

TRENDS IN ICT SPECIALISTS' INCOMES IN THE CZECH REPUBLIC

MILOS MARYSKA, LEA NEDOMOVA, PETR DOUCEK

Prague University of Economics and Business, Prague, Czech Republic
Milos.maryska@vse.cz, nedomova@vse.cz, doucek@vse.cz

Our contribution addresses the topic of ICT specialists' remuneration (regardless of the economic sector in which they operate) in comparison with income trends in the Czech economy for the period from 2015 to 2025. We conduct this analysis for both the business sector and the non-business sector. The data source used for the analyses is the database of Trexima, a.s., a company which collects data on employee incomes regularly once a year, in the second quarter of each relevant year. This amounts to approximately 2,000,000 records from around 20,000 economic entities per year. Our findings indicate that the earnings of ICT professionals are growing significantly faster than those of other employees, with a difference between business and non-business sector earnings of around 75%. This fact is also reflected in the nation's gender pay gap, which is decreasing very slowly over time.

DOI
[https://doi.org/
10.18690/um.fov.3.2026.38](https://doi.org/10.18690/um.fov.3.2026.38)

ISBN
978-961-299-124-1

Keywords:

ICT professionals,
gender pay gap in ICT,
ICT earnings in the
business and non-business
sectors,
business and non-business
sector,
income analysis



University of Maribor Press

1 Introduction

Digitalisation is among the key mantras of today when it comes to building a democratic civil society. This trend stems from the European Union's strategy and is enshrined in its strategic documents (European Commission, 2023).

On the other hand, the introduction of digital applications into everyday life is only a technological issue. The actual acceptance of these technologies by workers or citizens is another matter – and that is the true face of digitalisation. ChatGPT and other elements of artificial intelligence are a key phenomenon of today, and they facilitate digital transformation by improving communication between people and technologies, automating routine tasks and providing personalised support in education and healthcare, and thus simplifying access to information and services, thereby promoting a more efficient and connected digital society. However, another dimension to keep in mind is that digitalisation can never be achieved without sufficient human potential in the form of skilled workers – that is, ICT professionals (Nedomova, Maryska and Doucek, 2024) – who are willing and able to work in ICT and, moreover, work efficiently and effectively. This dimension is closely linked to the remuneration system for ICT professionals in both the business and non-business sectors (Segovia-Pérez, 2019). Another challenge in attracting ICT professionals is the low representation of women in this sector of the economy (Oskrdal, Pavlíček and Jelínková, 2011).

From the perspective of the intended digitalisation of the Czech economy, including public and state administration, we were interested in how the earnings of ICT professionals are developing in comparison with other sectors of this economy – RQ1 and RQ2. Meanwhile, we also analyse the gender pay gap (GPG) (EC, 2025) among the earnings of ICT professionals in the business and non-business sectors – RQ3.

The paper offers answers to the following research questions:

- RQ1: How do the earnings of ICT professionals compare to those of workers in the Czech Republic overall?

- RQ2: How have ICT professionals' earnings in the business and non-business sectors in the Czech Republic developed over time, and how has the gap between them changed?
- RQ3: How does the gender pay gap differ between the earnings of ICT professionals in the business and non-business sectors in the Czech Republic?

2 Methodology

The methodology used in this paper builds on data from our long-term research into the status of ICT professionals and their remuneration in the Czech economy. It likewise harnesses our years of research into the development of the gender pay gap both in the Czech economy and among all groups of ICT professionals.

2.1 Methodological approach and research design

This paper is designed as an empirical analysis of the changes in earnings in the business and non-business sectors in the Czech Republic, with a particular focus on the position of ICT professions within the overall labour market. Its research design assumes that earnings in the ICT sector are not only an indicator of the technological sophistication of the economy, but also a sensitive signal of structural changes in the demand for skilled labour, the institutional organisation of the labour market and gender inequalities.

The methodological approach we have chosen combines an extensive database with multidimensional segmentation, which allows for the analysis of developments in earnings not only in absolute terms, but above all in terms of structure and dynamics over time. We emphasize long-term comparability and the ability to capture differences between individual groups of employees.

2.2 Nature and representativeness of the data

The empirical analysis is based on aggregated earnings data for approximately 2 million employees in the Czech Republic, which corresponds to roughly 35% of the economically active population. Such an extensive data set provides sufficient

statistical power to track long-term trends and structural differences between individual labour market segments.

From a research design perspective, the sample size is particularly important for the analysis of ICT professions. They are a minority, and yet they form an economically significant segment of total employment. The large scope of the data allows us to distinguish between individual professional categories in ICT, economic sectors and gender without significantly reducing the informative value of the results.

For the purposes of this article, we distinguish between the three groups of professionals that the economy needs for the operation of information technology. According to the International Labour Organisation (2024) classification, these roles are defined as follows.

- ICT Managers (ISCO 133);
- ICT Specialists (ISCO 25); and
- ICT Technicians (ISCO 35).

Job descriptions for each group of ICT professionals and their educational requirements are listed in the International Labour Organisation (2024).

2.3 Time frame and international comparability

The study covers the period from 2015 to 2025, which makes it possible to capture not only normal cyclical fluctuations in earnings, but also the extraordinary macroeconomic events and structural breaks that affected the Czech labour market during this period. These include the Covid-19 pandemic and the subsequent inflationary and wage pressures after 2021.

To increase international comparability, all indicators of earnings in the business and non-business sectors are expressed in euros. The conversion from Czech koruna is done using the average annual CZK/EUR exchange rate, which reflects the long-term level of the currency relationship between the two currencies and limits the impact of short-term exchange rate fluctuations. This approach allows the results to be interpreted not only in a Czech context but also in a broader European context, without disrupting the consistency of the time series.

2.4 Segmentation logic and analytical perspectives

The basic conceptual starting point of this study is the assumption that developments in earnings cannot be adequately interpreted without detailed labour market segmentation. Therefore, the data is structured on the basis of several key dimensions. Together, these form a multidimensional analytical framework.

The first dimension is the distinction between ICT professions and the overall labour market. This comparison makes it possible to identify the extent to which the ICT sector differs in terms of pay levels and growth dynamics, and whether its earnings premium is increasing, stabilising or decreasing over time.

The second dimension is gender segmentation, which reflects the long-standing debate on gender inequalities in earnings. In the context of ICT professions, this perspective is particularly relevant, as it is a sector with relatively low representation of women and, at the same time, significant differentiation in earnings. The analysis therefore focuses not only on absolute differences, but also on their development over time.

The third dimension is the institutional division between the business and non-business spheres. This division allows us to examine the different mechanisms driving earnings in the private and public sectors, particularly as regards ICT roles, where the levels of market competition, remuneration flexibility and institutional constraints differ.

The fourth dimension is the professional hierarchy within ICT, divided into ICT managers, ICT specialists and ICT technicians. This division reflects different levels of responsibility, qualifications and bargaining power in the labour market and makes it possible to analyse whether growth in earnings in the ICT sector is evenly distributed across professions or is driven only by selected groups.

2.5 Selection of wage indicators and interpretation of results

The study works with both average earnings and median earnings. This choice is based on our assumption that wage distribution, especially in ICT professions, is highly asymmetrical and influenced by high incomes at the top of the distribution.

The median is therefore understood as a more robust indicator of “typical” earnings, while the average earnings provide information on the overall wage level and wage polarisation.

Combining the two indicators allows us to more deeply interpret the results, especially when comparing individual occupational groups, sectors and genders. The differences between the average and the median are used as an indicator of inequality in earnings and the concentration of high incomes.

3 Results

We have divided up the results of our study based on our research questions. Within this work, we present partial results which we have further analysed, parts of which are presented in the text or will be included in the conference presentation.

3.1 RQ1 – Development of ICT professionals’ earnings compared to the Czech Republic’s economy

- *RQ1: How do the incomes of ICT professionals compare to the earnings of workers in the Czech Republic?*

The results of the comparison of incomes between ICT professionals and the level of incomes in the Czech economy can be seen in Figure 1 below.

Figure 1 shows that even the lowest-paid group of ICT professionals – ICT technicians – have a higher income than the median income of workers in the Czech economy, with a difference ranging from 36.5 percentage points in 2015 to 23.3 percentage points in 2025. The lowest difference was 19.3 percentage points in 2021, apparently due to the Covid-19 epidemic. For other groups of ICT professionals, this difference is even greater. For ICT specialists, the range is from 67.8 percentage points in 2021 to 86.5 percentage points in 2024. The current value in 2025 is 86.2 percentage points.

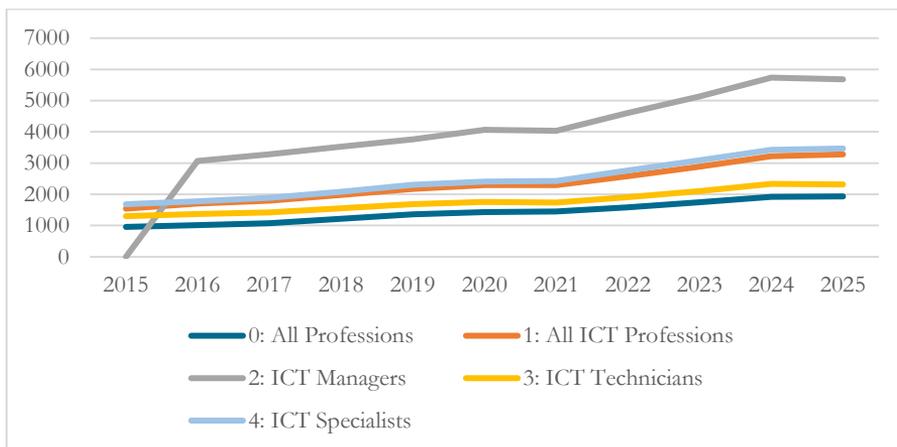


Figure 1: Development of the earnings of ICT professionals in comparison to the incomes of workers in the Czech Republic – median

Source: Own Data: (ISPV, 2025)

The incomes of ICT managers, meanwhile, are on a completely different level. Here, the difference between their incomes and the median income of the overall economy ranges from 158.9 percentage points in 2019 to 200.5 percentage points in 2025.

3.2 RQ2 – Development of ICT professionals' earnings in the business and non-business sectors in the Czech Republic and the earnings gap between them

- *RQ2: How has the earnings gap between ICT professionals and other professions changed over time in the business and non-business sectors in the Czech Republic?*

Figure 2 shows how the earnings gap between ICT professionals in the business and non-business sectors has changed over time compared with other professions in the economy. The upper portion of Figure 2 contains data for the non-business sector, and the lower portion has data for the business sector. More detailed analyses of the difference are then shown in Figure 3 and Figure 4.

Let us first focus on earnings in the non-business sector (the upper portion of Figure 2). Here we see a relatively small difference between the earnings of ICT professionals and average earnings. In the Czech Republic, this is mainly because earnings in the non-business sector are determined by tables and pay grades. In other words, the difference observed is de facto embedded in the system of remuneration for workers by profession in the non-business sector.

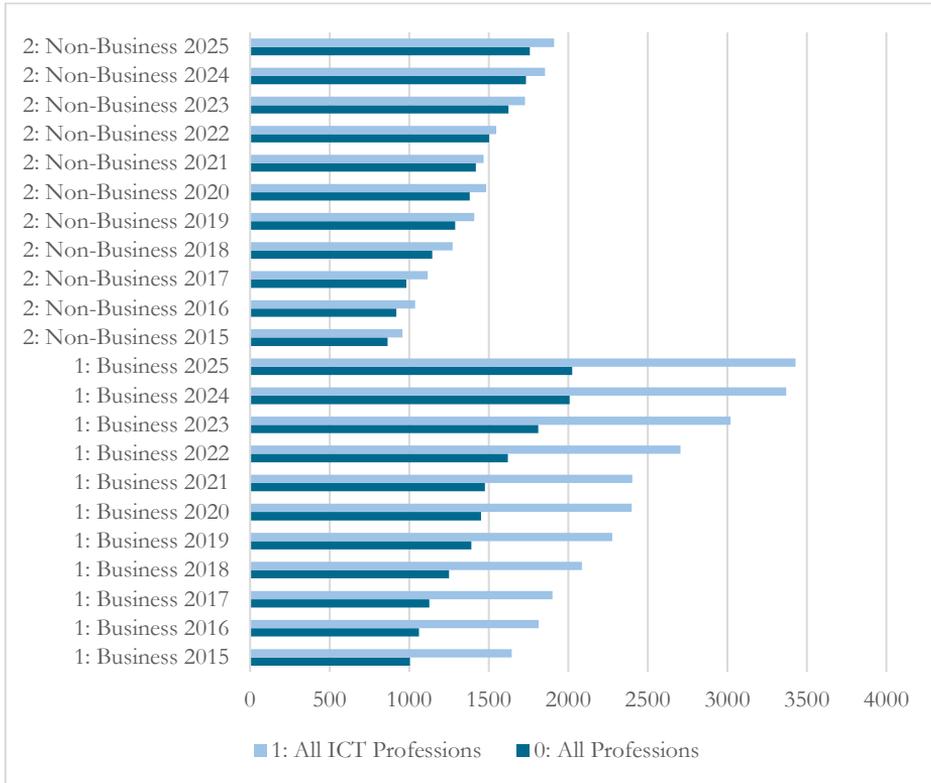


Figure 2: Average earnings – ICT professionals vs all professions, business and non-business sectors, Czech Republic

Source: Authors' calculations Data: (ISPV, 2025)

The trend for this difference is evident from Figure 3, which shows that as a consequence of the Covid-19 pandemic, the difference between the earnings of ICT professionals and other professions in the non-business sector is gradually increasing.

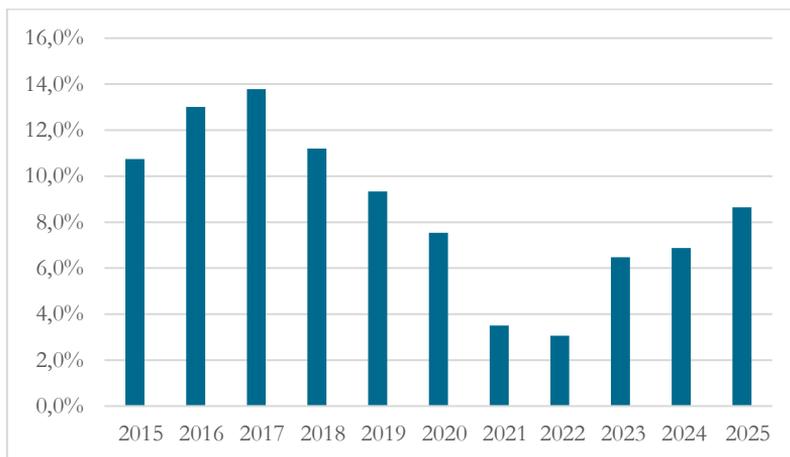


Figure 3: Development of the difference in the non-business sector (average earnings of ICT professionals vs average earnings)

Source: Authors' calculations Data: (ISPV, 2025)

The lower portion of Figure 2 presents the differences in earnings in the business sector. Here, as can be seen at first glance, the difference is significantly greater.

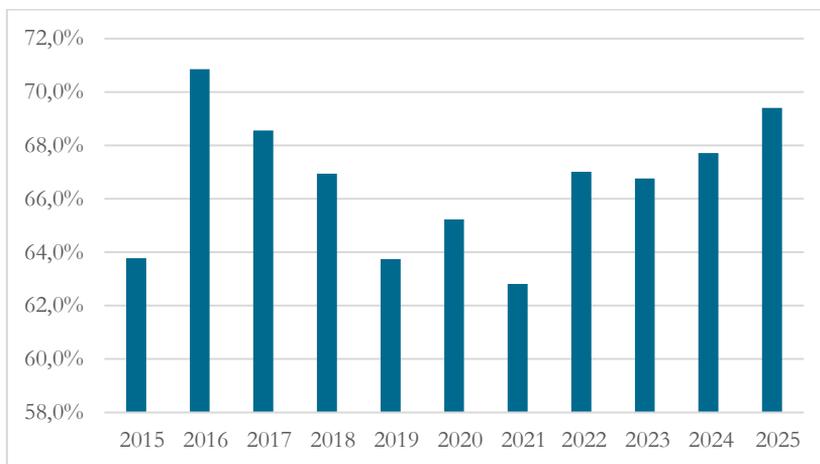


Figure 4: Development of the difference in the business sector (average earnings of ICT professionals vs average earnings)

Source: Authors' calculations Data: (ISPV, 2025)

Figure 4 shows that the difference has remained between 63 to 71 percentage points over the long term. This difference is a very good incentive for ICT professionals to work in the business sector. At the same time, it also motivates students to enrol in ICT-oriented study programmes, thereby increasing the number of ICT professionals in the economy.

3.3 RQ3 – Gender Pay Gap for ICT Professionals

- *RQ3: How does the gender pay gap differ between the earnings of ICT professionals in the business and non-business sectors in the Czech Republic?*

The development of the gender pay gap among ICT professionals in both the business and non-business sectors is shown in Figure 5 below.

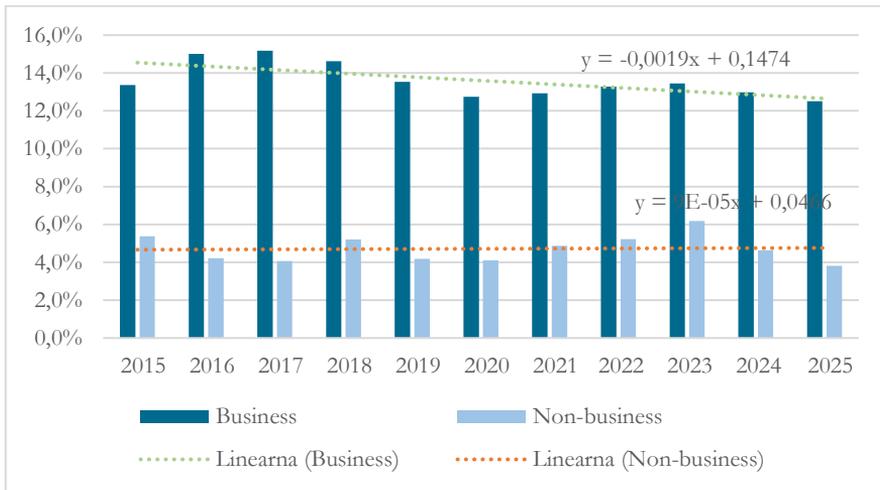


Figure 5: Gender pay gap for ICT professionals – average

Source: Authors’ calculations Data: (ISPV, 2025)

In the business sector, the difference is significantly higher, ranging between 15% and 12.5% in the period under review. The trend is declining steadily, but very slowly. In contrast, in the non-business sectors, the gender pay gap is between 4% and 6%, which is a de facto stable trend (the coefficient of the linear approximation function of GPG development is practically zero (-0.5×10^{-9})). Figure 5 shows that

the gender pay gap is essentially embedded in the remuneration system and reducing it is a very long-term process (Nedomova, Maryska and Doucek, 2017).

4 Conclusions

The overall conclusions from our study regarding digitalisation are largely positive.

RQ1 – The reported earnings of ICT professionals are higher than the average earnings of workers in the Czech economy. This is particularly true for ICT managers and ICT specialists. The role of ICT specialists is crucial for digitalisation, both in analysing market needs and in developing and implementing appropriate applications in the non-business and business sectors.

RQ2 – The differences between the earnings of ICT professionals in the business and non-business sectors are somewhat alarming. They tell us that the incomes of ICT professionals in the non-business sector are significantly lower than those in the business sector. This leads to the employment of higher-quality ICT professionals in the business sector and to more limited performance by the ICT professions in the non-business sector. Another feature here is the outsourcing of ICT services by non-business organisations to business organisations and the de facto permanent payment of state funds to the business sphere. On the other hand, this means that the business sector will increasingly participate in digitalisation.

RQ3 – The Czech Republic is one of the countries with the largest gender pay gap in Europe (Equal Pay Day, 2024; Nedomova, Maryska and Doucek, 2017). The gap's level varies significantly between the business and non-business sector. In ICT, the gap is less obvious than usual – its values of 12.5%–15% in the business sector and 4%–6% in the non-business sector are not in line with the Equal Pay Day (2024) findings.

In ICT, the GPG also varies based on the age of the employees. For the youngest, incoming generation, it is significantly lower than for older employees.

In addition, the gender pay gap in the Czech economy continues to fluctuate, but it is essentially encoded in the remuneration system, which is why significantly reducing (or eliminating) it is a very long-term process (Figure 5).

4.1 Limitations of this study

One limitation of our analysis (and thus our conclusions) is that we use second-quarter earnings data for each year in both the business and non-business sectors. This period is notable because it is when minimum-wage adjustments take effect and holiday pay is disbursed, and it is also a time when very few extraordinary bonuses are awarded to employees.

If we were to look at annual income including all compensation, regular and extraordinary bonuses, we would probably find a greater difference between the income of ICT professionals and the average income in the Czech economy. Meanwhile, the same applies to the gender pay gap – and according to some European sources, this gap is as high as 22% (Equal Pay Day, 2024; Picatoste, Mesquita and González, 2023).

Acknowledgement

Paper was processed with support from institutional-support fund for long-term conceptual development of science and research at the Faculty of Informatics and Statistics of the Prague University of Economics and Business (IP400040) and the project IG 409035.

References

- EC (2025). *2025 Report on gender equality in the EU*. GenEqualReport2025.pdf, Brussels, 7.3.2025
- Equal Pay Day. (2024). *Press Release: Equal Pay Day falls on 6 March this year*.
<https://www.equalpayday.cz/en/press-release-equal-pay-day-in-2024/>
- European Commission. (2023). *Europe's Digital Decade: digital targets for 2030*.
https://ec.europa.eu/info/strategy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en
- International Labour Organisation. (2024). *International Classification of Occupations (ISCO)*.
<https://ilostat ilo.org/resources/concepts-and-definitions/classification-occupation/>
- ISPV. (2025). *Information system on average earnings*. <https://www.ispv.cz/>
- Nedomova, L., Maryska, M., and Doucek, P. (2017). Unequal wage of men and women in ICT in the Czech Republic? *Gender, Technology and Development*, 21(1-2), 116-134,
<https://doi.org/10.1080/09718524.2017.1385317>
- Nedomova, L., Maryska, M. and Doucek, P. (2024). Gender Aspects in ICT Managers Education at PUEB Czech Republic. (2024). *REICE: Revista Electrónica De Investigación En Ciencias Económicas*, 12(24), 327-351, <https://doi.org/10.5377/reice.v12i24.20094>
- Oskrdal, V., Pavlíček, A., and Jelínková, P. (2011). Processes, Performance Drivers and ICT Tools in Human Resources Management. *Journal of Competitiveness*, 2(2011), 58-69
- Picatoste, X., Mesquita, A. and González-Laxe, F. Gender wage gap, quality of earnings and gender digital divide in the European context. *Empirica*, 50(2023), 301-321,
<https://doi.org/10.1007/s10663-022-09555-8>
- Segovia-Pérez, M., Castro Núñez, R., Santero-Sanchez, R., and Laguna-Sánchez, P. (2019). Being a woman in an ICT job: an analysis of the gender pay gap and discrimination in Spain. *New Technology, Work and Employment*, 35(1), <https://doi.org/10.1111/ntwe.12145>