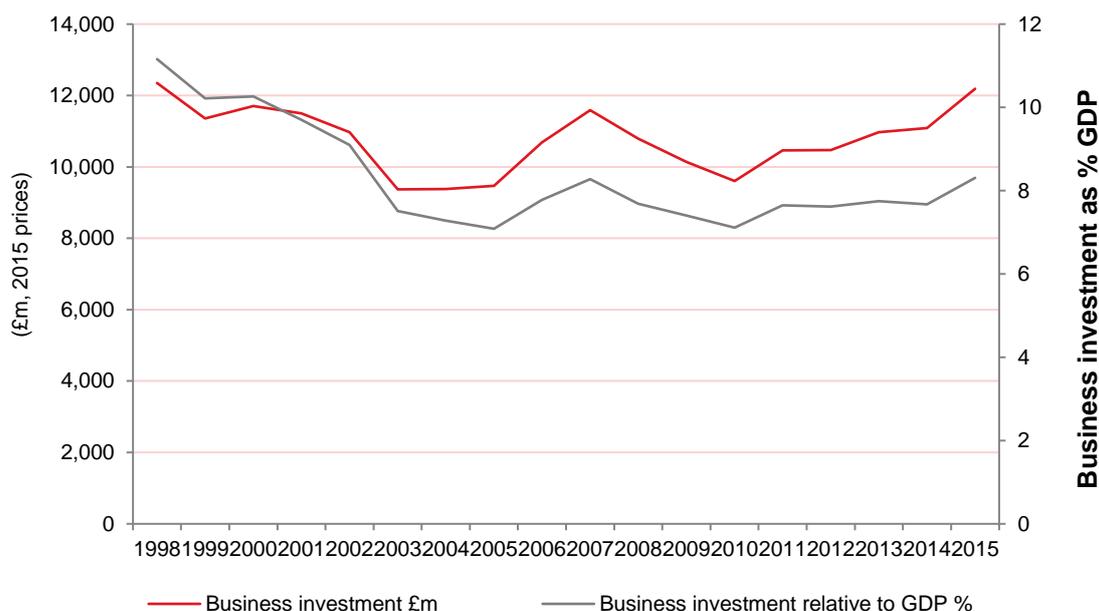
¹ ONS, *Business Investment in the UK*

² *The UK Productivity Puzzle*, Bank of England (2014)

quality goods and services per unit of inputs. Investment can increase the levels of capital stock per worker, and industries with a larger stock of capital per worker tend to have higher levels of productivity⁴ (e.g. chemical manufacturing etc.).

III Scotland's business investment performance

Figure 1: Business investment in Scotland, £m (2015 prices) and relative to GDP



Source: Scottish Government

New data from the Scottish Government allows an assessment of business investment trends since 1998⁵. In real terms (i.e. taking into account inflation), Scotland's business investment has ranged from £9.3bn a year to £12.3bn - and was £12.2bn in 2015, the latest year of data. Business investment fell following the financial crisis and only returned to pre-crisis levels in 2015. However, relative to the size of the Scottish economy, business investment is lower than pre-2001 levels.

By comparing business investment relative to an economy's GDP (the business investment rate), performance across countries can be assessed. The data shows that Scotland's business investment rate (7.7%) is the second lowest across all OECD countries - the UK also performs poorly. This has been the case for quite a number of years; in 2004 Scotland also had the second lowest business investment rate. Scotland has, however, narrowed the

³ *Investment and Productivity*, Conference Board of Canada

⁴ *Economic Review*, ONS (2014)

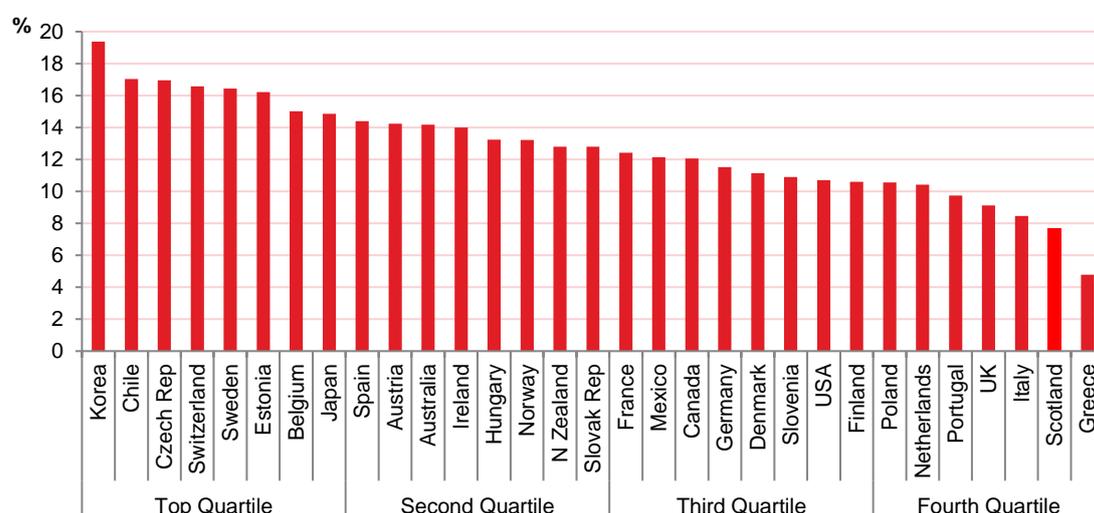
⁵ The data has been included in the *Quarterly National Accounts Scotland Quarter 1 2016* publication, and are classed as 'Experimental' (Table X1)

business investment rate performance gap with both the UK and OECD averages since 2004 (by 0.6 and 1.2 percentage points respectively).

For Scotland to match the OECD top quartile average performance, business investment in Scotland would need to be £10bn a year more, 90% higher than it is currently; and to match the UK rate, it would need to be £2b a year more, or 20% higher than at present.

To illustrate the size of this business investment ‘gap’ – and excluding self-employed businesses – a business with 50 employees would need to invest an additional £55,000 investment per annum to match the average UK business investment rate, and fully £270,000 per annum to match the OECD Q1 average.

Figure 2: Business investment relative to GDP (%), Scotland and OECD, 2014



Source: OECD, Scottish Government

Scotland’s low business investment rate over a number of years relative to other countries suggests that the level of capital stock per worker is also lower, negatively affecting productivity performance.

IV Reasons for Scotland’s low business investment rate?

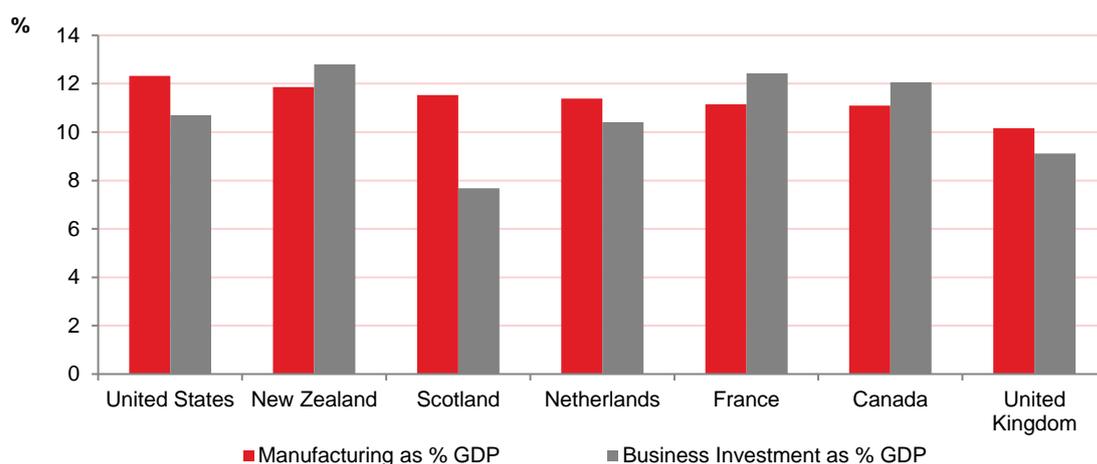
There are a number of potential reasons for Scotland’s low business investment rate compared to other EU and OECD countries.

Industrial structure

Countries with a larger manufacturing sector (relative to the overall economy) tend to have higher business investment rates, as R&D and capital equipment spend tends to be higher

in manufacturing than in services companies⁶. Scotland has a smaller manufacturing sector than many other OECD countries. However, even when compared to countries with a similar sized manufacturing sector, Scotland's business investment rate is still considerably lower.

Figure 3: Business investment rates for countries with similar-sized manufacturing sectors, 2014



Source: OECD, Scottish Government

Research by Scottish Enterprise⁷ on Scotland's manufacturing sector highlights that companies in Scotland typically invest less in capital equipment than those in other countries, particularly smaller and medium-sized businesses which make up most of Scotland's manufacturing base. This is due to a number of factors:

- Scottish companies generally "sweat their capital assets" for longer periods with investment spend tending to be focused on maintenance, repair and improvement of existing capital assets rather than on acquiring new more productive assets.
- Scottish companies tend to face a different return on investment (ROI) parameters for capital expenditure with a shorter payback period being than that faced by companies in other countries, who take a longer term approach to investment.
- The culture of 'early sell-on' in some Scottish companies limits a longer term outlook and, therefore, commitment to capital investment.

⁶ *Economic Outlook, OECD 2015*

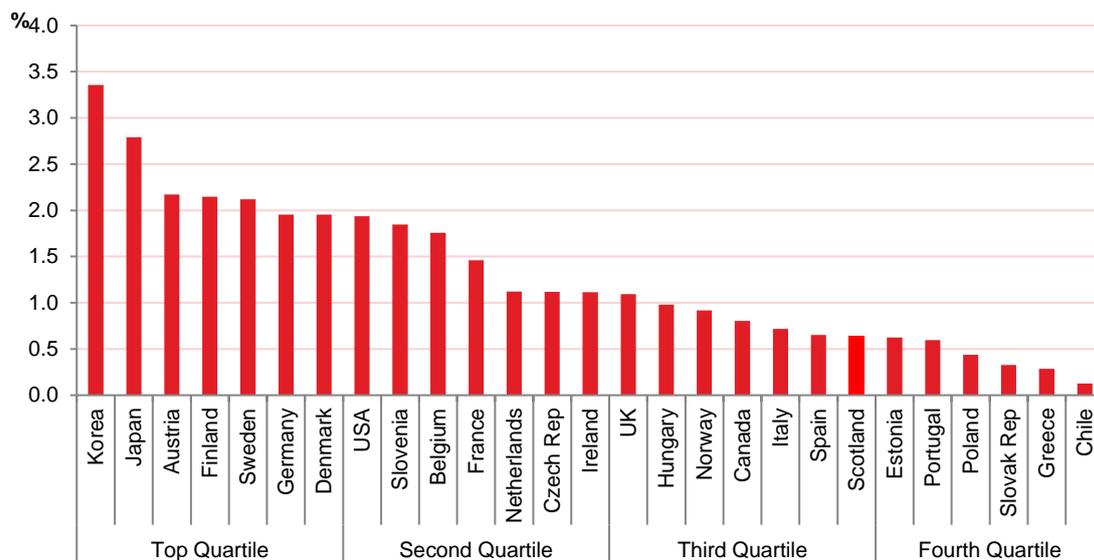
⁷ *Scottish manufacturing research study, Scottish Enterprise (2014)*

- Investing in the right capital expenditure confidently and consistently needs to be based on coherent and robust long term business planning; this is a gap in many Scottish SMEs.
- Reluctance by a number of companies to take on long term debt.

There is some evidence that, for the UK as a whole, investment by the manufacturing sector in ICT is similar to other countries⁸, and if this is the same for Scotland, it suggests that it is low investment in physical machinery and equipment and in R&D that is pulling down Scotland's overall business investment rate.

Low R&D spend

Figure 4: Business R&D expenditure relative to GDP (%), 2014



R&D expenditure is a component of overall business investment (generally between 10% and 20% for many countries). Scotland's business R&D performance lags most other OECD countries and is at the bottom of the third quartile. Reasons include Scotland having a smaller manufacturing sector compared to other countries (R&D tends to be concentrated in manufacturing) and having few companies in high R&D intensive sectors (such as automotives and electronics). As with overall business investment, Scotland's business R&D rate has been low for a number of years.

⁸ *Short-termism, impatient capital and finance for manufacturing innovation in the UK*, UK Government Office for Science (2013)

Weaker competition

Scotland has fewer businesses per head of population than most other EU countries. Moreover, a lower proportion of Scottish companies export overseas. This may reduce their exposure to higher levels of competition and therefore reduce their incentive to invest to meet such competition. Also, the public sector makes up a slightly higher proportion of the economy in Scotland than some other OECD countries⁹ (measured in terms of employment); economies with a larger public sector - and hence a smaller private sector - tend to have a lower business investment rate¹⁰.

Management short termism and 'shareholder value'

Research shows that investment levels are significantly higher in privately-owned companies than publicly-listed ones with the same characteristics¹¹ and a number of studies have concluded that this is a result of 'short termism' within management teams. This, it is argued, is due to 'shareholder primacy' where managers put the interests of shareholders first. This can result management teams focusing on maximising the short term value of shares and dividends at the expense of longer term investment¹².

An example of this is the use of profits for 'share buy-backs' in order to boost share prices, or to pay dividends, rather than to fund capital investment as although investment can improve a company's long-term performance, in the short-term it can result in a decline in a company's share price¹³. Management remuneration schemes can further incentivise a focus on short-term share performance¹⁴.

There is a view that 'the mantra of shareholder value' has gone further in the UK than other countries, and that management teams pay (in particular bonuses) is more closely linked to short term profits than elsewhere¹⁵.

There is limited data on the number of companies in Scotland that are publicly-listed. The business database FAME identifies 94 publicly-listed companies that are headquartered or have a registered office in Scotland. Of these, 71 employ almost 525,000 people, although a number are likely to be employed outside Scotland¹⁶. So although an exact figure is not available, it does suggest that perhaps a relatively large proportion of private sector activity

⁹ *Government at a Glance, OECD 2015 and Public sector employment in the UK, ONS*

¹⁰ *Source: SE analysis of OECD data*

¹¹ *Who owns a company? Bank of England 2015*

¹² *Who owns a company? Bank of England 2015*

¹³ *Short-termism in business: causes, mechanisms and consequences, Ernst & Young*

¹⁴ *Overcoming Short-termism within British Business, Labour Policy Review (2013)*

¹⁵ *Britain is held back by its business culture, not the EU, Centre for European Reform (2013)*

¹⁶ *Data was not available for the other 24. FAME does not provide a geographical breakdown of the location of companies' employment.*

in Scotland is within publicly-listed or owned companies that are more liable perhaps to the short termism noted above.

New research by the Bank of England¹⁷ further highlights extent of short-termism. Of 1,200 UK companies they surveyed, three-quarters put investment behind distribution to shareholders and investment in financial assets when assessing the most important use of internally generated funds. A third of companies reported they had invested too little in recent years, and many of these reported constraints on using internal rather than external funds (ie using profits) for investment rather than for distribution to shareholders or purchasing financial assets (including M&A).

Research by McKinsey¹⁸ of US companies suggests that those that take a 'long-term view' invested more than their 'short-term' peers, and reported better performance on measures such as revenue, jobs and earnings growth, and has less revenue volatility. This highlights the benefits to companies that focus on long-term investment.

Low productivity and wage growth

The UK (and Scotland's) relatively weak productivity (both growth and level) compared to some other countries may be a factor in deterring investment if future returns (profits) are expected to be low. Also, recent weak wage growth following the recession has reduced the cost of labour relative to capital, and this may have led some businesses to actively use more labour-intensive forms of production rather than investing in capital¹⁹.

Low business investment by indigenous businesses

For the UK as a whole, tangible capital investment (so excluding Intellectual Property (IP) and R&D spend) by foreign-owned businesses accounts for a significant proportion (28%) of total business investment; this is higher than in many other OECD countries²⁰. It is likely to be similar for Scotland²¹.

The business investment rate in the UK and Scotland is lower than in most other countries, and a high proportion of the business investment that is undertaken is by foreign-owned businesses. This suggests that investment in the UK and Scotland by domestically-owned businesses is particularly weak compared to other countries. For example, we know that for

¹⁷ *The financial system and productive investment: new survey evidence*, Bank of England 2017

¹⁸ *Where companies with a long-term view outperform their peers*, McKinsey 2017

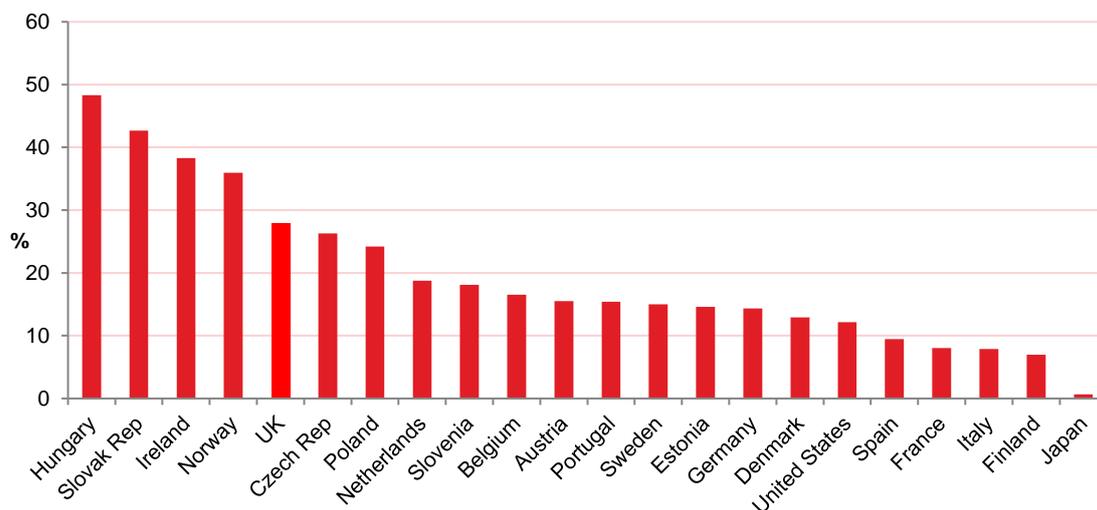
¹⁹ *The great British jobs and productivity mystery*, Royal Economic Society 2014

²⁰ *Economic Outlook*, OECD 2015

²¹ *Data for Scotland is not available.*

business R&D in Scotland, 68% is carried out by overseas-owned companies²² despite them accounting for just 35% of Scotland's GVA²³.

Figure 5: Tangible capital investment by foreign owned businesses as % total business investment, 2012



Source: OECD

There are, therefore, likely to be a number of reasons for Scotland's low business investment rate compared to nearly all other OECD countries:

- Scotland's small manufacturing sector, relative to the overall economy
- Scotland's relatively large public sector, compared to many other countries
- Low R&D investment, particularly by Scottish-owned businesses
- Weak competition reducing the incentives to invest
- Management team short-termism in some companies, particularly publicly-owned ones.
- Low wage growth, reducing the cost of labour relative to capital.
- Low business investment by Scottish-owned businesses.

Investment in intangible 'knowledge based capital'

Research shows that investment by businesses in intangible 'knowledge based capital' such as brand equity, design, human capital development, training and organisational capital is important to economic and productivity growth²⁴.

²² *Scottish Government*

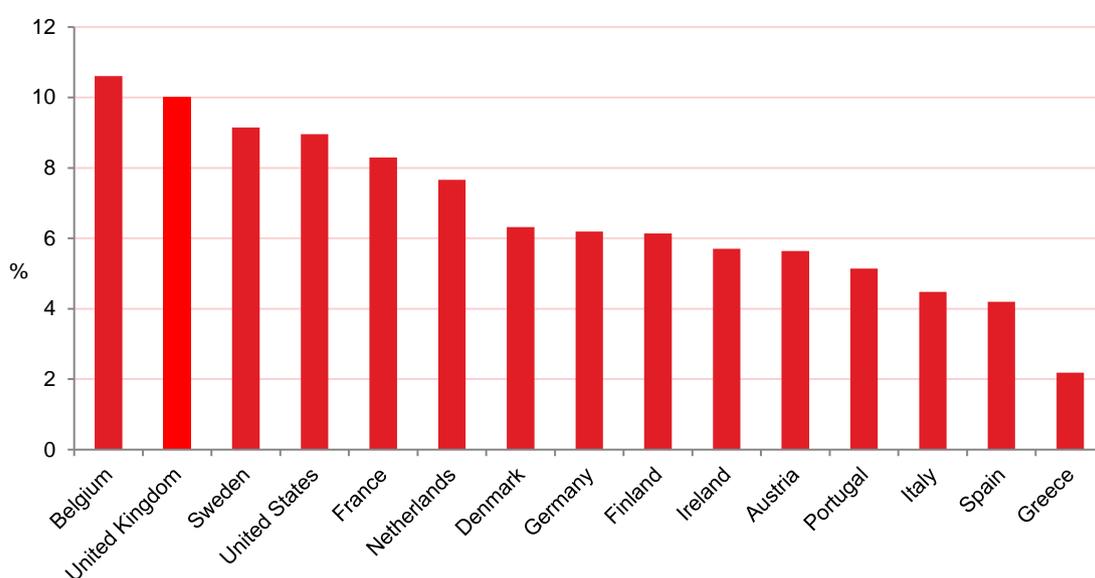
²³ *Who owns businesses in the UK? ONS*

²⁴ *OECD Science, Technology and Industry Scoreboard, 2013*

Investment in intangible knowledge based assets in the UK is higher than most other OECD countries²⁵, and this may reflect that the service sector here accounts for a higher proportion of the economy. It is likely that Scottish rates of intangible investment are around the same level as the UK's as Scotland's economic structure is broadly similar to that of the UK.

However, it is unclear the extent to which higher intangible investment offsets weak tangible and R&D investment in terms of the UK's productivity performance.

Figure 6: Investment in intangible knowledge assets (brand equity, design, human capital development, training and organisation capital) as % of industry sector GVA, 2013



Source: OECD

V Conclusions and implications for Scotland

This new data allows, for the first time, a more robust assessment of Scotland's poor business investment performance. They show that Scotland's business investment rate has lagged that of the UK and other OECD countries for many years – and that the gap between Scotland and the better performing OECD countries is very significant.

As a result, the level of accumulated capital stock per employee in Scotland is very likely to be lower than in other countries thereby negatively affecting both the competitiveness and productivity performance of many Scottish companies.

²⁵ *OECD Science, Technology and Industry Scoreboard, 2013 and OECD Science, Technology and Industry Scoreboard, 2015*

The data does not allow a detailed assessment of business investment activity (for example, by sector or business size), but the available evidence suggests a range of potential causes of Scotland's relatively poor performance including its industrial structure (relatively small manufacturing and relatively large public sector), low R&D, weak inter-firm competition and short-termism among some management teams in Scotland's publically-owned – and large - companies.

Policy implications and responses

Scottish Enterprise supports businesses to invest; its Account Management support raises business growth ambition and helps businesses realise their growth plans through increased innovation, internationalisation, and business efficiency, which in turn help stimulate business investment.

For Scotland's industrial sector, the Manufacturing Action Plan²⁶ sets out a number of key actions to encourage and support investment. This includes growing the ambition and strategic skills of business leaders and management teams to increase investment; developing workforce skills to better use and deploy technology and equipment; promoting the productivity benefits of investing in modern and more energy-efficient equipment and SMART manufacturing technologies; and supporting and encouraging increased innovation and R&D.

As part of the Action Plan, the Scottish Manufacturing Advisory Service (SMAS) has launched the Manufacturing Capital Asset Review service to assist companies to assess the benefits of investing in advanced manufacturing technologies and equipment, and providing investment case support. This includes financial readiness support to help secure investment from funders. SMAS aims to complete over 600 reviews over the three years to 2020. The benefits of these reviews, in terms of increased business investment, will be monitored over time.

Other examples of support to encourage Scotland's businesses to invest include grants such as Regional Selective Assistance, Environmental Aid, property support, as well as access to funding support, for example through Scottish Investment Bank funds. Over the past three years (2013/4 to 2015/16), Scottish Enterprise support has resulted in over £830m of planned capital expenditure by Scottish businesses.

R&D support to companies includes grants and the key sector funding programmes (such as the Renewable Energy Investment Fund), and the development of sector assets - such as the Scottish Innovation Centres and the Advanced Forming Research Centre (AFRC) - that

²⁶ *Scotland's manufacturing action plan*

attract and stimulate business R&D. Over the past three years (2013/4 to 2015/16), Scottish Enterprise support has resulted in almost £495m of planned R&D expenditure by Scottish businesses.

This suggests that on an annual basis, Scottish Enterprise direct capital and R&D support has increased business investment in Scotland by around £450m a year, contributing 3.5% - 4% to overall Scottish business investment. However, Scottish Enterprise support alone will not make a significant impact in closing Scotland's business investment performance gap with other EU or OECD countries.

To achieve such a step change in Scotland's business investment rate would require significant growth in R&D and capital investment, in particular by Scotland's domestically-owned companies. Were this to happen, it would raise capital stock levels, positively contributing to productivity. More businesses need to be encouraged to take a longer term view and invest in new technology, machinery and equipment rather than 'sweating' existing assets, and to invest in R&D and innovation to improve processes and introduce new products and services. Raising the ambition and skills of management teams to develop and implement long-term growth plans, and to recognise the long-term benefits of business investment, will be key to closing Scotland's business investment performance gap.

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Broadband in Scotland: broader, faster, poorer, remoter

Ewan Sutherland

Abstract

The provision of universal broadband Internet access in Scotland has been the subject of political promises, to support economic growth and reduce social divides. The market supplying broadband is subject to complex, multi-tiered governance. Until the UK leaves the EU, it is subject to EU aspirations, directives and regulations, which are implemented in London by the UK government and regulatory authority. There are strong path dependencies, arising from the Openreach agreement on wholesale access, between the regulator and BT, which affects both the residential and business markets. Competition in fixed broadband is primarily service-based and dependent on regulation. Mobile broadband has limited infrastructure-based competition, with incentives from UK government to extend coverage. State aid has been provided by complex means to support increased rural provision, but has not been ended, in favour of cross-subsidies. Those disinclined to use the Internet are being encouraged to do so, by local initiatives, partly to ease the digital by default strategy for government services. Brexit brings the possibility of change, by leaving the EU governance system, while the possibility of Scottish independence would require an entirely new system of market governance.

Keywords: Broadband, Governance, Internet, State Aid, Telecommunications

I Introduction

The challenges in delivering universal broadband have increased significantly.¹ The goalposts have been moved by imperfectly predictable technological advances and unexpected changes to the politico-regulatory landscape, with Brexit removing the United Kingdom from the single European regulatory space, and with the possibility of a second Scottish independence referendum that might or might not return it there. The capacity of Scottish Ministers to influence broadband markets and to improve the availability of services has been overstated, with consequences for economic growth and productivity.

Despite telecommunications and Internet access being reserved matters, on which the Scottish Parliament cannot legislate, the Scottish National Party (SNP) has promised world class infrastructure, services accessible “any time, any place, anywhere”,² and superfast broadband to 100 per cent of premises by 2021.³ For the most part delivery relies on policies and regulatory frameworks developed in Brussels and implemented in Westminster and Whitehall, to which Scottish Ministers add little, if any, value and over which they have

¹ For an earlier review see Sutherland (2012).

² This is taken from a 1980s advert for Martini see <https://www.youtube.com/watch?v=bF1IUGpQO-o>

³ Superfast is a download speed of up to 24 Megabits per second (Mbps).

uncertain influence. For example, the Scottish Parliament recently inquired into spending of £136 million on broadband for remote areas, when the Chancellor of the Exchequer was announcing £1 billion for ultrafast broadband and related infrastructure (HM Treasury, 2016; REC, 2016). At the same time, the UK Digital Economy Bill will remove Scottish Ministers from the support for rural superfast broadband, presently delivered with state aid from HM Treasury and the European Union (EU), switching to a system of cross-subsidies, in which urban residents will pay towards the higher costs of those living in rural areas, managed by OFCOM.⁴ The single United Kingdom market is constrained by the path dependencies arising from successive EU and UK legislation, policies and regulatory decisions, especially the Openreach Agreement between BT and OFCOM.

The Internet has almost become ubiquitous, with invitations to follow 'celebrities' on Instagram, to 'like' Police Scotland on Facebook, to exercise with your personal trainer on Snapchat, and to watch programmes on the BBC TV iPlayer, while courses are taught and jobs are advertised on-line. The Internet of Things (IoT) extends networks beyond people to encompass 'smart' cars, domestic appliances, factories, homes, meters, and wearables, including clothing, connected directly or via sensors (HMG, 2014a; RAND Europe, 2014; OFCOM, 2015a; PAC, 2014; BEREC, 2016). Cisco (2016) reports massive growth in Internet traffic and forecasts yet more, the annual total for global Internet Protocol (IP) traffic exceeded one Zettabyte (ZB) in 2016, and is forecast to reach 2.3 ZB by 2020.⁵ These developments are built on a global market, with network and scale economies, which could be threatened by any disruption to globalisation, such as the imposition of trade barriers.

A major consideration for governments has been the link between broadband and economic growth, justifying interventions in national markets, the creation of national plans, and the provision of state aid (Czernich, Falck, Kretschmer, & Woessmann, 2011; OECD, 2011; Arvin & Pradhan, 2014). The Internet is considered a general purpose technology (GPT), one that can be used across the full range of the economy for innovation that can disrupt, eliminate or transform established activities and businesses (Clarke, Qiang, & Xu, 2015; Liao, Wang, Lic, & Weyman-Jones, 2016). Skills are central to those innovations and their adoption, raising questions about the availability of a skilled workforce and training for citizens (Ekos Ltd, 2014; Select Committee on Digital Skills, 2015; Science and Technology Committee, 2016). The importance of Internet access has been stressed by the World Economic Forum (WEF), both for growth and economic competitiveness (Baller, Dutta, & Lanvin, 2016), though since rival nations are similarly engaged in deploying networks and improving skills,

⁴ The report stage in the House of Lords began on 22 February 2017. <http://services.parliament.uk/bills/2016-17/digitaleconomy.html>

⁵ 1 ZB = 10²¹ bytes or 1 billion Terabytes.

it is a strategic or unavoidable necessity, something all nations must have. Like the *Tour de France*, it is a long and gruelling race, in which careful planning, strenuous training and physical exertion are required, merely to maintain a position in the broadband *peloton*.⁶

The next section outlines the complex pre-Brexit system of multi-tiered governance of telecommunication markets. This is followed by analyses of the markets for retail and business broadband, then mobile broadband. The provision and use of state aid is then reviewed. The next sections review adoption of broadband in general and specifically in Glasgow. Finally, conclusions are drawn and issues identified for further research.

II Multi-tiered governance

The EU has set an ambitious goal for economic growth from completion of its digital single market (DSM), to add €415 billion annually to its gross domestic product (GDP) (EC, 2015). As a form of European nation building, it expects fixed and mobile broadband networks to become very widely accessible (see Table 1), including making €500 million available in loans from the European Investment Bank (EIB, 2016). It is also promoting a collaborative economy, in which businesses use platforms to create marketplaces for individuals to offer the temporary use of goods and services (EC, 2016a).

Until the completion of Brexit, the governance of telecommunications markets in the United Kingdom remains part of the multi-tiered EU system, with ministers, regulators and civil servants engaged in European regulatory networks (ERNs) (Maggetti, 2014), and bound by the EU *acquis* (i.e., legislation, policies and treaties) (Sutherland, 2017a). Domestically, the asymmetric, quasi-federal system of government saw the creation of devolved legislatures in Belfast, Cardiff and Edinburgh, each with different and evolving powers, but unable to legislate on telecommunications or Internet access.⁷ Nonetheless, successive Scottish Ministers adopted policies, setting objectives for improving availability of services in rural areas (see Table 3), channelling state aid to operators, coordinating public procurement, supporting community action to improve digital skills, and transposing some minor planning legislation. However, the targets and state aid schemes came from HMG (see Table 2).

⁶ *The yellow jersey for broadband is presently held by South Korea.*

⁷ See, for example, Schedule 5 of the Scotland Act 1999, section c3 of which excludes competition policy, while section c10 excludes telecommunications and wireless telegraphy.

Table 1: European Union broadband targets

<i>Year</i>	<i>Target</i>
2013	Basic broadband for all citizens
2020	Speeds of 30 Mbps for all homes. 50% of homes having 100 Mbps or faster. (EC, 2010a)
2025	All schools, transport hubs, main providers of public services and digitally intensive enterprises to have 1 Gbps (EC, 2016b). All urban areas as well as major roads and railways to have uninterrupted 5G wireless broadband coverage (EC, 2016g).

Table 2: Broadband targets set by Her Majesty's Government

<i>Title</i>	<i>Target</i>
Digital Britain (HMG, 2009)	100% coverage by 2012, with minimum speed of 2 Mbps. 90% coverage of Next Generation broadband (up to 40 Mbps) for homes and businesses by 2017.
Britain's superfast broadband future (BIS & DCMS, 2010)	At least 2 Mbps for all. Superfast broadband (at least 24Mbps) to 90% of homes and businesses
Queen's Speech (HMG, 2016c)	10 Mbps universal service obligation (USO).
Superfast Broadband Programme (BDUK, 2016)	Basic broadband (2 Mbps) for all from December 2015. Superfast broadband (24 Mbps) to 90% by early 2016 and 95% by December 2017.

The failure of its first independence referendum left the SNP unable to seize the 'economic levers', so that in the governance of telecommunications markets it was left with few mechanisms:

- Procurement (e.g., Scottish Wide Area Network (SWAN, 2017));
- State aid; and
- Persuasion of the British and European Union (EU) institutions.

It is not clear that the, admittedly secretive, Joint Ministerial Committee (JMC), has ever met to discuss telecommunications and Internet access, though Scottish Ministers have written to their UK counterparts.

Figure 1: Outline of multi-level governance for telecommunications

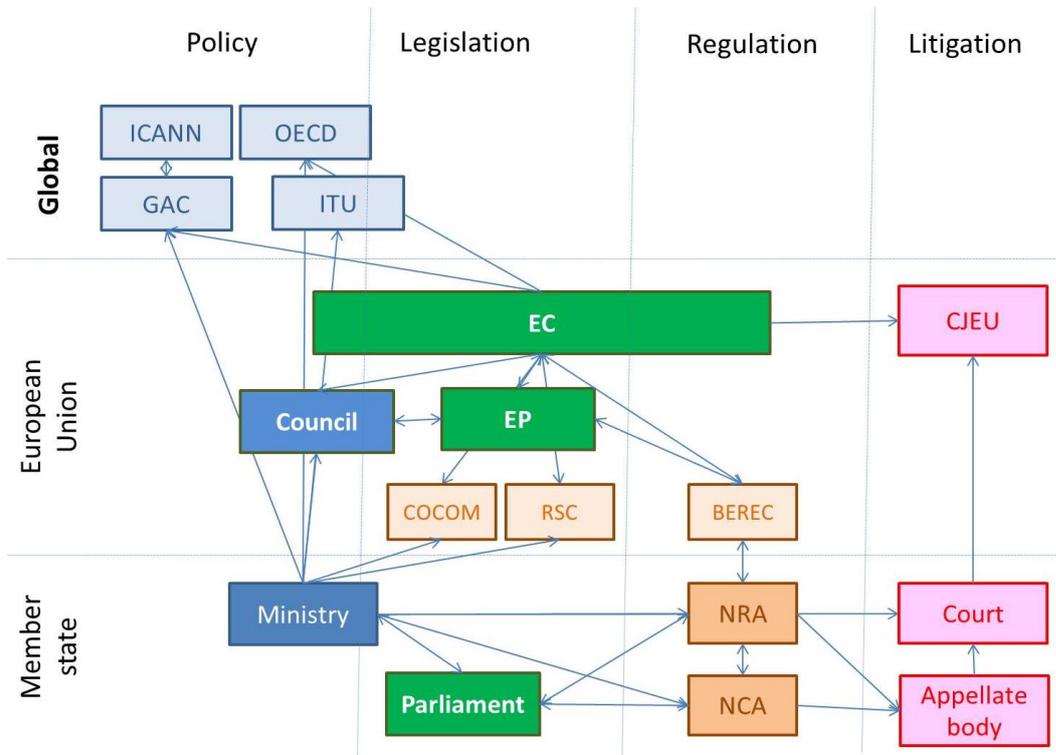


Table 3: Broadband policies of Scottish Ministers

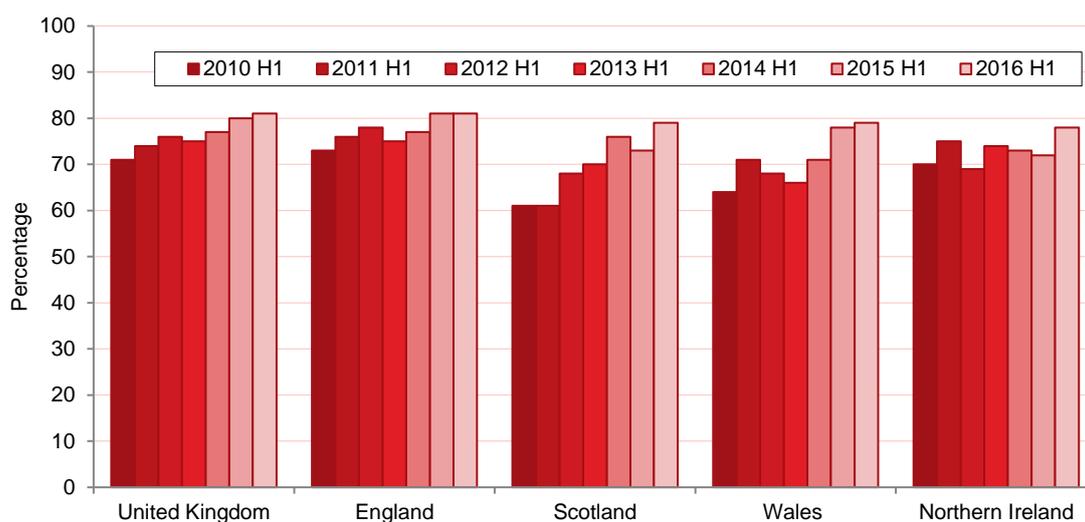
<i>Title</i>	<i>Target</i>	<i>Actions</i>
Connecting Scotland (SE, 2001a)	<ul style="list-style-type: none"> • To make affordable and pervasive broadband connections available to citizens and businesses • To ensure that every school has access to a rich online world in which it will be possible to communicate with others by text, voice or video; • To ensure that all parts of the health service can transfer data and use telemedicine as necessary. 	Demand aggregation and procurement in: <ul style="list-style-type: none"> • Highlands & Islands and • South of Scotland
Digital inclusion strategy (SE, 2001b)	<ul style="list-style-type: none"> • HMG and SE committed to achieving universal access to the Internet by 2005 • As part of its Social Justice Strategy, to accelerate the number of households in disadvantaged areas with access to the Internet; • As part of its National Grid for Learning Programme (NGfL), to secure the benefits of advanced networked information technologies for education and lifelong learning. 	<ul style="list-style-type: none"> • A major campaign with HMG to raise the awareness of the benefits of getting online; • Increasing awareness of existing public access facilities; • increasing public access facilities; • Developing 2 pilot digital communities in disadvantaged areas
Ambitions for the enterprise networks (SE, 2001c)	<ul style="list-style-type: none"> • We want widespread digital connections to speed information flow around Scotland and back and forth between Scotland and the world. 	<ul style="list-style-type: none"> • Enterprise Networks to promote online business models; • Help ensure that all Scots benefit from emerging digital technologies.
Digital inclusion in partnership (SE, 2006a)	This renewed approach to tackling the digital divide will contribute to ensuring appropriate and effective support to partners delivering services, or providing access, and training to excluded groups	Promoting and raising awareness of good practice, obligations and responsibilities within a range of practitioner networks
Digital inclusion: Connecting Scotland's people (SE, 2006b)	A digitally-inclusive Scotland will ensure more equal, effective and beneficial access for all people to the digital technologies and Web facilities that benefit them in their day-to-day lives. In a digitally-inclusive Scotland, the public, private, and voluntary sectors will make positive use of digital technologies and the Web to improve quality of life and deliver new opportunities for disadvantaged individuals and communities.	<ul style="list-style-type: none"> • Major campaign to raise awareness of the benefits of getting online; • Mapping and publishing the locations of all public access facilities; • Significantly increasing the number of venues offering public access; • Two pilot digital communities in disadvantaged areas.
Digital Ambition for Scotland (SG, 2010a)	<ul style="list-style-type: none"> • Next generation broadband will be available to all by 2020, and significant progress will be made by 2015; • Rate of broadband uptake should be at or above UK average by 2013, and should be highest of the UK nations by 2015. 	n/a
Scotland's digital future (SG, 2011b)	n/a	<ul style="list-style-type: none"> • Various coordination and planning activities.
Scotland's digital future (SG, 2012a)	To deliver world-class, future proofed digital infrastructure across all of Scotland by 2020, with an interim milestone of delivering a step change by 2015	By 2015 speeds of 40-80 Mbps for between 85-90% of premises; By 2020 world-class broadband;
Programme for government (SG, 2016a)	We are also investing in the digital infrastructure necessary to deliver next generation broadband to 100% of premises – business and residential – across Scotland.	<ul style="list-style-type: none"> • Launch delivery plan to reach 100%; • Invest £90 million to deliver access to fibre optic broadband to 95% of premises by end 2017; • A mobile programme to address gaps in 4G mobile coverage.

The complexity of governance of the United Kingdom broadband market and the reservation of legislative powers to Westminster limit the capacity of Scottish Ministers to intervene. However, this has not stopped them making promises of greater and universal access, even where they do not have the powers or resources to deliver, only partially sheltered by the undefinable term “world class” (Sutherland, 2017b).

III Retail broadband services

Broadband services, often bundled with broadcast and on-demand television programmes, have been welcomed by households. At the beginning of the decade Scotland had the lowest level of household adoption of the four ‘nations’ and, while it has caught up with Northern Ireland and Wales, it has yet to overtake England (see Figure 2). Take-up of superfast broadband in Scotland is also lagging at 27%, compared to 31% for the UK.

Figure 2: Broadband take-up at home (OFCOM, 2016a, p. 4)



There are two major providers of terrestrial broadband infrastructure, the UK-wide Openreach network, owned by BT, and the largely urban Virgin Media cable television network, owned by Liberty Global, plus a few smaller players with local footprints (e.g., B4RN (2016) and KCOM (2016)). In addition to this infrastructure-based competition, there is service-based competition amongst providers of retail broadband, using the BT Openreach local access network (see Table 4). The market is the United Kingdom, because providers mostly resell the wholesale Openreach offer and because they bundle it with video content that is licensed for the UK. Thus network and scale economies combine to make market entry difficult for local or infrastructure players. Arguably, this is a policy or regulatory failure, since it would have been possible to encourage and facilitate local infrastructure-based

competitors, for example, by ensuring the availability of backhaul from a number of local interconnection points.

Table 4: Broadband service providers

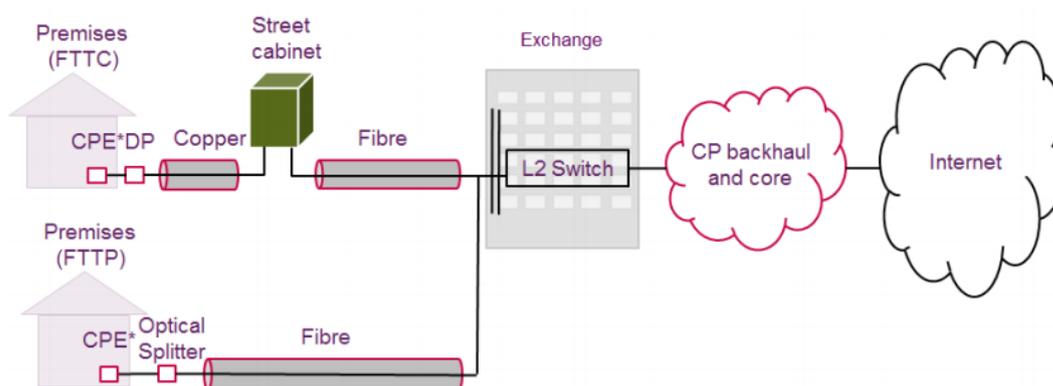
<i>Brand</i>	<i>Ownership</i>	<i>Comments</i>
BT	BT Group plc	Reselling Openreach offers, bundled with video content, including a significant sports selection. Also offers a bundle with its own mobile service.
EE	BT Group plc	Primarily a mobile operator of 2, 3 and 4G wireless services, reselling Openreach DSL. Acquired by BT for £12.5 billion in 2015.
Plusnet	BT Group plc	Founded in 1997 in Sheffield, floated on the Alternative Investment Market in July 2004, then acquired by BT in January 2007
Sky ⁸	Listed on LSE	A satellite broadcasting, on-demand Internet streaming media, broadband and telephone services provider, with operations in the UK, Ireland, Germany, Austria and Italy. Formed by the merger of Sky TV and British Sky Broadcasting, plus a various satellite TV firms in the EU. Recently became an MVNO in the UK.
Talk Talk	Listed on LSE	Founded in 2003 as a fixed telephony provider within the Carphone Warehouse group, then spun-off in March 2010. Suffered a severe cybersecurity failure, when hacked by a teenager, being fined for inadequate safety measures (BBC, 2016a; BBC, 2016b).
Virgin Media	Liberty Global	Acquired by Liberty Global for USD 24 billion in 2013, the largest global cable company, with interests in a dozen countries. The result of mergers of a number of local cable television companies.
Vodafone	Listed on LSE	Vodafone Group plc is a global mobile phone group, with interests in many countries, operating with 2, 3 and 4G technologies. Bundles mobile with fixed broadband in UK.
Zen Internet	Privately held	Founded in 1995 in Rochdale, where it began offering services. Both retail and business services.

By relying on regulated service-based competition, using real and virtual local loop unbundling (see Figure 3), BT has been allowed a significant say in the availability of new services and technologies, and of the pace of their deployment. For example, Vodafone challenged the rollout of services using the G.Fast standard, which delivers ‘up to’ 330 Mbps

⁸ Presently under offer from News Corp.

download on existing copper cables, seeking to have OFCOM control the Openreach technology migration path (Daws, 2016; FT, 2016). For more rural areas, where homes are further from exchanges, BT is conducting trials of ‘long reach’ VDSL in North Tolsta on the Long Isle (Fiveash, 2016). In November 2016, the Chancellor of the Exchequer announced business rates relief for increased deployment of fibre into networks (HM Treasury, 2016).

Figure 3: Virtual unbundled local access (VULA) (Source: OFCOM)



In more remote locations an alternative is satellite broadband (see Table 5). HMG offers a subsidy of at least £350 towards the installation costs in locations where the available terrestrial speed is less than 2 Mbps (Satellite Internet, 2016). These offer speeds close to superfast broadband, but remain unpopular.

Table 5: Ka-band satellite services

<i>Firm</i>	<i>Satellite</i>	<i>Position</i>
Eutelsat (Tooway brand) ⁹	Eutelsat	10.0° E
Avanti Communications	Hylas 1	33.5°W
	Hylas 2	31.0°E
SES Techcom	Astra 2F	28.2°E
	Astra 3	23.5°E

The decisions of HMG and the EU to pursue local loop unbundling and of OFCOM to strike the Openreach Agreement with BT created strong path dependencies in the governance and

⁹ <http://www.broadbandwherever.net/support-schemes/free-broadband-for-scotland/>

structure of the retail market. Competition relies in large measure on the Openreach Agreement, which has been the subject of considerable lobbying and litigation, an enduring tussle between service providers and BT. OFCOM has strengthened its legal separation of Openreach, but rejected calls for it to require BT to spin it off (OFCOM, 2016d). In addition to OFCOM, the Advertising Standards Authority has been a vital regulator of advertised speeds, endeavouring to restrain misleading claims about prices and speeds (Futuresight, 2015; ASA, 2016; GfK, 2016).

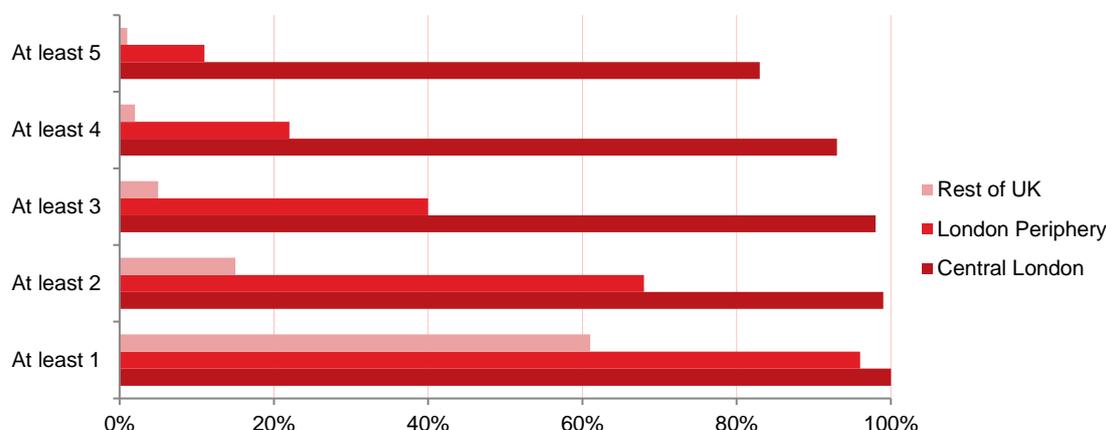
IV Business connectivity

While the bulk of broadband is retail, there is another market for the provision of connections to business premises, previously known as leased lines or partial private circuits (PPCs), now termed 'business connectivity'. Providers connect commercial and government sites to virtual private networks (VPNs), Unified Communications as a Service (UCaaS), cloud services, and to the Internet. Multinational enterprises (MNEs) purchase these services on the European or global market, from a small group of network service providers (NSPs), which then build or lease any necessary local infrastructure (e.g., from BT or Colt) to reach the various premises of their customers.¹⁰ Mobile network operators are another major group of customers, connecting masts to base stations and then interconnecting them with exchanges, constructing their own infrastructure or leasing capacity from NSPs, notably:

- BT
- CityFibre
- Colt
- Level 3
- Virgin Media
- Vodafone
- Verizon, and
- Zayo

The technologies used include dark or unlit fibre, wavelength-division multiplex (WDM), and Ethernet, plus some very old analogue services. Business connectivity is distinguished from household broadband by the provision of service level agreements (SLAs) that permit only very limited loss of connection and require the payment of penalties, necessitating backup facilities in anticipation of losses of any network components.

¹⁰ See, for example, the Gartner (2014) magic quadrant.

Figure 4: Suppliers within 100 metres of business premises (OFCOM, 2016b, pp. 4, vol.1)

In regulating business connectivity, OFCOM (2016b) distinguished four geographic markets, two for London and two for the rest of country (one being the city of Hull), in each of which it measured competition in terms of the number of operators close to business premises and thus able to compete (see Figure 4). In central, but not peripheral, London it found sufficient competition to lift regulation, covering the provision of more than 30,000 leased lines. Elsewhere, the numbers of close competitors were much lower, so that it maintained regulation. OFCOM found the quality of the provision and repair of wholesale leased lines to be unacceptable, imposing minimum lead times on BT. It also created a voluntary code of practice for business broadband, clarifying the speeds offered by seven NSPs (OFCOM, 2016c). OFCOM (2015c) addressed the needs of small- and medium-sized enterprises (SMEs), including the minority that was dissatisfied with the status quo (Jigsaw, 2014). One problem SMEs faced was the lack of superfast broadband, where there was concern that supply by BT had been constrained to avoid cannibalisation of leased lines revenues.

There was only one response from Scotland to the consultation on business connectivity, in which the Scottish Futures Trust (SFT), a QUANGO, suggested that OFCOM investigate the “Scottish market” supplying rural SMEs. However, there are neither distinct markets for Scotland nor for rural SMEs, and SFT failed to produce any evidence to suggest that such markets exist. The creation of geographic markets for leased lines is a difficult task, with the risk of ending up in the impossible position of each premise in its own individual market (GAO, 2007). Since the whole of Scotland and all the rural areas of the United Kingdom fall into a regulated zone, no purpose could be served in defining such markets. SFT did not explain what might be found amongst rural SMEs in Scotland. To argue for lower prices, SFT would

have to produce data to show the costs had been incorrectly calculated by OFCOM, while to argue for faster provisioning or repairs, it would have to show that BT was being unjustifiably dilatory. In both cases SFT would need to produce at least preliminary data to justify OFCOM taking action, which cannot be expected to engage in ill-defined 'fishing expeditions'. Another possibility is that rural SMEs cannot afford the regulated price, in which case they would have to look to HMG or to Scottish Ministers for subsidies, similar to the voucher scheme for Superconnected Cities.

In May 2016, the then Department for Business, Innovation and Skills (BIS) and DCMS launched a joint inquiry into business broadband, in particular for SMEs and business parks (BIS & DCMS, 2016). The results of the consultation are apparently still being analysed (HMG, 2016a), in terms of the productivity plan of HM Treasury. The Autumn Statement indicated funds were being provided to support fibre networks to business parks, while OFCOM is improving access to ducts to support fibre deployments by NSPs (HM Treasury, 2016; OFCOM, 2016e).

The EC collects data on the use by businesses of ICTs. Figure 5 shows the level of adoption of fast broadband by businesses, with the United Kingdom scoring poorly. Figure 6 shows a breakdown by sector and by size of firms, where the United Kingdom is close to the EU average, further broken down in Figure 7 for the UK and EU, using NACE codes. Taken together, these suggest a poor level of adoption of fast Internet connections for businesses, both in general and in nearly all sectors. Comparable data for Scotland would be very useful, in order to assess the level of use of fast broadband and the pace of progress. It stands in strange contrast to the position of the United Kingdom as a leading digital economy (BMWi, 2016), albeit at 17 per cent of its potential (McKinsey & Co, 2016).

While much less prominent than the residential market, business connectivity is important for existing and future businesses. Although the Scottish Government may want it regulated differently, SFT failed to understand the process and thus did not provide the evidence that Scotland, rural Scotland or Scottish SMEs are different or to justify different regulatory remedies. The comparatively low levels of adoption of fast broadband in UK businesses, presumably including Scotland, are a cause for concern, though it is not obviously related to lack to availability.

Figure 5: Enterprises with fast broadband connections in the EU and EEA (EC, 2016h)

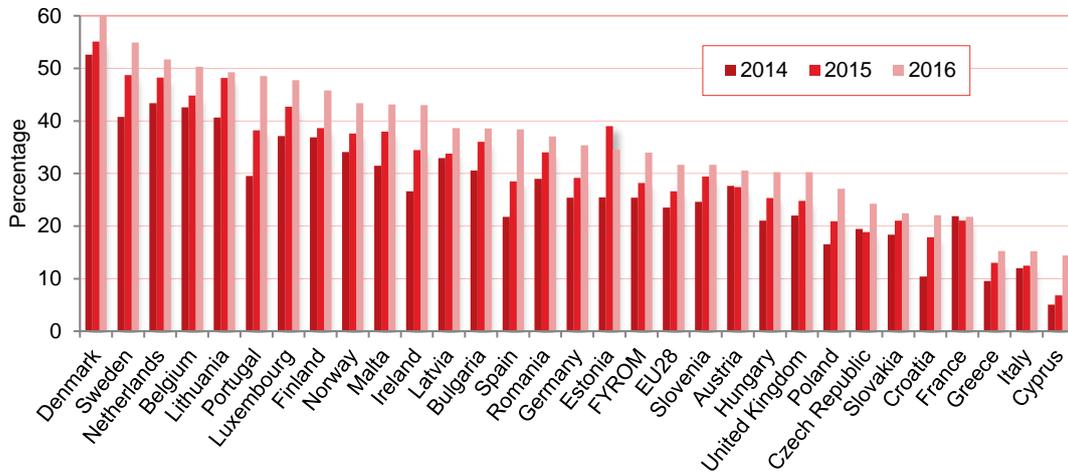


Figure 6: Enterprises with fast fixed broadband connections by economic sector (EC, 2016i)

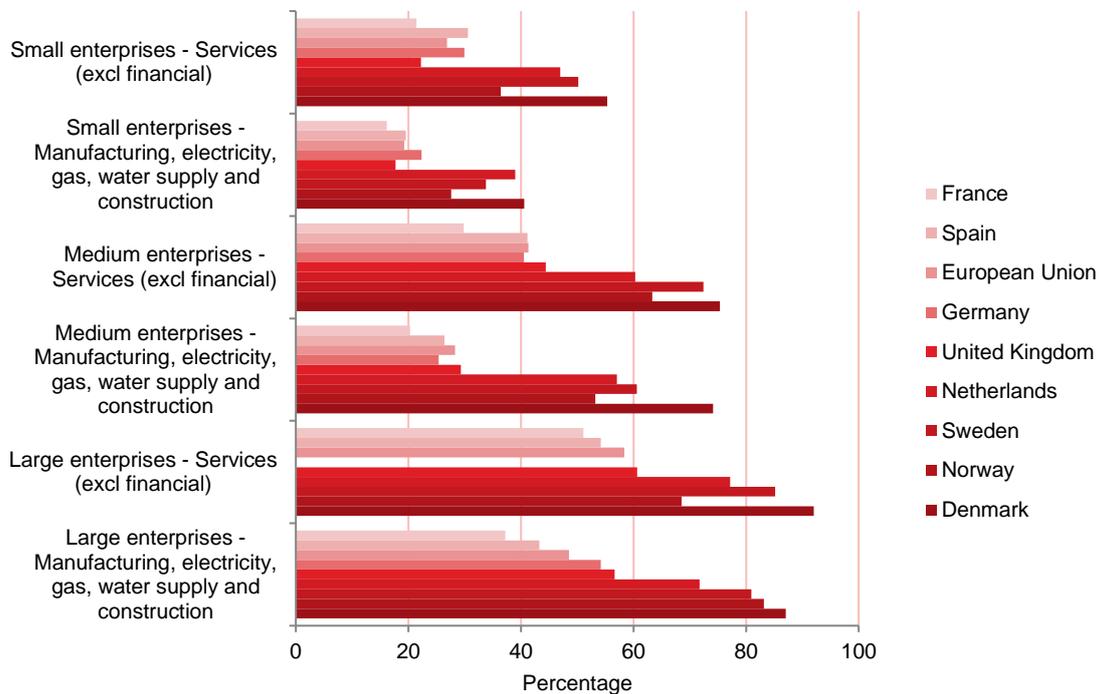
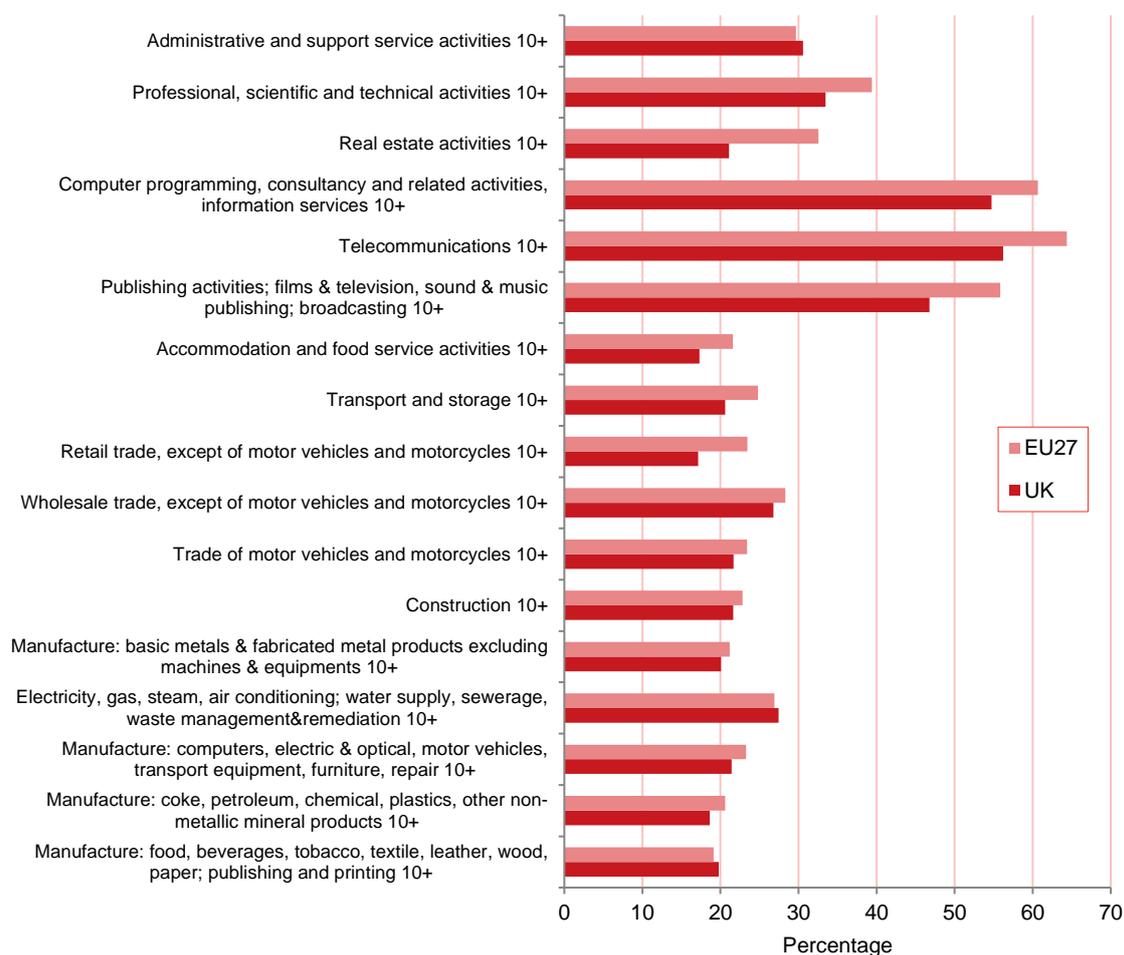


Figure 7: Enterprises with fast fixed broadband connections by economic sector (EC, 2016e)



V Mobile broadband

Having introduced competition in 2G or GSM technology with two operators and then two more, HMG pursued an n+1 strategy for its 3G auctions in 2000, successfully introducing a fifth network operator, confusingly named Three, owned by Hutchison Whampoa (Hong Kong). The £22 billion raised in the auction for licences was dismissed as “water under the bridge” by Klemperer (2002), but gradually the costs of spectrum and of network construction, plus the lack of enthusiasm from consumers, pushed the operators towards consolidation (Curwen & Whalley, 2016a; 2016b). What had been five networks were reduced when:

- Orange and Deutsche Telekom merged to form EE (EC, 2010b); and
- BT acquired EE (CMA, 2016); though
- Three was blocked from acquiring O2 (Telefónica) (EC, 2016c).

In advance of the auctions for spectrum for 4G networks, there was political pressure for improved rural coverage, including debates in the House of Commons. In response, OFCOM created one licence in the 800 MHz band with obligations to cover 98 per cent of the United Kingdom population, and 95 per cent of each of England, Northern Ireland, Scotland and Wales, potentially disadvantaging rural England (Sutherland, 2016). BT having demerged its mobile operations as O2 in 2001, re-entered the market first by buying spectrum in the 4G auctions and then acquiring EE. Some of the auctioned spectrum had been recovered through digital migration by the broadcasters, part of a complex battle over the respective claims of broadcasting and broadband (Harvey & Ala-Fossi, 2016).

HMG intervened on rural coverage, firstly with the Mobile Infrastructure Project (MIP) and secondly with a public consultation on further measures. The MIP recognised the need to fund mobile network expansion in selected areas or 'not spots' (e.g., the A9 in Scotland), through a state aid scheme (EC, 2013a). It was to be built by Arqiva, a firm that constructs and manages infrastructure for a number of networks, but used by all operators (Stonadge, 2015; Rathbone & Hirst, 2016). However, the minister later acknowledged the project had failed (Scroxtton, 2016):

We had not anticipated just how difficult some of the planning issues are, particularly when we were dragging four operators with us, metaphorically kicking and screaming. Although we were paying for the mast, we were asking them to meet the operating costs going forward, which includes the land rental as well as the transmission costs for what is, by definition, an uneconomic area. (Hansard, 2016)

Of the £150 million budget, at the end of November 2015, the only spending had been (Hansard, 2015):

- Site builds £0.9 million;
- Site searches and acquisitions (including planning permission) £5.1 million;
- Supplier management and programme management costs and one-off supplier deliverables £3 million.

Some of the masts had to be 20-30 metres high, essential to provide sufficient coverage, to which the local communities they would serve had often objected. Additionally, some were in national parks or areas of outstanding national beauty, generating yet more objections.

HMG consulted on means to improve coverage, identifying four options (DCMS, 2014a):

- National roaming: phones would be able to use another network when their own was not available;

- Infrastructure sharing: networks would be able to use each other's masts;
- Reforming MVNOs: they would be enabled to offer services on all networks; and
- Coverage obligations: operators would be obliged to cover a certain percentage of the country, but leaving them to select the means to do so.

Before publication of the analysis of the responses, HMG struck a deal in which EE, O₂, Three and Vodafone agreed they would (DCMS, 2014b; OFCOM, 2015b):

- Invest £5 billion to improve infrastructure by 2017;
- Provide voice and text coverage from each operator across 90 per cent of the UK geographic area by 2017, halving partial not-spots;¹¹
- Increase full coverage from 69 to 85 per cent of geographic areas by 2017; and
- Provide reliable signal strength for voice for 2, 3 and 4G services.

EE (now BT) won a contract for the Emergency Services Mobile Communications Programme (ESMCP), requiring it to build the emergency services network (ESN), by extending its mobile network to support 'universal networking' for the 'blue light' services (Home Office, 2015a; 2015b). This was intended to aid the delivery of wider public access to the EE mobile network and wholesale arrangements with rival networks, but has encountered delays and difficulties (Committee of Public Accounts, 2017).

OFCOM reports regularly on the expanding coverage and use of the various generations of mobile telecommunications. With the transition to 4G and improved coverage, customers have been making much greater use of smartphones (see Figure 8 and Figure 9). It has launched an 'app' to allow individuals to collect anonymous data on network availability and performance. The UK National Infrastructure Commission (2016) has suggested the need for significant work to prepare for 5G, accepted in part by the Chancellor.

The mobile network operators are consolidating down to a smaller number, a process that may not be finished. The economics of network construction in rural areas remain unattractive, a combination of low population density, high backhaul costs and the limited availability of lower frequency spectrum. The operators are reluctant to build networks covering the most remote parts of the United Kingdom without support from HMG.

¹¹ These are locations where one or two networks are available and was to be resolved by sharing of masts, towers and other infrastructure by the operators not yet present at a site.

Figure 8: Use of a mobile phone to access the web (OFCOM, 2016a)

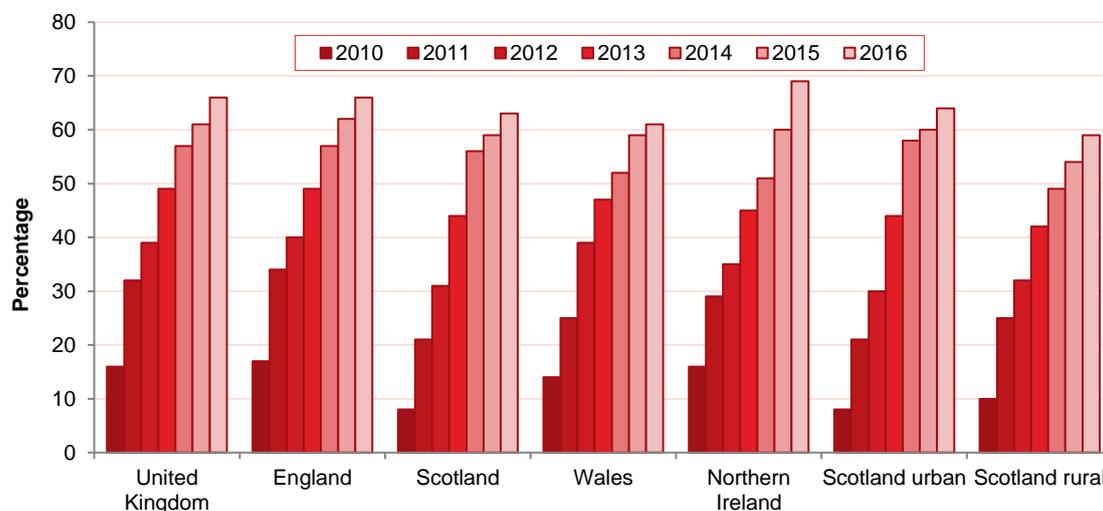
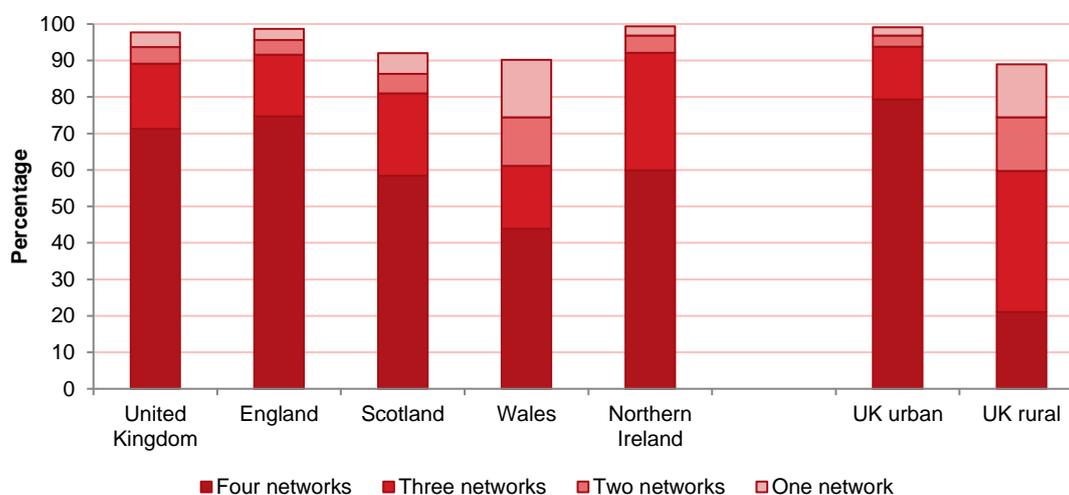


Figure 9: Outdoor 4G premises mobile coverage by operators (OFCOM, 2016a)



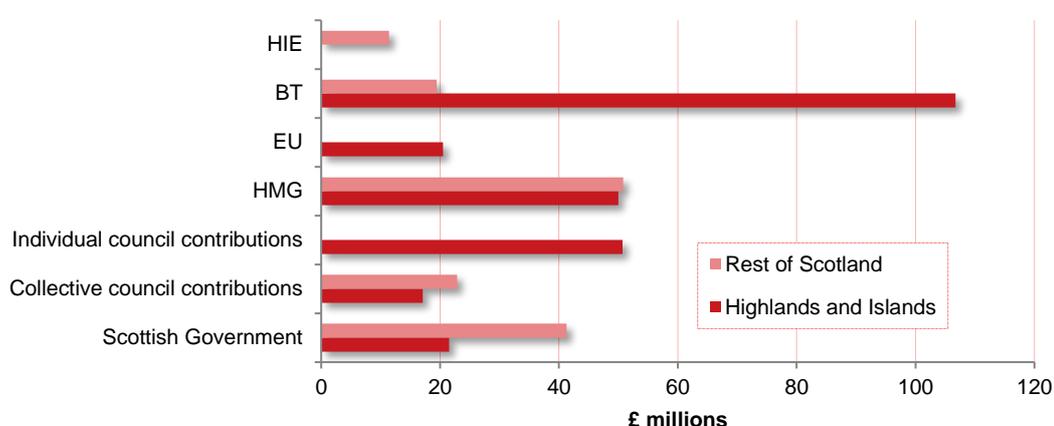
VI State aid

The upgrading of the Openreach network, laying more optical fibres to exchanges, street cabinets and into buildings, is constrained by population densities, adoption levels and rates of return. In the EU framework, a government wanting to accelerate deployment or to extend it into remoter areas can provide subsidies, provided it complies with specific state aid rules (EC, 2013b). These allow support in 'white areas', where there is no competitive provision of broadband, but not in 'black areas' where there are competitive networks (EC, 2016d). A

further complication has been the need to upgrade networks, where there may already be infrastructure, but offering only the slower speeds of a previous technological generation.

HMG has struggled with the broadband state aid rules. The rural scheme was delayed and had to be renegotiated, while the Superconnected Cities project had to be converted from network construction to vouchers for businesses, following a complaint it was overbuilding an existing network in Birmingham.

Figure 10: Funding for BDUK projects in Scotland (McGrath, 2016)



The rural state aid scheme was developed by Broadband United Kingdom (BDUK), part of the Department of Culture, Media and Sport (DCMS).¹² In England the money was channelled to ‘local bodies’ (i.e. groups of local authorities), which added EU money, before tendering for contracts, won by BT. Elsewhere it was to devolved administrations, with Scottish Ministers creating two projects (see Figure 10). The first routed through Highlands and Islands Enterprise (HIE) and the second managed by the Scottish Government. In order to reach some of the remoter locations, it was necessary to lay 19 undersea cables. The scheme was calculated on a rate of adoption that was frequently exceeded, triggering a clawback clause, allowing further extensions to the network.

Scottish Ministers also found £2.5million for experimental projects under the Community Broadband Scotland (CBS, 2016) scheme (see Table 6).

¹² It had been part of the BIS Department, but transferred following remarks by the then BIS Secretary about a merger case he had to adjudicate.

Table 6: Community broadband Scotland schemes (CBS, 2016)

<i>Location</i>	<i>Project</i>
Ewes Valley (Dumfries & Galloway)	A small rural community not able to receive standard broadband service due to distance from the serving BT exchange.
Tomintoul & Glenlivet (Moray)	Remote, inland mountain communities in the Cairngorm National Park, too remote from many services.
Elvanfoot (South Lanarkshire)	A community at an advanced stage in their broadband plans and with scope to provide a service to a neighbouring community. Community has combined with nine other area villages and formed B4GAL - broadband for Glencaple and Lowther. Potential access to funding from area renewable energy projects.
Colonsay (Argyll & Bute)	An island with a small population. Local group has identified improved broadband provision as a key component for supporting development and retaining population.
Corgarff & Glenbuchat (Aberdeenshire)	Small dispersed settlements within glens at the edge of the Cairngorms, remote from BT exchanges, with many residents relying on satellite broadband.
Applecross (Highland)	A remote coastal community with a small population, heavily dependent on tourism. Users were unable to exceed 0.5Mbps on conventional broadband, with no service on the north coast.

The state aid activities in Scotland were conducted under a BDUK umbrella approval from the EC, with money from HM Treasury, both direct and via Barnett consequential funds, plus EU funds. While these projects are in Scotland, it is far from clear that they can otherwise be called Scottish. Indeed, the proposals presently being prepared by the Scottish Government for its Reaching 100% (R100) project appear to be the funds clawed back from BT and matched with EU funds.

VII Adoption

In May 2010 the then Coalition Government took the unusual step of retaining the services of the UK Digital Champion, appointed by Gordon Brown the previous June. The digital inclusion tsar and the associated charity (Race Online 2012, later rebranded Go On UK) were to encourage those not yet using the Internet to do so, both to boost economic growth and to assist the government save money by preparing citizens for online transactions. Such was her success that she was made Baroness Lane-Fox of Soho, while the European Commission encouraged other EU member states to make similar appointments (EC, 2016f). The UK government launched a Digital Inclusion Charter in April 2014, aiming to reduce by one quarter the number of people offline by 2016 and that by 2020 everyone who “can be

digitally capable” would be. This involved public and private sectors, with voluntary, community and social enterprise (VCSE) organisations, notably the Tinder Foundation (now Good Things Foundation) and Go On UK, overseen by a Digital Inclusion Delivery Board (HMG, 2014b). This work supported the initiative for ‘digital by default’ services across government.

The Scottish Government opted out of this voluntary and unfunded initiative, waiting until 2011 to adopt a charter signed together with leading technology firms to boost digital adoption, though with little, if any, apparent effect (SG, 2011a). In parallel, public libraries were offering free, if limited, access and training (SLIC, 2015). The policy changed in 2014, with work subcontracted to the Scottish Council for Voluntary Organisations (SCVO, 2016), and the creation of a Digital Participation Programme. To date, no report or statistics have been published.

Scottish Ministers distanced themselves from the initiatives of HMG and Lane-Fox, though without any explanation or provision of an obviously superior alternative. Their delays appear to have contributed to the lower adoption rates and thus to the failure to deliver the goal of higher adoption rates than other parts of the United Kingdom. The aspiration of Scottish Ministers to be world class requires nearly universal adoption, yet the scope of those still excluded or refusing to participate has been poorly surveyed. Consequently, there cannot be evidence-based policy, forcing Scottish Ministers to fall back on ideology and copying others.

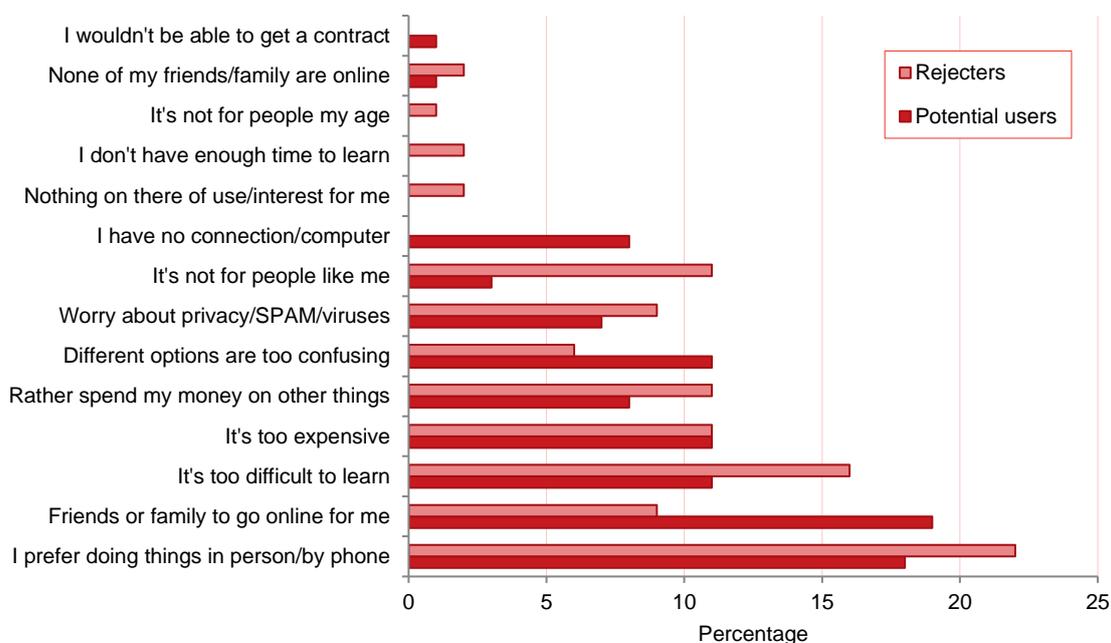
VIII Urban case study: Glasgow

In 2010, OFCOM reported that only half the homes in the Glasgow, Clyde and Lanarkshire ‘region’ had installed broadband, compared to 76 per cent for the United Kingdom; a level substantially below a range of British cities. Since Greater Glasgow accounts for more than ten per cent of the population, this significantly depressed the overall adoption rate for Scotland, presenting a challenge to achieving the highest level of the four nations (SG, 2010b). There was no immediate explanation of the poor performance, nor why it was seen across all socio-economic and age groups (OFCEM, 2012, p. 16). While the level has since risen, recent progress has been by an atypically heavy dependence on and sharp upturn in access to mobile broadband, surprisingly amongst the over 65s.

The Carnegie Trust commissioned 200 face-to-face interviews (White, 2013), finding two offline groups (see Figure 11), requiring different strategies; those interested in going online in the future and those who expressed no interest. Amongst the barriers to digital participation were the attractions of the offline world, fear of certain aspects of trying to go online, low

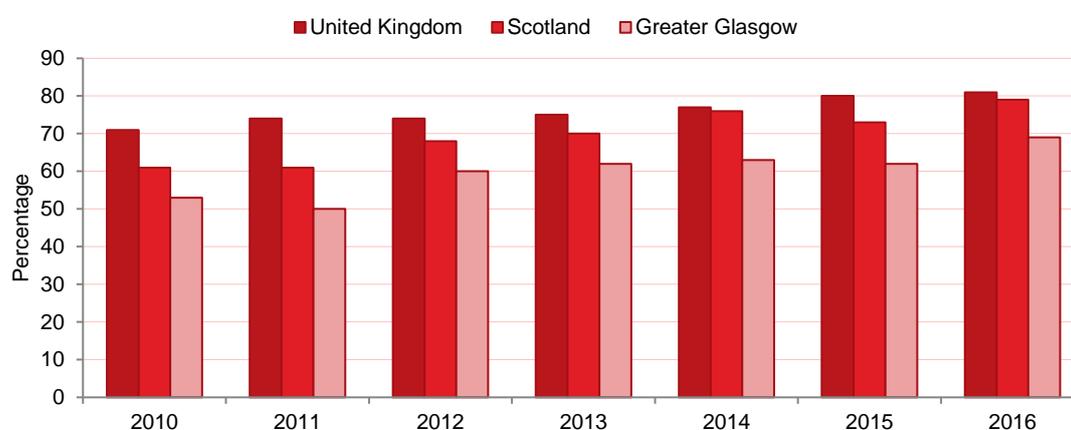
levels of trust in technology, the cost, illiteracy and vicarious use, through family and friends. Low adoption rates were also thought to exist in Inverclyde and Ayrshire.

Figure 11: Barriers to Internet access, by potential users and rejecters (White, 2013, p. 19)



One solution to the lack of residential access has been public facilities, primarily the 33 libraries, the result of historical work by the Carnegie Foundation and the former Glasgow Corporation. Today, these are operated by Culture and Sport Glasgow, an arm's length external organisation (ALEO), under the brand 'Glasgow Life' (2015). The installation of computers for Internet and Wi-Fi access was supported by the United Kingdom National Lottery, though there were continuing challenges in maintaining staff skills and equipment, in line with advances in technology. A survey of those using libraries for Internet access found a strong geographic effect, tending to be those living nearby, suggesting the need for more libraries or comparable facilities, and also for greater capacity in the libraries (Anderson & Whalley, 2015). Glasgow Life had taken a "passive approach" to meeting demands that were growing in sophistication and volume, rather than seeking to understand the motivations of their users. There were two key activities, driven by the HMG (2016b) 'digital by default' strategy, requiring Internet access to:

- Apply for Universal Credit; and
- Generate evidence of having searched for jobs.

Figure 12: Fixed broadband adoption levels in Glasgow¹³

This led providers of social housing to consider installing broadband access. For example, the Wheatley Group (2016) undertook pilot projects to develop a model for low cost broadband for its tenants, but switched to a partnership with Glasgow Kelvin College to create thirty ‘Click & Connect’ computer learning centres for tenants. Coordination is performed by the Glasgow Digital Participation Group, including the City Council and Glasgow Housing Association (GHA).

The new Glasgow Economic Strategy aims to make it “the most productive major city in the UK”, requiring it to overcome significant underperformance, especially with respect to continental European cities. Additionally, the ICT sector is a major economic sector, generating £480 million gross value added (GVA) and employing 26,350 in 2014, which:

We will expand on our position as the number one digital city in Scotland by increasing the number of people with digital skills, growing our business base and more effectively marketing our digital success (Glasgow City Council, 2016, p. 6).

It had previously set out the objective that:

Glasgow will be a world leading digital city by 2017 securing and growing the competitive advantage of the city and providing opportunities for residents and businesses to embrace the benefits of the digital age (Glasgow City Council, 2014).

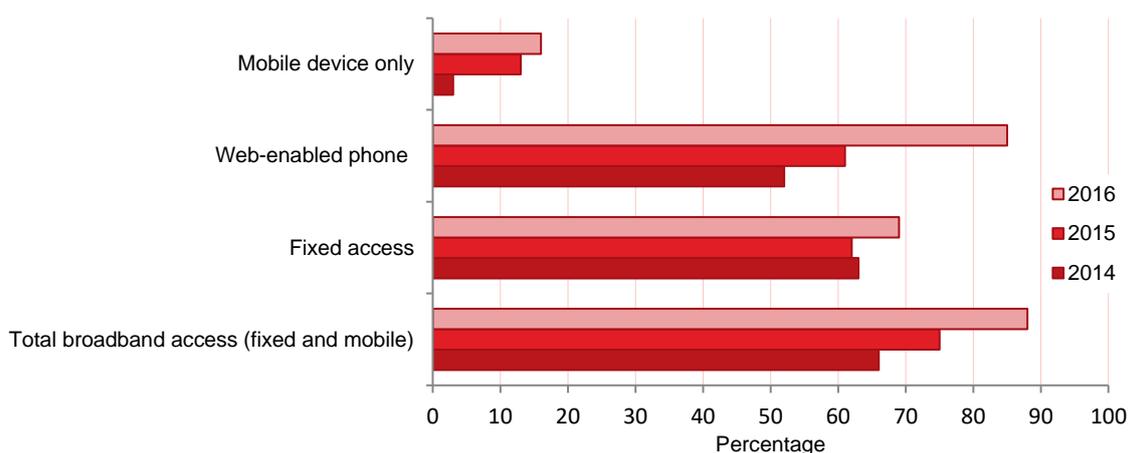
In January 2013 Glasgow City Council won £24 million from the UK Technology Strategy Board, for a Future Cities Demonstrator project. Then the City Deal with HMG and

¹³ The original source is the British Population Survey, reported by OFCOM in its annual Communications Market Reports.

surrounding local authorities provided funding for infrastructure, including digital infrastructure and part of the Smart City project (Glasgow City Region, 2016). The City Council and BT offered a ‘free’ Wi-Fi service in public places, initially for the 2014 Commonwealth Games,¹⁴ with a similar service on many buses, railway stations and trains.¹⁵ In parallel, railway and travel apps were made available for smartphones, while some operators sell electronic tickets.

Recently, there has been an improvement in broadband adoption rates in Glasgow, with a sharp rise in the number of smartphones (see Figure 13), even more remarkably this appears to be generated by the over 65s, though this may be ownership rather than use (see Figure 14). If this increase is repeated in 2017 it will be truly unusual.

Figure 13: Fixed broadband and mobile adoption in Glasgow (OFCOM, 2016a, p. 19)



Glasgow was found to have slower download speeds than comparable cities in the United Kingdom, though these had risen from 7 to 15 Mbps, between September 2009 and December 2014 (Gijón, Whalley, & Anderson, 2016). Those living in more deprived areas experienced slower speeds compared to more affluent neighbourhoods, which might reflect greater investment where higher adoption rates had been expected (see Figure 9). However, there were also engineering problems, such as exchange only lines (EOLs) and some aluminium wiring.¹⁶ A further factor could be infrastructure competition with Virgin Media, pushing Openreach to upgrade its network in specific areas.

¹⁴ BT uses its street furniture (e.g., payphones) to allow its broadband customers to log into Wi-Fi.

¹⁵ HMG provided subsidies under the Superconnected Cities initiative for buses and trams in Edinburgh (DCMS, 2015).

¹⁶ EOLs lack the street cabinets that are otherwise upgraded to fibre to provide superfast speeds.

Figure 14: Broadband adoption in Glasgow, over 65 years (OFCOM, 2016a, p. 20; 2015d, p. 28)

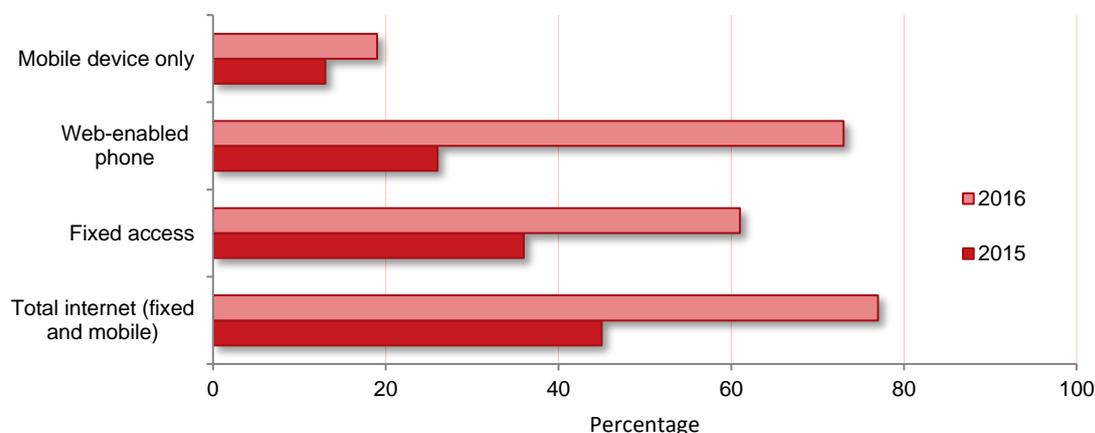
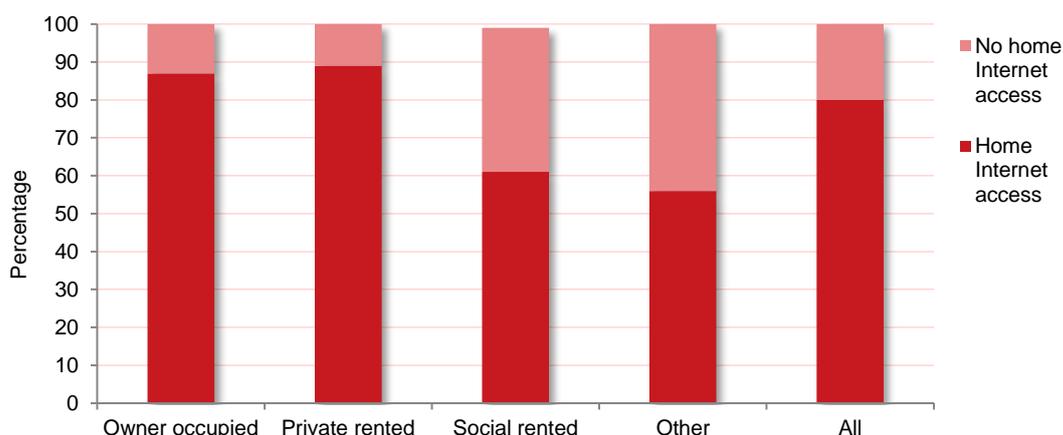


Figure 15: Broadband by home ownership and tenancy in Scotland (SG, 2016b, p. 137)



The ‘Glasgow effect’ of excess mortality in public health has received considerable and continuing research, with death rates having diverged noticeably from the United Kingdom average, failing to match improvements achieved elsewhere (Walsh, Bendel, Jones, & Hanlon, 2010; Reid, 2011). A further comparison is available from economic migrants and refugees, whose health has been gradually declining, as they become acculturated and as the effects of deprivation in the areas in which they live become evident (Kearns, Whitley, Egan, Taberner, & Tannahill, 2016). Something more than “just deprivation” has been seen to be at work in Glasgow, potentially including:

- Climate;
- Culture;
- Genetics;
- Politics; and
- Socio-economic factors.

After controlling for deprivation, the mortality disadvantage has worsened, as has psychological morbidity, death from cancers and chronic liver disease, with inadequate intake of fruit and vegetables, and a lack of physical activity pervasive across socio-economic groups. There has been an insidious accumulation of relatively minor, but pervasive and persistent causes of stress that, taken together, offer the “most parsimonious explanation” for the poor health outcomes and morbidity (Cowley, Kiely, & Collins, 2016).

The work in public health points to methodologies for identifying underlying causes of broadband adoption and rejection at low levels of aggregation. However, it also identifies differences in behaviour, communications, culture, social capital and the stresses of daily life that are common to both health problems and the lower levels of broadband adoption. A somewhat disturbing possibility, from a study advocating increased physical activity to counter the effects of systemic stress, is that efforts to increase the adoption of broadband Internet access might reduce levels of physical activity, worsening morbidity, with one quarter of adults in Scotland reporting they too much time online (OFCOM, 2016a, p. 12).

IX Conclusion

Scottish Ministers have high political aspirations for broadband, but lack the means to implement them, being almost entirely reliant on Brussels (until Brexit) and London (until independence), something they have been loath to admit. The decision by HMG to switch rural network extension from state aid to cross-subsidies between users of the broadband network removes their role from the BDUK scheme, though its final phase is being rebranded Reaching 100% (R100) in Scotland, but which duplicates and clashes with the UK universal service obligation, which has its own, somewhat obscure payment mechanism, with funds moving from urban to rural consumers, under the oversight of OFCOM. Scottish Ministers should have been sending political requests to HMG and techno-economic analyses to OFCOM in support of their socio-economic policy goals, rather than rebranding commitments made in London. However, it is necessary to recognise the importance of path dependency, especially of Openreach, and the slowness with which change can be made to the regulatory system.

Scottish Ministers made their 100 per cent coverage commitment without any costing or impact assessment. Moreover, it would neither deliver “world class” infrastructure, being only 24 Mbps, nor would it be “any time, any place, anywhere”, being only inside premises. The limits of their ambitions were highlighted by the Chancellor of the Exchequer, who is pushing for fibre to the home and to the business park, as well as for 5G mobile, while the EC is pushing for a Gigabit society. Aspirations to being “world class” must be judged on market structures and systems of governance (Sutherland, 2017b), rather than infrastructure, which, unlike roads or sewers, are constantly evolving, with even optical fibre undergoing significant technological advances (Lord, Soppera, & Jacquet, 2016).

The problem of poor productivity in the United Kingdom is well established. The argument by both the Chancellor and the Glasgow City Council is that broadband offers a tool to improve productivity, but requires training of individuals and an understanding of both adoption and non-adoption by businesses. Low levels of business use of fast broadband suggest significant problems.

The Brexit referendum brought uncertainty, since the legislative and policy framework for the United Kingdom telecommunications market has been deeply embedded in the European Union for decades. Ceasing to be a member state means no longer having a voice in the future regulation of the single market, indeed at the time of writing it is unclear what sort of access firms based in the United Kingdom will have to that market. HMG will, once Brexit is complete, have a free hand to review laws and to determine policies for the sector, with an obvious incentive for the established operators to lobby for an easier regime, with few organised voices to oppose them. The position in Scotland is yet more complex, with talk of a second independence referendum opening up a range of scenarios, of the possible splitting of the existing United Kingdom telecommunications networks and markets, of the need to create new institutions for their governance, which might or might not have to be in compliance with the EU *acquis*, perhaps both at different times. Existing operators would be required to carve out their Scottish operations, if only for accounting and regulatory purposes. They might also be tempted to spin off those businesses, perhaps to hedge funds or to local groups, those better able to negotiate a new set of regulations in a new country.

There are a number of areas for further research, not least in tracking events around Brexit, a second Scottish independence plebiscite and technological advances. The issue of broadband being a strategic necessity and the consequent need to track global developments should be examined. An analysis of the costs and benefits of broadband by sector, emphasising leading sectors of the Scottish economy would be beneficial.

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