

## **Written evidence paper to the Finance Committee inquiry on the impact of variations in national and sub-national income tax**

### **Summary**

1. The Finance Committee has invited the Minister for Finance and Trefnydd to provide oral evidence as part of its inquiry into the impact of variations in national and sub-national income tax. Ahead of this, this paper provides a written response to the inquiry. In summary, it says:
  - ahead of the introduction of the Welsh Rates of Income Tax, the Welsh Government undertook research looking at existing studies on this issue. A summary of its findings were published in the Tax Policy Report 2018;
  - there is no evidence on migratory responses from income tax changes within the UK. However, the recent changes to income tax in Scotland will provide a UK evidence base once the relevant data becomes available;
  - looking further afield, migratory responses are found to occur in international studies as a result of income tax rate changes within countries;
  - these response are generally quite small, but tend to be larger for higher income tax payers;
  - international studies based on relatively small but integrated regions, which might be most relevant to Wales, tend to show a higher migration response for high income tax payers. This effect might be sufficiently large to have a significant impact on the revenue effects from a potential tax rate change affecting the top income tax payers in Wales;
  - the way that income tax is devolved to Wales and its geographical circumstances mean that very few international studies are likely to be directly applicable to the situation in Wales. Even the evidence base arising from income tax changes in Scotland will need careful consideration before any lessons can be learnt for Wales.

### **Introduction**

2. The Welsh Government has undertaken extensive research into the potential migration effects arising from different income tax rates in Wales and England. A summary of this work was published as part of the Tax Policy Report October 2018<sup>1</sup>. Much of the content in this paper is taken from that document, updated where possible with findings from more recent studies.
3. As income tax devolution is a recent phenomenon in the UK, data is not yet available to enable the estimation of migration effects within the UK. Variations in the income tax regime within the UK first occurred in 2017-18 when the Scottish Government applied a lower threshold for the higher rate of income tax than elsewhere in the UK. In 2018-19, the Scottish Government introduced two new tax bands – one reduces tax for the lowest income taxpayers and the other is an intermediate band between the basic and the higher rate. There were also

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<sup>1</sup> See Welsh Government Tax Policy report 2018 available from;  
<https://gov.wales/sites/default/files/publications/2018-10/welsh-tax-policy-report-2018.pdf>

increases to the tax rates for the top two tax bands<sup>2</sup>. These rates and bands were maintained in 2019-20. However the higher rate threshold was frozen at the same level as in 2018-19, while it was increased elsewhere in the UK.

4. Intra-UK migration effects may be measurable from 2017-18, but they are likely to be more evident from 2018-19 following the more recent changes in Scotland. There is a long lag between the year in question and the availability of data required to analyse intra-UK migration behaviour from devolved income tax changes. The 2017-18 dataset will only be published in 2020.

#### **Wales-England border circumstances**

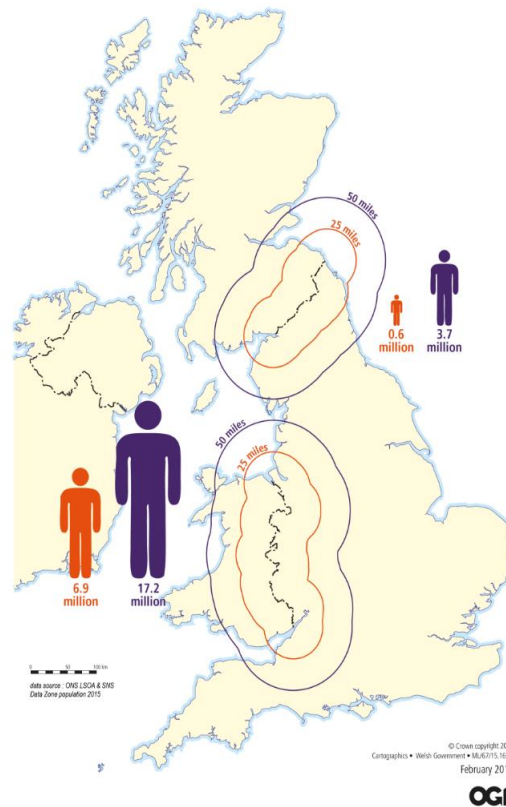
5. Even once income tax data is available which covers the recent changes in Scotland, careful consideration will need to be given to how applicable any lessons learned are to Wales. The Wales-England border is much longer than the Scotland-England border and the border area is much more heavily populated. As devolved income tax in the UK is residence-based, people would be able to move relatively short distances and change their country of residence for income tax purposes, whilst remaining in their existing jobs and social networks.
6. Figure one shows that nearly 7 million people live within 25 miles of the Wales-England border, while only 0.6 million live within 25 miles of the Scotland-England border. Therefore migration between Scotland and England is more likely to require a change of job and social networks than migration between Wales and England.

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<sup>2</sup> For full details see:

<https://www.gov.scot/Topics/Government/Finance/scottishapproach/Scottishincometax2018-2019>

**Figure one – Populations of Wales and England within 25 and 50 miles buffer of National Boundaries**



Source: Welsh Government (2017)

7. Further complications arise from the relative size of the tax bases in Wales and England. It is likely that the migration impact of a tax increase in Wales would be different from the impact of a decrease. A tax increase in Wales is mainly likely to affect the migration behaviour of Welsh residents. In contrast, a tax reduction in Wales could generate a migration effect in England which, while small in the context of the English tax base, could be substantial relative to the Welsh tax base.
8. An additional consideration relates to people with homes in both Wales and England. It might be possible for them to alter residency for tax purposes with few other changes in their lives. This would be captured as a migratory response although, aside from the impact on devolved / non-devolved revenues, there would be no real economic effect. For that reason this type of effect is sometimes referred to as an unreal response. It is an important feature for studies from countries with residence-based income tax systems, such as Italy<sup>3</sup>, but not workplace-based systems, like the US<sup>4</sup>.

<sup>3</sup> See Rubolino (2019) *The Efficiency and distributive effects of local taxes: Evidence from the Italian Municipalities* ISER Working paper series no. 2019-02.

<sup>4</sup> With workplace-based systems, firms might be attracted to lower income tax jurisdictions in order to appeal to potential workers. With residence-based taxes, this activity is assumed to be weakened somewhat due to the ability for workers to commute between different tax jurisdictions, another feature of the Wales-England economic relationship.

9. The ability for a tax payer to switch tax residency between homes is expected to be concentrated amongst relatively high income tax payers, as they are more likely to have multiple homes.
10. Switching residency between homes may be a legal and legitimate response for some. However, income tax devolution does raise a potential additional aspect of avoidance which was not previously a feature in the UK tax system. As HMRC continues to administer income tax in Wales, this will be a potential issue for HMRC to monitor should income tax rates differ between Wales and England.
11. As explained above, there is a lack of evidence and data which can be used to look at migration within the UK from income tax changes. The next section therefore looks at what can be learned from international studies. It is worth noting that there is a UK study which infers income tax migration effects using the impact of different council tax rates in different areas. This indicates larger migration responses amongst higher and additional rate tax payers, with limited or no response amongst basic rate payers<sup>5</sup>. However, as it uses a very different tax base, the inferences from this study are somewhat indirect.

### **International evidence**

12. Sub-national variations in income tax rates exist in a number of countries. For example, states in the US, autonomous communities of Spain, provinces in Canada, regions of Italy and the cantons of Switzerland have had some recent experiences of varying income tax rates. These experiences have provided opportunities for researchers to observe and estimate the resulting behavioural effects, including intra-country migration.
13. The Welsh Government's review focused on studies which were more likely to demonstrate a causal relationship between income tax changes and migration, and isolate this impact from other influences on migration. This is important when considering the relevance of international studies to Wales, as those other influences on migration behaviour are likely to be vary considerably between countries.
14. A review of the literature finds that there is no study, the results from which can be readily applied to estimate intra-UK migration as a result of changes to the devolved rates of income tax. It is also difficult to generalise across studies to generate an average or consolidated estimate.
15. However, the literature generally confirms that there is a relationship between tax rate changes and migration. This relationship shows that when tax rates increase, the probability or level of out-migration increases, and vice versa.

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<sup>5</sup> Foreman-Peck and Zhou (2019) *Devolving fiscal policy: migration and tax yields* Regional Studies. 1-10. 10.1080/00343404.2019.1602256

16. The size of the effect is generally found to be small, especially for the average taxpayer or household (for example see Liebig, Puhani, and Sousa-Poza (2007)<sup>6</sup>, and Cebula and Nair-Reichert (2012)<sup>7</sup>).
17. It seems likely that this result will also apply in the UK. In 2019-20, the basic rate of tax applies to income between £12,501 and £50,000. Therefore a one pence or one percentage point change in the basic rate of tax will alter a person's tax bill by a maximum of £375 per year. Average (median) full-time earnings in Wales are around £28,000 per year (ASHE 2019). It seems likely that only with substantial changes to the basic rate would there be a significant migration response amongst average income tax payers.
18. A growing body of literature has focused on high income individuals (see for example Agrawal and Foremny (2018)<sup>8</sup>, Cohen, Lai and Steindel (2014)<sup>9</sup>, Kleven, Landais and Saez (2013)<sup>10</sup>, Kleven, Landais, Saez and Schultz (2014)<sup>11</sup>, Lai, Cohen and Steindel (2011)<sup>12</sup>, Rauh and Shyu (2019)<sup>13</sup> and Young and Verner (2011)<sup>14</sup>).
19. These studies generally find a relationship between migration and income tax rates, with some showing a bigger effect on relatively high income individuals. Some US studies show that, while higher income individuals migrate between states less frequently than those in lower income groups, they are more likely to migrate in response to income tax changes<sup>15</sup>. Given the relative importance of high income earners for tax revenues overall, relatively small responses amongst the highest earners can have fairly large revenue effects. However, there are considerable differences in the literature on the scale of these effects.
20. In the UK, a one pence or one percentage point change in the higher rate of tax would generate a maximum change in tax of £1,000 for the taxpayer. This is a bigger potential impact than a one pence change in the basic rate, but there

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<sup>6</sup> Liebig, Puhani, and Sousa-Poza (2007) *Taxation and internal migration - evidence from the Swiss census using community-level variation in income tax rates* Journal of Regional Science 47, no. 4 (2007): 807-836.

<sup>7</sup> Cebula and Nair-Reichert (2012) *Migration and Public Policies: A Further Empirical Analysis* Journal of Economics and Finance Vol. 36, Iss. 1, (January 2012): 238-248.

<sup>8</sup> Agrawal and Foremny (2018) *Relocation of the Rich: Migration in Response to Top Tax Rate Changes from Spanish Reforms* (April 1, 2018). Available at SSRN: <https://ssrn.com/abstract=2796472>

<sup>9</sup> Cohen, Lai and Steindel (2014) *Comment on Millionaire Migration and State Taxation of Top Incomes: Evidence from a Natural Experiment* Public Finance Review 2014 1-20.

<sup>10</sup> Kleven, Landais and Saez (2013) *Taxation and international migration of superstars: Evidence from the European football market* The American Economic Review 103, no. 5 (2013): 1892-1924.

<sup>11</sup> Kleven, Landais, Saez and Schultz (2014) *Migration and wage effects of taxing top earners: evidence from the foreigners' tax scheme in Denmark* The Quarterly Journal of Economics, 333–378.

<sup>12</sup> Lai, Cohen and Steindel (2011) *The Effects of Marginal Tax Rates on Interstate Migration in the US* New Jersey Department of Treasury, October 2011.

<sup>13</sup> Rauh and Shyu (2019) *Behavioural Responses to State Income Taxation of High Earners: Evidence from California* NBER Working Paper No. 26349

<sup>14</sup> Young and Varner (2011) *Millionaire migration and state taxation of top incomes: Evidence from a natural experiment* National Tax Journal 64, no. 2: 255.

<sup>15</sup> Young, Varner, Lurie and Prisinzano (2016) *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data* American Sociological Review 2016, Vol. 81(3) 421– 446

may still need to be a substantial change to the higher rate to illicit a noticeable migratory effect with significant revenue implications.

21. Existing international evidence tends to concentrate on very high earners. These earners are found to be most sensitive to tax rate changes. This suggests that changes in the additional rate of tax in Wales are most likely to generate a migration response.
22. The current size of the tax-base subject to the additional tax rate in Wales, although important for revenue, is relatively small. Studies which analyse the revenue impact in areas with relatively large high income tax-bases, such as those looking at millionaires in New Jersey (for example Cohen, Lai and Steindel (2014)<sup>16</sup>, Young and Varner (2011)<sup>17</sup> Lai, Cohen and Steindel (2011)<sup>18</sup>), may be less relevant to Wales.
23. Studies which look at relatively small but integrated regions are likely to be more relevant to Wales. These include those looking at the cantons in Switzerland (Liebig (2007)<sup>19</sup> and Martinez (2017)<sup>20</sup>, municipalities in Italy (Rubolino (2019))<sup>21</sup> or the autonomous regions of Spain (Agrawal and Foremny (2018))<sup>22</sup>. These generally find relatively large migration responses, although comparisons across studies are difficult as they report their estimates using different metrics.

### **Assessing the monetary impact on WRIT revenue with varying levels of tax rate divergence**

24. One way of demonstrating the potential size of the migration effect on revenues is by assessing the relative impact of migration behavioural effects from the relevant literature and comparing these estimates to the revenue change due to the change to tax rates in Wales before taking account of behavioural effects.
25. There are two main elements for costing potential policy changes. These are commonly referred to as the static effect and the behavioural effect. The static effect is the impact on revenues from a change in tax rates assuming there is

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<sup>16</sup> Cohen, Lai and Steindel (2014) *Comment on Millionaire Migration and State Taxation of Top Incomes: Evidence from a Natural Experiment* Public Finance Review 2014 1-20

<sup>17</sup> Young and Varner (2011) *Millionaire migration and state taxation of top incomes: Evidence from a natural experiment* National Tax Journal 64, no. 2: 255

<sup>18</sup> Lai, Cohen and Steindel (2011) *The Effects of Marginal Tax Rates on Interstate Migration in the US* New Jersey Department of Treasury, October 2011

<sup>19</sup> Liebig, Puhani, and Sousa-Poza (2007) *Taxation and internal migration—evidence from the Swiss census using community-level variation in income tax rates* Journal of Regional Science 47, no. 4 (2007): 807-836

<sup>20</sup> Martinez (2017) *Beggar-Thy-Neighbour Tax Cuts: Mobility after a Local Income and Wealth Tax Reform in Switzerland* Economics Working Paper Series from University of St. Gallen, School of Economics and Political Science No 1608 2017

<sup>21</sup> Rubolino (2019) *The Efficiency and distributive effects of local taxes: Evidence from the Italian Municipalities* ISER Working paper series no. 2019-02

<sup>22</sup> Agrawal and Foremny (2018) *Relocation of the Rich: Migration in Response to Top Tax Rate Changes from Spanish Reforms* (April 1, 2018). Available at SSRN: <https://ssrn.com/abstract=2796472>

no change to the tax base. The old and new tax rates are applied to the current tax base and the difference between them is the static cost of the policy.

26. The greater uncertainty applies to the second element, the behavioural effect. This effect includes many potential factors which may alter the tax-base as a result of a change in tax policy, including migration.
27. While it is not possible to produce a precise estimate of the migration behavioural effect, it is possible to look at whether the effects inferred from the relevant literature are larger than the static effect.
28. One of the significant features of the way income tax is devolved in Wales is that the tax base is shared with the UK Government. Revenues from just 10p of tax in each band fund the Welsh Government. The Welsh Government would incur the full static effect from a change in the Welsh rates, but only part of the behavioural effect, which would apply to the whole shared tax base. Therefore the behavioural effect, including migration, would need to be relatively large to offset the static effect. The partial devolution of income tax in Wales dampens the budgetary effect on the Welsh Government from tax-induced migration.
29. The discussion here focuses on changes to the additional tax rate, as estimates from relevant international studies suggests these tax payers are likely to be the most responsive.
30. To analyse the possible migration effect in Wales, a report published by the Wales Centre for Public Policy (2018), *The Welsh Tax Base: Risks and Opportunities after Fiscal Devolution*<sup>23</sup> is used. The revenue implications of a range of changes to the Welsh rates of income tax are provided in the report, including estimates of the non-migration behavioural effects. It then shows the number of taxpayers who would need to migrate within the UK to reverse the revenue effect, thereby making the policy cost neutral overall.
31. Looking at a range of policies which alter the additional tax rate by plus or minus one pence or five pence, a range of behavioural estimates can be derived from tables 4.1 and 4.2 in the report to estimate the size of migration response which would offset the static effect. The effects are estimated in different ways to ensure they are comparable with the range of ways estimates have been measured and reported in the literature.
32. The behavioural effects required to offset the static costings are estimated to be large compared to the estimates in the literature found in studies looking at high-income taxpayers (see Cohen, Lai and Steindel (2014)<sup>24</sup>, Young and

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<sup>23</sup> For more details see: <https://www.wcpp.org.uk/publication/the-welsh-tax-base-risks-and-opportunities-after-fiscal-devolution/>

<sup>24</sup> Cohen, Lai and Steindel (2014) *Comment on Millionaire Migration and State Taxation of Top Incomes: Evidence from a Natural Experiment* Public Finance Review 2014 1-20

Verner (2011)<sup>25</sup>, Young Varner, Lurie and Prisinzano (2016)<sup>26</sup>, Kleven, Landais and Saez (2013)<sup>27</sup>, Kleven, Landais, Saez and Schultz (2014)<sup>28</sup>, Martinez (2017)<sup>29</sup>, Rauh and Shyu (2019)<sup>30</sup> and Agrawal and Foremny (2018)<sup>31</sup>.

33. This implies that, based on studies looking at the intra-national effect of tax-induced migration, the migration effects in Wales are unlikely to be larger than the static effect. However, as most of the literature about this issue focuses on income tax in the US, these relatively small behavioural estimates may not be typical for Wales.
34. One study, which does find a much larger behavioural effect, is based on a policy in a Swiss canton (Martinez 2017)<sup>32</sup>. This study may be more relevant to Wales than most others due to the geography and size of the tax-base analysed. The estimates in this study would generate a sufficiently large behavioural effect to reverse the static effect of a change in the additional rate in Wales. This study looks at the effects of a tax decrease. It is uncertain whether such a large effect would apply to a tax increase.
35. This study also includes all forms of income. Whereas only non-savings and non-dividend income is subject to the devolved rate of tax in Wales. This is expected to reduce the migration behavioural effect in Wales, as savings and dividend income can be declared more independently of location than employment income. This is confirmed in the international evidence, where the migration effect is found to be larger with investment income than other forms of income (Young and Varner (2011)<sup>33</sup>).
36. Another issue with regards to the potential revenue impact is the timing of any migration response. Some studies look at responses over a number of years, for example Rubolino (2019)<sup>34</sup>, while others focus on more instantaneous

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<sup>25</sup> Young and Varner (2011) *Millionaire migration and state taxation of top incomes: Evidence from a natural experiment* National Tax Journal 64, no. 2: 255

<sup>26</sup> Young, Varner, Lurie and Prisinzano (2016) *Millionaire Migration and Taxation of the Elite: Evidence from Administrative Data* American Sociological Review 2016, Vol. 81(3) 421– 446

<sup>27</sup> Kleven, Landais and Saez (2013) *Taxation and international migration of superstars: Evidence from the European football market* The American Economic Review 103, no. 5 2013: 1892-1924

<sup>28</sup> Kleven, Landais, Saez and Schultz (2014) *Migration and wage effects of taxing top earners: evidence from the foreigners' tax scheme in Denmark* The Quarterly Journal of Economics, 333–378.

<sup>29</sup> Martinez (2017) *Beggar-Thy-Neighbour Tax Cuts: Mobility after a Local Income and Wealth Tax Reform in Switzerland* Economics Working Paper Series from University of St. Gallen, School of Economics and Political Science No 1608 2017

<sup>30</sup> Rauh and Shyu (2019) *Behavioural Responses to State Income Taxation of High Earners: Evidence from California* NBER Working Paper No. 26349

<sup>31</sup> Agrawal and Foremny (2018) *Relocation of the Rich: Migration in Response to Top Tax Rate Changes from Spanish Reforms* (April 1, 2018). Available at SSRN: <https://ssrn.com/abstract=2796472>

<sup>32</sup> Martinez (2017) *Beggar-Thy-Neighbour Tax Cuts: Mobility after a Local Income and Wealth Tax Reform in Switzerland* Economics Working Paper Series from University of St. Gallen, School of Economics and Political Science No 1608 2017

<sup>33</sup> Young and Varner (2011) *Millionaire migration and state taxation of top incomes: Evidence from a natural experiment* National Tax Journal 64, no. 2: 255

<sup>34</sup> Rubolino (2019) *The Efficiency and distributive effects of local taxes: Evidence from the Italian Municipalities* ISER Working paper series no. 2019-02



effects on revenues and budgets, consistent with the findings in Rauh and Shyu (2019)<sup>35</sup>.

37. The speed of responses to tax changes is likely to depend on the type of migration (real or unreal responses) and the flexibility of labour and housing markets. These are also factors which are likely to vary by location – and certainly across countries. This will cause further uncertainty over how estimates from international studies might be applicable to Wales.

### **Next steps**

38. The Welsh Government will continue to review the international literature regarding migration behavioural effects.
39. The Welsh Government will also look to learn from any UK-based evidence following income tax devolution and changes to income tax in Scotland. The Welsh Government will continue to work with HMRC, OBR, the Scottish Fiscal Commission, Scottish Government and academia to further the understanding of tax-induced migratory effects so that any decisions on tax income rates and their forecasts can be based on the best and most-to-date evidence available.

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<sup>35</sup> Rauh and Shyu (2019) *Behavioural Responses to State Income Taxation of High Earners: Evidence from California* NBER Working Paper No. 26349