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SOME APECTS OF REGIONAL DEMOGRAPHY

All sources of common demographic statistics and results of special sample surveys are considered sources of demographic data. Sources of demographic data provide data for an analysis of demographic reproduction and for an evaluation of demographic shifts concerning the shifts in social and economic sector. The most relevant sources are as follows: population and housing census; an evidence of natural , migration evidence, property evidence, population registers, sample surveys and historic sources. Population census is a reflection of an immediate condition of the population i.e. description of its structure according to various features (e.g. age, education and nationality structures, religion affiliation and economic activity of population, work and school commuting). Census provides complete data of non-working and un-registered at job centres and dependent people. Main advantage of demographic, social and economic surveys in the census is a profound analysis of this problem on the grounds of combined selection with other personal features. The up-to-date quality of the data decreases fairly quickly from the moment of the census. The results of the census are pulished in the volumes of the Czech Statistical Office (CSO). Ordinary register of a populational migration reflects mainly the processes of natural reproduction and migration. For the register of populational migration there is a set of registrars where there are defined in a chronologic order all the birth, nuptial and death data for area units. Registrar Offices in particular municipalities are in charge of them. District courts register the divorce rates; particular health institutions register the abortion rates. A main source of integral migration is the register of permanent addresses. Abstracts are worked up statistically only when compiled from the registrars. For this purpose there are specific forms designed by special regulations.

The data from the register of vital statistics and migration are registered in resources of national statistics in volumes 'Populational migration'. The Health Department publishes data on illnesses, death causes and abortions as well.

All analytic and elemental data are considered to be demographic indicators. Elemental demographic data are obtained mainly from the census outcomes and a register of vital statistics and migration. Most used data are: total population census, number of people according to age units or age groups, mean age groups (number of people to July 1 of the census year), absolute nuptiality, divorce, live birth, still birth, total death rate, number of deaths by the first year and twenty eight days of their life, natural gain (difference between live births and dead in total), number of migrants, gain (loss) caused by migration and a total gain. These absolute figures are related and used for the calculating the analytic data or relative data which are according to the way of a calculation called rational figures extensive, intensit and comparative. CSO publishes basic charts of two ways of migration. Charts with absolute data that consist most of the used basic data and charts with relative data of migration. In relative data charts are the most used relative figures intensit (crude rate, quocients) and rational figures comparative (ratios).

Crude rates – the principle of the crude rate construction is the relation between the monitored event and the mean age group. There arises the first problem. The legend of the charts of populational migration says they are '*relative figures per 1000 inhabitants*'. In fact, these are 'relative figures per 1000 inhabitants of mean population'. When calculating crude rates (which applies to all indicators) is inevitable to bear on mind the principle of adequate construct of an indicator according to its definition. Therefore it is incorrect to use in a numerator e.g. number of people to 1 January of that year, to a year end etc. For instance, 'the crude birth rate' which shows the number of live births per 1000 people of a mean age group in a year. Crude rates are generally most used relative indicator for the populational characteristics in territorial units (e.g. municipal, town and regional internet websites, development programmes). Crude rates are rather restricted by their validity as they are determined by the age structure and could be rather inaccurate in the intensity of the sampled process. They just provide basic general information on population. When analysing the crude rates we must be careful and not to miscalculate. Basic crude rates are: crude nuptiality, divorce, birth, abortion and mortality rates, natural increase, immigration, emigration, migration balance and total population increase.

Quotients – differ from statistics by the denominator figures defined directly as exposed set where the effects in the nominator could apply. Infant mortality quotient is the most used one; it refers to the number of people who die within a year of their life per 1000 live born in a particular year. It is applied in an international comparison as well.

Ratios – divorce ratio is the most frequent ratio which refers to the number of divorces per 100 marriages in a given year. Ratio divorce is easy to misinterpret

when ignoring the construction of the indicator. For a start, the divorce ratio compares figures which has partly (for a longer period than a year) or nothing at all (for a calendar year) in common. For instance the relation between a divorce and nuptuality ratio in 2003 is misinterpreted when saying that a certain percentage out of total marriages ends up in divorce. Note: *in the Czech Republic the Family Act 1998 forbids divorces within the first year of marriage*. Further, when interpreting the time sequences of ratios it is essential to consider the development in particular indicators separately. We can't specify merely on the grounds of a divorce ratio increase a divorce increase and vice versa. The ratio figure can increase even though a divorce rate dropped – in a current rapid nuptuality decrease. For instance: in 1997 the ratio for ČR was 56.2% and a crude nuptuality rate was 5.6 per mille, a crude divorce rate was 3.2 per mille. In 2002 the ratio was 60.2% for a nuptuality rate 5.2 per mille and divorce rate 3.1 per mille.

Age figures enables to calculate the ratio of the burden of productive population. 'Economic burden ratio' gives the ratio between the 0-14 years old children and 60+ people per 100 persons at the age 15-59. 'Dependency ratio I' gives the number of children 0-14 per 100 persons at the age 15-59. Dependency ratio II gives the number of 60+ people per 100 persons at the age 15-59.

For a detailed analysis of some vital events is convenient to use a crude ratio merely as an additional one and for the respective profound analysis use other indicators. Apparently, it is essential to have data for a territorial units which we analyse. For a common publication of demographic, social and economic statistics is applied a rule which says the lower the analysed unit is the bigger the problem for obtaining detailed data is.

As mentioned above the crude rate is the most used indicator. However, this rate has its own limits due to a disturbing age structure effect. Take for example the analysis of a natural reproduction where the crude fertility rate and crude mortality rate are used for two elemental factors of this process. More appropriate indicator for an activity analysis seems to be 'total fertility' in case of fertility rate and in case of mortality a 'life expectancy at birth'. Total fertility shows, in a nutshell, an average number of live born children to one woman within her reproduction period. Life expectancy at birth (or mean life expectancy) gives an average number of years per one infant in population. Total fertility and life expectancy are indicators applied in international surveys as well. Adequacy of these indicators in detailed analysis is apparent in fertility figures for the Ústí region and the Czech Republic. In comparison of the data in these two area units we can see the crude birth ratio in the region was higher than in the CR in the 1990s. This fact could mislead us to an interpretation that the birth rate in the region was above the national average all the 1990s. However, when considering the total fertility rate we come to different conclusions. The problem is that we must consider the young age structure in the Ústí region which is (in a given fertility activity according to age) affects an increase in crude birth ratio. Only when applying the total fertility

indicator we can see the real birth level (which was in fact lower in the region in the first half 1990s).

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WYBRANE ASPEKTY DEMOGRAFII REGIONALNEJ

Streszczenie

Artykuł skupia się na wybranych aspektach demografii regionalnej, głównie na źródłach danych i wskaźnikach stosowanych w demograficznych analizach regionalnych. Uwzględnia budowę i interpretację wybranych wskaźników demograficznych.

VYBRANÉ ASPEKTY REGIONÁLNÍ DEMOGRAFIE

Anotace

Příspěvek se zaměřuje na vybrané aspekty regionální demografie, a to zejména na zdroje dat a na používané ukazatele při regionální demografické analýze. Dále se věnuje problematice konstrukce a interpretace vybraných demografických ukazatelů.

AUSGEWÄHLTE ASPEKTE DER REGIONALEN DEMOGRAPHIE

Zusammenfassung

Der Artikel konzentriert sich auf die ausgewählten Aspekte der regionalen Demographie, hauptsächlich auf die Quellen der Daten und die in den demographischen Analysen angewandten Quoten. Er berücksichtigt die Zusammenstellung und die Interpretation der ausgewählten demographischen Quoten.