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BORDERLESS OFFICES–OPPORTUNITY FOR TAX OPTIMISATION?

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ABSTRACT

The prevalence of telework, or working remotely or from home, has grown significantly in recent years, in which the COVID-19 pandemic played a major role. This paper focuses on a narrower subsection of remote work arrangements, and analyses employees' possibilities for tax optimization and potential taxation risks in the context of cross-border remote work or telework. Major obstacles to the spread of remote work are identified by investigating the challenges associated with cross-border remote work from an employer's perspective.

As a further objective, the paper aims to explore how jobs offered in the Hungarian labour market, but performed remotely from abroad influence domestic tax revenues. Three scenarios were developed which reveal that the budget of Hungary suffers at least HUF 46 billion loss in fiscal revenues if 10% of remote job vacancies are filled from across Hungary's borders. If only 50% of remote/work-from-home job vacancies are filled within borders, the potential loss in revenue from taxes and contributions is HUF 229 billion.

The research conducted under this study highlights the tax consequences of technology-driven changes in the labour market for individuals, employers and central budgets. States need to consider these factors when shaping their tax systems to ensure sustainable tax revenues.

JEL codes: D14, F22, H24, H61, J2, J61

Keywords: cross-border remote work; tax optimisation; permanent establishment; transfer price; fiscal revenues; income tax base erosion

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1 INTRODUCTION

Digitalisation accelerated by the COVID-19 pandemic affected various fields of the economy. It has enabled employees to continue with their activities and work remotely during the lockdown. Employers previously distancing themselves from remote work arrangements resorted to it to ensure that their colleagues carry out their work at a minimum risk of contagion and to protect personnel. Changed working conditions contributed to employees taking a more flexible approach to their jobs and leaving behind former constraints. At many companies, the possibility to work remotely has stayed in place even after the pandemic.

Employees in jobs that can be done from home and/or fully remotely may consider changing their residence within borders or to settle in another country for a shorter or longer period. While the first case is not problematic from the point of view of taxation, a number of issues arise in the second case for both employers and employees. Companies may easily find that they have to – or at least should – apply different taxation rules to the same employee. In other words, remote work increases the possibility of situations where employees are resident in a different state for personal income tax purposes than their employer for corporate tax purposes.

Although the effects of digitalisation go beyond traditional employer-employee relationships and also include other contractual relationships – e.g. it is now possible for agents to perform their contractual obligations or for individuals to accept assignments as sole entrepreneurs on the go through the Internet – the focus of this study is restricted to cross-border remote work carried out under employment contracts.

Given the fact that national personal income tax rules are not harmonised, with different tax rates and regimes in force, digitalisation may give rise to increased personal income tax competition (Esteller Moré–Galmarini, 2023). While there had been ways for personal income tax optimisation earlier, with the potential increase in the prevalence of remote work, more individuals are driven to consider and decide whether they can and want to minimise their tax liabilities (Kleven et al., 2020).

In the first part of the paper, remote work is defined, followed by an analysis of Hungarian and international remote work statistics, the potential number of employees involved and expected future trends in the second part. Taxation issues linked to remote work in particular the concept and role of tax residence, are discussed later. The next part of the paper explores the options and risks of individuals and outlines the taxation risks of employers. After a brief discussion of digital nomad visa, the last section presents the estimated impact on revenues from personal income tax and contributions in Hungary. The paper is concluded by a summary of the results, identification of the limitations of the study and possible directions for future research.

2 THE INCREASED PREVALENCE OF REMOTE/WORK-FROM-HOME JOBS

The spread of home-based and remote work during the pandemic has attracted scholars' and experts' attention both in Hungary and internationally. A strand of the studies focused on the issue of efficiency and possibilities for employer control, while other papers discussed the pros and cons of working from home from the point of view of employees' mental health. Research has been conducted partly on responses in the labour market and on whether pre-pandemic conditions will be fully restored or working from home and remote jobs will become more frequent in the future.

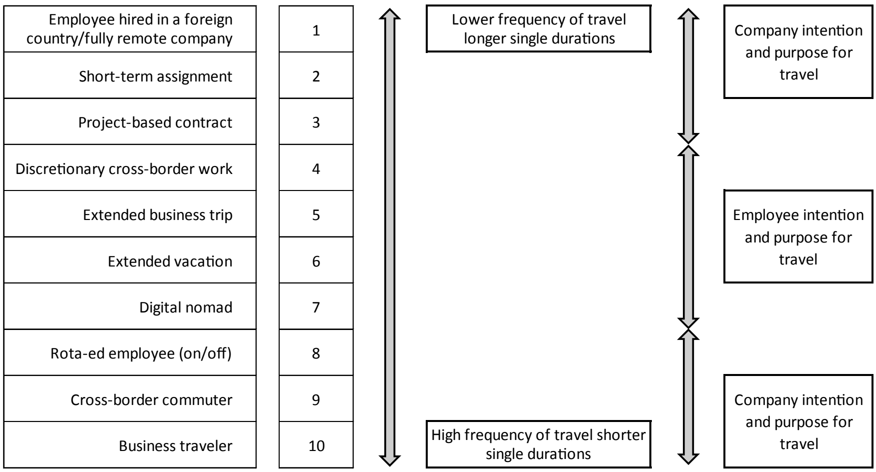
2.1 The definition of remote work and cases of cross-border remote work

There are various definitions of remote work, but since this study concerns remote work related to Hungary, the definition for 'teleworking' laid down in Section 196 of Act I of 2012 on the Labour Code (Mt) is presented

According to the currently applicable provisions of the Act, 'in the case of telework, the employee perform(s) the work for a part or all of the working time in a place separate from the employer's premises.' The most important provisions include that it must be stipulated already in the employment contract that the employee will be employed within the framework of teleworking, that the employer exercises his/her right of control remotely using a computer device, and that the employee may work at the employer's premises for a maximum of one third of the working days in any given year (the parties may derogate from the latter provision).

In practice, remote work or telework may take many different forms. A special case is when work is performed across national borders, i.e. the employee works from abroad using digital equipment. The figure below provides an insightful illustration of ten cases that constitute cross-border remote work (Tonge, 2023). The cases were differentiated on the basis of two criteria. Firstly, a major difference is whether cross-border remote work is initiated by the employee or the employer. Secondly, the frequency and duration of travel may differ in certain cases.

Figure 1
Forms of cross-border remote work



Source: Tonge (2023)

Cases where the employee is the originator of remote work include extended business trips and/or vacations, with a period of working remotely from the destination at the beginning and/or end of the time spent abroad. Another such case is when moving to another country and working from there is the preference and intention of the employee, or when the employee is a digital nomad working from frequently changing locations.

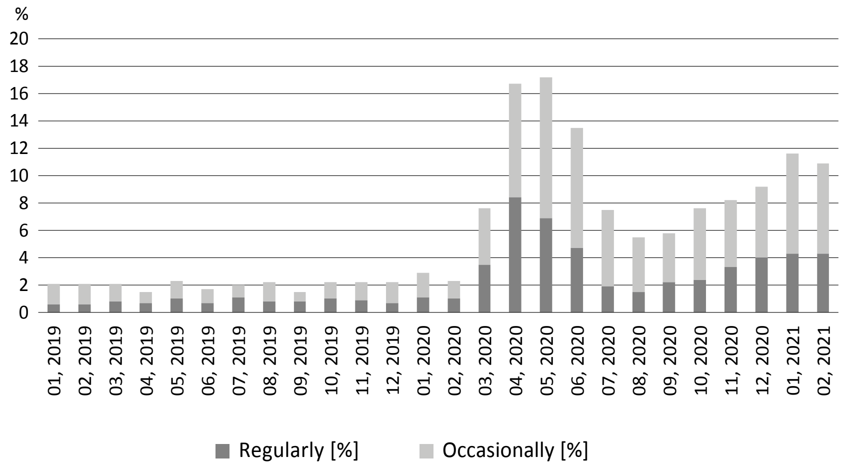
The 'Current trends in remote work' study by KPMG also shows that remote work arrangements are initiated by employees at 73% of the companies participating in their survey, informing an employee demand for workplace flexibility (KPMG, 2023). Extended vacations or postings may be used as a reward or incentive that are deservedly popular with employees.

Cross-border remote work arrangements are generally introduced by employers with a business objective and serve the interest of the employer.

2.2 How prevalent is remote work?

The Hungarian Central Statistical Office (KSH) investigated the number of employees performing their work using information and communications equipment remotely on a regular basis based on their employment contract in 2019 and 2020 (KSH, 2021).

Figure 2
Monthly breakdown of the number of employees working remotely and/or from home

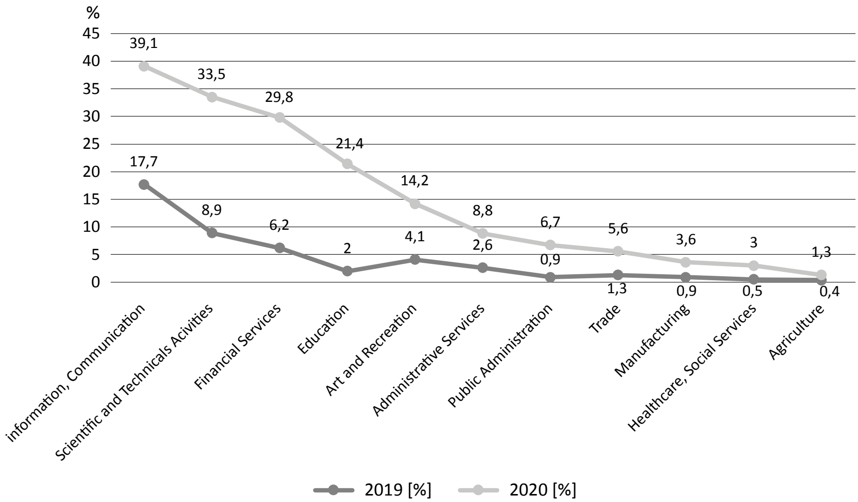


Source: author's elaboration based on KSH, 2021

While there is no obvious change in the number of employees working remotely or from home in 2019, there had been a significant increase by March 2020 with thrice as much, over 300 000 employees performing their tasks under remote arrangements. The numbers peaked in May 2020 at close to 760 000 employees working remotely or from home, which corresponds to 17.2% of all employees.

Evidently, the proportion of employees working remotely or from home differs across the different sectors of the national economy. Comparing data for the periods before and after the pandemic, we can find that the share of remote work has grown at a different rate and pace.

Figure 3
The proportion of employees working in remote and/or home office in certain economic sectors



Source: author's elaboration based on KSH, 2021

Based on the periodic survey of the KSH (2021), information and communication, scientific and technical activities and financial services remained the top three sectors for remote work in both reference years. In 2020, the number of remote workers was the highest in the infocommunications sector, with 39% of all sector employees working remotely, from 17.7% in 2019.

However, if we look at the rate of increase in remote work in the respective sectors, it becomes evident that the highest growth occurred in education. Here, close to one in five employees worked remotely or from home in 2020, compared with only 2% in 2019.

A study by Századvég (2022) commissioned under the GINOP-3.1.1 (Programme your future!) priority project by the Governmental Agency for IT Development (KIFÜ) and the ICT Association of Hungary (IVSZ) looked among others into opinions about, and attitudes to, remote work and digital nomads on a sample size of 622. The source of the sample was the Graduate Career Tracking System (DPR) operated by the Educational Authority (OH). The sample consisted graduate IT professionals who have completed their higher education studies in or after 2006. Accordingly, only 7.1% of the respondents were in their forties (Századvég, 2022).

The study of Századvég found that 560 respondents, i.e. 80% of the sample worked within the territory of Hungary for an employer or principal based in Hungary. For the purpose of this study, cases where work is carried out for a foreign employer and/or the place of work is abroad are also important for tax considerations. 44% of the study respondents meet that criterion (Századvég, 2022).

On 28 October 2023, 15 581 jobs were available on the Hungarian job portal *Profession.hu*. 1 513 (9.7%) of the jobs were posted with a remote work and/or work-from-home option. The portal does not differentiate between the two categories, and it cannot be specified which vacancies may be filled from abroad. There are different search categories (23) for filtering jobs. As job postings may be linked to multiple categories, the numbers of jobs in the respective categories add up to a total of 19 186, of which 1 978 (10.31%) were posted with a remote work and/or work-from-home option. The proportion of jobs in each category that allowed remote work and/or working from home was then examined. The results are presented in the table below.

Table 1
Number and proportion of advertised remote and work-from-home jobs

Category by Profession.hu	Advertised positions (number)	Remote work, home office (number)	Proportion of remote work, home office within the category (%)	Ratio of remote work, home office jobs to all remote work, home office positions (%)
Coding, IT development	581	300	51,64	15,17
IT operation, Telecommunications	415	193	46,51	9,76
Business support centers	409	165	40,34	8,34
Finance, Accounting	1022	299	29,26	15,12
Customer service, Client support	401	117	29,18	5,92
Law, Legal advisory	111	30	27,03	1,52
Marketing, Media, PR (Public Relations)	345	93	26,96	4,70
HR, Labour affairs	371	84	22,64	4,25
Bank, Insurance, Broker	328	68	20,73	3,44
Education, Science, Sports	152	25	16,45	1,26
Transportation, Procurement, Logistics	753	98	13,01	4,95
Sales, Commerce	1474	190	12,89	9,61
Engineering	1133	128	11,30	6,47
Administration, Assistant, Office work	932	104	11,16	5,26
Construction industry, Real Estate	493	41	8,32	2,07
Public administration	63	5	7,94	0,25
Executive, Management	98	7	7,14	0,35
Agriculture, Environment	109	4	3,67	0,20
Healthcare, Pharmaceutical industry	238	7	2,94	0,35
Manufacturing, Production	1250	8	0,64	0,40
Hospitality, Hotel, Tourism	1540	4	0,26	0,20
Manual, Low-skilled and Unskilled jobs	1770	3	0,17	0,15
Skilled jobs	5198	5	0,10	0,25
Total	**19186**	**1978**	**10,31**	**100,00**

Source: author's elaboration based on Profession.hu

Based on the data, remote work or working from home is the most prevalent among jobs posted in the categories Coding and IT development (51.6%), IT administration and Telecommunications (46.5%) and Shared Service Centers (40.3%). The share of remote and/or work from home jobs is even higher if we look at jobs posted more recently compared with earlier figures.

Of all jobs posted with a remote work and work-from-home option, the share of jobs in the Coding and IT development (15.17%) and the Finance and Accounting (15.12%) category is the highest. Quantitatively, the Skilled jobs category comprises as many as 5 198 jobs, corresponding to 27.1% of all jobs, but remote work and working from home are virtually not applicable in this category.

After analysing Hungarian data, we should continue with an international review of trends. Based on the survey of Eurostat, 5.5% of the 20-60 age group worked from home prior to the pandemic in 2019. That figure increased to 12.3% in 2020 and further – although at a slower pace – to 13.5% in 2021. A surge was recorded in figures for Stockholm where the proportion of employees working from home was as high as 40.5% in 2021 – a more than 30% increase over the 2020-2021 period (Eurostat, 2022)a large proportion of employed people was faced with changing patterns of work – including working from home. In 2019, approximately 1 in 20 (5.5%.

Boeri et al. investigated the share of jobs that can potentially be carried out from home. According to their calculations, the share of potentially remote jobs ranges from 23.95 in Italy, 28.7% in Germany, 28.22% in France, up to 31.38% in the United Kingdom. Those figures are valid primarily for service sector jobs, in the case of e.g. engineers, lawyers, architects and professors (Boeri et al., 2020).

In a US context, Brynjolfsson et al. found that 50% of the employees worked in their home office during the pandemic (Brynjolfsson et al., 2020). That share is well above European figures.

3 TAX CONSIDERATIONS

Employee mobility can be interpreted as either within-country or international mobility. Wildasin establishes that mobility opportunities are defined by remote work capabilities and the degree of technological progress (Wildasin, 2021).

Taking advantage of more favourable taxation offered by mobility is not a new phenomenon. There have been plenty of examples of high-income individuals re-settling in lower tax jurisdictions. The study of Kleven et al. lists a number of examples when famous actors, performers and sportsmen have changed tax residence in response to extreme tax rates in their home countries. Renowned and wealthy tennis players, motor car racers and golfers typically moved to tax havens (e.g. Monte Carlo), while performers tended to choose other countries, such as

Belgium and Ireland. The authors concluded from their research that particularly high income labour market participants employed in less location-specific, human-capital intensive jobs are more likely to respond to the tax environment and change tax residence (Kleven et al., 2020).

The pandemic-induced changes have fostered higher mobility in other, previously immobile labour market segments, leading to the intensification of tax competition (IMF, 2022).

3.1 Careful tax planning – conscious job hunting?

The country of an individual's personal income tax liability can be established based on an in-depth examination of the underlying situation. In cases of cross-border remote work, the residence and employment provisions in force, the relevant rules on taxes and contributions as well as the applicable international tax treaties should all be taken into account.

The level of 'tax knowledge' – a concept developed by Bornmann et al. – is defined by familiarity with tax regulations and tax compliance procedures and the general knowledge of the individual. In the authors' definition, general tax knowledge includes financial literacy, which should be at least at a level to help individuals understand their own financial position and the effect of taxation on their own finances. In addition, it also includes the capacity to understand the aims of governmental fiscal strategies (Bornman–Ramutumbu, 2019).

The provisions of the national legislation of any given country are complex and diffuse even when considered in isolation, but in the case of cross-border remote work, additional knowledge is required of the regulations and opportunities available in another country. Potentially, there is a higher risk that individuals may not be able to handle the relevant taxation issues properly.

While tax residence is a crucially important concept, it may be unknown to the majority of personal income taxpayers. It is tax residence that defines the country in which personal income tax is payable on the 'worldwide income' of individuals. There are exceptions, for example in the case of income derived from the utilization of real estate, in this case, the location of the property determines the country of taxation.

Since individuals may change their tax residence, they may consider to do so with a view to minimising their personal income tax liability. It is obvious that the different tax rates imposed from country to country imply a different average tax burden. Accordingly, tax liabilities may potentially be reduced and net income increased by changing tax residence.

An information booklet published by the National Tax and Customs Administration (NAV) provides guidance on determining residence for tax purposes in Hungary. It is important that under the provisions of the Hungarian Act on Personal Income Tax, any individual of Hungarian nationality is resident in Hungary for tax purposes regardless how many days they spend in the country. That, however, does not mean that Hungarian nationals may not change tax residence (NAV, 2023a).

When the individual concerned is resident in another country under the domestic legislation of that country, and there is an international tax treaty in force between the two countries, tax residence may be determined along the following steps. To decide between the two countries, the first criterion to examine is place of residence. If the individual has a permanent residence in both countries, the centre of vital interests is used as a defining criterion. If a decision cannot be made for any of the countries, the place of habitual residence may be the determining factor. As a last resort, the country of tax residence is established on the basis of nationality. When all these steps are without a result, the competent authorities of the two countries engage in a mutual agreement procedure to decide the matter (NAV, 2023a).

The methodology is different when an individual receives income from a country that has no tax treaty in force with Hungary. In that situation, the income may be subject to double taxation. 90% of the amount of tax paid abroad, which may not exceed the 15% of tax liability on the taxable income is deductible in such cases from the payable personal income tax in Hungary (NAV, 2023a).

3.2 Is it possible to be fully exempt from tax?

To respond to cross-border remote work opportunities, several countries have introduced digital nomad visas facilitating international mobility and employment and reducing employers' and employees' risks. The interactive map of KPMG shows visa options in 44 countries and by region. Their study provides information on the types of visas introduced in the respective countries, structured around focus areas. Apart from requirements and the relevant fees, the study also outlines the income tax liability and the contributions payable in each country by visa holders (KPMG, 2022).

The summary prepared by KPMG reveals that for example Croatia, adjacent to Hungary, offers a full exemption from taxes and contributions, which is probably attractive to digital nomads. That may also be appealing to individuals residing in Hungary, however, the visa application requirements exclude nationals of countries of the European Economic Area, and is therefore not available to Hungarian residents. However, they may also find for themselves countries with zero taxes and contributions such as Barbados (KPMG, 2022).

It should be highlighted that it is not possible to completely lose tax residence. Often, it may not be easy to determine, but there always is a country where the individual has tax residence (Deloitte, 2023).

While full exemption from taxes and contributions is possible in principle, in practice, it is unfeasible in most of the cases of remote work outlined earlier (in *Figure 2*). Ouro (2023) concludes in respect of digital nomads that they should consider tax implications and chose their country of tax residence carefully to minimise tax liabilities. They should plan moves to other locations and the time they stay there in a way that it does not jeopardise their chosen tax residence.

It is important to note that Hungary is also among the countries which welcome digital nomads from third countries. By applying for a White Card, these third-country nationals may stay legally in Hungary for up to two years, however, no tax and contribution benefits are available to them. They are subject to taxes and contributions in accordance with the general national rules, so there is no exemption in their case (KPMG, 2022).

3.3 The risks of employees

If tax residence is not determined correctly, the risk is borne by the employee. It may happen that personal income tax is deducted from their salaries, but not in accordance with the appropriate rules, for the relevant state. As a result, the individual will overpay taxes in one country and facing a tax shortfall in the other state, which needs to be reconciled during a potential tax audit.

They may be in for an additional unpleasant surprise upon realising that they will be subject to higher national tax rates after their tax residence is established correctly. Because of the increased tax liability, they may end up with a significantly lower net salary (RSM, 2022).

Apart from the obligation to settle unpaid taxes, the tax audit may impose fines and penalties on the taxpayer. Those fines and penalties reduce their revenues and ultimately their net income further.

The certification of tax residence may be initiated by individuals themselves at the competent tax authority in order to mitigate the risks posed by the incorrect establishment of tax residence (NAV, 2023a).

3.4 Working during the pandemic

Big tax advisory firms and economic papers warned during the pandemic that taxation may become problematic for many employees and employers.

The have brought examples where individuals normally working and paying their taxes in a foreign country, typically Austria, have moved back to Hungary during the public health emergency to carry out their tasks remotely. Their Austrian employers should have adjusted to the change of their employee's tax residence. If they failed to do so and continued to deduct and pay the income tax in Austria, the employee will have overpayment in Austria and tax shortfall in Hungary. By revising and correctly determining their tax residence, such individuals may gain a significant tax advantage since the tax rate applicable in Hungary is considerably lower than the rate of up to 37.5% imposed in Austria (RSM, 2022).

3.5 The risks of employers – permanent establishment risk

The tax implications of remote work are much more complex when it crosses borders. The study conducted by KPMG involved 580 companies in 52 countries. 82% of the participants identify tax and legal compliance as the biggest challenge in implementing cross-border remote work, followed by the management of the permanent establishment risks with 65%.This shows that among the arising issues and challenges, the primary concerns for the participating companies in 2023 are tax-related (KPMG, 2023).

It may have major corporate tax implications if the employer company is regarded as having a permanent establishment in a country as a result of cross-border remote work. For example, in Hungary, companies having a permanent establishment are liable to local business tax in addition to corporate tax.

Against the background of Portuguese legislation and the applicable international tax treaties concluded with Portugal, Ouro (2023) inquires, among others,

1) whether the various venues used by digital nomads, such as Airbnb rentals, coworking spaces, hostels etc. constitute a fixed place of business;
2) whether the computers and smartphones used by digital nomads constitute a fixed place of business.

The author identifies the party paying for the accommodation, hotel room, office etc. as an important circumstance for the first question. If the employer provides these venues for their employees, they may be regarded as a fixed place of business for corporate tax purposes. The conclusion drawn from the analysis of the second question is that as notebooks and mobile phones are portable and not fixed, they clearly cannot be linked to a specific geographical location, and as such, cannot be strictly defined as a fixed place of business.

In the summary of the 'International Tax and Transfer Pricing' survey of Ernst and Young it is pointed out that cross-border remote work creates challenges for companies from the point of view of transfer pricing, too. According to the survey, cross-border remote work affects in particular highly compensated, high-expertise personnel who create value with their work and decisions. Consequently, the issue of profit allocation also arises, i.e. how much of the company's profits can be allocated to the permanent establishment created by remote work. 47% of survey respondents reported that they face such problems (EY, 2021).

In light of the foregoing, it is no surprise that 7% of the companies participating in the KPMG (2023) study do not plan to implement or introduce remote working. 73% of participant companies support home office arrangements, i.e. remote working within borders, and 52% enable employees to work for not more than 90 days remotely from another country. None of these arrangements entail permanent establishment or transfer pricing risks for the company. At the same time, the results reveal that 10% of the companies allow remote working from another country for more than 90 days, and 18% implement virtual assignments when employees take on a position at a foreign affiliate but do not physically move to that country.

The spread of cross-border remote work is hindered by the associated administrative complexities and potential tax risks. While employers may resort to these atypical work arrangements due to employee demand and/or their own business interests, they are required to invest significant resources in mitigating the associated risks. Developing clear internal procedures and standardization may be the solution.

4 THE IMPACT ON BUDGET REVENUES IN THE CONTEXT OF CROSS-BORDER REMOTE WORK

Changing labour market trends and the conscious decisions of employees may have a significant impact on the tax revenues of states, in particular, from personal income tax and the related contributions, but employee decisions may also have consequences for value added tax and corporate tax revenues.

Historically, moving to a foreign country and working there physically was predominant. The phenomenon poses several challenges from labour market shifts and integration problems to adverse effects on income tax revenues in the country of the individual's original tax residence, if a change of tax residence is entailed.

For instance, countries offering attractive digital nomad visas may attract the workforce from other countries.

As a result of digital progress, it is now possible to carry out a part of the jobs remotely, enabling cross-country remote work, and potentially replacing local workforce. If the job is carried out by an employee in another country (under remote work arrangements) instead of a Hungary-based employee, the corresponding income tax base is shifted to the other country, enriching their tax revenues, reducing the domestic tax revenues, and diminishing labour supply.

Cross-border remote work may also involve cases when an own employee is posted to a foreign location and continue their work therefrom. If a change of tax residence is entailed, a loss in personal income tax base and potentially personal income tax revenue is incurred by the country of original tax residence.

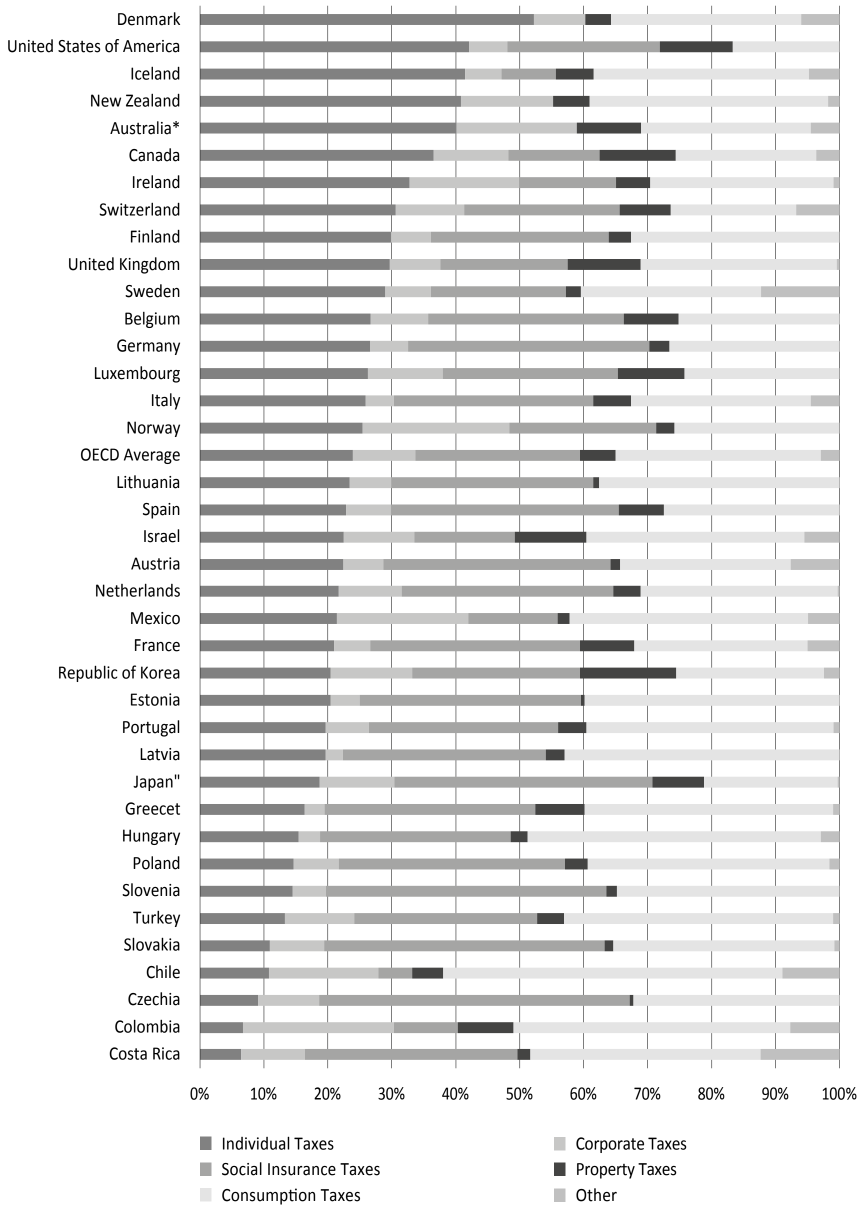
If work is carried out physically in another country, value added tax on consumption by the employee will also be collected in that country. As a result, the destination country may realise potential gains in personal income tax and value added tax revenue.

That may lead to competition between the countries for the income tax base, one tool for this could be, for example, the digital nomad visa system. The winner of the competition is the country which has the capacity to attract more personal income tax revenue than it loses. However, it is not simply a matter of taxation – the legal environment, the qualifications and language skills of potential candidates, the labour market situation, the reputation of the country and many other factors are also decisive.

4.1 Personal income tax rates and revenues – an international overview

Individual income taxes contributed 23.9% to the aggregated tax revenues of OECD countries in 2021. With the related social insurance taxes and contributions added, personal income tax makes up almost half of total revenues (49.6%). By contrast, the share of corporate income taxes in total revenue was only 9.8%.

Figure 4
Government Tax Revenue by Country in the OECD, 2021

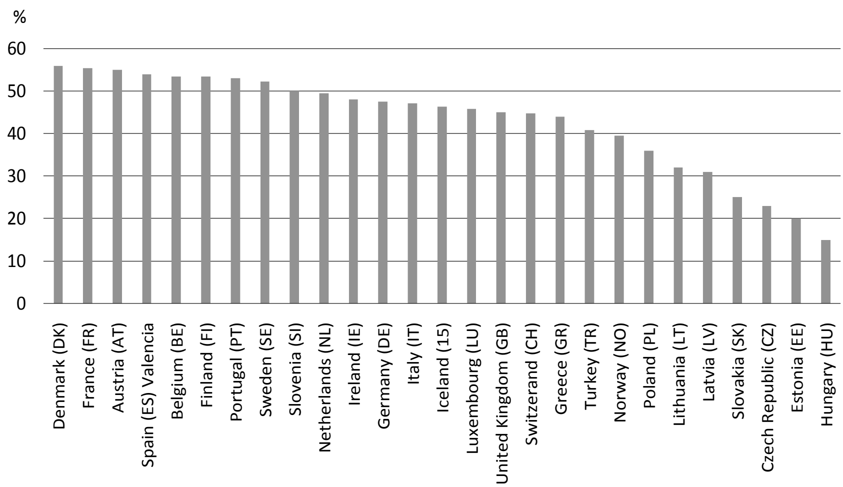


Note: * Data for Australia, Japan, and Greece is from 2020 because 2021 data was not available yet.
Source: Tax Foundation, 2023a

Revenue from individual taxes in Hungary (15.4%) is below the OECD average owing to a relatively low flat personal income tax rate. Together with the related social insurance taxes and contributions, it contributed to 45.2% of Hungary's 2021 tax revenue. With a share of 45.9% well above the OECD average (32.1%), consumption taxes were the primary source of tax revenue in Hungary (Tax Foundation, 2023b).

Personal income tax schemes vary significantly across the countries, in particular, in tax rates and structure. The tax legislation of most countries specifies a multiple-rate or progressive system, with different tax rates allocated to different income brackets. Hungary applies a flat income tax rate, currently at 15%. These differences result in varied tax burden for taxpayers.

Figure 5
Highest personal income tax rate (%) in European OECD countries



Source: Tax Foundation, 2023b

4.2 Potential budget impact of cross-border remote work – international research

De la Feria & Maffini (2021) investigated the impact of cross-border remote work on personal income tax revenues in the United Kingdom. For their calculations, the authors consider the number of jobs that can potentially be done remotely, the number of taxpayers in the two highest income tax brackets, and the revenue collected from personal income tax and the related contributions in those two brackets. They assume that only a part of the jobs that can potentially be done remotely will be actually performed from across borders. On that assumption, they define three scenarios in which 50%, 25% or 10% of the taxpayers are internationally mobile. The calculated range of expected losses in tax revenue is GBP 6.5-32.5 billion per year.

The International Monetary Fund also addressed the expected impact of cross-border remote work on revenues from personal income tax. They made calculations at two levels. The 107 countries included in the calculations were divided into two groups. Countries of a higher effective tax rate comprised one group and countries of a personal income tax rate below the world average and the conditions of remote work granted in the other. The expected rate of personal income tax base erosion was calculated under this model. The affected tax base is estimated at USD 40 billion, which is equal to 1.25% of the total tax base of the countries in the higher effective income tax rate group (IMF, 2022).

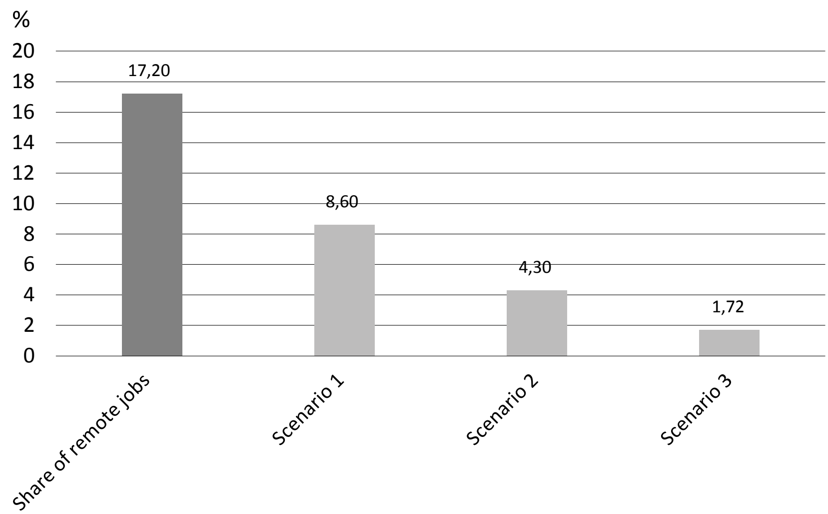
4.3 Potential budget impact of cross-border remote work – Hungary

The expected impact of cross-border remote work on personal income tax collected in Hungary was established based on the following method and assumptions.

The share of jobs that may potentially be done remotely was set at 17.2%, as measured by KSH in 2020 after the pandemic had proved that those jobs can actually be carried out at a distance.

Adopting the method used by de la Feria, three scenarios were constructed in which 50%, 25% or 10% of potentially remote jobs are considered internationally mobile. That corresponds to a share of cross-border remote jobs in all remote jobs of 8.6% and 1.72% in the most optimistic and pessimistic scenarios, respectively. These figures lag far behind the shares calculated in the United Kingdom where the proportion of jobs potentially carried out remotely was estimated at 31%.

Figure 6
Estimated share of cross-border remote jobs – Scenarios



Source: author's elaboration

The yearbook of the Hungarian tax authority for 2023 contains detailed information on personal income tax revenue. HUF 2 851 305 million was collected in personal income tax from 4 537 673 taxpayers for the fiscal year 2021 (NAV, 2023b).

Although the Tax Authority does not publish data on income from employment by income brackets, the share of incomes included in the consolidated tax base are published by bracket and served as the basis for establishing the share of the respective employment income brackets.

For the calculations, it was assumed that cross-border remote work affects individuals earning more than HUF 8 million annual income included in the consolidated tax base, and individuals of a lower income and/or their jobs where not considered mobile in the model.

Table 2
Amount of personal income taxes and contributions from remote work

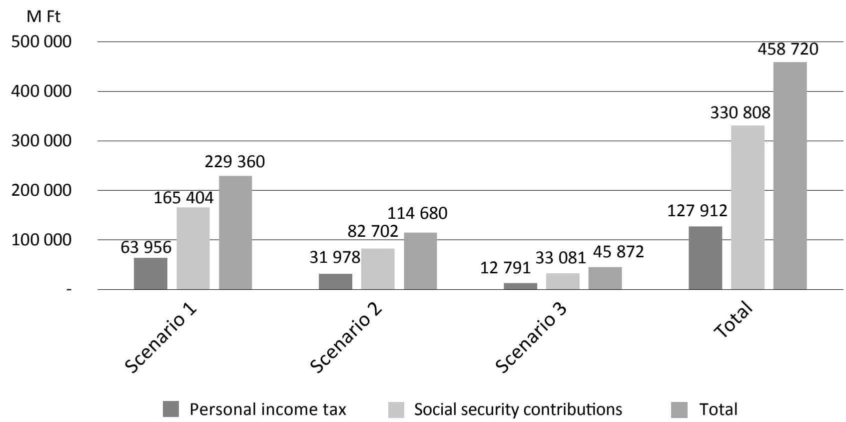
Brackets	Share of income brackets included in the consolidated tax base (%)	Income from employment based on the estimated income bracket shares (HUF million)	Personal income tax related to remote work (HUF million)	Contributions related to remote work (HUF million)
HUF 0 - 1 000 000	1.98	338 695		
HUF 1 000 000 - 2 000 000	4.54	776 603		
HUF 2 000 000 - 3 000 000	11.6	1 984 273		
HUF 3 000 000 - 4 000 000	11.69	1 999 668		
HUF 4 000 000 - 6 000 000	23.22	3 971 967		
HUF 6 000 000 - 8 000 000	14.38	2 459 814		
HUF 8 000 000 - 10 000 000	8.51	1 455 704	33 401	86 381
HUF 10 000 000 - 20 000 000	15.31	2 618 898	60 090	155 405
Above HUF 20 000 000	8.77	1 500 179	34 421	89 021
Total	**100**	**17 105 803**	**127 912**	**330 808**

Source: author's elaboration

NAV (2023b) data show that employment income was HUF 17 105 803 million and total personal income tax liability was 13.34% in 2021.

Under the working assumptions and estimates of the study, personal income tax revenue from employment income amounted to HUF 2 281 914 million in 2021, while personal income tax collected on remote jobs (17.2%) was HUF 127 912 million. The rate of the social security contributions payable was calculated at 34% of the estimated employment income, which corresponds to HUF 330 808 million.

Figure 7
Estimated personal income taxes and contributions related from cross-border remote work, by scenario (HUF million)

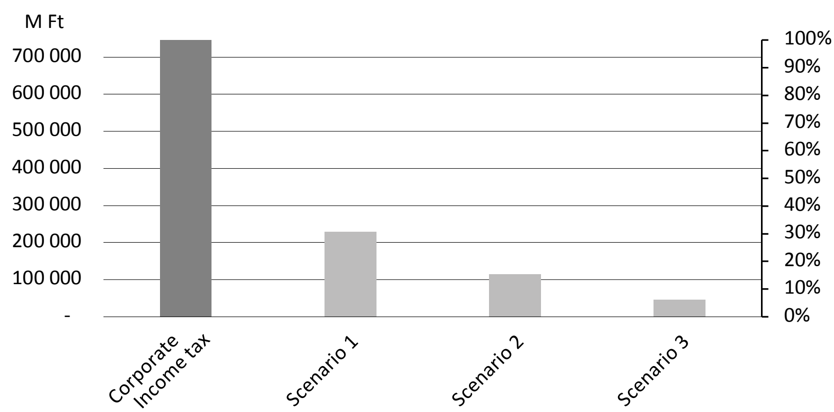


Source: author's elaboration

Based on the model, potential losses in revenue from taxes and contributions may range from HUF 46 billion to HUF 229 billion, which is equal to an estimated 0.56 to 2.8% loss in the affected revenues.

The magnitude of the amount calculated with this model is illustrated in the figure below, revealing that the potential loss in revenue may account for 31% of total corporate tax revenue.

Figure 8
Potential loss in budget revenue compared with corporate tax revenue



Source: author's elaboration

The expected impact was determined with a number of assumptions and estimates involved in the calculations. That applies to the ratio of remote work and cross-border remote work or the level of income attached to cross-border remote work. By precising these data, more accurate results could be achieved.

Situations in which Hungarian tax residents work remotely across borders from Hungary were excluded from the analyses. A tax revenue increase could be observed in those cases, provided that the remote work arrangement allows the resident individual to carry out a higher-income job.

Individuals providing services under a service and/or agency contract were not considered either in this study.

5 CONCLUSIONS AND RECOMMENDATIONS

A definition of remote work and cases of cross-border remote work are presented in this study. Quantitative data as well as the scope of application of remote and home-based work arrangements were outlined based on domestic and international data. By analysing recent job postings, it was revealed that the number of jobs with a remote work and work-from-home option are on the rise in certain sectors compared with earlier data.

The study underscores the potential tax risks and opportunities implicit in cross-border remote work for employees, employers and states. While the rules of taxation of any given country may be quite complex in themselves, in a cross-border context, foreign legislation or the provisions of international treaties, where exists, also apply and must be considered.

It is vital for employees conscious of their finances to examine whether their tax residence would change before they take a job in, or move to, another country. Changing tax residence may be either advantageous or disadvantageous from taxation point of view, which may ultimately affect the net income earned from the job. The study points out that personal income tax related risks are born by the employee but may be mitigated by an all-round assessment of the circumstances in question, with professional help, if necessary.

For employers, cross-border remote work poses different risks. They have to consider especially corporate tax implications. Standard procedures and policies may be useful in controlling the risks associated with their employees' taxation. The paper discusses corporate tax and transfer pricing risks.

The possibility of working remotely across borders has an impact on the tax revenues and labour market of the countries involved. In the case of Hungary, instances of cross-border remote work where jobs that can be carried out remotely are fulfilled from abroad – with a change of tax residence – or are fulfilled by employees based in another country account for a calculated annual loss in tax revenue of HUF 46 to 229 billion.

In light of the main findings and calculations of the study and the limitations of the model, the following recommendations are formulated for policymakers, tax authorities, decision-makers in higher education and researchers.

It is of utmost importance for policymakers to be familiar with the ongoing processes. Retaining and appropriately training our workforce is crucial in the context of cross-border remote work, too. It should be an objective in education to prepare Hungarian jobseeker for the international competition unfolding in the evolving labour market. This way, the number of employees fulfilling jobs offered by Hungarian employers that can be carried out from across the national borders without being tax resident in Hungary can be kept to a minimum. Moreover, there is demand for skilled workforce speaking multiple languages who could be potential candidates for remote jobs offered by other countries.

The tax management and regulation of cross-border remote work is a challenge even for large multinational companies having renown tax advisory firms at their disposal in resolving the arising issues, adopting appropriate policies and ultimately reducing the level of the associated risks. However, small and medium-sized enterprises face the same degree of complexity of the transactions involved, but in lack of sufficient resources and information, they struggle to find or may not find the appropriate solutions.

Therefore, support and information from the tax authority is essential. Raising awareness to issues and explaining simpler cases may foster tax compliance. Currently, relevant information can be found in the NAV booklet published on 30 January 2023 on the determination of taxes and contributions payable on individuals' income from abroad (available in Hungarian). The information material discusses the applicable rules on 29 pages with case studies and figures for exemplification, however, its language is difficult and may not be easily understood by the ordinary taxpayer. The publication of a version in a more accessible language or an e-learning material is recommended.

The tax authority should develop sufficient control capacities and methods for a growing number of cases. Celebrities, sportsmen and performers receiving extensive media coverage are more easily noticeable to the authorities than the multitude of employees.

Higher and adult education also play a significant role in enhancing taxpayer knowledge. Considering that cross-border remote work is expected to become widespread in certain functions and professional areas, courses and trainings providing guidance about these special situations should be developed and organised for prospective employees and employers in those areas. Having regard to the complexity of the matter, tax advisors and experts should also be provided relevant further training.

Affected employees should review the applicable rules in respect of their previous cross-border employment to avoid risks and/or to identify incorrect practices resulting in potential overpayment or underpayment of their taxes.

As to directions for future research, the prevalence of cross-border remote work, the share of remote jobs and the volume of the income derived therefrom should be studied and analysed further. The extent to which Hungarian jobseekers can take advantage of these new opportunities in the labour market, in particular the number of individuals who can engage in cross-border remote work and the income earned, as well as the level of income necessary to engage in such work could also be an interesting research topic.

The impact of the White Paper introduced in Hungary to attract digital nomads from third countries is also a possible area for future research. The number of cards issued, the nationality and level of income of successful applicants and tax revenue effects are all worthy of scholarly inquiry.

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