

Consultation on the impact of variations in national and sub-national income tax:

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1. If Wales' income tax rates diverge from England's, the predicted effect on tax revenue of an alteration in the income tax rate may differ from the 'mechanical effect' (multiplying the change in tax rate by the incomes of the relevant taxpayers). Those taxed may vary their effort or innovativeness, they may alter where they live and the consequences of all these decisions may have impacts on the economy that further affect tax revenue. Such migration and economy 'spillover' effects of possible income tax changes were investigated in our recent study (Foreman-Peck and Zhou 2019).
2. In 2018 the Scottish government reduced the lower Scottish tax rate and increased the higher rates but the Welsh government may need to be more restrained in making similar income tax changes. The economy in Wales is more closely integrated with England than is the Scottish economy. Around 95,000 people commuted out of Wales and almost 48,000 commuted in during 2018 (StatsWales 2019a). In 2017-18 net migration to Wales from the rest of the UK was just under 9,000, with net outflows for persons aged 15-29 (Stats Wales 2019b). Gross migration was much higher, perhaps five times. Over 1.4 million people in Wales (48% of the total) live within 25 miles of the border with England, and more than 4 million live within the same distance on the English side of the boundary. By contrast only about 200,000 people in Scotland and 260,000 in England are within 25 miles of the border between these countries (Holtham 2010 para 4.14). An income tax difference from England is therefore more likely to trigger substantial migration between England and Wales than between England and Scotland.
3. To see why some taxpayers may consider migrating because of income tax divergences, consider a five percent increase in the higher rate of tax for an individual or household earning £90,000. This would result in almost £2,000 a year more being paid in tax by the taxpayer. Over ten years with a five percent discount rate this equates to about £15,000, which might more than counterbalance relocation costs. In which case, all the tax revenue paid by that individual or household could be lost to Wales. Tax rate increases may also provide a disincentive to relocations into the jurisdiction that might otherwise have taken place.
4. The revenue impact of tax-induced mobility for even higher earners would be greater. If only 150 of Wales's highest earners moved out of Wales (10% of the total number

earning over £250,000 per year) no additional revenue would be raised from Welsh residents as a result of a one pence higher rate tax increase (Holtham, 2010, para 6.22). Conversely cutting the higher rate could potentially increase Welsh tax revenue in due course, although there could be problems of determining residential location and second homes.

5. Unfortunately, with no experience of differential tax rates there is no direct evidence of how much migration might be induced if income tax rates did diverge. We have used a systematic framework to integrate a structural economic model and an econometric model, utilising the only substantial source of tax differences between areas in England and Wales, the Council tax (for more details see Foreman-Peck and Zhou 2019).
6. The hypothetical effect of an income tax difference can be simulated by translating it into a council tax difference and estimating the migration response to council tax differences. The two taxes affect taxpayers' budgets differently – council tax raises the price of housing relative to other goods and services whereas income tax does not.
7. A Computable General Equilibrium (CGE) model of the Welsh economy with thirty endogenous variables is constructed and optimally calibrated to simulate these two tax differences. Three types of individuals are specified to correspond with those paying the three income tax rates. When the lowest rate of income tax changes (Basic Rate of income tax, 20%) all three types of individuals are affected, when the 40% Higher Rate changes those paying the Additional Rate of 45% are also affected. Council tax is more selective; a specific property tax only affects one type of taxpayer. Property (council) tax rates for each of the three types of individuals thus must be utilised to estimate the equivalent income tax.
8. An econometric model of migration augments the CGE model. The CGE model predicts the tax revenue consequences of hypothetical income tax changes. It does so by making appropriate adjustments as indicated above because current (here, property) taxes have different bases from the counter-factual income tax. When the econometrically estimated migration response is added in, the CGE model computes the full economic effect
9. The econometric model explains the bilateral flows of migration between 348 local authorities in England and Wales. Between about half the local authority pairs there was no migration. Wage levels are assumed to be fixed by migration and trade, because Wales is a small open economy and in order to keep the exercise as simple as possible. This assumption allows local policies, such as tax, to determine the long run equilibrium

population and the migration necessary to achieve it. Migration determines output and, by changing tax bases, influences tax yields.

10. When the Basic Rate (BR) of income tax is increased, the 'mechanical effect' dominates the migration effect for the Welsh government's tax revenue. If BR rises by 5p, income tax generated in Wales eventually will rise by 8.02%, about 2 percentage points less than the full mechanical effect. Income tax kept by Wales will rise by 30% but total tax revenue generated in Wales drops by 1.9%. For tax revenue as a whole the migration effect dominates because the change in population also affects all the other tax revenues paid in Wales.
11. There is a similar asymmetric pattern for Higher Rate (HR) changes, between income tax generated in, and kept by, Wales for similar reasons. Behavioural responses exactly offset mechanical effects when the Additional Rate (AR) is altered, so there is very little effect on tax revenue.
12. Tax differentials between England and Wales and the induced migration alters output per worker by changing the proportions of taxpayer types in the Welsh population. These types have different productivities and so average productivity of the economy responds to the type of tax changes. A BR increase affects all taxpayers and the proportional effect is greater on (higher productivity) HR payers than BR payers, reducing output per worker.
13. Total tax revenue responds in a similar fashion to output per worker. A BR or HR tax rise loses the UK government tax revenue while the Welsh government's revenue increases. In setting the HR and BR of devolved income tax the interests of the Welsh and UK governments are opposed. With such a small proportion of revenue devolved, tax-induced migration reduces Welsh government revenue by quite a small proportion. But the spillovers to the wider economy and the impact on other Welsh tax revenues collected by the UK government are greater.
14. Small divergencies of income tax rates may lead to quantitatively minor differences in after-tax earnings but the differences may nonetheless be sufficient to sway the locational choices of households already considering moving or staying. The full behavioural effects of a Welsh tax income change may thus take some time to emerge and also depend on whether the tax change is expected to be long lasting. So, a cut in income tax may eventually increase revenue when the behavioural responses offset the mechanical effect. But meanwhile the government's budget faces a shortfall that must be financed.

15. In the search for tax revenue, changing income tax rates seems perilous. Seeking a broader tax base or encouraging the growth of existing tax bases appear preferable.

References

Foreman-Peck J and Zhou P, (2019) 'Devolving Fiscal Policy: Migration and Tax Yields'. *Regional Studies* DoI 10.1080/00343404.2019.1602256.

Holtham Report: Independent Commission on Funding & Finance for Wales (2010). *Fairness and accountability: a new funding settlement for Wales*.

Stats Wales(2019a) <https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/People-and-Work/Employment/Commuting/commutingpatternsiniwales-by-measure-year>

Stats Wales (2019b) <https://statswales.gov.wales/Catalogue/Population-and-Migration/Migration/Internal/migrationbetweenwalesandrestofuk-by-localauthority-flow-gender-age>