Much cost, little benefit

The economic consequences of Scottish separation

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Scottish Research Society

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Walbrook Economics

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The author

Ewen Stewart is the founding director of Walbrook Economics. In more than a quarter of a century in the City, he has worked for several major investment banks, including Dresdner Kleinwort Benson and ABN AMRO.

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He is a director of the think tank Global Britain and a member of the advisory council of the Cobden Centre.

Walbrook Economics

Walbrook Economics, an independent economic consultancy that applies macroeconomic and political research to investment decision-making, offers a tailor-made service to clients including pension funds, hedge funds, the wealth management sector, corporations and prominent think-tanks. Wallbrook's research assists clients in making investment decisions by examining long-term UK and global macroeconomic trends. Current research includes a study of the impact of quantitative easing on the economy and investment valuations, the monthly Household Spending trend survey, and an evaluation of safe-haven risk. Walbrook publishes regularly on macroeconomic and investment affairs and hosts strategy briefings with key policymakers and academics.

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The Scottish Research Society

The Scottish Research Society exists to conduct, commission, publish and disseminate authoritative research and useful knowledge on economic, scientific, literary and other matters of interest to the people of Scotland. The Society also promotes and hosts lectures and presentations on Scottish affairs from its HQ in the heart of Edinburgh. The Society is a registered “No” campaigner for the 2014 referendum on whether Scotland should separate from the United Kingdom.

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Sleepwalking to separation

PERHAPS the most startling thing about this important report on the economic consequences for Scotland of independence from the UK is that not one of the "unionist" political parties had taken the trouble to prepare such a well-researched, hard-headed assessment of the costs of Scotland becoming an independent state as that now prepared by the Scottish Research Society.

The fact remains that no one had seriously challenged the Disneyland economics of the SNP's "White Paper" and its total failure to enumerate how an independent Scottish state would be able to continue to pay its bills and fund its day-to-day obligations to those pensioners, benefit claimants, recipients of disability benefit and the vast number of public-sector workers who depend upon the State for all or part of their income. How is an independent Scotland going to pay for health care, education and the armed forces, and how is it going to meet the numerous unfunded promises the SNP has made to the Scottish people?

This meticulous report by a leading Scots economist commissioned by the Scottish Research Society represents a devastating indictment of the SNP's "White Paper".

If an independent Scotland were to rejoin the European Union, it would take on the explicit obligations in the Treaty of Maastricht requiring the reduction of the annual deficit (now 8-13% of annual GDP) to just 3%, and furthermore the reduction of Scotland's share of the UK national debt (now 90% of GDP) to not more than 60%. To comply with this commitment, which is non-negotiable on entry into the European Union, the Scottish Government would be compelled to cut spending or raise taxes, making the average Scottish household worse off by £3400-5500 a year

An independent Scotland will not be able to rely on North Sea oil as a major source of income. The North Sea, with declining reserves and higher costs of exploration and extraction, can no longer bail Scotland out. Scotland's public sector, among the biggest and costliest in Europe, is too heavy a burden on a private sector much of which is taking the wise precaution of re-registering itself in England in case of a Yes vote in the forthcoming referendum. We know of no companies or businesses that have plans to move to an independent Scotland. A recent survey has shown a considerable number of Scots will move out of Scotland should the "Yes" vote succeed. If all the above is not enough, Alex Salmond's threat to repudiate Scotland's share of the national debt, if implemented, would serve to cause irreparable damage to Scotland's financial credibility.

If Scotland had been independent from the UK at the time of the banking crash of 2008, in which Scottish banks represented at least 40% of the UK banks' liabilities, the consequences for her economy and her people would have been worse even than the disastrous Darien venture that bankrupted our nation at the turn of the 18th century and led to the Union with England. I commend this authoritative report to all those who wish to see one of the greatest political Unions the world has ever seen continue.

ROBERT GIBBONS

Patron, Scottish Research Society

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The economic consequences of Scottish separation

Introduction

> "The nationalist does not go on the principle of simply ganging up with the strongest side. On the contrary, having picked his side, he persuades himself that it *is* the strongest, and is able to stick to his belief even when the facts are overwhelmingly against him. Nationalism is power-hunger tempered by self-deception. Every nationalist is capable of the most flagrant dishonesty, but he is also – since he is conscious of serving something bigger than himself – unshakeably certain of being in the right."
>
> George Orwell

The facts are overwhelmingly against separation

Until now, there has been no detailed response to the Scottish Government's "White Paper" on the economic future of a separated Scotland. This paper is intended to remedy that omission. The primary sources are the Scottish Government and the Office for National Statistics.

The subject is broad. It covers a wide range of policy and economic areas. We have chosen to concentrate on the critical areas of economic nationhood that affect wealth and prosperity, including currency, national debt, public spending and taxation, trade, oil, energy, relations with the EU and the world, and the mechanics of divorce and the diseconomies of scale that separation would entail.

Scotland will make its historic choice on 18 September whether to separate from the United Kingdom. The outcome may well be determined by identity and cultural affinity rather than on the basis of economic considerations. However, the choice made will have profound economic implications for every family in the land, as well as political, geopolitical and cultural consequences. While the outcome will primarily affect the lives of the 5.3 million inhabitants of Scotland, its effects will be felt well beyond the Border, in the rest of the UK and beyond.

The one option that will not be available following the "independence" referendum is independence. Scotland will remain heavily interdependent with the rest of the UK and with the EU, where most of the legislative decisions affecting her future will be taken if she chooses to reapply for EU membership.

How independent would a separated Scotland really be? The great majority of Scotland's laws are made behind closed doors in Brussels by commissioners whom the people of Scotland and of Europe do not elect. Only a small minority of Scotland's laws are made at Westminster. Scotland is not being offered independence but mere separation from its nearest and dearest neighbour.

Summary

Main points – separation would be very costly and would not entail independence

- The economic arguments against separation are overwhelming.
- A simple majority voting Yes in September would almost certainly end the Union.
- The real and substantial economic costs of separation have not been thought through.
- Separation might cost the average household £3400-5500 a year, plus £500-1000 in mortgage interest
- The Scottish Government's economic "white paper" is a wish-list of vague aspirations.
- As a separated country, Scotland would quickly need to address its fiscal deficit.
- To base prosperity and public spending choices on volatile future oil revenues is imprudent.
- The lack of clarity about the form of the final settlement is a major risk factor deterring investors.
- Uncertainties following a Yes vote would harm investment, confidence and economic performance.
- The economies of Scotland and the rest of the UK would still be interlinked even after separation.
- In the "independence" referendum, independence is the one thing not on offer.
- Real independence is best achieved in the UK, where Scotland has much influence.

The fiscal gap

- In 2012/13, Scotland raised £48.11bn in tax receipts, including £552m as its per-capita share of oil revenues, and spent £65.2bn, running a fiscal deficit of £17.1bn, or £3226 for every man, woman and child.

- Scottish public spending cannot be £3000 per household higher than the UK average when Scottish gross value-added is little more than nine-tenths of the UK average.

- Scottish government data show that with or without oil Scotland's fiscal position is one of Europe's weakest.

- A separated Scotland cannot survive without heavily cutting public spending or greatly raising taxation, or probably both. Public-sector salaries, State-funded pensions, welfare and disability payments, health and education – all will be at risk of severe cuts if Scotland decides to separate from the United Kingdom.

- If Scotland wants to go its own way that is its right, but the establishment and disruption costs will be high, and will add to an already large fiscal gap between foreseeable revenues and public spending.

- Public spending in Scotland, relative to the size of the economy, has been consistently and substantially greater than in the UK as a whole.

Scotland's currency – Hobson's choice

- The best option for a separated Scotland would be formal retention of Sterling.

- Scotland, given its current assets and liabilities, cannot adopt Sterling informally without a substantial risk of asymmetric economic shocks. Informal currency union with England is nothing more than a short-term fix with long-term dangers.

- The Scottish administration's current proposals for an informal adoption of Sterling do not constitute independence: it would be forced to pay the piper, but also forced to let the piper pick the tune and then to dance to it.

- It would make little sense for Scotland to adopt the euro. The eight economic-convergence criteria for adoption of the euro laid down in the Treaty of Maastricht were abandoned when the European Commission, in its pre-changeover assessment, discovered that only Luxembourg complied with them. The euro is a risk.

- Scotland's trade is overwhelmingly with the rest of the UK. Eurozone growth remains weak with highly divergent levels of unemployment between the member-states. Scotland would have virtually no influence on setting Eurozone monetary policy.

The national debt – a heavy burden

- A separated Scotland would take on a national debt of £116bn and rising, or £186bn with bank liabilities.
- Repudiation of Scotland's share of the UK national debt may seem tempting but would fatally damage Scotland's international reputation for fiscal trustworthiness.
- At a conservative estimate, Scotland would pay an initial risk premium of 0.5-1% over UK gilts if it wanted to borrow. If Scotland did not adopt a disciplined approach, this risk premium might widen materially.

Oil and gas – no longer a get-out-of-debt-free card

- In 2012, even if Scotland secured a per-capita share of North Sea oil, its annual deficit would have been 13.3% of GDP. Only Greece and Slovenia were in a weaker position.
- If a separated Scotland got its per-capita share of oil revenues and adhered to the Maastricht national-debt limit, tax hikes or spending cuts would be £13bn – almost £2500 per head, or £5400 per household, and more than Scotland's entire health budget in 2012/13.
- The Office for Budget Responsibility has cut its projection of oil tax revenues to 2040 by almost a quarter. Oil revenues, and hence Scotland's, are highly cyclical and unpredictable.
- Scottish oil production is in structural, long-term decline, reserves are falling, extraction costs are high and the price of the underlying commodity value highly volatile. Oil is great to have but it is no panacea, and no sound basis for long term economic prosperity.
- Price volatility and dwindling oil reserves mean the Scottish Government cannot rely on oil revenues for meeting its heavy obligations to pay for pensions, welfare, health and education.

The banks – too big to succeed in a separated Scotland, and too big to fail

- In a separated Scotland a population of 5.3 million generating only £129bn of GDP could not support the current liabilities of the Scottish banks, which equate to 12 times GDP, compared with Irish liabilities of less than 8 times GDP and UK liabilities of 5.5 times GDP.
- Should Scotland separate and lose the protection of the Bank of England, Scottish banks would be faced with the stark choice of either relocating the vast majority of their assets and their legal jurisdiction and headquarters to London or shrinking their balance sheets precipitously.
- It is no exaggeration to say that if Scotland had been independent, the financial crisis of 2008 would have been a national calamity no less severe than that which followed the Darien venture.
- On the basis of its banks' market capitalisation, a separated Scotland in 2008 would have been in the basket-case basket with Iceland, Cyprus, Greece and Ireland. Those who seek separation simply have not thought through, still less addressed, the consequences of their proposed actions.

Trade – a heavy dependence on the United Kingdom

- The trading relationship between Scotland and the rest of the UK is asymmetric. Scottish exports to the rest of the UK account for 39.1% of Scottish GDP. Exports from the rest of the UK to Scotland account for just 4% of the rest of the UK's GDP. Scotland is highly dependent on the rest of the UK as a home for its goods.
- While Scotland would have the protection of the World Trade Organisation, by separation it would make itself needlessly vulnerable to changes in the terms of the rest of the UK's trade with it. Scotland would not be in any useful sense independent: merely expensively and pointlessly separated.
- Exports to the rest of the UK account for a staggering 70% of all Scottish exports. It would be unwise to jeopardise Scotland's largest export market, which is so critical to employment and the wealth of the nation.

The public sector and financial services: Scotland's big two economic drivers

- Just over half the Scottish economy is accounted for by two sectors, Government and financial services.
- Financial services might be expected to emigrate from Scotland in the aftermath of separation.

Scotland's declining population share

- While Scotland's population over the next 20 years will grow, that rate of growth will continue to lag the rest of the UK as it has in the recent past.
- Scotland's ratio of workers to dependents continues to decline at a faster rate than elsewhere in the UK.

European and global implications of separation

- The Scottish Government's assumption that Scotland would automatically be admitted to the EU on leaving the UK is not shared either by the European commission or by many member states.
- The Scottish Government's retort that it would retaliate against the EU if membership were not granted does not seem a credible response. Scotland would be in a very weak position to dictate terms, given its lack of economic muscle and its tiny population of 5.3 m, little more than 1% of the EU's population of 503 m.
- Scotland would be unlikely to secure an opt-out from adopting the euro, as part of the price of joining the EU.
- The process of agreeing terms for Scottish EU membership could well take years.
- The EU, while important, is in structural decline. Real power remains with the US and, increasingly, the East.
- The impact of a refusal on the part of the EU to permit Scotland, as a member state, to continue to enjoy the UK's VAT opt-outs would fall disproportionately on low-income households, of which Scotland has many.

Scotland in the wider world

- The UK is a permanent member of the UN Security Council and an influential voice in almost every significant international organisation. Scotland would not be anything like so influential.
- According to the IMF, the Scottish economy would rank 47th in the world, sandwiched somewhere between Kazakhstan and Algeria.
- In an uncertain world, the splitting of the hitherto politically stable UK would be seen as a profound event. It would raise questions about the UK's safe-haven status.

Energy and climate change – a costly policy

- The dash for renewables is increasing Scotland's energy costs. Government subsidies to the renewables sector are already amongst the highest in the world and are not sustainable, leaving Scotland highly vulnerable in terms of economic efficiency and beholden to the rest of the UK for export pricing.
- Economic studies have shown that the cost of measures to forestall global warming today is typically greater, and can be 10-100 times greater, than the cost of permitting global warming to occur.

Defence and diplomacy – iron fist, velvet glove

- The UK and France are, in effect, the only two significant defence forces in Europe.
- The proposed "Scottish Defence Force", whose suggested initial budget has already been cut twice, is not a credible answer to the many threats that Scotland would face.
- In reality, a Scottish force would be little more than a token peacekeeping force doing the bidding of the EU or the UN. That is not sovereignty, and it is not independence.

Scotland's currency – Hobson's choice

Chapter summary

- If Scotland leaves the UK, choice of currency is perhaps the most critical economic decision her government and people will face.
- The Scottish administration says it would like to keep the pound. All the major UK political parties say that if Scotland leaves the UK they would reject currency union. Why would the UK accept Scottish influence at the Bank of England when Scotland had chosen to leave?
- The Scottish Government would have four options; Scotland could continue to use Sterling informally; adopt the Euro; create a Scottish Pound pegged to Sterling; or issue its own floating, independent currency. All these alternatives are sub-optimal.
- **Informal Sterling** would have zero friction costs, no currency fluctuations with Scotland's largest trading partner and little disruption. Yet it would bring increased economic and financial volatility and greater risk of shock. The Scottish economy is 9% of the UK economy. Scotland would have no monetary say at the Bank of England and none of its lender-of-last-resort protection. The Scottish economy is highly cyclical, for it depends on oil and financial services. Informal Sterling is a short-term fix with long-term dangers.
- **The euro** was once the Scottish administration's choice. Yet the problems of divergent economic performance and unemployment rates across the highly divergent, sub-optimal currency area are a clear warning that membership is costly and difficult. Scottish membership of the eurozone would be akin to borrowing Sterling without the economic, trading, legal and cultural links.
- Scotland would have almost no say in setting monetary policy. It would be delusional to believe Scotland, with 1% of the EU's population, could exert any meaningful influence. If a separated Scotland joined the EU, as the administration wishes, it might be compelled to adopt the euro as a condition precedent to accession.
- **The Scottish pound** might be distinct from sterling but pegged to it. Fixed exchange-rate mechanisms do not have a happy history. Fixing the Scottish pound to Sterling would compel Scotland, as a junior partner, to mirror UK fiscal policy willy-nilly. Fixing gives the illusion of sovereignty but the reality of following UK monetary policy without having any say.
- **A floating Scottish pound** would be the most attractive alternative to Sterling. It would hamper trade with the UK by adding frictional costs and exchange-rate risks but would give monetary and fiscal sovereignty. However, Scotland would need to be fiscally responsible or risk currency weakness, inflationary pressure and high borrowing costs. A floating Scottish pound must win credibility by fiscal responsibility, monetary discipline, economic dynamism and political stability. Scotland might fail to meet these criteria, since – oil or no oil – it would start with a heavy national debt and a wide fiscal gap represented by severe annual deficits.
- **Scotland should keep Sterling.** Those in favour of separation have not paid sufficient attention to the currency implications of leaving the UK.
- Maintaining a position as a full and equal partner in Sterling is overwhelmingly in Scotland's interests, giving Scotland a say in monetary and regulatory decision making, allowing Scottish exports to the UK to move unhindered by frictional costs or currency fluctuations, sheltering Scotland's large banking sector and steadying what may otherwise prove to be a highly volatile and depressionary economic future.

Currency is a separated Scotland's key decision

Scotland and the rest of the UK, through 300 years of Union, proximity, common language, population exchange and similar culture, are very closely intertwined. Trade is a key factor in this network. Indeed, more than 70% of all Scottish exports go to the rest of the UK, dwarfing exports to Europe, the US and the rest of the world. The choice of currency is therefore critical, and perhaps the most critical decision, should Scotland separate from the UK.

The Scottish Government has oscillated on this issue, initially arguing that Scotland should join the Euro to benefit from 'the arc of prosperity stretching from Ireland and other European countries.'

However, given the severe financial problems that impacted Ireland, Spain, Portugal and others inside the Eurozone and Iceland outside, the Scottish Government's position morphed into declaring that a separated Scotland would keep the pound.

Understandably, all the major UK political parties have been clear that if Scotland leaves the UK they would reject currency union. Why would the rest of the UK accept Scottish influence at the Bank of England, when Scotland had chosen to leave? Scotland cannot reasonably expect to have its cake and eat it.

Given this rejection of formal currency union, the Scottish Government would be faced with four basic options. Scotland could continue to use Sterling informally. Secondly, it could adopt the Euro. Thirdly, it could either create a Scottish Pound or peg it to Sterling. Finally, it could adopt a policy of a free-floating, independent currency.

Informal Sterling

Under the current arrangements, the Bank of England is legally obliged to consider the optimal monetary response for the UK as a whole, including Scotland. Further, the entire banking system is protected by the Bank of England's regulatory system and its ability to act as lender of last resort. This ability to intervene is not theoretical. The Bank played a major role in stabilising the UK banking system, and RBS and HBOS in particular, in their hour of need.

However, on separation this would no longer be the case. Monetary and regulatory policy would be set for the remainder of the UK. Scottish interests would no longer be the concern of the central bank. Scotland would effectively have ceded monetary authority to the Bank of England. It would not enjoy banking protection from the Bank of England as lender of last resort if Scotland chose to use Sterling informally. While it might be convenient, from a trading perspective, to use sterling informally, in reality such a policy would be fraught with danger in the long term.

In periods of economic calm such an arrangement would appear seamless. However, small shocks to the centre would be much more severe for those using the currency informally, without the support of the primary central bank. This would particularly be the case for Scotland, since the Scottish economy is potentially much more volatile than the rest of the UK as its dependence on oil (a highly cyclical sector) and financial services (banking assets, i.e. loans, are around 12x GDP currently and more than Iceland and Ireland in 2008) creates a potential instability.

Scotland's population and GDP are just one-twelfth of the UK as a whole. Scotland, given its current assets and liabilities, cannot adopt Sterling informally without a substantial risk of asymmetric shocks. If Scotland chose the informal Sterling option there would be a number of advantages, namely zero friction costs no currency fluctuations with Scotland's largest trading partner and little apparent disruption. These advantages, however, are minimal when compared with the implied increased economic and financial volatility and risk of shock. History is littered with the failure of informal currency unions. They are fine until they are not fine. Adopting such a policy is far from risk free. It is a short-term fix with long-term dangers.

The euro

The Scottish Government have cooled on their enthusiasm for joining the euro. The clear problems that membership has brought, in terms of divergent economic performance and unemployment rates across the sub-optimal currency area that is the eurozone, is a clear warning that membership is fraught with difficulty. Further, the problems that the eurozone faces are almost certainly not over, with countries increasingly forced to federalise, via such measures as banking union or financial transaction tax, in order to try to maintain the currency.

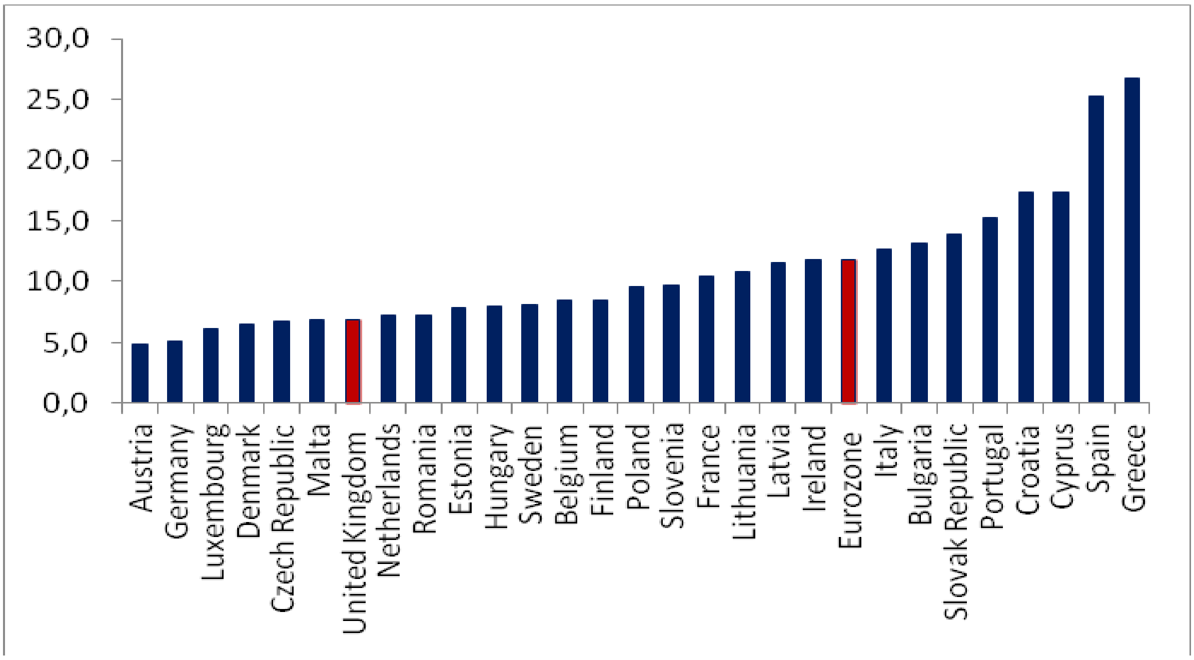
Scottish membership of the eurozone would be akin to borrowing Sterling without the economic, trading, legal and cultural links. Scotland would have virtually no say in the setting of monetary policy in what is a highly divergent union. Scotland's population of 5.3m compares with an EU population of 503m. It would be delusional to believe Scotland could exert any meaningful influence. Monetary policy would not be set for the needs of Dumbarton when Dusseldorf and Dijon needed to be considered.

Indeed, the potential shocks from informal Sterling are clear for all to see in the eurozone. A rigid monetary policy across such a linguistically, culturally and developmentally distinct area has resulted in a much more divergent and divisive performance than sterling has achieved for the UK.

The EU is a pessimal currency area. In pessimal currency areas, there is insufficient convergence between the economic performances of different regions (in Europe, between the north and the south). The eight economic-convergence criteria for adoption of the euro laid down in the Treaty of Maastricht were abandoned when the European Commission, in its pre-changeover assessment, discovered that only Luxembourg complied with them. This abandonment guaranteed that the eurozone would be a pessimal currency area. In such areas, asymmetries of performance between efficient and inefficient regions are traditionally resolved by fiscal transfers that harm both the efficient donors, by way of undue cost, and the inefficient recipients, by way of removing the incentive to catch up and become efficient. The EU, however, lacks the means, legal, or democratic, to make significant fiscal transfers to a separated Scotland, and would in any event regard the poorer member-states as its first priority.

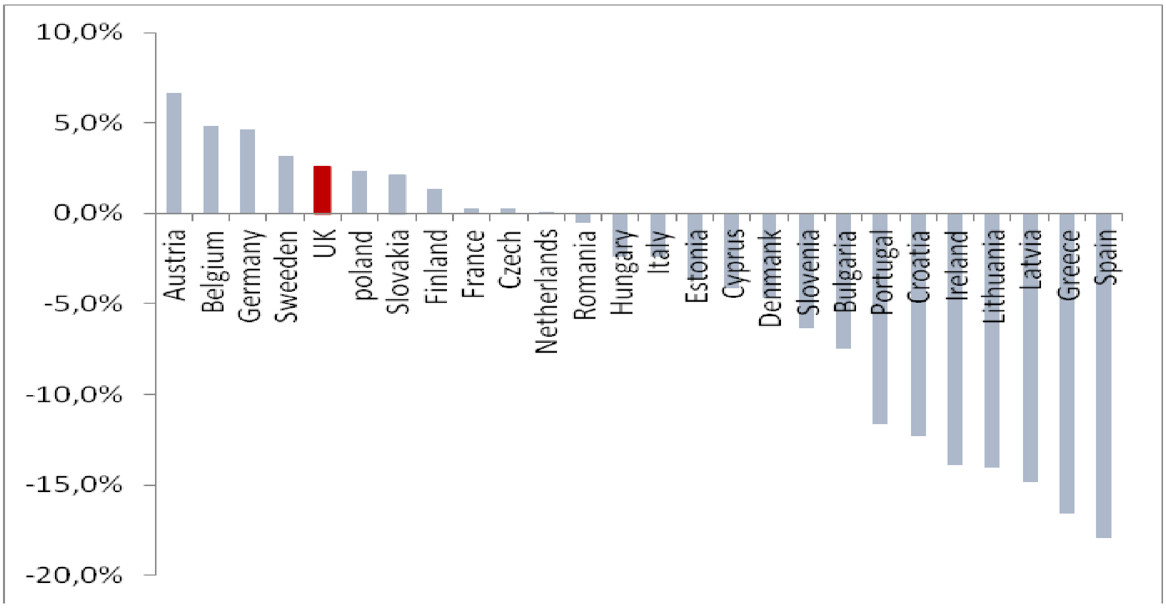
The charts below show both unemployment rates across the EU and employment growth over the last six years. While the core of the eurozone has relatively low rates of unemployment and sustainable employment growth, the same cannot be said for the periphery. If Scotland had adopted the euro when the leadership of the Scottish Government suggested that it should have done so, the consequences would have been disastrous given Scotland's dependence on its very large banking system. It is probable that Scotland, in the eurozone, would have seen – and might yet see – the degree of unemployment, house price collapse and dislocation that Ireland has suffered.

Unemployment in the EU (%), May 2014



Source Eurostat

Employment growth 2007-2013 (% change)



Source: Eurostat

Ironically, should Scotland secede from the UK it may be outwith Scotland's control whether Scotland adopts the euro. A prerequisite for new members of the EU is agreement to join the euro within an agreed timeframe. New applicants are bound by the fiscal rules set out in the Maastricht Treaty, which demand much greater public-spending constraint than the Scottish Government proposes. Ireland is a recent example of a country which has been placed under direction of the EU troika in an attempt to normalise the public purse. Adoption of the euro does not come without fiscal constraint tight enough to reduce, not increase, Scotland's fiscal independence and freedom of decision.

Herein lies the central paradox in the Scottish Government's desire to be separated from her nearest European neighbour while remaining within the European Union. Thanks to the inward subsidies from the rest of the UK that would cease upon separation, the Scottish Government enjoys a far greater measure of autonomy in fiscal decision-making than it would have as a small country in the EU.

The optimistic view of the Scottish Government that Scotland would inherit all the UK's opt-outs has not been encouraged by either the European Commission or a number of the member states. For example, euro membership is a non-negotiable condition for all EU members save the UK, Denmark and Sweden. Scotland's negotiating hand would be weak in trying to avoid this outcome.

Indeed, the obligation upon a separated Scotland to adopt the euro is a demonstration of the central but unstated truth that the one option not available in the "independence" referendum is independence. There is some debate about what fraction of the laws of the member states originates from the EU. The Hansard Society has estimated 50%, the House of Commons Library 70% and the German Government 83%. If the German government is right, just two laws in 20 are first tabled in Holyrood, 1 in 20 in London, and 17 in 20 in the EU. What is clear is that, whichever statistic is taken as the benchmark, Scotland's ability to initiate law would not be significantly changed after separation. Scotland would not be an independent country: for an independent country has the freedom to make its own laws.

What is more, with Scottish trade so dependent on the relationship with the UK, to adopt the euro, when it is probable that the rest of the UK would not, could only act as an impediment to trade, given exchange rate uncertainty and increased frictional costs.

It would make little sense for Scotland to adopt the euro. Scotland would have virtually no say on ECB monetary policy. Scotland's trade with the rest of the UK is four and a half times greater than with the EU. Finally the record of the Euro to date is hardly inspiring.

A fixed Scottish pound

Scotland could set up its own currency, the Scottish pound. There would clearly be logistical issues and costs in doing this. The cost of transferring from national currencies to the euro was estimated at around £800m (or around £150 per head). A move to the Scottish pound could be conservatively assumed to cost a similar amount. There would be substantial ongoing costs as well, from accounting treatment, cross-border administration and exchange costs. These logistical concerns are clearly surmountable, although such a change would probably take a minimum of three or four years to implement. Given that, whatever the constitutional arrangements, Scotland and the rest of the UK are very closely linked and that Scottish trade is overwhelmingly with the rest of the UK, fixing the value of the Scottish pound to Sterling at least removes the exchange-rate risk.

However, fixed exchange-rate mechanisms do not have a happy history, as is clear from British experience within the ERM, or Argentina's fix with the US dollar. The fix can be effective, in the long term, if there is a very high degree of economic convergence in the first place. Further, fixing of the Scottish pound to Sterling would compel Scotland, as the junior partner, to mirror fiscal policy in the larger entity. Fixing gives the illusion of sovereignty but the reality of copying the neighbour's policy without having any say it. Here, too, separation would not deliver independence. Far from it.

Nor is the absence of monetary independence the only problem with a Scottish pound fixed to Sterling. If the fix fails, as fixes regularly do given the discipline required to maintain a fix, the consequences can be severe in terms of trade dislocation, asset valuations and internal wealth. At the extreme, Argentina has struggled to recover from the collapse of the peso's convertibility with the US dollar some 15 years ago. A fixed Scottish pound sounds superficially attractive. In reality, it is not.

A floating Scottish pound

A separated Scotland would be a fairly small nation of 5.3m people, ranked 47th in the world in terms of GDP. Many countries of that scale (and smaller) adopt their own currencies. There is no doubt that Scotland could do so. The best option would be to retain Sterling; but, if Scotland were to abandon Sterling, a floating Scottish pound would be the next most attractive option.

A floating currency would hamper trade with the UK by adding additional frictional costs as well as exchange-rate risk. Yet at least it would give monetary and fiscal sovereignty to Scotland. However, a knife can be a dangerous weapon. If Scotland chose to adopt its own currency, it would need to act with greater fiscal responsibility than now or risk acute currency weakness and inflationary pressures.

The new floating Scottish pound would need to gain credibility with global markets. Credibility effectively means a fiscal and monetary responsibility, a degree of economic dynamism, and political and economic stability. It is far from certain that Scotland would meet these criteria quickly, especially as its starting fiscal position would be relatively weak, oil or no oil.

It is questionable whether the EU would be keen to promote the Scottish pound in a world where new applicants are expected to join the euro. If full partnership with sterling is not an option, in an ideal world the floating Scottish pound has some attractions, but these are offset by currency fluctuation with Scotland's largest and closest trading partner. Smaller concerns include the currency risk many Scottish pensioners would face if they held Sterling-based UK-wide pension schemes.

Scotland should keep Sterling

Those in favour of separation have not paid sufficient attention to the implications of leaving the UK in terms of currency. Maintaining a position as a full and equal partner with Sterling is overwhelmingly in Scotland's interests. This allows Scotland to be included in monetary and regulatory decision making. It allows Scottish exports to the UK to move unhindered by frictional costs or currency fluctuations. Also, as witnessed in the wake of the recent global credit shocks, it provides shelter for Scotland's large banking sector. And it provides a calming influence on what may otherwise prove to be a highly volatile and depressionary path.

Advocates of separation have failed to address how maintaining partnership with Sterling can be achieved. After divorce the wife's inheritance is normally lost.

None of the other options is palatable, least of all joining the eurozone, which, given the balance of trade and the negligible degree of influence Scotland would be able to exert over the ECB, makes little sense. Sadly, joining the euro could be forced on Scotland as part of the price of EU membership.

National debt and borrowing costs

Chapter summary

- The UK national debt stood at just over £1.4 trillion, or 90% of GDP, in May 2014, overshooting by half the 60%-of-GDP upper limit permitted by the Maastricht Treaty. Most commentators accept that Scotland would assume its population share of the national debt, which amounts to £116bn (and rising) even before banking interventions.
- The accumulation of new debt would also bring major strains. Using data from the Scottish Government, in 2012, if Scotland had secured a population share of North Sea oil, its annual deficit would have been more than four times the 3%-of-GDP Maastricht limit, at 13% of GDP. Only Greece and Slovenia were more indebted.
- If Scotland secured a geographic share of oil revenues, the position would be a little better, at 8% of GDP. Yet this too would be one of the weakest fiscal positions in Europe. This is not a good starting-point, especially as Scottish revenues are far more cyclical than UK revenues (given dependence on cyclical oil). Scotland's revenues are more subject to cyclical influences beyond her control than almost any other country in Europe.
- At a conservative estimate, Scotland would pay an initial risk premium for its borrowing amounting to 50-100 basis points (0.5-1%) over UK gilts. If Scotland did not adopt a disciplined approach, this risk premium might widen materially.
- If a separated Scotland adhered to the Maastricht debt limit of 60% of GDP, as it would be obliged to do as part of the price of EU readmission, the average household would be £3400-5500 a year worse off by leaving the UK, with a further £500-1000 a year in interest per £100,000 borrowed on mortgage.
- Scotland would also need to prove itself to capital markets by a period of fiscal discipline, even austerity. Failure to exercise fiscal restraint risks an increasing monetary penalty with higher sovereign yields and borrowing costs. Over many decades the UK Government has built credibility with global lenders. It has never defaulted. This credibility has resulted in low gilt yields that allow the Government to finance its debt with relative ease. Scotland has no track record.

UK debt is among the world's largest. Scotland's would be larger.

The UK national debt, at May 2014, stood at just over £1.4tn (90.3% GDP) before banking interventions, or £2.25tn (145% GDP) after banking interventions. The growth in this debt since 2007 is outlined in the table below.

It will be observed from the table that UK Government debt is rising very rapidly. It has increased from its pre-banking-crisis level of just above £550 billion to a current £1417 billion just six years later. It has doubled within the lifetime of the present "austerity" Parliament. Scotland's share of this rate of debt increase, which is a substantial share given the heavy indebtedness of the Scottish banks to the Exchequer, could not possibly have been supported or funded internally if Scotland had not been part of the United Kingdom. The Scottish economy altogether lacks the track record, the depth of capital pool or the scale of economic activity to fund debt expansion on this scale.

UK net debt before and after banking obligations (£bn)

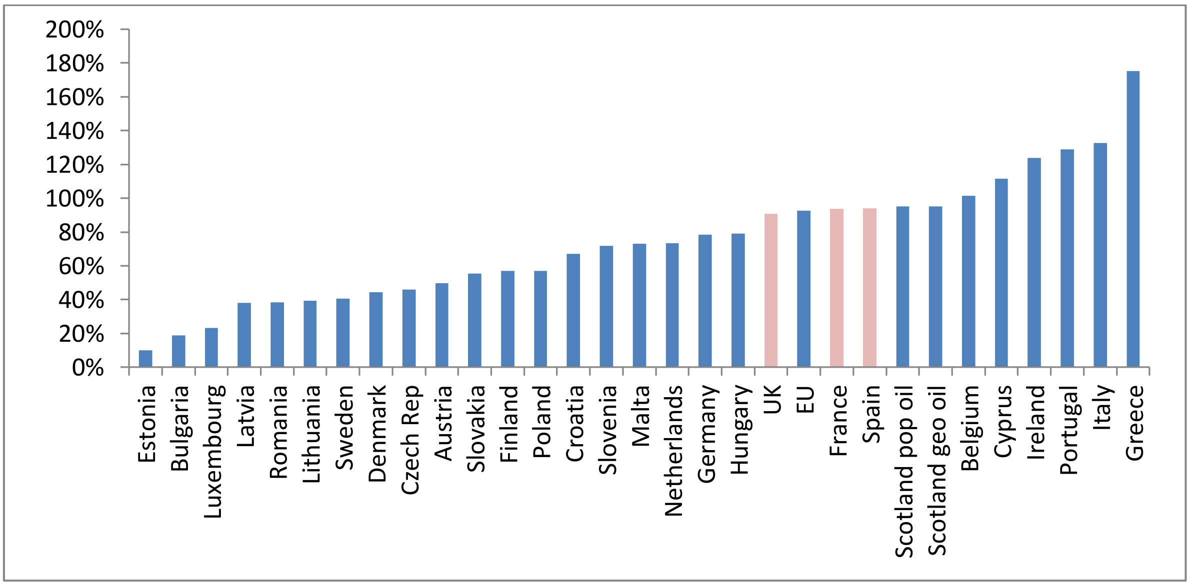
Year	Excluding bank obligations	Including bank obligations
2007 / 08	557.4	651.7
2008 / 09	723.9	2110.9
2009 / 10	954.7	2243.5
2010 / 11	1,100.2	2260.9
2011 / 12	1,190.7	2184.8
2012 / 13	1,298.6	2211.4
2013 / 14	1,401.9	2236.7
May 2014	1,417.6	2252.4

Source: Office for National Statistics

While the exact terms would be open to negotiation, most commentators accept that Scotland would assume its population share of the national debt. This is the most likely scenario. The UK Government would act as guarantor for existing liabilities, with the Scottish Government taking on responsibility, including servicing costs and repayments, for its share of the national debt.

A separated Scotland would take on a national-debt obligation of around £116bn or £186 bn after bank interventions. With Scottish GDP now standing at £129bn a year, Scotland would inherit a debt-to-GDP ratio of 90%, rising to 144% including banking obligations. In a European context, this is a fairly uncomfortable place to start, as can be seen from the chart below. Furthermore, even a 90%-of-GDP Scots national debt breaches the 60%-of-GDP national debt ceiling imposed on new member states by the Maastricht Treaty.

EU nations' government debt (% GDP), May 2014



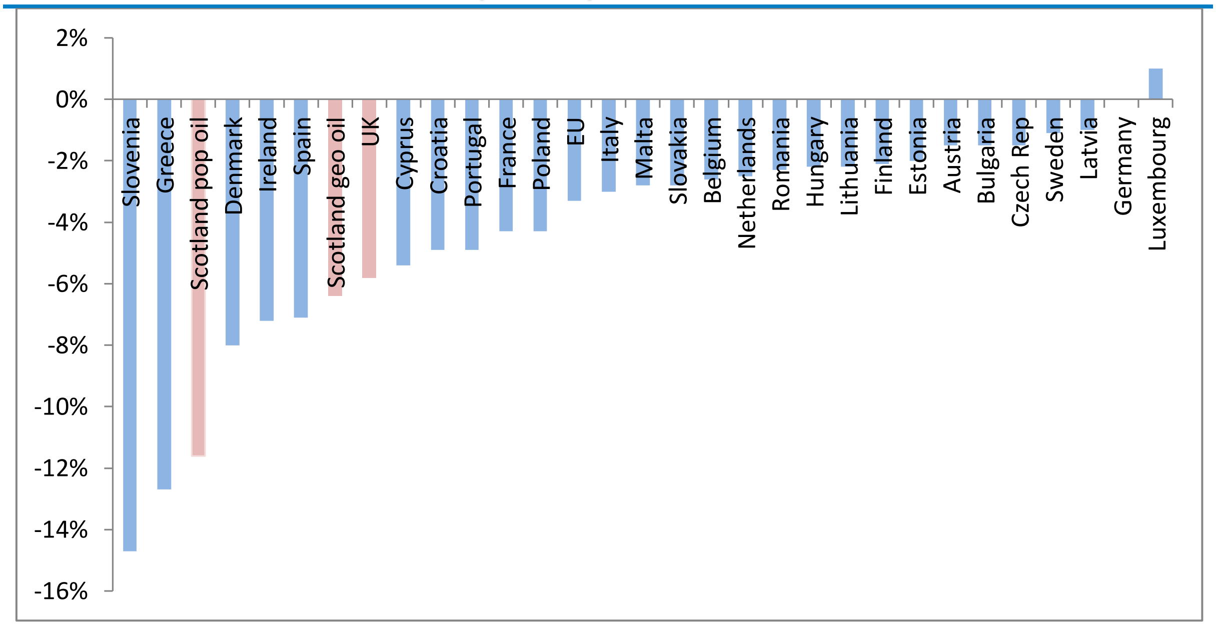
Source: Eurostat

However, given current obligations, principally health, pensions, welfare and education (welfare alone costs £2 billion a month), it is improbable that a new Scottish Government would seek to cut public spending. Indeed, there is every probability that public spending would rise given the start-up costs for new departments and the promises made to various interest groups during the referendum debate). A separated Scotland's fiscal position would be alarmingly weak.

However the current fiscal gap is only part of the equation. The other element is the annual accumulation of Government debt. Using data from the Scottish Government, in 2012, if Scotland had secured a population share of North Sea oil, its annual deficit would have been 13.3% of GDP. Only Greece and Slovenia were in a weaker position.

If Scotland had secured a geographic share of oil revenues, the position would be a little better, at 8.3% of GDP. However this too would be one of the weakest fiscal positions in Europe. This is not a good starting-point, especially as Scottish revenues are far more cyclical than UK revenues (given dependence on cyclical oil). Indeed, Scotland's revenues are more subject to exogenous cyclical influences than almost any other country in Europe.

EU nations' annual fiscal deficit (% GDP)



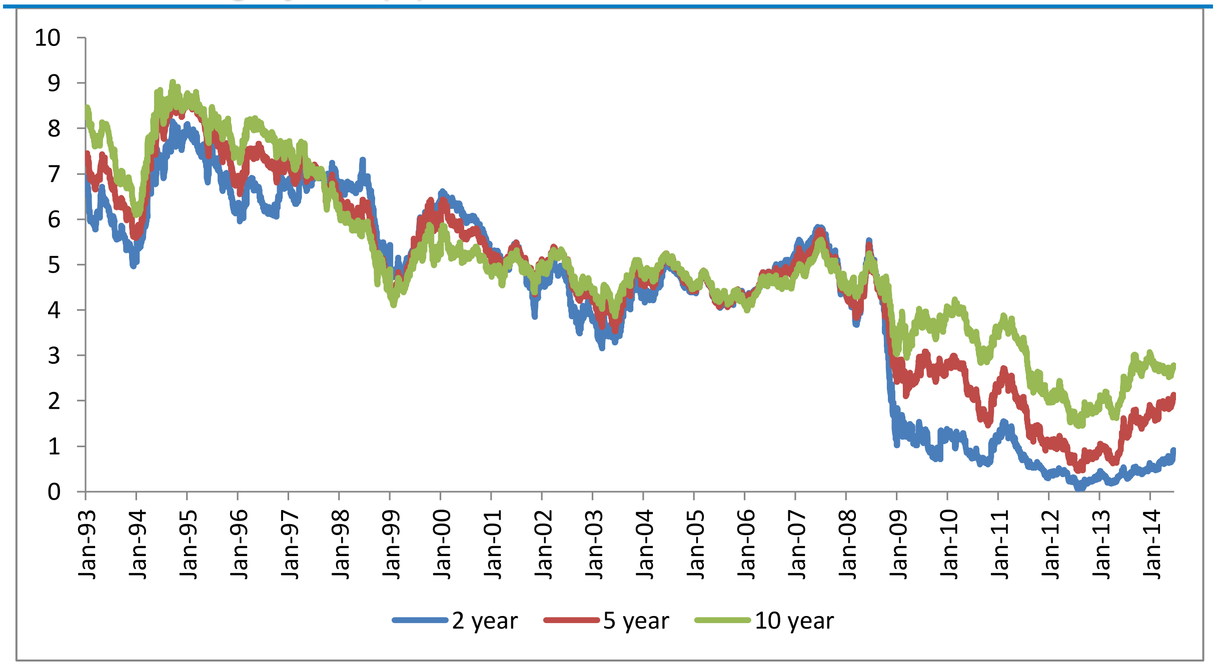
Source: Eurostat and Walbrook Economics

It has been argued that Scotland could repudiate its share of the national debt, or threaten repudiation as some sort of negotiating ploy over the Trident nuclear deterrent. Our analysis above, of national debt, is based on a population share. This is clearly open to negotiation. However, if Scotland refused to take its share of the debt it would need to consider the impact on oil negotiations; the impact on capital markets and the Scottish government's ability to borrow, which would be severely limited; the continuing relationship with the rest of the UK, where 70% of Scotland's trade goes; and the signal it would give to the rest of the world in terms of upholding obligations and treaties. Repudiation would be a very serious matter, with severe consequences, which would simply not be in Scotland's long term interests. It is not the choice of a country that aspires to be a respected member of the global community.

Scotland would also need to prove itself to capital markets. This process would require a period of fiscal discipline, even austerity. Failure to exercise fiscal restraint risks an increasing monetary penalty with higher sovereign yields and borrowing costs.

Over many decades the UK Government has built credibility with global lenders. It has never defaulted. This credibility has resulted in low gilt yields that allow the Government to finance its debt with relative ease. Sovereign yields also feed through directly to the corporate and household sectors, helping to keep their borrowing costs down. This is demonstrated by the chart below, which outlines current UK sovereign yields over a number of periods. Effectively, HMG's cost of borrowing is 0.9% for 2-year money, 2.1% for 5-year capital and 2.8% for 10-year gilts. These rates are very low by historic comparison. They are lower than what Scotland would be likely to achieve as a separate entity.

UK benchmark gilt yields (%)



Source: Office for National Statistics

The recent financial crisis has again demonstrated the importance of low and affordable borrowing costs, as Spain, Greece, Ireland and others have found to their cost. Fiscal discipline is critical. Scotland's starting place is not strong. Scotland is far too dependent on oil's cyclicality, which is not within the control of Governments. At a conservative estimate, Scotland would pay an initial risk premium of somewhere between 50 and 100 basis points (0.5-1%) over UK gilts. If Scotland did not adopt a disciplined approach, this risk premium might widen materially.

That might not sound much. However, for a mortgage holder currently paying interest at 3%, a move to 3.5 or 4% is a significant percentage increase. In this example, a household with a £100,000 mortgage, with current servicing costs of £3000 per annum, could see this rise to £3500 or £4000 per annum. Bond market credibility matters.

Public spending and taxation

Chapter summary

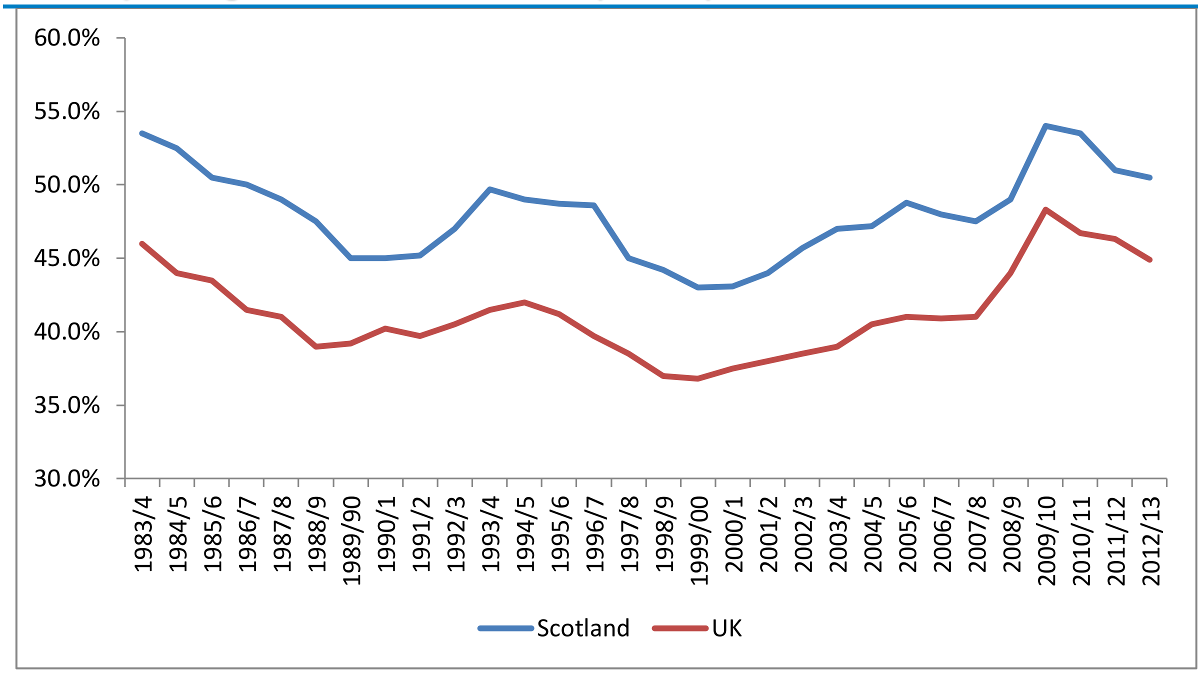
- Public spending in Scotland is substantial compared with other regions in the UK and compared with the size of the domestic economy. It has been consistently greater than in the UK as a whole. In 2012/13 public spending accounted for just over half of Scottish GDP compared with 44.6% for the UK.
- According to Scottish government data, average spending per head was £12,250 in 2012/13 compared with £11,000 for the UK as a whole. This equates to £1250 a head more spent in Scotland than in the rest of the UK, or £2800 per household.
- In 2013, total spending in Scotland was just over £65bn. Almost two-thirds of that spending went to just three departments: health, education and social protection, all of which are rapidly becoming costlier.
- As a member of the United Kingdom, Scotland has been able to increase spending unhindered, in stark contrast to the public spending trends in many similar-sized independent EU nations, like Ireland, Iceland, Portugal and Spain, where public spending has been sharply cut.
- Because public spending in Scotland is disproportionately high, Scotland's wealth-generating private sector is only middle of the pack in UK terms. It is Scotland's small, private sector, dominated by oil and financial services, that would be called upon to finance state spending.
- In 2012/13, Scotland raised £48bn in tax receipts, including £550m as its per-capita share of oil revenues, and spent £65bn, running a fiscal deficit of £17bn, or £3250 for every man, woman and child, or more than £7000 per household. Even if Scotland had a geographic share of oil revenues, the deficit would have still been £12bn, or £2300 for each inhabitant, or £5000 per household. Scotland's per-capita deficit is one of the most serious in the EU. It is not sustainable.
- Even if Scotland were to get its geographical share of North Sea oil revenues, to run a budget in line with the Maastricht annual-deficit limit of 3% of GDP would require tax rises or spending cuts of £10bn, or £4200 per household. With only a per-capita oil split, the tax rises or spending cuts would be more like £17bn – £2500 per head, or £5400 per household, and more than Scotland's 2012/13 health budget.
- Scotland's GDP is amongst the most volatile in the EU, because it depends on oil prices. It is not credible to start life with fiscal deficits of this scale when the revenue-stream is so uncertain. Those who propose leaving the Union have not thought through the risks involved or the necessary tax increases and spending cuts. It is impossible for a separated Scotland to grow its way out of deficits this big.

Too little revenue, too much spending

Public spending in Scotland is substantial compared with other regions in the UK and also substantial compared with the size of the domestic economy. The chart below shows that public spending in Scotland, relative to the size of the economy, has been consistently and significantly greater than in the UK as a whole.

It is this high public spending that creates one of the major problems for a separated Scotland. A private sector that constitutes less than half the economy must pay not only for itself but also for a public sector that is more than half the economy. That is a dangerous position for a new nation to find itself in, particularly when there is a large accumulated share of national debt and a large projected annual deficit.

Public spending in the UK and Scotland (% GDP)



Source: Scottish Government; Office for National Statistics

Indeed, in fiscal year 2012/13 public spending accounted for just over half the entire Scottish GDP compared with 44.6% for the UK as a whole. The latest data are demonstrated by the table below.

Scottish government spending (% GDP)

	2008-2009	2009-2010	2010-2011	2011-2012	2012--2013
Excluding North Sea GDP	50.1%	53.4%	52.3%	51.5%	51.6%
Including per capita share of North Sea GDP	49.1%	52.6%	51.3%	50.6%	50.8%
Including geographical share of North Sea GDP	41.7%	46.2%	44.2%	44.1%	45.1%
UK Government spend: 100% of North Sea GDP	44.1%	47.0%	46.2%	44.8%	44.6%

Source: Scottish Government

In absolute terms, too, public spending is considerably higher than the UK average. According to Scottish government data, average spending per head was £12,265 in 2012/13 compared with £10,998 for the UK as a whole. This equates to £1267 a head more spent in Scotland than in the rest of the UK.

Total managed expenditure per head, 2008/09 to 2012/13 (£)

	2008-09	2009-10	2010-11	2011-12	2012-13
Scotland	11,408	11,852	12,158	12,227	12,265
UK	10,263	10,796	11,046	10,951	10,998
Scottish excess	*1,145*	*1,056*	*1,112*	*1,276*	*1,267*
Scottish expenditure relative to UK (UK = 100)	*111.2*	*109.8*	*110.1*	*111.6*	*111.5*

Source: Scottish Government

In 2013, total spending in Scotland was just over £65bn, with 63% of that spending accounted for by just three departments: health, education and social protection. Spending increased by £336m over the year and was £5.7bn higher than 5 years before (equivalent to an increase of £1087 for each man, woman and child). The three charts below highlight increases in total public spending in Scotland from 2008/9, the year-on-year change and total spending by department.

Scottish total managed expenditure, 2008/09 to 2012/13 (£bn)

	2008-09	2009-10	2010-11	2011-12	2012-13
Health	10,255	10,679	10,938	11,046	11,284
Education and training	7,528	7,729	7,651	7,490	7,651
Social protection	18,543	20,076	20,692	21,159	22,458
Total spending	**59,440**	**62,087**	**64,095**	**64,869**	**65,205**

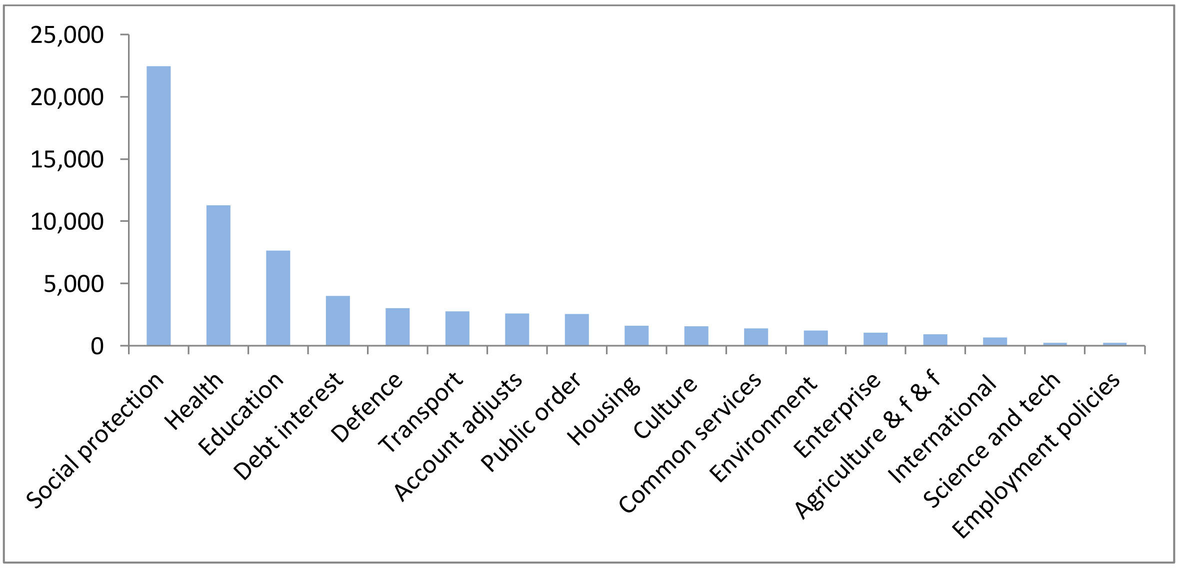
Source: Scottish Government

Scottish total managed expenditure (% change year on year)

Year	2009	2010	2011	2012
Health	4.1%	2.4%	1.0%	2.2%
Education and training	2.7%	-1.0%	-2.1%	2.1%
Social protection	8.3%	3.1%	2.3%	6.1%
Total spending	4.5%	3.2%	1.2%	0.5%

Source: Scottish Government

Scottish total managed expenditure 2012-13 (£bn)



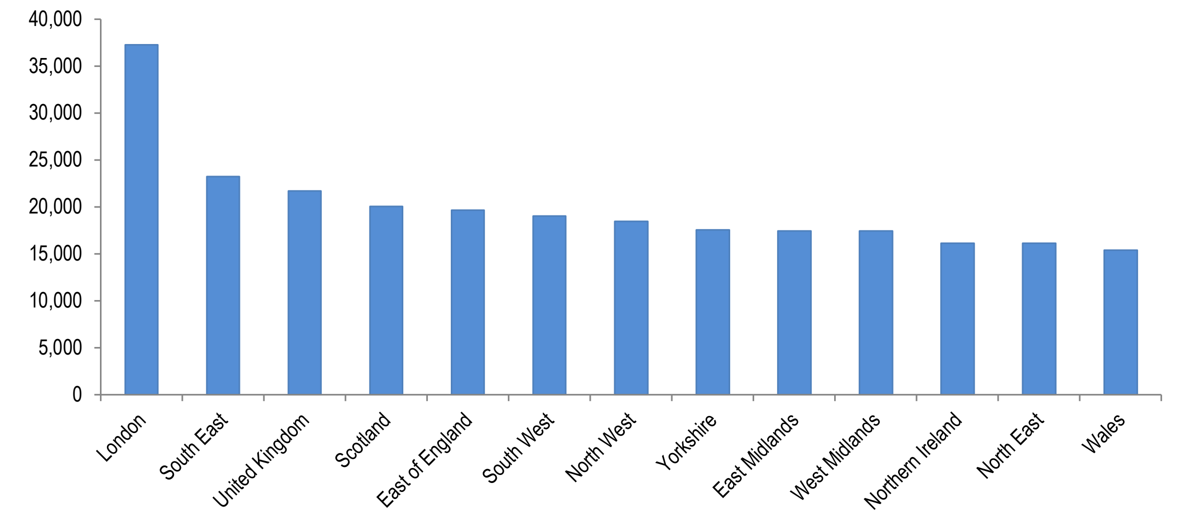
Source: Scottish Government GERS

Despite the global recession, which has seen significant spending cuts in a number of other European countries, public spending in Scotland has risen each and every year. Although the popular perception may be one of public-sector austerity, overall spending growth has continued unabated. As a member of the United Kingdom, Scotland has been able to increase spending unhindered during a very difficult global macroeconomic environment. This is in stark contrast to the public spending trends in many similar-sized independent EU nations, like Ireland, Iceland, Portugal and Spain, where public spending has been materially reduced.

GVA – a reasonable backdrop

Using ONS data, the GVA (Gross Value Added – a measure of economic activity) for the UK in 2012 was £21,674. On this measure, Scotland was the richest region outside London and the South East, with a GVA of £20,013, or 93% of the UK average. The chart below examines the GVA by region in 2012.

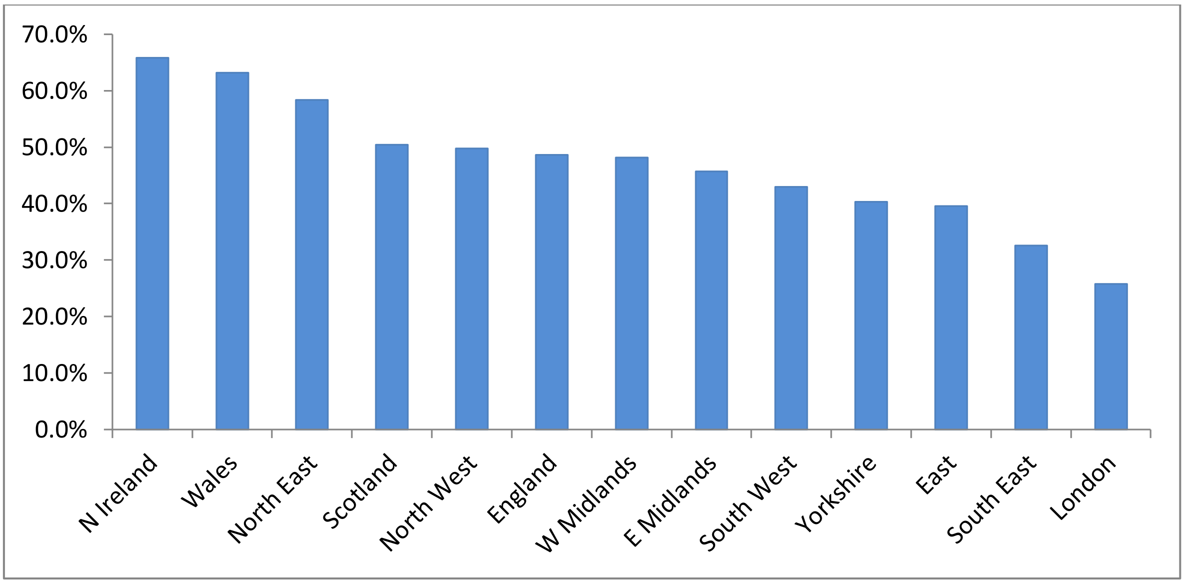
Regional GVA per head, 2012 (£ per capita)



Source: Office for National Statistics

However, Scotland also has one of the highest levels of public spending, relative to regional GVA, of any UK region (the absolute numbers are even higher). This high public spending flatters the overall productive position of the Scottish economy. The chart below highlights regional public spending as a percentage of GVA in the UK.

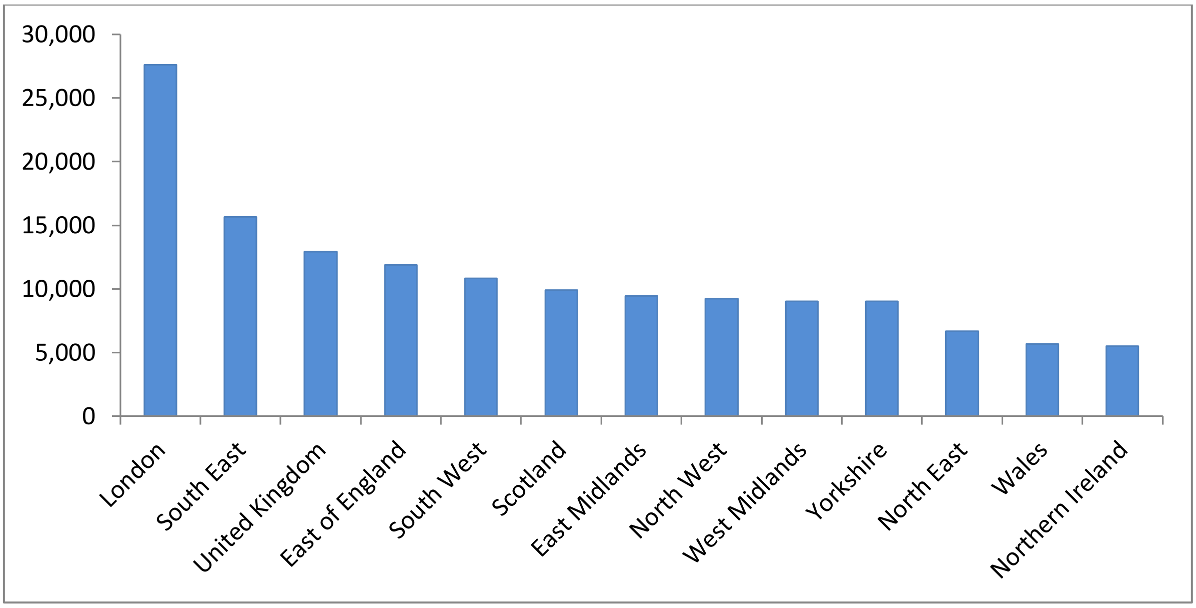
Regional public expenditure, 2012 (% regional GVA)



Source: Office for National Statistics

The chart below examines the scale of the private sector by region, by subtracting public spending from GVA. On this measure, Scotland's wealth-generating sector is in the middle of the pack when compared with other UK regions. Thus, commentators who argue that a Scotland separated from the UK would be one of the wealthiest countries in the world need to be careful: in terms of the productive, wealth-generating sectors, Scotland fares less well. Ultimately it is Scotland's private sector that would be called upon to finance state spending. That private sector is neither particularly large nor broadly based. It is biased towards a small number of industries, notably oil and financial services.

Private-sector GVA per head, 2012 (£)



Source: Office for National Statistics

There is a strong inverse correlation between the size of the state and regional GVA, as demonstrated in the chart below. The smaller the public sector, all other things being equal, the more prosperous the region. While the scale of public spending is a matter for the electorate, Scotland's starting position is not particularly encouraging in terms of wealth generation. Scottish State spending accounts for more than 50% GDP.

Regional GVA (£/head) and public spending (% GVA), 2011/12

Source ONS and Walbrook Economics

Taxation

Public spending is one side of the state fiscal equation. The other is taxation and borrowing. In 2012/13, Scotland raised £48.11bn in tax receipts, including £552m as its per-capita share of oil revenues, and spent £65.2bn, running a fiscal deficit of £17.1bn, or £3226 for every man, woman and child.

Net fiscal balance with and without oil (£bn and % of £129 bn GDP)

	2008-09	2009-10	2010-11	2011-12	2012-13
£ billion					
Excluding North Sea revenue	–15.7	–20.0	–19.8	–18.6	–17.6
Including N Sea (per cap. share)	–14.6	–19.5	–19.1	–17.6	–17.1
Including N Sea (geog. share)	–4.1	–14.4	–12.3	–8.6	–12.1
UK	–99.4	–157.3	–139.2	–117.4	–114.8
% of GDP					
Exc. North Sea revenue	–13.2%	–17.2%	–16.1%	–14.7%	–14.0%
Inc. N Sea rev (per cap. share)	–12.1%	–16.5%	–15.3%	–13.7%	–13.3%
Inc. N Sea rev (geog. share)	–2.9%	–10.7%	–8.5%	–5.8%	–8.3%
UK	–6.9%	–11.0%	–9.3%	–7.6%	–7.3%

Source: Scottish Government

Even if Scotland negotiated the most optimistic scenario of a geographic share of oil revenues, the deficit would have still been £12.1bn, or £5000 for each household. As we discuss under the section on national debt, Scotland's per-capita deficit is one of the most serious in the EU, and not sustainable in anything other than the short term. The fiscal deficit on even the best case scenario, in terms of oil share, is also unsustainable on a long-term basis.

For reference, the EU's Maastricht economic-convergence criteria state that countries should not run deficits of more than 3% GDP or, in Scotland, £3.9bn a year. Applicants for membership are expected to adhere to these criteria. In a separated Scotland, tax will rise, spending will fall, or both.

To put the Scottish deficit in context, in 2012/13 the entire income tax take in Scotland was £10.86bn. Even if Scotland were to get its geographical share of North Sea oil revenues, to run a budget in line with the Maastricht annual-deficit limit of 3% of GDP would require tax rises or spending cuts of £8.2bn, or £3400 per household. If a separated Scotland got its per-capita share of oil revenues, the tax raises or spending cuts would be more like £13.3bn, or £5500 per household, and more than Scotland's entire health budget in 2012/13.

In short, each Scottish household would be £3400-5500 a year worse off as a result of separation, with a further £500-1000 a year per £100,000 borrowed on mortgage. Separation will be costly for all.

Scotland's GDP is amongst the most volatile in the EU, given the importance of oil. It is not credible to start life with fiscal deficits of this scale when the revenue-stream is so uncertain. Those who propose leaving the Union have not thought through the risks or costs. It is simply not possible for a separated Scotland with so small a balance sheet to grow its way out of deficits of this magnitude. A table of all taxes levied in Scotland and the UK in fiscal year 2012/13 is below.

Scottish and UK tax revenues, 2012/13 (£ bn)

	Scotland	UK	Scotland/UK
Income tax	10,865	147,731	7.4%
Corporation tax	2872	34384	8.4%
Capital gains tax	292	3926	7.4%
Other taxes on income	271	3122	8.7%
National insurance	8521	104,483	8.2%
VAT	9347	112,072	8.4%
Fuel duties	2258	26,571	8.5%
Stamp duties	472	9140	5.2%
Tobacco duties	1128	9590	11.8%
Alcohol duties	980	10,139	9.7%
Betting duties	120	1228	9.8%
Air passenger duty	234	2818	8.3%
Insurance premium tax	207	3033	6.8%
Landfill tax	100	1116	9.0%
Climate change levy	62	654	0.5%
Aggregates levy	45	261	17.2%
Inheritance tax	243	3150	7.7%
Vehicle excise duty	481	6003	8.0%
Non-domestic rates	1981	25,072	7.9%
Council tax	2006	26,279	7.6%
Other taxes, royalties	1082	12,895	8.4%
Interest and dividends	623	7617	8.2%
Gross operating surplus	3247	27,591	11.8%
Rent	128	1418	9.0%
Total current revenue excluding oil revenues	**47,566**	**580,293**	**8.2%**
■ **Inc. per capita share of oil revenues**	**48,118**	**586,925**	**8.2%**
■ **Inc. geog. share of oil revenues**	**53,147**	**586,925**	**9.1%**

Source: Office for National Statistics

As an independent country, Scotland would quickly need to address its fiscal deficit. How this was achieved would be a matter for the electorate. However, unpalatable choices would need to be made quickly.

If Scotland received a geographic share of oil revenues, the deficit would be uncomfortable, so long as the price of oil, outwith the Scottish Government's control, remained high. It would be necessary to pare back spending or raise taxes in the medium term.

If Scotland negotiated no more than a per-capita share of oil revenues, immediate action would be required to balance the nation's books. Annual deficits of 13% of GDP are simply not sustainable.

Oil revenues: declining, volatile, unpredictable

Chapter summary

- Division of North Sea oil assets will probably fall between the current population-based analysis used by the UK Treasury, and the Scottish administration's claim for a geographic split. The administration would be unwise to assume a best-case outcome.
- North Sea oil production has declined steeply. While most analysts assume production will shortly stabilise at 1.2-1.7m barrels a day, the days of peak production are long gone.
- It is widely accepted that the North Sea oilfields are mature and in long-term decline. Given the hostile deep-sea geology, North Sea oil is expensive to extract.
- The importance of oil revenues to the UK Exchequer is modest, at less than 2% of the total tax take. Thus the UK is well able to endure the volatility of oil prices. However, for Scotland oil would be critical. In 2012/13 oil revenues would have accounted for more than 10% of Scottish tax revenues, down from 17.5% the year before. Such swings would be very difficult for a separated Scotland to manage.
- The UK's population is approximately 11 times that of Scotland: thus the oil multiplier is of very great significance to the Scottish economy, while its loss, although significant to the rest of the UK, is not of critical importance.

Separatism is oil-fired, but Scotland's economy is not

It is beyond the scope of this paper to predict the legal settlement, in terms of oil revenues, should Scotland split from the UK. However, the Scottish Government's estimates are based on its assumption that Scotland will receive a geographic share, which is the most optimistic assumption possible.

There are several potential outcomes, depending on negotiations and on international law. However, any settlement will probably fall somewhere between the current population-based analysis, used by the UK Treasury, and the Scottish Government's claim for a geographic split.

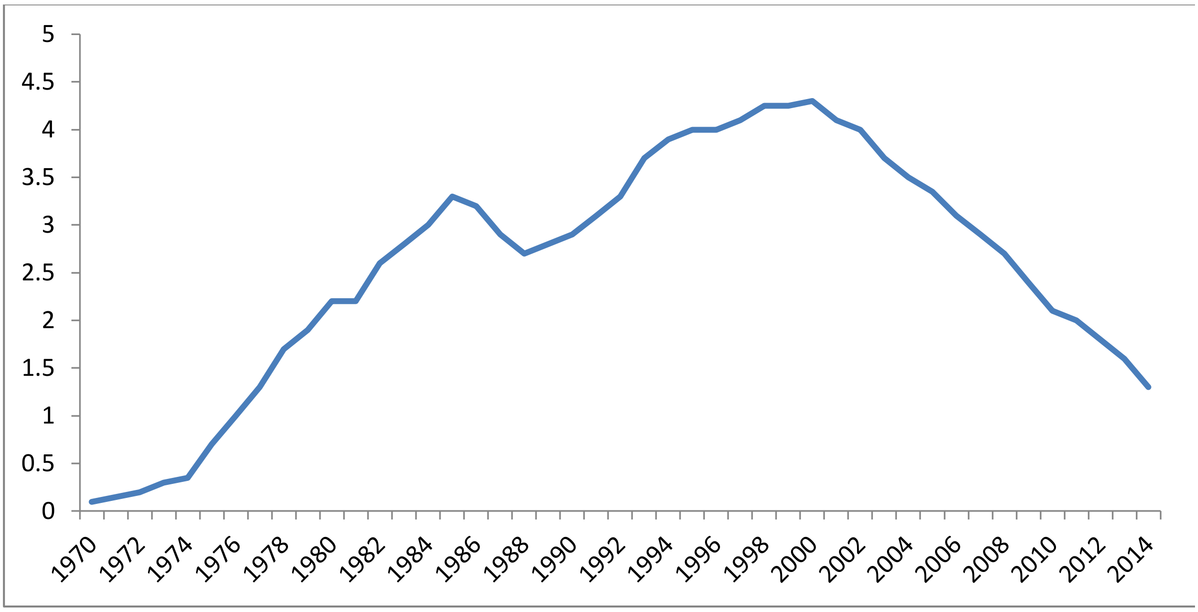
The Scottish Government would be unwise to assume the best-case outcome.

The attitude of Orkney and Shetland is also unknown. If the islanders were to decide to separate from Scotland just as Scotland might separate from England, much of the oil to the north of the Scottish land mass would fall furth of Scotland's territorial waters.

In reality, the oilfields in Scottish waters are UK assets achieved by UK investment and extracted by UK and global companies.

The impact of two scenarios will be examined: a per-capita split and a geographic split In Scotland's oil revenues.

North Sea oil and gas production (million barrels/day)

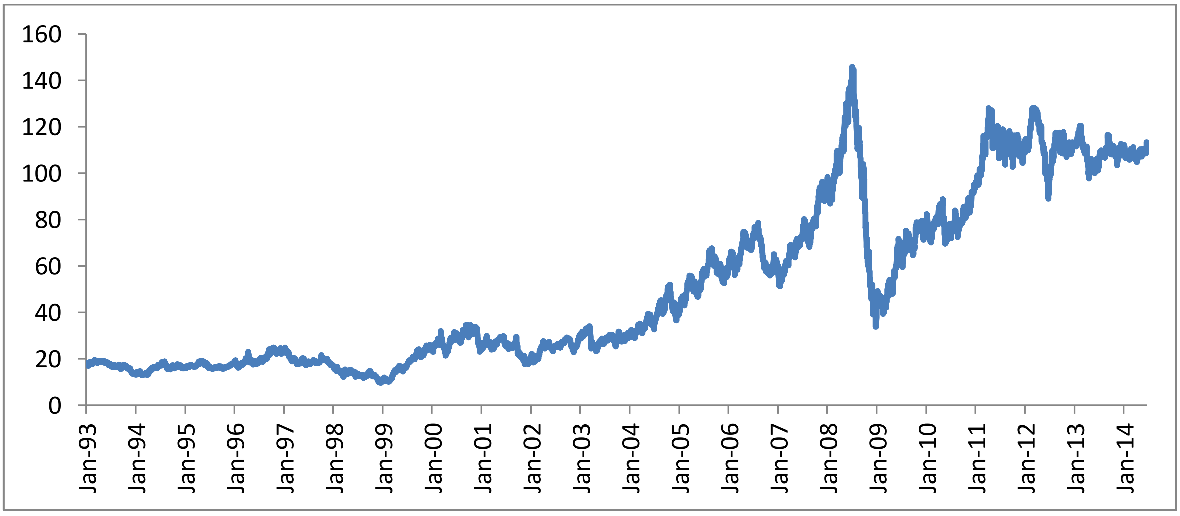


Source: Oil and Gas UK

First, as can be seen from the chart above, in recent years North Sea oil production has been in steep decline. While most analysts assume that production will shortly stabilise at 1.2-1.7m barrels a day, the days of peak production are long gone.

It is widely accepted that the North Sea oilfields are mature and in long term decline. It is estimated that 42 billion barrels of oil have been produced in the North Sea since 1964 and that 24 billion recoverable barrels remain. Given the hostile deep-sea geology, North Sea oil is expensive to extract. For example, oil from the Saudi fields typically costs $2-3 a barrel to extract. According to Oil and Gas UK, the average extraction cost in the UK fields in 2011 was £17, or $28 a barrel. North Sea oil profitability is much smaller and much more cyclical than that of Saudi Arabia's low-production-cost fields, limiting the potential to tax production.

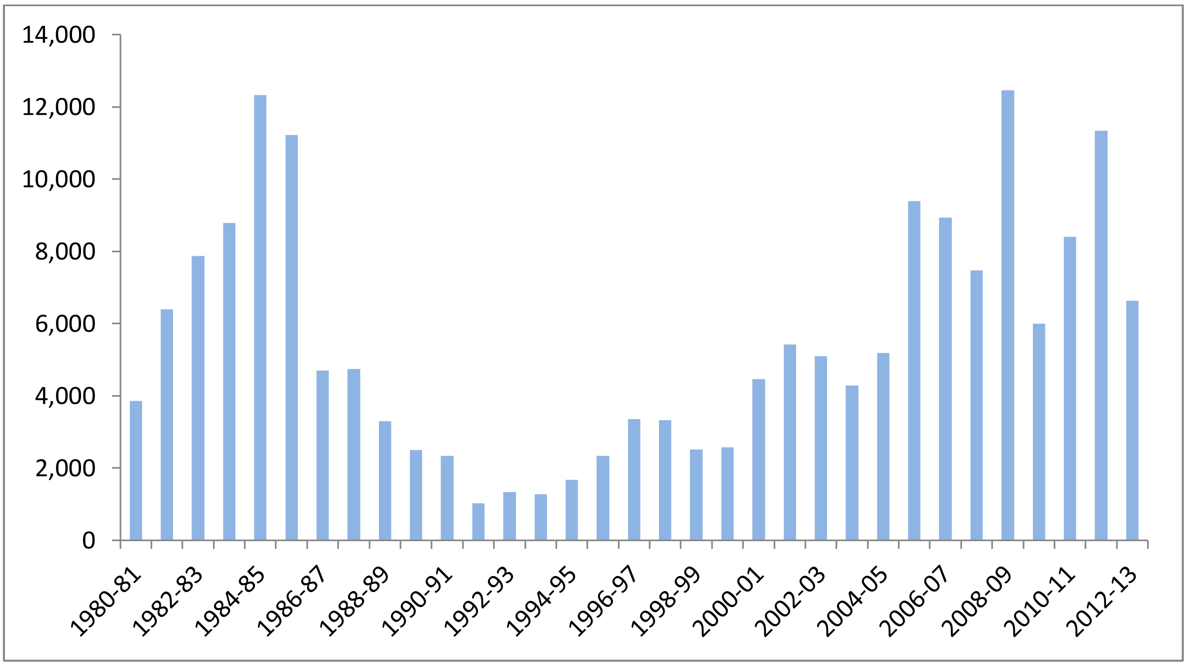
Oil price per barrel ($)



Source: Organisation of Petroleum-Exporting Countries

The chart above looks at the price of a barrel of oil since 1993. Oil remains a highly volatile commodity, with pricing based on a number of variables, including global demand, supply constraints, geopolitical concerns (Saudi, Iraqi, Iranian or Nigerian stability, to name but four) and the power of the OPEC cartel. To base economic prosperity and public spending choices on volatile future oil revenues is not a prudential or sustainable strategy.

Total North Sea oil revenues, 1980/81 to 2012/13 (£ bn)



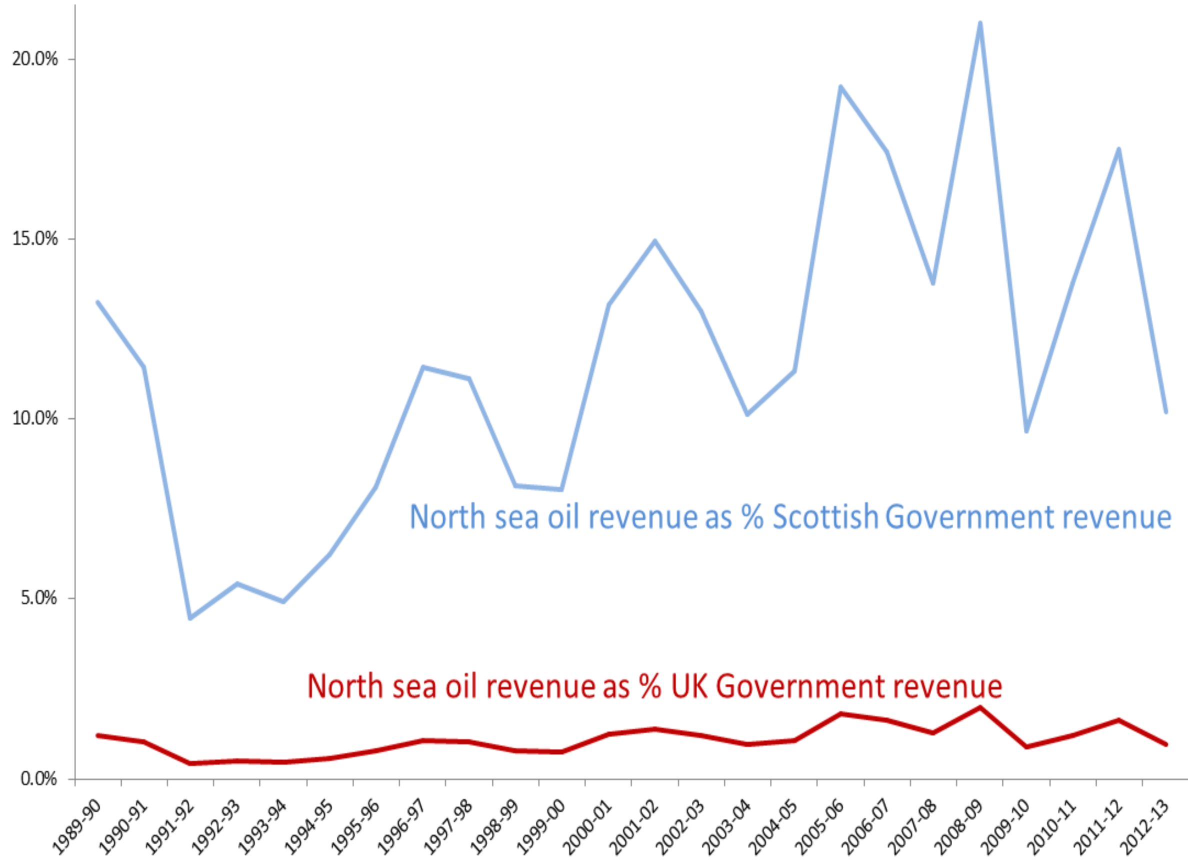
Source: Scottish Government

The chart shows that, as a result of fluctuating production and oil prices, revenue streams from oil have been highly volatile. Indeed, no other tax stream has proven as unstable or as hard to predict as oil revenues. This unpredictability is most unlikely to diminish. Already the Office for Budget Responsibility has cut its projection of expected oil tax revenues between 2019/20 and 2040/41 from £51.9 bn to £39.3 bn. Whether or not that forecast proves to be correct, Scottish oil production is in structural, long-term decline, reserves are falling, extraction costs are high and the price of the underlying commodity value highly volatile. Oil is great to have but it is no panacea, and no sound basis for long term economic prosperity, regardless of what share of its revenues Scotland negotiates. Yet oil would be critical to the Scottish exchequer.

The importance of oil revenues to the UK Exchequer is modest, at less than 2% of the total tax take. Thus HMG is well able to endure the volatility of oil prices. However, the chart below, based on the most optimistic scenario from the Scottish Government's perspective, shows just how critical oil is to the Scottish tax take. Between 5% and 21% of total tax revenues since 1990. In 2012/13 those revenues would have accounted for 10.2% of Scottish tax revenues, down from 17.5% the year before. Such swings would be very difficult for a Scottish Government to manage.

North Sea oil revenues (% total revenue)

% Scottish revenue by geographic share and % whole UK revenue



Source: Scottish Government; Walbrook Economics

The UK's population is approximately 11 times that of Scotland: thus the oil multiplier is of very great significance to the Scottish economy, while its loss, although significant to the rest of the UK, is not of critical importance to it.

If oil revenues were split on a population basis, Scotland would be running an unsustainable fiscal deficit. Scottish public spending cannot be £3000 per household higher than the UK average when Scottish gross value-added is little more than nine-tenths of the UK average.

However, should Scotland succeed in getting a geographic share of UK oil revenues, Scotland's fiscal position might be barely manageable in the short term, although it would still be one of the weakest in the EU. However, the economy would be highly cyclical and dependent on the price of oil, a variable clearly beyond the control of the Scottish Government. Price volatility and dwindling oil reserves mean the Scottish Government cannot rely on oil revenues for meeting its heavy obligations to pay for pensions, welfare, health and education.

In terms of tax revenue, the loss of Scotland would make little difference to the rest of the UK. Even assuming that all oil revenues were lost to the UK, the UK tax base would fall by only 2%. It is a separated Scotland that would be at risk, first in negotiating a satisfactory share of seabed resources, and secondly in controlling public finances so as to withstand downturns in the highly cyclical oil price.

The Scottish banks and their liabilities

Chapter summary

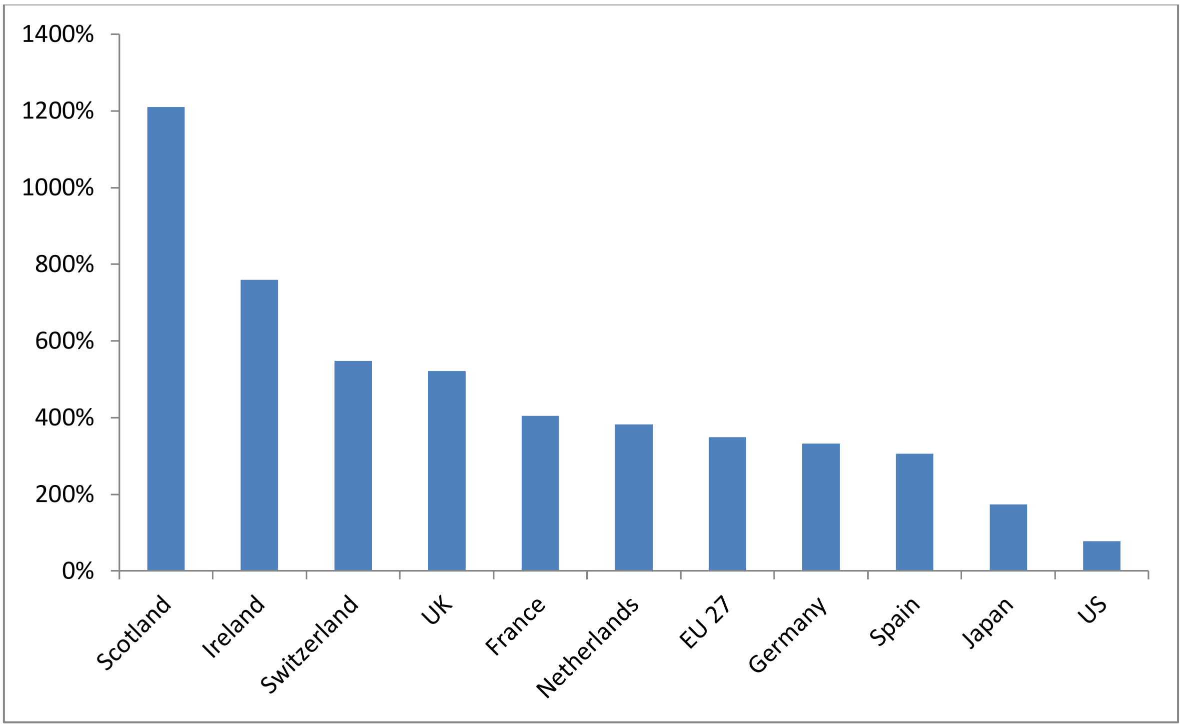
- In the aftermath of the credit crisis, Britain has coped relatively well compared with most EU members. However, six years after the crisis the UK Government still has a support liability of £835bn that the banks have not yet repaid. At least 40% of that liability is owed by RBS and the Scottish part of Lloyds (HBOS). In a separated Scotland a population of 5.3 million generating only £129bn of GDP would have to support £334bn of bank liabilities – far too much for a new Scottish administration to support.
- Scotland's banking assets (loans), at 12 times GDP, dwarf those of Iceland and Ireland. Should Scotland separate and lose the protection of the Bank of England, Scottish banks would be faced with the stark choice of either relocating the vast majority of their assets and their legal jurisdiction and headquarters to London, or shrinking their balance sheets precipitously.
- If Scotland had been independent, the financial crisis of 2008 would have been a national calamity no less severe than the Darien venture that led to the Union in the first place.
- In 2008 Iceland's banking assets were 880% of GDP, or two-thirds those of Scotland relative to GDP. Iceland's monetary system collapsed as credit dried up. Ireland's system survived, but only at the price of enforced EU restructuring, a 40%+ fall in house prices, severe wage deflation especially in the public sector, highly elevated unemployment and national finances that moved from surplus to precipitous deficit almost overnight.
- The Scottish national balance sheet is simply not significant enough, and never could be with only 5.3 million people, to support the current activities of the Scottish financial sector.

Scottish banks' liabilities are at least 40% of UK banks' liabilities

Credit has been much harder to get in the past six years. After the traumatic events of late 2008, it has dawned on consumers and governments that credit is precious and scarce. Too much of it becomes a mill stone, too little and the economy grinds to a halt. What is certain, though, is that the period of easy, apparently risk-free credit is over. In the aftermath of the credit crisis, Britain has coped relatively well compared with most other EU members. However, six years after the crisis the UK Government, according to the Office for National Statistics, still has a support liability of £835bn that the UK banking sector has not yet been able to repay. If we conservatively assume that 40% of that liability is accounted for by RBS and the Scottish part of Lloyds (HBOS), in a separated Scotland a population of 5.3 million generating only £129bn of GDP would have to support £334bn of bank liabilities – a sum far too great for a new Scottish administration to support.

The chart overleaf looks at the current size of the banking sector of selected major nations relative to GDP. It is abundantly clear that Scotland could not support a banking sector of that size as a separate country without the Bank of England or some similar body as lender of last resort. Should Scotland separate and lose the protection of the Bank of England, Scottish banks would be faced with the stark choice of either relocating the vast majority of their assets and their legal jurisdiction and headquarters to London or shrinking their balance sheets precipitously. Neither can be said to be a palatable choice from the perspective of the Scottish electorate or taxpayer, especially as finance is such an important constituent of growth and tax revenue for the Scottish economy.

Banks' assets by country, 2012 (% GDP)



Source: European Banking Federation; Walbrook Economics

It is no exaggeration to say that if Scotland had been independent, the financial crisis of 2008 would have been a national calamity no less severe than that which followed the Darien venture. Ironically, it was the failure of the Darien Scheme that led to the Union in the first place. Alone, with its banking sector dwarfing that of Ireland and Iceland at 1220% of GDP, Scotland would have been insolvent. Global markets simply would not have tolerated in Scotland the refinancing programme that the UK Government was able to secure. It is simply not feasible that the Scottish national balance sheet could prudentially support such a large exposure.

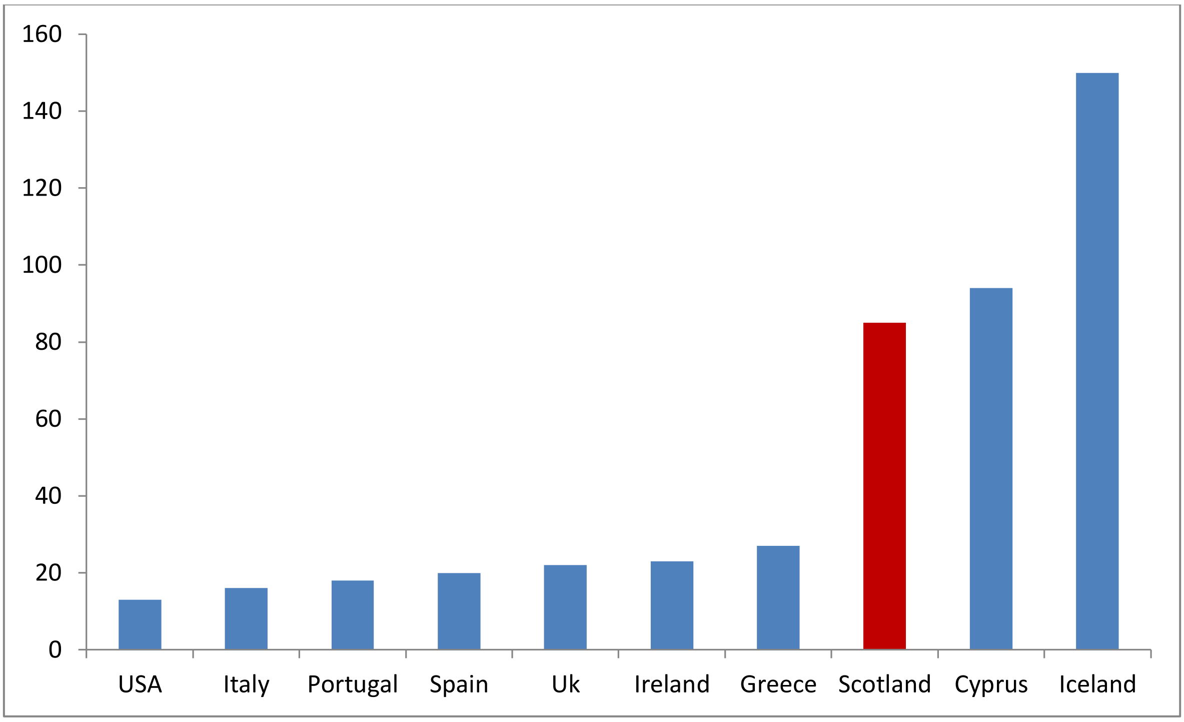
To put this difficulty in context, in 2008 Iceland's banking assets were 880% in 2008, or 50% less than those of Scotland relative to GDP. Iceland's monetary system collapsed as credit dried up.

Ireland's system survived, but only at the price of enforced EU restructuring, a 40%+ fall in house prices, severe wage deflation especially in the public sector, highly elevated unemployment and national finances that moved from surplus to precipitous deficit almost overnight.

Like it, or not, the Scottish national balance sheet is simply not significant enough, and never could be with only 5.3 million people, to support the current activities of the Scottish financial sector.

To emphasise the importance of this point further, the chart below shows the stock market's market capitalisation of banks by nation just before the crisis. On the basis of its banks' market capitalisation, a separated Scotland in 2008 would have been in the basket-case basket with Iceland, Cyprus, Greece and Ireland. Those who seek separation simply have not thought through, still less addressed, the consequences of their proposed actions.

Stock-market bank-sector market cap., 2007 (% GDP)



Source: International Monetary Fund; Paul March; Scott Evans

A recent UBS report looking at the implications of separation demonstrated the risk of capital flight, especially during the transition. The UK is one large internal market protected by the lender of last resort, the Bank of England, backed by the UK Treasury. Scotland could not offer such protection. Savers would move their assets to wherever the risk seemed lower.

Would Scottish corporations and households prefer the prudential support of the Bank of England, that was proven to offer effective and successful support at the time of need in 2008, or would they prefer the support of a new Scottish Central bank backed by the Scottish Government? The former has the balance sheet and the credibility to act, the latter would not. Many, Scottish or not, would choose the Bank of England's security blanket.

Capital flight could severely undermine Scotland's economic health and tax base. UBS call this "the Montreal effect" after the flight of capital when Quebec voted on independence from Canada. The biggest winner then was Toronto as nervous Quebec-based corporates got out of Montreal. Quebec has never fully recovered.

Trade – a heavy dependence on the UK

Chapter summary

- The trading relationship between Scotland and the rest of the UK is asymmetric. Scottish exports to the rest of the UK account for almost two-fifths of Scottish GDP.
- Exports from the rest of the UK to Scotland account for just 4% of UK GDP. Scotland is highly dependent on the UK as a home for its goods.
- Scottish exports to the rest of the UK account for a staggering 70% of all Scottish exports. It would be unwise to jeopardise Scotland's largest export market, critical to employment and wealth.
- While Scotland enjoys a balanced trading relationship with the rest of the world, as an independent country it would need to address a consistent £10-12bn deficit with the rest of the UK. At £5000 per household, this is a substantial figure.
- Scotland's trading relationship with the rest of the UK is vital. The rest of the UK is overwhelmingly the critical partner in Scottish trade.
- The current arrangements allow unfettered trade through separate but similar and well harmonised legal systems as well as close cultural and economic ties. Secession from the UK would weaken these links and jeopardise trade.

Trade with the UK matters to Scotland, but less so to the UK

The trading relationship between Scotland and the rest of the UK is asymmetric. Scottish exports to the rest of the UK account for 39.1% of Scottish GDP. Exports from the rest of the UK to Scotland account for just 4% of the rest of the UK's GDP.

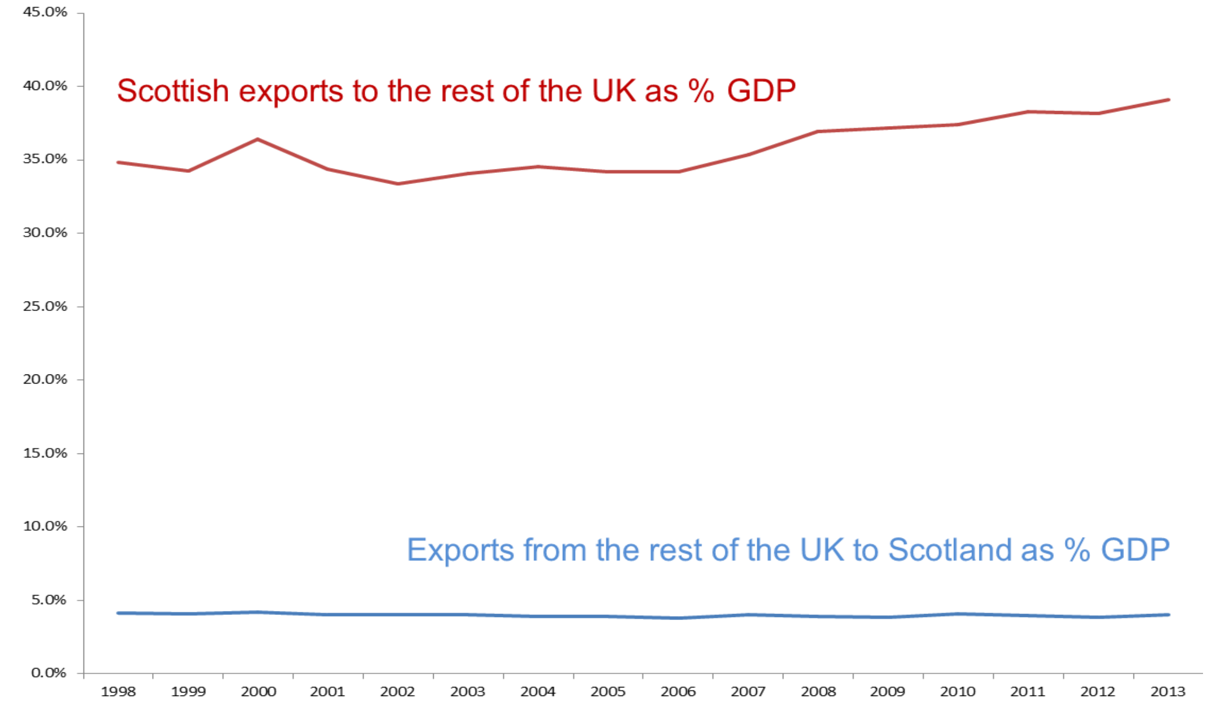
Scotland is highly dependent on the rest of the UK as a home for its goods. The rest of the UK does not depend on Scotland.

While Scotland would have the protection of the World Trade Organisation, by separation it would make itself needlessly vulnerable to changes in the terms of the rest of the UK's trade with it. Here, too, as in so many other fields, Scotland would not be in any useful sense independent: merely expensively and pointlessly separated.

Global tariffs are low and generally falling. If Scotland were admitted to the EU it would be part of the single market regulatory area. However, if Scotland were unable to adopt Sterling (see the earlier discussion), the implications for trade could be profound, for currency fluctuation would act as a significant barrier to trade.

Over time, Scotland and the rest of the UK would inevitably drift apart as the ties gradually weakened. This is a much more significant challenge for Scotland than for the rest of the UK. A separated Scotland would need to find new markets. The disruption of her existing pattern of trade would be fraught with difficulty. New markets do not appear overnight.

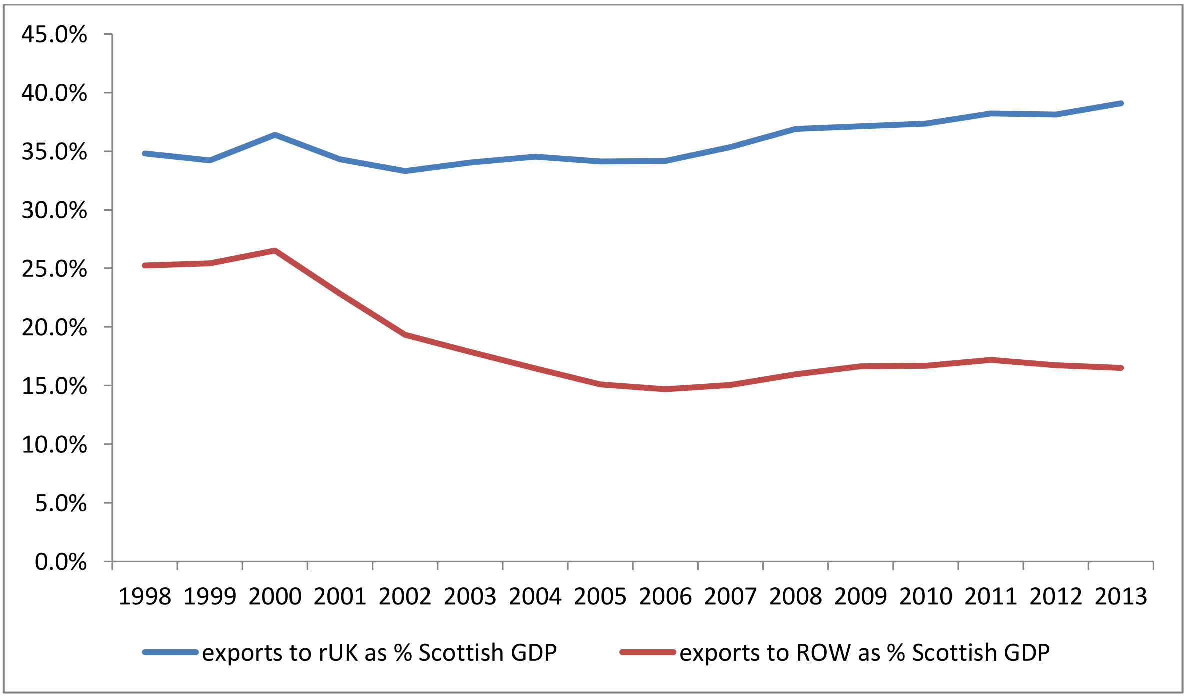
Intra-UK export balance (% GDP)



Source: Office for National Statistics; Walbrook Economics

Healthy exports would be critical to Scotland as it tries to find its way in the world. The importance of imports to the rest of the UK is currently more than twice as significant as exports to every other country in the world combined. The importance to Scotland of the rest of the UK has if anything been increasing. This is demonstrated in the chart below.

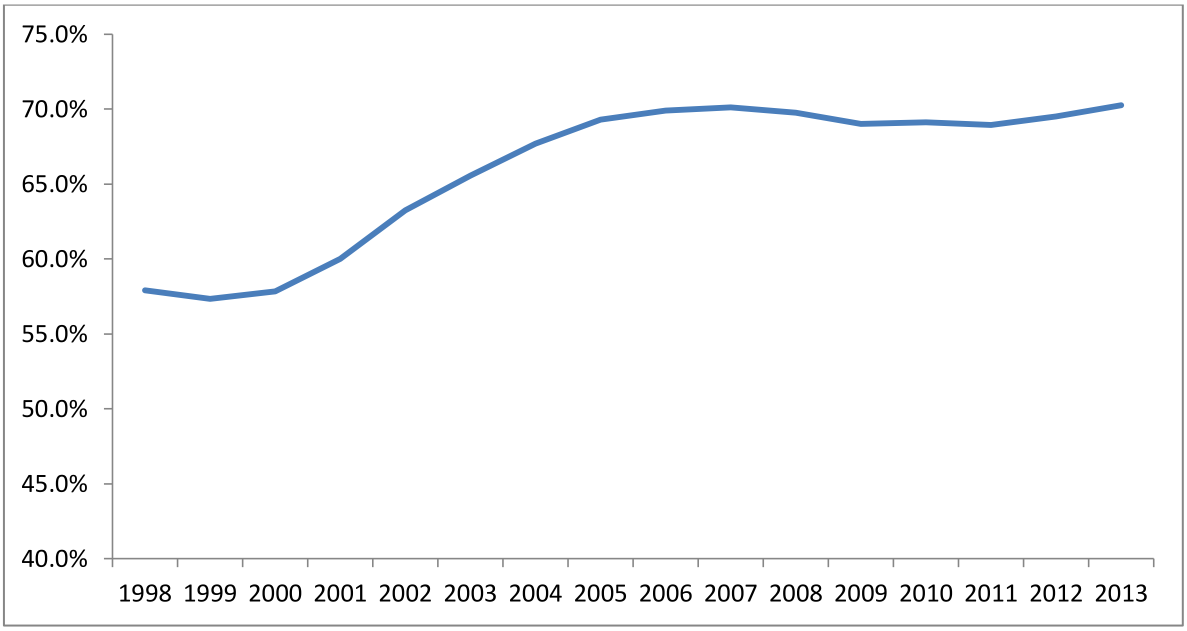
Scottish exports to UK and rest of world (% Scottish GDP)



Source: Scottish Government

Scottish exports to the rest of the UK account for a staggering 70% of all Scottish exports. It would be unwise to jeopardise Scotland's largest export market, which is so critical to employment and the wealth of the nation.

Scottish exports to rest of UK (% total Scottish exports)

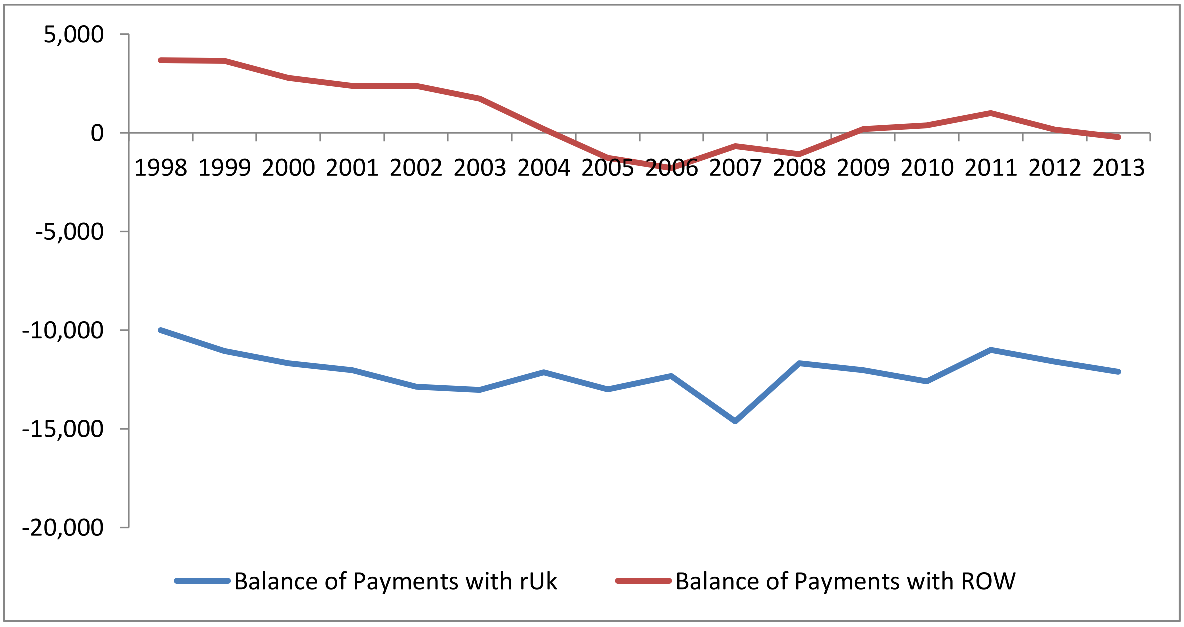


Source Scottish Government

While Scotland enjoys a balanced trading relationship with the rest of the world, as an independent country it would need to address a consistent £10-12bn deficit with the rest of the UK. At £5000 per household, this is a substantial figure.

Scottish balance of payments (£m)

with the rest of the UK and with the rest of the world



Source: Scottish Government

In conclusion, Scotland's trading relationship with the rest of the UK is vital. The rest of the UK is overwhelmingly the critical partner in Scottish trade. The current arrangements allow unfettered trade through separate but similar and well harmonised legal systems as well as close cultural and economic ties. A move to secede from the UK clearly weakens these links and jeopardises trade. Scotland is much more dependent on trade with the rest of the UK than the other way about, undermining the Scottish negotiating position both during the transition period and afterwards.

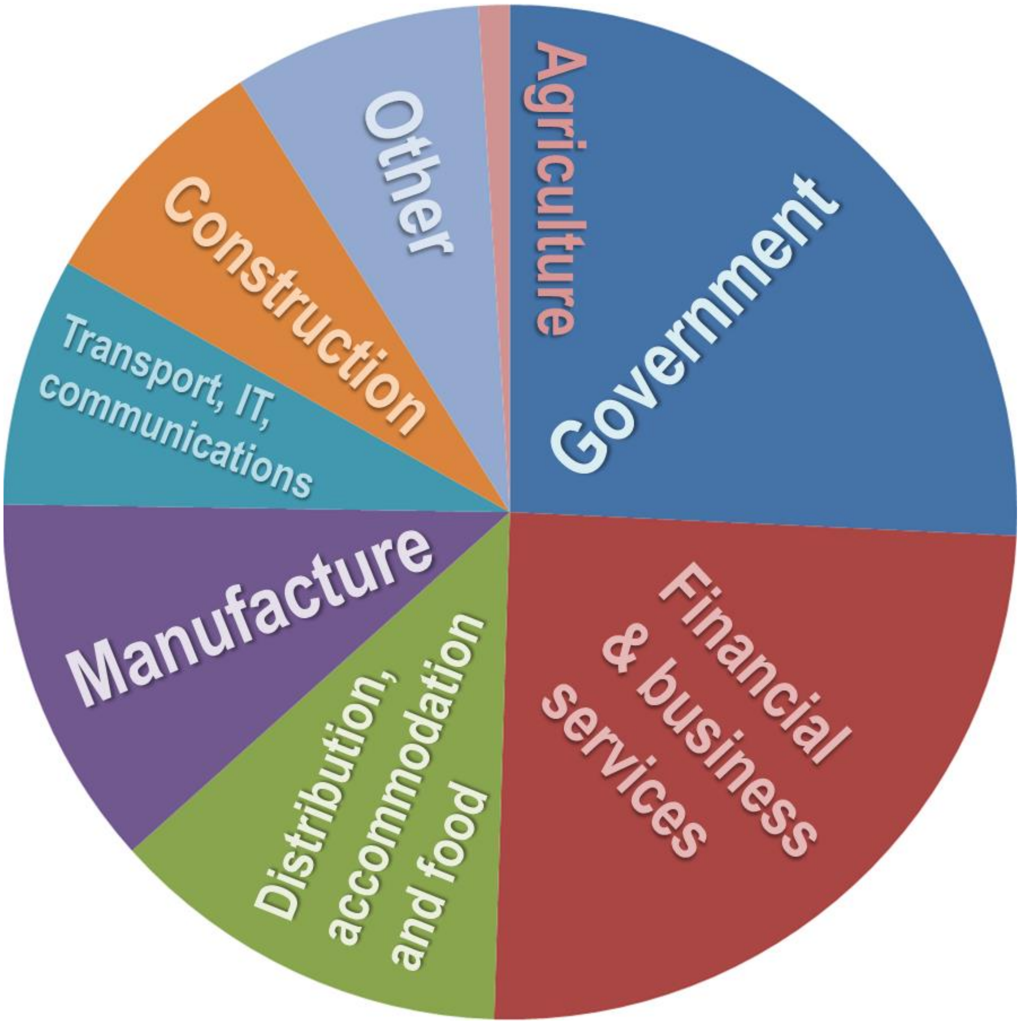
The few sectors driving the Scottish economy

The chart below highlights the importance of various industry sectors to the Scottish economy. Well over half the Scottish economy is accounted for by two sectors, Government and financial services. The former is a function of spending choices but dependent on tax receipts. The latter, as we have shown in the section on banking, is highly vulnerable should Scotland separate from the UK.

Public spending in Scotland is £65bn, or more than half the Scottish GDP of £129bn. Given the sheer scale of the Scottish fiscal deficit, it is improbable that a separated Scotland could expand state spending further, and impossible that it could do so prudently. Public-sector pump-priming is not an option. Similarly, financial services may emigrate from Scotland in the aftermath of separation.

Less than half of the economy would be left to try to provide growth. However, building new revenue-streams simply cannot be achieved overnight. While Scotland has undoubted strengths in other key sectors, notably oil services, drinks and foodstuffs, tourism and elements of engineering, the base is not particularly broad. It is narrower than the UK as a whole. Growing one's way out of a fiscal hole deepened by oil uncertainty would be a long, slow, arduous and not necessarily successful process.

The Scottish economy by sector, 2012 (%)



Source: Scottish Government

Scotland's declining population share

Chapter summary

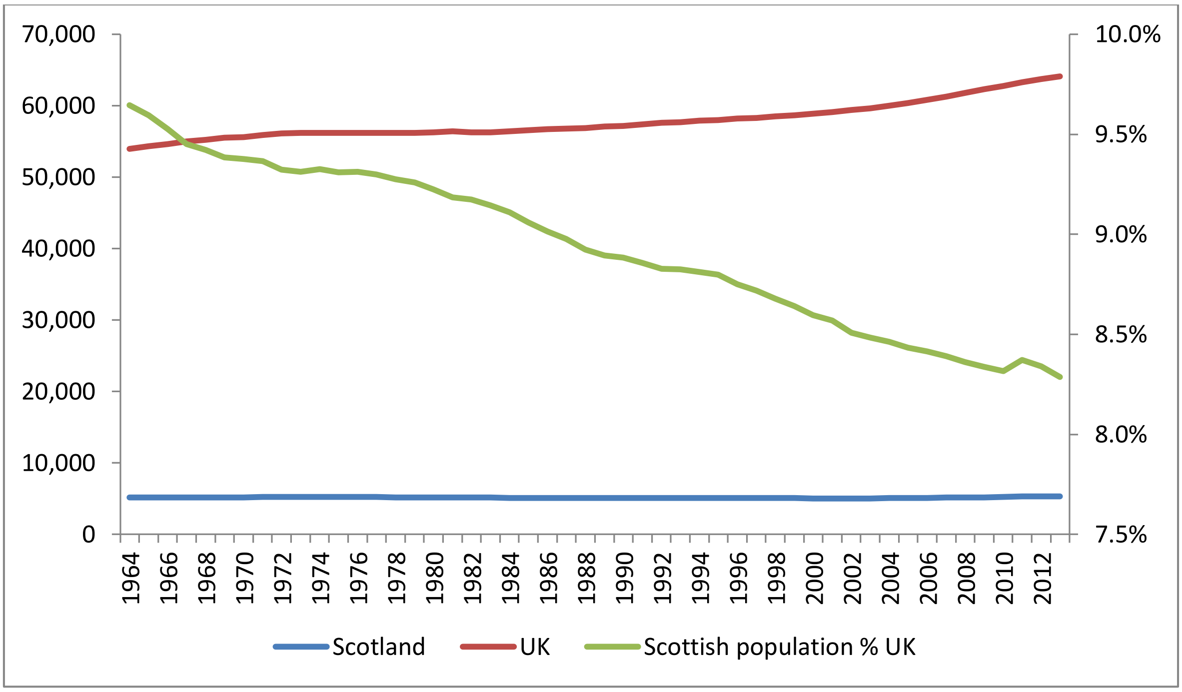
- Scotland's population is currently estimated at 5.3 million, or below 1 in 12 of the UK population of 64.1m. Between 1964 and 2002 the Scottish population was broadly stable. Since 2002 the population has begun to increase slowly, adding around 250,000 inhabitants.
- However Scotland's population has not kept pace with the rest of the UK. It has fallen over the last 50 years from 9.6% of the total to 8.3% today. This is a weak base from which to pay for Government obligations such as health, education or social protection.

Scotland's share of UK population has been declining for years

Scotland's population is currently estimated at 5,327,000, or 8.3% of the UK total of 64.1m. Between 1964 and 2002 the Scottish population was broadly stable, showing a very marginal decline. Since 2002 the population has begun to increase slowly, adding around 250,000 inhabitants. This increase has been largely achieved by immigration.

However, as the chart below shows, Scotland's population has not kept pace with the rest of the UK. It has fallen over the last 50 years from 9.6% of the total to 8.3% today. Indeed, while Scotland's demographics have begun to show some growth, this improving trend still lags the rest of the UK.

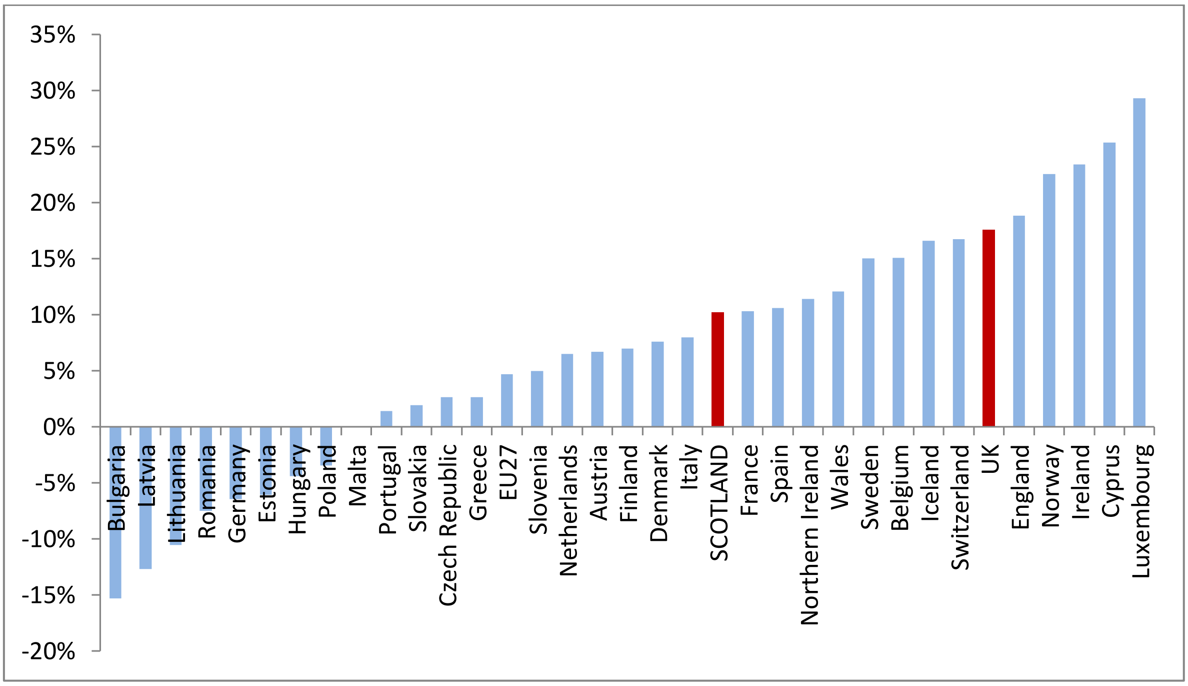
UK and Scottish populations (thousands) since 1964; and Scottish population (% UK population)



Source: Office for National Statistics

Modelling demographic trends is clearly an imperfect science, as fluctuations in migration can be difficult to predict. However, a study by Eurostat suggests that, while Scotland's population over the next 20 years will grow, that rate of growth will continue to lag the rest of the UK as it has in the recent past.

Projected demographic change, 2010-2035 (%)



Source: Eurostat; Office for National Statistics

Given the drivers discussed earlier, population growth is a key factor in determining the affordability of growth in spending in key services like social protection, pensions and education. Scotland's ratio of workers to dependents continues to decline at a faster rate than elsewhere in the UK. While Scotland remains a partner in a larger nation with a faster-growing population, is much better placed to deliver those services than on its own.

European and global implications of separation

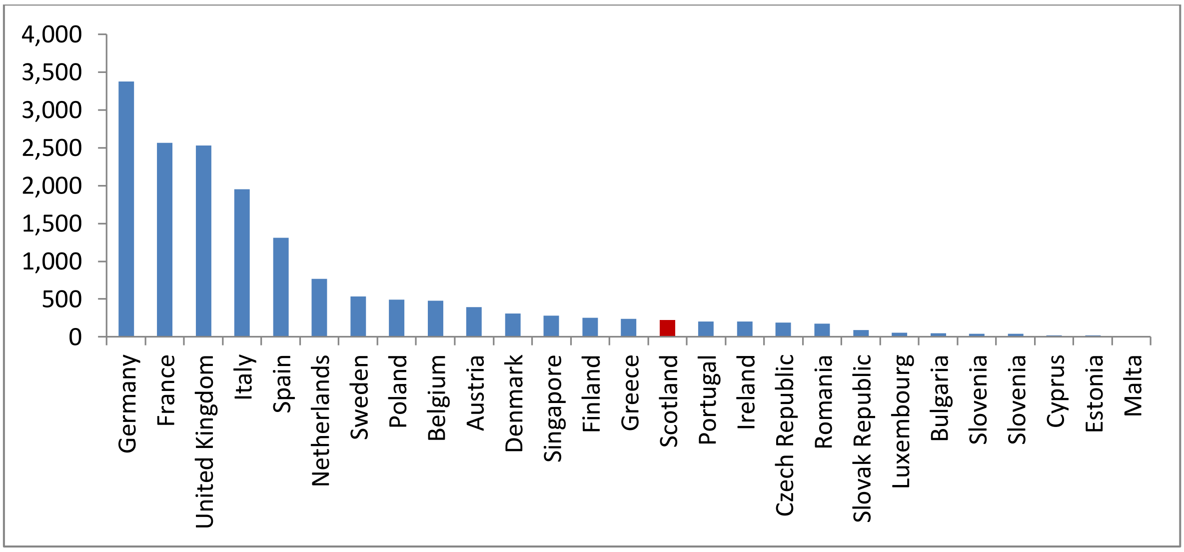
Chapter summary

- The Scottish Government's assumption that a Scotland which had seceded from the UK would automatically be welcomed as a new member of the European Union is not shared either by the European commission or by many member states. The Scottish Government's retort that it would retaliate against the EU if membership were not granted is not credible. Scotland would be in a very weak position to dictate terms, given its lack of economic muscle and its population of 5.3 m people, little more than 1% of the EU's population of 503 m.
- In time Scotland might well be granted EU membership, but at a cost. Scotland would be unlikely to secure an opt-out from adopting the euro. The same goes for other vital interests: regulation, EU immigration and border control, fisheries, VAT exemptions, employment law and the environment.
- The process of agreeing terms for Scottish EU membership could well take years. Scotland's negotiating position would not be strong.
- The UK is not the only EU nation to have a separatist movement. Spain, Belgium, Italy and parts of France also have them. Similarly, the Eastern European post-war settlement could come under scrutiny. Scottish separation could create an unfortunate precedent for a number of European capitals.

A separated Scotland would be a globally uninfluential Scotland

The Scottish Government's assumption that Scotland would automatically be welcomed as a new member of the European Union on seceding from the UK is not a position shared either by the European commission or by many member states. The Scottish Government's retort that it would retaliate against the EU if membership were not granted does not seem a credible response. Scotland would be in a very weak position to dictate terms, given its lack of economic muscle and its tiny population of 5.3 m people, little more than 1% of the EU's population of 503 m. Scotland's position in terms of relative GDP is outlined below.

GDP of the EU member states ($ bn)

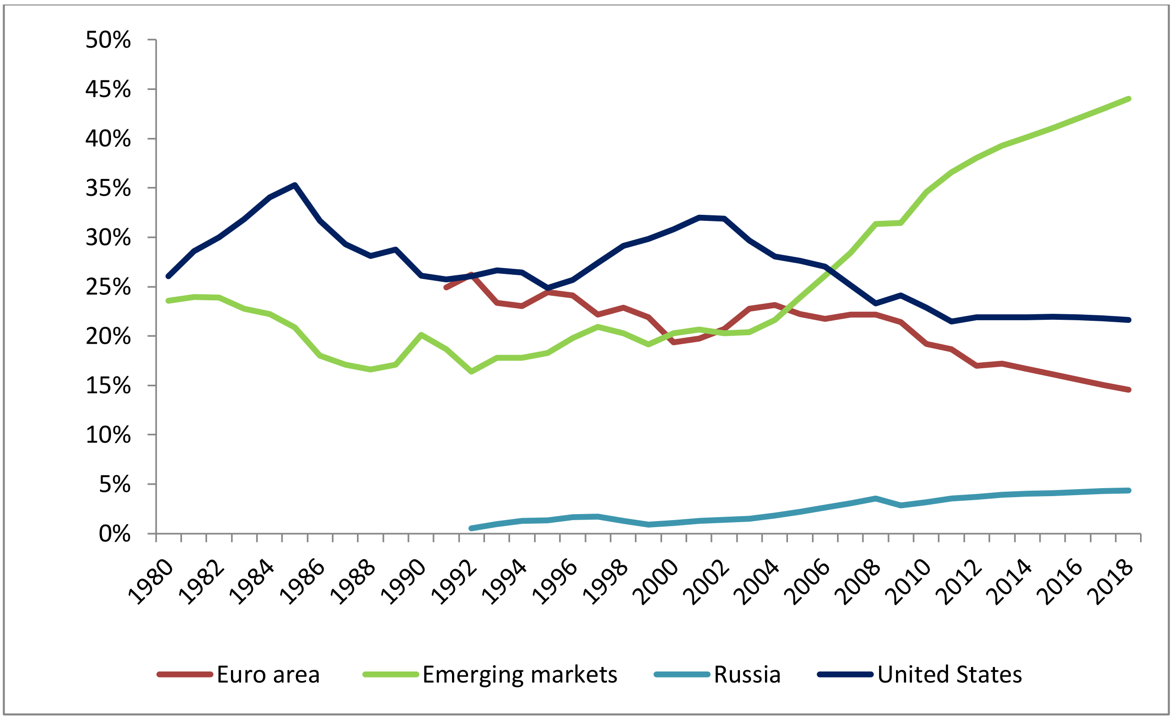


Source: Eurostat

In time Scotland might well be granted EU membership. However, there is significant risk attached to the terms. Scotland would be unlikely to secure an opt-out from adopting the euro, as part of the price of joining the EU. The same goes for other vital interests: regulation, EU immigration and border control, fisheries, employment law and environmental obligations. Given the complexity of EU law and the opt-outs that the UK currently enjoys, the process of agreeing terms for Scottish EU membership could well take years.

Scotland should bear in mind the UK's global reach. The EU, while important, is in structural decline. Real power remains with the US and increasingly the East. There is a danger that Scotland, feeling the need to have a substantial ally, cosies up to the EU just as it turns inwards in an attempt to resolve the structural flaws of the eurozone. The EU is a declining bloc, as can be seen from the chart below. This rate of decline is unlikely to be reversed given demographic trends, regulatory excesses and emerging growth from a low base in competitor countries, particularly in Asia.

Share of global GDP, 1980- 2018 (%)



Source: International Monetary Fund

Scotland's influence and ability to negotiate trading arrangements and limit regulation is best placed within the context of the UK's much more significant voting power both in the EU and at the UN, where the UK is a permanent member of the Security Council.

The effect of Scottish separation on other EU nations

While one should not exaggerate the importance that the destiny of 5 million people can have on an EU population 100 times greater, the impact could be profound. For instance, the UK is not the only EU nation to have a separatist movement. Spain, Belgium, Italy and parts of France also have independence movements. Similarly, the Eastern European postwar settlement could come under scrutiny. Scotland could create an unfortunate precedent for a number of European capitals. Scotland's negotiating position would not be strong.

Could Scotland stay out of the EU's banking union or the euro indefinitely? It is also doubtful that the EU would allow Scotland the luxury of Ireland's low corporation tax. Would Scotland be obliged to adopt the Schengen border arrangements? Could Scotland really play hardball over fisheries? Very little has been said of Scotland's proposals to defend its territory and its waters – a sizeable fraction of the EU's total fishing waters – in the event of separation. The Royal Navy proved powerless to defend our trawlers against the unilateral expansion of Iceland's fishing waters: a Scottish navy for which no plans and no keels have been laid would be in no position to defend Scotland's waters, her fisheries, her offshore oil installations or her offshore wind and tidal generating systems.

Over-fishing of Scotland's waters by the trawlers of other EU nations, notably Spain, has done drastic damage to Scottish fish stocks. Scotland's fisherman still resent the decision of Edward Heath to hand over Scotland's waters to the EU as a "common European resource". The only realistic hope for a recovery of Scottish fish stocks lies in a repatriation of Scotland's fishing waters from Brussels to Edinburgh. A separated Scotland would need to ensure that the UK negotiated on its behalf the restoration of Scotland's fishing waters from the EU to Scotland. It is by no means certain that any such negotiation would be successful. It is still less certain that the EU would accept a membership application from a Scotland determined to retain her own fishing waters and thus to permit her fish stocks to recover before terminal damage was done – if it has not already been done.

The legal position of the rest of the UK, as the successor nation, would be little changed. Current treaties and opt-outs would remain in force. At present, for instance, the UK has a derogation allowing it to zero-rate food, books, children's clothes and other essentials for VAT. A separated Scotland would not be automatically entitled to the VAT opt-outs. The impact of a refusal on the part of the EU to permit Scotland as a member state to continue to enjoy the UK's VAT opt-outs would fall disproportionately on low-income households, of which Scotland has many.

Scotland should also be careful. In negotiations, the EU may prove less flexible than the United Kingdom. Scotland has had a disproportionate influence on the destiny of the UK politically and economically. That would not be likely if Scotland were a sovereign member of the EU. Scotland would account for little more than 1% of the EU population. Its negligible influence would wedge in between Greece and Portugal in terms of GDP weight.

The global effect of Scottish separation

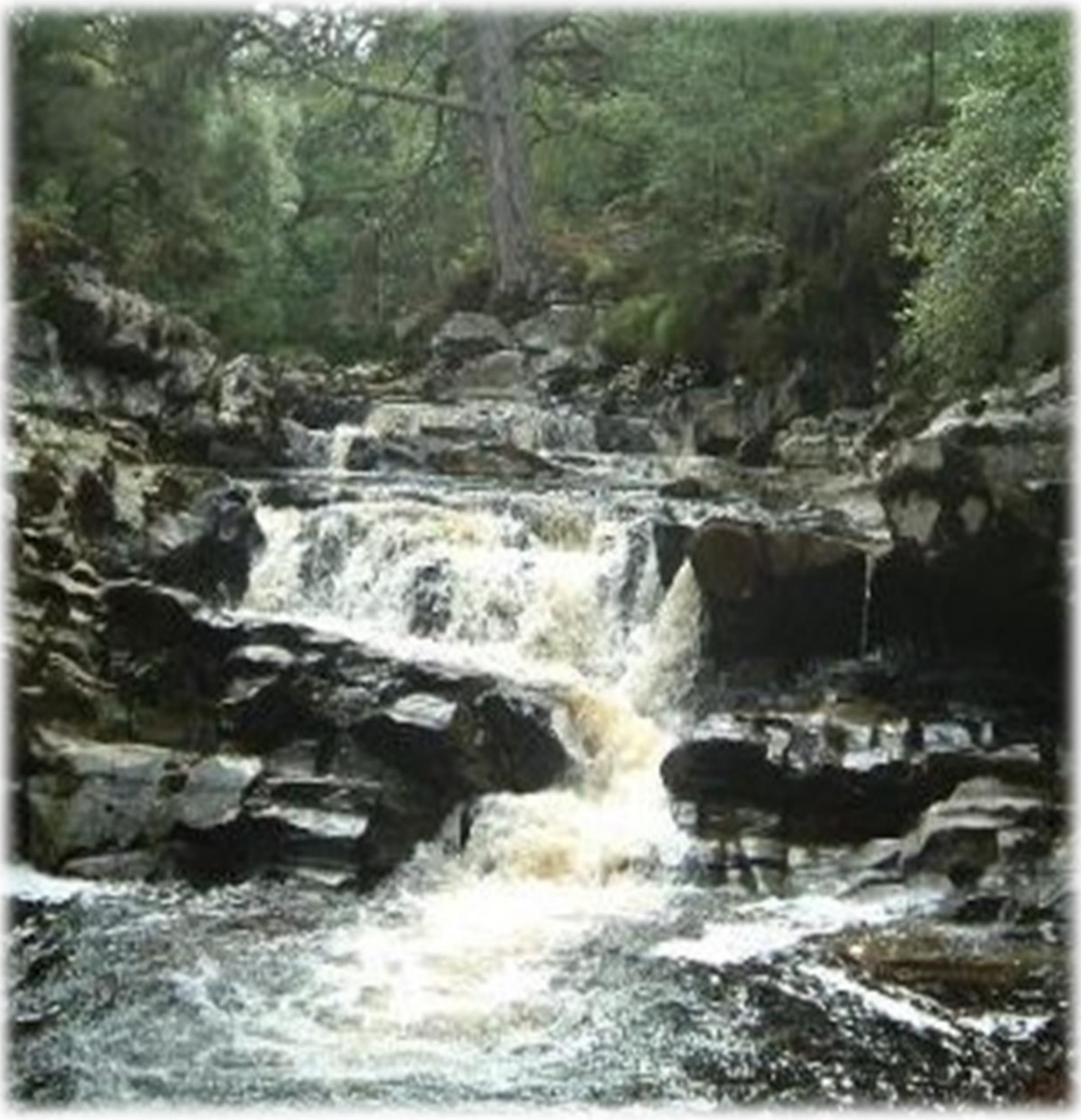
The United Kingdom is the sixth-largest economy on Earth, behind the US, China, Japan and Germany and almost the same size as France. The loss of £129 bn of Scottish GDP would reduce the rest of the UK's GDP by 8.3% to around £1.45bn, roughly equal to the seventh-largest global economy, Brazil. The UK is a permanent member of the UN Security Council and an influential voice in almost every significant international organisation. Scotland would not be influential.

According to the IMF, the Scottish economy would rank 47th in the world, sandwiched somewhere between Kazakhstan and Algeria. Scotland's diplomatic position and importance would undoubtedly diminish.

While size is not closely related to GDP wealth, one of the biggest implications of separation is one of perception. The collapse of the Soviet Union changed the world order. It ushered in a globalised age, but it also demolished the old certainties, increased risk and highlighted the chaotic nature of much of the world. This new world is a dangerous place, as is witnessed by capital flows to safe havens like London.

In an uncertain world, the splitting of the hitherto politically stable UK would be seen as a profound event. It would raise questions about the UK's safe-haven status. Although the separation of Scotland from the UK would be of secondary importance in decisions on whether to invest in the UK in general, or London in particular, separation would be seen in a negative light.

The impact of Scottish inward investment should also not be underestimated. Building credibility for investment can take years. Investors might well choose to sit on the side-lines while they judged the new Scottish government.



Mechanics of divorce, diseconomies of scale

Chapter summary

- A simple majority voting Yes in September would almost certainly end the Union.
- The Scottish Government has said the Union will be dissolved on 24 March 2016 following a Yes vote. The SNP anticipate around 18 months of negotiations with the remainder of the British Government. This is an unrealistic target. It took seven years for the Czech and Slovakian Republics to agree.
- The lack of clarity about the form of the final settlement is in itself a major risk factor. It is extraordinary that politicians, both North and South, have offered so very little clarification. While the negotiating issues would be surmountable, there would be a significant and costly period of uncertainty.
- A separated Scotland would need to set up its own tax authorities and associated IT systems, its own diplomatic service, defence and security structures, environmental agencies, trading relationships and EU negotiations, amongst others. While all these things could be done, they are very time consuming, very costly, a purposeless duplication, and an indulgence for which taxpayers will have to foot the bill.

Two governments are costlier than one

A simple majority voting Yes in September would almost certainly end the Union. The Scottish Government has said the Union will be dissolved on 24 March 2016 following a Yes vote. The SNP anticipate around 18 months of negotiations with the remainder of the British Government. This is an unrealistic target. The affairs of Scotland are closely intertwined into the fabric of the UK at many levels. For example, it took seven years for the Czech and Slovakian Republics to finally agree all the loose ends. In the Scottish case, agreement could take time.

The long negotiating period clearly adds to uncertainty at the micro and macro level as almost every aspect of Scottish political and economic life is unravelled from the UK. The upside as well as downside risk here lies with investments in Scotland, for the legal status quo would continue to prevail in the rest of the UK, but not in Scotland.

The negotiations would include a very wide range of issues from the profound to the mundane. What would Scotland's share of the national debt be? Whose oil is it and how will it be split? What currency would Scotland use and on what terms? How would the liabilities of RBS, HBOS and others be allocated? What would be the contingent pension liabilities, how would they be allocated, and how would Scotland meet its share of the cost? What if people and businesses move between the two countries? How will benefits be treated? How will the defence assets be split? There would also be a myriad of other minor discussions from green energy tariffs and subsidies to the arrangements with Royal Mail and universal postage. The Scots are voting on a principle, but separation may not prove smooth – and may not prove achievable at all.

The lack of clarity about the form of the final settlement is in itself a major risk factor. It is extraordinary that politicians both North and South have offered so very little clarification. The final result will be down to negotiation but the key areas are oil, debt and the EU. These risks will negatively impact Scotland's short term economic performance. Uncertainty harms investment and confidence.

While many of the issues described above are surmountable, there would be a significant period of uncertainty while substantial loose ends were negotiated. These loose ends would impact the entire UK and indeed the EU. However, because Scotland has a population of 5.3m, or just 8.3% of the British total, the gearing impact on Scotland would be commensurately much greater. Scotland would have most to lose from the process of separation. For instance, a theoretical £300bn RBS liability split amongst 60 million people is more manageable than the same liability split amongst 5 million.

A separated Scotland would need to set up its own tax authorities and associated IT systems, its own diplomatic service, defence and security structures, environmental agencies, trading relationships, EU negotiations. While, of course all these things could be done they are very time consuming. They are very costly. They needlessly duplicate effort. Scotland could not hope to match Britain's military or diplomatic reach, but in both cases establishment and running costs per capita would almost certainly be more costly and less effective than the current arrangements.

Taxation is an area of particular concern. Ignoring the cost of setting up new IT systems, which would run into hundreds of millions of pounds, all sorts of issues like domicile are raised. How will it be decided whether someone is a Scottish or UK taxpayer? Is the criterion where they live, where they work or where they may claim to work? Scotland could not adopt a substantially different tax structure to the rest of the UK, or it would soon be arbitraged away. Unit collection costs will be higher. At the margin there is choice, but only at the margin. Here as in so many other fields, separation would not entail meaningful independence.

Pensions and welfare are also two other areas to which insufficient attention has been given. A split would greatly add to the complexity of benefits. We have seen all too clearly the difficulties that can occur between Scotland and the rest of the UK over their distinct approaches to funding university tuition fees. Without discussing the rights and wrongs of that policy, this is a clear signal that separation only adds to complexity, duplication, benefit arbitrage and tourism, and general dissatisfaction between constituents. Given Scotland's weak fiscal position, it should also not be assumed that benefits will be higher in Scotland, especially in the medium term. Aspirations often are not met by economic reality.

If Scotland wants to go its own way that is its right, but the establishment and disruption costs will be high. They are surmountable, but bureaucratic infrastructure duplication and diseconomies of scale will harm productivity.

Energy and climate change – a costly policy

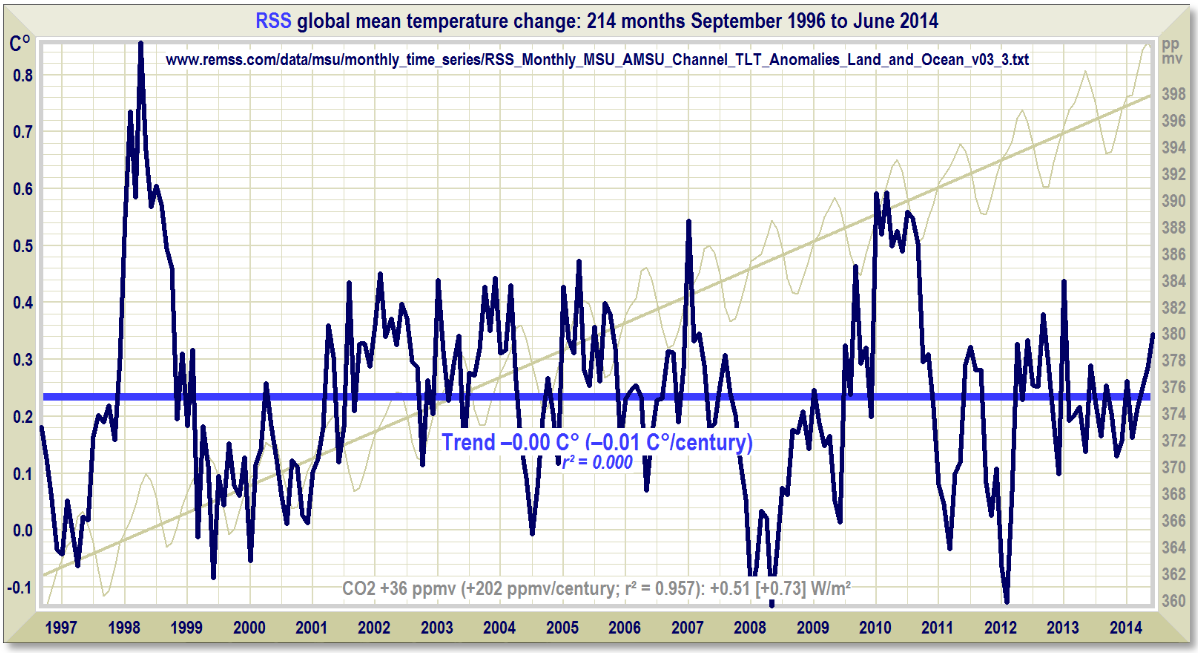
Chapter summary

- In 1990 the UN's climate panel predicted twice the global warming that has occurred since.
- Higher prices, not energy efficiency, are the reason for falling electricity consumption in Scotland.
- Wind farms are costly, inefficient, intermittent, polluting killers of birds and bats by the million. They have no place in a modern Scotland, and are a tourism-destroying intrusion on its landscape.
- Making global warming go away via "renewables" is 10-100 times costlier than letting it happen, even if it were to happen at the predicted rate and cost. Mitigation today is nothing like as cost-effective as adaptation the day after tomorrow.
- The cost of "renewables" in higher fuel and power prices is a poll tax on low-income families.
- Scotland would be dependent on England both to buy its surplus power when the wind was blowing and to supply power to it when the wind was not blowing. England would dictate the price in both directions.

Windmills: a 14th-century solution to a 21st-century non-problem

The notion that it is essential to forestall global warming driven by rising industrial emissions of greenhouse gases depends not so much on observations as on predictions. Observations show that there has been little or no global warming distinguishable from the combined measurement, coverage and bias uncertainties for a decade or two. The chart below, for instance, shows a zero least-squares linear regression trend on Remote Sensing Systems' satellite lower-troposphere temperature data for the past 17 years 10 months.

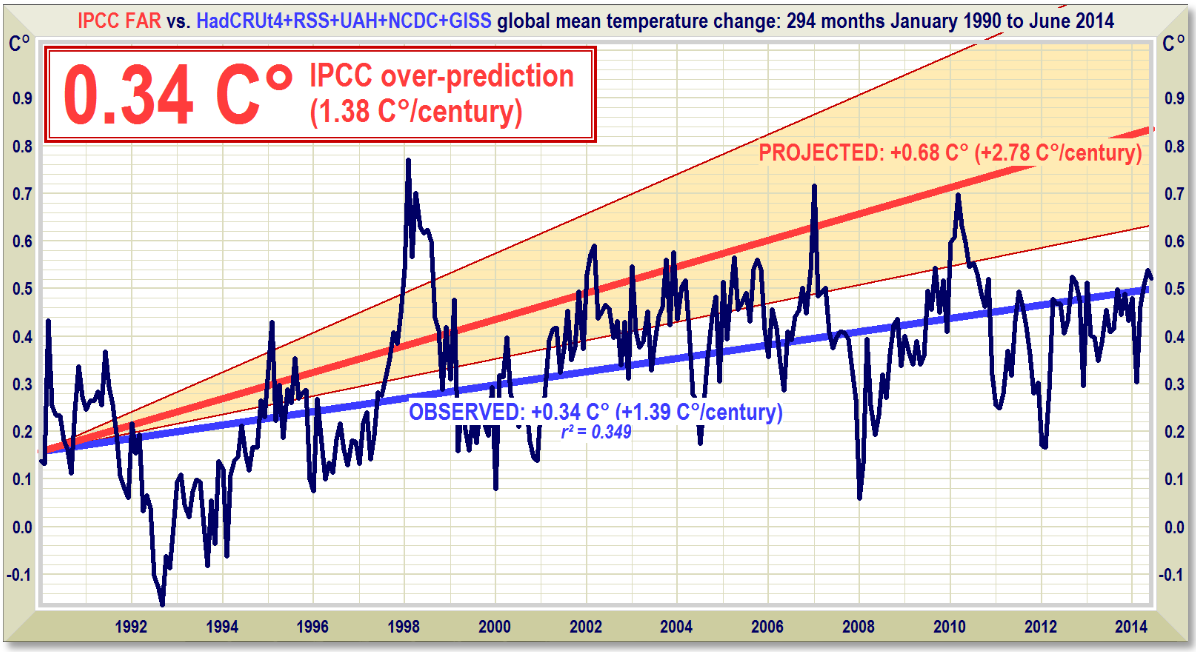
Little or no global warming for up to 17 years 10 months



Source: Lord Monckton Foundation

The computer predictions of future global warming on which the policies of nearly all nations are founded have not proven skilful. For instance, the orange region on the chart below shows the range of near-term predictions made by the UN's climate panel, the IPCC, in its 1990 *First Assessment Report*. The centrally-predicted trend is shown as a thick red line. However, the bright blue trend on 25 years of real-world temperature measurements, here taken as the mean of the two satellite and three terrestrial datasets, shows that in 1990 the models predicted double the warming that has occurred since then.

Predicted warming has been double the measured warming over 25 years



Source: Lord Monckton Foundation

Economic studies have shown that the cost of measures to forestall global warming today is typically greater (IPCC, 2013), and can be 10-100 times greater (NIPCC, 2014) than the cost of permitting global warming to occur at the predicted rate of 2.5 C° this century and paying to adapt to any adverse consequences.

Since significant global warming has not occurred for close to two decades, since predictions have proven greatly exaggerated over as long as a quarter of a century, and since mitigation today is many times costlier than adaptation the day after tomorrow, a rational economic policy would be to wait for a further 5-10 years to observe whether predictions of global warming continue to exceed observations.

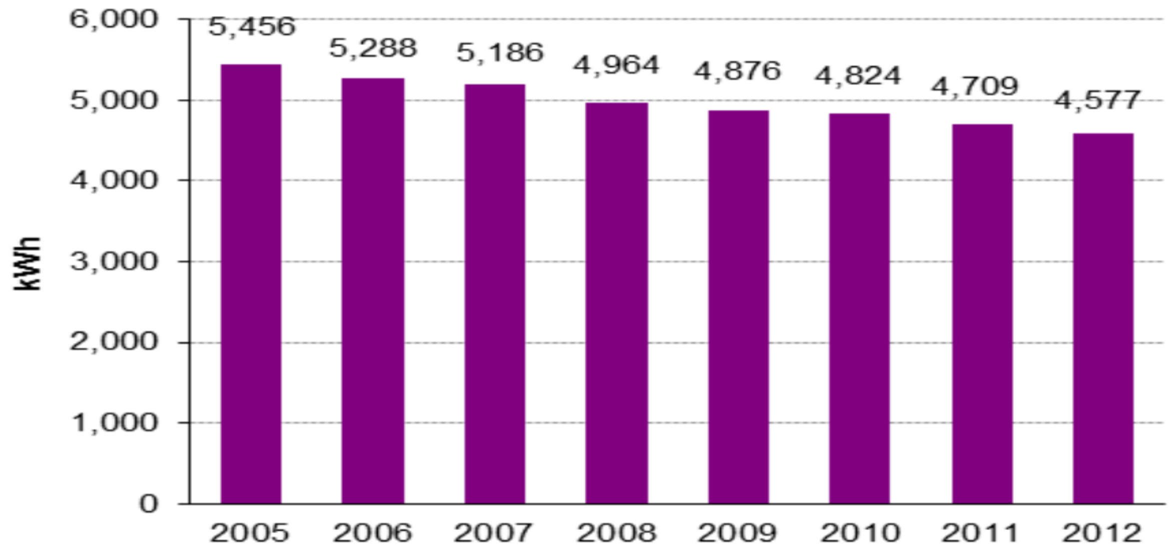
The political imperative for the SNP, however, has been to seek support from the Greens, since all other parties are implacably opposed to separation. Accordingly, the party has adopted an aggressive and expensive policy of spending on windmills – 14th-century technology as a 21st-century non-solution to what may be a non-problem.

The damage to the water-table in western China caused by pollution from the acid that leaches the neodymium from the ore for the motors, the killing of rare birds and bats in significant numbers, and the scarring of the beautiful Scottish landscape, should also be counted as part of the cost of the dash for "renewables", as should the excess winter deaths caused by the doubling of electricity prices in recent years, to which the extravagant cost of "renewables" has made no small contribution.

The opportunity losses from the diversion of substantial resources to unproductive wind farms and the increasing uncompetitiveness of power-intensive industries as electricity prices pointlessly rise as a result of inefficient, subsidised green-energy sources, are also substantial negative externalities consequent on that policy.

The chart below shows one effect of higher power prices and the shutdown of power-intensive industries: a long-term fall in mean annual domestic electricity consumption that owes little to improvements in energy efficiency.

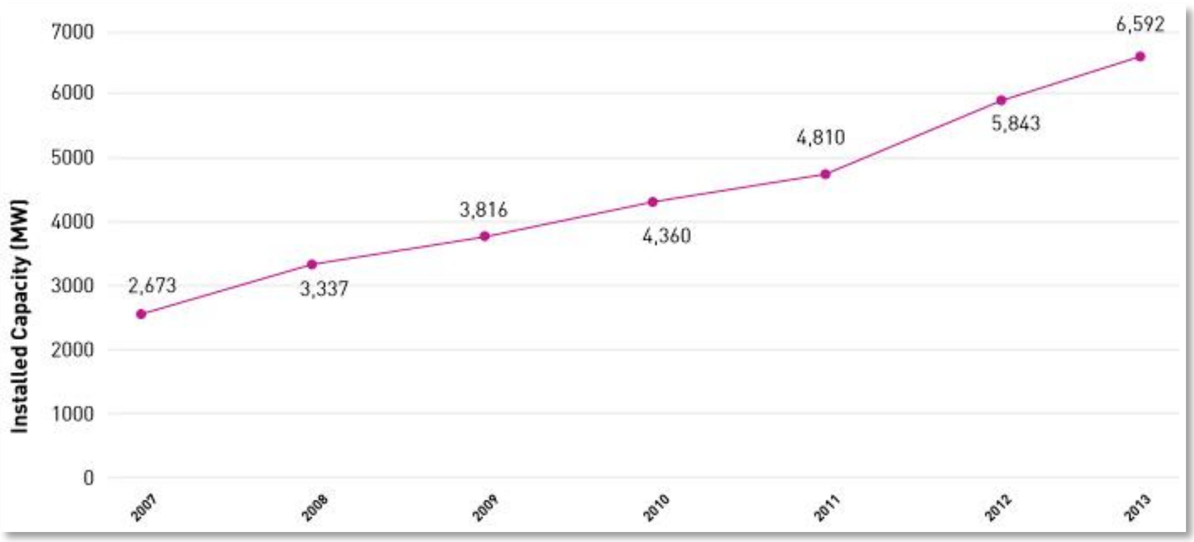
Scottish annual mean domestic electricity consumption, 2005-2012 (kWh)



Source: Scottish Government

The dash for renewables, illustrated in the chart below, represents the largest and fastest transfer of wealth and power from the poor to the rich in the history of Scotland.

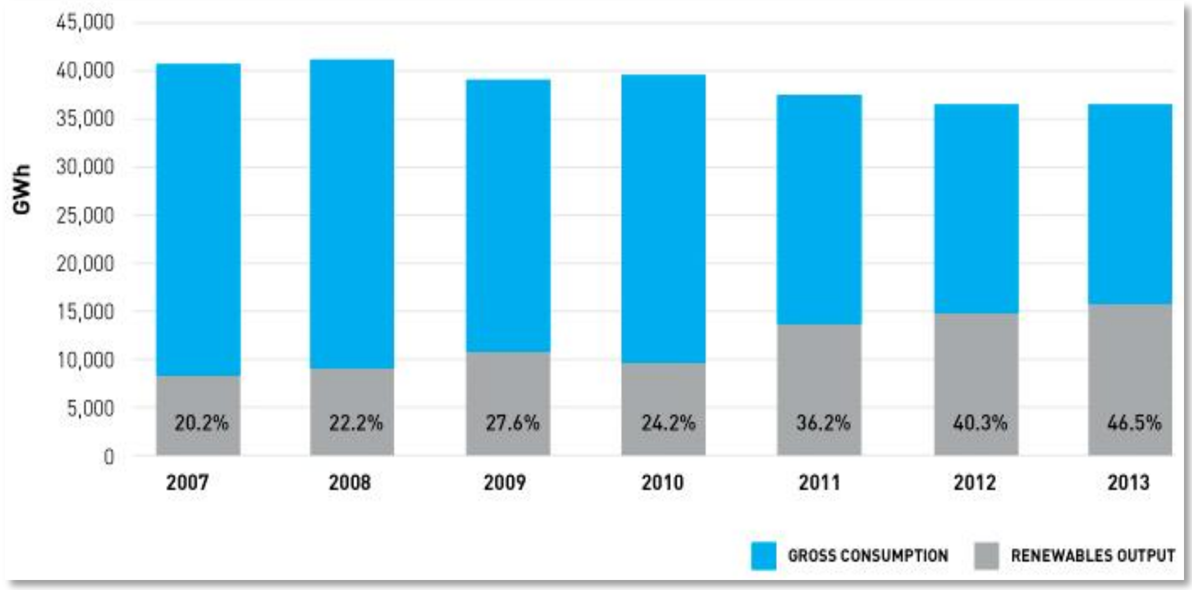
Total installed capacity of renewable electricity in Scotland, 2007-2013 (MWh)



Source: Scottish Renewables

The administration plans eventually to generate the equivalent of 100% of Scotland's power by windmills. As the chart below demonstrates, the fraction of Scotland's electricity supplied in the most expensive form – "renewables" – continues to increase rapidly.

Gross electricity consumption (GWh) and renewables output (%)



Source: Scottish Renewables

Energy shortages have become a serious risk as administrations on both sides of the Border have failed either to commission new nuclear stations or to defend existing perfectly viable coal-fired stations from closure via the European Union's costly and largely purposeless Large Combustion Plants Directive.

The Scottish example shows that any climate mitigation policy that is cheap enough to be affordable will be ineffective, while any such policy costly enough to be effective will be unaffordable.

Subsidies to the development, installation and operation of renewable-energy systems in Scotland are among the most generous in the world. The extent to which Scotland, the United Kingdom or the European Union will be willing or able to countenance or maintain such levels of subsidy in the medium term is questionable.

In Spain, Denmark, and Germany, desubsidisation has already begun, and some renewable-energy investors who had hoped to receive long-term subsidies at today's rates have consequently gone out of business. Some desubsidisation has also been attempted by the UK Government, but was overthrown in the courts. Desubsidisation is very likely to occur in Scotland too, as the cost-ineffectiveness of "renewable" energy becomes apparent to all.

Notwithstanding certain recent ambitious statements by politicians to the contrary, desubsidisation may begin quite soon in Scotland as an inescapable emergency response to excessive and refractory public-sector deficits.

The modalities of subsidy are inexplicit and opaque. Neither Ministers nor officials show awareness of how much the subsidy regime is costing. The costs, which are substantial, fall both on taxpayers through levies and direct subsidies and on the general economy through artificially and excessively elevated electricity and gasoline prices.

The regime of subsidy to "renewables" represents a significant and damaging market distortion, arbitrarily increasing costs of manufacture and especially of transport across Scotland's long distances, and unduly favouring existing wealth, particularly among landowners, at startlingly great expense to the general population, and particularly to the very poorest.

Overpriced fuel and power represent a savage poll-tax on low-income households – a poll-tax costlier, more pervasive and more pernicious than the local-government poll tax that Scotland opposed so vigorously when the government of Margaret Thatcher introduced it in the 1980s. The rate of fuel poverty in Scotland is thrice that in the UK as a whole.

Scotland's capacity for wind generation (at mean wind-speeds >5.5 m s^{-1}) is considerable, but only at heavy and already visible detriment to the landscape that is Scotland's chief tourist attraction. Destruction of rare predatory birds and also of bats is perhaps the most serious environmental consequence of Scotland's needless dash for wind.

Capacity for tidal power (at mean tidal stream velocities >2 m s^{-1}) is also not insignificant, and, according to HM Government's chief scientific adviser, is widely seen as less environment-unfriendly than other renewable species. However, tidal capture is an infant technology with negligible Scottish output to date, though a few new schemes will soon be in the water, and the coastal environment is hostile even to installations with no moving parts. The capital costs both of installation and of grid connection are heavy, and the current-account costs of maintenance are also excessive. The Betz limit on the output of tidal stations, taken with slack-water downtime and the limited number of sites with sufficient tidal flow for viability provide little hope that affordable tidal power will make a significant contribution to Scotland's electricity supply.

Capacity for large-scale hydro-electric generation in Scotland has already been fully exploited: most future hydro developments will be small-scale, or will be improvements to existing larger developments. Solar electric power is unviable anywhere in Scotland. Ground-source heat-pumps are of limited, local value only. Other such technologies are on too small a scale to be noteworthy. This report accordingly focuses on wind power, which may be less cost-ineffective than other renewables.

Wind power is not cost-effective for taxpayers, though in certain circumstances profits for investors in development, construction and operation are achievable, but only while subsidies remain at today's imprudent and unsustainably high levels.

In Scotland it is becoming ever harder for electricity suppliers to meet demand, particularly at peak times, because capacity is dwindling faster than demand and the administration's policy prevents the design or commissioning of new base-load power, whether nuclear or fossil-fuelled.

The current Scottish administration opposes civilian as well as military uses of nuclear power, refusing to countenance the replacement of Torness and Hunterston at the approaching end of their useful lives. The administration also opposes fossil-fuelled power. It has no plans to replace the four major coal-fired plants that must be shut down within the next decade to comply with the Large Combustion Plants "Directive".

Paradoxically, the dash for "renewables" reduces Scotland's independence from the rest of the United Kingdom, in both directions. Since Scotland within the decade will be unable to generate enough base-load power to keep the lights on when the wind is not blowing, it will be compelled to buy up to 40% of its electrical power from England, at whatever cost England decides to charge. England will become the monopoly supplier of base-load energy to Scotland.

Since Scotland plans to generate the equivalent of 100% of its electricity consumption from "renewables", during periods when too much wind is blowing it will be compelled either to pay heavy subsidies to owners of wind farms to go offline or to sell the surplus electricity to England via the interconnect at whatever price England is prepared to pay. England will become the monopsony customer for surplus electricity production from Scotland.

This bi-directional dependence upon England both as a supplier and as a consumer of Scotland's electricity is not only a further instance of a separated Scotland's lack of true independence: it is also, in a business sense, imprudent. In certain circumstances, it poses a strategic threat to Scotland and provides England with a strategic opportunity. It introduces uncertainty and instability to the supply of electrical power in Scotland, and inflicts needlessly heavy costs on both industrial and domestic users of power. Finally, it inflicts upon the Scottish exchequer an unnecessarily costly expenditure commitment whose net effect on the climate will scarcely be detectable, but whose effect on the already unsustainably wide fiscal gap will be unquestionably adverse.

Defence and diplomacy: iron fist, velvet glove

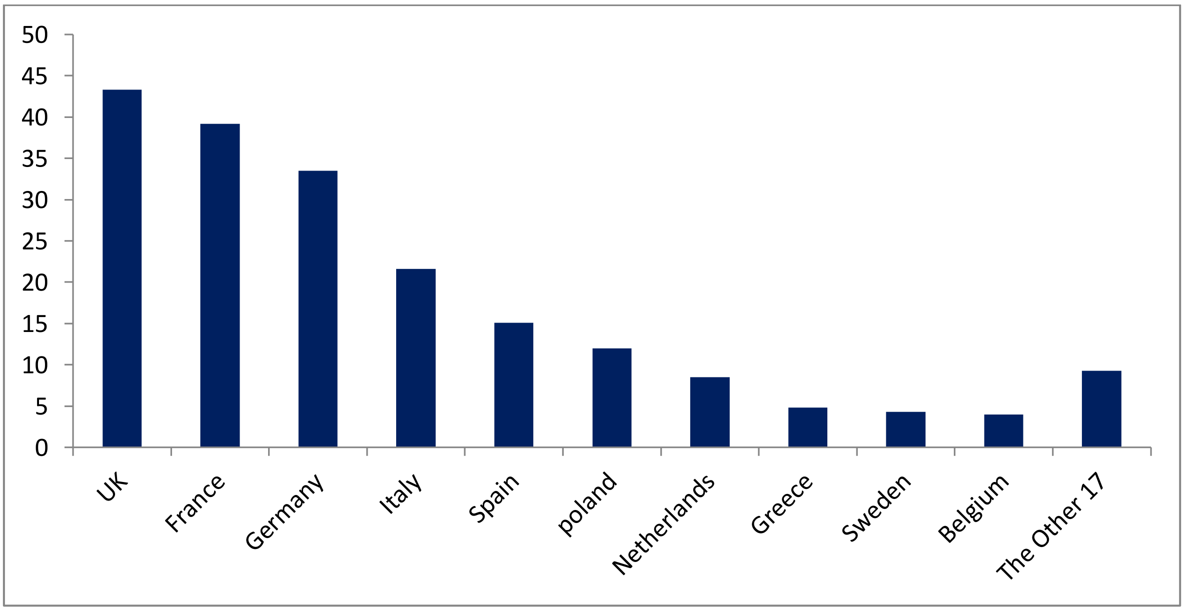
Chapter summary

- A separated Scotland would not benefit from the protection of the UK's still considerable military assets. Despite defence cuts, Britain remains one of the world's most significant military forces, with an ability to safeguard domestic assets from fisheries to oil while also retaining the capacity to project power abroad.
- The UK's anti- terrorist, intelligence and security assets are among the most sophisticated in the world. Scotland would simply not have the resources to match them. Terrorism comes in many guises. It has sprung up in areas of the globe that one might not have expected, from Madrid and Bali to Glasgow Airport. A separated Scotland would have the expense of setting up its own agencies, which in reality would offer very limited protection.
- Defence – hard power – is just one way to exercise influence. Diplomacy, idea projection, media reach and culture – soft power – also has its part to play. Measuring soft power is an imperfect science: yet the UK is placed first in the world, even ahead of the US. Scotland would probably score quite well in such a survey. However, lacking the scale, diversity of outlet and global reach of the United Kingdom, it could not hope to match the UK's influence.

Scotland outside the UK would be comparatively defenceless

A separated Scotland would not benefit from the protection of the UK's still considerable military assets. Despite a reduction in the size of the UK's defences Britain remains one of the world's most significant military forces, with an ability to safeguard domestic assets, from fisheries to oil, for example, while also retaining the potential to project power abroad. The chart below compares UK defence expenditure with that of other European nations. The UK and France are, in effect, the only two significant defence forces in Europe.

European military expenditure, 2012 (bn €)



Source: Eurostat

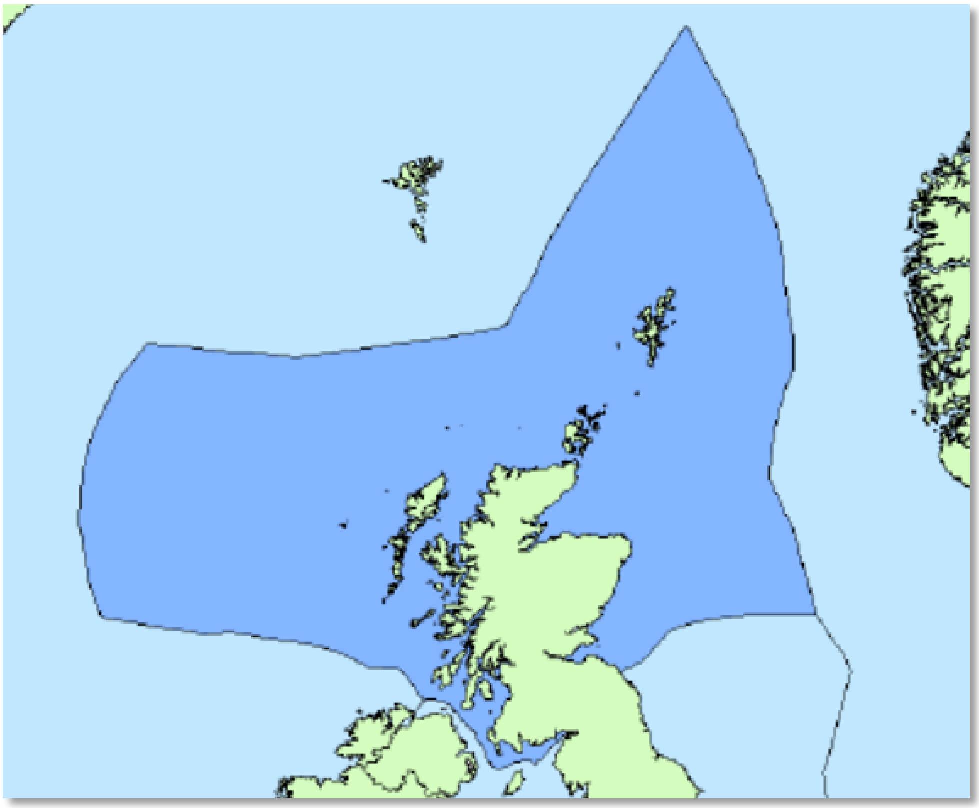
Scotland, by being a major part of the United Kingdom, is secure from numerous threats. Scotland would of course set up its own defence assets, should it go its own way. However, military hardware is extremely expensive, and the proposed “Scottish Defence Force”, whose suggested initial budget has already been cut twice, is not a credible answer to the many threats that Scotland would face. Nor would it enjoy the British economies of scale. In reality, a Scottish force would be little more than a token peacekeeping force doing the bidding of the EU or the UN. That is not independence.

The UK’s anti- terrorist, intelligence and security assets are among the most sophisticated in the world. Scotland would simply not have the resources to match them. Terrorism comes in many guises. It has sprung up in areas of the globe that one might not have expected, including Madrid, Bali and even Glasgow Airport. A separated Scotland would have the expense of setting up its own agencies, which in reality would offer very limited protection.

Scotland benefits from military hardware procurement contracts which would be jeopardised by separation. For example, the Royal Navy has never built a warship outside its sovereign territory. It is wishful thinking to expect that in a separated Scotland ships would be built on the Forth or the Clyde.

Consider just one of the many threats that Scotland will face immediately upon separation from the UK. She will no longer belong to the EU: yet her waters are part of the “common European resource” handed away to the EU by Edward Heath. Trawlers from EU nations will wish to continue to fish in Scottish waters, and the “Scottish Defence Force”, particularly with its budget already slashed twice before it has even been brought into being, will be powerless to police those waters.

Scotland’s territorial waters



Source: Scottish Government

While the true issues in the military debate have been obscured by posturing over Faslane, the reality is that Scotland benefits mightily not only from the protection that Britain's armed forces have provided but also from considerable inward investment from Westminster in the form of military expenditure.

Defence – hard power – is just one way to exercise influence. Diplomacy, idea projection, media reach and culture – soft power – also has its part to play. Measuring soft power is an imperfect science: however it is important. How a nation is seen not only enables it to exercise influence but also encourages direct inward investment and trade flows.

Monocle's annual soft power survey (see chart below), which is recognised as the definitive study in the field, places the UK first in the world, even ahead of the US. Scotland would probably score quite well in such a survey. However, lacking the scale, diversity of outlet and global reach of the United Kingdom, it could not hope to match the influence of the UK. These things matter in terms of hard cash as well as cultural wellbeing.

Monocle soft power index, 2012

1	United Kingdom
2	United States
3	Germany
4	France
5	Sweden
6	Japan
7	Denmark
8	Switzerland
9	Australia
10	Canada
11	South Korea
12	Norway
13	Finland
14	Italy
15	Netherlands
16	Spain
17	Brazil
18	Austria
19	Belgium
20	Turkey

Source: Monocle

Does separation entail independence?

Chapter summary

- The right to make one's own laws is the chief pretext for separation. Yet the majority of Scotland's laws originate in the EU, while very few originate at Westminster. Scotland, therefore, is not being offered independence. It is being offered mere separation from its nearest and dearest neighbour.
- The UK stands with France and Germany as a major EU power. A separated Scotland would represent just 1% of the EU population. Its ability to influence legislation affecting it would, at best, be minimal.
- **As to currency,** the Scottish administration says it wants to keep Sterling. If it were to do so, it would have no say in monetary policy and would not have the protection provided by a credible lender of last resort. It would be obliged to run a very similar fiscal policy to the rest of the UK or face monetary disaster sooner rather than later. The Scottish administration's current proposals for the future of the currency do not constitute independence. Scotland would be forced to pay the piper, but also forced to let the piper pick the tune and then to dance to it. Whatever else that is, it is not independence.
- **As to oil and gas,** even supposing the most favourable geographical settlement on the ownership of the UK's oil reserves, Scotland would have no control over the fluctuating price of oil: yet that price would largely dictate the scale of tax receipts. In contrast to Norway, which has a substantial sovereign wealth fund (as does Shetland), Scotland would need to tread a parsimonious fiscal line, squirreling away reserves in the good years. That implies spending cuts now. In this respect, too, Scotland would be less independent than now.
- **As to energy,** a separated Scotland would be dependent on England both as a customer for its surplus wind power and as a supplier of base-load power when the wind was not blowing. In either direction, Scotland would have no control over price and, therefore, no energy independence.
- **As to defence,** Britain remains one the world's most significant military and diplomatic powers. This influence is effected through a number of channels, whether military or through its position as a permanent member of the Security Council, or through membership of other global organisations.
- **As to cultural influence,** the cultural reach of the UK is significant via the media, its diplomatic assets and its trade networks. Scotland, as a separated country, could not match that influence. Scotland would become a smaller, lesser place.
- **As to real sovereignty,** the notion of "independence" may be superficially beguiling, but it is not on offer. The people of Scotland should appreciate that real independence and sovereignty are most completely achieved by full and equal partnership in the United Kingdom, where Scotland has significant influence, rather than by separation and a consequent reduction in status to that of a notionally sovereign nation that cannot prosecute policy independently and cannot even make the vast majority of its own laws.

Don't call it 'independence': it would be no such thing

Scotland would face substantial economic risks if it were to separate from the rest of the UK. Those primary economic risks lie with currency, national debt, tax shortfall, dependence on a narrow and cyclical business base and an over-large, dependent public sector.

The risks of separation have not been addressed in the Scottish Government's "white paper" entitled *Scotland's Future.* That paper is not a plan: it is a wish-list of vague aspirations based on the so-called success of the Scandinavian social model – a model that Sweden, in particular, is abandoning.

How independent would a separated Scotland really be? As to lawmaking, the chief pretext for separation, some 17 in 20 of Scotland's laws are made behind closed doors in Brussels by commissioners whom the people of Scotland and of Europe do not elect, while only 1 in 20 of Scotland's laws are made at Westminster. Scotland, therefore, is not being offered independence. It is being offered mere separation from its nearest and dearest neighbour.

As to continental influence, the UK stands with France and Germany as a major EU power. A separated Scotland would represent just 1% of the EU population, and its ability to influence legislation would, at best, be minimal. Scotland would most probably be reduced to the role of a cheer-leader for EU integration, faithfully enacting the will of Brussels.

As to currency, the Scottish government has said it wishes to keep Sterling. If it were to do so, it would have no say in monetary policy and would not have the protection provided by a credible lender of last resort. It would be obliged to run a very similar fiscal policy to the rest of the UK or face monetary disaster sooner rather than later. The Scottish administration's current proposals for the future of the currency do not constitute independence: it would be forced to pay the piper, but also forced to let the piper pick the tune and then to dance to it.

As to oil, even supposing the most favourable geographical settlement on the ownership of the oil reserves of the UK, Scotland would have no control over the fluctuating value of oil: yet that value would largely dictate the scale of tax receipts. In contrast to Norway, which enjoys the benefit of a substantial sovereign wealth fund, Scotland would need to tread a very careful fiscal line, squirreling away reserves in the good years. That implies spending cuts now. In this respect, Scotland would be less independent than it is now.

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As to cultural influence, the cultural reach of the UK is significant via the media, its diplomatic assets and its trade networks. Scotland, as a separated country, could not hope to match that influence. Scotland would become a smaller place.

The notion of independence may be superficially beguiling, but the people of Scotland should appreciate that real independence and sovereignty are most completely achieved by full and equal partnership in the United Kingdom, where Scotland has significant influence, rather than by separation and a consequent reduction in status to that of a notionally sovereign nation that cannot prosecute policy independently and cannot even make the vast majority of its own laws.

The cost to each Scottish household

Chapter summary

- The economic arguments against separation are overwhelming.
- The "White Paper" *Scotland's Future* is merely a wish-list based on over-optimistic assumptions that rely on factors outwith the control of this or any Scottish administration.
- How does a country that has a lower gross value-added than the UK average, which receives a public-spending allocation well above the UK average, make ends meet?
- A separated Scotland cannot survive without heavily cutting public spending or greatly raising taxation, or both.
- After separation there are likely to be many fewer public employees than now, and they will be paid less. Welfare payments, and the numbers receiving them, will fall. Payment of state pensions can no longer be guaranteed at anything like UK levels. Health, education and every kind of public service will face deep cuts. Every household will be worse off by several thousand pounds a year.

Every household will be worse off by at least £3400-5500 a year

The economic arguments against separation are overwhelming. Those in favour argue about the benefit of oil, the security of the so-called Scandinavian model and not being run by Westminster. What they have not articulated is how these vague statements feed through to real, credible policy choices. The "white paper" on *Scotland's Future* is merely a wish list, based on extremely optimistic assumptions that rely on factors outwith the control of the Scottish government.

The "white paper" is not a credible plan of action. Should Scotland leave the UK, the electorate will very quickly see the impact on their families through forced spending cuts or tax rises to balance the budget. This will affect those receiving social protection as well as the better-off. This is an unstable position indeed.

Scottish government data show that with or without oil Scotland's fiscal position is one of the weakest in Europe. Scotland's GDP is highly cyclical, for it is heavily dependent on oil and financial services. Scotland's banking sector would be unsustainable at anything like its present scale should Scotland leave the UK. None of the currency options offer either the security or the unhindered exchange rate stability of Sterling that allows trade to flow unhindered. Indeed, with 70% of all Scottish trade flowing to the rest of the UK, only full partnership with Sterling is a credible option. "Independence", then, is largely an illusion, with the Scottish Government caught between UK monetary and fiscal policy and EU directives, with very little say.

Though these arguments are complex, they impact almost every area of society. The table below highlights the key numbers looking at the UK, Scotland and the Scotland/UK ratio. In a nutshell, while Scotland is a prosperous country as part of the UK, the fundamental question remains: even with the most favourable oil settlement, how does a country which has a lower GVA than the UK average, which receives a favourable public spending allocation well above the UK average, make ends meet? A separated Scotland cannot survive without heavily cutting public spending or greatly raising taxation, or probably both.

In consequence, after separation there are likely to be many fewer public employees over time than now, and they will be paid less. This is because it will be essential to cut the fiscal deficit. Welfare payments, and the numbers receiving them, will fall. Payment of state pensions can no longer be guaranteed at anything like UK levels. Health, education and every kind of public service will face deep cuts. Every household will be worse off by £3400-5500 a year, plus £500-1000 a year more for every £100,000 borrowed on mortgage.

The UK and a separated Scotland: comparison at a glance

	UK	Scotland	Scotland / UK
Population (millions)	64.1m	5.3m	8.3%
Gross domestic product (£ bn)	£1580bn	£129bn	8.2%
Total taxation raised (£ bn)	£586.9bn	£48.1bn	8.2%
National debt (£ bn)	£1417bn	£116bn	8.2%
National debt (% GDP)	89%	90%	101.1%
Unemployment rate (%)	6.5%	6.9%	106.2%
Fiscal deficit (per-capita oil: %)	5.8%	11.6%	200.0%
Fiscal deficit (geographic oil: %)	5.8%	6.4%	110.3%
Cost of borrowing (10yr gilt)*	2.9%	3.9%	134.5%
Public sector as % GDP	44.6%	50.8%	113.9%
Public spending per capita (£)	£10,998	£12,265	111.5%
Social protection per capita (£)	£3937	£4237	107.6%
Health spending per capita (£)	£1922	£2129	110.8%
GVA per capita (£)	£21,674	£20,013	92.3%
Private-sector GVA (£)	£12,929	£9925	76.8%
Total public spending (£ bn)	£701.6bn	£65.2bn	9.3%
Geog. oil revenues (% total tax)	0.9%	10.2%	1133.3%
Banking Assets to GDP (%)	548%	1210%	220.8%
Scottish trade to UK (% GDP)		**39.1%**	
UK trade to Scotland (% GDP)	**4.0%**		

Sources: Various; Walbrook Economics

Conclusion – better together

Scotland will either choose continuing union or separation this September. If Scotland chooses separation, it will not be in any true sense independent. It could not exercise policy in a vacuum. It would be obliged to mirror the monetary and fiscal policy of the rest of the UK. If a separated Scotland were to join the EU, it would pass five-sixths of its lawmaking power to that body, with next to no influence on policy. That would be a very limited independence indeed. Worse, a separated Scotland would have less independence, less true freedom of decision and of manoeuvre, that it has now as part of the United Kingdom. Currently, Scotland has its own Parliament, determining policy over critical areas like health and education. However, by being part of the United Kingdom Scotland benefits from the UK balance sheet, a more diversified and much larger economy, the credibility of the Bank of England and a global cultural and diplomatic reach and influence.

In theory, a separated Scotland would control more levers of power, from taxation and borrowing, to social security and pensions. However we have shown, using Scottish government data, that a separated Scotland would start life running a substantial fiscal deficit. If the oil assets were divided on a per-capita basis, that deficit would be the worst in the EU outside Greece and Slovenia. Even under a favourable geographic split, the annual fiscal deficit would be 7.8% of GDP, again one of Europe's weakest.

The Scottish economy would also be one of the most cyclical in Europe, highly dependent on uncertain and volatile oil revenues. The banks would either need to relocate to London, to benefit from the Bank of England's much larger balance sheet and protection as the lender of last resort, or substantially reduce their balance sheets, for otherwise growth and tax receipts would suffer. Banking liabilities of 12 times annual GDP, much greater than those of Ireland or Iceland in 2007, would neither be prudential nor sustainable.

A nation's real power subsists in its economic strength and freedom of manoeuvre. A separated Scotland would be compelled either to increase taxes or to cut public spending, or probably both. That is not real sovereignty. Nor is it in any way beneficial to the people of Scotland.

Scotland has a strong financial services industry, a skilled offshore oil and engineering asset base and genuine strength in the beverages, foodstuffs, tourism and defence sectors. There are other strengths too, notably a number of world-class universities, many of which are largely dependent on UK-wide research grants that might well cease on separation. However these advantages are fragile and dependent on economic strength. Outwith the UK umbrella, many of these advantages will wither.

The Scottish government's document *Scotland's Future* runs to 670 pages. It is not a plan but a wish list. It is not even an economic wish list. It is a political wish list for social democracy without much democracy. Scotland government spending is already in excess of 50% of GDP, 5% higher than the rest of the UK. That is an expression of social democracy. Such a desire – and we make no judgement on whether it is in Scotland's long-term interest – is only possible with a strong economy, a large balance sheet, a credible currency, diversified and not overly cyclical private sector interests and a secure global environment.

If Scotland wants social democracy, remaining in the UK is the only way of securing it. The pied piper may play a seductive tune, but the end will be the opposite of the aspiration: forced spending cuts, increased taxation and the illusion of sovereignty with little influence in the UK-wide or European decision-making process. Above all, because of the imperative to control the deficit, the average household will be considerably poorer as a result of separation: somewhere between £3400 and £5500 a year, with another £500-£1000 a year in interest for each £100,000 borrowed on mortgage. It is, of course, the Scottish people's decision whether they vote for separation or not: but at least they will now know, for the first time, what separation would cost them.

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