

INSTITUT PRO DEMOKRACII A EKONOMICKOU ANALÝZU

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INSTITUTE FOR DEMOCRACY AND ECONOMIC ANALYSIS

Think Tank of the Economics Institute of the Czech Academy of Sciences

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May 2023 – May 2024



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Are Subsidies to Business R&D Effective? Regression Discontinuity Evidence from the TA CR ALFA Programme.

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Publication Performance and Authors of Research Organizations in the Czech Republic in 2007–2022

<https://ideaapps.cerge-ei.cz/Performance/>

Oborová publikační výkonnost a autoři výzkumných organizací v ČR v letech 2007-2022

Výzkumné organizace: AVČR-Archeologický ústav AV ČR, Brno, v. v. i. | AVČR-Archeologický ústav AV ČR, Praha, v. v. i. | AVČR-Astronomický ústav AV ČR, v. v. i. | AVČR-Biofyzikální ústav AV ČR, v. v. i.

Přidej součet: Za VŠ Za AVČR Za ostatní

Součástí VŠ: Vyberte součásti VŠ

Wyber: Ústavy AVČR VŠ Ostatní Vyber všechny Smazat

Oborové členění: FORD (dle zařazení pracovištěm) Oborty: Economics and Business

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Konečné období: 2018 2022 Počáteční období: 2007 2011

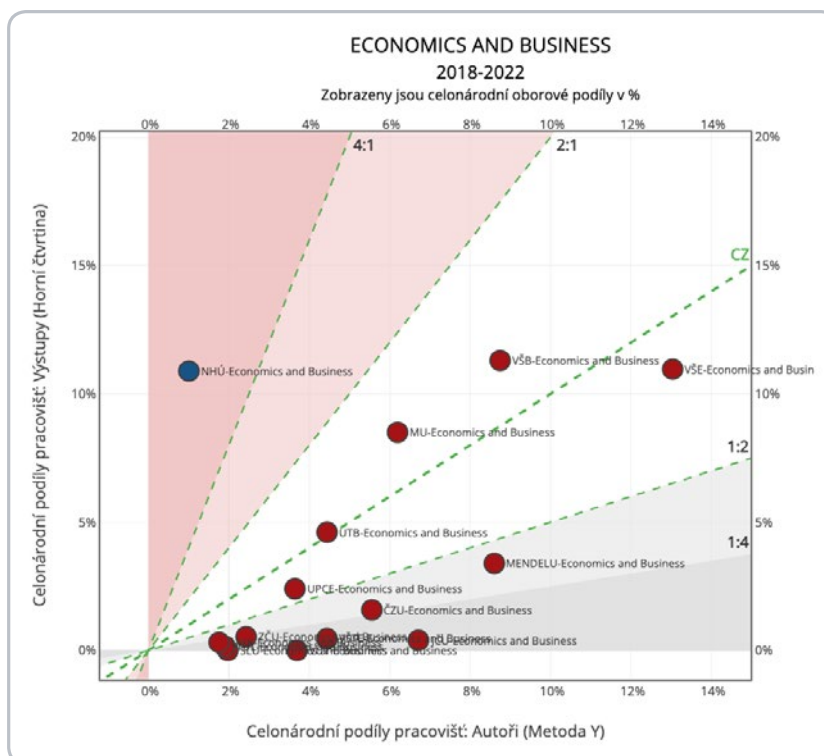
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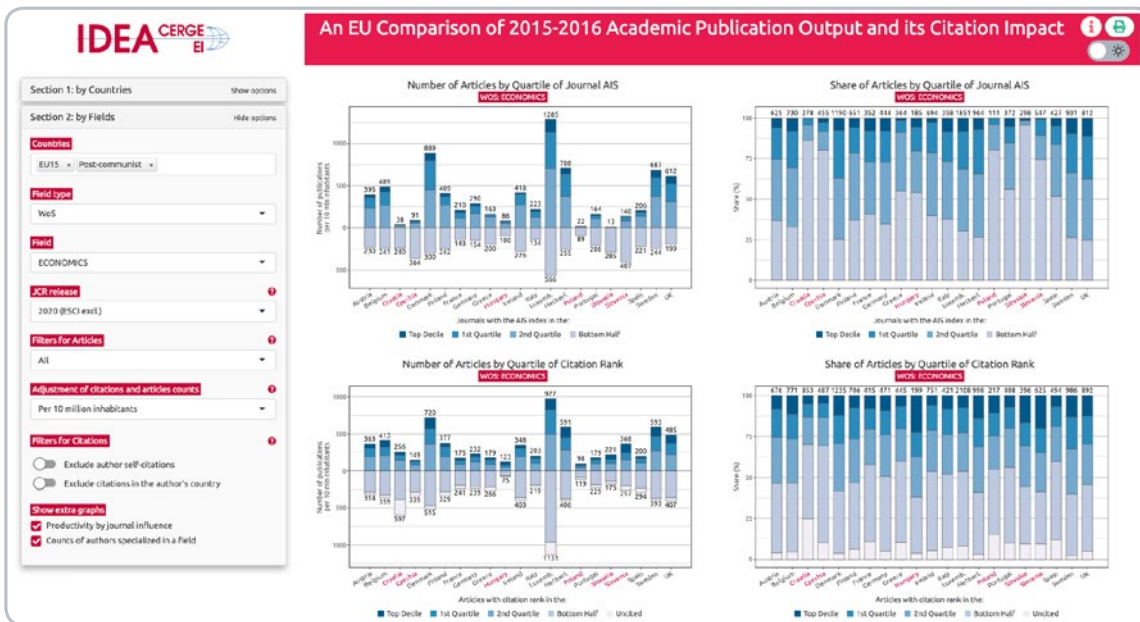
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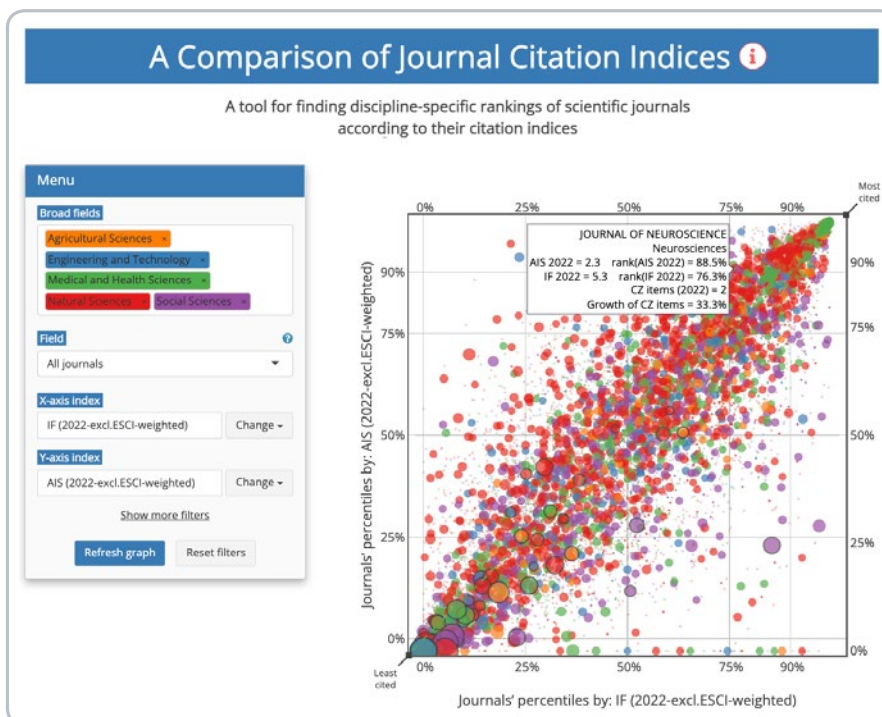
An EU Comparison of 2015–2016 Academic Publication Output and its Citation Impact

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A Comparison of Journal Citation Indices

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The Risks of Reforming Doctoral Studies¹

JIŘÍ GROSMAN, ŠTĚPÁN JURAJDA, DANIEL MÜNICH

Summary

The system of financing doctoral studies in the Czech Republic has long been inefficient. A reform currently underway² aims to significantly increase the efficiency of the system. In this short text, we draw attention to potential problems associated with the distribution of public financial support for doctoral studies among universities. It would be problematic to distribute support based predominantly on degree completion rates. Allocation of public support for doctoral studies should take into account the results of evaluations of the quality of science produced by universities and their success in career placement of graduates, in addition to justifiable national disciplinary priorities.

[Complete Policy Brief \(CZ\)](#) 



PROJECT OF THE ECONOMICS INSTITUTE OF THE CZECH ACADEMY OF SCIENCES

Study 2/2024


Pupils' (Dis)Interest in the Teaching Profession: An International Comparison²

MARCH 2024

MIROSLAVA FEDERIČOVÁ

Summary

- Many European countries, including the Czech Republic, currently face a shortage of teachers, especially quality teachers. One possible solution to this would be to support aspiring teachers at a younger age, during their studies at primary and secondary school. This study provides an empirical overview of teaching aspirations among 15-year-old school pupils in European countries based on data from the international PISA survey.
- 15-year-olds most aspire to the teaching profession in Ireland and Luxembourg, where up to 10% of pupils are would-be teachers. At the other end of the range, only 1% of fifteen-year-olds in Latvia, Portugal, and Iceland aspire to the teaching profession. At 2.7%, the level of teaching aspiration in the Czech Republic is substantially below the European average of 4.5%.
- More girls than boys aspire to be teachers across all countries; in some countries this difference is very substantial. The lowest shares of 15-year-old boys aspiring to be teachers (around 1%) are observed in post-communist countries (Latvia, Hungary, Slovakia, Estonia, and the Czech Republic). These countries also have the lowest proportion of men currently in the teaching profession. This is probably the result of the feminization of schooling in these countries during the economic and social transformation of the 1990s. The persistent low level of teaching aspiration among boys in these countries suggests that the problem of male underrepresentation in teaching is unlikely to be resolved in the foreseeable future.

[Complete study \(CZ\)](#) 

- Among those Czech pupils who do aspire to teach, only 35% have at least one university-educated parent. This places the Czech Republic – with Italy and Slovakia – among only three countries where this percentage is lower than among pupils aspiring to other professions requiring a university education. Hence, teachers are more often recruited from families with less-educated backgrounds in these countries than in other European countries.
- With Finland and Switzerland, the Czech Republic is also part of a small group of European countries in which pupils who aspire to the teaching profession exhibit higher functional reading literacy on average than their peers who aspire to other professions requiring university education, albeit that this is only statistically significantly in Finland. The question remains whether teaching aspirations in the Czech Republic will endure until these pupils make decisions about their university studies, or indeed beyond graduation, when it comes to entering the profession and deciding whether to remain in it. The results of other recent surveys imply that the Czech Republic has the potential for a well-qualified teaching body, but this potential is not currently sufficiently harnessed.
- A series of previous IDEA studies have shed light on the fact that aspirations to teach are affected by relative pay and career prospects in the teaching profession. Relevant research nevertheless indicates that a motivation to teach is most often driven by internal and altruistic reasons. One not-insignificant factor in forming teaching aspirations is positive personal experiences and relationships with teachers while at school. Our findings show that the school environment is a substantial factor in forming teaching aspirations in the Czech Republic.
- The share of pupils aspiring to the teaching profession varies not only across European countries but also within those countries, including within the Czech Republic. According to a recent analysis by the Czech School Inspectorate, the current teacher shortage is felt more strongly in the Bohemian regions, and is much less of an issue in the Moravian regions. This correlates with the share of 15-year-old pupils who aspire to teach, which is lowest in Central and Western Bohemia and highest in Central Moravia and Silesia.
- Better pay could attract good pupils into the teaching profession and attract or retain teachers from under-represented groups, such as men and STEM subject specialists. However, this same goal could also be achieved indirectly through the approaches taken by current teachers, who can serve as good role models and positively influence their pupils' teaching aspirations. Modernisation of initial and further teacher training, in both content and form, and provision of more systematic support to newly-qualified teachers could also attract more good pupils into the teaching profession.



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Study 1/2024


Analysis of the 2024 State Budget Revenue in Light of the 2019 Pre-Crisis Year²

MARCH 2024

PETR JANSKÝ, DANIEL KOLÁŘ

Summary

- This analysis compares planned state budget revenues in 2024 with the state budget outcomes of 2019. It charts a period in which the Czech economy and public budgets have been heavily impacted by the consequences of several major crises (coronavirus, the invasion of Ukraine and the war, an energy crisis, and an inflationary wave) as well as by significant parametric changes in the Czech tax system. 2019 can be considered the last pre-crisis year and 2024 the first post-crisis year, so they correspond to 'normal times' more closely than the years in between. This analysis builds on a previous analysis of the state budget expenditure development between 2019 and 2024 and includes a brief synthesis of findings on revenues and expenditures.
- The nominal value changes in state budget revenue items between 2019 and 2024 are significantly burdened by the inflationary wave. Therefore, we compare the percentage increases with both the 40.6% increase in the price level and the 33.9% increase in nominal gross domestic product (GDP). The comparison with inflation is determinant of the change in real value: an increase of more than 40.6% implies an increase in the real value of the revenue, and a smaller increase results in a decrease in real value. Similarly, deviations from the increase in nominal GDP indicate whether the share of income in GDP is increasing or decreasing.
- Between 2019 and 2024, the Czech Ministry of Finance estimated an overall increase in state budget revenues of 28.9%, which is in fact less than the 43.0% increase in state budget expenditures. The revenue increase is also slightly lower than nominal GDP growth and significantly lower than price level rises.

[Complete study \(CZ\)](#) 

- State budget revenue primarily consists of tax revenues. However, the collection of individual taxes has varied considerably over the period under review. The change in personal income tax revenue has a major negative impact on the state budget revenue. Personal income tax revenue to the state budget will fall in both real and nominal terms: from CZK 165 billion in 2019 to CZK 156 billion in 2024 (-5%, - CZK 9 billion). The most likely cause is the tax changes enacted in the autumn of 2020, particularly the abolition of the super gross wage, the increase in the taxpayer rebate, and the introduction of the possibility of a flat-rate tax option for self-employed persons.
- Similar stagnation was recorded in excise revenues. Despite high inflation, the increase is only 1% (+ CZK 2 billion). Unlike other taxes, excise duties are generally defined as a fixed amount per unit of goods, and revenues do not automatically rise with the price of goods. An example is the excise duty on diesel fuel, which rate (CZK 9.95/l) is nominally the same in 2024 as in 2004.
- Only four revenue items (in order of absolute increase) account for 95% of the increase in the planned state budget revenues for 2024 (CZK 1 940 billion) compared to the 2019 reality (CZK 1 505 billion) by CZK 435 billion (+28.9%):
 - Mandatory social security contributions (+37%, +205 billion CZK)
 - Value added tax (+33%, +95 billion CZK)
 - Corporate income tax (+74%, +92 billion CZK, of which +17 billion CZK is from a windfall tax)
 - Emission credit sales (+153%, +25 billion CZK)
- Some 2024 state budget revenues will remain at a roughly similar level in nominal terms as they were in 2019, which, with the significant increase in nominal GDP and an even larger increase in price levels, represents a significant decline in revenue in real terms:
 - Personal income tax (-5%, -9 billion CZK)
 - Consumption tax (+1%, +2 billion CZK)
- The real value of most revenue items in the state budget fell, while key expenditure items rose in real terms. This has contributed to a significant widening of the state budget deficit, despite the fact that the 2024 outcome will be affected by the consolidation package and other governmental austerity measures. In other words, the increase in state budget revenues will be able to cover only 66% of the increase in expenditure.



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Study 15/2023


Analysis of the 2024 State Budget Expenditure in Light of the 2019 Pre-Crisis Year²

NOVEMBER 2023

PETR JANSKÝ, DANIEL KOLÁŘ

Summary

- Our analysis compares the 2024 state budget proposal approved by the government with 2019 state budget results. The interim period includes two major events with a number of significant economic impacts - the coronavirus and Russia's aggression in Ukraine. We compare the percentage increases in key state budget expenditures with the 40.6% increase in prices and the 33.9% increase in nominal gross domestic product (GDP) over the same period, 2019-2024. Comparison that takes inflation into account is indicative of the change in the real value of spending, while comparison accounting for GDP growth shows the change in the shares of spending in GDP.
- Between 2019 and 2024, the Ministry of Finance estimates a 43% increase in state budget expenditures, which far exceeds the 28.9% increase in state budget revenues and the increase in nominal GDP, but only slightly exceeds the increase in consumer prices. The increase in state budget revenues implies a decline in their share of GDP and an even more significant decline in their real value. On the other hand, the increase in state budget expenditures will exceed the increase in nominal GDP, but its real 2024 value will be close to the 2019 level.
- However, the overall increase in state budget expenditures (43.0%) is comprised of very different developments in individual expenditure items. Spending on regional education and social benefits, including parental and sickness benefits, will increase in line with the consumer price level - the real value of spending in 2024 will therefore be similar to that in 2019. In nominal terms (i.e., even without inflation), investments in education,

[Complete study \(CZ\)](#) 

agriculture, and the Ministry of Regional Development, and subsidies for some cultural activities, will fall. When we take inflation into account, the decrease in their real value is even more pronounced. In contrast, spending on pensions, defense, national insurance, and national debt repayments will rise more than GDP, and more than the price level. Thus, the share of GDP and the real value of these budget items will rise.

- 90% of the CZK 659 billion increase in the planned 2024 state budget of CZK 2 192 billion compared to the actual 2019 state budget of CZK 1 533 billion (+43.0%) can be explained by only seven budget expenditures (in order of absolute increases). Only four will see a significant increase in their real value (blue):
 - Pensions (+50%; +234 billion CZK)
 - Ministry of Defense expenditures (+121%; + CZK 83 billion)
 - Contributions for state insured people (+110%; + CZK 79 billion)
 - Expenditures on regional education, especially teachers' salaries (+41%; + CZK 59 billion)
 - Social benefits, including maternity and sick leave (+43%; + CZK 56 billion)
 - Servicing the national debt (+138%; + CZK 55 billion)
 - Transfers from the Ministry of Transport to the State Fund for Transport Infrastructure (+39%; +23 billion CZK)



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Study 14/2023


Secondary School Admissions: A Sophisticated Mechanism or a Big National Lottery?²

OCTOBER 2023

TOMÁŠ PROTIVÍNSKÝ

Summary

- The spring 2023 secondary school admissions process has fully revealed the shortcomings of the established admissions system. The combination of a baby boom and a large mismatch between the structure of supply and demand, the system has left many children and their parents unnecessarily uncertain about secondary education. Although the vast majority of applicants eventually get into a secondary school, the mechanism in place to match applicants with schools is inefficient and inequitable. The system forces students and parents to strategize ways to select schools, and disadvantages children of less informed and less sophisticated parents, contributing to high inequalities in access to education over the long term. The system also generates highly skewed information on the structure of demand, which complicates management of admissions.
- A major change in the admissions procedure is therefore planned for spring 2024. It is expected to eliminate at least some of the main problems. Electronic application should simplify the process, and will allow pupils to apply to three schools instead of two. Prioritization of schools should then allow for automatic enrollment of those admitted. It should also minimize the chaotic second round period when pupils who are not enrolled in the first round apply for vacant places.

Complete study (CZ) 

- However, the exact form of the matching mechanism is not yet known, nor has it been addressed in the debate on changes to the admissions procedure. The discipline of mechanism design at the interface of economics and game theory analyses matching mechanisms in admissions and evaluates them in terms of the quality of the outcome achieved. In particular, it assesses whether the process is efficient and the resulting matching fair to the students.
- The planned changes can be implemented through various matching mechanisms. Different mechanisms (algorithms) match pupils to schools differently based on applications and results of entrance exams. However, the algorithm that is chosen has a large impact on the final matching. The algorithm also affects the actual decision-making of pupils and parents, as it forces them to strategize, further complicating the process.
- Using a naive matching algorithm roughly equivalent to current practice would ensure that the system will continue to suffer from its current problems. Alternatively, a delayed acceptance algorithm that is widely used around the world could be applied, and would much better meet the basic quality criteria from a theoretical perspective: it is stable and fair, sufficiently respectful of learner preferences, and robust to strategizing. Therefore, the actual matching mechanism should begin to be given sufficient attention in the debate about changes in admissions, and data evaluation should be carefully implemented through the deferred admission mechanism.
- A significant problem in Czech education is the strong dependence of pupils' educational attainment on the socio-economic status of the family and the education of the parents. Certain aspects of the admissions procedure may further exacerbate this inequality and reinforce the phenomenon of the so-called "lost Einsteins" - highly gifted individuals from a lower socio-economic background who, for various reasons, do not realize their potential and do not fully apply themselves in society. A uniform entrance exam that would be compulsory for all primary school pupils and implemented before the actual secondary school application process would help to identify such pupils and support them in choosing their future educational path. Pupils today do not have reliable information about their own abilities or about individual secondary schools. Therefore, their decision-making depends heavily on parental input, disadvantaging talented pupils who lack strong family support.
- The problem of the lack of quality information on the state of Czech education is also related to the large inequalities in education. The true extent of the mismatch between the structure of supply and demand for secondary education is unknown, as the current system of admissions has forced strategic choices and generated very skewed data on demand. The consequence is a lack of information on the part of the founders and the central coordinating authority of the Ministry of Education. An appropriate matching mechanism would eliminate the problem of biased data. At the same time, it is desirable to use data collected from admissions in a targeted way for planning and development, and to better adapt the supply of secondary education to demand for it in the future.
- In the longer term, given the changes in society, it is crucial to strengthen the role of general education across secondary schools and to enable pupils to specialize. Pupils' future lives should depend above all on their long-term attitude to learning, ability, and effort, rather than on the results of one or two tests. Everyone has the right to freely choose a career and prepare for it, but inappropriate admission procedures and insufficient school capacity limit this right.



Study 13/2023


Do We Have Too Many University Graduates? What Lifetime Earnings Profiles Can Tell Us²

NOVEMBER 2023

TARAS HRENDASH, ŠTĚPÁN JURAJDA, DANIEL MÜNICH – CERGE-EI
PAVLA DOLEŽELOVÁ, PAVEL MRÁZEK – TREXIMA

Summary

- Since the beginning of the 21st century, the Czech Republic has experienced dynamic growth in its university-educated workforce. This trend was initially driven by the foundation and growth of private universities in the Czech Republic in the late 1990s, followed from 2005 onwards by a substantial opening-up of public universities. The share of the population aged between 30 and 34 with higher education has more than doubled over the course of three decades.
- From an economic perspective, do we now have too many university graduates in the Czech Republic? The answer to this question is crucial when it comes to deciding the extent to which the state should – financially or otherwise – support future growth in the numbers of university students and graduates, and how much it should encourage citizens to pursue initial or lifelong university education. The answer is also an important factor in debates about the need to increase the currently low financial support available to university students.
- The study we present here provides descriptive statistics about employees' wages and salaries, which serve as a useful basis for any discussion of this important question. We compare trends in university-educated employees' wages and salaries for cohorts born in 1960, 1970, 1980 and 1990. The shares of university graduates in these cohorts differ substantially. Further, we observe trends in the earnings *ratio* for these cohorts between university- and secondary-educated employees, i.e., the percentage differences between the mean or median earnings of employees with higher education and those of employees with only secondary education.

[Complete study \(CZ\)](#) 

- In addition to chance, a university graduate's earnings are influenced by the following five systematic processes: **(i)** accumulation of vocational and general work skills and experience gained through years of work (age); **(ii)** increases in the nominal wage level in the economy due to rising price levels; **(iii)** growth in aggregate labour productivity in the country, and thus in the real level of wages, driven by technological progress and a range of other macroeconomic and institutional phenomena; **(iv)** the selectivity of access to higher education, which means that, as the share of the age cohort achieving higher education increases, the share of less talented individuals among those with higher education also increases (although intellectual aptitude projects into earnings directly, not only via educational attainment); **(v)** the interaction between the aggregate (cohort) supply and demand for university-educated workers in the economy. Given the structure of the economy, an increase in the supply of workers with higher education may push down the university-educated/secondary-educated earnings ratio. However, that will not happen if demand for university-educated workers rises faster than the supply. For instance, a growing supply of university graduates could attract an influx of capital that makes disproportionate use of university-educated workers, i.e., demand may react to supply.
- This study visualises the evolution of employee cohort earnings by age, i.e., process (i), and compares this across cohorts with different levels of education, taking into account the impacts of price levels and aggregate productivity (ii and iii). If pay for university-educated employees in younger cohorts can keep up with the pay that university graduates earned at the same age in older cohorts with fewer university-educated workers, then either the impacts of (iv) are relatively limited, or demand is responding to supply (v); this would be consistent with the claim that we do not have too many university graduates, even in younger cohorts. A similar argument applies to the comparison based on the earnings ratio, where the level of the university-educated/secondary-educated earnings ratio is of course also influenced by trends in secondary-educated employees' earnings.
- Our analysis shows that younger university graduates, who are not selected for talent to the same extent as their older colleagues, do not lag behind older cohorts of university graduates in terms of their wages or salaries. We also show that, although the university-educated/secondary-educated earnings ratio is slightly lower for younger cohorts than for older, less educated cohorts, it remains very high despite the rapid growth of the share of university graduates among the youngest employees in the past two decades; indeed, in the middle age bands, the ratio is close to 2:1. In the public (earnings) sector, the university-educated/secondary-educated ratio is very similar across all cohorts.
- These trends in the Czech Republic are similar to those observed in other dynamically growing EU economies, where the shares of workers with higher education has also risen. Our findings are thus in line with the hypothesis that dynamic growth in the supply of university-educated labour has been accompanied (thanks to an influx of capital making use of university-educated employees) by similarly dynamic growth in the demand for it. The high university-educated/secondary-educated earnings ratio supports the hypothesis that high productivity can be maintained among university-educated employees even in younger, more educated cohorts, together with high private returns on investment into higher education.
- To provide a perfect answer to the question of how higher education causally affects wages and salaries in the context of a growing share of university graduates in younger cohorts, we would need to use quasi-random assignment of similar secondary-school-leavers into and out of higher education at different times. Future research should also take into account the earnings of university- and secondary-educated individuals who are not employees.



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Study 12/2023


Teacher Salaries in 2022 and Beyond: Out of the Abyss and Back Again²

SEPTEMBER 2023

DANIEL MÜNICH, VLADIMÍR SMOLKA

Summary

- The relative amounts of teachers' salaries helps to define the attractiveness of entering the teaching profession and can be a component in ensuring sufficient interest in the profession. Selectivity into teaching, both at entry and throughout the career, determines the quality of education. These processes are realised in the long term through continuous entries and exits from teaching, and ongoing training during the career. Therefore, the effects of teacher salaries on interest in entering the profession, the quality of teachers' work, and ultimately a country's educational outcomes can only be tracked over the long term.
- The relative amounts of teacher salaries are closely linked to the share of expenditures on schooling from the GDP. Until 2017, the share of school spending in the Czech Republic was among the lowest in the OECD. Dynamic growth between 2018 and 2021 has brought it close to the OECD average. In 2022, however, the trend reversed, and the share of GDP on school expenditures has fallen. If the trend were to continue in 2024–2025 on the basis of preliminary budgetsary figures, the Czech Republic would quickly return to being among the OECD countries with the lowest share of expenditures on schooling as a percentage of GDP. Simply maintaining the expenditure-to-GDP ratio at the 2023 level would require an additional CZK 35 bn in 2024, and reaching the 2021 peak would require an additional CZK 50 bn beyond what has been preliminary budgeted (CZK 10 bn and CZK 26 bn compared to the budget for 2023).

[Complete study \(CZ\)](#) 

- The amount of state budget education spending significantly determines the level of relative salaries in education. At 60–64%, teacher salaries relative to the average wage of university-educated employees were among the lowest in the OECD until 2017. By 2021, thanks to unprecedented dynamic growth over several years, they were significantly closer to the OECD average (92%), at 79%. From 2022 onwards, they fell to a predicted 72% in 2023. Reaching the OECD average in 2024 would require an increase in teacher salaries of almost 30%.
- Teacher salaries relative to the overall average wage of all workers in the Czech economy were very low until 2017, at about 110%. In 2021, thanks to the unprecedented increases over those few years, they grew significantly, to 121%, but did not reach the 130% level promised by the previous and current governments. Growth stalled in 2022, with teacher salaries rising by only 1%, while wages in the economy grew by 5.3%. To date in 2023, the expected 4% growth in teacher salaries lags well behind the 8.1% expected growth in average wages in the economy.
- Simply maintaining 2023 relative salary levels in 2024 to 2025 will require increases at the rate of nominal wage growth in the economy, projected to be 5.8% and 4.3% respectively. Lower growth rates would mean a regressive decline towards the lowest relative wages in the OECD, where they were until 2017.
- The idea of statutory indexation of teachers' salaries, originally proposed by the authors of this study in 2017, was enshrined in law in 2023, at 130% of the average wage in the economy. However, any credible prospect of reaching and maintaining this level has been diminished by discussions about an alternative methodology that would take the lower wage level of previous years as the basis for the calculation. However, changing the methodological method of calculation will not bring the Czech Republic closer to the average of EU and OECD countries. Moreover, it weakens hard-won public trust, especially that of persons interested in the teaching profession.
- In the coming years, the need for rising numbers of teaching staff, including teachers; must be budgeted for, taking into account rising numbers of pupils; the need to reduce educational inequalities; and the additional school-age pupils from Ukraine. The relatively low salaries of non-teaching professions should also be considered in government calculations.
- In 2022, the relative salaries of teachers of all age groups fell for the first time since 2017. By far the most attractive salaries remain those of the youngest teachers, under the age of 30. In contrast, the relative salaries of middle-aged teachers aged 30–49 remain the lowest. Teachers' salaries rise slowly with years of experience (even in international comparisons). In addition to salary scales, the absence of career regulations and quality standards for the performance of the teaching profession at different stages of the career contributes to the slow rise of salaries.
- The variability of teacher salaries remains low in the long term in national and international comparisons and does not reflect differences in the quality of teachers' work. Teachers' salaries continue to be dominated by tariffs, i.e., years of experience. Flat salaries in education result in underpayment and poor motivation of quality teachers. This increases the risk of teachers leaving the profession and reduces interest in the profession among younger generations.
- After several years of significant growth in the share of the extra tariff component of teachers' salaries between 2019 and 2021, there was a noticeable decline in 2022, back to the 8–12% level that is typical of the university-educated segment of non-business sector employees. However, pay is distributed among teachers with similar variability to other university professions in the non-business sector.



PROJECT OF THE ECONOMICS INSTITUTE OF THE CZECH ACADEMY OF SCIENCES

Study 11/2023


The Impact of Debtor Distress and Unemployment on Support for Extremist and Populist Political Parties in the Czech Republic 2001–2017²

SEPTEMBER 2023

JAKUB GROSSMANN, ŠTĚPÁN JURAJDA, LUCIE ZAPLETALOVÁ

Summary of Key Issues

- In this study, we analyze the relationships between rising rates of distraint orders and electoral support for populist political parties and extreme left and right wing political parties at the local level.
- Increasing numbers of people subject to distraint orders had a negative impact on voter turnout and led to a rise in the electoral success of extreme right and populist political parties (SPD and ANO in the Czech Republic). A 10 percentage point (p.p.) increase in the numbers of people subject to distraint (e.g., an increase from 2 % to 12 %, in a typical Czech municipality with a low rate of distraint to a typical municipality with a high rate of distraint) led to a 1 p.p. increase in the percentage of electoral gains for the extreme right wing (in 2017, extreme right wing parties attained 10.6 % of the national vote) and a 3 p.p. increase for populists (who attained 40.3 % of the vote in 2017).
- In contrast, support for the extreme left wing (KSČM) decreased as the frequency of distraint orders increased. A 10 p.p. increase in the share of persons subject to distraint orders (e.g., from 2 % to 12 %) reduced KSČM's electoral outcomes by more than 3.5 p.p. (in 2017 the extreme left wing obtained just 7.8 % of the vote).

Complete study (CZ) 

- Local increases in unemployment, and therefore in economic hardship, had a similar impact on electoral behaviour in terms of magnitude as did increases in distraint, but in the opposite direction. A 10 p.p. increase in unemployment (e.g., from a good situation of 3 % to 13 % unemployment, a worse situation than during the 2008 economic crisis) resulted in a 2 p.p. increase in voter turnout (which was 60.8 % in 2017), and a 4.5 p.p. increase in support for the extreme left. The extreme right experienced a worse electoral result, by 2 p.p., and populist parties lost 3.5 p.p. of the vote.
- Further analysis shows that the observed support for extreme right wing and populist political parties likely did not come from persons who were directly affected by distraint, but rather from their “neighbours” who were not directly affected. This may be related to the fact that, while voters in the Sudeten regions have long been accustomed to a poor socio-economic situation (higher unemployment rates, social exclusion, etc.), voters in other regions of the Republic experienced this distraint situation for the first time, and attempted to solve it by voting new populist and extreme right-wing parties.
- Our findings suggest that the reduction in support for KSČM with the increase in distraint orders we observe is not the result of voters in indebted localities failing to turn out to vote, but is due to those voters choosing to support extreme right-wing or populist political parties.
- This study is based on the academic paper “Voting under Debtor Distress” by Jakub Grossmann and Štěpán Jurajda (2023).

Work Motivational Impacts of Tax Change Proposals on Employees¹

KLÁRA KALÍŠKOVÁ, DANIEL MÜNICH, MICHAL ŠOLTÉS

Summary

- We quantify the ex-ante effects of changes to taxes and compulsory employee contributions proposed in the government's consolidation package. We compare the proposed package to the current tax system and to the pre-2021 system, and to IDEA & PAQ's April 2023 tax change proposal. We thus extend IDEA & PAQ's recent joint analysis, which described the impacts on average taxation and tax revenues to public budgets², using a detailed analysis of work motivation impacts.
- The government's consolidation package will increase the average labour levy by 0.45 percentage points for almost 95% of employees. For employees with monthly incomes over 3 times the average wage, the labour levy burden will increase by 1 to 2 percentage points. Employees with incomes of around CZK 30,000 per month will be most affected by the changes; they will also lose their current low-income spouse allowance. For these employees, the tax burden will increase by more than 5 percentage points.
- By limiting the low-income spouse discount to cases in which the spouse is caring for a child under the age of three, the number of employees eligible for the discount will fall by 45%, from more than 170,000 today to 95,000. As part of this move, around 20,000 pre-retirement and retirement households will lose their entitlement to the rebate.
- Reducing the threshold for the second highest personal income tax rate from 4 to 3 times the average gross wage will create a new group of employees in the tax system who will face a higher marginal tax rate. Employees with incomes between 3 and 4 times the average wage will now face a marginal tax rate 17 percentage points higher than employees with incomes above 4 times the average wage (the maximum social security assessment base). The group of employees with incomes above 4 times the average wage will continue to face a marginal tax liability lower than most other employees.
- Compared to the pre-2021 tax system (before the abolition of super gross pay taxation and the gradual increase in the taxpayer rebate), around 90% of employees will still benefit from the current government package. Only around a tenth of employees at the lowest incomes will be worse off, as they will not be financially helped by the tax changes implemented after 2020 and will also be affected by the reintroduction of compulsory sickness insurance contributions and/or the restriction on the spouse's allowance.

Original study in Czech "*Pracovně motivační dopady návrhů daňových změn na zaměstnance*" [↗](#)

[Complete Policy Brief \(CZ\)](#) 



PROJECT OF THE ECONOMICS INSTITUTE OF THE CZECH ACADEMY OF SCIENCES

Study 10/2023

Who Is Most Affected by Price Increases? Differences in Inflation for Different Types of Households 2020–2023²

JULY 2023

PETR JANSKÝ, DANIEL KOLÁŘ, MAREK ŠEDIVÝ

Summary

- Between January 2020 and March 2023, prices in the Czech Republic rose cumulatively by an unprecedented 33%. In this study, we demonstrate the differences in price inflation experienced by different types of households.
- Different groups of people are exposed to different price rises as a result of the interaction of two phenomena: **(i)** different expenditure price increases: the costs of certain types of goods and services increased by more than 40% (food, accommodation, clothing and footwear; housing, water, energy, fuel), while for others it hardly rose at all (postage, telecommunications) or by only 12% (education); **(ii)** differences in expenditure structure: households with lower incomes (in the lowest two income quintiles, i.e., the lowest 40% of households by income) spend a larger share of their expenditures on groceries and a smaller share on home furnishings and other goods and services. Pensioners' households spend a larger share of their expenditures on groceries, healthcare, housing, and energy, and a lower share on clothing, food, and accommodation.
- The differences in the impact of inflation on different groups are relatively small. When we categorise households by income (into five income quintiles), those with the second-lowest incomes were the most affected (33.6%), while those with the highest incomes were least affected (32.3%). Pensioners were also significantly affected – both the 50% of pensioner households with lower expenditures (34.5%) and the 50% with higher expenditures (33.4%), while families with children were least affected (32.4%); single-parent households (33.0%) and other households (32.9%) experienced a mid-range impact.

[Complete study \(CZ\) !\[\]\(3cb60d42b10e53f9522bb0b392c1c4cd_img.jpg\)](#)

- The most likely eligible households are those of retirees. Although the share of eligible retirees did not increase in the covered period, the take-up of housing benefits increased the most among them.
- The analysis is based on *Život během pandemie* survey data gathered by PAQ Research. The study analyzes two waves of the survey: November 2021 (before the policy change) and April 2022 (after the policy change). The dataset consists of 1,472 respondents.



Study 9/2023


Head Teachers' Salaries: Long Overlooked²

JUNE 2023

VÁCLAV KORBEL, DANIEL MÜNICH, VLADIMÍR SMOLKA

Summary

- School leadership staff (head teachers and their deputies) are crucial to teaching quality. Pay for primary school leadership staff in the Czech Republic, however, is not closely monitored in the long term, despite the fact that pay influences the efficiency of managerial work and educational leadership and, moreover, affects potential candidates' motivation to apply for school leadership roles.
- For our analysis, we use employee level data from the [ISPV](#) database of salary statements for the years 2017–2021. The classification used in the ISPV database does not enable us to distinguish between different leadership roles – head teacher vs. deputy – so our analysis looks at sets of school leadership staff as a whole. We analyse their average total gross monthly salaries, the average value of bonuses, the variability in their pay range and the factors that influence the amount of their pay and its variability.
- Our data analysis reveals four key findings:
 - Pay for leadership staff at primary schools rose from 160% of the national average salary in 2017 to 200% of the average salary in 2021 (75,000 CZK). This rate of growth was similar to that of teachers' salaries, but substantially faster than growth in other public and private sector wages, including those for leadership roles in the healthcare sector and social services. It is important to note that schoolteachers' pay rose during this period from a relatively low starting level. It is also likely that school leaders' pay will not be maintained at its current level relative to the average salary.
 - There is far greater variability in pay for primary school leadership roles than there is in teachers' pay. This is due to the value of bonuses, which increased from 10% of the total salary in 2017 to 15% in 2021. Nevertheless, school leadership pay remains less variable than leadership pay in other branches.

[Complete study \(CZ\)](#) 

- Primary school leadership staff pay varies from region to region by as much as 10,000 CZK/month; it is highest in Prague (83,000 CZK) and lowest in the Zlín region and Vysočina (71,000–72,000 CZK). This variability is caused by differences in the structure of the school systems and by differences in school authorities' approaches. These mechanisms equalize pay and cost-of-living differences between regions.
- Pay differences between leadership staff at smaller and at larger primary schools are minor. Male leadership staff are paid approximately 3,000 CZK per month more than female leadership staff. This is due to male leadership staff being classified in wage band 13 more frequently than their female counterparts. We are unable to establish from the available data whether the observed differences in wage band classification reflect genuine differences in the work carried out by these leadership staff.
- Our findings lead to the following recommendations:
 - Pay for primary school leadership staff has increased substantially over the past few years, but it is unlikely that this trend will be maintained. If it is not, this will result in a new reduction in the motivation for high quality candidates to apply for leadership roles. Maintaining the competitiveness of leadership pay relative to similar positions outside education should thus be as high a priority as is maintaining the relative level of teachers' pay.
 - The above-tariff salary component, which is determined by the school authority for head teachers, has increased over time for primary leadership roles. It is therefore necessary to systematically educate and support school authorities to ensure that they are able to evaluate school teaching quality and to make use of bonuses? as a motivational tool to increase efficiency.
 - In the Czech Republic, there is no state-initiated financial or non-financial motivation for the best head teachers to apply for positions at schools with high proportions of disadvantaged pupils. Once bonuses are taken into account, relative regional differences and differences linked to school size are also insubstantial. It is therefore necessary to consider ways to provide financial and non-financial motivations to attract high quality head teachers to schools serving disadvantage pupils.
 - Numerous questions related to school leadership remain unanswered, limiting the effectivity of public policy targeting. For instance, we do not know what career paths lead to becoming a head teacher, what characteristics are associated with high quality school management at different types of schools (including those with large shares of disadvantaged pupils), or how leadership changes can affect teaching quality. Linking data and providing support for applied research could motivate new research using existing data. Strengthening the existing data, both by introducing a blanket survey (i.e., low-stakes tests) and by linking this data to data on school leadership staff, would make it possible for research to identify the value added by schools and the factors associated with effective school leadership.



Study 8/2023


Differences in the Costs of Research in Higher Education across Scientific Fields: How Different Are They from „KENS“ in Teaching?²

JUNE 2023

MARTIN SRHOLEC

Summary

- Much has been said and written recently about low wages in the social sciences and humanities. Academics have demonstrated in the streets about it, and there has even been talk of a strike. Although a solution seems to be out of sight, one positive outcome cannot be denied. Discussion has finally begun on whether the so-called „koeficienty ekonomické náročnosti“ (KEN), on the base of which the Ministry of Education, Youth and Sports (MEYS) distributes the main part of the subsidy for teaching in higher education over the past thirty years needs to be updated.
- This study compares the dispersion of KENs with the differences in costs of the academic activity closest to higher education teaching, which is undoubtedly research and development (R&D). We are not attempting to recalculate the KENs - which would be desirable, but is not feasible with the data and resources available to us - but at least to approximate the extent to which current KENs differ from the costs observed in R&D.
- We use publicly available R&D statistics from Eurostat and the Czech Statistical Office, which provide data separately for the higher education sector, broken down by scientific fields, allowing us to compare the situation in the social sciences and humanities (SSH) and other (natural, medical, technical and agricultural) sciences. We also use the data on wages at faculties and higher education institutes from the MEYS's Statistical Yearbook of Education, which we have divided among the scientific fields.

[Complete study \(CZ\)](#) 

- The results show that, although in the past it was considerably less expensive to perform higher education R&D in SSH than in other science areas, in recent years this difference has narrowed considerably and now approaches the levels in advanced Western European countries, where there was never much cost difference between SSH and other fields. In fact, there is no longer any difference in wages for R&D activities in general or in the wages of researchers at higher education institutions between the SSH area and the aggregate of other scientific areas, i.e., R&D wages no longer differ on average between them.
- However, the median KEN of study programmes in the SSH area is 1.2, while in the aggregate of other science areas it comes out to 2.25. This means that SSH programmes typically receive 1.875 times lower subsidies per student. If the wage costs of teaching in both fields were the same, the non-wage (all other) costs in a typical SSH program would have to be 15 times lower to justify such a difference in KENs, given otherwise ordinary cost proportions. If the cost proportions in teaching were to match the situation in R&D, the typical KEN in the SSH area would come out only 1.33 times smaller than in the other areas.
- From this, it follows that the current dispersion of KENs seems to be significantly skewed to the disadvantage of study programmes in the SSH area, and it is high time to realign them with current economic reality. With each year that the KENs remain unchanged, higher education in the SSH area is underfunded and must either be subsidized from other sources or doomed to rub shoulders with destitution.



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Study 7/2023


Are Subsidies to Business R&D Effective? Regression Discontinuity Evidence from the TA CR ALFA Programme¹

MAY 2023

MATĚJ BAJGAR, MARTIN SRHOLEC

Summary

- Governments subsidise business research and experimental development (R&D) to promote development of the economy, because externalities and information asymmetries inherent to the innovation process make private funding of these activities fall short of what is socially desirable. Nevertheless, how effective such subsidies are and whether they achieve their goals is an open question that needs to be studied empirically.
- This study leverages the state-of-the-art method of regression discontinuity (RD) that allows us to come very close to making causal inferences about the effects of subsidies, to find out whether the Technology Agency of the Czech Republic's (TA CR) ALFA programme stimulated new business R&D inputs, outputs, and positive economic impacts that would not have happened otherwise.
- Our results show that the subsidies significantly stimulated R&D expenditures in small and medium size enterprises (SMEs), but not in large ones. In SMEs, the effect is strongly positive on both publicly and privately funded R&D, both during a subsidised project and afterwards, so there is evidence of persistent crowding in. For large firms, in contrast, the subsidy appears to have only changed the structure of R&D expenditure during the project – increasing funding from public sources at the expense of private ones and capital expenditures at the expense of current expenditures – and the effects largely fizzle out after the project expires.

[Complete study \(CZ\)](#) 

- When looking at R&D outputs and economic performance, our results do not provide any evidence of significant effects of the subsidies on patenting, employment, sales, or labour productivity of the firms regardless of their size category either during or after a project. However, given the limited size of our sample and the typically small amount of a subsidy relative to the size of the recipient, these subsidies making a recognizable difference in the overall economic performance of their recipients would require an annual rate of return to the additional R&D expenditure generated by the subsidies in the order of hundreds of percent, which is not feasible. Furthermore, it should be pointed out that, using this methodology, we are only able to pin down direct impacts of the subsidies on the economic performance of their recipients, whereas their broader impacts on the economy as a whole through knowledge spillovers – positive externalities that are crucial for justifying the subsidies – remain hidden to us.
- Overall, the results indicate that similar programmes, including the follow-up ALFA programmes, could potentially become more efficient by reallocating funding from large firms to SMEs, for which positive additionality effects on R&D inputs have been identified. It is also noteworthy that some of the most prominent programmes abroad, such as R&D subsidies in the Small Business Innovation Research (SBIR) program in the United States and the Small and Medium Enterprise Instrument (SMEI) of the European Commission, target not only small but specifically young innovative firms (median age 5 years in both programmes), whereas their Czech counterparts support relatively more established firms (median age 19 years in ALFA). Because small and young firms are also more likely to be credit constrained, policymakers should seriously consider shifting the focus of support to these groups of firms.
- Given the universal design of similar programmes, spreading subsidies relatively thinly over many firms, it is extremely hard to test empirically whether they deliver positive impacts on economic performance and on the competitiveness of the economy, on which grounds they are primarily justified. Admittedly, this should be acknowledged ex-ante when funding for these programmes is considered by the government.

IDEA Talks

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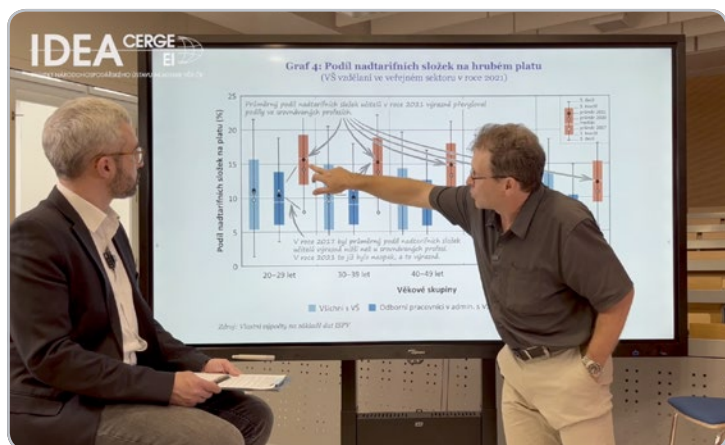
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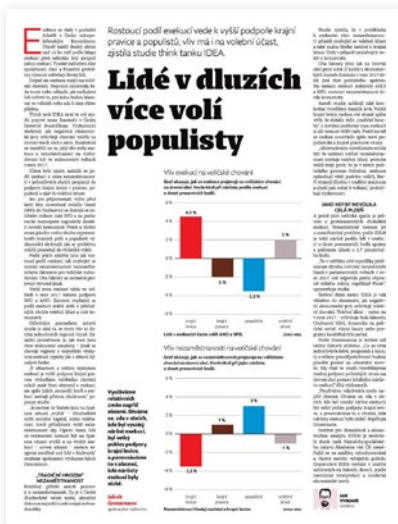
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Pros and cons of the approved pension reform.
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Filip Pertold, Lidové noviny, April 2024. [▶](#)



People in debt are more likely to vote for populists.
IDEA study in Deník N, October 2023.

