An Economic Agreement for Scotland?

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ABSTRACT Since the devolution process in the United Kingdom began in 1997, the funding system for devolved institutions has been discussed constantly by academics and in the media, particularly in Scotland. Currently, transfers are regulated under the recently amended Barnett formula, which indexes Block Grant devolutions to English public expenditures and is often considered insufficient to establish a desirable incentive scheme for decentralised institutions. Because of Brexit and its consequences for Britain's devolution process, tackling this issue has become an urgent issue. The Basque Economic Agreement with Spain, characterised by high levels of tax autonomy and strict fiscal co-responsibility, could conceivably inspire a reconfigured financial relationship between Scotland and Westminster. This paper simulates the mechanical impact of the application of the principles of the Basque Economic Agreement to the Scottish case for devolved government income. Even if it is likely to provide Scotland with a lower expenditure capacity (*ceteris paribus*), such a scheme could increase fiscal efficiency while also safeguarding self-government and providing the political stability that the United Kingdom needs, given the current weakness of the union due to a challenging socio-economic and political context.

KEYWORDS self-government; intergovernmental relations; tax autonomy; transfers; fiscal policy; political economy.

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1. Introduction

The current devolution process in the United Kingdom began in 1997, when 74% of the Scottish electorate backed decentralisation and the reestablishment of the Holyrood Parliament, which had been dissolved in 1707 by the Acts of Union.[1] Supporters of the move put forward two arguments. On the one hand, they advanced an efficiency-related rationale to better address demands from citizens by offering local, innovative, and tailored policy responses.[2] On the other hand, the shift from a heavily centralised institutional model towards a decentralised one, as had occurred in Spain in 1978,[3] was presented as a step towards improved democratic quality.[4] Indeed, policymakers had already identified the need to close the gap between citizens and institutions, since many non-English British voters no longer felt represented by Westminster.[5]

Although there is no ideal example of what a federation should look like,[6] since every federal model is different, comparative studies draw patterns out of decentralised institutional systems in order to understand devolution processes and to analyse their political economy. Canada and Germany are the most frequently cited countries when undertaking research in this field in Spain (as in Bosch and Duran).[7] In studies of the Basque case, Switzerland has been used as a yardstick.[8] However, in some respects, the Spanish model bears greater similarity to Italy and the UK than to entirely federal cases such as those mentioned. Indeed, while Spain is formally unitary, it is also heavily and asymmetrically decentralised, particularly when it comes to the expenditure side of public finances. Furthermore, academics in the

1. Civil Service of the UK Government, "Introduction to Devolution". Zimmerman, "Devolution in the UK", 558-560.

2. For historical reasons, British literature employs the terms "country" or "nation" in reference to administrative and/or territorial units generally call "regions" in Economics.

3. Arlucea Ruiz, "Características del modelo competencial".

4. Civil Service of the UK Government, "Introduction to Devolution".

5. Beasley et al., "To be or not to be a State?"

6. Sorens, "The institutions of fiscal federalism".

7. Bosch and Duran, "Fiscal federalism and political decentralization".

8. Erkoreka, "The Basque and Swiss Fiscal Systems".

field of comparative federalism (such as Bogdanor,[9] Gamble,[10] and Flinders[11]) have termed the United Kingdom a 'quasi-federation', as many have likewise referred to Spain.[12] However, little research has yet been carried out on a comparative basis between the two models.[13]

The use of referendums in the UK, although controversial due to the outcome of the 2016 Brexit vote,[14] is rooted in that union's democracy, as a mechanism for making decisions deemed crucial to the union as a whole (such as Brexit, or Scotland's 2014 Independence referendum).[15] This model was used as an example in calls by the Catalan pro-independence movement for a negotiated referendum for Catalonia, in the context of a territorial crisis that has mounted in intensity over the past decade.[16] Contrariwise, Scottish lawmakers have looked to the particular Economic Agreement between the Basque Country and Spain in search of ideas for their funding system,[17] especially in the context of actions that led to the 2016 Scotland Act. The Spanish decentralisation process has been developing over four decades, making the UK case comparatively recent.

This paper contributes to the literature on Comparative Federalism and Intergovernmental Fiscal Relations by simulating the mechanical impact of adopting a new funding system for Scotland's public finances based on the Basque Economic Agreement. This contribution will help to understand why, although Scottish institutions have taken interest in the Basque Economic Agreement, they have never called for it as a replacement for their current fiscal arrangement. To this end, I will first briefly introduce the background

9. Bogdanor, "Devolution in the UK".

10. Gamble, "The Constitutional Revolution in the United Kingdom".

11. Flinders, "Constitutional Anomie".

12. Chaqués and Palau, "Comparing law-making activities in a quasi-federal system", 1089-1119. Requejo, "L'Espagne est-elle un État federal?"

13. Vega, "The Impact of the European Union Law on Regional Autonomy", 11-45.

14. Harford, "Referendums break democracies, so best to avoid them". Taub and Fisher, "Why Referendums Aren't as Democratic as They Seem". Friedman, "Should the Brexit Vote Have Happened at All?"

15. Fondevila Marón, "Los referéndums de secesión en la Unión Europea", 231-69.

16. Puigdemont and Junqueras, "Que gane el diálogo, que las urnas decidan".

17. Eusko Jaurlaritza, "Parlamentarios escoceses visitan Euskadi para estudiar los poderes fiscales".

debate that has taken place in the UK on the Scottish funding system. Secondly, I will examine the basis of the Basque Economic Agreement, its principles and its functioning rules. Next, I will carry out a simulation exercise to compare the actual revenue of Scotland's devolved institutions with the amount they would have obtained by following the guidelines and technical rules of the Basque Economic Agreement, according to three hypotheses of powers devolution and two distinct updating formulas. This scheme will take advantage of the lengthy experience of a system that has worked without interruption since 1981, when the Economic Agreement was (re)implemented in the historical Basque territories of Bizkaia and Gipuzkoa. Finally, I will analyse the results and present some policy recommendations around the feasibility of the adoption of an Economic Agreement for Scotland.

2. The funding system of devolved Scottish institutions

Scotland's journey to become the most fiscally decentralised nation in the United Kingdom began when a clear majority of Scottish voters (74%) backed the creation of the Holyrood Parliament in 1997. The vote led to the enactment of the 1998 Scotland Act, which listed the 'reserved competencies' that Westminster would retain (and thus implied the unlisted policy areas to be returned to Scottish institutions). The bill reserved 'pure public goods' for the UK legislature, as is common in federations according to Oates,[18] and these would include such goods as the Crown, international relations, and defence. In contrast, devolved expenditure powers were mostly social expenditures, very like the case in Spain and in most other decentralised countries;[19] here these included health, education, and justice. In 1999, Scotland's first elections included a call for increased tax autonomy for the newly reinstated institution. However, this mandate did not materialise until over a decade later, in 2012, when the bill was amended to create the Revenue Scotland tax agency, to modify the personal income tax rate within a 10 percentage-point limit, and to create Scotland's own stamp duty and landfill tax. These reforms

18. Oates, "Fiscal federalism". Oates, "Toward a second-generation theory of fiscal federalism", 349-373.

19. Zimmerman, "Devolution in the UK", 558-560.

incorporated the conclusions reported by the Calman Commission hosted at Holyrood.[20]

A few years later, the Smith Commission was created as an immediate consequence of the 2014 independence referendum, to materialise promises by non-independentist political parties for fostering devolution in the event of a "No" win. This body assessed the 2016 Scotland Act that increased tax autonomy by devolving two new taxes, the Air Passenger Duty and the Aggregates Levy,[21] also increasing the Scottish Parliament's ability to issue debt and finally applying the devolved power to change tax rates and bands on the personal income tax.[22] However, the former taxes remain in the UK's hands due to certain problems related to State Aid policy,[23] similar to the compatibility issues seen in the Corporate Income Tax (CIT) decentralisation of EU-law.[24]

At the same time, a revenue-sharing scheme on Value Added Tax (VAT) was introduced, and new extensive powers on welfare were decentralised. In theory, 10% of the standard VAT as well as 2.5% of the reduced rate of VAT collected by the UK would be transferred to Scotland.[25] However, this tax-sharing arrangement has not yet entered into practice due to methodological concerns, and it is now being negotiated for possible implementation in 2021.[26] As in the Spanish 'common territory' scheme, where the Spanish Tax Agency collects VAT receipts and where 50% of revenue is transferred to autonomous regions, VAT collection would not in this case be carried out by Revenue Scotland. In contrast, this is not the case in the historic Basque territories.

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20. Civil Service of the UK Government, "Introduction to Devolution". Zimmerman, "Devolution in the UK", 558-560.

21. The Aggregates Levy taxes the commercial exploitation of 'aggregate', which includes rock, gravel, and sand, among other materials.

22. Bell et al., "Scotland's fiscal framework". Bell and Eiser, "Scotland's Fiscal Future in the UK".

23. Scottish Government, "Devolved taxes".

24. Vega, "The Impact of the European Union Law on Regional Autonomy", 11-45.

25. Scottish Government, "Devolved taxes". Eiser and Roy, "The fiscal framework".

26. Keep, "The Barnett formula". Eiser and Roy, "The fiscal framework".

The shift towards increased tax autonomy and thus fiscal co-responsibility can be observed in Figure 1. During the 2016-2018 period, the UK Block Grant, which is the main funding mechanism for Scottish institutions, was reduced in order to compensate for new income sources from devolved taxes. The baseline Block Grant Adjustment was calculated as a mechanical reduction based on the amount of devolved revenue collected by the UK in Scotland the previous year,[27] which is why the total income remained relatively stable during the period. Once the adjustments have been applied, the share of income represented by each of the two income sources is expected to be stable over time, with transfers still representing the main income source due to a still large vertical fiscal imbalance.[28] However, actual tax autonomy is not as high as the chart may suggest at first glance,[29] since Holyrood's decision-making power on personal income tax (PIT), which accounted for more than 90% of revenue from devolved taxes in 2019, remains heavily limited. A consensus was reached around the proposals designed following the 2014 referendum about the leading role that PIT should play in the process towards increased tax devolution, due to its broad and stable bases and visibility.[30] This is consistent with prescriptions from the Theory of Fiscal Federalism[31] and with the empirical experience in most fiscally decentralised countries.[32]

27. According to Bell and Eiser ("Scotland's Fiscal Future in the UK"), the adjustment only reduced the Block Grant on the amount of Scottish revenue share of the PIT. The reduction on the amount of the landfill and stamp duty land taxes only operated during the first year, in 2016. From 2017 onwards, the Block Grant Adjustment of the Baseline year is updated only on the basis of the PIT, as will be explained later.

28. Bell and Eiser, "Scotland's Fiscal Future in the UK".

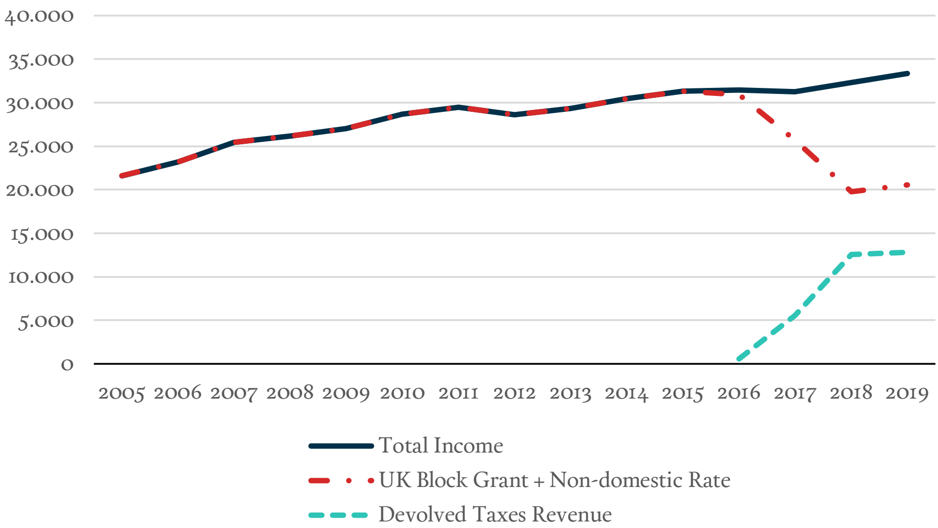
29. Zimmerman, "Nationalism and Self-Government", 370-372. Bell and Eiser, "Scotland's Fiscal Future in the UK".

30. Bell and Eiser, "Scotland's Fiscal Future in the UK".

31. Musgrave, Economics of Fiscal Federalism", 3-13.

32. OECD and KPIF, "Institutions of Intergovernmental Fiscal Relations".

Figure 1. Evolution of fiscal income of devolved Scottish institutions (£m)



Source: own elaboration based on Scottish budgetary data published on Gov.scot.
Does not include other income sources such as National Insurance Contributions or capital borrowing

As regards debt-issuance powers, the reform in question increased Scotland's narrow margin to issue debt by increasing borrowing limits to 3 billion GBP for capital investment, with an annual cap of 450 million, and to 1.75 billion GBP for current expenditures, with an annual cap of 600 million. However, with the aim of maintaining the financial sustainability of public finances, the option of debt-issuance is only allowed to cover a decrease in forecast revenues and requires that two macroeconomic conditions be fulfilled: Scottish GDP growth should be under 1%, and Scotland should grow by at least 1 percentage point less than the UK as a whole.[33] Clearly, this clause reserves debt tools for cases of unexpected and asymmetric negative macroeconomic shocks to the nation. In such a scenario, the Block Grant would remain more stable than Scotland's own tax revenue, meaning that Scotland should only issue debt to offset a fall in its own tax revenue, and not to cover declines in the Block Grant.

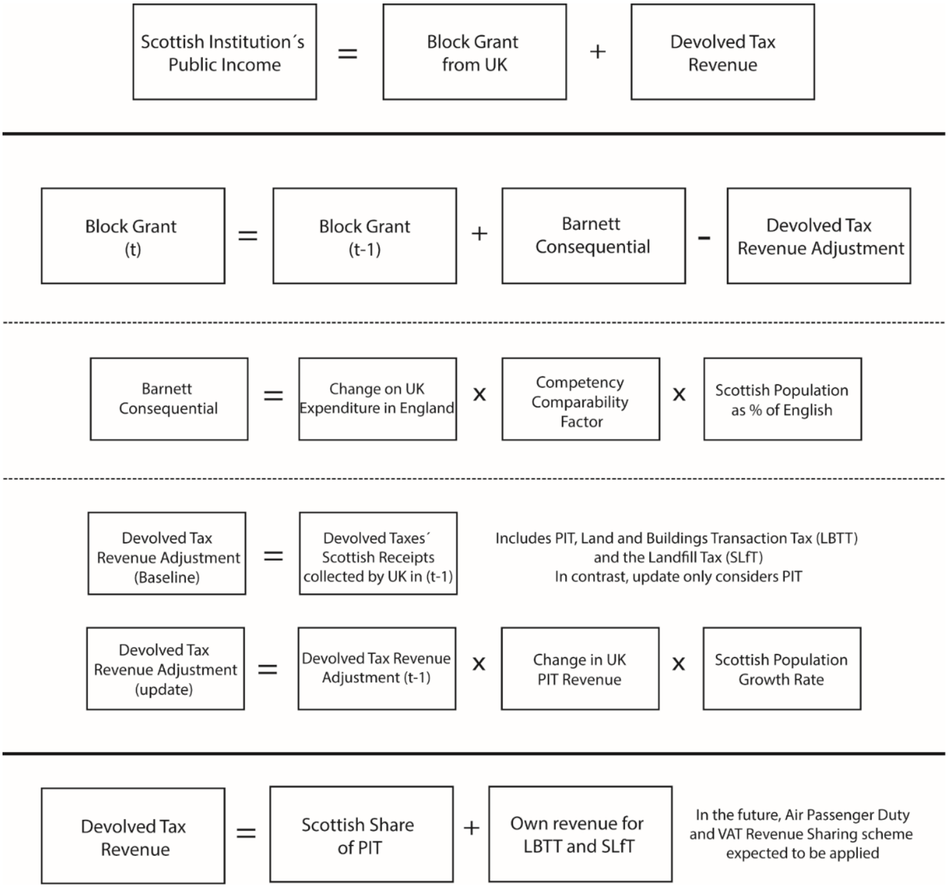
33. Bell et al., "Scotland's fiscal framework".

Having reviewed the context and development of the Scottish fiscal devolution model, the analysis now turns to the formula that determines the total public income managed by Holyrood's budget. As described by Figure 2, there are two main sources of income for Scottish institutions: the main income stream via the Block Grant transferred by the UK Treasury, and devolved tax revenue. The Block Grant was transferred for the first time in 2005, when the fiscal arrangement settled upon between Scotland and the UK was initially applied. The baseline grant was calculated based on UK expenditure in Scotland. According to Bell and Eiser,[34] the actual cause of Scotland's alleged overfunding has been a generous baseline grant allocation, and not the Barnett formula, as is generally claimed. This issue resembles the legacy of the effective cost estimation method that is embodied in the Spanish common regional funding system by the so-called status quo' clause in the Spanish common regional funding system.[35] The lack of an explicit equalisation goal in the funding system, as well as the large asymmetries of the system, and the poor quality of regional public finance statistics in the UK, could all be among the reasons to explain significant differences in terms of expenditure per capita across the four founding countries.

34. Bell and Eiser, "Scotland's Fiscal Future in the UK".

35. Fernández Gómez and Monasterio Escudero, "Debates sobre la reforma del Sistema de Financiación".

Figure 2. How the income of devolved Scottish institutions is calculated



Source: Own elaboration based on Keep[36] and Bell, Eiser, and Philips.[37]

The Barnett formula, while often criticised, is merely the means by which the Block Grant is updated on a yearly basis. Thus, the amount transferred by the UK to Scotland varies by the amount equal to the difference between the Barnett Consequential (see Figure 2) and the Devolved Tax Revenue Adjustment (also known as the BGA, or Block Grant Adjustment). Firstly, with regard to the Barnett Consequential, it could be argued that an implicit full-equalisation scheme is in place behind the Block Grant, since all four countries are supposed to receive the same per capita expenditure for homogeneous

36. Keep, "The Barnett formula".

37. Bell et al., "Scotland's fiscal framework".

competencies, based on the amount of UK expenditure devoted to England. In fact, the Block Grant update method has been very disputable from the outset, since it is not based on relative expenditure needs and lacks an explicit horizontal equalisation scheme. In contrast, as explained above, its aim is to provide devolved institutions with an expenditure capacity commensurate with expenditures carried out by UK institutions in England. In Spain, this type of regional pacification strategy is colloquially known as "coffee for everyone", while Keep[38] has called it the Barnett Squeeze hypothesis. However, what is true in theory may not be so in practice. Probably due to both baseline grant differences and the Block Grant update method, differences in 2019 amounted to as much as 18% of the per capita expenditure made in England (lowest) and Northern Ireland (highest). These large asymmetries in the degree of devolution across the three devolved countries[39] require that this figure represent not only expenditures made by devolved governments, but also those made by the whole British public sector. In Scotland, even if the Barnett formula is perceived as a second-best option, it is still preferred to a needs-based formula, as called for in Wales. Accordingly, the Welsh Holtham Report estimated that Scotland would receive about 4 billion GBP less under a needs-based funding system.[40]

Figure 2 depicts how the Barnett Consequential is applied in order to update the Block Grant, which (as its name implies) is not a matching grant, meaning that its volume does not depend on the share of own revenue devoted by Scotland to a specific policy area. Moreover, this transfer is not earmarked.[41] In other words, devolved institutions are free to spend the transfer as they prefer, even though the Barnett Consequential is partly based on the weight of each policy area in the change in England-located public expenditure and its degree of devolution, or the so-called "comparability factors", as shown in Figure 2. This is similar to what occurs under the common regional funding system in Spain, where even if a fund is divided depending on "fundamental expenditure needs", grants can be spent in any policy area.

38. Keep, "The Barnett formula".

39. Keating, "Rethinking sovereignty", 9-29.

40. Bell and Eiser, "Scotland's Fiscal Future in the UK". Poole et al., "Fair funding for taxing times?"

41. Keep, "The Barnett formula".

Indeed, within the Barnett formula, comparability factors are among the most disputed variables, since they determine the results of the Barnett Consequential to a large extent. These are calculated by the UK Treasury in order to try to allocate new funding to countries only in proportion with the degree of power devolution. For instance, if Westminster decides to increase expenditures on the court system, that would contribute to an increase in the Scotland and Northern Ireland Block Grants; however, it would not assign new funds for Wales, since the latter has not received powers in terms of the administration of justice. This is only one example of how Westminster's England-expenditure decisions and calculations of comparability factors can reverberate in funding differences across all four countries.

Finally, and before a test of Fiscal Federalism is carried out, it is necessary to look into the Devolved Tax Revenue Adjustment (BGA). During both negotiation rounds (2012 and 2016), one of the most controversial issues between Westminster and Holyrood was the mechanism applied to calculate grant decreases after tax autonomy was increased.[42] The outcome was a Comparable Revenue formula that has served as a temporary solution (with the actual framework to be reviewed and renegotiated following the 2021 Scottish elections).[43] The baseline grant adjustment was equal to the UK government's tax receipts raised in Scotland in the year before devolution. Subsequent adjustments are to be updated according to an Indexed Per Capita Approach (see Figure 2), at least until 2022, according to the Scotland Fiscal Framework.[44] This method was implemented to avoid a decrease in the income that Scotland would have received without tax devolution, but also to force Scotland to face the consequences of policies adopted through the use of devolved powers.[45]

For a fully detailed discussion on alternative methods for the Block Grant Adjustment, please see the research by Bell, Eiser and Philips,[46] who argue that the current approach does not satisfy the taxpayer-fairness principle, since it does not penalise Scotland for its lower per capita revenue from

42. Bell et al., "Scotland's fiscal framework". Keep, "The Barnett formula".
43. Keep, "The Barnett formula".
44. Ibid.
45. Bell et al., "Scotland's fiscal framework: Assessing the agreement".
46. Ibid.

devolved taxes (around 12% lower than for the UK as a whole), adding that this method, agreed upon by the UK Treasury in order to reach a compromise, is inconsistent with the population-growth treatment of the Barnett formula.

Theoretically, this fiscal arrangement should be guided by the principles of "no detriment from the decision to devolve" and "tax fairness". According to the former, neither the Scottish nor the British Treasury should be solely worse off after devolution. Also, in line with the latter principle, after new tax powers have been devolved, each government should assume the positive and negative outcomes on revenue of their own policies; therefore, the Scottish government should face the risk associated with adverse effects on the socio-economic variables in the country. In other words, the impact that an asymmetric shock on the Scottish economy would have on revenue could not be offset by way of the Block Grant.[47]

How then does this intergovernmental fiscal design interact with the prescriptions established by the Theory of Fiscal Federalism? As in most decentralisation arrangements, devolution of expenditure is far more developed here than devolution of revenue.[48] Devolved taxation, even if still very limited, responds to Musgrave's theory, since only local and less-mobile tax bases are devolved. As is typical, corporate income tax (CIT) remains reserved to the UK Treasury, this tax being charged on a predominantly mobile tax base[49] and having a very unstable revenue capacity that is highly dependent on the business cycle. Overall, as was recognised by the Commission on Scottish Devolution in 2009, a lack of tax autonomy leads to less accountable devolved institutions, since these face neither cost nor profit from gains resulting from good government performance on the economy, as only a small share of their income is derived from devolved tax resources.[50] Certain minor extra transfers known as 'formula bypass' agreements are also derived from the Barnett formula. In the recent past, these have been used (for example) to fund policing during a visit to Scot-

47. Bell et al., "Scotland's fiscal framework".

48. OECD and KPIF, "Institutions of Intergovernmental Fiscal Relations".

49. Mirrlees et al., "Tax by design".

50. Bell and Eiser, "Scotland's Fiscal Future in the UK". Eiser, "Will the benefits of fiscal devolution outweigh the costs?"

land by U.S. President Trump or to fund City Deal programmes. Keep[51] considered these to be among the factors working against the equalisation of the expenditure capacities of the different countries. Nevertheless, it can be said in summary that this institutional design hinders the fiscal co-responsibility that would prompt subcentral governments (SCGs) to behave in a financially responsible way.[52]

Finally, the Brexit phenomenon has been playing a very relevant role in defining the future of fiscal devolution processes in the UK.[53] Rawlings[54] argues that under the "taking back control" memo from the Brexit campaign, a wave of new efforts could be made to centralise power at the expense of subcentral institutions, and to replace ruling-based judicial interpretations with Ministerial judgements. For these reasons, the Scottish executive and legislative chamber have been working to ensure that EU powers are accordingly distributed across both devolved institutions and Westminster.[55]

Future steps, including the review of the method of indexation of the Block Grant Adjustment method for devolved taxation, are expected to be agreed upon following the 2021 Scottish elections.[56] After that, bilateral talks are expected to resume to set up new Block Grant Adjustment rules, or to maintain the current rules. However, this could represent a natural opportunity to push for deeper reforms, pursuing a model that would generate a more adequate set of incentives through increased fiscal co-responsibility inspired by the principles and rules of the Basque Economic Agreement. Along the same lines, Bell, Sas and Houston[57] offer an alternative model to pursue a flexible, asymmetric, and transparent regional funding system for federations, with a specific application to the UK.

51. Keep, "The Barnett formula".

52. Foremny, "Sub-national deficits in European countries", 86-110.

53. Fondevila Marón, "Los referéndums de secesión en la Unión Europea", 231-269.

54. Rawlings, "Brexit and the Territorial Constitution".

55. Mullen, "Review of implications of Brexit-related UK legislation for devolved competence".

56. Keep, "The Barnett formula".

57. Bell et al., "Starting from scratch?", 1-13.

3. The Basque Economic Agreement: a test for Fiscal Federalism

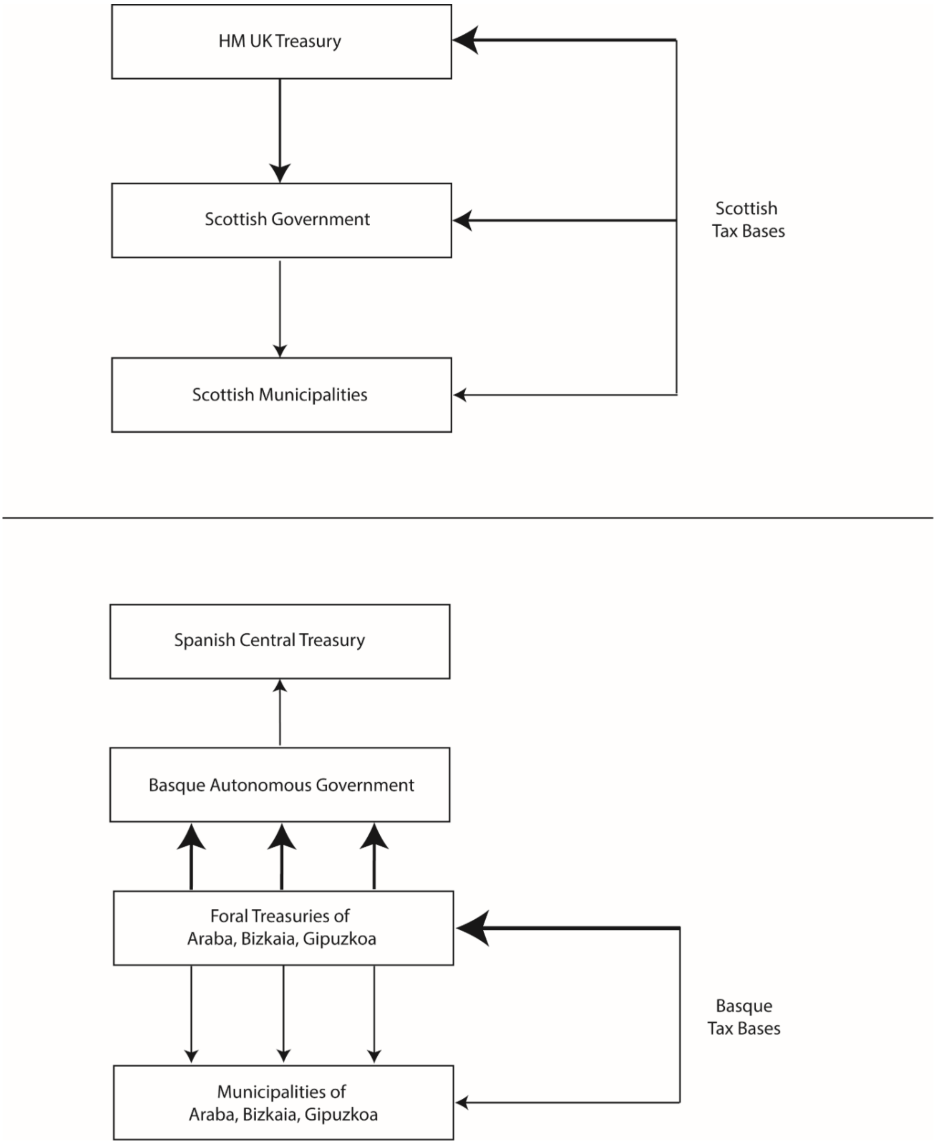
Intergovernmental fiscal relations between the Spanish Treasury and Basque institutions are regulated by the Economic Agreement (Concierto Económico). Its original version entered into force in 1878, after Basque *Foral* (regional) Law was finally abolished.[58] However, this changed and, after its restoration in 1981 in the framework of the 1978 Constitutional regime, transmuted into the Agreement that still operates today, albeit updated by law in 2002.[59] The most characteristic element of this system is the broad tax autonomy that the model grants to Basque institutions. Among devolved institutions in the UK, those of Edinburgh (and of Northern Ireland) have the highest levels of tax autonomy. This is also the case for the *foral* institutions in Spain. However, the funding system and direction of Britain's devolved institutions are closer to those of the Spanish 'common regime' than to the *foral* cases, as shown in Figure 3.

Although the Basque autonomous government (regional level) has expenditure competencies somewhat similar to those of the other Spanish regions, the vertical transfer that the central government provides to 'common regime' (non-*foral*) autonomous regions operates the other way round in the Basque case (Figure 3). The three Basque *foral* tax agencies collect revenue from Basque tax bases according to their own *Foral* Tax Norms (Norma Foral Tributaria), and then they transfer a share of this (the well-known *cupo* or 'quota') through the Basque autonomous government to the Central Government, in order to pay the "Basque share" (6.24%) of expenditures for which the central government is responsible (primarily 'pure public goods' such as the Crown, international relations, and defence). This 6.24% is known as the imputation index –a non-exhaustive estimation of the share of the Basque economy in relation to the overall Spanish economy. This index has not been updated since the Economic Agreement was restored.

58. Agirreazkuenaga, and Alonso Olea, "Historia de la Diputación Foral de Bizkaia".

59. Zubiri, "The economic agreement between the Basque Country and Spain". Zubiri, "An Assessment of the Economic Agreement".

Figure 3. Fiscal institutional arrangements in Scotland and the Basque Country



Source: own elaboration.

Once the *foral* treasuries have collected their own tax revenue, they distribute it across each tax jurisdiction's municipalities and to the Basque autonomous government. The latter represents the main financial stream in terms of volume, since the Basque government is in charge of primary expenditure duties such as health or education. Finally, the 'quota' (the transfer that the

Spanish Treasury receives from Basque institutions) is calculated according to the formula illustrated in Figure 4. On the one hand, the Basque share of non-assumed CG (Central Government) expenditure could be translated as the expenditure that the Central Government carries out in policy areas that have not been decentralised to the Basque Country, such as the Crown, international relations, certain nationwide infrastructures, and defence. Since they are provided by the CG, an institutional level of government to which Basque citizens pay almost no taxes, the Basque share (6.24%) has to be paid through the 'quota'. On the other hand, non-agreed revenue includes 6.24% of customs duties, paid directly to the Spanish Tax Agency, but which pertains to Basque institutions. Finally, the same share of the central government (CG) deficit is deducted from the transfer, with the aim of not paying twice for the same item, since the Basque share of non-assumed CG expenditure already includes payment of debt service (interest).

Figure 4. How the 'quota' transfer is calculated

Cupo Transfer	=	Basque share of non-assumed CG´s expenditure	–	Non-agreed Basque revenue	–	Basque share of CG´s Deficit

Source: own elaboration.

The details for the 'quota' calculation are updated every five years through a bilateral agreement between Spanish and Basque institutions. Within the lustrum, the 'quota' is updated according to changes in Spanish revenue (without considering taxes where income is fully devolved to 'common regime' autonomous communities, such as taxes on inheritance and donations, wealth, or property transfer). Clearly, the size of the 'quota' does not depend on how Basque revenue performs, but rather on budgetary decisions by the Spanish central government. This makes the Agreement a risky arrangement for Basque institutions, particularly should an asymmetric negative shock beset the Basque economy in the context of an expanding Spanish budget. In this regard, both the Scottish and Basque schemes determine a share of their final public income depending on the CG's expenditure. However, the relevance of this variable is far smaller in the Basque case, since its impact on the Scottish budget operates through its main source of income, the Block Grant.

Therefore, the Economic Agreement does provide very broad tax autonomy to Basque institutions. However, certain principles regulate the Agreement and limit its scope to ensure that negative horizontal externalities do not take place. We can divide these into two sets: tax-related principles (Article 2 of the Economic Agreement Law), and principles for Basque-Spanish intergovernmental financial relations (Article 49). Within the first set, we find solidarity, consistency with the Spanish 'common regime' tax structure, coordination, harmonisation, collaboration and coordination between treasuries, and respect for the binding effect of international treaties ratified by Spain. Here it is of key importance to note that these principles operate not only with regard to Spanish non-*foral* and European institutions (external perspective), but also with regard to the rest of the Basque institutions (internal perspective).[60] Within the second set, principles in force include autonomy, solidarity, coordination and collaboration regarding budgetary sustainability, and the contribution of Basque institutions to non-assumed Spanish CG expenditures.

The principles described above are the rules that guided the legal development of the Economic Agreement and its practicalities. However, two additional principles not present in the literal text of the law also form part of the model's essential rationale. In fact, these principles shape both the Basque and Navarrese Economic Agreements as very exceptional regional funding systems, in contrast with the 'common regime' system or with British[61] frameworks: bilateral character and unilateral risk. Consequently, the Agreement cannot be modified without the consent of all the stakeholders involved, namely, Basque institutions and the Spanish Treasury. The latter clause amounts to a hard budget constraint, meaning that there is no possibility of bailout.

According to Oates[62] and Musgrave,[63] pioneering authors of the Theory of Fiscal Federalism, this institutional configuration allows advantage to be taken of the benefits offered by decentralisation (local public goods matched to local preferences, and increased accountability) while downsides are reduced (budgetary sustainability and government size issues); and therefore this approach is more efficient in economic terms compared to alternative

60. Martínez Bárbara, *Tax Harmonization in Federal Systems.*

61. According to Keep, the UK Treasury dictates how the Block Grant formula works, and how it should be applied, although a policy is in place for dealing with disputes. This means that bilateralism in intergovernmental fiscal relations between the two counterparts is not safeguarded.

62. Oates, "Fiscal federalism".

63. Musgrave, "Theories of fiscal federalism".

designs. From the financial point of view, the unilateral risk enforced by *foral* systems is beneficial for budgetary stability.[64]

One field of study of Fiscal Federalism specifically examines how to reduce vertical (multilevel) and horizontal (inter-jurisdictional) spillovers and to internalise their costs in terms of efficiency losses due to behavioural and other issues. For a detailed look at vertical fiscal externalities caused by vertical fiscal imbalances and interactions between the fiscal policies of CGs and SCGs (Subcentral Governments), see Dahlby and Wilson[65] or Esteller-Moré and Solé-Ollé.[66] It was precisely Scotland's heavy reliance on transfers (large vertical fiscal imbalances) that prompted the Smith Commission to suggest that at least part of such spillovers should be offset by introducing them as adjustments in the Block Grant to ensure that the principle of taxpayer fairness be respected.[67] Due to great difficulties in calculating estimations for the size of such behavioural spillovers – well-known by scholars in this field – only 'direct' or especially obvious spillovers were to be offset in this way.[68] In contrast, due to the decreased vertical imbalances (increased fiscal co-responsibility) enforced by the Economic Agreement, this issue in the Basque case would be reduced, though not entirely solved.

On the opposite side, the commonly mentioned drawbacks of fiscal decentralisation[69] include: diseconomies of scale, and particularly of tax autonomy; lack of solidarity between jurisdictions; and the risk of harmful tax competition taking place, including "race to the bottom" phenomena.[70] However, regional funding systems such as the Economic Agreement are fully compatible with the solidarity principle, which can be made effective through federal regional policy funds or additional funding mechanisms. On the other hand, issues of tax competition have not been especially relevant in the case of the Basque

64. Foremny, "Sub-national deficits in European countries", 86-110. Sorens, "The institutions of fiscal federalism". Brennan and Buchanan, "The power to tax".

65. Dahlby and Wilson, "Vertical fiscal externalities in a federation".

66. Esteller-Moré and Solé-Ollé, "Vertical income tax externalities and fiscal interdependence".

67. Bell et al., "Scotland's fiscal framework".

68. Eiser, "The funding of the Scottish Parliament's new social security responsibilities".

69. Rodriguez-Pose and Gill, "On the 'economic dividend' of devolution".

70. Sinn, *The new systems competition*. Eiser, "Will the benefits of fiscal devolution outweigh the costs?".

Country, since (despite judicial controversies in the past with neighbouring regions) the main issues linked to competition and related to CIT no longer take place at national level, but rather at international level.[71] In fact, the Basque Country (as well as Navarra) eliminated SICAVs –corporate legal configurations that permitted scant payment of taxes on large fortunes– which then relocated to Madrid,[72] a region under 'common regime' jurisdiction. Many experts suspected that the post-Brexit UK would try to gain competitiveness by emulating the Irish low-CIT strategy. In the current context, when a minimum CIT tax rate has been agreed at the OCDE-G20 level,[73] the CIT rate increase announced by the UK government for 2023,[74] and Scotland aiming to maintain its economic links with both the EU and the Common Market, the main risk appears not to be the possible decentralisation of CIT but rather moves that could be taken by the UK government and Parliament to make the overall union into an Irish-style low-tax jurisdiction. Also, it should be recalled that one of the principles of the Economic Agreement is fiscal harmonisation.[75] This ensures that levels of fiscal pressure remain similar both in '*foral*' and 'common' jurisdictions, thus greatly diminishing the potential for a scenario of harmful fiscal competition.

4. Data and methodology

Budgetary data for both revenues and expenditures have been obtained from the UK Office for National Statistics. The particular database employed in this paper is 'Country and Regional Public Sector Finances', covering the period from 2000 to 2019. In addition, the counterfactuals used to compare the simulated results with the actual income of devolved Scottish institutions have been obtained directly from the Budgetary Bills of Scotland's government, as published in the country's Official Gazette.

Due to data limitations, I have made certain modifications to the original methodology, to better adapt it to the information available. Although the

71. Montes, "Foral tax autonomy on Corporate Income Tax and European harmonization".
72. Uriarte, "El Concierto Económico de 1981".
73. Rappeport, "Finance leaders reach global tax deal aimed at ending profit shifting".
74. HM Treasury, "Corporate tax rates and small profits thresholds from 2023".
75. Martínez Bárbara, "Tax Harmonization in Federal Systems".

British regional account system is improving, and revenue and expenditure data since 2014 have been published according to the relevant level of government, this was not the case for the period starting in 2005, when devolution entered into force. In order to analyse a longer period extending from the first Block Grant transfer to the latest available year, and to do so on a homogeneous basis, calculations of non-assumed expenditure have been based not only on CG expenditures (as should strictly be the case) but instead on the entirety of non-assumed expenditures managed by the overall British public sector. This means that some of Scotland's expenditure decisions are reflected in the size of the UK CG's non-assumed competencies calculation whereas this would not be the case in the Basque Economic Agreement.

Additionally, the following must be taken into consideration. On the one hand, when the UK Treasury calculates territorialised revenue for Scotland, its theoretical tax capacity is comparatively higher, due to tax receipts from North Sea Oil & Gas. To avoid distortions, also due to price fluctuations, I exclude this revenue from the calculations in this paper. Indeed, we cannot follow the guidelines of the Basque Economic Agreement to treat this revenue in the simulations, since there is no such issue in Spain. However, we could predict two different scenarios. First, if the Scottish share of North Sea Oil & Gas revenue were to be attributed to Scotland, our figures for Scottish budgetary income would be higher. And second, if all North Sea Oil & Gas revenue were to be attributed to the UK, the UK CG's deficit would be lower, but the UK revenue share to be paid to Scotland would increase too. Hence, the overall result on the quota would be ambiguous. In this case, the estimates would only be better for Scotland, through a lower quota, if the formula attributed Scotland a higher share of these receipts than its imputation index.

On the other hand, while welfare expenditure[76] is certainly a relevant element in examining the UK devolution process as a whole,[77] social protection

76. According to Eiser, "The funding of the Scottish Parliament's new social security responsibilities", and Mackley, "Social Security Powers in the UK", the devolution of nine welfare benefits to Scotland was expected to materialise in 2020. However, the impact of the COVID-19 pandemic on public employee work schedules delayed the process, which is now not expected to finish until 2025 at the earliest. Child Benefit, Guardian's Allowance, Working Tax Credit, and Child Tax Credit benefits remain reserved for UK institutions.

77. Eiser, "The funding of the Scottish Parliament's new social security responsibilities". Mackley, "The Barnett formula".

revenues (National Insurance) and expenditures have not been taken into account in the simulation exercise. The rationale for this lies, firstly, in the fact that in the Basque case, Social Security (the public administration in charge of contributory retirement pensions, among other salient social protection programmes) is completely separate from the Economic Agreement, with no Basque specificity accounted for; and secondly, in the fact that including social protection expenditure in the value of UK's non-assumed expenditure, of which public retirement pensions represent the biggest chunk but do not have anything to do with the Basque Economic Agreement, would have placed an upward bias on the size of the quota.

Of course, calculations are based at the macro-level, as there is insufficient data for simulating micro-level estimations (such as information needed to calculate connection points, the determinant that defines whether tax bases must be attributed to 'common regime' or *'foral'* jurisdiction, in this case to the UK or to Scotland). This, together with dynamic estimations like those carried out by Ferguson et al.[78] for reform of the Barnett formula, would be an interesting path for further research in this area. In fact, the estimations presented below assume a *ceteris paribus* scenario in which the simulated Economic Agreement does not influence the behaviour of economic agents, and thus does not affect macroeconomic variables such as GDP growth, demographics, or employment statistics. Obviously, were Scotland to have as much tax autonomy as the Economic Agreement (or a system of its kind) allows, then sensible use would have been made thereof. For instance, Scotland has more progressive tax schedules than England, Northern Ireland, or Wales on taxes already devolved. But as it is impossible to guess what the fiscal behaviour of Scotland would have been under an Economic Agreement system during the period analysed, we assume herein the same bases and rates that were actually present during the period. Thus, the paper estimates what the public income of Scottish institutions would have been (all things being equal) had the rules and principles of the Basque Economic Agreement been applied instead.

Next, I will explain in detail how the simulation has been carried out, by applying the methodology for the calculation of the 'quota' transfer as explained in previous chapters. Firstly, the imputation index has been calculated

78. Ferguson et al., "The Impact of the Barnett Formula on the Scottish Economy", 3008-3027.

as the population or GDP share of Scotland within the UK as a whole. In addition, results for a mixed imputation index – an average of both previous approaches- are reported. Then, as shown in Figure 5, the total value of CG expenditure on non-transferred policy areas (also known as reserved powers in the UK, e.g. The Crown, Defence, International Affairs, etc.) has been calculated by deducting expenditure assumed by Scottish institutions from Westminster Budgetary Expenditures. The outcome has been multiplied by the imputation index in order to reach the share of non-assumed expenditure to be paid by Scotland.

Figure 5. How has the quota for Scotland been calculated?

(1). Westminster Budgetary Expenditures (Total managed expenditure-adjustment-social protection)
(2). Expenditure assumed by Scotland
(3)=(1)-(2). Total non-assumed expenditure: regional policy, transfers to public entities, amortisation of debt interest
(4)=(3)*(i). Non-assumed expenditure to be paid by Scotland
(5). Non-agreed revenue
(6)=(5)*(i). CG revenue to be returned to Scotland
(7). UK Deficit (without North Sea Oil and Gas revenue)
(8)=(7)*(i). UK Deficit share of Scotland
(9)=(4)-(6)-(8). Cupo/Quota/Cash contribution

The mechanical simulation has been carried out for three different scenarios of expenditure devolution:[79] full devolution (of all powers except 'pure public goods', similar to Keating's 'devo-max' proposal); Basque-type devolution; and minimum devolution (reserving all powers but health and education). The first and third scenarios correspond relatively well with the actual process of expenditure devolution in the UK, where powers are not generally shared, as is common in Spain. Hence, the value of CG expenditure on non-assumed powers has been calculated for these three devolution scenarios.

79. The three devolution scenarios have been inspired by the Devo More and Devo Plus proposals made during the campaign for the 2014 Scottish Independence Referendum (Bell and Eiser, "Scotland's Fiscal Future in the UK") and by the idea of 'devo-max' proposed by Keating ("Rethinking Sovereignty"). The share of each government level on shared policy areas has been calculated according to budgetary expenditure data provided by Eustat.

Figure 6. Devolved expenditure powers under three different scenarios

	Full devolution	Basque devolution	Minimum devolution
Devolved powers	Health Education Public order and safety Economic affairs Environment protection Housing and community amenities Recreation, culture and religion	Health Education Public order and safety (50%) Economic affairs (50%) Environmental protection (80%) Housing and community amenities Recreation, culture and religion	Health Education
Reserved powers	General public services (public and common services; international services; interest of public sector debt) Defence EU transactions	General public services (public and common services; international services; interest of public sector debt) Defence Public order and safety (50%) Economic affairs (50%) Environmental protection (20%) EU transactions	General public services (public and common services; international services; interest of public sector debt) Defence Public order and safety Economic affairs Environmental protection Housing and community amenities Recreation, culture and religion EU transactions

Source: own elaboration.

Obviously, the minimum devolution scenario in which only health and education are devolved to Scotland represents a purely theoretical exercise; the proposed framework of expenditure powers has already been exceeded by actual devolution. This scenario responds to a merely administrative type of decentralisation such as may be found in Northern Europe, where health and education are provided by municipalities[80] but legislation remains fully centralised in central-level institutions.

Next, non-agreed UK revenue pertaining to Scotland has been calculated by adding up other current receipts from territorialised accounts and then multiplying the outcome by, again, the imputation index. Finally, the Scottish share of UK deficit has been obtained as the amount of UK deficit (North Sea Oil and Gas revenue excluded) times the imputation index. In this case,

80. Municipalities in Northern European countries are very large administrative units, between what we would consider *comarcas* and provinces in Southern Europe.

in order to neutralise as far as possible the effect of Social Security which, as explained before, has also been excluded, an adjustment to the deficit size has been applied by deducting social protection expenditure and by adding national insurance revenue.

The quota is therefore the outcome of deducting non-agreed UK revenue pertaining to Scotland and the Scottish share of UK deficit from the size of UK expenditure on non-transferred powers to be paid by Scotland. Once the quota has been obtained, two different updating criteria have been applied: on the one hand, a yearly update and, on the other hand, a five-year update, as used in the Basque Economic Agreement. In the latter case, formula variables are only updated once every five years, however, within the five-year period the yearly update is carried out according to the percentage change of UK tax revenue from the baseline year.

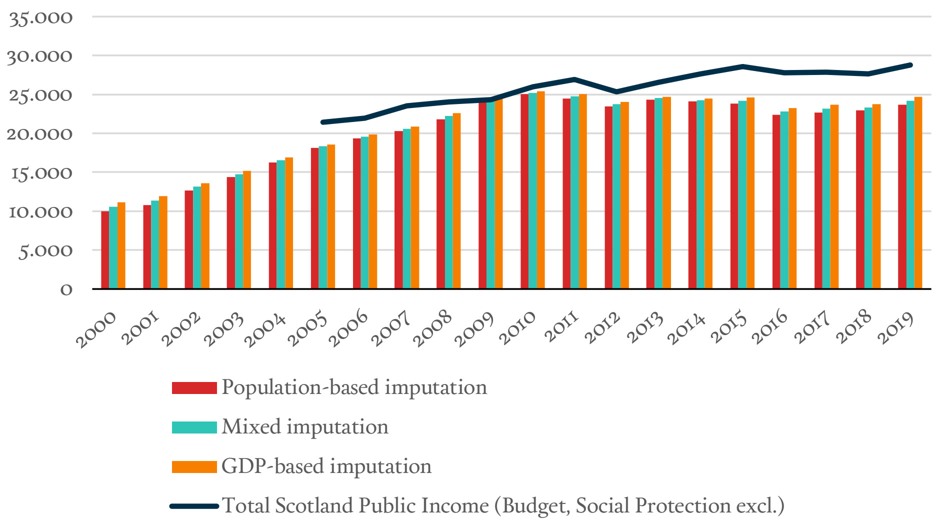
Finally, Scotland´s estimated public income is the result of adding up total current UK territorialised tax receipts for Scotland from the ONS Country and Regional Public Sector Finances database –excluding National Insurance contributions and North Sea Oil & Gas revenue– and treating "other current receipts" –excluding capital taxes, which are part of the previous calculation- as non-agreed revenue. The difference between estimated Scottish public income and the "quota" to be paid (remember, bottom-up intergovernmental transfer) is the result of our simulations ("Total Scotland Public Income"). This outcome is what we compare with Scotland´s actual revenue, which is calculated by adding up block transfers received by Scotland plus tax revenue raised by Scotland out of Scottish Income Tax, Land and Buildings Transaction Tax and Scottish Landfill Tax. The results of each of the steps described in this section can be found in Annex II.

5. Simulations for a new Scottish funding system

The methodology having been explained, this section presents and examines the results of the simulation. The key question of interest with regard to intergovernmental fiscal relationships, here focusing on Scotland, is whether a new arrangement inspired by the principles and rules of the Basque Economic Agreement would provide more or less expenditure capacity to devolved institutions. Although three scenarios of powers devolution have been considered, as mentioned above, I focus on the intermediate case referring to the Basque situation (between full and minimum devolution), as it applies more closely to the Scottish case. Charts for the other two hypotheses can be found in Annex I.

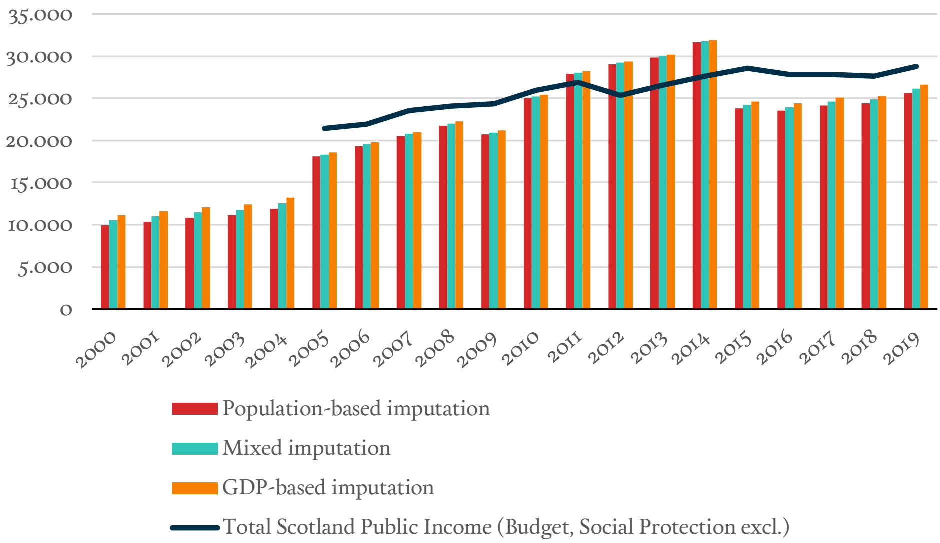
Figures 7 and 8 compare the public income that devolved Scottish institutions would manage under the same powers framework as that employed in the Basque Country, using actual budgets from the first 15 years of devolution. At first glance, Scotland would have been worse off in terms of public income under the proposed arrangement. If the 'quota' (the vertical transfer paid by devolved institutions to the central Treasury) is recalculated for every year, only in 2009 would this funding model have provided Scotland with the same expenditure capacity (other budgetary years proving less generous). At this point, it must be underlined that the comparison is not entirely fair; although similar to the Basque model, the actual powers model is not identical to that proposed.

Figure 7. Public Income for Scotland under Basque-type devolution, with full annual updates of vertical transfer (£m)



Source: own elaboration using regional data from ONS.uk and the Scottish budget bill.

Figure 8. Public Income for Scotland under Basque-type devolution, with full 5-year updates of vertical transfer (£m)



Source: own elaboration using regional data from ONS.uk and the Scottish budget bill.

In the second case, where the Scottish vertical transfer is fully updated only once every five years, with an indexation update within the period, the results are slightly different. In fact, during the 2011-2014 period, the proposed arrangement would have provided Scottish institutions with a higher expenditure capacity than the current system. The choice on whether to apply a population-based imputation, a GDP-based imputation, or a mixed imputation of non-assumed expenditure would not have had much impact on the results, since Scotland's demography and economy represent very similar shares vis-à-vis the UK (at around 8%, with a very slow downward trend during the period analysed). In the Basque case, the imputation index is static, and the negotiated figure (6.24%) more or less represents the Basque economy's proportional income relative to Spain's.[81] However, a GDP-based imputation would benefit Scotland, offering a small improvement as compared to alternative indicators. Thus, the use of the mixed imputation index seems most sensible, this being an intermediate approach that would also mitigate some of the ageing effect as well as possible asymmetric shocks on the Scottish business cycle.

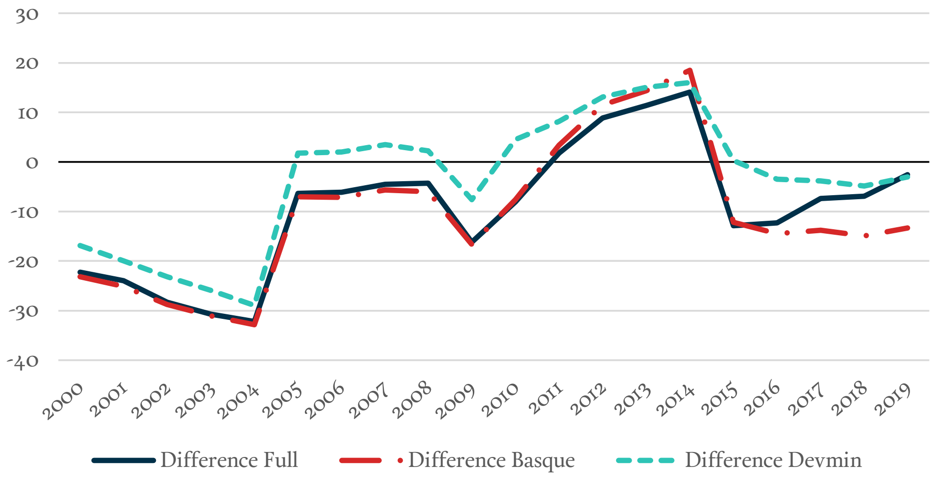
81. Zubiri, *The economic agreement between the Basque Country and Spain*.

The main difference between the two charts is the update protocol. The 5-year update method, as operates in the Basque country, causes more drastic jumps in the series, since the full impact of the expenditure and revenue variables used to calculate the 'quota' transfer would in this case be felt by Scottish public finances once every five years. In contrast, the yearly update provides lower funding but smooths the annual change in total funding available.[82] Of course, in the case of the 5-year variant, results are largely dependent on the year in which the transfer is fully updated. In this exercise, full updates take place in 2000, 2005, 2010, and 2015, which would explain why Scotland would exceed 30 billion GBP (excluding social protection-related expenditures and income) during the 2010-2014 period). Indeed 2010 was the year in which the British public sector budget recorded the largest public deficit, which would have reduced the size of the 'quota'. Since the effect of the deficit correction on funding would not have appeared until the recalculation in 2015, the formula would have been particularly generous with devolved institutions through 2014, as shown in Figure 8.

If we take into account competency differences between the actual Scottish arrangement and the three proposed models, we can carry out a similar comparison on a fairer basis, under a homogeneous powers framework. All in all, as verified in Figure 9, results do not differ significantly from the previous. Figure 9 shows funding differences of applying current versus proposed intergovernmental fiscal arrangements under each of the three powers distribution scenarios presented in section 4. In the model that updates every 5 years, which is closest to the original Economic Agreement, differences are found of between 5% and 15% less funding compared to the actual model (except during the 2000-2005 period, when devolution was not still operative, and the years after the 2008 financial crisis, during which the UK deficit rose considerably). Of course, as stated in the previous section, this works under the assumption that Scotland would have suffered no deviations in revenue attributable to the jurisdiction as a result of legislative reforms (*e.g.*, changes to tax rates, deductions) or management issues (*e.g.*, tax fraud, effectiveness of collection).

82. Note that in the Basque case funding results of the previous period are not revised when the methodology for the quota and formula variables are updated every five years, meaning that differences in available funding between the yearly and 5-yearly update methods would remain the same in the long run.

Figure 9. Scotland's funding levels under the Economic Agreement (5-year update and mixed indexation) versus the actual system, with homogeneous powers (% difference)

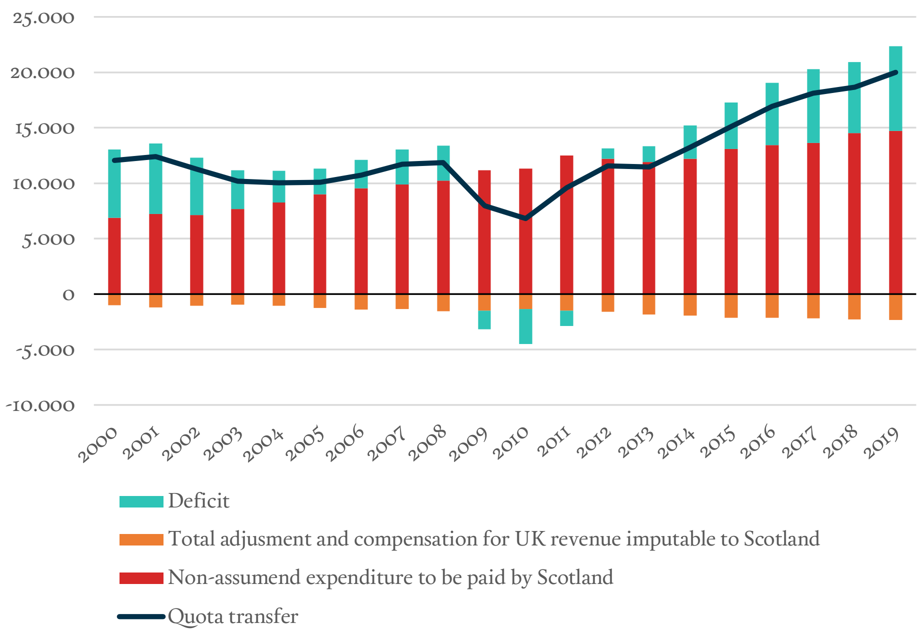


Source: own elaboration using regional data from ONS.uk and the Scottish budget bill.

The gap in differentials across the three powers models is determined by the changes in UK expenditure on certain expenditure policy areas. For instance, the comparative decrease in funding loss under the 'full devolution' scenario during the final five years observed would be the result of an increase in UK expenditure on policy areas not fully devolved under the Basque model (particularly around transport and enterprise/economic development, included in Economic Affairs) relative to expenditures on other policies devolved under both the Basque and 'minimum devolution' models (health and education).

Finally, to clarify the reasons underlying the trends in simulated Scottish public income, component-by-component analysis is made of the determinants of the 'quota' transfer. As shown in Figure 10, the continuous increase in non-assumed UK expenditure imputable to Scotland, together with the deficit component, would have largely determined the size of the 'quota', which would have remained stable until the financial crisis and then decreased due to sharp increases in deficit from 2009 onwards. In fact, excluding social protection-related income and expenditure, the UK would have registered public deficits only during the 2009-2011 period, explaining why the 'quota' would then have been reduced. On the other hand, during the past decade, given the recovery of the economy and of public finances, the 'quota' would have shown such a sharp upward trend as to almost fully absorb Scotland's imputed tax revenue during the period. This latter variable increased on a par with the vertical transfer, as can be inferred from the stability of Scotland's simulated income in Figure 7.

Figure 10. Composition of the 'quota' transfer under annual update, Basque-type devolution, and a mixed indexation imputation model (£m)



Source: own elaboration using regional data from ONS.uk and the Scottish budget bill.

Regardless of the scenario, given that the fiscal devolution process began to mature and become firmly established following the 2016 Scotland Act, the simulated results after this juncture become more stable, as seen in Figures 7 and 8 and in Annex II. Of course, the impact of the crisis on public finance had a clear effect on the previous period. From 2016 onwards the situation would have stabilised, and differences between the actual system and the simulated framework would not have been large in terms of total funding.

And yet one very significant change would have pertained: under an Economic Agreement like the Basque one, Scotland would not depend on UK vertical transfers but would instead legislate, collect, and manage most taxes from bases under its own jurisdiction. This might result in slightly less funding in static terms, but it would grant Scotland the ability to change laws to promote a more progressive tax system, or a more efficient tax revenue agency, or to combat fraud more efficiently. Moreover, a switch towards increased tax autonomy would improve incentive schemes guiding the fiscal behaviour of devolved administrations, which would carry the burdens of fiscal co-responsibility and unilateral risk (no chance of bailout). This would put an end to the discourse that blames UK institutions for Scotland's problems, while improving the accountability of Scottish policymakers. Also, an Economic Agreement for Scotland would definitively eliminate the tight link between UK management of expenditure and Scotland's expenditure capacity, thus closing the gap between budgetary capacity and actual need. Among the risks would be an increase in tax competition among the British countries, particularly for more mobile tax bases such as CIT. However, if harmonisation, cooperation, and coordination principles are adequately enforced, such a risk could be prevented. Finally, an Economic Agreement for Scotland would safeguard Scottish self-government, allowing its devolved institutions to have actual decision-making power over regional and local policies, both in terms of expenditure (as is currently the case) and in terms of revenue. As Sorens[83] explains, regional self-rule is only possible by combining both legislative (programmatic and political) and fiscal autonomy.

Although this paper simulates for the first time how a model inspired by the Basque Economic Agreement might work in Scotland, this model's replication in other Spanish regions has long been discussed. In fact, debate around the generalisation of *foral* Economic Agreements to all Spanish autonomous regions has often been in the media,[84] particularly in the framework of ongoing Catalan issues. However, this has never yet been seriously considered a real possibility; it has been argued that reform in this direction would not be possible for every Spanish region, due to implications for the equalisation system at the core of the 'common regime' regional funding system, as well as the dependence that such a change would exert upon the central government towards SCGs.[85] In Britain's case, however, there is a key difference: the absence of explicit equalisation mechanisms.

83. Sorens, "The institutions of fiscal federalism".

84. Urkullu, "Riesgo unilateral y solidaridad".

85. De la Fuente, "Sobre la generalización del sistema de concierto". Zubiri, "Los sistemas forales", 1-33.

Finally, regarding political feasibility, it should be mentioned that the unitary decentralised British state (or as Mitchell would say, 'union')[86] is already asymmetrical and agreed upon through bilateral negotiations,[87] which could pave the way for political agreement over a new funding system based on the proposed principles.[88] Moreover, a renegotiation of the 2016 fiscal framework is scheduled for 2021,[89] which may open a window of opportunity for meaningful reform. However, there are three obstacles to the materialisation of a Basque-type Agreement. Firstly, such a change would mean a complete transformation of the rationale that UK intergovernmental fiscal relations have followed for decades; the new model would necessarily alter the politically rooted and institutionalised rules of the fiscal devolution process. Secondly, certain elements of the 2016 Scotland Act have not yet been implemented. Although the bill in question formally devolved Air Passenger Duty and included a revenue-sharing scheme for VAT, these have not yet materialised as expected. And thirdly, according to Office for National Statistics (ONS) data, and consistent with Bell, Eiser and Philips,[90] Scotland's PIT revenue per capita is about 12% lower than the UK average, which is biased heavily upward by London's broad tax bases. This suggests that, in line with the simulated results, the Scottish budget could conceivably be worse off under a funding system that relies intensively on devolved tax revenue and very broad tax autonomy, as the *foral* model does. Consequently, it remains very unlikely that devolved institutions would call for reform in this regard.

6. An Economic Agreement for Scotland?

An Economic Agreement for Scotland inspired by the principles and rules of the Basque model would not necessarily provide Scotland with higher levels of funding for homogeneous competencies. On the contrary, *ceteris paribus*, the Basque model would probably allow Scotland a slightly smaller

86. Zimmerman, "Devolution in the UK", 558-560.

87. Keating, "Rethinking sovereignty". Galindo Caldés, "El proyecto laborista de descentralización democrática de Inglaterra".

88. Hazell, "Devolution and the Future of the Union".

89. Eiser and Roy, "The fiscal framework".

90. Bell et al., "Scotland's fiscal framework".

expenditure capacity (about 10% lower), according to estimations obtained in this paper. However, given the aforementioned model's inverse rationale (bottom-up rather than top-down), its implementation would drastically change the way intergovernmental fiscal relations between Holyrood and Westminster are conducted. Such a proposal would not only increase tax autonomy and the efficiency of fiscal devolution design, it would also further ensure the safeguarding of self-government among devolved institutions. The Spanish decentralisation model is often compared with the German and Canadian models. In contrast, the UK and Spanish decentralisation frameworks are not usually used in comparative federalism studies literature. However, as explained earlier, both are formally unitary but in fact heavily fiscally decentralised countries. As regards the cases of Spain's Basque Country and Navarra, similarities with the British case are greater, since bilateral intergovernmental relationships and asymmetries are features that are present in both frameworks.

The proposed innovative approach to a regional funding model could indeed be applied to Scotland to overcome many of the short-term challenges that relations with the UK are currently facing, as a way of advancing the devolution process (still at an early stage) and increasing the efficiency of the present system. On the one hand, Brexit forced renegotiations around which institutions would assume powers before managed by the European Union. An increase in powers legislated and managed by Scottish authorities would require additional funding, putting even more pressure on the already criticised method of Barnett formula-based updates, as well as on the current Block Grant Adjustment method for devolved tax revenue, expected to be reviewed, after 2021 Scottish elections took place. On the other hand, a model like the Basque Economic Agreement would increase efficiency by enforcing fiscal co-responsibility and shedding more light on budgetary decision-making processes. Given that under this model devolved institutions would be responsible for raising their own revenue, Westminster could no longer be blamed for the under-provision of public services, thereby improving political accountability. Moreover, this approach would establish a new incentive scheme for budgetary stability; due to the principle of unilateral risk, Scottish institutions would have to raise sufficient revenue to both fund public services and pay transfers for non-decentralised powers to the UK Treasury.

The union needs to reinforce bonds between Scotland and the rest of the UK,[91] particularly after having forced its citizens to leave the European Union against their own vote. Better accommodation with belonging to the British union could be achieved by negotiating a new funding system, perhaps as inspired by the rationale and principles of the Basque and Navarrese Economic Agreements. However, according to the outcomes of the estimations carried out in this document, which suggest a decrease in available funding for devolved institutions, it seems very unlikely Scotland would opt for full implementation of *foral* principles and rules.

Further comparative research and regionalised data are required in the field of decentralised institutions to generate positive outcomes from the experience and know-how of countries that have more in common than might be expected at first glance.[92] Although the possibility of applying the Economic Agreement has often been suggested, particularly with regard to Catalonia and other regions of Spain,[93] and while Scottish institutions have indeed shown interest in the *foral* model,[94] very little comparative research has been undertaken on the topic introduced in this paper. Additional research should include dynamics in this simulation exercise, making use of more detailed and layered public finance data (at present only available from 2014 onwards) with the aim of obtaining more precise estimations.

91. Hazell, "Devolution and the Future of the Union".

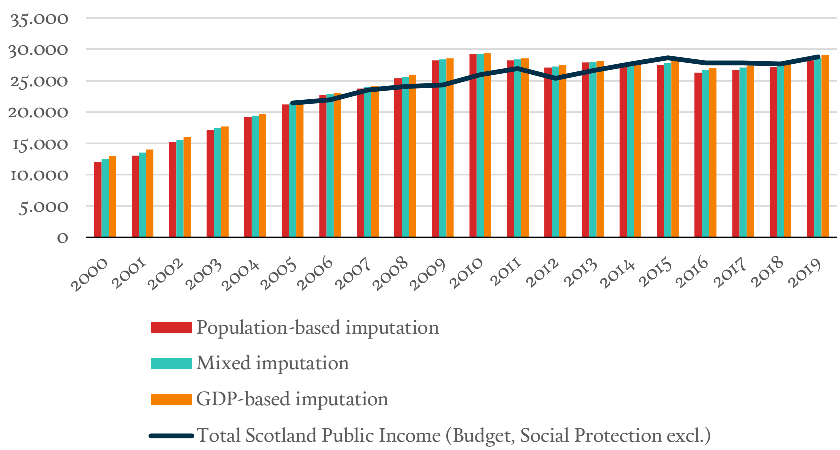
92. Zimmeman, "Nationalism and Self-Government", 370-372.

93. Urkullu, "Riesgo unilateral y solidaridad".

94. Eusko Jaurlaritza, "Parlamentarios escoceses visitan Euskadi para estudiar los poderes fiscales".

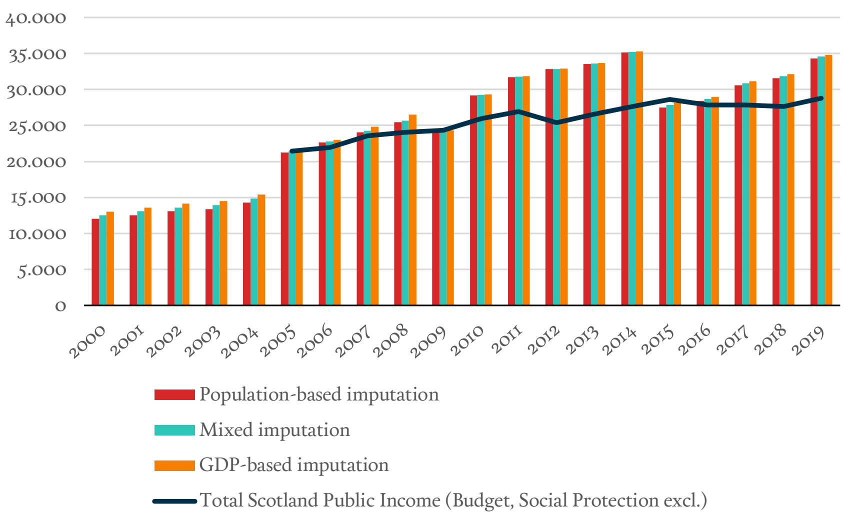
Annex I. Figures for alternative scenarios

Figure 11. Public Income for Scotland under full devolution, with annual full updates of vertical transfer (£m)



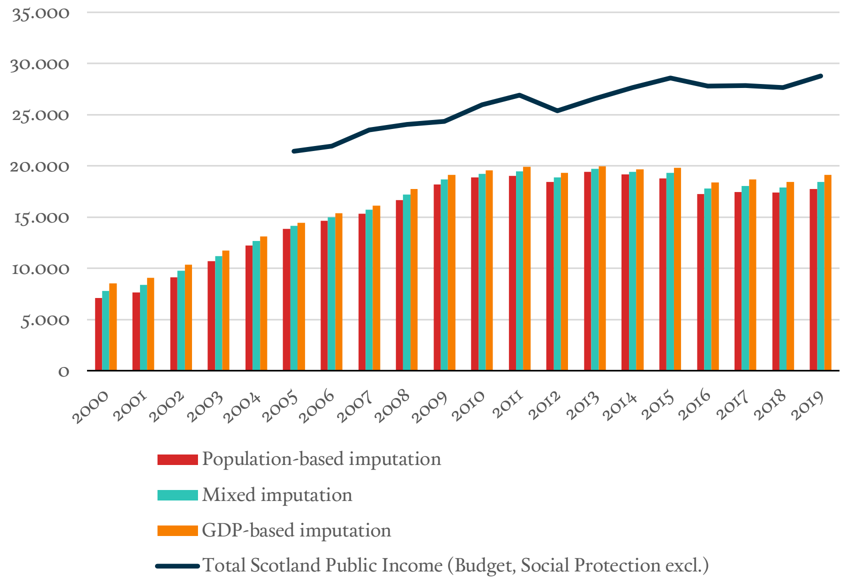
Source: own elaboration using regional data from ONS.uk and the Scottish budget bill.

Figure 12. Public Income for Scotland under full devolution, with 5-year full updates of vertical transfer (£m)



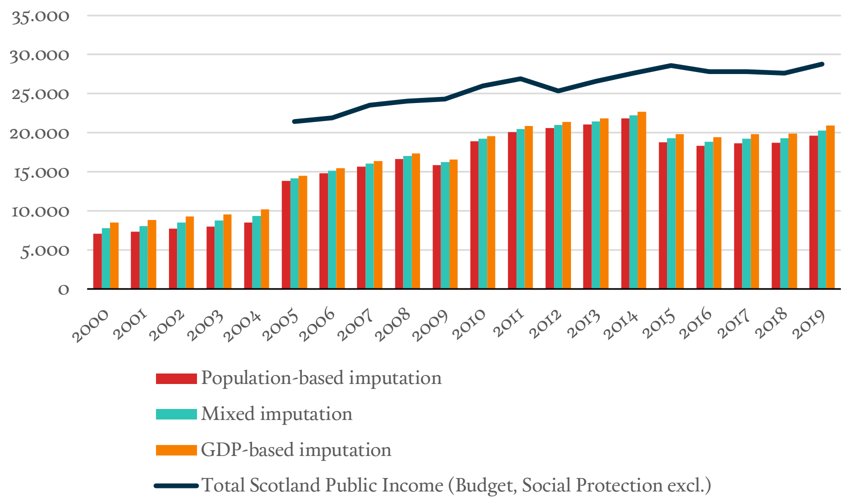
Source: own elaboration using regional data from ONS.uk and the Scottish budget bill.

Figure 13. Public Income for Scotland under minimum devolution, with annual full updates of vertical transfer (£m)



Source: own elaboration using regional data from ONS.uk and the Scottish budget bill.

Figure 14. Public Income for Scotland under minimum devolution, with 5-year full updates of vertical transfer (£m)



Source: own elaboration using regional data from ONS.uk and the Scottish budget bill.

Annex II. Simulation results

A. Imputation index

Population	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
UK	58,734,837	58,942,803	59,176,181	59,433,423	59,715,088	60,066,092	60,516,699	60,949,994	61,445,249	61,932,951
Scotland	5,069,698	5,063,255	5,064,650	5,066,625	5,072,450	5,090,775	5,115,900	5,142,250	5,178,225	5,210,150
Population Share	0,086315	0,08590116	0,08558596	0,08524875	0,08494419	0,08475289	0,084537	0,08436834	0,08427381	0,08412565

Population	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
UK	62,385,229	62,890,878	63,390,116	63,805,186	64,228,429	64,725,073	65,244,539	65,746,098	66,139,059	66,435,550
Scotland	5,239,475	5,271,625	5,303,325	5,317,125	5,332,675	5,353,950	5,380,925	5,409,725	5,428,125	5,438,100
Population Share	0,08398583	0,08382177	0,0836617	0,08333374	0,08302671	0,08271833	0,08247319	0,08228207	0,0820714	0,08185527

Source: ONS,uk, Country and Regional Public Sector Finances: supplementary tables,

GDP	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
UK	1,054,782	1,107,924	1,147,395	1,211,222	1,272,293	1,336,299	1,420,214	1,493,214	1,569,164	1,573,876
Scotland	82,648	86,644	90,385	95,857	101,607	108,536	114,386	119,851	123,875	123,498
GDP Share	0,07835553	0,07820392	0,07877409	0,07914074	0,07986132	0,08122134	0,08054138	0,08026378	0,07894331	0,07846743

GDP	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
UK	1,557,283	1,622,044	1,668,699	1,725,624	1,806,329	1,871,789	1,934,600	2,019,484	2,086,378	2,162,822
Scotland	123,757	128,234	132,526	139,177	145,825	146,771	151,229	157,468	164,065	168,054
GDP Share	0,07946982	0,07905704	0,07941876	0,08065314	0,08073003	0,07841215	0,07817068	0,07797437	0,07863628	0,07770126

Units: million GBP. Source: ONS.uk and Scottish Statistical Office.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Mixed Imputation Index (50%)	0,08233526	0,08205254	0,08218002	0,08219474	0,08240276	0,08298712	0,08253919	0,08231606	0,08160856	0,08129654
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
	0,08172782	0,08143941	0,08154023	0,08199344	0,08187837	0,08056524	0,08032193	0,08012822	0,08035384	0,07977827

B. Non-assumed CG expenditure under Devomin

Non-assumed CG expenditure under Devomin	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
TOTAL	116,775	124,425	127,885	136,599	147,578	159,075	170,975	178,954	186,921	208,162
1. General public services	37,200	38,697	36,301	35,671	39,040	43,035	46,055	48,316	51,267	54,715
1. of which: public and common services	8,000	7,898	9,413	10,015	11,194	12,088	12,749	12,665	12,473	14,005
1. of which: international services	3,700	4,199	4,288	4,456	5,146	5,547	6,206	6,251	6,694	6,410
1. of which: public sector debt interest	25,500	26,600	22,600	21,200	22,700	25,400	27,100	29,400	32,100	34,300
2. Defence	25,099	25,700	25,422	27,048	28,818	29,754	30,918	32,223	33,663	36,818
3. Public order and safety	18,401	20,402	22,832	24,181	26,141	28,462	29,268	30,442	31,692	33,652
4. Economic affairs	21,499	23,801	27,696	30,757	33,082	33,722	35,532	37,498	37,328	48,985
4. of which: enterprise and economic development	4,402	4,898	5,048	5,933	6,043	6,537	6,548	6,320	7,115	16,213
4. of which: science and technology	1,400	1,401	1,731	2,119	2,302	2,535	2,999	2,865	3,260	3,205
4. of which: employment policies	3,499	3,799	3,308	3,016	3,196	3,184	3,342	3,350	2,127	2,826
4. of which: agriculture, fisheries and forestry	4,299	4,702	6,285	4,863	5,263	5,443	5,604	5,079	4,296	5,764
4. of which: transport	7,899	9,001	11,324	14,826	16,278	16,023	17,039	19,884	20,530	20,977
5. Environmental protection	4,900	5,102	5,471	6,055	6,223	7,044	8,499	9,377	9,584	9,229
6. Housing and community amenities	4,700	5,501	6,432	5,437	6,702	7,979	10,571	11,543	12,982	15,250
8. Recreation, culture and religion	7,699	7,801	8,575	9,336	9,651	9,969	10,813	11,358	11,936	12,445
9. EU transactions	-2,723	-2,579	-4,844	-1,886	-2,079	-890	-681	-1,803	-1,531	-2,932

Non-assumed CG expenditure under Devomin	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
TOTAL	211,418	218,165	209,595	203,902	207,800	223,029	229,554	234,026	248,393	256,790
1. General public services	50,085	63,061	63,603	59,471	61,024	74,287	75,243	79,967	85,101	80,980
1. of which: public and common services	13,752	12,761	11,455	11,126	11,121	11,445	11,204	12,461	12,409	12,381
1. of which: international services	7,133	8,000	7,731	7,720	9,795	10,495	10,251	10,863	10,572	12,041
1. of which: public sector debt interest	29,200	42,300	44,417	40,624	40,108	52,347	53,788	56,642	62,120	56,559
2. Defence	37,712	39,287	38,655	36,340	36,406	36,697	36,627	37,132	38,670	40,243
3. Public order and safety	34,118	33,025	32,070	31,307	29,603	30,487	30,207	30,070	31,467	32,400
4. Economic affairs	48,679	39,883	37,817	36,710	40,884	41,022	46,995	49,186	53,174	60,713
4. of which: enterprise and economic development	12,236	4,815	4,771	4,999	6,722	6,582	7,466	8,267	9,991	13,332
4. of which: science and technology	3,553	3,406	3,623	3,325	4,194	4,396	4,743	4,488	5,047	6,433
4. of which: employment policies	4,097	4,697	3,227	2,878	3,795	2,857	2,401	2,407	2,625	2,716
4. of which: agriculture, fisheries and forestry	5,822	5,475	5,777	5,284	5,378	5,206	4,475	5,205	5,179	5,717
4. of which: transport	22,971	21,490	20,419	20,224	20,794	21,981	27,909	28,820	30,332	32,514
5. Environmental protection	10,397	10,929	10,500	10,664	11,209	11,589	11,609	11,043	11,786	11,091
6. Housing and community amenities	16,344	13,119	10,153	9,995	9,855	10,271	9,835	10,301	11,356	12,124
8. Recreation, culture and religion	13,179	12,966	12,488	12,711	11,608	12,450	11,366	11,606	11,479	11,363
9. EU transactions	904	5,895	4,309	6,704	7,211	6,226	7,672	4,721	5,360	7,876

Units: million GBP. Source: ONS.uk. Country and Regional Public Sector Finances

Note: estimations for the other two devolution scenarios are reduced versions of this table, thus are not reported.

C. Quota calculations for Basque Devolution Powers model and mixed imputation index

Basque Devolution- Mixed Imputation Index	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
(1). Westminster Budgetary Expenditures (Total managed expenditure-adjustment-social protection)	208,375.00	224,528.00	238,934.00	257,545.00	283,520.00	307,126.00	330,261.00	346,676.00	367,913.00	399,912.00
(2). Expenditure assumed by Scotland	124,929.00	136,526.90	152,414.20	164,399.00	183,151.10	198,499.80	214,769.80	226,468.40	242,336.80	262,609.30
(3)=(1)-(2). Total non-assumed expenditure: regional policy, transfers to public entities, amortisation of debt interest	83,446.00	88,001.10	86,519.80	93,146.00	100,368.90	108,626.20	115,491.20	120,207.60	125,576.20	137,302.70
(4)=(3)*(i). Non-assumed expenditure to be paid by Scotland	6,870.55	7,220.71	7,110.20	7,656.11	8,270.67	9,014.58	9,532.55	9,895.02	10,248.09	11,162.23
(5). Non-agreed revenue	12,341.00	14,498.00	12,769.00	11,681.00	12,919.00	14,785.00	16,662.00	16,348.00	18,720.00	18,258.00
(6)=(5)*(i). CG's revenue to be returned to Scotland	1,016.10	1,189.60	1,049.36	960.12	1,064.56	1,226.96	1,375.27	1,345.70	1,527.71	1,484.31
(7). UK Deficit (without North Sea Oil and Gas revenue)	-75,029.00	-77,357.00	-63,316.00	-42,485.00	-34,394.00	-27,947.00	-31,171.00	-38,201.00	-38,372.00	20,987.00
(8)=(7)*(i). UK Deficit share of Scotland	-6,177.53	-6,347.34	-5,203.31	-3,492.04	-2,834.16	-2,319.24	-2,572.83	-3,144.56	-3,131.48	1,706.17
(9)=(4)-(6)-(8). Cash contribution	12,031.98	12,378.45	11,264.15	10,188.04	10,040.27	10,106.85	10,730.11	11,693.87	11,851.86	7,971.75
Basque Devolution- Mixed Imputation Index	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**
(1). Westminster Budgetary Expenditures (Total managed expenditure-adjustment-social protection)	416,819.00	429,486.00	417,328.00	412,306.00	421,869.00	442,136.00	452,966.00	463,360.00	481,787.00	497,572.00
(2). Expenditure assumed by Scotland	278,401.90	276,045.80	267,417.50	267,251.30	273,017.30	279,900.30	285,535.80	293,077.60	300,906.70	313,043.70
(3)=(1)-(2). Total non-assumed expenditure: regional policy, transfers to public entities, amortisation of debt interest	138,417.10	153,440.20	149,910.50	145,054.70	148,851.70	162,235.70	167,430.20	170,282.40	180,880.30	184,528.30
(4)=(3)*(i). Non-assumed expenditure to be paid by Scotland	11,312.53	12,496.08	12,223.74	11,893.53	12,187.73	13,070.56	13,448.32	13,644.43	14,534.43	14,721.35
(5). Non-agreed revenue	16,495.00	18,587.00	19,460.00	22,709.00	23,914.00	26,711.00	26,554.00	27,205.00	28,194.00	29,508.00
(6)=(5)*(i). CG's revenue to be returned to Scotland	1,348.10	1,513.71	1,586.77	1,861.99	1,958.04	2,151.98	2,132.87	2,179.89	2,265.50	2,354.10
(7). UK Deficit (without North Sea Oil and Gas revenue)	38,564.00	16,927.00	-11,448.00	-17,539.00	-36,674.00	-52,236.00	-69,751.00	-82,973.00	-79,407.00	-95,651.00
(8)=(7)*(i). UK Deficit share of Scotland	3,151.75	1,378.52	-933.47	-1,438.08	-3,002.81	-4,208.41	-5,602.54	-6,648.48	-6,380.66	-7,630.87
(9)=(4)-(6)-(8). Cash contribution	6,812.68	9,603.84	11,570.44	11,469.63	13,232.50	15,126.99	16,917.98	18,113.02	18,649.59	19,998.12

Units: million GBP. Source: own elaboration using regional data from ONS.uk and the Scottish budget bill.

D. Scotland public income estimation for mixed imputation and yearly update approach

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Scotland Revenue Estimation	22,569	23,737	24,413	24,962	26,607	28,445	30,315	32,248	34,058	32,390
Mixed imputation										
CUPO with full devolution	10,066.64	10,230.06	8,828.27	7,532.08	7,189.97	7,058.97	7,494.64	8,280.09	8,409.84	4,012.47
Total Scotland Public Income	12,502.36	13,506.94	15,584.73	17,429.92	19,417.03	21.386.03	22,820.36	23,967.91	25,648.16	28,377.53
CUPO with Basque devolution	12,031.98	12,378.45	11,264.15	10,188.04	10,040.27	10,106.85	10,730.11	11,693.87	11,851.86	7,971.75
Total Scotland Public Income	10,537.02	11,358.55	13,148.85	14,773.96	16,566.73	18,338.15	19,584.89	20,554.13	22,206.14	24,418.25
CUPO with min devolution	14,776.13	15,367.13	14,663.55	13,759.65	13,930.43	14,293.45	15,309.70	16,529.64	16,858.12	13,732.37
Total Scotland Public Income	7,792.87	8,369.87	9,749.45	11,202.35	12,676.57	14,151.55	15,005.30	15,718.36	17,199.88	18,657.63

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Scotland Revenue Estimation	32,014	34,340	35,318	36,005	37,494	39,327	39,725	41,275	41,984	44,197
Mixed imputation										
CUPO with full devolution	2,749.49	5,923.01	8,036.20	7,981.65	9,612.60	11,499.48	13,071.51	14,229.81	14,491.33	15,576.07
Total Scotland Public Income	29,264.51	28,416.99	27,281.80	28,023.35	27,881.40	27,827.52	26,653.49	27,045.19	27,492.67	28,620.93
CUPO with Basque devolution	6,812.68	9,603.84	11,570.44	11,469.63	13,232.50	15,126.99	16,917.98	18,113.02	18,649.59	19,998.12
Total Scotland Public Income	25,201.32	24,736.16	23,747.56	24,535.37	24,261.50	24,200.01	22,807.02	23,161.98	23,334.41	24,198.88
CUPO with min devolution	12,778.88	14,874.99	16,437.12	16,294.72	18,059.09	20,024.81	21,907.89	23,220.68	24,074.49	25,763.04
Total Scotland Public Income	19,235.12	19,465.01	18,880.88	19,710.28	19,434.91	19,302.19	17,817.11	18,054.32	17,909.51	18,433.96

Units: million GBP. Source: own elaboration.

E. Scottish actual public income

	2005	2006	2007	2008	2009	2010	2011
Block Grant	21,591.92	23,221.70	25,463.34	26,145.10	27,011.60	28,691.90	29,451.90
Devolved Revenue							
Social Protection Expenditure (Budget, Well-being, SS and Teachers and NHS Pension Schemes)	159.86	1,293.22	1,937.19	2,079.70	2,686.20	2,716.40	2,543.90
Total Scotland Public Income (Budget, Social Protection excl.)	21,432.06	21,928.48	23,526.15	24,065.40	24,325.40	25,975.50	26,908.00

	2012	2013	2014	2015	2016	2017	2018	2019
Block Grant	28,619.30	29,365.80	30,483.30	31,309.60	30,908.30	25,728.00	19,770.70	20,544.90
Devolved Revenue					571.92	5,532.70	12,534.10	12,814.00
Social Protection Expenditure (Budget, Wellbeing, SS and Teachers and NHS Pension Schemes)	3,257.90	2,786.30	2,847.90	2,707.70	3,665.00	3,427.40	4,669.10	4,576.80
Total Scot-land Public Income (Budget, Social Protection excl.)	25,361.40	26,579.50	27,635.40	28,601.90	27,815.22	27,833.30	27,635.70	28,782.10

Units: million GBP. Source: Scottish Budgetary Bills.

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