Gwasanaethau Cyhoeddus Cymru
Wales Public Services

Impact of Brexit on public services in Wales

5TH JULY 2016- REVISED PAPER

NURIA ZOLLE
Research Associate
Wales Public Services 2025

About this briefing

This briefing has been updated following the result of the referendum on the 23rd to leave the EU. As a result of the referendum, Welsh public services will have to navigate uncharted waters. This updated paper retains its original focus on the financial and legal mechanics of Brexit and implications for Welsh public services. But the immediate aftermath of the vote has shown that the implications go much, much deeper than just Wales' relationship with the EU. With Scotland seeking its own relationship with the EU and contemplating a second independence vote and the concerns about the implications for Northern Ireland, the constitutional foundations of the UK has never looked so shaken.

The way the referendum played out has also revealed two key issues for public services that we did not contemplate in our original paper:

a) Immigration: Wales has very low immigration and surveys and in the national Living in Wales almost all respondents have said they live in cohesive communities where people from different backgrounds get along. Whether the widespread concern expressed in the referendum about immigration levels also reflected wider issues about identity and marginalisation, the apparent resonance of the theme of 'taking back control' revealed a deep discontent across communities in Wales.
b) Trust: during the referendum there were quite unprecedented criticisms of the integrity of public institutions such as the civil service and Bank of England as well as independent organisations like the Institute for Fiscal Studies. It is clear that many people have lost their trust in public services and in the wider policy community. That is a major challenge for public services as they seek to respond to these most challenging and uncertain of times.

There has been much comment about the apparent lack of planning for detailed mechanics of Brexit. At the time of writing this paper, the timetable for the UK to invoke article 50 of the Lisbon Treaty is not clear and the range of messages from Leave campaigners simply confirms that there is no consensus yet about the form of exit which is likely to be pursued once a new UK Government has been formed. Uncertainty is set to continue for some time.

We hope that this briefing will help those working in Welsh public services to understand some of the key issues and challenges around the mechanics of Brexit. But we fully recognise that this is about much more than the mechanics. Undoubtedly, steering the ship of the state in Wales through these murky waters will involve more than understanding the direction of travel. Clear and purposeful leadership across the political world and civil society that can heal some deep wounds and create public cohesion will be critical.

The original paper was produced in April ahead of the referendum, as part of a series of papers looking at Wales' public services in turbulent times. It sought to cover three broad areas:

What exactly is Brexit?

How could Brexit impact Welsh public finances?

How could Brexit impact the day-to-day delivery of services?

We originally said that Brexit is an unknown quantity and that remains the case at the time of drafting this updated paper. The official timeframe and legalities of Brexit are relatively clear: in the event of a 'leave' vote the UK Government invokes Article 50 of the Treaty on European Union[1] and has two years to negotiate exit. At the time of drafting, the UK has not invoked Article 50. The Prime Minister has resigned and has passed responsibility for starting the process to the winner of the Conservative party leadership election. Constitutional lawyers have questioned whether the Prime Minister can invoke Article 50 or whether it must be voted on by Parliament. While the EU is pressing for a swift timetable, senior leave campaigners have said there is no rush to invoke article 50. As a result, there will be significant short-term uncertainties for public services. For example, what would happen to ESF and ERDF programmes currently programmed up until 2020. Should new projects be commissioned? What will happen about access to European Investment Bank funds? What should be the response of public bodies to the prospect of changes in the EU regulatory framework in areas such as procurement and employment? What will happen to City deals that required EU investment? Public services will need early and clear messages. Preparing public services and giving them a clear steer on these fundamental practical questions about Brexit should be an immediate imperative.

The funding implications are also unclear. During the campaign, the vast majority of economists predicted a negative impact on the economy and tax revenues, though some disagreed. Those concerns have not gone away since the result. The volatility of the markets, with initial sharp falls in the FTSE 250[2] and the pound followed by some recovery, have contributed to the sense of being in unknown financial and economic territory. Alongside this, it is unclear, for example, how any public finance black hole (or conversely gains) would be apportioned between the constituent parts of the UK. Nor is it clear how the UK Government would replace existing EU spending across the UK. Leave campaigners promised to replace the funding provided by the EU to farmers and to places like Wales and Cornwall. Would the fiscal implications for Wales, Scotland and Northern Ireland be mediated through the Barnett formula or would some other new method need to be invented? Indeed, if Scotland leaves the UK would Barnett need to be entirely replaced?

And what of the relationships within the UK: what role would devolved governments have in any negotiations over the terms of Brexit? After all, devolved bodies are already responsible

---

[1] http://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7551

[2] The FTSE 250, which is made up primarily of large companies that do much of their business in the UK is seen as a better indicator of the UK economy than the more well-known FTSE 100 which includes many global companies that do much of their business outside of the UK

for directly applying many areas of EU legislation and have a direct interest in the outcomes of the negotiations. The First Minister of Scotland has clearly stated that a second referendum on independence is on the table, along with other options to keep Scotland in the EU. Northern Ireland like Scotland is also seeking to make a deal with the EU. The Welsh First Minister will not seek a bilateral deal with the EU. In his statement [3] on the aftermath of a vote to leave he highlighted the following prioritise: protect jobs, be involved in discussions about the timing of the UK deal, negotiate to retain access to the single market, participation in current terms of EU programmes until 2020, call for a revision of the Barnett formula and discuss constitutional arrangements. Following his statement, the First Minister has suggested[4] a new federal arrangement is needed in the UK. Whilst Plaid Cymru has called for Welsh independence.

Brexit means that Wales[5] would need to either continue with laws it transposed directly from EU regulations or create its own new laws in devolved areas, like agriculture, fisheries, environment, education and health. Brexit would also probably need a change to the devolution settlement, to reflect new legislative competences.

To start to address some of these questions, we have created notional scenarios to highlight the possible consequences Brexit would have on Wales. It is important to note that while they are informed by detailed analysis of the evidence that is available they are only indicative. They are designed to stimulate thought and discussion. They help paint a story of how Wales may look post Brexit. They are not predictions of what will happen.

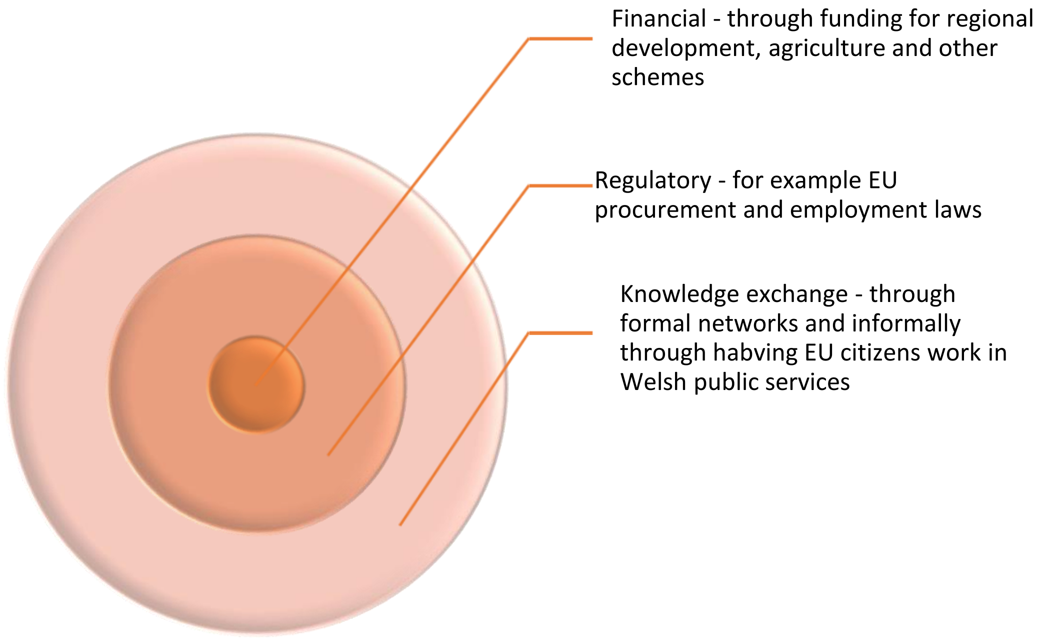
This briefing does not aim to comprehensively set out the benefits and costs for Wales of different options for Brexit. But it is important to understand what the key issues are that have driven the agenda that has ultimately led to the referendum because those concerns will feature in the negotiations over the terms of Brexit. In large part, the referendum was driven by concerns over sovereignty: the EU had too much influence over UK laws. There were also related financial arguments over the fact the UK contributes more to the EU than it gets directly back. The Leave campaign also focussed on concerns about immigration, particularly the free movement of people into the UK and Wales. These issues, particularly around free movement of people, could have a material impact on the form of Brexit.

What is the pre-Brexit relationship between the EU and Wales' public services?

To understand Brexit we need to know what we will be moving away from. The relationship between the European Union and Wales' public services has been deep and complex. Wales is not a member state of the European Union. So it does not have a direct seat at the EU Council. Formally, our relationship with the EU is mediated through the UK Government. However, in practice, Wales has many direct and deep relationships with the European Union.

[3] http://gov.wales/newsroom/firstminister/2016/160624-eu-referendum/?lang=en
[4] http://www.bbc.co.uk/news/uk-wales-politics-36672342
[5] http://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7213

Welsh public services' relationship with the EU



Financial

How much funding does Wales contribute to the UK?

The UK's gross contribution to the EU in 2015 is estimated to be around £13 billion after the £4 billion rebate. That makes the average contribution per head of population across the UK around £200. Using the UK average figure, we could calculate Wales' contribution as being around £620 million. However, that would significantly overstate Wales' contribution. The UK contribution is funded from the general UK tax base. Wales is one of the poorest parts of the UK and as such contributes around 29 per cent[6] less tax per head than the UK average. If we treat Wales' EU contribution as being proportionate to its contribution to general taxation, it would be more like £442 million a year.

How much does it receive?

There are a range of schemes that provide EU funding to or through Welsh public services. The two largest areas are:

- agriculture/ rural development (around £250 million a year on average) including support for farmers in adopting more environmentally sustainable farming practices;

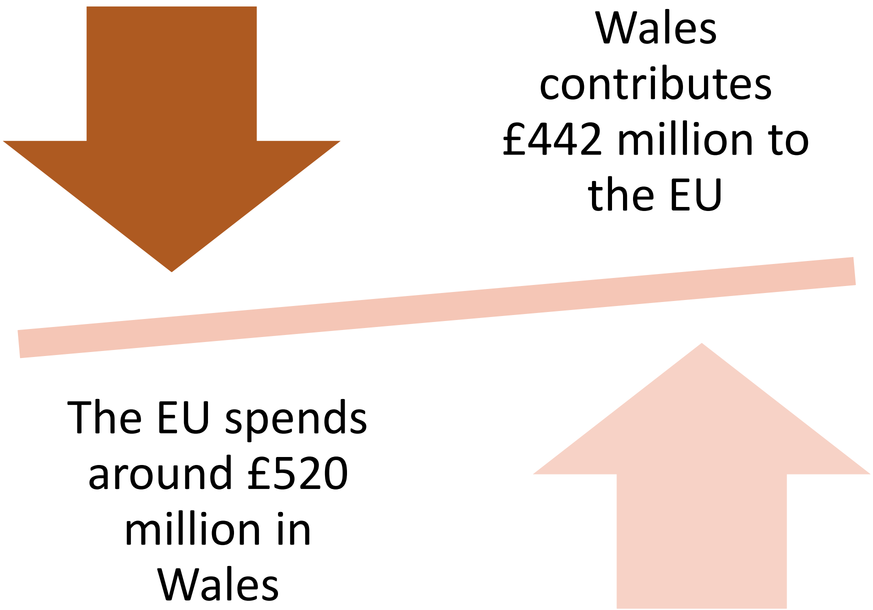
[6] HMRC - https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/464196/HMRC_disaggregated_receipts_-_Information__Analysis.pdf

- structural funding for regional development (around £250 million a year on average) under the current programme to 2020, used for a whole host of projects, many of which are led by Welsh public services.

Examples of EU funded projects include upgrading major roads like the A465, tourism initiatives and training schemes. The Welsh Government and Welsh Local Government Association identified significant benefits from structural funding since 2007 including new jobs, business start-ups and skills development[7]. Structural funding has also supported efforts to improve public administration in Wales, including work to improve partnership working through Local Service Boards.

Wales' education system also benefits from EU funding, with financial support from Horizon 2020 (for joint research initiatives, innovation projects) and Erasmus funding (student and academic exchanges). These could be worth in the order of £20 million. With around £520 million [8]income from the EU compared to a contribution of £442 million it appears that Wales is a net beneficiary of EU funding. CIPFA also notes that Wales, like Cornwall, is a net beneficiary of EU funding[9].

What is the net balance?



There are also substantial EU investments in the form of loans from the European Investment Bank. In 2014-15 there was around £500m invested in projects in Wales. Depending on the post-Brexit agreement, this investment could be lost to Wales in future.

---

[7] http://gov.wales/funding/eu-funds/?lang=en; http://www.wlga.gov.uk/e-publications/eu-referendum-report

[8] Following the initial publication of this paper, the Wales Governance Centre produced analysis showing a net benefit of £245 million to Wales. They used a different methodology to us. While our estimate of Wales' contribution is similar, the figure for EU funding in Wales differs considerably. The WGC figure was based on EU funding in 2014. In practice, EU funding varies from year to year and 2014 was particularly high. We have used the average annual funding for the programmes committed to 2020.

[9] http://www.cipfa.org/~/media/files/cipfa%20thinks/eu_treuble-and-strife.pdf

EU law and legislation

Welsh public services are also shaped by EU law – regulations and directives. The two most obvious ways are rules on employment and procurement. In some areas, Wales is already responsible for transposing into law EU regulations as well as applying EU Directives in areas of devolved policy, such as agriculture, fisheries, education and health.

Labour market

EU legislation has a significant impact on working conditions across Wales' public services. One of the key pieces of legislation has been the EU working time directive, which had a profound impact on the healthcare workforce. Before the directive many clinicians, especially junior doctors, worked much longer hours than they do now. The other key impact has come from the principle of free movement of labour. Citizens from any EU country are free to travel, work and settle in Wales without restrictions. Wales has been able to fill staffing gaps across the NHS by employing doctors and nurses from the EU. The social care sector is particularly reliant on migrants, many from Eastern Europe, who work for relatively low wages. The Wales Migration Service has analysed the Labour Force Survey data. Their figures show that there are around 69,000 EU citizens working in Wales: around 4 per cent of the work-force. The Wales Migratory Service analysis shows that around a third of all migrant workers (EU and non-EU) work in public services. If the pattern is the same for both EU and non-EU migrants, that would mean around 23,000 EU citizens working in Wales' public services.

Procurement

Welsh public bodies spend about £5 billion a year on procurement and are subject to EU rules to ensure that companies from across the EU have an opportunity to bid for public sector contracts in the UK. This includes following specific rules above a specific threshold including inviting tenders through the Official Journal of the European Union (OJEU). Within the framework of recent EU procurement directives, Wales has placed a strong emphasis on a closer dialogue with business to drive increasing economic and social benefit from public procurement expenditure.

Knowledge sharing

Welsh public services also have a knowledge sharing relationship with other member states through EU institutions. Many of Wales' public services are part of EU networks that share knowledge and research on a whole range of issues from economic development through to the latest clinical research. The many public servants from around the EU who have made their home and career in Wales also impact on public services in subtle ways. They bring with them ideas and experiences of other ways of working that can help innovation. These softer relationships between Wales and the EU are impossible to quantify but are nonetheless important.

What exactly is Brexit?

What would Brexit look like?

The extent to which a post-Brexit Welsh public service would be different depends on the outcome of negotiations between the UK Government and the EU. We are currently waiting for the UK Government to invoke Article 50 of the Treaty of European Union. While the Treaty sets out a timetable of two years, many commentators think it would take much longer to negotiate an agreement. However, extending an agreement would require the agreement of all 27 member states. Until agreement is reached or the period ends and is not extended, the UK remains a full member of the EU. In terms of the content of any agreement, it depends on the form it takes. HM Treasury describes three options:

1. UK joins the European Economic Area (EEA), stays part of the single market and signs up to most of the EU rules.
2. UK negotiates a bilateral deal involving signing-up to some but not all EU rules.
3. UK has a simple World Trade Organisation (WTO) trade deal and is able to repeal all laws implementing EU law.

The financial and service delivery impact of Brexit on Wales' public services depends on which type of relationship the UK Government and EU negotiate. Given that much of the debate has been about immigration, it is possible that the UK would try to opt out of the principle of free movement of workers and people. That would potentially rule out staying within the EEA as other members are all subject to the principle of free movement and other rules related to the single market. However, some senior Leave figures have suggested that the EEA is their preferred options and the Chancellor has hinted that it is his preference. Early signs from EU officials and the German Chancellor suggest that the UK will find it difficult to get agreement to remaining in the single market and restricting free movement. However, with concerns about immigration rising in many EU countries, notably France, it is not inconceivable that there may be changes to free movement at an EU wide level, which may make an EEA deal more likely.

A bilateral deal is completely uncertain as are the terms of any financial contribution and regulations the UK would have to sign up to. The third option is essentially the default option, if the UK does not join the EEA and fails to negotiate a bilateral agreement. In that scenario, the UK would have the same relationship with the EU as any other member of the World Trade Organisation.

Since we produced our initial briefing, it has become clear that the process of actually leaving the EU is more uncertain than most commentators expected. As we noted above, previously analysis has assumed that the negotiated exit would include agreement between the UK and EU on future trade relationships. However, as the EU's Trade Commissioner has reported, Article 50 covers only the terms of exit, not the terms of trade.[10] She has set out her position that the UK cannot start a negotiation on trade until it has exited the EU. She points to EU rules that prohibit the EU from negotiating trade deals with an existing member, which the UK will be until it exits, as well as rules prohibiting members from negotiating with each other and external countries. If this becomes the formal position of the EU, the UK would leave the EU without access to the single market and potentially no trade deals with other countries. Further, it is unclear whether the UK would even be able to trade under WTO rules as its membership of the WTO has been as part of the EU. The Director General of the WTO has said that the UK would need to negotiate a new deal with the WTO and cannot just continue membership. If they are seen as applying, the rules prohibiting the UK from negotiating trade deals with other countries while it remains part of the EU could also prevent it from negotiating and agreeing membership of the WTO ahead of exit from the EU.

[10] http://www.bbc.co.uk/news/uk-politics-eu-referendum-36678222

How could Brexit impact Welsh public finances?

Would it impact the basic fiscal rules?

The UK, like all EU countries, signed up to certain fiscal rules as part of the Maastricht Treaty. Those rules include limiting public deficits to 3% of GDP. Each year, the UK must submit a report on its deficit to the European Commission. The Commission can fine Eurozone countries if they breach these rules. As the UK is outside of the Eurozone any negative commentary from the Commission, as occurred for example in 2008 following the economic crash, essentially amounts to a rap over the knuckles. Whether the UK being freed from the EU fiscal rules would have any effect on the general fiscal climate in the future is unclear. At present, there is a political environment in the UK that sees deficits as inherently undesirable. The Chancellor has embedded the principle that the UK Government should spend less than it earns into law. So, without a significant change in political philosophy in the UK, it seems unlikely that escaping from the EU fiscal rules would lead to a loosening of fiscal policy and higher borrowing and spending across the UK, including in Wales.

How would Brexit impact UK public finances?

The fiscal impact of the different options is hugely uncertain. It depends fundamentally on the impact of Brexit on the UK economy, tax revenues and public finances. HM Treasury [11]draws on a range of analyses to calculate the long term impact on the UK economy and public finances. All three options result in substantial negative impacts. While they do not present precise figures, other independent bodies including the Office for Budget Responsibility, the Institute for Fiscal Studies, the Bank of England and the IMF also raise concerns about Brexit negatively impacting the economy and public finances. Such analysis was vigorously disputed by the Leave campaign who argue that leaving the EU would free the shackles restraining UK economic enterprise and growth. The immediate reaction of the financial markets suggests some concern at a short term economic hit at least. The Chancellor post referendum has confirmed higher tax rises and spending cuts which will add to austerity. He has also dropped his commitment to eliminate the structural deficit by 2020. However, this probably signals an expected reduction in tax income due to worsening economic conditions, rather than an end to austerity.

Another key aspect is what would happen with the £13 billion a year the UK currently contributes to the EU. Leave campaigners initially strongly suggested that all the money wold be used for the NHS but they appear to have moved away from that idea since. It seems likely that the UK would have to make some financial contribution to the EU in any post-Brexit deal. How the UK Government decides to use any savings on its EU contribution would have consequences for Welsh public finances. Of particular importance is whether the UK Government would use the Barnett formula to apportion the money around the constituent parts of the UK or whether some new mechanism would need to be found.

Brexit has impacted on credit risk ratings and possibly the cost of borrowing over the longer-term. The Bank of England says: "Looking ahead, heightened and prolonged uncertainty has the potential to increase the risk premia investors require on a wider range of UK assets, which could lead to a further depreciation of sterling and affect the cost and availability of financing for a broad range of UK borrowers.' Higher borrowing costs would impact the overall UK finances and indirectly the

11 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/517415/treasury_analysis_economic_impact_of_eu_membership_web.pdf

amount of funding available for Wales. It would also have a direct impact on Welsh public services: with the Welsh Government getting new borrowing powers and local government increasingly using its borrowing powers to fund infrastructure projects.

Will Wales' public finances be better or worse off after Brexit?

Because of the impossibility of forecasting the overall fiscal impact of leaving the EU on Wales with any certainty, we have created some illustrative scenarios in the annex. These are the variables:

- What is the projected impact on tax revenues, and therefore on public finances, of the various relationships, as projected by the Treasury? For example, HMT suggests a loss of £45 billion tax receipts under a WTO option. The Treasury analysis is highly contested by the Leave side.
- What is the impact for Wales of any consequent hole in public finances?
- What happens to the £13 billion currently paid by the UK to the EU and what is the impact on Wales public spending? In illustrating the net impact, we have assumed that Wales would continue to receive the same level of contribution from EU programmes beyond the end of the current structural funds programme in 2020. This is contestable.

Our scenarios are set out in the annex. Many others could have been posited.

The outcomes vary from a positive result for Wales of an additional £220 million a year (on some very optimistic assumptions) to an annual loss of £860 million. The point is that so much depends on the precise terms of disengagement, the economic impacts of exit and the fiscal policy and priorities of future UK Governments.

How could Brexit impact on the day-to-day delivery of public services?

EU legislation has numerous impacts on Welsh public services. Two of the key areas are employment legislation and procurement legislation. The extent to which Brexit would see the UK or Wales free to repeal such legislation depends on the nature of the post-Brexit deal. If the UK remains as part of the EEA, it would have to sign up to all rules governing the single market, including employment rules, the principle of free movement and procurement. A bespoke bilateral agreement could see the UK signing up to some but not all rules. The default position of a relationship with EU along the lines of all other members of the World Trade Organisation would probably see the UK free to repeal all EU legislation.

In practice, the process of repealing and replacing EU laws is likely to take up a huge amount of Parliamentary and civil service time, mostly in Westminster but also in Cardiff. There are two different types of EU legislation: directives and regulations. Directives are transposed into domestic law by the member states. In devolved areas, Wales is responsible for drafting regulations and laws to implement EU Directives. EU regulations apply directly, without needing to be transposed. If there is a Brexit outside of the EEA, the Welsh Government will need to legislate to retain or replace these regulations.

It is worth saying here that the issue of the costs and benefits of immigration have featured heavily in debates about Brexit. Clearly, EU migrants impact on demand for public services including healthcare and education. But they also contribute through taxation to the funding of those services. Whether EU migrants are a net contributor or beneficiary is highly contested. There are no absolute answers as all the analysis is based on a range of assumptions. As the Migration

Observatory reports[12], some academics report significant net benefits whereas organisations like Migration Watch claim net costs. The Office for Budget responsibility is probably the most authoritative source of projections. Its projections of public finance show positive financial benefits from migration and higher public sector debt arising from reduced migration.

How would Brexit impact the Welsh public service workforce?

The extent to which Brexit impacts employment law and practice is unclear. As with finances, much depends on the nature of a post-Brexit agreement with the EU. To be part of the European Economic Area (EEA) like Norway, Lichtenstein and Iceland the UK would have to sign up to all of the regulations governing the single market, including employment, social and procurement rules. Those countries also have to sign-up to the principle of free movement of people. Given the focus of the referendum debate on immigration, it seems likely that any post-Brexit deal would seek to restrict or prohibit free movement. As we noted earlier, whether or not the UK can secure an EEA deal and restrict free movement is highly uncertain.

How would Brexit impact public procurement?

Public bodies often complain about burden and cost of EU procurement. If the UK Government negotiated a deal to be part of the EEA, it would have to apply the OJEU rules for procurement. The UK may negotiate a bilateral agreement on the basis of exemption from EU procurement rules. It is likely that the EU would resist or extract a high price for such an exemption as members would want fair access to the UK market for public sector contracts. In such a scenario, Parliament would ultimately have to recreate new procurement rules. It is far from certain that new rules would actually be any less onerous/ burdensome if they are designed to ensure competition, transparency and value for money.

Would delivery of Wales' public finances be better or worse after Brexit?

Because of the impossibility of the overall fiscal impact of leaving the EU on Wales with any certainty, we have created some illustrative factors that could play into it. These are located in the annex. They look at the relatively large spending areas of health, social care, education and housing. These are the variables:

- What is the projected impact on regulation – particularly employment and procurement - of the various possible post Brexit UK-EU relationships?
- How would regulatory changes interact with wider economic and fiscal impacts of Brexit?

As with the public finances scenarios, many other factors could have been posited.

The picture these paint is of greater challenge for public services, in part from recruitment challenges. They vary considerably depending on the type of relationship. In some areas the bigger impacts come from the economic impacts of Brexit rather than regulatory changes.

Concluding remarks

The purpose of this briefing is not to present a case either for or against Brexit. That argument has been had and we respect the results of the referendum. However, because Wales is a net

[12] http://migrationobservatory.ox.ac.uk/briefings/fiscal-impact-immigration-uk

beneficiary from EU funding it makes the bar much higher for the form of Brexit to achieve positive impacts. Our scenarios are notional but generally plausible. They show that Wales' public services potentially have much to lose from Brexit and there are significant risks.

There are few plausible scenarios based on Treasury evidence and our analysis in Welsh public services are better off financially. That is in part because Wales does much better financially out of the EU than many other parts of the UK. How much worse off Wales is likely to be depends on the nature of the relationship the UK negotiates. That is not to say there are no potential financial benefits. At a UK level we will probably keep some or all of our net contribution, which could be used to fund public services. And in Higher Education Wales would not be required in some scenarios to pay EU student tuition fees and could instead charge the higher fees that non-EU students have to pay to study on the UK. The problem is that these financial gains are wiped out by the economic impacts and the resultant loss of tax revenues if the Treasury's projections prove correct.

The impact on the way public services are delivered and managed is unclear and depends on negotiations. It is quite feasible that changes to the way public services operate are marginal if we stay within the EEA, with changes mainly arising as a result of wider economic impacts rather than operating under different rules. Alternatively, there could be profound changes if the UK Government repeals and rips up many of the regulatory frameworks on employment, procurement etc. and goes back to the drawing board.

In this briefing we've focused on the biggest service areas. Given the treasury projections that Brexit would lead to less public spending following a period of historic austerity, pressure to protect the larger spending areas could see whole areas of public service – like arts, culture and some environmental services – become unsustainable.

Annex

Scenarios

Public finance scenarios

To illustrate the possible impacts of Brexit on Welsh public finances we have generated a range of scenarios. These scenarios consider three key variables:

1. What happens to the £13 billion the UK currently pays to the EU
2. How the UK Government would replace the £4.5 billion spent by the EU in the UK, including the £520 million spent in Wales
3. The impact of Brexit on the tax revenues of the UK government and any consequent impact on Welsh public finances

In developing these scenarios we have used some assumptions. The first is that the EU would have continued to provide Wales with structural funds after the current round which ends in 2020. While the funds are likely to change, Wales continues to be amongst the poorest parts of the EU and it is reasonable assumption, though by no means a certainty, that Wales would have continued to receive support at similar levels. In considering the economic impacts we have drawn from the Treasury's analysis. While this is contested, it is the most authoritative assessment available. It draws not only from HMT's own analysis but also from projections by a range of other organisations including the accounting firms. Its assessments also reflect similar analysis by the Institute for Fiscal Studies and international organisations like the OECD. However, we fully recognise that there are considerable uncertainties and some economists, notably Professor Patrick Minford, have produced models showing economic benefits arising from Brexit.

Before getting into the scenarios we need to deal with the key issue of the funding formula used to allocate the £13 billion 'recouped' from Europe. The default position would be for the funding to reach Wales through the block grant, via the Barnett formula. The Barnett formula is used to allocate increases (or decreases) in spending across the four nations of the UK based on spending decisions for England. The Barnett formula does not set the underlying baseline of spending, just annual changes. Under the Barnett formula, any increase in funding is applied equally across the four nations. So, for example, if the UK Government decided to use money recouped from its EU contribution to raise spending on agriculture in England by £10 per head there would be a £10 per head rise in the block grants allocated to Wales, Scotland and Northern Ireland. Wales could lose out in this scenario because the Barnett formula would allocate the money equally, whereas the EU funding was previously unequally allocated in Wales' favour. The alternative would be a one off deal that treats the EU funding as an exceptional re-adjustment that alters the baselines rather than allocating it via the Barnett formula.

Scenario 1: Barnett highly optimistic scenario

This scenario assumes that the UK Government fails to reach agreement with the EU and has defaulted to a WTO relationship.

What happens to the £13 billion EU contributions? Because there is no agreement, the UK has to make no contribution to the EU in a post Brexit agreement. In this optimistic scenario, the UK Government uses its share of the £13 billion recouped from Europe entirely for purposes that are devolved: so increasing spending on areas including agriculture, regional development, health and education but not areas like defence and policing. Through the Barnett formula, Wales would get around £740 million.

We have assumed no negative economic impact. The Treasury's projections of a £45 million reduction in tax have not come about.

So is Wales better off? In this most positive of scenarios, Wales would do better from Brexit by around £220 million.

Scenario 2: Barnett optimistic but plausible scenario

In this scenario, the UK Government strikes a post Brexit deal to stay in the EEA.

What happens to the £13 billion EU contribution? In our scenario, under the terms of the agreement to join the EEA the UK contributes around £4 billion (just under half of the net contribution in 2015). This leaves around £9 billion. The UK Government spends £4.0 billion in areas matching existing EU spending (for example agriculture, regional development). This results in Wales getting around £230 million. The UK Government negotiates to retain access to funding for innovation and Higher Education, worth £20 million.

What happens to the UK public finances? The Treasury predicts a loss of £20 billion in an EEA scenario. So the remaining funding recouped from the EU contribution is completely subsumed by the loss of revenue. To bridge the funding gap, the UK government makes cuts to spending, including £5 billion in devolved areas. That would result in a cut to the Welsh budget of £285 million.

Is Wales better off? In this scenario, Wales is down by around £535 million.

Scenario 3: Barnett pessimistic but plausible scenario

In this scenario, the UK Government negotiates a bilateral arrangement with the EU.

What happens to the £13 billion EU contribution? In our scenario, the EU plays hard ball to make the UK pay heavily to opt out of the principle of free movement with a contribution of £8.5 billion a year, matching its current net contribution. Due to funding pressures, the UK Government makes available a pot of just £1 billion for agricultural payments in England and does not replace other EU funding. That means just £60 million for Wales.

What happens to the UK public finances? The remainder of the reclaimed EU contribution is more than offset by the £36 billion loss of tax receipts as predicted by HM Treasury. To help repair the public finances, alongside tax rises and other cuts the UK Government makes £7 billion cuts to devolved areas, including health, local government and education. That results in a cut of £400 million for Wales.

Is Wales better off? Wales is worst off to the tune of £860 million.

Scenario 4: Re-adjust baseline optimistic but plausible scenario

This is a variation on scenario 2, which involves the UK entering the EEA and making a £4 billion contribution.

The UK Government agrees with the devolved countries to ensure that the £4.5 billion spent by the EU across the UK is fully protected through an adjustment to each country's underlying baseline. That is, the £4.5 billion is not allocated through the formula but simply replaces existing EU funding. This means Wales starts from a position of keeping the £520 million currently spent with no net loss or gain. The remaining funding recouped is completely subsumed by the £20 billion loss of tax, as predicted by HM Treasury. To bridge this gap, the UK government makes cuts to spending, including £5 billion in devolved areas. That would result in a cut to the Welsh budget of £285 million. In this scenario, Wales is £285 million worse off.

Scenario 5: Re-adjust baseline pessimistic but plausible scenario

This is a variation on scenario 4 in which the UK Government negotiates a bilateral arrangement with the EU and pays around £8.5 billion a year. In this scenario, the UK Government agrees to adjust the baselines, but due to changing economic circumstances will only provide half of the funding (a total of £2.25 billion), meaning, Wales gets £260 million. The remaining funding is more than offset by the £36 billion loss of tax receipts as predicted by HM Treasury. To help repair the public finances, the UK Government makes £7 billion cuts to devolved areas, including health, local government and education. That results in a cut of £400 million for Wales. Wales is worst off by £660 million.

Public service impact

Exactly how public services would look different is impossible to predict as there are so many different variables. We have highlighted some factors below to look at some of the practical consequences of Brexit that may occur. We have split these between the UK staying in the EEA and outside (a combination of a bespoke deal and WTO). We have created scenarios based on possible changes to workforce rules, procurement rules and the general impact of the financial issues set out in the earlier financial scenarios. It is important to note that while they are informed by detailed analysis they are fictitious and are designed to stimulate thought and discussion. They are stories. They are not predictions of what will happen.

Health and social care 1: Brexit outside EEA

Looking at impact we could see hospitals struggling with staffing shortages because staff from Europe, concerned about their status in the UK have left Wales. However, a repeal of working time legislation enables Health Boards to make up some of the capacity gap by requiring doctors to work longer hours. Welsh NHS bodies are scouring the developing world for doctors and nurses.

The Welsh Government promises to retain the working time limits when England became the first to lift the regulations. However, controversies over staff shortages, long waiting times and stories of poor care forced a change. The introduction of longer working weeks, leads to relations between clinicians and the Welsh Government deteriorating significantly. Cuts to UK public finances mean that spending on Wales' NHS has fallen and the Welsh Government has to impose pay freezes across the NHS.

Changes to procurement rules have also pushed up costs for the NHS. NHS bodies have made some savings from administration as a result of not being required to follow EU rules. However, the pressure to buy local and contracts only being advertised in the UK means there is less competition from EU firms. This pushes up the cost of some clinical equipment.

The social care sector has been particularly hard hit with many EU citizens, especially from Eastern Europe, leaving. The sector is currently reliant on this group of workers who are generally paid close to the minimum wage. As a result, social care providers have had to increase wages in order to recruit local people. This alone has not filled the gaps, so access to some care has been restricted. The Welsh Government and several councils are involved in a public spat as this rationing of care runs counter to the requirements of the Social Services (Well-being) Act. Councils are arguing that they cannot meet their obligations because their funding has been squeezed substantially as a result of the wider fiscal pressures. The squeeze on councils means that they are trying to drive down costs of residential care and care homes. Ultimately, this has led to several care homes and small social care providers going out of business, leaving people temporarily without access to the support they need. The Welsh Government is considering introducing significantly higher charges for some care services or raising income tax to fund social care, but these proposals are proving deeply unpopular and difficult to get through the Assembly.

Health and social care 2: Brexit part of EEA

Here Brexit has a more limited impact than above. In order to be part of the EEA all of the EU regulations governing working times have been retained. With free movement of people also a requirement of joining the EEA, hospitals are still recruiting freely from within Europe. However, they are finding it more difficult to recruit, due to a greater reluctance to move to the UK as it is not a full member of the EU. Despite overall funding cuts to its budget, the Welsh Government has slightly increased spending on the NHS to offer recruitment 'golden hellos' to encourage clinicians to come to Wales.

Once again there are likely to be substantial difficulties in social care. With staff from the EU likely to show some reluctance to move to UK, the scenario could lead to slightly higher wages. These issues would be less stark than in the bilateral scenario. However, the small changes in costs for providers have been accompanied by large cuts to local government spending as a result of wider fiscal pressures and decisions to protect the Welsh NHS spending. As above this could lead to a number of care homes and providers going out of business and the Welsh Government is still having to face difficult, and potentially unpopular, decisions about how to continue to fund social care.

Education

Education 1: Brexit outside EEA

The Welsh Government's programme for building new schools has been significantly impacted by the availability of funding as a result of the economic down-turn resulting from Brexit. This means it could have less capital and has to pay more for private finance/ borrowing to fund the programme. Lack of competitive bids from EU based companies and rising wages as a result of shortages in the construction workforce after skilled EU construction workers left, have also driven up costs. The net result is that the programme delivers fewer new schools than expected.

In this imagined future, the loss of EU structural funds impacts on parts of the further education sector heavily. It leads to large cuts to several work-based learning programmes. Some small and medium sized training institutions are pushed to the margins of viability. The positive progress that had been made in improving the skills of the adult population has stalled.

Higher education could also note significant impacts. The loss of funding for research and student exchanges would hit Universities. Whilst some savings would be made from not subsidising EU students' tuition fees, these could be marginal and not close enough to offset losses. As a result, some universities may struggle to attract and retain high quality lecturers and researchers. This would put their research status and international rankings at risk. The academia could also complain about being excluded from important information sharing networks and they could be less likely to be invited to or be involved in collaborative projects and programmes.

Education 2: Brexit within the EEA

The schools building programme has slightly been impacted by a downturn and skills shortages in the construction sector. Some of the Structural Funds could be ring-fenced. However, some WBL providers could struggle and their skills may not improve at same rate. Whilst Higher Education funding from Europe could still be provided and HE could still be gaining funding from EU students' tuition fees, they would struggle to attract students for exchanges.

Housing

Housing 1: Brexit outside of EEA

In terms of impact we could see a shortage of construction workers due to restriction on immigration and free movement from EU countries, as well as higher borrowing costs. Housing providers[13] could also find it difficult to access construction materials from Europe and may face higher costs.

The slowdown in creation of new social housing means that demand has significantly outstripped supply. While there is lower demand for social housing from EU migrants, this is dwarfed by the increase in demand as the result of wider economic pressures. In this scenario, we see longer queues for social housing, more people living in poor quality private housing and a rise in homelessness.

Housing 2: Brexit within EEA

The impacts are less pronounced than in the previous scenario. Because Wales remains in the EEA construction workers are free to work in the UK and bring their families without the need for visas. Nevertheless, there is still a skills shortage driving up wages, some initial difficulties accessing materials and housing providers would be hit by higher borrowing costs. The net result is a small slowdown in the creation of social housing. The impacts are the same as above but less pronounced – supply lags demand for social housing and there is a rise in low quality private rented housing and a small increase in homeless.

[13] http://s3-eu-west-1.amazonaws.com/pub.housing.org.uk/EU_referendum_-_member_briefing.pdf