Nielsen

ABCDE

Socio-economic Classification

Specification 2024

December 2023

1. Introduction

This material describes the construction of variables „Household socio-economic score" and „ABCDE socio-economic classification" developed by Nielsen Admosphere. Since 1. 1. 2013 these variables are part of the daily reported data of TV audience measurement project in the Czech Republic provided by Nielsen Admosphere to the Association of Television Organisations (ATO).

At the same time, the definition of the variables is public and every subject in Czech Republic is allowed and encouraged to use them in their own surveys. Later it appeared in the other big media surveys: NetMonitor (internet), Radioprojekt (radio) and MEDIA PROJEKT (print) and thus have become a new **standard in socio-economic classification in media surveys in Czech Republic**.

The purpose of this material is to **describe the variables construction**, starting with questionnaire template for collection of the necessary information on household, continuing with exact formulas and parameters for the variable calculation and ending with users' interpretation of such variables and a brief manual for their use.

The definitions of both variables undergo regular annual calibrations according to the latest results from the Czech Statistical Office and the Czech TAM project. The variables definition contained herein is **valid for calendar year 2024** and it replaces the definition valid for calendar year 2023. For the year 2025 the variables definition will be calibrated again and will be published in upgraded edition of this document at the end of 2024.

In case of any questions on the described variables, please consult our company (see the contact at the end of the document).

2. Basic starting points

Before we describe the specific method of deriving the definition of ABCDE socio-economic classification by Nielsen Admosphere and its definition itself (computation formula), we will list the basic starting points (or assumptions) with which we approach the classification construction:

- We construct an **ordinal classification** (totally ordered system of categories).

- We construct a **household level classification**, i.e. all household members share the classification.

- We use an **objective approach**, i.e. a calculation based on objective household facts.

- It is important to use only a **limited number of input variables** that can be properly queried even over the phone or kept regularly updated on the panel of respondents.

- Socio-economic classification should **strongly correlate** with education, economic activity, professional status, equipment and income. A little more emphasis is placed on the economic aspect than the socio-cultural aspect.

- The questionnaire and calculation formulae must be **transparent and public**.

- The classification must be **sustainable in long term** (using possible updates).

- The aim of the construction of the classification is not to identify the number and size of a priori existing **social classes** in Czech society.

- The question of **number and size of ABCDE categories** we view as purely a matter of practical usage of such a classification. No category should be extremely small or large.

- We do not attempt a **comparability** of the constructed socio-economic classification with similar classifications in any other country.

- We do not attempt to track the **development of socio-economic structure of society** over time using the ABCDE classification. We view the socio-economic status as relative to a given time and country.

3. Construction of the variables

The basis of the ABCDE classification by Nielsen Admosphere is the so called **Socio-economic score of the household**. This is an aggregation of household entry information into a continuous score (index) which expresses the expected (based on the already mentioned entry information) household income level in relation to the household size.

First, we define so called **"reference income"** of the household as follows:

<p style="text-align:center">Reference income = 13 000 + 13 000 × Adults + 6 500 × (Children 0-18 years)</p>

where "adults" is the number of persons aged 19+ years in the household and „children 0-18 years" is the number of children aged from 0-18 years in the household. The choice of concrete amounts (constant for the household, adult and child) influences the properties of the obtained ABCDE classification and thus it is a question of our preferences about these properties. The amounts do not need to equal to typical income or costs for the respective person or household. It is just a „reference income" against which the actual household income is compared:

<p style="text-align:center">Income index = Household income / Reference income</p>

By "household income" we understand household net monthly income from all types of income. Income index says how many times the respective household is richer than it corresponds to its reference income (according to its size and composition).

Socio-economic score of household represents a normalized value of its **income index predicted** on the basis of the variables entering the score calculation. This provides us an objective rule to determine the „weights" of individual variables entering the socio-economic score formula and it also guarantees a high level of correlation between the result (score) and the income index, even though income is not entering the score calculation explicitly.

Regression model was estimated on the sample of Establishment Survey (ES) of Czech TAM project, period from years 2021 and 2022. The sample consisted of households interviewed using F2F method who stated their monthly income (sample size 6 993 households) and it was re-weighted using weighting universes of ES 2022.
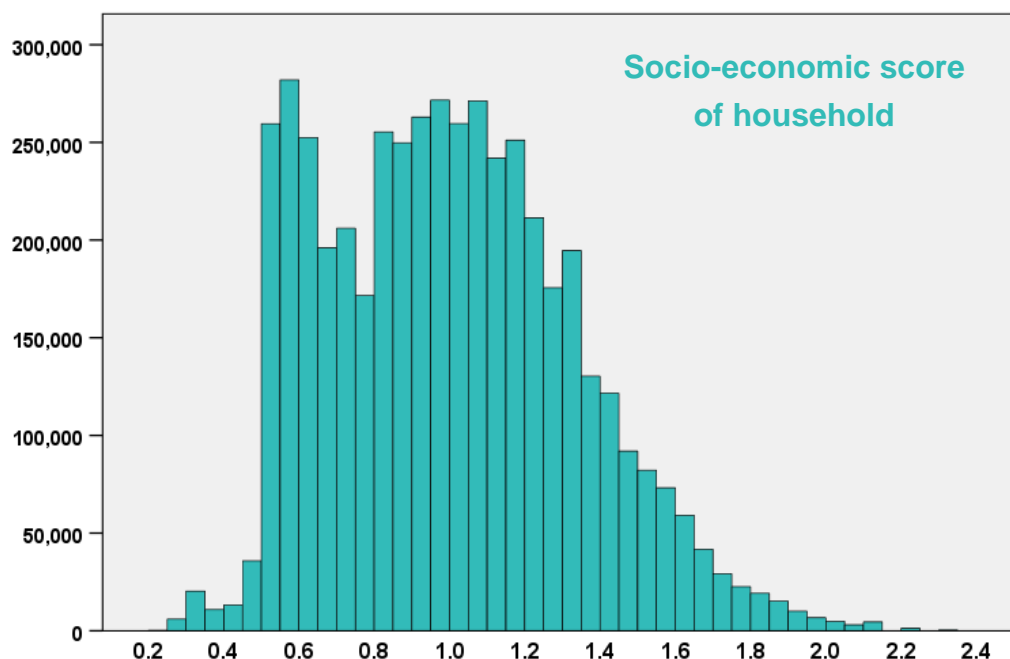
After theoretical considerations and data analyses done, the regression equation to predict the income index (i.e. to calculate the socio-economic score) was again chosen in the form

$$\text{Score} = \frac{\text{HH composition + Head professional status + Equipment}}{\text{Reference income}} \times \text{Head education} \times \text{Region}$$

"Head" of the household is a person procuring the biggest part of financial income. Region enters the model through the average wage in the respective region of the household (average gross monthly wage recalculated to a unit employee in CZK according to Czech Statistical Office, average over period from Q3 2021 to Q2 2022).

Numerical parameters inside the regression equation were optimized numerically with respect to maximum (weighted) correlation between the socio-economic score and the income index: **correlation of 0.673 was achieved**. The correlation of the score with household head education was 0.579 and with the % of economically active household members, it was 0.779.

The regression fitted values were then **multiplicatively normalized** on the weighted sample of all households from Establishment Survey 2022 and 2023 (re-weighted to universes for 2024, sample size 24 68 households) so that their average was exactly equal to 1. The following chart shows a histogram of household socio-economic score on the above mentioned normalisation sample. The score ranges from appr. 0.2 do 2.3, the distribution has slightly positive skewness (heavier right tail).
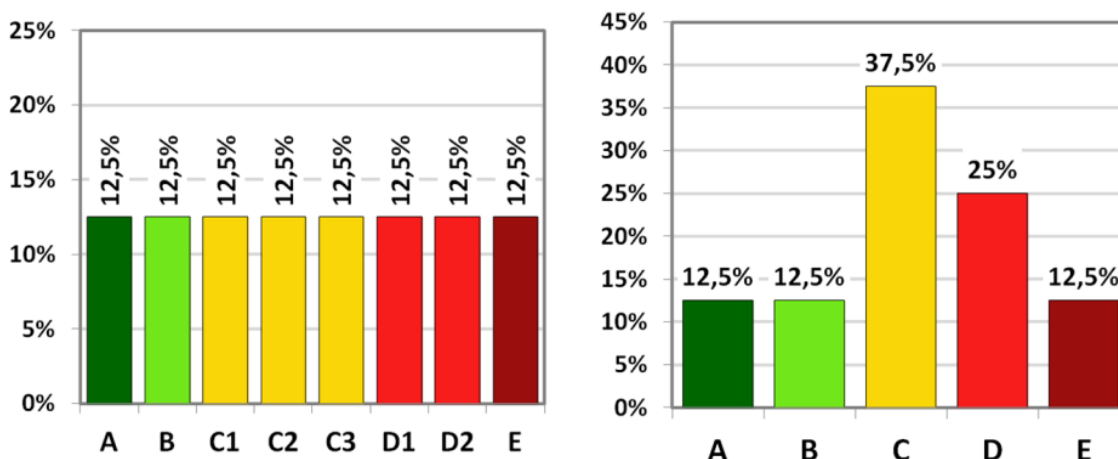
Exact calculation formula for the socio-economic score with particular numerical parameters valid for calendar year 2024 can be found in Appendix 2 of this document.

ABCDE classification by Nielsen Admosphere is finally defined as a categorisation of household socio-economic score. It consists of 8 categories **A, B, C1, C2, C3, D1, D2 and E** which are defined as **socio-economic score octiles** of all household population in Czech Republic. Setting of the octiles' thresholds was carried out on the same representative sample used for the multiplicative score normalisation.

Particular numeric thresholds for the socio-economic score defining 8 categories ABCDE are can be found in Appendix 2 of this document.

The following two charts present the individual ABCDE categories representation (in detailed division and in aggregation to 5 super-groups A, B, C, D and E) in the population of all Czech households. Thanks to very low "granularity" of the score, the actual percentages achieved differ from the ideal 12.5 % only by hundredths of %.

Constant size of ABCDE categories over time is achieved through regular annual re-calibration of the thresholds for socio-economic score, reflecting annual shifts in Czech population structure (according to Czech Statistical Office and Establishment Survey of TAM project). Thus for each calendar year a new set of thresholds is always released. The thresholds contained in the Appendix 2 of this document are valid for calendar year 2024.

Once in a while (last time it happened in 2022) **the entire regression model of the socioeconomic score is fitted again**, on which the ABCDE classification is based, i.e. update the numerical parameters of the score definition, possibly even minor changes in the input data.

4. Description of ABCDE categories

The following table shows the basic characteristics of the ABCDE categories in terms of education and professional status of the head of the household (using the same ES sample that was used for the annual calibration). We see, for example, that category "A" is mostly made up of households headed by university graduates working as entrepreneurs or managers. Households in the middle category "C" (C1 + C2 + C3) still mostly have a working head, but they are typically employee without subordinates with secondary education. Households classified in the lowest categories D2 and E, on the other hand, are overwhelmingly households of retired or unemployed heads.

ABCDE category	Households % in population	Socio-economic score			Household head:			
		Mean	From	To	Economic active	Manager, entrepreneur (incl. self-employed)	≥ full secondary education	≥ bachelor degree
A	12.5%	1.582	1.393		100%	78%	96%	71%
B	12.5%	1.302	1.222	1.393	99%	56%	88%	43%
C1	12.5%	1.159	1.098	1.222	96%	39%	72%	27%
C2	12.5%	1.041	0.983	1.098	91%	21%	60%	18%
C3	12.5%	0.927	0.867	0.983	80%	12%	50%	12%
D1	12.5%	0.805	0.733	0.867	51%	4%	41%	11%
D2	12.5%	0.658	0.590	0.733	10%	0%	37%	3%
E	12.5%	0.526		0.590	1%	0%	11%	1%

5. Usage instructions and tips

Information and advises for work with ABCDE classification and household socio-economic score:

- **Socio-economic score average** on the population of all Czech households is equal to 1. Higher the score value is, higher is the socio-economic status of the household.

- Socio-economic score can be used for **target group creation** – socio-economic classes (layers). It is always necessary to set score thresholds and to check the size of the created TG and in case of need to adjust these thresholds to assure the required size of the TG.

- It is possible to work **even in quantitative** way with the socio-economic score, i.e. calculate its averages in specific groups etc. (similarly as with variables „household size" or „monthly income").

- It is also possible to transfer the ABCDE classification **from the household level to the individual level.** However, the uniform distribution of 8 ABCDE categories within the household population does not imply a uniform distribution within the individual population.

- ABCDE classification does not bring information on the size of "social classes" in the society but it defines owns categories as **socio-economic layers of the prescribed size.** Neither it brings information on society development over time but it grants only cross-section society diversification.

- Uniform distribution of the 8 ABCDE categories among Czech households does not imply uniform distribution of these ABCDE categories calculated on any survey data. The most frequent reasons are:
  - The survey is conducted on **different target group** than all Czech households (e.g. individuals 12-79 years, internet households' population etc.).

- o The survey is not **representative enough** on actual Czech household population. The reason can be insufficient usage of quota or weighting or weighting universes which do not correspond to the actual Czech population structure. Representativeness with respect to age and education of household members and household size is crucial.

- o **Interviewing situation or any question formulation** that are source for ABCDE classification entry are not in conformity with the recommended questionnaire (see Appendix 1) or the answers are otherwise affected.

- o On the finite sample, in spite of its representativeness with respect to the usual socio-demographic variables, due to **statistical error**, differences occur in the other variables entering the ABCDE classification. Thus little differences from the ideal uniform distribution of households over ABCDE categories can occur (the smaller the sample, the bigger differences).

Instructions for presentation of results of ABCDE classification:

- If there is a risk of confusion with other ABCDE classifications, there should be stated that the **ABCDE socio-economic classification by Nielsen Admosphere is used**.

- It is also possible to **refer to this material** or its new future editions. Reference to this document: **Nielsen Admosphere (2023):** *ABCDE Socio-economic classification – Specification 2024*. **Prague: Nielsen Admosphere, a.s.**

- When needed, it is possible to use wording equivalents of ABCDE 5 super-groups marked in letters: **A = upper class, B = upper middle class, C = middle class, D = lower middle class, E = lower class**.

- Names of extreme categories A and E can be extended by words "highest" and "lowest" to extended labels „**A – highest"** and „**E – lowest"** when needed to emphasize the scale orientation.

- It is also possible to use **short names of „one-sided" socio-economic layers** of the society. Similarly it is also possible to name classes limited from both sides e.g. BCD or C23D1.

Label	A	B	C1	C2	C3	D1	D2	E	Label
A	←	→	→	→	→	→	→	→	BCDE
AB	←	←	→	→	→	→	→	→	CDE
ABC1	←	←	←	→	→	→	→	→	C23DE
ABC12	←	←	←	←	→	→	→	→	C3DE
ABC	←	←	←	←	←	→	→	→	DE
ABCD1	←	←	←	←	←	←	→	→	D2E
ABCD	←	←	←	←	←	←	←	→	E

- If it is stated how many percent of regular viewers, readers or visitors of any media title belongs to e.g. class ABC, then it should be ideally also stated the same percentage within the basic population (depending on particular survey). Only from that it can be deduced to which extent is such medium **affinitive to higher socio-economic classes**.

In case of any doubts regarding the calculation of socio-economic score or ABCDE classification or interpretation of the result (even after careful reading of this material) **please refer to Nielsen Admosphere, a.s.** We will appreciate any comments or suggestions to these variables as well.

Appendix 1 - Questionnaire template

Household is formed by persons that actually and permanently live in one apartment or family house. Household members are even persons temporarily absent as students in collage or boarding school, persons commuting to work etc., that are regularly coming back. Vice versa household does not include persons with registered permanent residence however living elsewhere.

Household head is a person procuring the biggest part of household's financial income.

How many members has your household (including you)?			*number*	cnt_all
How many members aged 0-18 years (incl.) has your household?			*number*	cnt_0_18
In which region does your household live?	Prague capital	**1**		region
	Central Bohemian region	**2**		
	Southern Bohemian region	**3**		
	Plzeň region	**4**		
	Karlovy Vary region	**5**		
	Ústí nad Labem region	**6**		
	Liberec region	**7**		
	Hradec Králové region	**8**		
	Pardubice region	**9**		
	Vysočina region	**10**		
	Southern Moravian region	**11**		
	Olomouc region	**12**		
	Zlín region	**13**		
	Moravian-Silesian region	**14**		
What is the highest completed education of the head of your household?	Primary (completed or not), no education	**1**		education
	Vocational secondary education	**2**		
	Full secondary education	**3**		
	Higher vocational, bachelor's degree	**4**		
	University master's degree and higher	**5**		
What is the current professional status of the head of your household?	*Economically inactive*	Unemployed	**1**	work_status
		Student, housewife, maternity leave etc.	**2**	
		Non-working pensioner	**3**	
	Economically active	Employee without subordinates	**4**	
		Employee – lower manager (1-5 subordinates)	**5**	
		Employee – higher manager (6+ subordinates)	**6**	
		Entrepreneur without employees (self-employed)	**7**	
		Entrepreneur with employees	**8**	
How many economically active (working) members are there in your household?			*number*	cnt_econ
Which of the following items are owned by your household?	Car under 10 years (including company car for personal use)	**0**	**1**	car10
	Cottage, country house	**0**	**1**	cottage
	Internet connection at home	**0**	**1**	internet
	Electric drill	**0**	**1**	drill
	Dishwasher	**0**	**1**	dish

Appendix 2 - Calculation for year 2024

Here the exact socioeconomic score calculation and deriving the ABCDE classification valid for the calendar year 2024 is described in the form of quasi SPSS syntax. **The input variables** are highlighted in **green** in the syntax and their meaning is explained by the questionnaire template in Appendix 1. The calculated variables **score** and **ABCDE** are then highlighted in **red**. The coefficients updated for year 2024 are highlighted in <mark>yellow</mark>.

```
if (work_status = 1) score := -7885.
if (work_status = 2) score := -965.
if (work_status = 3) score := -1472.
if (work_status = 4) score := 0.
if (work_status = 5) score := 2627.
if (work_status = 6) score := 7373.
if (work_status = 7) score := 8942.
if (work_status = 8) score := 11156.

score := score + 6853 + 10096*(cnt_all - cnt_0_18) + 1485*cnt_0_18 + 7516*cnt_econ.
score := score + 4143*car10 + 3763*dish + 1601*cottage + 1488*drill + 1185*internet.
score := score / (13000 + 13000*(cnt_all - cnt_0_18) + 6500*cnt_0_18) * 0.9997.

if (education = 1) score := score * 0.8652.
if (education = 2) score := score * 0.8948.
if (education = 3) score := score * 0.9881.
if (education = 4) score := score * 1.0626.
if (education = 5) score := score * 1.1827.

if (region = 1) score := score * 1.0618.
if (region = 2) score := score * 1.0035.
if (region = 3) score := score * 0.9746.
if (region = 4) score := score * 0.9862.
if (region = 5) score := score * 0.9621.
if (region = 6) score := score * 0.9792.
if (region = 7) score := score * 0.9761.
if (region = 8) score := score * 0.9840.
if (region = 9) score := score * 0.9687.
if (region = 10) score := score * 0.977.
if (region = 11) score := score * 0.9943.
if (region = 12) score := score * 0.9720.
if (region = 13) score := score * 0.9688.
if (region = 14) score := score * 0.9709.

ABCDE := 8.
if (score > 0.59006) ABCDE = 7.
if (score > 0.73266) ABCDE = 6.
if (score > 0.86722) ABCDE = 5.
if (score > 0.98343) ABCDE = 4.
if (score > 1.09797) ABCDE = 3.
if (score > 1.22170) ABCDE = 2.
if (score > 1.39312) ABCDE = 1.

variable label score "Socio-economic score of household".
variable label ABCDE "ABCDE classification".
value labels ABCDE
 1 "A"
 2 "B"
 3 "C1"
 4 "C2"
 5 "C3"
 6 "D1"
 7 "D2"
 8 "E".
```

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