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**Article:**

de la Feria, R and Maffini, G (2021) The impact of digitalisation on personal income taxes. *British Tax Review*, 2021 (2). pp. 154-168. ISSN 0007-1870

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# The Impact of Digitalisation on Personal Income Taxes

Rita de la Feria\* and Giorgia Maffini \*\*

*This paper considers the potential impact upon personal income taxes (PIT) of the acceleration of digitalisation and remote working due to the COVID-19 pandemic. The societal changes brought about by the digitalisation of the economy affect all areas of the tax system. Until now, however, most attention has centred on corporate income taxes, and to a lesser extent VAT. What has been comparatively neglected is how the spread of remote working – and particularly intra-jurisdictional remote working – has the potential to trigger very significant challenges to PIT systems. These challenges can have much wider economic and societal ramifications than current challenges to CIT. First, the revenue impact is likely to be much greater, and even assuming that there is a small number of such mobile workers, the revenue impact is likely to be very high. In the UK we estimate that the overall revenue loss – i.e. combined PIT and SSCs revenues – could amount to between £6.5 billion and £32.5 billion. Second, there is the potential for significant spillovers, not only knowledge spillovers that are crucial for growth, but critically also tax spillovers, in particular for CIT, and for consumption taxes. These challenges are particularly problematic for PIT systems -like that in the UK- which are heavily reliant on PITs as total percentage of revenue, as well as on a relatively small number of high-income – and now potentially mobile - taxpayers.*

## I. Introduction

The societal changes brought about by the digitalisation of the economy are such that it affects all areas of the tax system. Not only will digitalisation affect tax policy in all taxes – from Personal Incomes Taxes (PIT) and Social Security Contributions, to Corporate Income Taxes (CIT) and VAT – but equally it can have a very significant impact on tax administration, and the enforcement of tax law. Insofar as tax policy is concerned, until now most of the attention has been on CIT,<sup>1</sup> and to a lesser extent, VAT.<sup>2</sup> Very little attention has so far been paid to PIT and

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\*\* Tax Policy Advisor, PwC, London. The article represents solely the views of the authors, and does not necessarily reflect those of PwC. The main findings in this note were presented before the joint House and Senate Finance Committee of the Italian Parliament during the hearing on the reform of the Italian PIT system (*VI Commissione permanente Finanze e Tesoro*), on 29 March 2021. The authors are grateful to participants at the hearing, as well as to Giacomo Ricotti, for their useful comments. The authors would also like to thank Johannes Becker, and two anonymous reviewers for useful comments. The usual disclaimer applies.

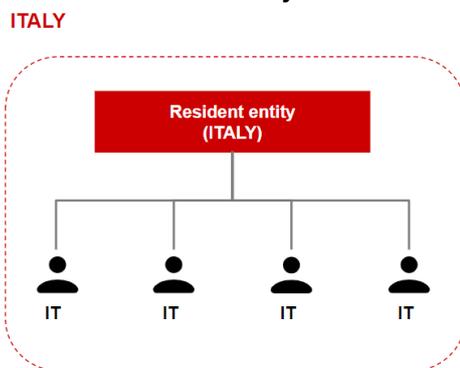
<sup>1</sup> OECD, *Addressing the Tax Challenges Arising from the Digitalisation of the Economy* (Paris: OECD Publishing, 2020).

<sup>2</sup> OECD, *The Role of Digital Platforms in the Collection of VAT/GST on Online Sales* (Paris: OECD Publishing, 2019).

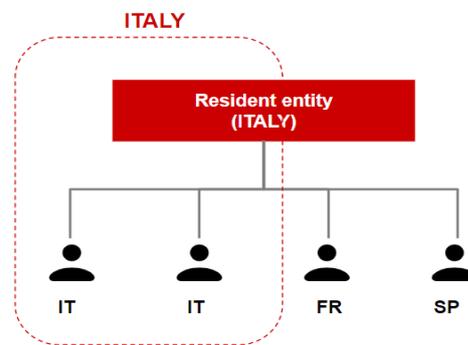
SSC, except to the extent that it relates to the gig economy, and the concept of worker for tax purposes.<sup>3</sup> The acceleration of the process of digitalisation brought about by the pandemic, and the changes that it entails for the labour market, however, place very significant challenges to PIT worldwide.

Traditionally, businesses have hired their staff in the same jurisdiction where they have operations. Generally, therefore, employees resided – and paid PIT and SSCs – in the same jurisdiction as the business paid CIT (Figure 1). This reality is, however, set to change as remote working quickly spreads.<sup>4</sup> Remote working raises the possibility of cases where the jurisdiction in which employees reside and pay PIT, and the jurisdiction in which the business pays CIT are no longer one and the same (Figure 2).

**Figure 1: PIT and CIT levied in the same country**



**Figure 2: PIT and CIT levied in different countries**



Such fundamental change in the labour market is bound to have significant consequences on tax systems, particularly on PIT. Whilst there was already some evidence of emerging tax competition in PIT from 1994 onwards, its significance was still relatively small.<sup>5</sup> Now digitalisation is set to change this reality, and the next years are likely to bring increased PIT competition as more employees are able to choose where to reside, regardless of employer location. With remote working more likely to affect employees at the top of the income distribution, residence changes have the potential to induce significant displacement effects on tax revenues. Such displacement can have far reaching consequences, not least PIT competition – indeed, there is early anecdotal evidence that faced with these challenges countries will respond by competing for the same base, with characteristics similar to the race that has been taking place for many years in CIT, but with potentially more significant economic and societal consequences, not least because of the significance of PIT for national budgets.

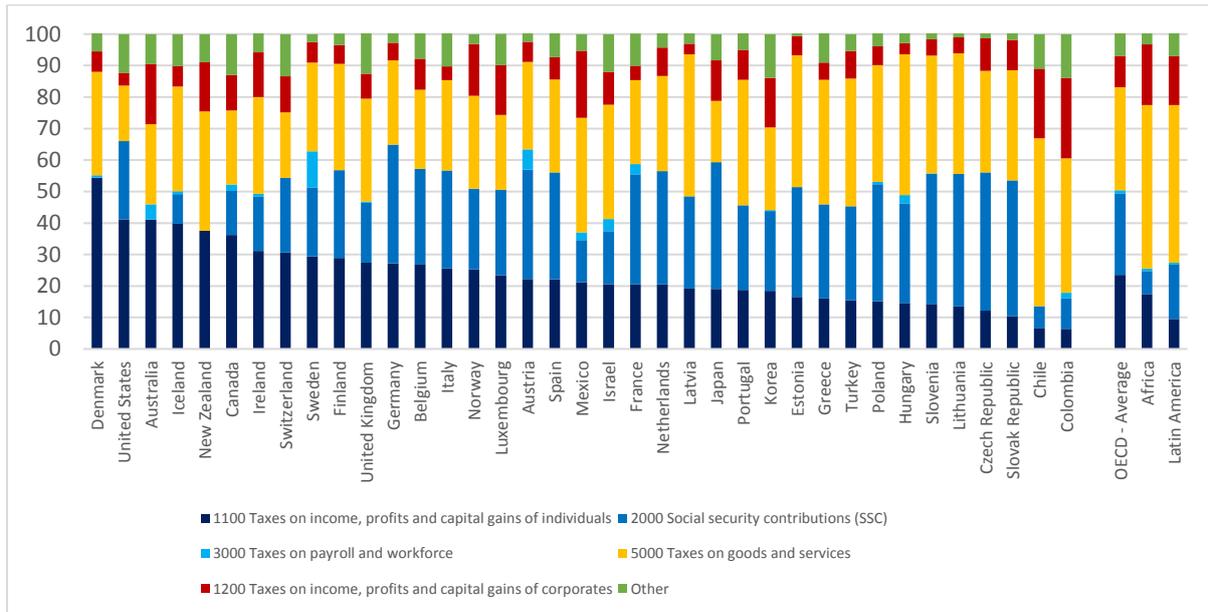
<sup>3</sup> J. Freedman, 'Employment Status, Tax and the Gig Economy—Improving the Fit or Making the Break?' (2020) *Kings Law Journal* 31(2), 194-214.

<sup>4</sup> The "Third Great Unbundling" as predicted by R. Baldwin, *The Great Convergence: Information Technology and the New Globalization* (Harvard University Press, 2016).

<sup>5</sup> P. Egger, S. Nigai and N. Strecker, 'The Taxing Deed of Globalization' (2019) *American Economic Review* 109 (2), 353-390; and U. Akcigit, S. Baslandze and S. Stantcheva, 'Taxation and the International Mobility of Inventors' (2016) *American Economic Review* 106 (10), 2930-2981.

Whilst on average CIT accounts for about 10% of total tax revenues in the OECD countries, PIT accounted for about 23.5% of total tax revenues in 2018.<sup>6</sup> In the same year, the combination of PIT, SSCs and Payroll taxes amounted to approximately 50% of total tax revenues in the OECD countries (Figure 3). Within Europe the numbers are even more striking: in 2019 the combination of PITs and SSCs, amounted to 58% in the EU(27), and 59% in the Euro area; whilst in the same period CIT amounted only to 6.5% and 6.4% in the EU(27) and the Euro area, respectively (Figure 4).<sup>7</sup>

Figure 3: Revenue Composition (% total revenue), OECD countries, 2018<sup>8</sup>

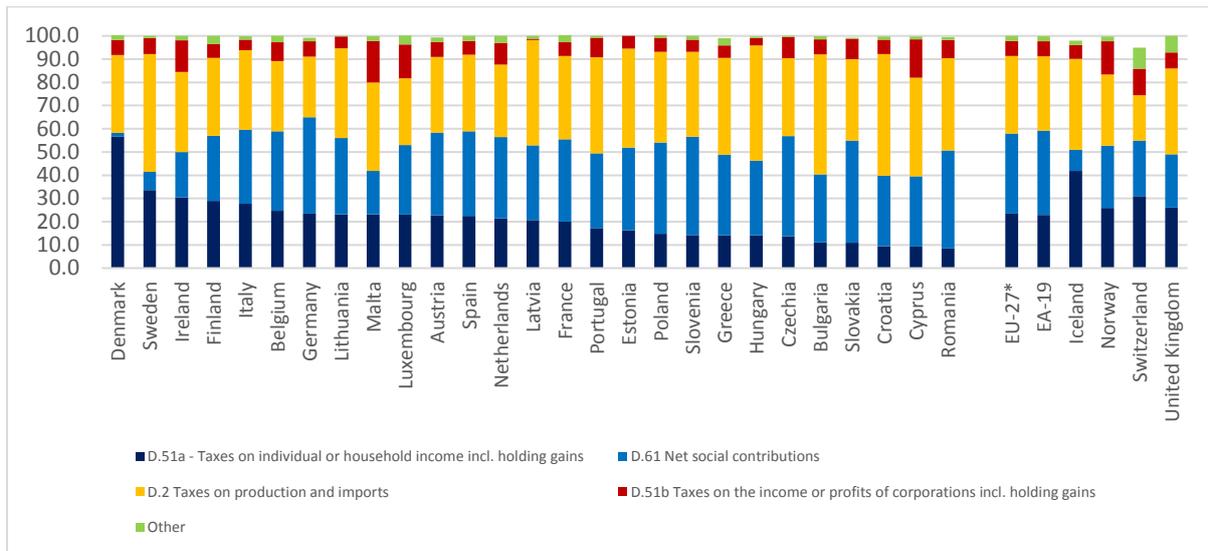


<sup>6</sup> OECD Revenue Statistics, data extracted on 10 Apr 2021. Here we use the terms CIT and PIT revenues loosely for simplification purposes. More specifically, CIT revenues refer to taxes on profits and gains of corporations (1200) and PIT revenues refer to taxes on income, profits and capital gains of individuals (1100).

<sup>7</sup> Eurostat, Tax Revenue Statistics, data updated on October 2020. PIT refers to taxes on individual or household income (D51a) and CIT refers to taxes on the income or profits of corporation (D51b). The classification methodology used by the OECD and the EU may differ and hence, there could be some discrepancies between the figures shown in Figure 3 and 4.

<sup>8</sup> OECD Statistics, data extracted on 10 Apr 2021.

Figure 4: Revenue Composition (% total revenue), EU countries, 2019<sup>9</sup>



In Part II below we analyse the early signs and characteristics of the ongoing changes in the labour market; and in Part III we consider the tax policy consequences of these changes, particularly as regards PIT. Part IV provides computation of possible effects for the UK, and Part V concludes.

## II. The Ongoing Changes in the Labour Market

The process of digitisation of the economy has been significantly accelerated by the pandemic. Whilst a significant portion of consumption was already taking place online, and some businesses were already offering an “all-remote, geographically flexible”,<sup>10</sup> or a “hybrid-remote” working policy,<sup>11</sup> labour was still primarily carried out in-person. The pandemic has resulted in many behavioural shifts that can have a tax impact – amongst these are perceptions as to the need to carry out work in-person. Traditionally, it was thought that the main benefits of in-person work were better coordination and the creating of key synergies for productivity – namely knowledge exchanges, relationships and trust, teamwork, as well as the possibility to monitor work more effectively.<sup>12</sup> However, in-person work also carries substantial costs.

<sup>9</sup> Eurostat, *Tax Revenue Statistics*, data updated on October 2020.

<sup>10</sup> Choudhury et al. use the example of GitLab, a software company based in San Francisco, see P. Choudhury, K. Crowston and L. Dahlander, ‘GitLab: work where you want, when you want’ (2020) *Journal of Organisational Design* 9, 23. GitLab has no physical headquarters or offices for its 1000+ employees, so even managers and the C-suite can work from anywhere across the globe; GitLab’s employees are scattered across 60+ countries, see CNBC, *GitLab CEO weighing options for going public after employee share sale valued company at \$6 billion*, January 15, 2021. Recently, Spotify announced their employees can work from anywhere, see CNBC, *Spotify will let employees work from anywhere after the pandemic*, February 12, 2021.

<sup>11</sup> Bloom et al studied the Chinese multinational Trip.com Group, an online travel agent which allowed some employees to work from home with an overall “hybrid remote” policy, see N. Bloom, J. Liang, J. Roberts and Z.J. Ying, ‘Does working from home work? Evidence from a Chinese experiment’ (2015) *Quarterly Journal of Economics* 130(1), 165–218.

<sup>12</sup> N. Bloom et al fn. 6 above; P. Choudhry et al fn. 5 above; P. Choudhury, C. Foroughi and B. Larson, ‘Work-from-anywhere: The productivity effects of geographic flexibility’ (2021) *Strategic Management Journal* 42, 655–683; and J. Dingel, and B. Neiman, ‘How Many Jobs Can be Done at Home?’ (2020) *Journal of Public Economics* 189.

For workers it has several consequences that effect productivity – including commuting, time inefficiencies (such as excessive or longer meetings), and noise - as well as having negative effects on quality of life criteria, such as work-life balance. For businesses, beyond the potential employees' productivity costs, in-person work also carries other costs, including office rentals, utility bills and other office maintenance, food costs, and travel costs (e.g. to meet clients). The pandemic has pushed businesses to consider further these trade-offs. Whilst the costs are still present, benefits of in-person work are less clear or obvious: coordination, synergies and monitoring that were once perceived as attached exclusively to in person contact, are now established online, through remote working.

Whether or not this behavioural shift and change in perceptions will become a sustainable trend in the long run, will depend on a new cost-benefit assessment, in light of the digital gains achieved during the pandemic: namely whether or not the costs of remote work – e.g. coordination failures, some decrease in synergies or monitoring – will be regarded as smaller than its benefits. In addition, it is noteworthy that this cost-benefit assessment is also likely to depend on the concrete implementation of the various working policies.<sup>13</sup> Whilst it is too early to know for sure, and aggregate data will only become available in a few years, there are early indications that incentives are changing and hence there is a high likelihood that these changes in the labour market will become a sustainable trend.

Studies of individual firms and institutions indicate that “hybrid-remote” and “all-remote” work can increase productivity. In a 2015 study, remote working led to a 13% performance increase in a Chinese multinational, split between a 9% increase in working more minutes per shift - fewer breaks and sick days - and a 4% increase from more tasks completed per minute – as a result of a quieter and more convenient working environment; remote workers also described higher work satisfaction.<sup>14</sup> In another more recent study, employees' output at the United States Patent and Trademark Office (USPTO) increased by 4.4% when workers moved from a work-from-home to a work-from-anywhere regime; it also report increased employee effort and real estate savings for the USPTO.<sup>15</sup>

Larger business surveys increasingly show that remote work is regarded as a great success for both employees and managers.<sup>16</sup> A PwC remote working survey of the US market shows strong – and critically, growing – support for remote working, and highlights significant gains:

- 83% of executives say switching to remote work has been successful for their company (up from 73% in the June 2020 survey), and 71% of employees agree;
- 34% of employees say they are more productive with remote work (28% in June 2020); and executives agree, with 52% saying that average employee productivity has improved with remote work (44% in June 2020).

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<sup>13</sup> P. Choudhry *et al* highlight how in the case of GitLab, the working from anywhere policy has been successful because the company has implemented systems and processes – such as shared code and document repositories, archived chat tools – specifically targeting possible coordination failures that may arise from remote working, see P. Choudhry *et al*, fn. 5 above.

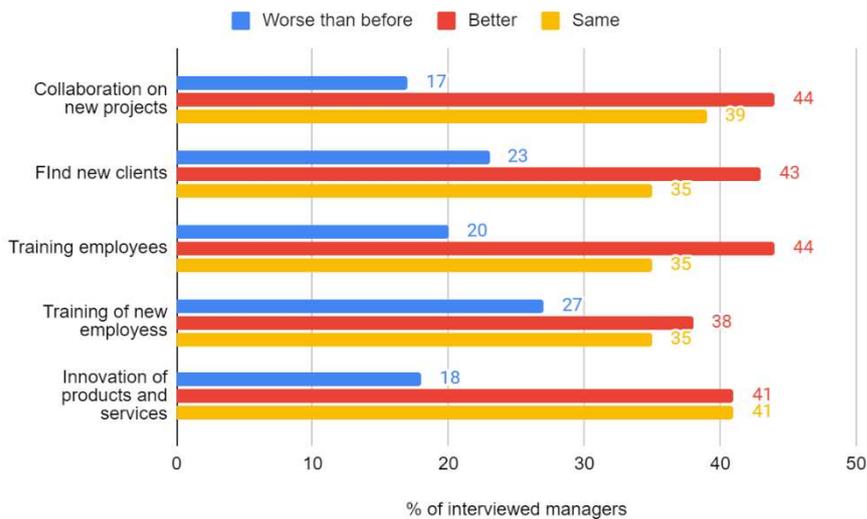
<sup>14</sup> N. Bloom *et al* fn. 6 above.

<sup>15</sup> P. Choudhry *et al* fn. 7 above.

<sup>16</sup> For an overview of the advantages and limitations of business surveys see S. Barrios, D. d'Andria and M. Gesualdo, 'Reducing tax compliance costs through corporate tax base harmonization in the European Union' (2020) *Journal of International Accounting, Auditing and Taxation* 41.

Further data is provided in Figure 5 below: in several critical elements for business productivity, such product innovation, remote working is perceived as faring equally or better than face-to-face; interestingly this is also the case for elements that are either synergy dependent – collaboration on new projects – or growth related – find new clients.

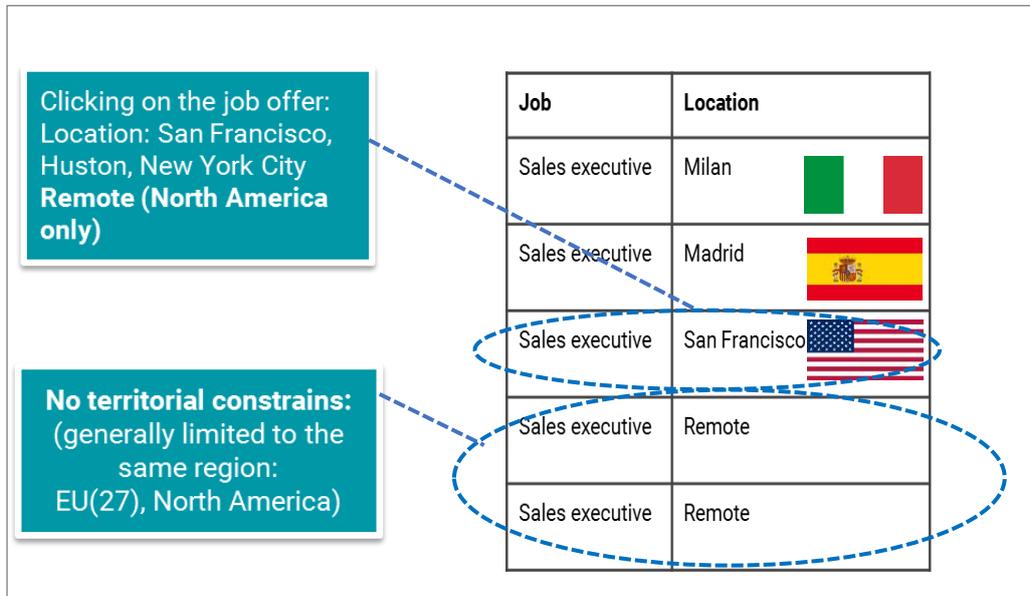
Figure 5: January 2021, PwC US remote working survey<sup>17</sup>



There is also substantial anecdotal evidence that indicates not only that the shift to remote working will become a sustainable trend, but also that this will have a fiscally significant impact on employees' tax residence status – and thus PIT and SSCs revenues. Even without a specific overall policy in place, as demonstrated in Figure 6, businesses are now hiring for positions, which are fully “remote”, and thus not subject to any territorial constraints. Moreover, even when the position is initially linked to a territory, it is now common to observe location discussions being included in the bargaining during the hiring process: potential employees are bargaining for remote working in a jurisdiction that is different from that of the employer.

<sup>17</sup> PwC interviewed 133 managers e 1,200 in the US between 24 November and 5 December 2020 on the effectiveness of remote working. Employees interviewed either had to work from home due to the pandemic or did so regularly; essential workers were excluded. See PwC, *US Remote Working Survey*, January 2021.

Figure 6: Job vacancies in one EU multinational<sup>18</sup>



Clear empirical evidence on these ongoing changes in the labour market are unlikely to emerge until the pandemic allows a return to full mobility, and no social restrictions. In the absence of this empirical evidence, however, we can still make some educated predictions. For example, we do not yet have precise data on the work that can be done remotely *and* in a country other than the one where the employer is located. Whilst remote working may be popular, remote work from a different jurisdiction will necessarily carry additional frictions, including legal ones – such as residence requirements, risk of creating a permanent establishment for CIT purposes and additional compliance – as well as practical ones – such as time differences, or language barriers. Yet, we can use the number of jobs that can be done remotely as a rough proxy, whilst knowing only a part will be able to work remotely from another country. On this regard, although the numbers will vary from country to country, European data indicates that up to 1/3 of all jobs can potentially be done remotely (Figure 7). For the US the figure is higher: 37% of jobs can be performed remotely, representing up to 45% of total wages (Figure 8) – a discrepancy that can be explained by the fact that jobs that can be done remotely, tend to be higher paid jobs (Figure 9).

<sup>18</sup> Information retrieved from its website, on 26 March 2021; for anonymisation purposes exact locations have been changed.

Figure 7: % jobs that can potentially be done remotely (Europe)<sup>19</sup>

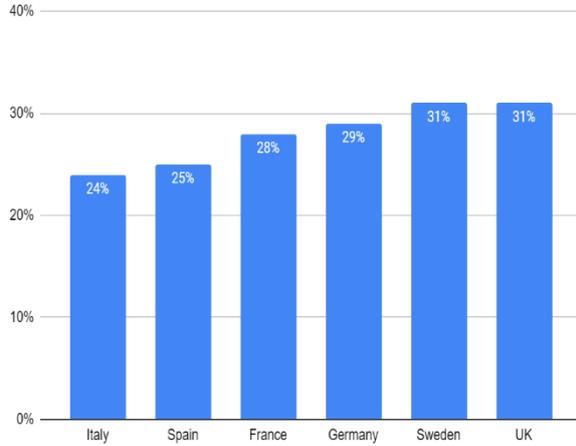


Figure 8: % jobs that can potentially be done remotely (US)<sup>20</sup>

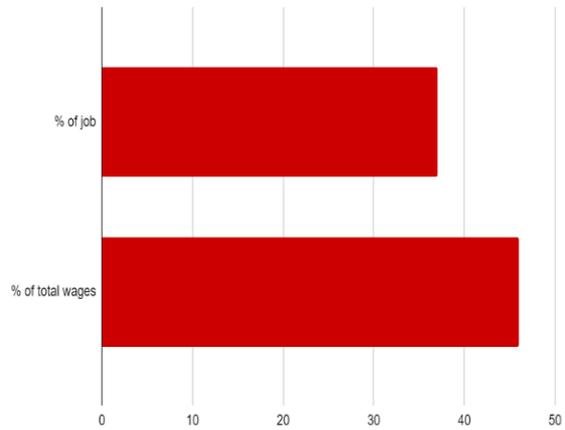
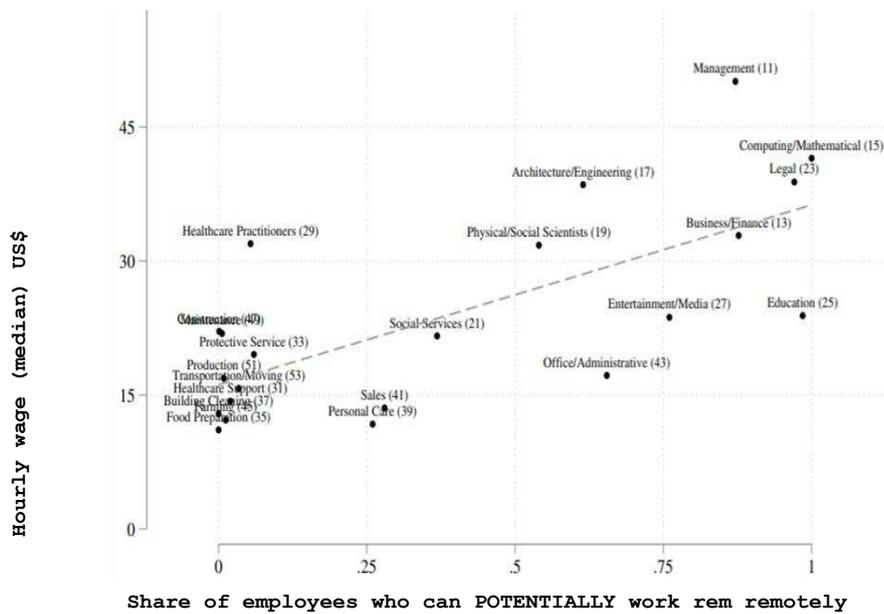


Figure 9: Correlation between share of employees who can work remotely and hourly wage<sup>21</sup>



### Characteristics of the Labour Shift

This shift in the labour market is not homogenous, rather it is largely concentrated on specific types of businesses (depending on size and sector), and on specific type of employees. The shift is mostly evident in large

<sup>19</sup> T. Boeri, A. Caiumi and M. Paccagnella, 'Mitigating the work-safety trade-off' (2020) *Covid Economics*, Centre for Economic Policy Research 2.

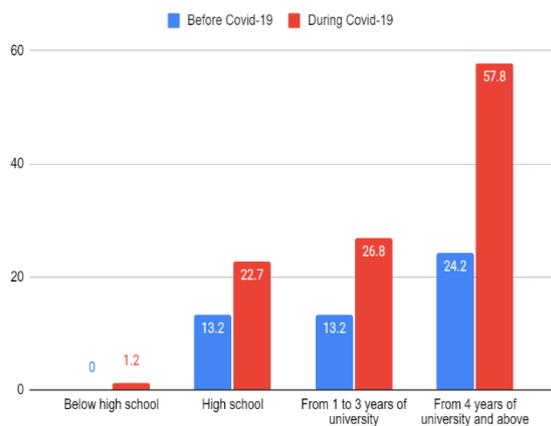
<sup>20</sup> J. Dingel and B. Neiman fn. 9 above.

<sup>21</sup> J. Dingel and B. Neiman fn. 9 above.

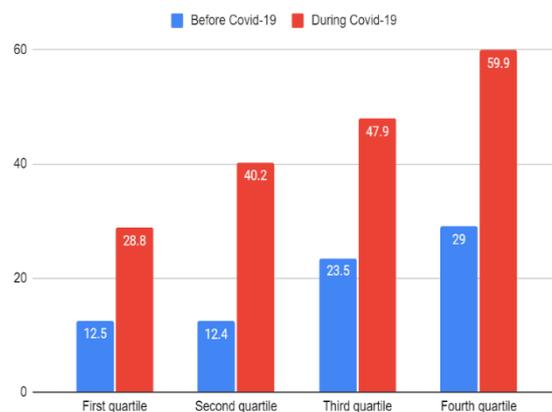
multinationals, as well as smaller but fast-growing multinationals, which are on the frontier of innovation and productivity – and therefore tend to pay higher wages;<sup>22</sup> the trend has the potential to also spread to the most innovative domestic companies, at least insofar as they have the necessary infrastructure and language skills. In terms of sectors, whilst the trend began in the technology sector – given the immediate availability of a suitable infrastructure – many examples can now be found in other sectors, such as pharmaceutical, consumer goods, marketing, and the financial sector. The shift is less relevant for those sectors, where physical presence is necessary for performing the work, namely construction, transport, healthcare, tourism, food preparation, and manufacturing sectors.

In terms of the type of employees, the shift is most evident as regards those with high level education and high salaries (Figures 10 and 11),<sup>23</sup> but likely to spread, at least partially, to secretarial and administrative work. The trend is, of course, less relevant for employees in sectors that require in-person work, which are also the sectors that tend to have lowest wages.<sup>24</sup>

**Figure 10: % employees working remotely by education group<sup>25</sup>**



**Figure 11: % employees working remotely by income group<sup>26</sup>**



### III. The Implications for Personal Income Taxes and Social Security Contributions

The above changes to labour patterns can have very significant consequences on tax systems, particularly on PIT and SSCs. Traditionally, the PIT tax base had been regarded as relatively immobile, but there have been early

<sup>22</sup> J. Dingel and B. Neiman fn. 9 above; J. Hines, *Testimony before the US Committee on Finance*, Statement, March 2021.

<sup>23</sup> Based on a survey on 2,500 US employees, age 20-64, in full-time employment in 2019, see N. Bloom, 'How working from home works out', (2020) *Policy Brief, Stanford Institute for Economic Policy Research* (SIEPR).

<sup>24</sup> J. Dingel and B. Neiman fn. 9 above; B. Avdiu and G. Nayyar, 'When Face-to-Face Interactions Become an Occupational Hazard' (2020) *World Bank Policy Research Working Paper* 9240.

<sup>25</sup> N. Bloom fn. 20 above.

<sup>26</sup> N. Bloom fn. 20 above.

signs in the last years that increased mobility of individuals was starting to have an effect on the PIT base.<sup>27</sup> The spread of beneficial PIT regimes to attract high-skilled mobile workers, such as the Danish scheme for inbound expatriates introduced back in 1991,<sup>28</sup> the Portuguese Non-Habitual Residents scheme,<sup>29</sup> the Italian regimes to attract foreign residents,<sup>30</sup> or the French Brexit scheme for financial services workers,<sup>31</sup> are the most obvious manifestation of growing tax competition in PIT.

However, there was also increasing awareness amongst policymakers that FDI was sensitive to PIT, particularly fixed-term investment that involves the relocation of highly specialised expatriate workers.<sup>32</sup> Until now, this mobility and consequent tax competition, was restricted to a small portion of individuals, and thus the tax base, in particular the high net worth individuals, highly skilled non-office workers – such as scientists – and short-term expatriates.<sup>33</sup> The ongoing developments in the labour market as a result of digitalisation signal a substantial increase in mobility, and with increased mobility come more significant changes to the tax base – as we have clearly seen in CIT over the last 40 years.

For businesses, these changes in the labour market will mean that they will increasingly be able to choose among workers resident throughout the world – although, given practical limitations, they may be limited to a specific region or geographical area – selecting the best workers at the lowest labour costs, including in terms of taxation. On the other hand, workers will increasingly be able to choose where to reside, regardless of where their employer is located. Both factors may result in significant shifts in the PIT tax base – made all the more worrying given the characteristics of the labour shift. Digitalisation not only brings a significant increase in the mobility of workers, but that increase is likely to happen at the top of the income distribution, amongst those that currently pay the biggest proportion of PIT revenues (Figure 11). Moreover, a mobile high-skilled workforce has important spillovers, not only knowledge ones that are crucial for growth – such as technical content, efficient management practices –<sup>34</sup> but also tax spillovers – particularly in CIT – through impact on transfer pricing calculations – and for consumption taxes – given the natural link between high incomes and higher consumption propensity.

From a tax administration perspective, this mobility also carries significant challenges. When employers and employees are based in the same jurisdiction, employers act as withholding agents, responsible for remitting PIT and SSCs on behalf of their employees. The role of businesses as a withholding agents is substantial: in 2014, PIT and employee SSCs remitted by business are estimated to account for 25.1% of total tax revenues on average;

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<sup>27</sup> P. Egger, S. Nigai and N. Strecker, fn 5; and U. Akcigit, S. Baslandze and S. Stantcheva, fn. 5 above.

<sup>28</sup> H.J. Kleven, C. Landais, E. Saez and E. Schultz, 'Migration and wage effects of taxing top earners: evidence from the foreigners' tax scheme in Denmark' (2014), *The Quarterly Journal of Economics* 129(1), 333-378.

<sup>29</sup> F. Castro Silva and T. Cassiano Neves, 'Portugal: Golden visa and non-habitual tax regime: Competing for the best sunny place in Europe' (2013) *International Tax Review*; and PwC Portugal, *Tax Regime for non-habitual residents* (2021).

<sup>30</sup> PwC, *Worldwide Tax Summaries – Italy* (2021).

<sup>31</sup> Reuters, *France to ease finance, tax rules to attract Brexit bankers*, July 11, 2018.

<sup>32</sup> As demonstrated by recent reports of pressure on Ireland to decrease its PIT rates, *The Irish Times*, *What is the truth about paying tax in Ireland?*, December 3, 2019.

<sup>33</sup> H.J. Klaven *et al* fn 28 above; P. Egger, *et al* fn 5 above; and U. Akcigit *et al* fn. 5 above.

<sup>34</sup> E. Moretti, 'Workers' Education, Spillovers, and Productivity: Evidence from Plant-Level Production Functions' (2004) *American Economic Review* 94(3), 656-690.

in the UK alone business remitted about £184 billion in PIT and SSCs on behalf of their employees, amounting to a staggering 32% of total tax revenue.<sup>35</sup> Beyond other likely societal impacts, therefore, and solely from the perspective of tax systems, shifts in how employees work have the potential to create not only significant PIT revenue losses, but to produce significant administrative / compliance challenges. A decrease in withholding taxation, and increase of self-employment assessments, for example, has the potential not only to increase administrative costs and create cash-flow costs, but perhaps more importantly, it may also affect levels of non-compliance; there is now a strong and established literature on the fundamental of third-party reporting for tax compliance,<sup>36</sup> a decrease in employers' remittance, and an increase in self-reporting is therefore likely to increase the opportunities for non-compliance.

Similarly to the impact of mobility on the CIT tax base, these shifts in the PIT tax base – and the corresponding PIT competition pressure – are also unlikely to be uniform across countries. Having attractive characteristics increases bargaining power, and thus decreases the competitive pressure. Countries that offer high-quality of life, as measured by a variety of factors, such as geographical conditions, infrastructure levels (in this case, likely focussed on digital infrastructure, as well as accessibility to international travel), standard of public services (healthcare, education, etc), or favourable governance structures (human rights, democratic accountability), are less likely to feel a downwards shift in the PIT tax base. For others, the pressure to keep the existing PIT base intact will likely be significant, not only because of immediate revenue needs, but also because of the important spillovers of a high-skilled labour workforce.

As countries focus on keeping their PIT base, in the first instance there will likely be a focus on re-definition of employment income,<sup>37</sup> withholding mechanisms and the possible introduction of anti-avoidance rules to prevent erosion of the PIT base. However, as countries continue to struggle to keep their PIT base – or decide to use the opportunity that increased mobility offers to expand it – there will likely be a pressure to apply average *and* top PIT rates that are not too high, primarily when compared to other countries in the same region. Whilst in theory the average rate is the most significant element for a mobile tax base, a simple comparison between top marginal rates is likely to have higher salience, and act as an important signalling effect for many individuals, so that both elements are likely to play a role in PIT competition. As demonstrated by the recent announcement of a new Greek PIT scheme targeted specifically at remote workers,<sup>38</sup> the allure of applying preferential PIT regimes exclusively to mobile individuals will likely intensify, despite their significant risks. In particular, they often present significant political challenges, especially in the aftermath of an economic crisis because these regimes by nature reduce the

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<sup>35</sup> A. Milanez, 'Legal tax liability, legal remittance responsibility and tax incidence: Three dimensions of business taxation' (2017) *OECD Taxation Working Papers* 32.

<sup>36</sup> H.J. Kleven *et al*, 'Unwilling or Unable to Cheat? Evidence from a Tax Audit Experiment in Denmark' (2011) *Econometrica* 79, 651, at 653; J. Slemrod, 'Cheating Ourselves: The Economics of Tax Evasion' (2007) *Economic Perspectives* 21, 25, at 37; and L. Lederman and J. Dugan, 'Information Matters in Tax Enforcement' (2020) *Brigham Young University Law Review* 145.

<sup>37</sup> Such as the rules in Articles 15 *et seq* of the OECD Model Convention, and Article 15 of the UN Model Convention.

<sup>38</sup> Reuters, *Sun, sea and cybernauts: the long road for Greece's digital nomads*, April 7, 2021.

progressivity of the PIT schedule and violate the fundamental principle of horizontal equity, with potential spillover effects on tax morale and rates of non-compliance.<sup>39</sup>

As with CIT, coordination of some elements of their PIT regimes, at least within homogeneous geographical areas, could significantly minimise the scope for tax competition. Yet, as the experience with CIT in the last forty years demonstrates, reaching agreement on coordinating initiatives has proved extremely challenging at international level, even amongst comparable countries. Nonetheless, recent developments on international negotiations regarding the adoption of a minimum rate for CIT shows that coordination in tax policy is theoretically and politically possible,<sup>40</sup> depending on political economy conditions, and global power dynamics, such as the position of larger countries – with strong bargaining power - public finance needs, and general public perceptions.

#### **IV. Possible Implications for UK Revenues**

In the UK, the total PIT liability in 2018-19 was £187 billion with 35% deriving from higher rate taxpayers (4.2 million taxpayers) and 31% from the additional rate taxpayers (399,000 taxpayers).<sup>41</sup> Boeri et al. (2020) estimate that approximately 31% of UK jobs can be carried out remotely - whilst, this average figure is likely to be higher for higher paid jobs, in the absence of information by type of taxpayer, we assume the same share of higher paid jobs can be carried out remotely. Of these, only a yet unknown share will be internationally mobile. Conservatively assuming that jobs are only mobile for higher and additional rate taxpayers – and thus that basic rate taxpayers are immobile – a high, medium and low scenario can be developed: half, one quarter and only one tenth of remote jobs for those taxpayers are internationally mobile.

Under these assumptions, 712,845 (high-end scenario), 356,422 (medium scenario), and 142,569 (low scenario) current UK taxpayers would be internationally mobile respectively (Figure 12). In these scenarios, the potential PIT revenue loss would be £19, £9.6 or £3.8 billion per annum, i.e. 10%, 5% and 2% of total PIT revenue respectively (Figure 13). To put this into perspective, the recently announced freeze of the personal allowance and higher rate threshold at 2021-22 levels is forecasted to raise £1.5 to £8 billion per annum between 2022-23 and 2025-26.<sup>42</sup> To these numbers SSCs should also be added.

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<sup>39</sup> R. de la Feria, 'Tax Fraud and Selective Law Enforcement' (2020) *Journal of Law and Society* 47(2), 193-359.

<sup>40</sup> Financial Times, *Global corporate tax deal edges closer after US backs minimum rate*, April 6, 2021.

<sup>41</sup> HMRC, *Income Tax Statistics for the Year 2018 to 2019*, March 2021.

<sup>42</sup> HM Treasury, *Budget 2021*, March 2021.

Figure 12: Mobile Taxpayers' Scenarios (number of taxpayers)<sup>43</sup>

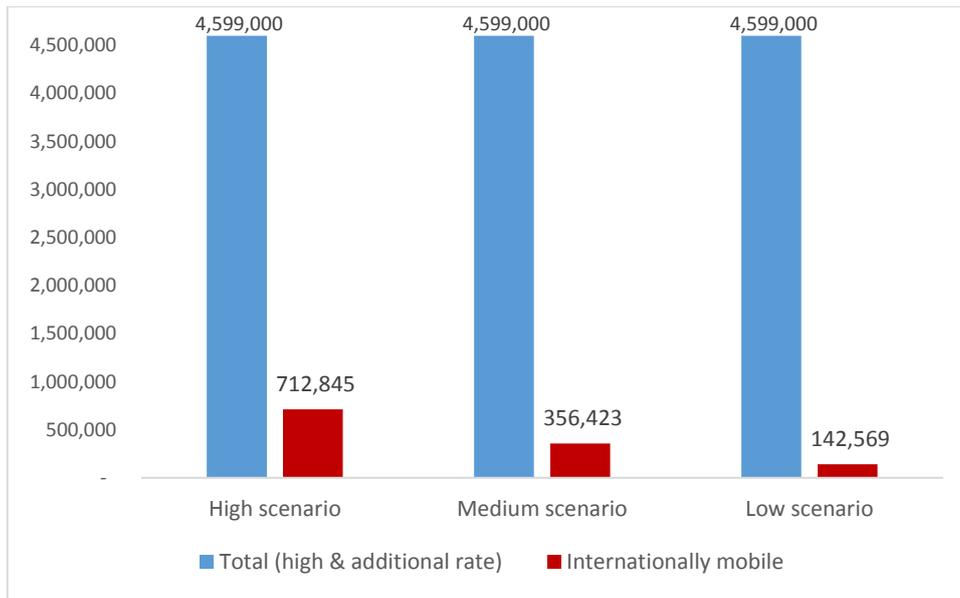
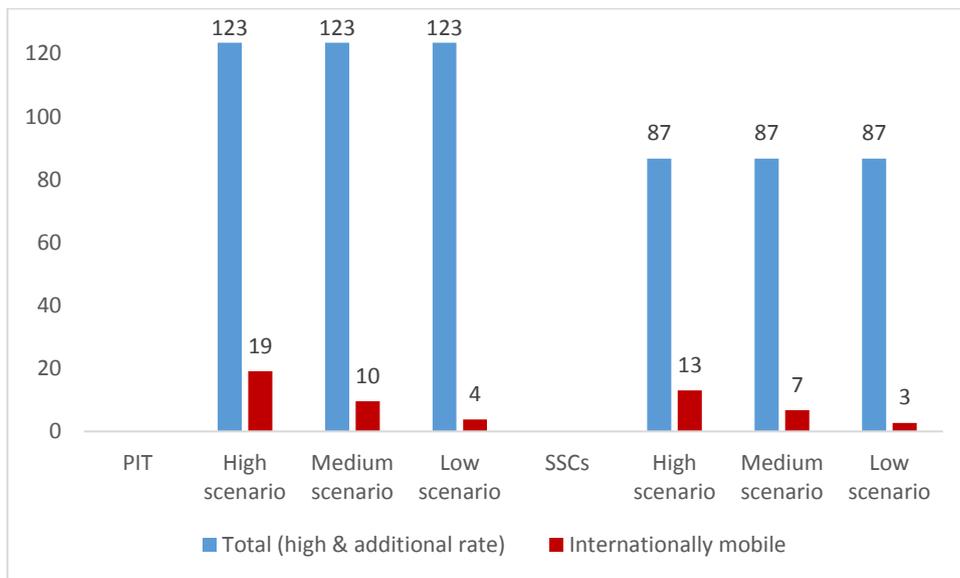


Figure 13: Mobile Taxpayers' Scenarios (tax revenues, £ bn)<sup>44</sup>



In 2018, the UK raised about £131 billion from employees and employer's SSCs.<sup>45</sup> In the absence of data as regards the share of SSCs paid by high and additional taxpayers, we use the same percentages as used for the PIT calculations: we assume high rate and additional rate taxpayers pay 31% and 35% of total employees and

<sup>43</sup> Our calculations using HMRC 2018/19 data, see fn. 32 above.

<sup>44</sup> Our calculations using HMRC 2018/19 data, see fn. 32 above and OECD Revenue Statistics.

<sup>45</sup> OECD Revenue Statistics, see fn. 35 above.

employers' SSCs, respectively. As above, we assume that 31% of these taxpayers can work remotely. Under our 3 main scenarios, the lost SSCs would amount to £13, £6.7 and £2.7 billion per annum (Figure 13).

Under our three scenarios, the overall PITs revenue loss – i.e. combined strict PIT and SSCs revenues – would amount to between £6.5 billion and £32.5 billion. Putting these numbers into context, the recently announced changes in the rate and structure of the CIT are estimated to raise between £11.9 and £17.2 billion per annum between 2023-24 and 2025-26 <sup>-46</sup> even if CIT performs above these estimates as a result of pre-tax income increases due to lower employment costs, it is unlikely that such increases would cover the worst scenario in PIT revenue losses.

#### **IV. Conclusion**

In recent years, resolving the challenges to CIT posed by the digitalisation of the economy has been the main focus of global tax discussions. Whilst our attention has been on CIT, however, beneath the surface a bigger challenge may be brewing in PIT. How big that crisis will be is not yet known, but one thing is certain: it has the potential for much wider economic and societal ramifications than the challenges to CIT. Challenges will be particularly significant for PIT systems, like that in the UK, which rely heavily on a relatively small number of high-income – and now potentially mobile – taxpayers. The challenges of adapting our tax systems to a digital economy are far from over; indeed, they have just started.

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<sup>46</sup> HM Treasury fn. 33 above.