

ARE THE COSTS OF RAISING A CHILD TOO HIGH? A OVERVIEW STUDY

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Abstract

According to a qualified estimate, the cost of raising and sustenance a child up to 18 years of age currently amounts to almost 1,950 million crowns. This is roughly 150,000 crowns more than a year ago. Such high costs deter many parents from having more children. Alternatively, they postpone their conception until an older age, when they are usually richer, but the health risks of pregnancy and the risk of infertility increase. Other couples acquire a child, but then they are unpleasantly surprised by the amount of expenses. They find that they underestimated the cost of the child. The aim of this paper is to present the costs associated with raising a child at various stages of his age, from an infant to a university student. Other statistics quantify the amount spent on the total nutrition of a child who has achieved primary education, who has graduated secondary education without A-level examination, secondary education with A-level examination or higher education.

Key words: Costs of upbringing, child's educational attainment, university study costs, expenses until adulthood.

JEL Code: E21, E31, C55

Introduction

At the present time, the energy crisis, which directly followed the coronavirus crisis, and the associated high inflation (in September 2022, year-on-year inflation was 18 %), the costs associated with raising a child are a frequently discussed topic. Although the costs associated with raising children are a hot topic at the current moment, this topic is continuously appearing in domestic and foreign professional literature. In the professional literature, there are also other professional articles related to children's topics, see for example Dyches, Wilder, Sudweeks, Obiakor & Algozzine (2004); Gupta, Zhenghua, Bohua, Zhenming, Chung & Hwa-Ok (2003); Hildebrandt, McKenzie, Esquivel & Schargrodsky (2005); Orellana, Thorne, Chee & Lam (2001); Skoufias, Parker, Behrman & Pessino (2001); Volden, (2006);

Waldfoegel (1998); Woodgate, Ateah & Secco (2008); Yoshikawa, Aber & Beardslee (2012) or Zhao, Page, Altszuler, Pelham, Kipp, Gnagy, Coxe, Schatz, Merrill, Macphee & Pelham Jr. (2019). This paper deals with the question of how much parents pay for the raising of one child according to educational attainment in January 2023.

1 Methodology

The data set comes from the Czech Statistical Office. There is a set of households of economically active persons with one, two or three dependent children. The actual costs related to raising and sustenance a child are not among the statistics that the Czech Statistical Office regularly monitors. In 2003, however, it published a comprehensive publication dealing with this issue. This calculation is based on the structure of expenses that is shown in these statistics, but to obtain the actual amount, it updates them according to the individual items according to the consumer price index in the Public Database of the Czech Statistical Office to January 2023. An important assumption used in the calculation is the constancy in the structure of expenses per child. This assumption is suitable for expenses related to foodstuffs, clothing and footwear, housing, energy, and appearance. It is less suitable for specific expenses, such as spending on electronics. Electronics such as smartphones, tablets and laptops have become not only a part of the daily life of teenagers, but above all an important learning aid. For the above reasons, the weight of the electronics in the consumer basket has been adjusted compared to the initial data. The expenditure on electronics was estimated in such a way that the prices of electronics were determined rather at the lower levels of the entire price spectrum of the individual items under consideration so that they corresponded to the use of a child of a given age category and these prices were subsequently budgeted for a span of five years. Data on the number of children in individual completed years and on the number of university students come from the database of the Czech Statistical Office.

2 Results

Tables 1–3 show the costs of raising and sustenance a child according to individual items and the total costs of raising and sustenance a child in individual age categories. Tables 4–5 represent the total costs of raising and sustenance a child according to different levels of the child's educational attainment.

Tab. 1: Costs associated with raising and sustenance a child in infancy and toddlerhood, in preschool age and at the first level of primary school

Number of years	Child's age in completed years	Commodity	Monthly costs in CZK	Annual costs in CZK
3	0–2	Diapers	1,602	19,224
		Cosmetics, drugstore	446	5 352
		Foodstuffs	1,487	17,844
		Clothes, toys	706	8,472
		Doctor, medicine	169	2,028
			Annual total costs	52,920
Total cost per child < 3 years: 3 * 52 920 = <u>158,760</u>				
3	3–5	Drugstore	320	3,840
		Foodstuffs	2,860	34,320
		Clothes, footwear	1,324	15,888
		Doctor, medicine	157	1,884
		Culture, toys	549	6,588
		Kindergarten	1,604	19,248
		Hobby groups	659	7,908
			Annual total costs	89,676
Total cost per child ≥ 3 years and < 6 years: 3 * 89 676 = <u>269,028</u>				
5	6–10	Drugstore	320	3,840
		Foodstuffs	3,615	43,380
		Clothes, footwear	1,448	17,376
		Doctor, medicine	181	2,172
		Culture, holidays	1,537	18,444
		School supplies	435	5,220
			Annual total costs	98,340
Total cost per child ≥ 6 years and < 11 years: 5 * 98 340 = <u>491,700</u>				

Source: Own calculation

Tables 1–3 are separated according to the completed age of the child as follows:

- Infant and toddler age of the child: <0; 3) years.
- Child's preschool age in kindergarten: <3; 6) years.
- Child's age at the 1st level of primary school: <6; 11) years.

- Child's age at the 2nd level of primary school: <11; 15 years.
- Child's age at secondary school: <15; 19) years, in the case of apprenticeship: <15; 18) years.
- Child's age at college <19; 26), while the standard length of study for a bachelor's study is three years, for a subsequent master's study two years, a five-year master's study (e.g. JUDr.) includes both of these previous two levels of study together, and for a master's study in order to achieve the degree of MUDr. or MVDr. six years.

Tab. 2: Costs associated with raising and sustenance a child at the second level of primary school and secondary school

Number of years	Child's age in completed years	Commodity	Monthly costs in CZK	Annual costs in CZK
4	11–14	Drugstore	320	3,840
		Foodstuffs	3,661	43,932
		Clothes, footwear	2,978	35,736
		Doctor, medicine	181	2,172
		Culture, holidays	1,318	15,816
		School supplies	516	6,192
		Hobby groups	988	11,856
		Electronics	280	3,360
			Annual total costs	122,904
Total cost per child ≥ 11 years and < 15 years: $4 * 122\ 904 = \underline{\underline{491,616}}$				
4	15–18	Drugstore	400	4,800
		Foodstuffs	4,290	51,480
		Clothes, footwear	2,791	33,492
		Doctor, medicine	664	7,968
		Culture, entertainment	1,263	15,156
		Holidays	2,031	24,372
		School supplies	630	7,560
		Hobby groups	659	7,908
		Accommodations	1,728	20,736
		Electronics	350	4,200
			Annual total costs	177,672
Total cost per child ≥ 15 years and < 19 years: $4 * 177\ 672 = \underline{\underline{710,688}}$				

Source: Own calculation

Tab. 3: Costs associated with sustenance a student at university

Number of years	Child's age in completed years	Commodity	Monthly costs in CZK	Annual costs in CZK
7	19–25	Drugstore	400	4,800
		Foodstuffs	4,290	51,480
		Clothes, footwear	2,791	33,492
		Doctor, medicine	664	7,968
		Culture, entertainment	1,263	15,156
		Holidays	2,031	24,372
		School supplies	825	9,900
		Hobby groups	659	7,908
		Accommodations	6,021	72,252
		Electronics	620	7,440
			Annual total costs	234,768
Total cost per child ≥ 19 years and < 26 years: $7 * 234\,768 = \underline{\underline{1,643,376}}$				

Source: Own calculation

Tab. 4: Total costs of raising and sustenance a child (student)

Child's educational attainment	
Primary School	$158,760 + 269,028 + 491,700 + 491,616 = \underline{\underline{1,411,104}}$
Apprenticeship	$1,411,104 + 3 * 177,672 = \underline{\underline{1,944,120}}$
A-level examination	$1,411,104 + 710,688 = \underline{\underline{2,121,792}}$
Bachelor's degree (3-year)	$2,121,792 + 3 * 234,768 = \underline{\underline{2,826,096}}$
Master's degree subsequent (2-year)	$2\,121,792 + 5 * 234,768 = \underline{\underline{3,295,632}}$
Master's degree (6-year – MUDr., MVDr.)	$2,121,792 + 6 * 234,768 = \underline{\underline{3,530,400}}$

Source: Own calculation

Tab. 5: The costs of the university studies

Achieved university education	
Bachelor's degree (3-year)	$3 * 234,768 = \underline{\underline{704,304}}$
Master's subsequent (2-year)	$5 * 234,768 = \underline{\underline{1,173,840}}$
Master's (6-year – MUDr., MVDr.)	$6 * 234,768 = \underline{\underline{1,408,608}}$

Source: Own calculation

Table 1 shows that the annual costs for a child in infancy or toddler age (age 0–2 completed years) amount to CZK 52,920, and the total costs spent on a child in the first three years of life represent CZK 158,760. The main items are diapers and foodstuffs, which represent the highest expenses at this age of the child.

The annual expenses associated with the care of a child in preschool age (age 3–5 completed years) represent CZK 89,676, and the total costs per child during these three years of the child's life amount to CZK 269,028. The highest expenses in this period of the child's age are foodstuffs, followed by payments for kindergarten and clothes or footwear.

Tab. 6: Number of children in individual differentiated age categories and number of university students (for age category 19–25 years)

Age in completed years	Age category in completed years					
	0–2	3–5	6–10	11–14	15–18	19–25
0	107,478					
1	110,593					
2	113,057					
3		113,934				
4		113,163				
5		111,101				
6			110,325			
7			107,618			
8			109,476			
9			109,605			
10			117,320			
11				118,496		
12				119,932		
13				115,511		
14				106,770		
15					103,131	
16					98,478	
17					95,157	
18					95,275	
19–25						251,991
Total	331,128	338,198	554,344	460,709	392,041	251,991

Source: www.czso.cz; own calculation

The following period includes the age of the child attending the 1st grade of primary school (age 6–10 completed years). The annual expenses spent on a child at this age amount to 98,340 CZK, the total expenses for raising and sustenance the child during this period are 491,700 CZK. It should be noted here that a five-year period of the child's life is taken into

account here, as opposed to the previous two periods of the child's life. The main item is again foodstuffs, on which parents of children of this age spend the most money. This is followed by expenses related to culture and holidays or expenses on clothes, footwear.

Tab. 7: Total costs in individual differentiated age categories

Age category in completed years	Annual costs for one child (one student)	Number of children (students) in the given age category	Total costs in the given age category
0–2	52,920	331,128	17,523,293,760
3–5	89,676	338,198	30,328,243,848
6–10	98,340	554,344	54,514,188,960
11–14	12, 904	460,709	56,622,978,936
15–18	177,672	392,041	69,654,708,552
19–25	234,768	251,991	59,159,423,088
Total			<u>287,802,837,144</u>

Source: Own calculation

In the period of the child's age, when the child attends the 2nd grade of primary school (age 11–14 completed years), the annual costs per child are CZK 122,904, the total costs incurred during the completion of the 2nd grade of primary school represent CZK 491,616, see Table 2. This is almost the same amount as in the case of the 1st grade of primary school, however, it should be noted that the 2nd grade of primary school includes only four years of schooling, while the 1st grade, this is five years. The most important items of expenditure are again foodstuffs, clothes and footwear, followed by spending on culture or holidays and on hobby groups.

A child entering secondary school means a significant increase in expenses for parents. The annual expenditure per child studying secondary school is CZK 177,672, and the total expenditure before the student graduates from secondary school, if we take a four-year field of study (age 15–18 completed years), amounts to CZK 710,688. The most expensive items are again foodstuffs, clothing and footwear, but also holidays, accommodation in boarding schools and expenses for culture and entertainment.

A child's entry into university means even more expenses. Annual expenses associated with university studies amount to CZK 234,768, and if, in theory, the student were to study for a full seven years (age 19–25 completed years), when he is entitled to all discounts

associated with his studies, including the fact that he does not pay social and health insurance for himself, this study would cost him or his parents a total of CZK 1,643,376, see Table 3.

Table 4 offers an overview of the total costs spent on raising and sustenance a child according to the child's level of educational attainment. This is clear from this table that if the child complete only primary school, the parents have a total cost of CZK 1,411,104. If the offspring is apprenticed (three-year course with a teaching certificate), the parents must pay CZK 1,944,120 for the entire time they support them, and even CZK 2,121,792 in the case of secondary school with A-level examination.

If the child completes his studies with a bachelor's degree, he or his parents spend a total of CZK 2,826,096 on him, if he completes a subsequent master's degree, then the amount of CZK 3,295,632 must be spent for the entire period until he obtains the diploma. This amount also applies if the offspring completes a five-year undivided master's degree, e.g. in order to obtain the law degree JUDr. In the case of a six-year study of general medicine or veterinary medicine, the total amount associated with all expenses per child from birth to the achievement of a university diploma is CZK 3,530,400.

Table 5 presents expenditure only on university education. From the above table, it follows that a total of CZK 704,304 must be spent during the completion of the bachelor's degree. A total of CZK 1,173,840 must be spent during the course of the studies to complete a bachelor's degree and a subsequent master's degree together or to complete an undivided five-year master's degree. During the six-year study of general medicine or veterinary medicine, the student or his parents spend a total of CZK 1,408,608 during the university studies.

Table 6 shows the number of children or students in terms of age in completed years and the total number of children or students in individual differentiated age categories in 2022. Table 7 then calculates the total annual expenditure on one child or one student in individual age categories in the Czech Republic and thus the total annual expenditure associated with the education and sustenance of children or students in the Czech Republic, which currently (for January 2023 data) amounts almost 288 milliards CZK. Relative to GDP in 2022, it amounts to 4.7 %.

Conclusion

The costs of raising and sustenance children represent a key point for decision-making by households as well as for the decision-making of the central authority when setting family

policy. In the context of the current energy crisis, these costs represent a daily challenge for many families. In the long term, they are also a big challenge for economic policy makers, as they are closely related to frequently discussed problems such as the aging of the population or the sustainability of the pension system and other socio-economic phenomena.

From the results found, it follows that the annual costs spent on raising and sustenance a child in infancy or toddler age are CZK 52,920, in preschool age CZK 89,676, in the 1st grade of primary school, CZK 98,340, in the 2nd grade of primary school, CZK 122,904, in secondary school 177,672 CZK and in university 234,768 CZK. This is clear from the above that the costs associated with a child increase significantly when child transitions from primary to secondary school and especially when a student transitions from secondary school to university. A complete university degree costs a student or his parents a total of 1,173,840 CZK, in the case of general medicine or veterinary medicine even 1,408,608 CZK. The total annual costs that all parents spend on the education and nutrition of all children in the Czech Republic, including the costs that university students pay from actually earned resources, represent almost 288 billion CZK (January 2023)

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