

# THE NATURAL POPULATION CHANGE IN THE CZECH LANDS IN THE YEARS 1914–1918\*

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In June 2005 the *Czech Statistical Office* published, for the first time, reconstructed data on the natural population change in the Czech Lands in the years 1914–1918<sup>1)</sup>. These data were not analysed until after the Second World War by the State Statistical Office (SSO), and they long remained just in holographic tables.

The basic data on population change in 1914–1918 is based on the processing of quarterly reports from official registers of vital events (they do not include data from military registers). After the founding of Czechoslovakia, the only data published were on the total number of marriages, live-born and stillborn births, deaths, and the natural population increase for the Czech Lands<sup>2)</sup>, evidently drawn from schedules from district authorities. The SSO only began processing the first reports after the Second World War. By that time the majority of the records from 1914–1918 had been lost. Employees at the SSO therefore analysed the remaining fragments, and then they multiplied the resulting tables (i.e. the determined internal structure of the data sets on births, deaths, and marriages) by coefficients that produced values corresponding to well-known summary data. The resulting data apply to the natural change of the civil population present in the Lands of the Czech Crown, but not including the Region of Český Těšín, for which there are no data available for the war years.

The coefficient values (in the range of 3,86–22,96) show that only a very small portion of the original records survived. In addition, today it is no longer possible to ascertain which specific areas the surviving data came from, or whether they came from the same areas for the entire 1914–1918 period, and whether all three data files are from the same source. There are also no available data on the population structure by age, religion, or marital status in 1914–1918, which makes it impossible to calculate a number of indicators that are essential for a comprehensive analysis of population development. The text below consequently presents only a summary of the basic findings that stem from the published data. While the total absolute numbers are based on provisional data and are thus reliable, the other data must be regarded as a reconstruction.

### Marriages

In 1914, there were 58.5 thousand marriages in the Czech Lands and the crude marriage rate reached 5.9‰. From then to 1916 the marriage rate fell relatively quickly (to 3.3‰), which was followed by an increase again (to 5.7‰ in 1918). In Moravia and Silesia, in 1918 there were even 15% more marriages than in 1914. Even despite this very dynamic development, the seasonal variability in the marriage rate remained evident (Figure 1). People entered into marriage mainly in February and November, the minimum total marriages each year occurred in March and December. The collection of data on the occurrence of a wedding was thus still considerably influenced by events in the church and agricultural calendars.

Most women married between the ages of 22 and 23. The decline in the number of marriages in 1914–1916 was manifested in a decrease in the number of brides from all age categories, especially brides aged 20 and under. The subsequent rise in the number of marriages was notable primarily among women aged 25–29. Between 1914 and 1918 the average age of brides increased slightly from 25.9 to 26.7 years. Throughout the war period grooms were most often aged 24–25. However, until 1918 the proportion of grooms from this age group decreased, while the proportion of men who married by age 22 and the proportion of grooms over the age of 30 both increased.

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<sup>1)</sup> *Přirozená měna obyvatelstva v zemích Koruny české v letech 1. světové války 1914–1918*. (Natural Population Change in the Czech Lands during the First World War 1914–1918) Prague: ČSÚ, Obyvatelstvo, volby, 2005, 324 p. Accessible at: <http://www.czso.cz/csu/edicniplan.nsf/p/4016-05>.

<sup>2)</sup> *Předběžné výsledky měny obyvatelstva v Čechách, na Moravě a v Opavsku za válečná léta 1914–1918* (Provisional Findings on Population Change in Bohemia, Moravia, and the Opava Region during the War Years of 1914–1918). In *Zprávy Státního úřadu statistického Republiky československé*, Prague, 1920, no. 6, p. 41–48.

Table 1 Selected indicators of natural population change in the Czech Lands, 1914–1918

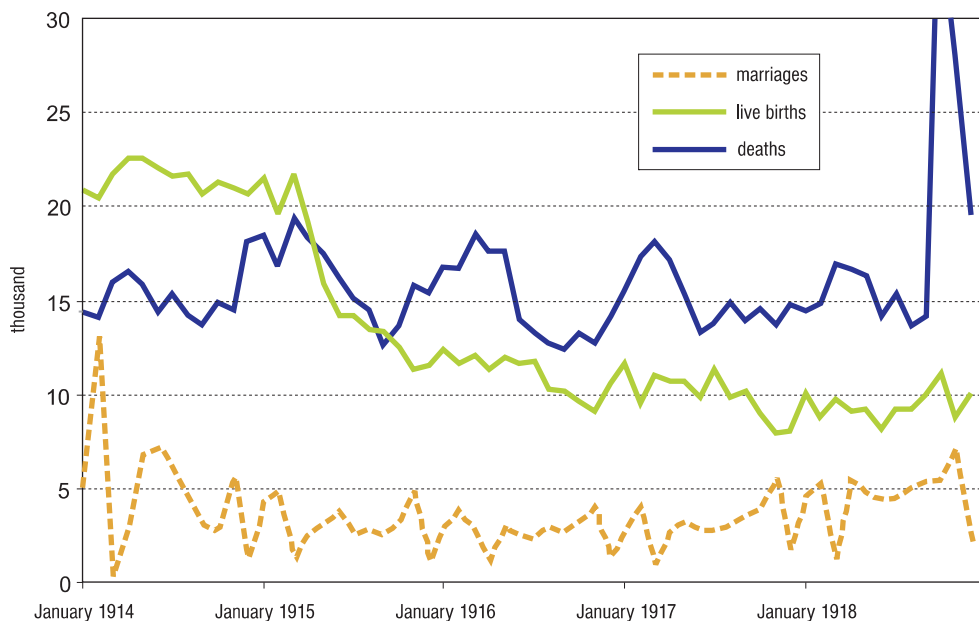
Indicator		1914	1915	1916	1917	1918
Mid-year population*		9 900 178	9 900 627	9 837 358	9 745 552	9 624 230
Marriages		58 552	37 188	32 726	37 354	55 242
<b>Crude nuptiality rate</b>		<b>5.9</b>	<b>3.8</b>	<b>3.3</b>	<b>3.8</b>	<b>5.7</b>
Births	Total	264 438	193 803	136 717	123 407	116 820
	Live births	257 265	188 657	132 818	119 938	113 489
	Stillbirths	7 173	5 146	3 899	3 469	3 331
	Inside marriage	234 882	173 531	120 534	108 414	101 067
	Outside marriage	29 556	20 272	16 183	14 993	15 753
	<b>Outside marriage, %</b>	<b>11.2</b>	<b>10.5</b>	<b>11.8</b>	<b>12.1</b>	<b>13.5</b>
	<b>Total birth rate</b>	<b>26.7</b>	<b>19.6</b>	<b>13.9</b>	<b>12.7</b>	<b>12.1</b>
	<b>Late foetal mortality rate</b>	<b>2.79</b>	<b>2.73</b>	<b>2.94</b>	<b>2.89</b>	<b>2.94</b>
Deaths	Total	181 981	193 900	179 796	182 554	227 729
	Men**	93 288	101 860	88 911	89 242	111 962
	Women**	88 693	92 040	90 885	93 312	115 767
	Deaths to 1 year	46 142	40 673	25 185	21 764	22 029
	<b>Crude death rate</b>	<b>18.4</b>	<b>19.6</b>	<b>18.3</b>	<b>18.7</b>	<b>23.7</b>
	<b>Infant mortality</b>	<b>178.1</b>	<b>192.3</b>	<b>166.3</b>	<b>175.2</b>	<b>190.5</b>
Natural increase		75 284	-5 243	-46 978	-62 616	-114 240
<b>Crude rate of natural increase</b>		<b>7.6</b>	<b>-0.5</b>	<b>-4.8</b>	<b>-6.4</b>	<b>-11.9</b>

Note: \*Demografická příručka 2004. Prague: ČSÚ, 2004.

\*\*The higher number of deceased women than men in the years 1916–1918 is a result of the fact that data are based only on civil registration records.

These do not include men killed in battle, who are registered in the military registers.

Figure 1 Monthly aggregates of marriages, births and deaths in the Czech Lands, 1914–1918



**Table 2 Marriages by marital status of groom and bride in the Czech Lands, 1918, in %**

Grooms	Brides			
	Total	Single	Divorced	Widowed
<b>Total</b>	<b>100.00</b>	<b>92.06</b>	<b>0.01</b>	<b>7.93</b>
Single	84.95	81.73	0.01	3.21
Divorced	0.08	0.07	-	0.01
Widowed	14.97	10.26	-	4.71

The absolute majority of brides were single at the time of marriage; the proportion of widows hovered around 6–9% (Table 2). In Moravia and Silesia, the percentage of widows among brides is always slightly higher than in Bohemia and divorced women make up a negligible percentage. There were more grooms who were widowers, at a percentage of around 12–17%, and as in the case of brides the figure was slightly higher in Moravia and Silesia than in Bohemia. Over four-fifths of marriages were concluded between single people. Widowers primarily re-married with single women, approximately twice as often as with widows. However, widows more often re-married with widowers than with single men.

### Births

The total number of children born in the Czech Lands in the years 1914–1918 decreased intensively. During this period the number fell by more than one-half, and the crude birth rate fell from 26.7‰ to 12.1‰. When the First World War broke out in 1914, it resulted in a sharp decline in the number of births during 1915 (Figure 1). In January of that year a total of 21.5 thousand children were live born, but by January 1916 only 12.4 thousand, which constitutes a decrease of 42%. The decrease in the number of births continued in the following two years, although at a much more moderate tempo. The relatively largest decrease in the number of children born in 1914–1918 occurred among women up to the age of 19 (by 70%), and while in the other age groups the decrease was more moderate, it still exceeded 50%. These developments occurred with roughly equal intensity in Bohemia and in Moravia and Silesia.

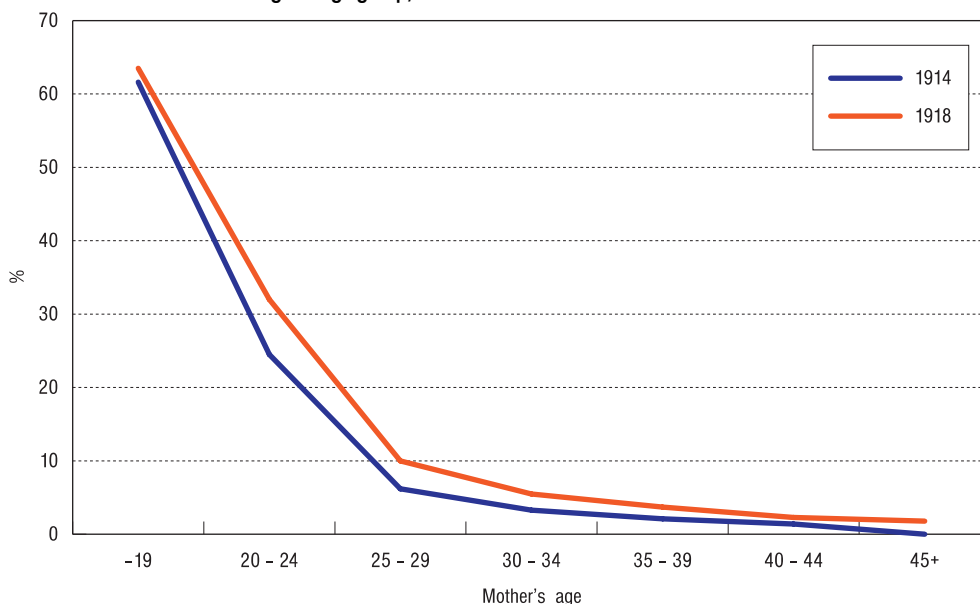
During the observed period there was a slight increase in the relative number of stillborn children. Late foetal mortality increased from 2.79 in 1914 to 2.94 in 1918, wherein there was usually relatively more late foetal mortality in individual months in Bohemia than in Moravia and Silesia. There were considerable differences in the internal structure of the data set on late foetal mortality, with a notably larger increase in the number of late foetal deaths of boys than girls. There was also a positive correlation between the percentage of late foetal deaths and the age of the mother. Finally, the legitimacy of a child also had a significant effect on late foetal deaths, especially in 1915–1916, when the percentage of late foetal deaths among illegitimate births was roughly twice as high as among legitimate births.

The percentage of illegitimate children out of the total number of children increased after the year 1916. In 1914, 11.2% of children born in the Czech Lands were illegitimate, and by 1918 the figure was 13.5%; in Moravia and Silesia the increase was more pronounced. The percentage of illegitimate births was closely correlated with the age of the mother (Figure 2). Out of all the children born in 1914–1918 to mothers under the age of 20, more than 60% were illegitimate. This figure decreased as the age of the mother increased, especially at 25–29 years of age. In a comparison with the year 1914, in 1918 the proportion of illegitimate children was higher in all five age groups of mothers.

Married couples most often had children within the first year of marriage, and as the duration of the marriage grew the number of births decreased. In 1914 almost one-half of children were born during the first five years of the parents' marriage. By 1917 this percentage decreased to 40.6% in connection with the decreasing number of marriages, and in 1918 it increased by one percentage point. The percentage of children born after the longest interval between the marriage and the first birth thus grew, except in 1918. In Moravia and Silesia the average interval between marriage and the first birth was higher throughout the 1914–1918 period than in Bohemia, and in especially after 10–19 years of marriage more children were born Moravia and Silesia.

### Deaths

During the First World War there was a temporary halt to the long-term trend of a declining death rate, which had been under way in the Czech Lands since the last quarter of the 19th century. In 1914–1917 the crude death rate ranged between 18.3‰ and 19.6‰, but in 1918 it grew sharply to 23.7‰. In the autumn of 1918 all of Europe was struck by a pandemic of the Spanish flu, which caused the deaths of ten million people (according to some estimates maybe even 20–40 million). The Spanish flu hit the Czech Lands in October. While in the previous four years there were 13.2–14.6 thousand deaths in

**Figure 2** Share of children born out of wedlock by mother's age in the Czech Land, 1914–1918 (100% = total number of children born to mothers in the given age group)

October, in that same month in 1918 there were 43.3 thousand deaths, and 28.1 thousand in November. With the exception of that year, the highest number of deaths always occurred at the start of spring, and the fewest deaths usually occurred at the end of the summer.

Approximately one-sixth to one-fifth of live-born children in 1914–1918 did not survive to their first birthday. However, more than one-quarter of illegitimate children under the age of one died, as these children often lived in considerably poorer conditions or were left as foundlings. The highest infant mortality rate (adjusted using the so-called Rahts formula) was in 1915, when 192‰ of children died during the first year of life. The main reason was the considerable increase in the infant mortality rate in Moravia and Silesia, especially among illegitimate children, for which the rate in that year reached 361‰.

Primarily owing to the high infant mortality rate the largest group of deaths was among children aged 0–4 years. In the first two war years these accounted for more than 30% of the total number of deaths. By 1918 the effect of the low birth rate reduced the proportion of children under the age of 5 to 14% of all deaths. Conversely, each year the number (and except for 1918 also the percentage) of deaths among people over the age of 60 increased. According to the available data, in the other age groups there were no pronounced changes until 1918, when a sharp increase in the number of deaths did occur, especially in the 15–40 age group. This was caused by the flu pandemic, which primarily took the lives of people in this age group.

The most frequent cause of death was epidemic and infectious diseases, with a large majority succumbing to pulmonary tuberculosis. In 1914 epidemic and infectious diseases were the source of roughly every fifth death and that proportion gradually increased. In 1918, owing to the Spanish flu, these diseases were the source of almost one-third of deaths. Around 15% of the deaths were caused by respiratory diseases (more than one-half by lung infections), which in the observed period was the second or third most frequent cause of death.

Among the people who died after reaching the age of 60, old age was often indicated as the cause of death: 35% of deaths among people over 60 and three-quarters of people over 80 were assigned to old age. In conformity with the development of the mortality structure by age in 1914–1917 the percentage of this alleged cause of death increased from 13.3% to 19.3%. In 1914 a relatively significant percentage of deaths were due to diseases of the digestive tract. It was primarily children under the age of one year who died of these diseases, and the specific causes cited were mainly diarrhoea and enteritis. Most often people aged 15–39 were among the victims of epidemics and infections, but these diseases also became

**Table 3 Structure of deaths by death causes in the Czech Lands, 1914–1918, in %**

Causes of deaths	1914	1915	1916	1917	1918
I. Epidemic and infectious diseases	20.1	23.0	24.8	24.0	32.3
II. Overall diseases not included above	7.3	6.1	6.9	6.5	5.6
III. Diseases of the nervous system and sense organs	8.6	11.4	10.4	9.9	6.9
IV. Diseases of the circulatory system	8.1	7.9	9.2	9.5	8.0
V. Diseases of the respiratory system	15.5	15.8	13.7	13.0	17.0
VI. Diseases of the digestive system	12.1	9.7	7.4	8.2	4.9
VII. Non-venereal diseases of the urogenital system and adnexa	2.4	2.3	2.9	2.6	2.3
VIII. Puerperal diseases	0.4	0.3	0.3	0.2	0.3
IX., X. Diseases of the skin, subcutaneous tissue and skeletal system	0.7	0.7	0.5	0.5	0.5
XI., XII. Early age diseases and congenital abnormalities	6.8	4.6	3.7	3.2	2.9
XIII. Old age	13.3	14.1	16.7	19.3	16.0
XIV. External causes	3.7	3.6	2.7	2.4	2.5
XV. Diseases incorrectly defined	0.9	0.6	0.7	0.7	0.9
Total	100.0	100.0	100.0	100.0	100.0

the dominant group of causes of death in the 1–4 age group. However, while among infectious diseases adults succumbed almost exclusively to tuberculosis, among children the measles and whooping cough were very widespread.

In 1914–1918 there was a substantial decrease in the number of suicides, from 3000 a year in 1914 (1.7% of the total number of deaths) to 1.6 thousand in 1918 (0.7% of all deaths). There was a roughly 50% decrease in the number of suicides among men, while the suicides among women decreased somewhat, by around one-third. In 1914, 77% of the total number of suicides were men, and in 1918 the figure was 71%. Suicide was most often committed by people over the age of 40. But from the perspective of the structure of the mortality rate by cause of death, suicides were more significant among the deaths in the 15–29 age group. More than one-half of all suicides were committed by hanging or asphyxiation, and relatively frequent causes were drowning or shooting. There were differences between men and women in the method of suicide chosen. Men more often chose hanging or shooting, and among women drowning was much more common.

The sharp decrease in the fertility rate during the First World War, together with the increase in the mortality rate in 1918, resulted in a substantial population decrease in the Czech Lands. In 1914 the natural increase was still positive and at a value of 75.3 thousand people. After 1915 a rapid decrease occurred, more intensively so in Bohemia than in Moravia and Silesia. After 1915 the population change was negative in almost every month of the observed period, and only in September 1915 was there around 700 more births than deaths. During 1918 there was a natural population decrease of 114 thousand. A comparable decrease was only recorded once in the history of the statistical observation population change (since 1785), and that was in 1806, when the country was struck by a small pox epidemic.

Between 1785 and the 1990s, the First World War was the only multi-year period in which there was a natural population decrease. According to the calculations of *Vladimír Srb*, the war in the Czech Lands prevented the birth of 550 thousand children, 300 thousand men died in the war, and another 60 thousand people died as a result of the war<sup>3)</sup>. Through the decline in the fertility rate the war undermined what to that time had been the regular age structure of the population, and it left a deep several-year gash in the population structure, evidence of which could still be traced at the start of the 21st century.

The data analysed on population change in 1914–1918 were categorised in detail from various perspectives in the published tables. However, the reduced informative capacity of these data, the reasons for which were explained in the opening of this text, and the absence of more detailed data on the state of the population means that they are of limited use. However, within their capacity the published tables filled a substantial gap that existed in the over two centuries of time series in Czech demographic statistics.

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