

Data sources

This file provides the metadata related to the data sources used for the Czech Republic in the Human Multiple Births Database (<https://www.twinbirths.org/en/data-metadata/>).

Summary

Data from 1919 to 2020:

Source: Czech Statistical Office

Coverage and completeness:

- Data from 1938 until 1946 exclude certain regions and population subgroups, as there are variations in data coverage associated with World War II. In addition, substantial, unregistered migration during the post-war era (until 1949) may bias figures on births in the official statistics.
- Since 1950, data include not only citizens of the Czech Republic (or former Czechoslovakia), but all persons who are registered as permanent residents in the country. Since 2004, data also include temporary residents, people with a long-term residence permit, and citizens of most European countries, as well as foreigners with valid asylum in the Czech Republic. Vital events (marriages, births, and deaths) occurred abroad concerning Czech citizens with permanent residence in the Czech Republic are also included.

Treatment of births by vitality:

- Birth statistics by plurality published by the Czech Statistical Office include the total number of registered births (live births and stillbirths). Thus, the plurality of a delivery is determined according to the number of children born, regardless of vitality at birth, as long as they can be considered either live-born or stillborn according to the corresponding definitions in use. There have been various changes in the definition of live births and stillbirths during the period covered by the data.

Detailed metadata by source

Source 1: Czech Statistical Office

References	<p>Data from 1919 to 1929: Czech Statistical Office. "Population Movement in the Czechoslovak Republic (Czechoslovak Socialist Republic, Czech Socialist Republic, Czech and Slovak Federal Republic, Czech Republic)" for the relevant year, Available online: https://www.czso.cz/csu/czso/casova_rada_demografie_1929_1919 Accessed: 05/07/2021</p> <p>Data from 1930 to 1949: Czech Statistical Office. "Population Movement in the Czechoslovak Republic (Czechoslovak Socialist Republic, Czech Socialist Republic, Czech and Slovak Federal Republic, Czech Republic)" for the relevant year, Available online: https://www.czso.cz/csu/czso/casova_rada_demografie_1949_1930 Accessed: 24/06/2021</p> <p>Data from 1950 to 2020: Czech Statistical Office. 2021. Czech Demographic Handbook - 2020, Table 6-16: "Births of multiples in the years 1950-2019" and Table 6-1a "Births by vitality, by sex, by marital status of mother: 1950–2020 (absolute figures)", available online: https://www.czso.cz/csu/czso/czech-demographic-handbook-2020 Accessed: 07/07/2022</p>
Period covered	1919-2020
Code in database	CZSO
Coverage and completeness¹	<p>Birth statistics published by the Czech Statistical Office include the total number of registered births (live births and stillbirths) on the basis of individual birth reports transmitted by the Registry Office. Births are classified according to place of residence of the mother at the time of delivery. Data do not include "births from undisclosed deliveries according to the Act No 20/1966 Sb, on Healthcare of People, as amended by the Act No 422/2004 Sb, and foundlings (mother is not identified)".</p> <p>Since 1950, population statistics published by the Czech statistics office include not only citizens of the Czech Republic (or former Czechoslovakia), but all persons who are registered as permanent residents in the Czech Republic. Since 1 May 2004, in connection with the accession of the Czech Republic to the European Union, all data relate to citizens of the Czech Republic and foreigners with permanent residence in the Czech Republic, third-country nationals with temporary residence in the Czech Republic or a long-term residence permit, and citizens of EU countries, Norway, Switzerland, Iceland, Liechtenstein and their family members with reported temporary residence in the Czech Republic and foreigners with valid asylum in the Czech Republic.</p>

¹ Information extracted from: CZSO. 2021. "Czech Demographic Handbook 2020" (<https://www.czso.cz/csu/czso/czech-demographic-handbook-2020> , accessed: 11/07/2022) and CZSO. 2021. "Population change – Methodology" (<https://www.czso.cz/csu/czso/population-change-methodology>, accessed: 11/07/2022).

	<p>Data also contain information on vital events (marriages, births, and deaths) occurred abroad concerning Czech citizens with permanent residence in the Czech Republic and registered by a special Registry Office abroad.</p> <p>Historical statistics available in electronic form from 1919 to 1949 (see References) contain exclusively data for the Czech regions (Bohemia and Moravia, and also Silesia from 1919 to 1937 and then from 1941 to 1949).</p> <p>Data from 1938 until 1946 exclude certain regions and population subgroups, as there were variations in data coverage because of World War II. As a result of the German occupation, data for the period 1938-1944 cover the population present in the "Czech lands without borders" (i.e., the Protectorate of Bohemia and Moravia), except the German population. Registration of German nationals (including their vital statistics) was transferred from the domestic registry service to special German registry offices (Standesbeamte). Later, as a result of the expulsion of the German population from the Czechoslovak Republic in 1945- 1947, vital statistics for those years concern only the population present in the Czech lands (Bohemia and Moravia, and Silesia), but excluding the German population. Concerning birth registration, this implies that data exclude children whose parents were of German nationality (or, only the mother, if they were illegitimate children). In addition, substantial, unregistered migration during the post-war era until 1949 may bias figures on births in the official statistics².</p> <p>According to the data source for the year 1945, it was very difficult to collect and process the material for that year. War prevailed over much of the Czech lands, the population was on the move, parish offices on the border were abandoned, and some registries were destroyed.</p>
Definitions and treatment of births by vitality	<p>Birth statistics by plurality published by the Czech Statistical Office include the total number of registered births (live births and stillbirths). Thus, the plurality of a delivery is determined according to the number of children born, regardless of vitality at birth, as long as they can be considered either live-born or stillborn according to the following definitions¹:</p> <p><u>Live births:</u></p> <p>Until 1948, the international definition of a live birth was in force in the Czech Republic, according to which a fetus showing signs of life (breathing or heartbeat) was considered a live birth, regardless of the length of gestation.</p> <p>From 1949 to 1952, according to the national definition, a fetus was considered a child (i.e., to be registered either as a live birth or a stillbirth, depending on vitality at birth) if it weighed at least 400 grams at birth. Vitality was determined by the signs of life at birth.</p> <p>From 1953 to 1964, a fetus having at least 28 weeks of gestation, measuring at least 35 cm long and weighing at least 1000 grams was considered a child for registration purposes (all three criteria had to be met). Fetuses not meeting all</p>

² Drbohlav, D. (2004). Migration Trends in Selected Applicant Countries. Volume II – The Czech Republic: The Times They Are A-Changing. Vienna: IOM, 146 p.

	<p>three criteria but surviving at least 24 hours after birth were also considered live births. In case of multiple births, only one fetus had to meet all three criteria, so that all fetuses from the same gestation could be considered children and hence be registered as born alive or still-born, depending on vitality at birth. As for vitality, determined at the moment of birth, the criterion was at least one breath.</p> <p>In the period from 1 January 1964 until 29 February 1988 the internationally recommended definitions were re-applied, according to which a live birth is the expulsion or extraction of a fetus from its mother (regardless of the length of gestation) provided that it breathes or shows other signs of life at birth, such as heartbeat, pulsation of the umbilical cord, or movement of voluntary muscles, even though the umbilical cord has not been cut or the placenta has not been delivered.</p> <p>From March 1 1988 until March 31 2012, the Decree No 11/1988 Sb of the Ministry of Health, on mandatory notifications of terminated pregnancies, death of a child, and death of the mother, was in force. It defined a live birth as: 1) a child who shows at least one sign of life (breathing, heartbeat, pulsation of the umbilical cord, or movement of voluntary muscles) and whose birth weight is 500 grams or more, or 2) a child whose birth weight is lower than 500 grams, provided that it survives at least 24 hours after delivery.</p> <p>On 1 April 2012, Decree No 11/1988 Sb was cancelled by Act No 372/2011 Sb. Currently, general definitions of live and still births are not contained in the national legislation (October 2014). These definitions are stated only in the guidelines for filling the "Death certificate (Report on examination of the deceased person)".</p> <p><u>Stillbirths:</u></p> <p>Until 1948, a stillbirth was defined as a fetus not showing signs of life at birth (breathing or heartbeat) after at least 28 weeks of gestation.</p> <p>From 1949 to 1952, fetuses weighing at least 400 grams who showed no signs of life at birth were considered stillbirths.</p> <p>From 1953 to 1964, a stillbirth was defined as a fetus of at least 28 weeks of gestation, measuring at least 35 cm long and weighing at least 1000 grams, who failed to breathe at least once at the moment of birth.</p> <p>In the period from 1 January 1964 until 29 February 1988, a stillbirth was defined as the birth of a fetus having at least 28 weeks of gestation (or weighing at least 1000 grams, if the length of gestation could not be determined), who died prior to its complete expulsion or extraction from its mother. Death is determined by the absence of signs of life at birth, namely breathing, heartbeat, pulsation of the umbilical cord, or movement of voluntary muscles (Decree No 194/1964 Sb of the Ministry of Health).</p> <p>From March 1 1988 until March 31 2012, when the Decree No 11/1988 Sb of the Ministry of Health was in force, a stillborn child was understood as a child not showing any sign of life at birth (breathing, heartbeat, pulsation of the</p>
--	---

	<p>umbilical cord, or movement of voluntary muscles) and whose birth weight was at least 1000 grams.</p> <p>On 1 April 2012, Decree No 11/1988 Sb was cancelled by Act No 372/2011 Sb. Currently, general definitions of live and still births are not contained in the national legislation (October 2014). These definitions are stated only in the guidelines for filling the “Death certificate (Report on examination of the deceased person)”. Stillbirths are also defined in the Commission Regulation (EU) No. 328/2011 implementing Regulation (EC) No. 1338/2008 of the European Parliament and of the Council on Community statistics on public health and health and safety at work, as regards statistics on causes of death. According to the latter regulation: “‘stillbirth’ means fetal death, namely death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy. Death is indicated by the fact that after such separation from its mother the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.”³</p>
Footnotes⁴	<p>1 - Data for the years 1919, 1922, 1998 and 2010 were identified as outliers⁵. Data for 1919 were removed from the pooled data file of the HMBD (but they remain available in the country’s input data file), as the numbers of multiple births reported for that year result in unlikely twinning and multiple rates of 28.7 and 29.2 per 1000, respectively. These values are too high when compared with the rest of the data series for the Czech Republic; they are even higher than the rates estimated for the years 2010s – i.e., years when, in addition to delayed childbearing age, medically assisted reproduction contributes to increasing twinning and multiple rates⁶. There is no explanation for the high number of multiple births reported in the <i>Demographic Yearbook</i> for the year 1919.</p> <p>2 - Data from 1938 until 1946 exclude certain regions and population subgroups, as there are variations in data coverage associated with the second World War (see Coverage and Completeness).</p> <p>3 - Difficulties in data collection and processing for the year 1945, due to the Second World War.</p> <p>4 - Due to substantial unregistered migration, data on births for the post-war period (until 1949) may be of lower quality.</p>

³ Source: EUR-Lex, <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32011R0328>

⁴ Number indicated in the variable *Footnotes*.

⁵ Using the function ‘tsouliers’ of the *forecast* R package (Hyndman R. et al. (2022). ‘forecast: Forecasting functions for time series and linear models’. R package version 8.16; Hyndman RJ, Khandakar Y (2008). Automatic time series forecasting: the forecast package for R. *Journal of Statistical Software*, 26(3): 1–22).

⁶ Kocourkova, J., & Fait, T. (2009). Can increased use of ART retrieve the Czech Republic from the low fertility trap? *Neuroendocrinology Letters*, 30(6) : 739-748.